"Build today, then strong and sure, With a firm and ample base;
And ascending and secure. Shall tomorrow find its place."
Longfellow, Henry W. (1807-1882)

Final finish treatment line.
Environmentally friendly.

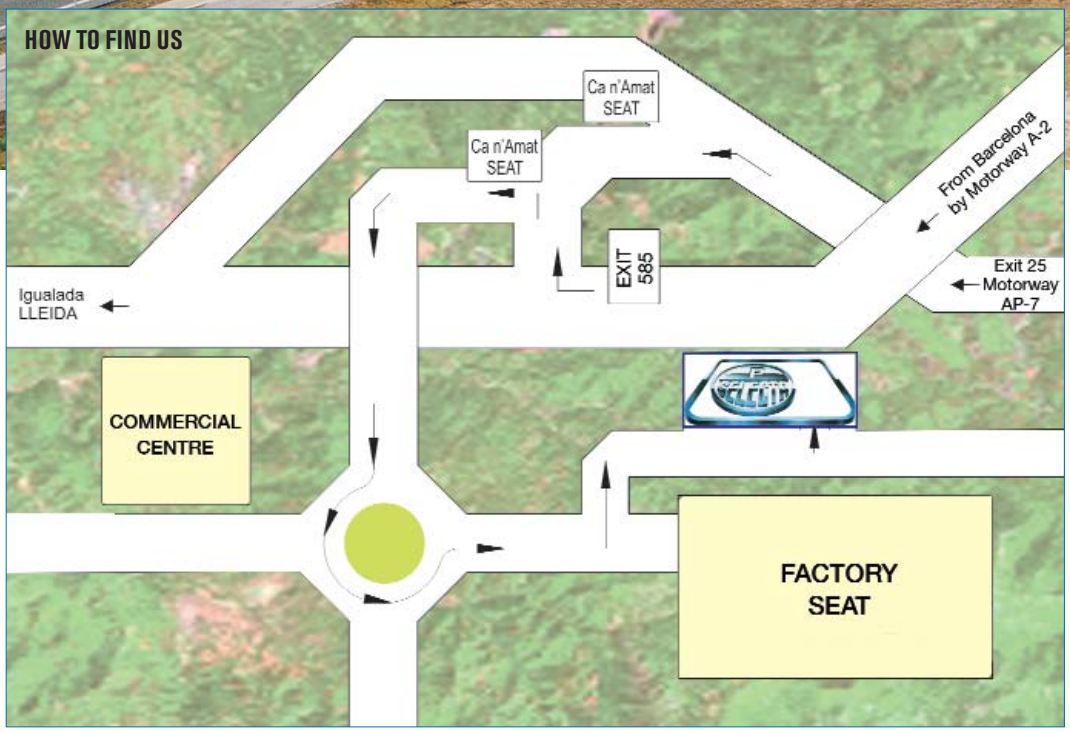
ENVIRONMENTALLY FRIENDLY

Selecta Group Factory

Where there is a successful business, it is because someone has taken a courageous decision.
Peter Drucker

Located at Km. 585.1 of the A-2 highway, at the exit Abrera (Barcelona), covering an area of 21000 m², and factory build 14,800m².
Situated 28 Km from the city of Barcelona, with excellent links by motorway AP-7, exit 25 (Martorell) or by the A-2 highway, Km 585.1 Barcelona-Madrid, industrial estate "Can Amat" next to the production centre of SEAT.

CTA, s.a.
SELECTA
aparells per a laboratori
J.P. SELECTA, s.a.


HOW TO FIND US
Ca n'Amat SEAT
Ca n'Amat SEAT
From Barcelona by Motorway A-2
EXIT 585
Exit 25 Motorway AP-7
Igualada LLEIDA
COMMERCIAL CENTRE
FACTORY SEAT

SELECTA GROUP

A-2 highway, Km. 585,1 - 08630 ABRERA (Barcelona-SPAIN) - P. +34 93 770 08 77* (6 lines) - F. +34 93 770 23 62 - www.jpselecta.es - selecta@jpselecta.es

J.P. SELECTA S.A.

Scientific Laboratory Equipment Manufacturer

COMECTA S.A.

Exclusive Representation

AQUISEL S.L.

manufacturer of Disposable Clinical Test Kits

1948 67th 2015

Own Brands:

COMECTA S.A.

OPTIC ivymen® SYSTEM

ISO 9002:2000
Analytical Division

International Patents

Tubes for Blood Analysis

Pipettes for Determination of Erythrocyte Sedimentation Rate E.S.R.

Sealed Containers for Urine Samples

Fixation and concentration of fecal parasites

Greeting

1940-2015

The publication of this new General Catalogue meets 66 years since I undertook my activity as a producer in a simple workshop. After this time the Selecta Group has now reached a significant volume of transactions, filling a market segment so broad that we have been projected to the level of the leading European manufacturers.

Our impact in the international markets, consolidated in the last years, and the domain in the Spanish area, is the response to the determination of implementing standardization, design, research and innovation to our production processes.

But I firmly believe that we must add to this success, a tool that we make available to our customers and that has been confirmed as essential to our project: the General Catalogue.

I must confess that I have dedicated a very personal care, investing much of my time writing and editing more than our 30 catalogues and thousand individual brochures we have published during this time.

I have always concerned about the accuracy of the data that the catalogue provides, the perfection of images and the rationalization of texts. This new catalogue 2015-2017, with nearly 400 pages and 25 different equipment specialties, and bringing together more than 1000 equipments and 3000 different codes, must be a good example of this concern.

I trust that you can take advantage of the usefulness of this GENERAL CATALOGUE, and I remind you that, in a society as computerized as the present, I could not miss a last generation web page with complete information which can be printed and presented in several different languages: www.jpselecta.es

Sincerely

Joaquín Puig Alemany
President of Selecta Group

When we launch a new catalogue, we try to evaluate the effectiveness of the former, in this case the one published in 2011. To sum up, during the period 2011-2013, despite the stagnation of the world's economy, the growth of Selecta Group shows that our model of business communication, by using the General Catalogue, transmits the product quality and benefits that has made us highly competitive both nationally and internationally.

That's the reason why we have respected the design that has given this character to our publications. Our new catalogue responds to this philosophy.

In this Catalogue 2015-2017 you will find the widest range of laboratory products a manufacturer may exhibit, and you will check the different engineering innovations achieved in our company.

The restructuring process of our R + D + I department to better accommodate to technological trends has been one of the proposed goals and thus we can offer important new features to our users:

- Implementation of a TFT (Thin Film Transistor) touchscreen which regulates all parameters and establishes programs and graphs on a large number of our devices.

- Expansion of our products offer with several latest equipments, identified with the "NEW" icon.

We want these changes and improvements to be interpreted as a sign of vitality. We trust we could expand our offer in the coming years, and confirm our competitiveness and take advantage of the global economic balance which is being announced.

We are available to complete this General Catalogue 2015-2017 interpretation since this is our commitment to strategic communication plan.

Your faithfully,

Jordi Puig Herrera
Managing Director of Selecta Group

MANAGEMENT TEAM

From left to right: DAVID PECANINS, Quality control manager - PEDRO CARAFI, Purchasing manager - JOAQUÍN ARQUE, Finance LUIS TREMOLEDA, Advisor - TONY EJARQUE, Commercial director - JOAQUÍN PUIG, President - JORDI PUIG, Managing director ANTONIO BERGÉ, Production manager - CARLOS BARBERO, Logistic manager - FRANCISCO SANTIAGO, Quality control RICARD CARDÚS, Techincal director - ANTONIO ALARCÓN, Comecta, s.a. director - MANEL SOTELO, Aquisel, s.l director

J.P. Selecta World wide

MARKETING ACTIVITIES.

The completing of catalogues and brochures completed in differing languages and the participation in world wide exhibitions such as Achema, Analytica, Pittcon, AchemAsia, Medica, Analytica Shanghai, Moscow, Mumbai Arab lab and Expoquimia are a clear indication of our exposure to new and developing markets.

HOME AND INTERNATIONAL DISTRIBUTOR NETWORK.

The implementation of the Selecta group of companies in diverse markets has consolidated the penetration of our brand in more than 100 countries, confirming customer belief in our product quality.

"Every language is a world vision."
Keyserling Hermann. (1880-1946)

General information

INFORMATION

1. The apparatus presented in this catalogue is designed specifically for the application intended. Contact us for confirmation of suitable use in any other distinct application.
2. In accordance with existing standards. All tests on our equipment are completed at an ambient temperature of 20 °C.
3. For correct, installation, use and maintenance of our equipment read all the instructions before use.
4. J. P. Selecta SA reserves the right to modify some of the parameters or characteristics of the equipments described in this catalog, in order to improve their benefits or adapt them to changing current regulations at all times.

VOLTAGES AND FREQUENCY

5. Unless stated otherwise in the catalogue, our equipment is manufactured to be connected to the mains as:
   - Single phase 230-V ±10% 50 Hz.
   - Three phase 230/400V ± 10% 50 Hz.
   - Single phase 110-V ±10% 60 Hz. (on demand).
6. If required other voltages and frequencies can be supplied. In some application the power can be modified.
7. Heating equipment without motors can operate on both 50 and 60 Hz.
8. In all cases where different voltages, frequencies and plugs type are requested. Written confirmation will be required before order acceptance, otherwise standard power and Schuko plug will be supplied.

CALIBRATION

9. If required certificates of calibration can be supplied that are traceable to known certified standards.

ACCESSORIES AND SPARES

To maintain the equipment to the original specification and design, it is important that genuine J.P. Selecta spares be used. In the case that original spares are not used, J.P. Selecta are not responsible for any damage or anomaly caused.

J.P. SELECTA HAVE OPENED A WINDOW TO THE WORLD

Discover all our new developments by connecting to our Web site:

http://www.jpselecta.es

You can see and match to your requirements all of our equipment and products.

OUR GUARANTEE

We guarantee the supply of spare parts for the life time of the production of the model manufactured.

Image showing our technical services department still repairing equipment manufactured in the 1970's

RS-232 communication software

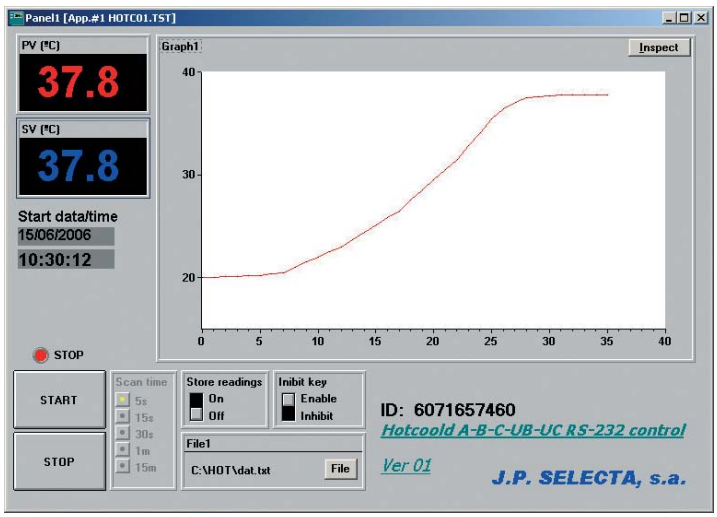
SUITABLE FOR RECORDING DATA, REMOTE CONTROL AND ATOMISATION.

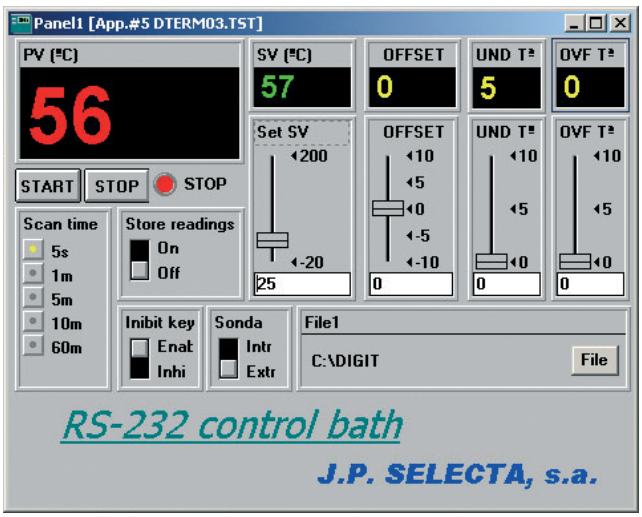
Suitable for all equipment with RS232

Many of the **J.P.SELECTA, s.a.** manufactured equipment comes with this software as standard. Installed on a PC with a direct communication link to the equipment for data transfer or control. The software function depends on the equipment interface but in general (ovens, baths, thermostats etc.) can be connected for:

- **Logging of data:** The PC can constantly receive temperature data for ovens, baths, etc.
- **Capture of data:** Accepts data for printing or incorporation into a report.
- **Remote control:** Communication direct to the microprocessor control panels of, ovens, baths, etc. with automated control direct from the PC to the instrument..

J.P.SELECTA, s.a. can manufacture software to order for automated laboratory processes, e.g. temperature cycling and time etc.





Quality Control Systems

J.P. Selecta complies with the obligatory controls and regulations related to the safety of electrical equipment, the measurement and control within the laboratory, and the completion of the standards and CE directives that affect the manufacturer of our equipment.

ELECTRICAL SAFETY 73-23 CE.
ELECTROMAGNETIC COMPATIBILITY 89-336 CE.
PRESSURE VESSEL 97-23 CE

Details of Standards and directives:

UNE-EN 61010-1	Part 1:	General requirements.
UNE-EN 61010-2-010	Part 2-010:	Required for the particular use of heated laboratory equipment and materials.
UNE-EN 61010-2-020	Part 2-020:	Particular requirement for laboratory centrifuges.
UNE-EN 61010-2-041	Part 2-041:	Requirement for Autoclaves that use steam vapour for the treatment of materials used within medicine and laboratory processes.
UNE-EN 61010-2-051	Part 2-051:	Particular requirement for shaking and mixing equipment.
UNE-EN 61326		Requires electromagnetic compatibility.

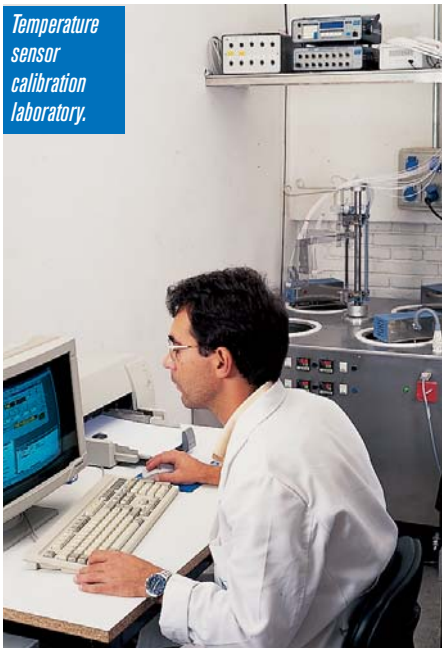
IQNet THE INTERNATIONAL CERTIFICATION NETWORK

ISO 9001:2008

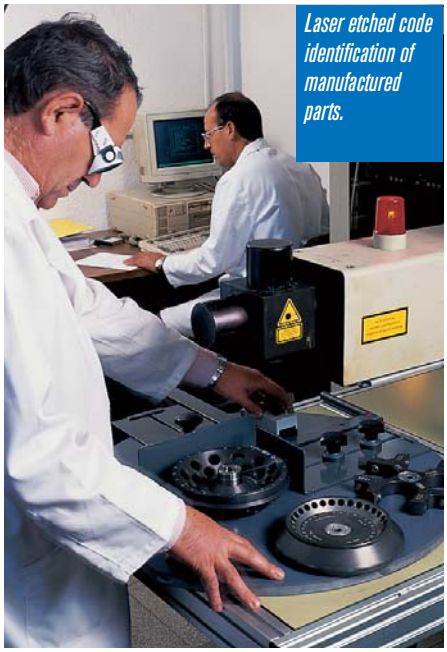
AENOR ER Empresa Registrada ER-0109/1996

Certificate of registration AENOR for the design, production, commercialisation and post sales service of :ovens, centrifuges, stirrers, thermostatic immersion baths, ultrasonic baths, hotplates and blocks, digesters, Kjeldahl steam distillations, fat, fibre and alcohol extractors, refrigerators, freezers and environmental cabinets.

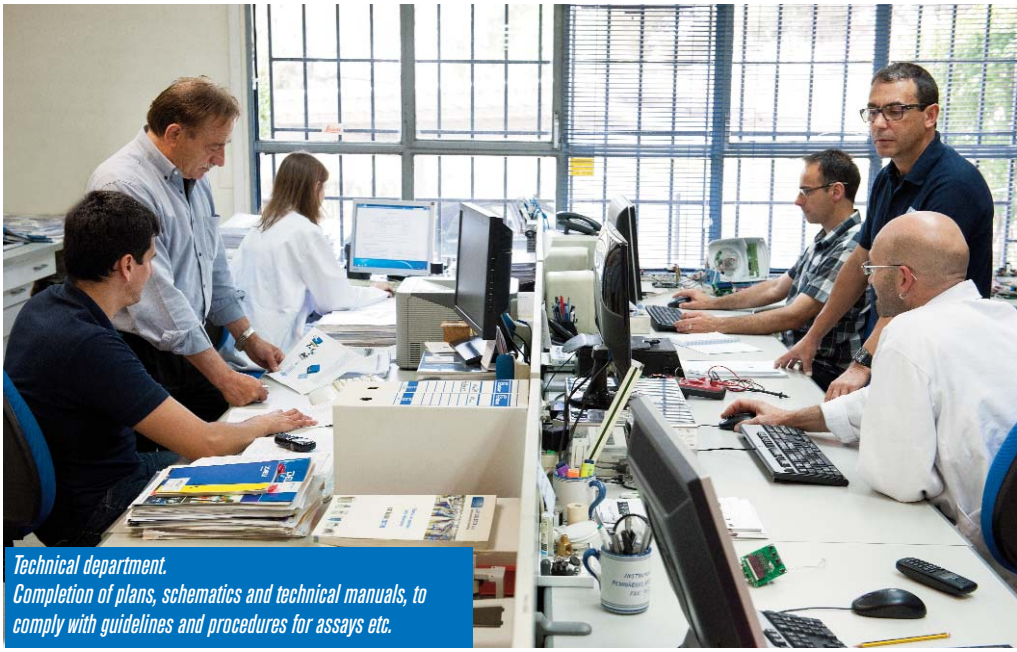
Quality control is completed on 100% of instruments manufactured.



Temperature sensor calibration laboratory.



Laser etched code identification of manufactured parts.



Technical department. Completion of plans, schematics and technical manuals, to comply with guidelines and procedures for assays etc.

THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and
AENOR
hereby certify that the organization

J.P. SELECTA, S.A.

CR N-II, KM 585,1
08630 - ABRERA(BARCELONA)
España

for the following field of activities

The design, production, commercialization and aftersales of:
oven, centrifuges, autoclaves, stirrers, inmersion thermostats, thermostatic baths, distillator, ultrasonic cleaners, hotplates, heating mantles, digestion blocs, kjeldahl distilling unit, fat extractor, fiber extractor, alcohol distilling unit, blood bank refrigerator cabinets, refrigerated cabinets, chest freezer.
The commercialization of in Vitro diagnostic medical devices

has implemented and maintains a

Quality Management System

which fulfills the requirements of the following standard

ISO 9001:2008

First issued on: 1999-08-01 Last issued: 2014-02-22 Validity date: 2017-02-22

Registration Number: **ES-0109/1996**

Michael Drechsel
President of IQNet

Avelino BRITO
Chief Executive Officer

AENOR Asociación Española de Normalización y Certificación

IQNet Partners*:
AENOR *Spain* AFNOR Certification *France* AIB Vinçotte International *Belgium* ANCE *Mexico* APCER *Portugal* CCC *Cyprus* CISQ *Italy* CQC *China* CQM *China* CQS *Czech Republic* Cro Cert *Croatia* DQS Holding GmbH *Germany* FCAV *Brazil* FONDONORMA *Venezuela* ICONTEC *Colombia* IMNC *Mexico* Inspecta Certification *Finland* IRAM *Argentina* JQA *Japan* KFQ *Korea* MIRTEC *Greece* MSZT *Hungary* Nemko AS *Norway* NSAI *Ireland* PCBC *Poland* Quality Austria *Austria* RR *Russia* SII *Israel* SIQ *Slovenia* SIRIM QAS International *Malaysia* SQS *Switzerland* SRAC *Romania* TEST St Petersburg *Russia* TSE *Turkey* YUQS *Serbia*
IQNet is represented in the USA by: AFNOR Certification, CISQ, DQS Holding GmbH and NSAI Inc.
* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com

Calibration certificate

TRACEABLE STANDARDS TO ENAC.

On request, we can supply calibration certificates of the working conditions of the instruments before they leave the factory. These certificates can be used for OQ, IQ validations and for equipment that needs to comply to a ISO9000 quality system.

These certificates can be produced for Ovens, Incubators, Refrigerated products, Autoclaves, Baths ,Inmersion thermostats, furnaces, etc. instrument that require a temperature measurement by realising several temperature sensors and readings to obtain the probable temporal and spatial uncertainty.

Note: Consult for other types of equipment.

EXAMPLE OF CALIBRATION CERTIFICATE OF BACTERIOLOGICAL AND CULTURES OVEN:

Part No. **1001738** **Calibration certificate, 2 points.**

The calibration certificate has been completed based on two measuring points. This means to the user that the requested certificate should indicate two temperatures at which the effective calibration should be completed. For more than two measuring point please consult J.P. Selecta.

When requesting the certificate full details of the company and address can be included in the certificate information.

Note: When asking for a certificate, please indicate data (company name and address) for its validity.

Nº de certificado
Nº de certificado

CERTIFICADO DE CALIBRACIÓN
Certificate of calibration
IM-144

CT - 1944

Página: 1 de 2
Página: 1 de 2

Ctra. NII Km. 585,1
08630 Abrera (Barcelona)
SPAIN
Tel.: 34 93 770 08 77
Fax.: 34 93 770 23 62

J.P. SELECTA, s.a.
Laboratorio de calibración
Calibration laboratories

INSTRUMENTO: *Instrument:*	Estufa de Cultivos
FABRICANTE: *Manufacturer:*	J.P. SELECTA, s.a.
MODELO: *Type:*	INCUBIG
CODIGO: *Code:*	2000237
NUMERO DE SERIE: *Serial number:*	123456
PETICIONARIO: *Customer:*	Xxxxxxx Xxxxxxx Xxxxxxxxx
OBSERVACIONES: *Notes:*	Xxxxxxxx Xxxxxxxxx Xxxxxxxxx
FECHA DE CALIBRACIÓN: *Calibration date:*	26-sep-06

Firma autorizada: *Autorized signatory:*

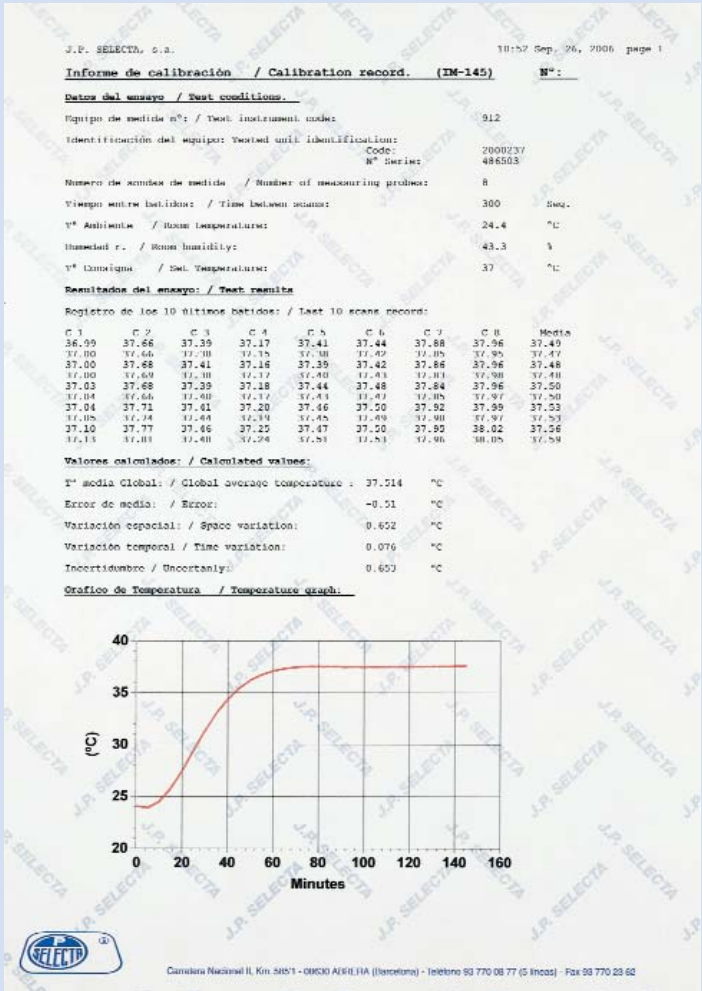
Fecha de emisión: *Date of issue:* 26-sep-06

D. Xxxxxxx
Rble. Técnico del laboratorio

El laboratorio de calibración de J.P. SELECTA, s.a. ha utilizado exclusivamente equipo trazables a patrones internacionalmente reconocidos para elaborar este certificado.

The calibration laboratory of J.P. SELECTA, s.a. certifies that all instruments used to do this certificate are traceable to international standards

Carretera Nacional II, Km. 585/1 - 08630 ABRERA (Barcelona) - Teléfono 93 770 08 77 (5 líneas) - Fax 93 770 23 62



J.P. SELECTA, S.A. 10:52 Sep. 26, 2006 page 1

Informe de calibración / Calibration record. (IM-145) Nº:

Datos del ensayo / Test conditions.

Equipo de medida nº: / Test instrument code: 912

Identificación del equipo: Tested unit identification:
Code: 2000237
Nº Serie: 486503

Número de sondas de medida / Number of measuring probes: 8

Tiempo entre lecturas: / Time between scans: 300 Seg.

Tª Ambiente / Room temperature: 24.4 ºC

Humedad r. / Room humidity: 43.3 %

Tª Consigna / Set Temperature: 37 ºC

Resultados del ensayo: / Test results

Registro de los 10 últimos batidos: / Last 10 scans record:

C 1	C 2	C 3	C 4	C 5	C 6	C 7	C 8	Media
36.99	37.66	37.39	37.17	37.41	37.44	37.88	37.96	37.49
37.00	37.68	37.41	37.16	37.39	37.42	37.86	37.96	37.48
37.03	37.68	37.39	37.18	37.44	37.48	37.84	37.96	37.50
37.04	37.71	37.41	37.20	37.46	37.50	37.92	37.99	37.53
37.10	37.77	37.46	37.25	37.47	37.50	37.90	38.02	37.56

Valores calculados: / Calculated values:

Tª media Global: / Global average temperature :	37.514	ºC
Error de media: / Error:	-0.51	ºC
Variación espacial: / Space variation:	0.652	ºC
Variación temporal / Time variation:	0.076	ºC
Incertidumbre / Uncertanly:	0.653	ºC

Grafico de Temperatura / Temperature graph.

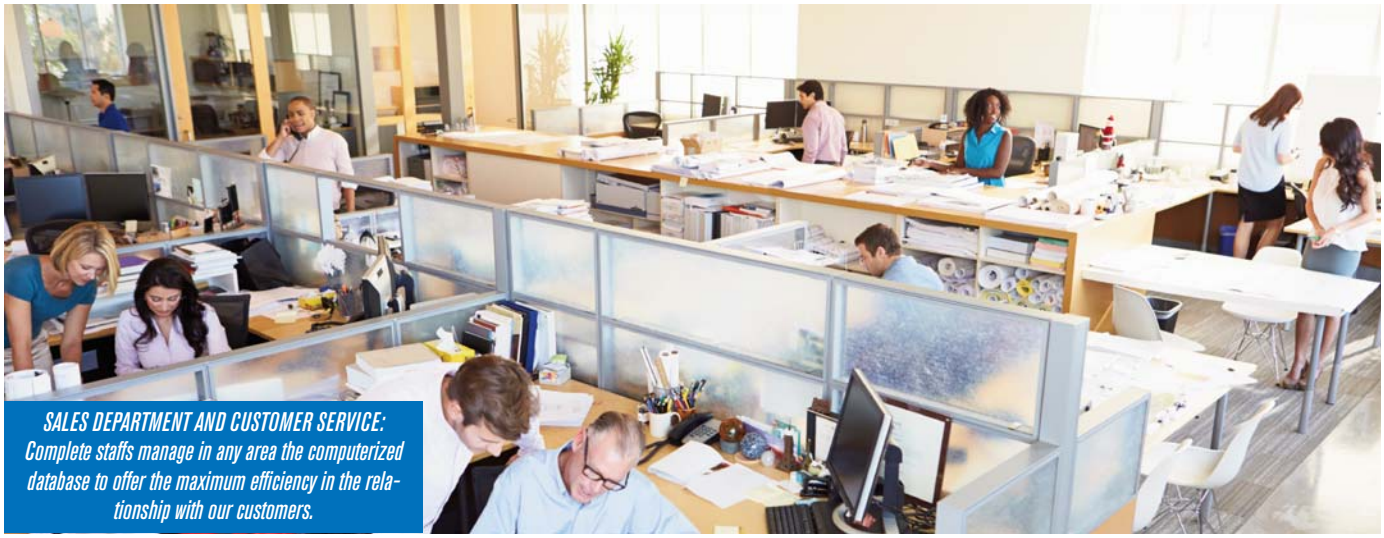
Carretera Nacional II, Km. 585/1 - 08630 ABRERA (Barcelona) - Teléfono 93 770 08 77 (5 líneas) - Fax 93 770 23 62

Activity Areas

Process and quality control laboratories.

WAREHOUSE: Large computerized plants that allow stock knowledge at any time and immediate distribution of components and finished products.

LOGISTIC AREA: Teams with modern packing techniques that prepare the properly verified material in different warehouses, for its expedition to several different destinations.



SALES DEPARTMENT AND CUSTOMER SERVICE: Complete staffs manage in any area the computerized database to offer the maximum efficiency in the relationship with our customers.

Pressurized and acclimatized room with sophisticated serial production automatisms.

OVENS WITH TOUCH SCREEN
Pages. 139 to 156

MUFFLE FURNACES WITH TOUCH SCREEN
Pages. 162 to 163

CENTRIFUGES WITH TOUCH SCREEN
Pages. 115 to 133

STIRRERS WITH TOUCH SCREEN
Page. 31

OVERHEAD STIRRER
Page. 41

AUTOCLAVE ELEVATOR
Page. 70

IMMERSION THERMOSTAT WITH TOUCH SCREEN
Pages. 101 to 105

DISTILLERS
Pages. 263 to 265

ELECTRONIC REGULATOR WITH TOUCH SCREEN
Page. 293

REACTOR
Page. 298 and 299

SHAKERS FOR PLATELET BAGS
Page. 79

PLASMA BAGS DEFROST
Page. 83

PORTABLE FOCULATOR
Page. 262

ORBITAL SHAKER INCUBATORS
Pages. 42 and 43

INCUBATION CHAMBER
Page. 79

INCUBATOR FOR PETRI CAPSULES
Page. 154

VERTICAL LAMINAR FLOW CABINETS
Page. 285

LABORATORY FUME CUPBOARDS
Page. 284

FIXATION AND CONCENTRATION OF FAECAL PARASITES
Page. 309

GENERAL INDEX BY INSTRUMENT TYPE

COLOUR IDENTIFICATION

STIRRERS

Magnetic, Orbital, Tilting, Shaker, Roller, Rocking, Orbital Incubator, Homogeneizers, Grinding Mills,...

Pages 25 to 45

EVAPORATORS AND PUMPS

Rotary Evaporator, Vacuum, Peristaltic, Membrane, Centrifugal,...

Pages 46 to 54

AUTOCLAVES

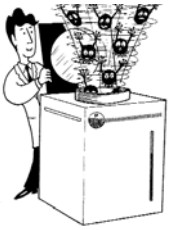


Table Top, Vertical, Class B, Bag Sealer,...

Pages 55 to 70

LOW TEMPERATURE

Refrigerated Cabinets, Freezers,...

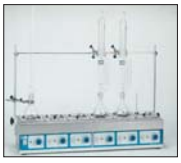
Pages 71 to 77

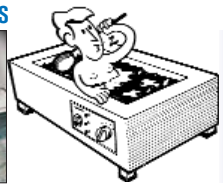
HAEMATOLOGY

Blood banks, shakers, Incubators, refrigerators, plasma bags defrosters,...

Pages 78 to 83

BATHS

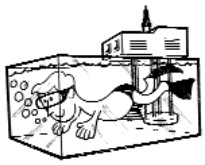




Water, Oil, Reciprocal Shaking, Dry-Blocks, Ultrasonic Cleaners,...

Pages 84 to 97

IMMERSION THERMOSTATS



Recirculation, Refrigerated, Cooling Coils,...

Pages 98 to 110

CENTRIFUGES

Digital Control, Brushless, Microprocessor Control, Refrigerated, Blood Bags,...

Pages 111 to 133

OVENS - INCUBATORS - FURNACES

Drying, Bacteriological, Vacuum, CO2, Low Temperature,...

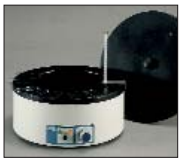
Pages 134 to 164

INSTRUMENTAL

Clamps, Stands, Spatulas, Racks, Burners, Stirrer Bars, Porcelain,...

Pages 165 to 211

BIOLOGICAL ACCESSORIES



Biotechnology, Pipettes, Histology...

Pages 212 to 224

HEATING MANTLES AND HOTPLATES

For Flask, Tapes, Banks, Ceramic, Bath Sand,...

Pages 225 to 236

ANALYTICAL TECHNIQUES

Thermocyclers, Spectrophotometers, Colorimeters, pHmeters, Coductivitymeters,...

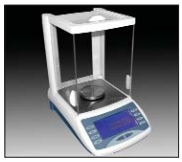
Pages 237 to 248

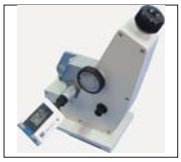
NUTRITIONAL AND WATER ANALYSIS

Digestors, Distillators, Extractors, Alcohol Distillation Unit, Flocculators, Water Distillers,...

Pages 249 to 265

BALANCES - OPTICAL - MELTING POINT

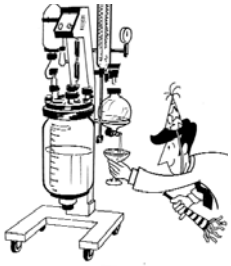




Microscopes, Refractometers, Melting Point, Polarimeter,...

Pages 266 to 282

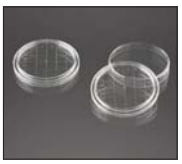
VARIOUS INSTRUMENTS - MONITOR AND CONTROL - VISCOMETERS - FILTERS

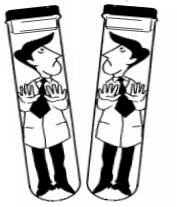


Safety Cabinets, Viscometers, Monitor and Control, Reactos, Filters,...

Pages 283 to 301

ANALITICAL CONSUMABLES





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STIRRERS, SHAKERS AND HOMOGENEIZERS

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I never did anything worth doing by accident, nor did any of my inventions come by accident; they came by work.
Thomas Edison

STIRRERS Stirrer and shaker summary table

QUICK OVERVIEW

MAGNETICS

Single Direction Stirring	Part No.	Controller	Volume max. litres	Heater	Controller Type	Range temperature °C	Range r.p.m.	Rapid Overview	Plate Ø cm
AGIMIN	7001731	Electronic	1	No	-	-	40 / 2000	ABS	10
AGIMICRO	7001638	Analogue	2	No	-	-	40 / 1700	ABS	12
AGIMATIC-S	7000242	Analogue	10	No	-	-	60 / 1600	INOX	14.5
AGIMATIC-N	7000243	Analogue	10	Yes	Electronic/Energy	...350	60 / 1600	INOX	14.5
AGIMATIC-E	7002431	Analogue	10	Yes	Electronic/Temperature	...350	60 / 1600	INOX	14.5
AGIMAN	7000446	Analogue	2	Yes	Electronic/Energy	...350	60 / 1600	For Heating Mantle	
AGIMATIC-ED	7001511	Digital	10	Yes	Electronic/Temperature	...350	60 / 1600	INOX	14.5
AGIMATIC-ED-C	7001609	Digital	10	Yes	Electronic/Temperature	...350	60 / 1600	CERAMICS	14,5
Large volume stirring									
AGIMATIC-HS	7001005	Digital	25	No	-	-	50 / 980	INOX	28 x 34
AGIMATIC-HL	7001006	Digital	60	No	-	-	50 / 980	INOX	44 x 38
Reversible stirring action									
AGIMATIC REV-TFT	7000837	TFT touch screen	10	Yes	Electronic/Temperature	...350	50 / 1500	INOX	14.5
AGIMATIC REV-TFT-C	7000838	TFT touch screen	10	Yes	Electronic/Temperature	...350	50 / 1500	CERAMICS	14,5
Multi- positions									
MULTIMATIC 5-S	7000951	Analogue	5 x 0.6	No	-	-	...1600	INOX	28 x 33
MULTIMATIC 9-S	7000952	Analogue	9 x 0.3	No	-	-	...1600	INOX	28 x 33
MULTIMATIC 5-N	7000953	Analogue	5 x 0.6	Yes	Electronic/Energy	...300	...1600	INOX	25 x 25
MULTIMATIC 9-N	7000954	Analogue	9 x 0.3	Yes	Electronic/Energy	...300	...1600	INOX	25 x 25

ROTARY & TILTING MIXERS

Tube Mixers	Part No.	Vol. max. litres	Heaters	Range r.p.m.	Capacity
ORBIT	3000445	5 x 0.25	No	12	See Tube Selection
MOVIL ROD	7001723	-	No	10 / 80	35 mm Ø max.
MOVIL TUB	7000913	-	No	15	12 Tubes
VORTEX-VIB	7001725	-	No	2800	See Tube Selection

VIBRATING SHAKER

Oscillating	Part No.	Max. Load	Heater	Capacity	Oscil. min.
VIBROMATIC	7000384	4 Kg	No	8 flasks of 50 mm Ø max. (optional + Erlenmeyer 250 ml)	100 / 950

ORBITAL TO - FRO SHAKERS

To & Fro & orbital movement	Part No.	Heater	Heater Type	Range temperature °C	Range r.p.m.	Platforms cm
ROTATERM	3000435	Yes	Electronic/Digital	...250	20/230	41x31
ROTABIT	3000974	No	-	-	20/230	According to accessories

COMECTA

OPTIC ivymen® SYSTEM

Shaker for Petri plates “AG-200”, shaker for bottles “AG-200-A”, and shaker for Erlenmeyer flasks “AG-200-B”.

Thermo shaker “TRM-4” for Microtiter.

Incubated / refrigerated high volume orbital shakers “D-110”, “D-210”, “D-1102” and “D-2102”.

Ultrasonic homogeneizers “CY-500”.

MAGNETIC STIRRERS

A new generation of stirrer for the most exacting work

Magnetic Stirrer "Agimin" without heating

MICROPROCESSOR CONTROLLED, ELECTRONIC CONTROL, PORTABLE.

FEATURES

Maximum stir volume 1 litre.
Speed controllable from 40 to 2000 r.p.m. with storage of the ultimate speed setting.
Double power source: 4 x 1.5V AA batteries or with a mains adapter.
Moulded ABS plastic case.
Excellent resistance to chemical agents.

CONTROL PANEL

Luminous On/Off push button.
Luminous r.p.m. push button.
Increase/ decrease speed push button.
Low battery indicator lamp.

MODEL

Part No.	Height cm	Ø cm	Depth cm	Power W	Weight Kg
7001731	5	10	15	0.9	0.35

Comes complete with support bar and clamp for 3 electrodes (1 x 13 mm Ø and 2 x 16 mm Ø), 4 batteries 1.5V AA, mains adapters and 2 PTFE coated stir bars.

Magnetic stirrer "Agimicro" without heating

FEATURES

Maximum stir volume: 2 Litres.
Adjustable stir speed from 40 to 1400 r.p.m.
Durable moulded ABS plastic body.
Excellent chemical resistance.

CONTROL PANEL

Mains switch with luminous "on" indicator.
Analogue control of speed in r.p.m.

ACCESSORIES

Support bar and electro-de clamp (1 of 13 and 2 of 16 mm Ø). Used with pH and conductivity meters.
Part No. 7001639

MODEL

Part No.	Height cm	Ø Plate cm	Power W	Weight Kg
7001638	5	12	2	0.5

Comes complete with a 8 Ø x 32 mm P.T.F.E. coated stir bar.

Powerful magnetic stirrer "Agimatic-H" without heating

FOR LOW VISCOSITY VOLUMES FROM 1 TO 60 LITRES.
USING REDUCED VOLUMES THE UNIT CAN STIR MEDIUM TO HIGH VISCOSITY LIQUIDS.

Maximum stirring power

FEATURES

Electronic speed control from 50 to 980 r.p.m, will maintain a constant stir speed irrespective of the liquid viscosity.
Digital speed display.
AISI 304 stainless steel top plate with an epoxy coated metal case.

CONTROL PANEL

Main switch with a luminous "on" indicator.
Electronic speed control.
Digital speed display in r.p.m.

MODEL

	Part No.	Speed control r.p.m.	Maximum stir volume in litres	Height/Width/Depth (exterior) cm	Power W	Weight Kg
AGIMATIC-HS	7001005	50 to 980	up to 25	12 28 34	35	8
AGIMATIC-HL	7001006	50 to 980	up to 60	14 44 38	40	12

Model HS comes complete with a 16 Ø x 127 mm stir bar and model HL with a 19 Ø x 150 mm stir bar.

Magnetic Stirrers “Agimatic” and “Agiman”

A new generation design of stirrers at the forefront of technology

COMMON FEATURES

Unique functional design, with epoxy covered alloy case. Choice of stainless steel or ceramic top plate (model dependent). An internal case acts as a spill guard and insulator, made from AISI304 stainless steel. Tilted control panel for easy viewing with splash protection. Location hole at the back for a retort support rod, supplied as an accessory. Electronic speed control from 60 to 1600 r.p.m. and from 50 to 1500 r.p.m. for models “Agimatic Rev” with constant speed irrespective of liquid viscosity. Easy to service and to replace modular electronics. All heated models have a connection at the back to connect an electronic contact thermometer “Sensoterm II”, electronic controller “Electemp-TFT” or Pt100 temperature probe, model dependent. **Agimatic and Agiman exterior measures: Height 14.5, Width 19 and Depth 26 cm. Weight: 3,2 Kg.**
All hotplates have a safety over temperature cut out, set to the maximum working temperature.

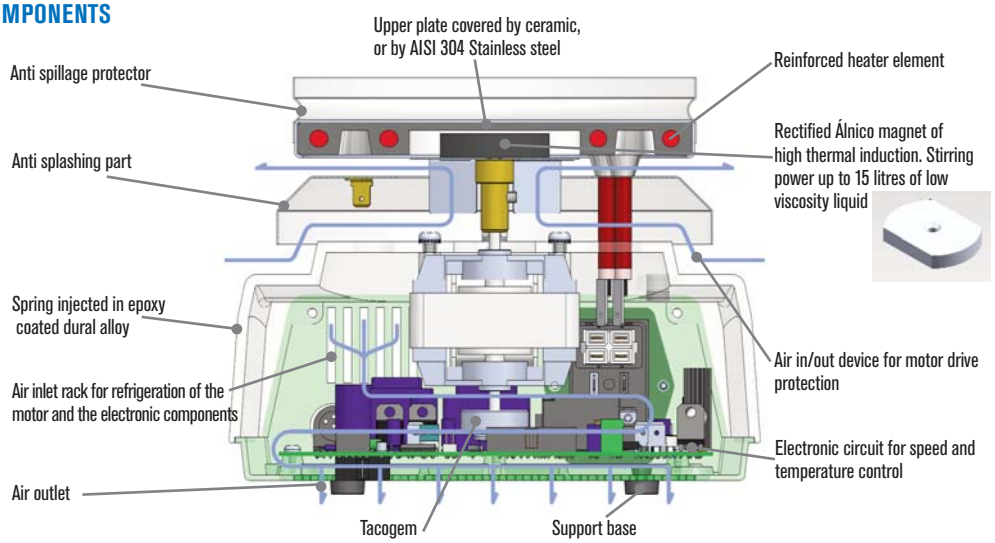
TECHNICAL SCHEMATICS OF DIFFERENT COMPONENTS

ICONS OF THE DIFFERENT TEMPERATURE REGULATION SYSTEMS AND OPTIMUM STIR CONDITIONS.

Electronic contact thermometer “Sensoterm II”

Electronic temperature regulator “Electemp-TFT”

Temperature sensor Pt100



Magnetic Stirrers “Agimatic” and “Agiman” analogue control

FOR SPEEDS FROM 60 TO 1600 rpm..
MAXIMUM STIR VOLUME: 10 LITRES.
PLATE MADE FROM AISI 304 STAINLESS STEEL WITH REMOVABLE SAFETY RING. PLATE Ø 14.5 cm.

“Agimatic-S” without heating

CONTROL PANEL

1. Mains switch illuminated.
2. Electronic stir speed control.

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
AGIMATIC-S	7000242	**up to 10**	**14,5 19 26**	**550**	**3,5**

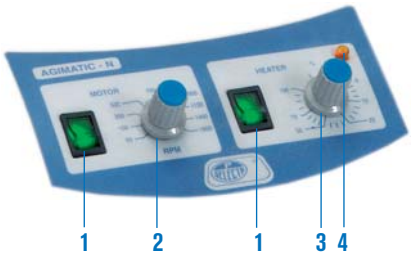
Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.

"Agimatic-N" with heating

ELECTRONIC CONTROL OF SPEED AND POWER TO THE HEATER.

CONTROL PANEL

1. Switch on button with indicator lamp for heating and for stirring speed.
2. Electronic stir speed control.
3. Electronic heater energy control from 0-100%, synchronised with an indicator lamp that functions when the plate is hot.
4. Illuminated indicator when the heater is "on".



MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
AGIMATIC-N	7000243	up to 10	14,5 19 26	550	3,5

Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.

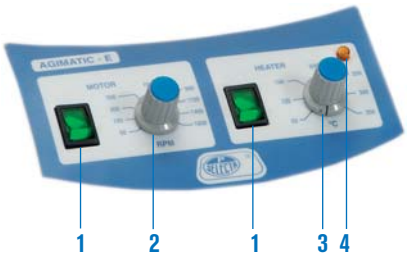
"Agimatic-E" with heating

ELECTRONIC TEMPERATURE CONTROL OF SPEED AND POWER TO THE HEATER. FROM 50 °C TO 350 °C PRECISION ±2 °C.

CONTROL PANEL

1. Switch on button with indicator lamp for heating and for stirring speed.
2. Electronic stir speed control.
3. Electronic temperature control of the heater plate from 50 °C to 350 °C synchronised with an indicator lamp that functions when the plate is hot.
4. Illuminated heater indicator when the heater is "on".

Precision ±2 °C.



MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
AGIMATIC-E	7002431	up to 10	14,5 19 26	550	3,5

Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.

Magnetic stirrer "Agiman"

ELECTRONIC CONTROL OF SPEED AND POWER TO THE HEATER. WITH A MECHANISM FOR ATTACHING HEATING MANTLES.

CONTROL PANEL

Switch on button with indicator lamp for heating and for stirring speed.
Electronic stir speed control.
Electronic heater energy control from 0-100%, synchronised with an indicator lamp that goes on when the mantle is hot.
Illuminated heater indicator when the mantle is "on".

ACCESSORIES

Attachable heating mantle for the "Agiman" magnetic stirrer.

Part No.	Capacity flask ml
3000447	250
3000448	500
3000449	1000
3000450	2000

Complements for Agimatic-S-N-E and Agiman.
See accessories on page 34 and 35.

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Weight Kg
AGIMAN	7000446	up to 2	14,5 19 26	3,5

Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.

Magnetic Stirrers “Agimatic-ED” and “Agimatic-ED-C” digital control

FOR SPEEDS FROM 60 TO 1600 RPM.
FOR ADJUSTABLE TEMPERATURES FROM 50 °C TO 350 °C. PRECISION ±2 °C.
MAXIMUM STIR VOLUME: 10 LITRES.
PLATE Ø IS 14,5 cm.
WITH RENOVABLE SAFETY RING AGAINST SPILLAGE.

“Agimatic-ED” with heating

ELECTRONIC TEMPERATURE CONTROL OF SPEED AND POWER TO THE HEATER.

SILUMIN UPPER PLATE COVERED BY AISI 304 STAINLESS STEEL.

CONTROL PANEL

1. Digital display indicating stir speed or temperature.
2. Push button, parameter selector, Stir speed or Temperature.
3. Push button, increase parameter value.
4. Push button, decrease parameter value.
5. Indicator lamp, safety thermostat “on”
6. Push button Stop-Start

Precision ±2 °C.

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
AGIMATIC-ED	7001511	up to 10	14,5 19 26	550	3,5

Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.

“Agimatic-ED-C” with heating

ELECTRONIC TEMPERATURE CONTROL OF SPEED AND POWER TO THE HEATER.

SILUMIN UPPER PLATE WITH CERAMIC SURFACE.

CONTROL PANEL

1. Digital display indicating stir speed or temperature.
2. Push button, parameter selector, Stir speed or Temperature.
3. Push button, increase parameter value.
4. Push button, decrease parameter value.
5. Indicator lamp, safety thermostat “on”
6. Push button Stop-Start

Precision ±2 °C.

MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
AGIMATIC-ED-C	7001609	up to 10	14,5 19 26	550	3,5

Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.

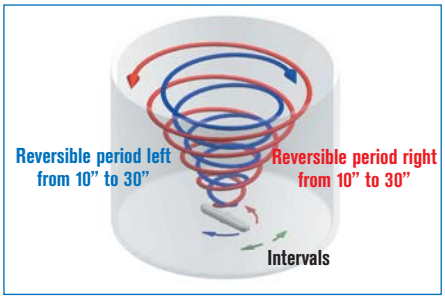
Ceramic surface:
Excelent conducitity and heat distribution.
Unalterable surface.
Higher acceleration to reach temperature.
Extreme resistance against chemical agents and scratches.

Complements for Agimatic-ED and Agimatic ED-C.
See accessories on pages 34 and 35.

Reversible magnetic Stirrers “Agimatic-Rev-TFT” and “Agimatic-Rev-TFT-C”

Forefront technology with TFT touch screen

FOR SPEEDS FROM 50 TO 1500 rpm.
FOR ADJUSTABLE TEMPERATURES FROM 50 °C TO 350 °C. PRECISION ±2 °C.
MAXIMUM STIR VOLUME: 10 LITRES. PLATE Ø IS 14,5 cm.
MAGNETIC REVERSIBLE ACTION STIRRERS, WITH ADJUSTABLE TIME STIRRING PERIODS AND PRECISE SPEED CONTROL, PROVIDES THE FOLLOWING ADVANTAGES FOR REPEAT PROCESSES:
A.- FASTER MIXING, REDUCED STIRRING TIME. B.- CONTROLLABLE VORTEX EFFECT. C.- QUICKLY ELIMINATES AIR FROM WITHIN THE SAMPLE MIXTURE, DEGASSING. D.- MINIMUM SPLASHING, NO LOSS OF SAMPLE.
SELECT MOVEMENT FOR ONE DIRECTION OR REVERSE.
ELECTRONIC CONTROL OF THE FREQUENCY INVERTING PERIOD, FROM 10-30 SECONDS.
MEMORY UP TO 10 WORKING PROGRAMS. AUTOMATIC CYCLES UP TO 6 SEGMENSTS WITH TEMPERATURE PROGRAMMING, RPM AND TIME.
REAL TIME GRAPHICAL REPRESENTATION OF AUTOMATIC CYCLES.



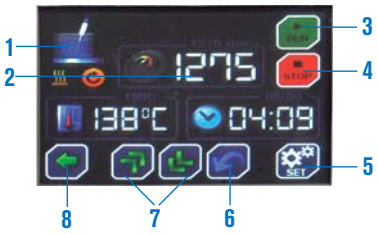
“Agimatic-Rev-TFT” with heating

ELECTRONIC DIGITAL CONTROL OF STIR SPEED AND HEATER TEMPERATURE.
WITH REMOVABLE SAFETY RING AGAINST SPILLAGE.

SILUMIN UPPER PLATE COVERED BY AISI 304 STAINLESS STEEL.

CONTROL PANEL

1. Probe position indicator.
2. rpm, temperature and time reading.
3. Start up.
4. Stop.
5. Settings.
6. Backward.
7. Increase/decrease parameters value.
8. Cursor.



MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
Agimatic-Rev-TFT	7000837	up to 10	14,5 19 26	550	3,5

Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.

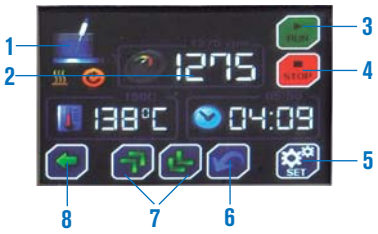
“Agimatic-Rev-TFT-C” with heating

ELECTRONIC DIGITAL CONTROL OF STIR SPEED AND HEATER TEMPERATURE.
WITH REMOVABLE SAFETY RING AGAINST SPILLAGE.

SILUMIN UPPER PLATE WITH CERAMIC SURFACE.

CONTROL PANEL

1. Probe position indicator.
2. rpm, temperature and time reading.
3. Start up.
4. Stop.
5. Settings.
6. Backward.
7. Increase/decrease parameters value.
8. Cursor



MODEL

	Part No.	Maximum stir volume litres	Height/width/Depth (exterior) cm	Power W	Weight Kg
Agimatic-Rev-TFT-C	7000838	up to 10	14,5 19 26	550	3,5

Supplied with a PTFE coated stir bar of Ø 8 x 40 mm long.

Ceramic surface:
Excelent conducitity and heat distribution.
Unalterable surface.
Higher acceleration to reach temperature.
Extreme resistance against chemical agents and scratches.

Complements for Agimatic-Rev-TFT and Rev-ED-C see accesories on pages 34 and 35.

Multiple position magnetic stirrers “Multimatic”

COMMON FEATURES

External plate made from AISI 304 stainless steel with engraved stirrer positions.
Independent stirring speed control for each position.
Front panel protected against splashes.
Models 5-S and 5-N: Suitable for 5 flasks, 600 ml max. (max. Ø 90 mm).
9-S and 9-N: Suitable for 9 flasks, 300 ml max. (max. Ø 75 mm).
Epoxy coated external case.

APPLICATIONS

Specially recommended for bio-pharmaceutical diagnostic assays.

Stirrers “Multimatic” 5-S and 9-S without heating

FOR 5 AND 9 POSITIONS.

CONTROL PANEL

Illuminated mains switch.
Individual position stir speed control.

MODELS

	Part No.	Height / Width / Depth (exterior) cm	Width / Depth (plate) cm	Speed control r.p.m.	Maximum stir volume ml	Power W	Weight Kg
MULTIMATIC 5-S	7000951	11 28 35	28 33	Up to 1600	5 x 600	16	7
MULTIMATIC 9-S	7000952	11 28 35	28 33	Up to 1600	9 x 300	27	9

Comes complete with a 5 or 9 mm stir bar, model dependent covered in PTFE of 8 Ø x 32 mm long.

ACCESSORIES

Transparent methacrylate bath.
Fits onto the non heating stir plate of the “Multimatic” 5-S y 9-S
The bath can withstand temperatures up to 60 °C.
See section Thermostats and immersions (page 98).

Part No.	Capacity litres	Height / Width / Depth (exterior) cm	Weight Kg
1001007	14	16 29 35	4

Hotplate stirrers “Multimatic” 5-N y 9-N with heating

FOR 5 AND 9 POSITIONS, OVER TEMPERATURE SAFETY THERMOSTAT FITTED.

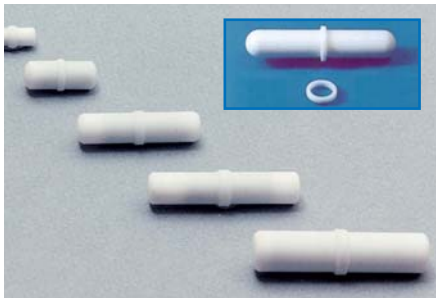
CONTROL PANEL

Mains illuminated power switch.
Individual speed control for each position.
Electronic heater energy control from 0-100% synchronised with an indicator lamp when the heater is on.

MODELS

	Part No.	Height / Width/ Depth (exterior) cm	Width / Depth (plate) cm	Maximum temperature °C	Speed control r.p.m.	Maximum stir volume ml	Heater Power W	Total Power W	Weight Kg
MULTIMATIC 5-N	7000953	16 28 35	25 25	300	Up to 1600	5 x 600	680	700	12
MULTIMATIC 9-N	7000954	16 28 35	25 25	300	Up to 1600	9 x 300	680	700	14

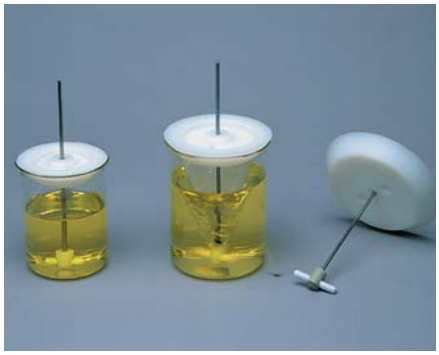
Comes complete with a 5 or 9 mm stir bar, model dependent covered in PTFE of 8 Ø x 32 mm long.



Stir-bars followers for magnetic stirrers.
Encased in PTFE with pivot ring, temperature resistant to +275 °C.
Part No.

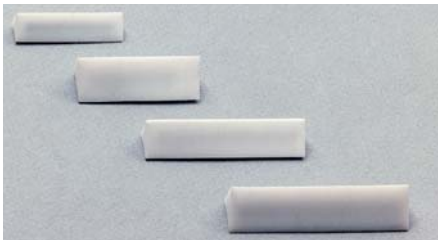
1000009	6 Ø x 10 mm long.	without pivot ring.
1000012	4 Ø x 12 mm long.	without pivot ring.
1000019	7 Ø x 20 mm long.	with pivot ring.
1000032	8 Ø x 32 mm long.	with pivot ring.
1000039	8 Ø x 40 mm long.	with pivot ring.
1000045	10 Ø x 45 mm long.	with pivot ring.
1001061*	12 Ø x 75 mm long.	with pivot ring.
1001062*	16 Ø x 102 mm long.	with pivot ring.
1001063*	16 Ø x 127 mm long.	with pivot ring.
1001064*	19 Ø x 150 mm long.	with pivot ring.

* With pivot ring for large volumes.



Concentric stir-bar with beaker cover "CENTRIMAN".
Encased in P.T.F.E. with an adjustable axis bar made of AISI 304 stainless steel. Suitable for applications with volumes of 100 to 2000 ml.
Soft start stirring and adjustable height prevents the stir-bar jumping inside the vessel.
Conical fitting lid of polypropylene with excellent chemical and thermal properties that resists temperatures up to 160 °C. The lid has an auto-lubricating central axis hole with two lateral air displacement holes.
Part No.

1000900	Concentric stir-bar with conical fitting lid for beakers volumes of 100 ml. to 500 ml. Length 32 mm.
1000901	Concentric stir-bar with conical fitting lid for beakers volumes of 500 ml. to 1000 ml. Length 50 mm.
1000902	Concentric stir-bar with conical fitting lid for beakers volumes of 1000 ml. to 2000 ml. Length 55 mm.



Triangular stir-bar "TRIMAG".
Encased in heat resistant PTFE of temperatures up to 275 °C. useful for "dissolving solids" and stirring silts. Liquids flow upwards as well as sideways. Quiet with excellent stability. Suitable for flat bottomed vessels.
Part No.

1000536	9 side x 35 mm long.
1000537	14 side x 40 mm long.
1000538	12 side x 50 mm long.
1000539	14 side x 55 mm long.

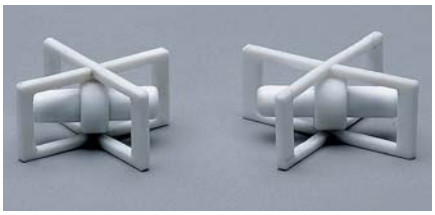
Starhead stir bar.
Circular, encased in heat resistant PTFE for temperatures up to 275 °C. Useful for tubes, flasks and round bottom vessels.
Part No.

1000790	25 Ø x 15 mm height.
1000791	40 Ø x 17 mm height.

Box of 17 assorted stir bars.
Encased in temperature resistant PTFE for temperatures up to 275 °C.
Contents:
1 stir-bar with pivot ring 6x10 mm.
1 stir-bar with pivot ring 4 x12 mm.
1 stir-bar with pivot ring 7x20 mm.
2 stir-bars with pivot ring 8x32 mm.
2 stir-bars with pivot ring 8x40 mm.
2 stir-bars with pivot ring 10x45 mm.
1 triangular stir-bar of 9x35 mm.
1 triangular stir-bar of 14x40 mm.
1 triangular stir-bar of 12x50 mm.
1 triangular stir-bar of 14x55 mm.
1 stir-bar Rotor-Pat of 11x35 mm.
1 oval stir-bar of 16x30 mm.
1 oval stir-bar of 20x40 mm.
1 star head stir-bar of 20x15 mm.
1 star head stir-bar of 40x17 mm.
Part No. 1000487

Stir Bar "ROTOR-PAT".
Encased in PTFE useable up to temperatures of 275 °C.
Excellent stability with strong vortexing turbulence, useful for round bottom or convex bottom flasks.
Part No.
1000001 10 Ø max. x 32 mm long.

Oval stir bar, coated with PTFE, resistant to high temperatures of up to +275 °C. Can be used for all types, including round bottom vessels.
Part No.
1000788 16 Ø x 30 mm long.
1000789 20 Ø x 40 mm long.



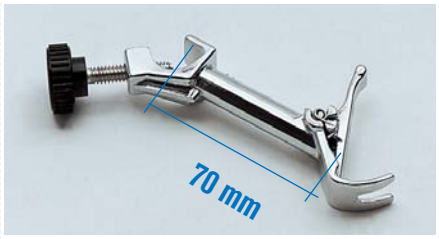
Floating magnetic stir-bar "IMANFLOTER".
Encased completely in PTFE Dismountable structure, autoclavable. Designed specifically for low constant speed stirring. Recommended for tissue culture applications. The floating conception of the Imamfloter minimises the grinding effect of cell damage as there is no friction on the bottom of the flask.
Medium speed levels prevent the IMANFLOTER from jumping within the vessel.

Part No.	Total length	Stir bar length
1000897	50 mm	39 mm
1000898	60 mm	45 mm

Stir-bar retriever.
Flexible, encased in PTFE.
Part No.
1000020 Length: 280 mm.

ACCESSORIES FOR MAGNETIC STIRRERS AND HOTPLATE STIRRERS

Support rod with thread of 12 mm Ø x 500 mm high, stirrer dependent, attaches to the main body of the stirrer.
Part No. 1000725



Clamp with bosshead , "AUTOMATIC" Chrome coated alloy with screw closure.
For Ø from 0 to 25mm.
Part No. 7000251

Electronic contact thermometer with digital readout "Sensoterm II".
Complete with AISI 304 stainless steel sheathed Pt1000 temperature sensor.

FEATURES:
Conceived and designed as external sensor probe, where the controller is away from the measuring temperature zone of heat and vapour. The advantages over a contact thermometer means additional safety, no broken glassware or mercury spills.

SPECIFICATION
Temperature range from: -50 °C to +300 °C.
Temperature sensor : 3.5 Ø x 250 mm immersion.
Stability: 1 °C ±1 digit
Resolution: 1 °C.
Temperature display: LCD 8 mm.
Working environment: 0 to 60 °C and relative humidity up to 80 %.
Dimensions: 130 high x 71 wide x 24 mm deep (without probe)

Identification ICON

Part No. 1001009

Adapters for round flasks of 250, 500 and 1000 ml.
Made of Aluminium alloy. Suitable for the stirrers with a Ø greater than 14.5 cm.
Maximum adapter temperature 250 °C.
Part No.
1001712 250 ml flasks.
1001718 500 ml flasks.
1001719 1000 ml flasks.

NEW DESIGN

Temperature controller Electemp-TFT.

FEATURES:
P.I.D. digital temperature controller. User configurable microprocessor of function parameters.
Temperature range: -150 °C to 1300 °C
Sensor options: Pt100 or Thermo resistor K type probe.
See page 293.

SPECIFICATION:
Stability: ±0.1 °C.
Resolution: ±0.1 °C Pt 100 /±1 °C K Type probe.
Operation: ON-OFF/P.I.D.
AUTOTUNING. Adapts automatically to the working medium (Solid, liquid or gas.)
Dimensions: 10.5 high x 13.5 wide x 21cm deep.
Maximum power (at 230 V): 3100 W.
Weight: 1.250 Kg

Identification ICON

Part No. 3000897

ACCESSORIES:
Probe Pt100 Part No. 1000893
Probe K Type. Part No. 1000895

Aluminium PTFE coated bath.
Suitable for stirrers and hotplate stirrers. "Agimatic N, E, ND, ED and Rev-E".
Suitable as water or oil baths for temperatures up to 200 °C with magnetic stirring from 150 to 1500 r.p.m.
For rotary evaporators etc.
Part No.
1001230 capacity 2 litres. 11 cm high x 18 cm Ø.
1001231 capacity 4 litres.13 cm high x 24 cm Ø.

ACCESSORIES:
Suitable only for tank Part No. 1001230.
Set of 4 reduction ring lid, stainless steel AISI304, with location hole for a thermometer.
Part No. 3000917

Temperature sensor Pt100. Controls the sample temperature in the digital hotplate stirrers:
Part Nos: 7001511, 7001609, 7000837 and 7000838.
Immersion Probe:
4mm Ø x 130 mm long.
Cable connector 150 cm long.

Identification ICON

Part No. 1001610

Rotator "Orbit"

FEATURES

Rotation Speed: 12 r.p.m.
Adjustable rotation angle axis from vertical to horizontal. An elastic shaft drive and clip supports permit the flasks and tubes to be loaded and unloaded while the motor is running. Epoxy coated outer casing.
Recommended for extractions of cell cultures, blood tubes and other haematological applications.

MODEL

Part No.	Speed r.p.m.	Height / Width / Depth (exterior) cm			Power W	Weight Kg
3000445	Fixed 12	19	23	20	15	6

ACCESSORIES

Erlenmeyer flask adapters, clips made from stainless steel.

Part No.	Capacity
3000850	8 x 50 ml Erlenmeyer flasks.
3006100	6 x 100ml Erlenmeyer flasks.
3005250	5 x 250ml Erlenmeyer flasks.

Tube adapters, made from Aluminium, with nickel/chrome clips for different tube Ø.

Part No.	Capacity
3000356	35 tubes from 6 to 9 mm Ø.
3003011	30 tubes from 10 to 13 mm Ø.
3002512	25 tubes from 14 to 16 mm Ø.
3002215	22 tubes from 17 to 20 mm Ø.
3001820	18 tubes from 21 to 24 mm Ø.
3001723	17 tubes from 23 to 28 mm Ø.

Tilting Mixer Shaker "Movil-Tub"

FEATURES

Fixed speed tilting shaker mixer with removable silicon, anti slide tray. Recommended especially for haematology,chemistry and microbiology applications.

MODEL

Part No.	Tube capacity	Tube Ø / length mm		Speed r.p.m.	Height / Width / Depth (exterior) cm			Tilt angle	Power W	Weight Kg
7000913	12	20	160	15	12	34	20	25°	6	2,5

Roller and tilt mixer "Movil-Rod"

WITH VARIABLE SPEED CONTROL FROM 10 TO 80 r.p.m.

FEATURES

Roll and tilt mixer with 7 rollers, double action,gently rolls the tubes while rocking, produces a sinusoidal movement, providing excellent sample homogenisation. Recommended for suspensions of biological and haematological fluids.

MODEL

Part No.	For tube Ø up to mm	Speed r.p.m.	Length (rollers) cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7001723	35	10 - 80	24	9.8	34.9	26.5	12	3.6

Mixer shaker for tubes "Vortex-Vib"

SHAKE BY MIXER HEAD.

Strong and economic.

FEATURES

With stirring selector by pressure, or fixed in continuous. Starting switch, 4 interchangeable platforms for multiple tubes and 50 ml flasks. Base with 4 suction cups for full adherence.

MODEL

Part No.	Frequency r.p.m.	Height /Width /Depth (exterior) cm			Power W	Weight Kg
7001725	2800	120	170	170	50	4

Rocking Mixer "Vibromatic"

DIGITAL ELECTRONIC CONTROL OF SPEED AND TIME.

Optimum shaking frequency: 950 oscillations per minute

APPLICATIONS

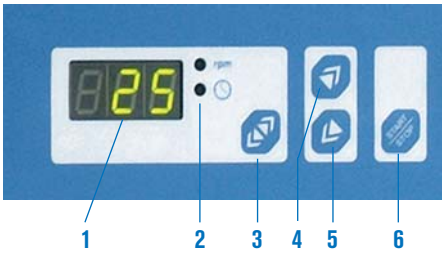
Dissolution, extractions and homogenisation.

FEATURES

Electronic control from 100 to 950 oscillations per minute. (1900 vibrations)and timer from 1 to 999 minutes or continuous operation.
Oscillation amplitude: 8 mm.
Easily detachable arms equipped with 8 clamps that allow all types of tubes and flask with diameters of between 5 to 50 mm can be held in position.
Maximum load: 4 kg.

CONTROL PANEL

1. Digital display indicator of osc./min. and time.
2. Parameter display selector.
3. Parameter selector, speed or time.
4. Push button increase value.
5. Push button decrease value.
6. Push button start-stop.



MODEL

Part No.	Oscillations p.m.	Maximum capacity Kg	Height / Width / Depth (exterior) cm	Power W	Weight Kg
7000384	100 - 950	4	23 77 27	34	11

ACCESSORIES

Platform support for Erlenmeyer flasks, made from AISI 304 stainless steel with clip adapter position holes for 50 ml to 1000 ml flasks. Platform dimensions: 38 cm long x 19 cm wide.
Weight: 2 Kg.
Platform capacity:

- 18 Erlenmeyer flasks of 50 ml.
- 12 Erlenmeyer flasks of 100 ml.
- 8 Erlenmeyer flasks of 250 ml.
- 6 Erlenmeyer flasks of 500 ml.
- 3 Erlenmeyer flasks of 1000 ml.

Part No. 3001221

Adapters for Erlenmeyer flasks.
Made from tempered stainless steel.
Part No.

1001003	Adapter for	50 ml.
1000978	Adapter for	100 ml.
1000979	Adapter for	250 ml.
1000980	Adapter for	500 ml.
1000981	Adapter for	1000 ml.

2 in 1. Platform support for Erlenmeyer flasks.

Model Vibromatic with adapter platform.

Orbital shaker “AG-200”, “AG-200-A”, “AG-200-B”

ELECTRONIC DIGITAL CONTROL OF SPEED AND RUN-TIME

COMMON FEATURES

External ABS case with adapter platform for the different models.
Innovative single button to select start, shaking speed, time and stop.
Digital display of time and shaking speed.
Maintenance free induction drive motor which produces a uniform movement according to the rotation speed program.
Acoustic notification at the end of the cycle.

CONTROL PANEL

Main switch.
Single button selector for shaking speed and time.
Display indicating the shaking speed.
Display indicating the programmed time.
Measures: Alto 10 x Ancho 28 x fondo 26

TECHNICAL INFORMATION

Rotation frequency: 50-250 r.p.m.
Timer from 1 min to 99h 59 min
Rotation amplitude: 20mm
Power: 50 W.
Power supply: 220V/50Hz
Load capacity: till 2,5Kg
Measures cm: Height 10 x Width 28 x Depth 26

Shaker for Petri plates “AG-200”

With non-slip rubber platform of 24cm width and 20cm depth.
Capacity for 4 Petri plates.
Useful for slides and little flasks shaking.
Weight (Kg): 7.
Part no: 5312010

Incubator for Petri capsules. See page: 154

Shaker for bottles “AG-200-A”

With non-slip rubber platform of 26cm width and 22cm depth, with 3 adjustable rubber retaining bars suitable for any kind of glasses: Erlenmeyer, flasks, bottles, etc.
Weight (Kg): 8
Part no: 5312011

Shaker for Erlenmeyer flasks “AG-200-B”

Tempered aluminium base of 27cm width and 22cm depth, with multi-adapter location holes to support different capacities flasks from 50ml to 2000ml.
Weight (Kg): 8.
Part no: 5312012

Erlenmeyer flasks adapters

Made of stainless steel with upper spring.
Part no. 5312013 Adapter for 50 ml.
Platform capacity: 12 units
Part no. 5312014 Adapter for 100 ml.
Platform capacity: 8 units
Part no. 5312015 Adapter for 250 ml.
Platform capacity: 6 units
Part no. 5312016 Adapter for 500 ml.
Platform capacity: 4 units
Part no. 5312017 Adapter for 1000 ml.
Platform capacity: 2 units

Orbital and linear motion shaker “Rotaterm”

WITH HEATED PLATFORM TOP PLATE.
ELECTRONIC DIGITAL SPEED AND TEMPERATURE DISPLAY.
INCLUDES A SAFETY OVER TEMPERATURE DEVICE.
TEMPERATURE STABILITY ±1 °C.

2 in 1 System suitable for orbital or linear motion

FEATURES

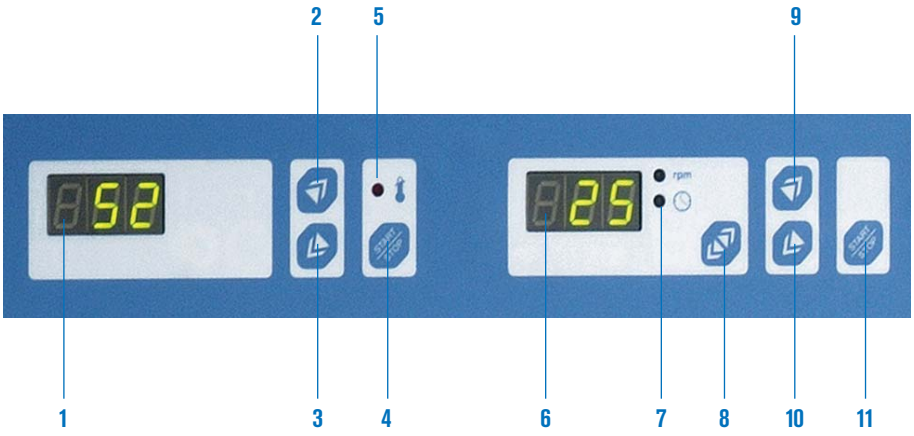
Adjustable temperature range from ambient +5 °C. to 250 °C.
Electronic 3 digit temperature display, monitored by a Pt 100 temperature probe.
Resolution: 1 digit.
Electronic digital speed control from 20 to 230 oscillations per minute and timer from 1 to 999 minutes or continuous operation.
Adjustable oscillation amplitude: 15 and 20 mm.
Choice of: orbital or linear motion.
Epoxy covered external casing.
Aluminium top plate platform with evenly distributed heater elements.
The upper platform is made of AISI 304 stainless steel with adjustable tensile spring clips that allow all kinds of glassware, flasks, Erlenmeyer flasks, racks, etc. to be held in position.
Digital calibration temperature circuit.

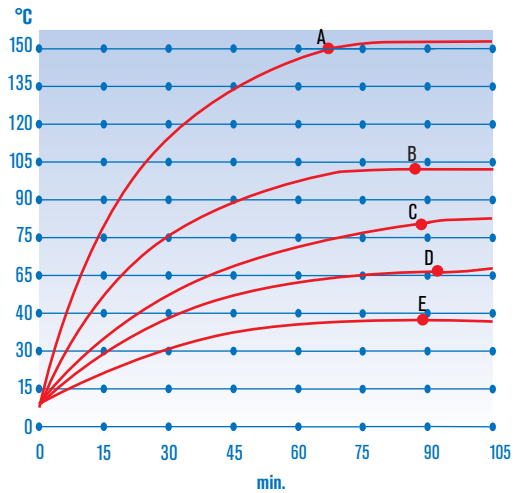
Part No 3000435 with platform and tensile spring clips.

CONTROL PANEL

Temperature control.
1. Digital temperature display.
2. Push button increase temperature.
3. Push button reduce temperature.
4. Push button start-stop heater.
5. Over temperature alarm.

Temperature and speed control.
6. Digital display of oscillation per minute and time (in minutes).
7. Displayed parameter.
8. Push button select displayed parameter, speed or time function.
9. Push button increase parameter value.
10. Push button decrease parameter value.
11. Push button start-stop shaker.





MODEL

Part No.	Platform	Width / Depth (platform) cm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
3000435	Spring clip	41 31	30 46 38	2300	32

Diagram of Temperature Vs Time.
For 500ml Erlenmeyer flasks.
A. Plate to 250 °C: Silicon 150 °C.
B. Plate to 200 °C: H_2O 97 °C.
C. Plate to 150 °C: H_2O 82 °C.
D. Plate to 100 °C: H_2O 61 °C.
E. Plate to 50 °C: H_2O 37 °C.

Orbital and horizontal shaker "Rotabit"

ELECTRONIC DIGITAL CONTROL OF SPEED AND RUN TIME.

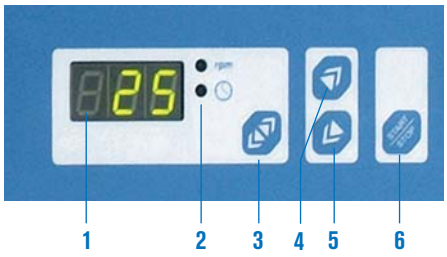
2 in 1 system, versatile orbital and horizontal shaker

FEATURES

Speed control from 20 to 230 oscillations per minute with timer from 1 to 999 minutes or continuous operation.
Shaking amplitude of: 15 and 20 mm.
Choice of orbital movement or a horizontal "To and Fro" motion.
Load capacity: till 30 Kg
Easy to interchange platforms, see accessories for platform selection.
Epoxy covered outer casing.

CONTROL PANEL

1. Digital display showing oscillations and time.
2. Displayed parameter.
3. Push button, select parameter function, speed or time.
4. Push button increase parameter value.
5. Push button reduce parameter value.
6. Push button Start- Stop.



MODEL

Part No.	Control oscillations p.m.	Height / Width / Depth (exterior) cm	Power W	Load capacity Kg	Weight Kg
3000974	20 - 230	20 42 43	80	30	13.5

This shaker can be coupled to the "Boxcult" incubation chamber with platform Part No. 3000975 (see page 41).

NOTE: This shaker has multiple options and accessories, a flow chart for easy selection of the accessories can be found at the end of this section.

ACCESSORIES

Universal platforms with non-slip surface with four adjustable silicon covered retaining bars suitable for all types of glassware, Erlenmeyer flasks, etc. to be held in position.

Part No.	Height / Width/ Depth (exterior) cm	Weight Kg
3000975	9 42 35	5
3000976	9 70 35	7

Platform Part No. 3000975

Platform Part No. 3000976

Base for Erlenmeyer flask clips.
Made from AISI 304 stainless steel with multi-adapter location holes to support Erlenmeyer flask clips. Capacities 50, 100, 250, 500 and 1000 ml.

Part No.	For platform number Part No.	Width / Depth (platform) cm	Capacity, No. of positions 50 ml	100 ml	250 ml	500 ml	1000 ml	Weight Kg
3000977	3000975	40 34	36	25	16	9	5	1.5
3001010	3000976	69 34	66	45	21	18	10	2,2

Erlenmeyer flasks spring clips.
Made with tempered stainless steel.

Part No.		Part No.	
1001003	Adapter for 50 ml.	1000979	Adapter for 250 ml.
1000978	Adapter for 100 ml.	1000980	Adapter for 500 ml.
		1000981	Adapter for 1000 ml.

ACCESSORIES

Orbital To & Fro shaker "Rotabit" complete with accessory. "Boxcult" incubation chamber.

Incubation chamber "Boxcult"
The "Boxcult" can be fitted onto the "Rotabit", Part No. 3000974, with the universal platform, (SMALL) Part No. 3000975.
Forced air fan circulation.
Adjustable temperature, ambient +5 °C to 57 °C.
Homogeneity ±2.5%
Stability ±0.5%
Built of transparent Perspex, access is throught a wide hinged front door which provides easy access for loading and unloading. Samples can be viewed without opening the incubator maintaining a constant homogeneous temperature.

Part No.	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Power W	Weight Kg
3000957	50	47	47	61	51	51	220	11

See incubator section for more details (page 134).

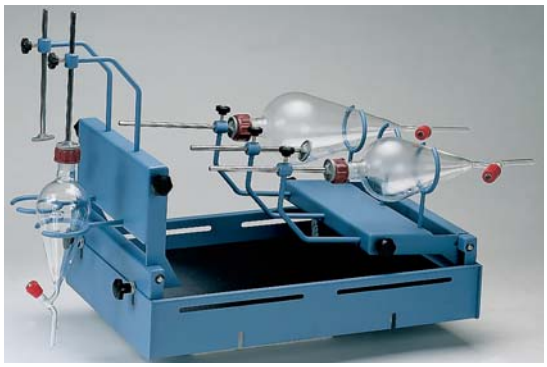
Set of 5 reduction rings adapters for separating flasks of 50 to 100 ml.
Part No. 6000620

Separating funnel device.
Two positions, for mixing Horizontal to Vertical for easy decanting.
Capacity: 5 separating funnels of 250 to 500 ml or 2 funnels of 1000 ml.
Part No. 6000619
This accessory can only be fitted to the platform Part No. 3000976.
The "Rotabit" Part No. 3000974 and platform need to be ordered separately.

Double platform part no 3001011, with shaker Part No. 3000974

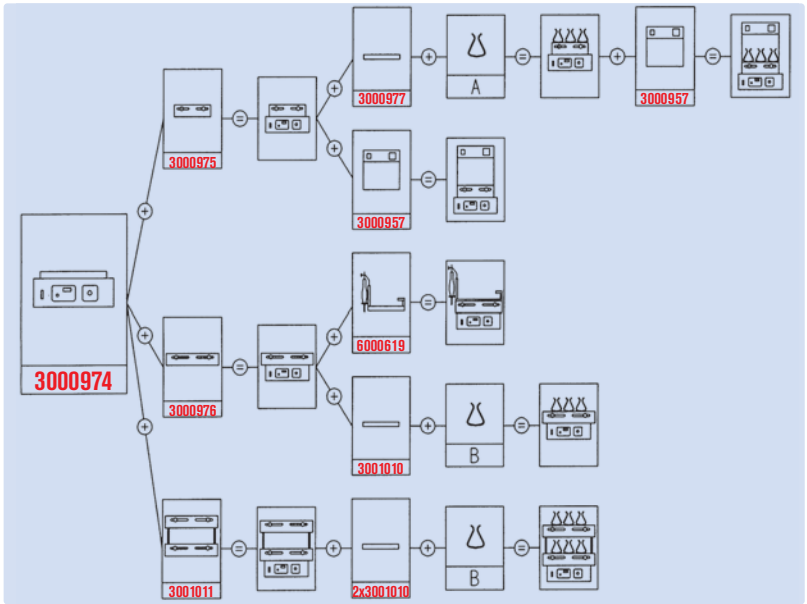
Double platform.
Two levels.
Fits onto the "Rotabit" Part No. 3000974.
Complete with anti slide mats and four support bars that support the upper level.
Each platform has four silicon clamping bars.

Part No.	Width / Depth (platform) cm		Total combined height cm
3001011	55	35	40



Separating funnel decanting accessory Part No. 6000619 Fits onto platform Part No. 3000976.

Flow diagram of the selection of accessories for the "Rotabit" To & Fro Orbital Shaker



SUITABLE FOR ERLENMEYER			
Capacity	Part No.	A	B
50 ml	1001003	36	48
100 ml	1000978	25	30
250 ml	1000979	16	20
500 ml	1000980	9	12
1000 ml	1000981	5	8

NEW

Overhead stirrer "SE-100"

FOR BLENDS, HOMOGENIZATIONS, SUSPENSIONS, SOLUTIONS GASIFICATION AND SUBSTANCES RECIRCULATION. DESIGNED FOR CONTINUOUS WORK.
BRUSHLESS MOTORS FREE OF MAINTENANCE AND SPARKS.
PARTIALLY SEALED ENCAPSULATED CASES AGAINST SUBSTANCES AND AGRESSIVE VAPOURS.
THERMAL PROTECTION FOR OVERHEATING WITH AUTO POWER OFF AND LED INDICATOR.
HEIGHT ADJUSTABLE STIRRING ROD.

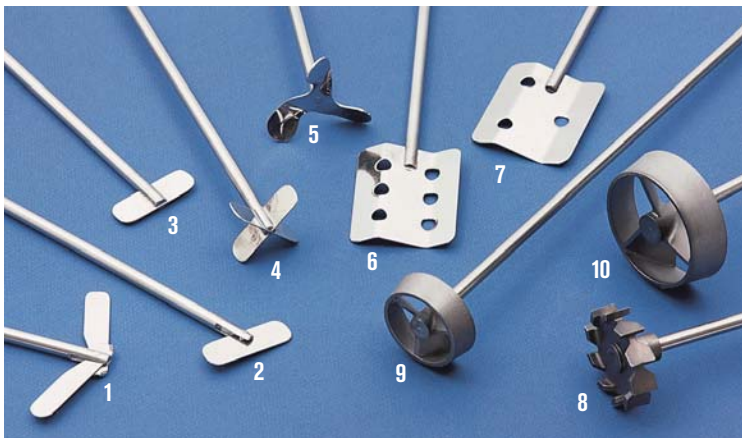
FEATURES

Excellent blending results in an accurate and repeatable control.
Stirring by electronic control of speed, from 60 to 1500 rpm.
Specially designed for those samples in which its viscosity changes during the process.
Max stirring volume: **Up to 40 L** (in H20)
Max stirring viscosity: **Up to 100.000 mPas.**
Speed digital reading and pre-selection (rpm).
Adaptable spindle to stirring rods up to 9.5 mmØ.

MODEL

Part No.	Height/Width/Depth (external) cm	Power W	Weight Kg
7000385	17,5 7,5 13,5	100	2,8

OVERHEAD STIRRER ACCESSORIES "RZR"



STIRRING SHAFTS WITH ROTORS

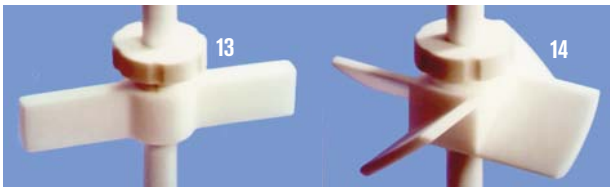
Shaft with AISI 304 stainless steel rotor. Shaft: 7mm Ø.

Part No.	Rotor type	Ø shaft mm	Total length mm	Features
6002891	1	90	400	Double fly vane
6002892	2	60	400	Fly vane
6002893	3	50	400	Fixed blade
6002894	4	50	400	Double cross vane
6002895	5	58	400	Helix
6002896	6	70	450	Six hole paddle
6002897	7	70	450	Three hole paddle
5050921	8	46	400	Radial turbine
5050932	9	45	400	Turbo helix 45 mm Ø
5050933	10	66	400	Turbo helix 66 mm Ø

SHAFTS WITH PTFE PADDLES

Shaft of 8 mm Ø.

Part No.	Rotor type	Ø shaft mm	Total Length mm	Features	Speed range r.p.m.
5050934	11	50	500	Helix PTFE	500
5050935	12	80	500	Anchor PTFE	500



ADJUSTABLE HEIGHT SHAFT STIRRERS

Shafts made of AISI 304 stainless steel coated in PTFE and PTFE stirrer paddles.
Shaft: 8 mm Ø. Adjustable height paddles using a locking thread.
Can be used with differing paddles on the same shaft to create a multiple mixing action.

Part No.	Rotor type	Ø shaft mm	Total Length mm	Features
5050936	13	70	400	Shaft PTFE
5050937	14	40	400	Helix PTFE
5050938	**Shaft PTFE** Spare or additional paddle for multiple stir effect			
5050939	**Helix PTFE** Spare or additional paddle for multiple stir effect			

Bosshead "MAXIM"
For large diameters.
Chrome plated with one opening to hold rods up to 30 mm Ø. Second opening up to 20 mm Ø.
Part No. 7000408

Double base support T "MAXI"
Rod of AISI 304 stainless steel of 20 Ø x 800 mm high. Designed to support weights up to 20 Kg at 300 mm height from the base. Useful for stirrers.
Weight: 7 Kg.
Part No. 6000410

High volume orbital shaker incubator “1102” and 2102”

MODEL 1102 ADJUSTABLE TEMPERATURE FROM AMBIENT +5 ºC TO 60 ºC.
MODEL 2102 REFRIGERATED FOR ADJUSTABLE TEMPERATURE FROM +5 ºC TO 60 ºC.
FAN AIR CIRCULATED, WITH OR WITHOUT REFRIGERATION.
DIGITAL ELECTRONIC CONTROL OF SPEED, TEMPERATURE AND TIME. FOR LONG OPERATING PERIODS.

SAFETY:
TRIPLE PROTECTION MOTOR DRIVE:
OVER TEMPERATURE, IRREGULAR MOVEMENTS, AUTOMATIC STOP WHEN THE DOOR IS OPENED, TEMPERATURE ALARM, THERMAL CUTOUT.

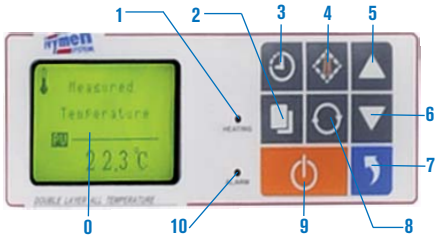
FEATURES

Metallic external case epoxy-coated.
Made with two doors framework type and double glass windows which allow visibility of the material exposed in the inside
Two removable upper trays for high volume Erlenmeyer flasks accommodation in the lower tray.
Adjustable outlet hole for the air in the inside of the chamber.
With wheels for movements and adjustable support for a stabled fixing.
Current and set digital reading of temperature, time and speed parameters.
Acoustic alarm and illuminated indicator at the end of the cycle and also to indicate temperature and / or time programs errors.
Automatic switch off mechanism when the shaker door is opened.
Motor over load protection, with automatic switch off activation.
Induction drive motor, where the drive mechanism has an anti vibration system. Refrigerated models have a hermetically sealed compressor unit with a ventilated condenser.
Internal case made of stainless steel AISI 316 with polished finish and glazed door for a handy visibility of the samples process.
Internal platform with multi-adapter positions for differing accessories, such as: conical flask adapters, microtitre plate holders and universal tray with adjustable tension springs for other non standard sized vessels.

MODEL	1102	2102
Part No.	5312094	5312095
Rotation amplitude	26 mm	26 mm
Controllable speed range	from 30 to 300 r.p.m.	from 30 to 300 r.p.m.
Controllable speed in steps of	1 r.p.m.	1 r.p.m.
Refrigeration	No	Yes
Heating	Yes	Yes
Controllable temperature range	from ambient +5 °C to 60 °C	from 5 °C to 60 °C
Controllable temperature in steps of	0.1 °C	0.1 °C
Chamber temperature uniformity	±1-2 °C	±1-2 °C
Timer	from 0 to 500 hours	from 0 to 500 hours
Usable platform dimensions	734 x 458 mm	734 x 458 mm
Platform number	2	2
Maximum Erlenmeyers capacity (see accessories)	*4 x 5000 ml, or *8 x 3000 ml, or *8 x 2000ml, or 24 x 1000 ml, or 44 x 500 ml, or 56 x 250 ml, or 104 x 100 ml or 104 x 50 ml	
Dimensions Height x Width x Depth	1440 x 950 x 700 mm	1440 x 950 x 700 mm
Weight	265 Kg	272 Kg
Power	930 W	1200 W
Power supply	230v/50-60Hz	

***Note: An upper tray divided into two removable pieces which allow high volume Erlenmeyer flasks accommodation, from 2000 to 5000 ml. in the lower tray or the Universal platform which is supplied as an accessory.**

CONTROL PANEL



0. LCD Display.
1. Heater "ON" indicator.
2. Modify and confirm push button.
3. Time function push button.
4. Temperature push button.
5. Increase value push button.
6. Reduce value push button.
7. Rotation push button.
8. Speed push button.
9. Start / Stop Push button.
10. Alarm indicator.
Refrigerated model also carry:
Refrigeration compressor "ON" indicator.
Adjust temperature push button.

ACCESSORIES Erlenmeyer and flask adapters.

Made from hardened sprung stainless steel.

Part No. 5312105 Adapter for 50 ml
Part No. 5312106 Adapter for 100 ml
Part No. 5312107 Adapter for 250 ml
Part No. 5312108 Adapter for 500 ml
Part No. 5312109 Adapter for 1000 ml
Part No. 5312110 Adapter for 2000 ml
Part No. 5312111 Adapter for 3000 ml
Part No. 5312112 Adapter for 5000 ml

Adapter for microtiter holder
From 85 x 130 mm., allows up to 6 plates.
Part No. 5312113

Universal platform tray with elastic tension clips that hold in position any type of vessel, flasks, beakers, racks, etc.
Dimensions 734 x 458 x 75 mm
Part No. 5312120

Orbital shaker incubators “D-1102” y “D-2102”

MODEL D-1102 FOR ADJUSTABLE TEMPERATURES FROM AMBIENT +4ºC UP TO 60ºC.
MODEL D-2102 REFRIGERATED FOR ADJUSTABLE TEMPERATURES FROM 4ºC UP TO 60ºC.
FAN AIR CIRCULATED, WITH OR WITHOUT REFRIGERATION.
DIGITAL ELECTRONIC CONTROL OF SPEED, TEMPERATURE AND TIME. FOR LONG OPERATING PERIODS.

NEW

APPLICATIONS

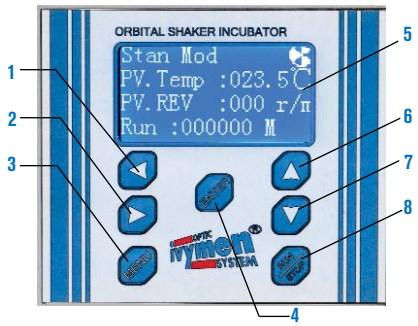
For use in cell and bacterial cultures, fermentation technology, etc...
It is widely used in research institutions, universities, epidemiological prevention centres, doping tests, agriculture and molecular biology.

FEATURES

Metallic external case epoxy-coated.
Current and set digital reading of temperature, time and speed parameters. Acoustic alarm and illuminated indicator of end of cycle and also of malfunction in programmed temperatures &/or time. Automatic switch off protection mechanism in case the door is opened.
Motor overload protection with automatic switch off and activation.
Compact unit with brushless motor assembly built-in over an anti-vibration mount and hermetic compressor group with aired condenser in models with refrigeration.
Case with methacrylate lid for an easy viewing of sample processes. Internal platform with multi-adapter positions to different accessories, such as: adapters for Erlenmeyer, microtiters plates or universal tray with adjustable tension springs for vessels of different sizes.

MODEL	D-1102	D-2102
Part No.	5312096	5312097
Rotation amplitude	25 mm	25 mm
Controllable speed range	from 25 to 300 r.p.m.	from 25 to 300 r.p.m.
Controllable speed in steps of	1 r.p.m.	1 r.p.m.
Refrigeration	No	Yes
Heating	Yes	Yes
Controllable temperature range	From ambient +4 °C up to 60 °C	From ambient 4 °C up to 60 °C
Controllable temperature in steps of	0.1 °C	0.1 °C
Chamber temperature uniformity	±1 °C	±1 °C
Timer	From 0 to 999 hours	From 0 to 999 hours
Usable platforms dimensions	460 x 460 mm	460 x 460 mm
Platforms number	1	1
Erlenmeyers maximum capacity (see accessories)	9 x 1000 ml or 9 x 500 ml or 16 x 250 ml, or 20 x 100 ml or 25 x 50 ml	
Height x Width x Depth	620 x 630 x 840 mm	620 x 630 x 840 mm
Weight	76 Kg	98 Kg
Power	800 W	800 W
Power supply	220v/50-60Hz	

CONTROL PANEL



1. Left push button.
2. Right push button.
3. Menu selection push button.
4. Enter push button.
5. Alphanumeric screen.
6. Increase value push button.
7. Reduce value push button.
8. Start/Stop push button.

ACCESSORIES Erlenmeyer flasks adapters.

Built-in stainless steel with upper spring.

Part No. 5312105 Adapter for 50 ml
Part No. 5312106 Adapter for 100 ml
Part No. 5312107 Adapter for 250 ml
Part No. 5312108 Adapter for 500 ml
Part No. 5312109 Adapter for 1000 ml

Adapter for microtiter holder
From 85 x 130 mm, allows up to 6 plates.
Part No. 5312113

Ultrasonic homogenizers “CY-500”

INTENSE CAVITY SHAKING.
FOR 10 TO 500ML VOLUMES.

OPERATION

The ultrasonic generator transforms the electric current from 220V 50Hz into ultrasonic energy of 20Hz, to feed the ultrasonic transducers. The transducer produces an elastic distortion by following the alternate voltage, which traduces in a longitudinal mechanical vibration that produces a cavitation effect in the titanium alloy probe submerged in the solution. This generates a multitude of micro bubbles which releases a considerable energy in the probe end that allow a sample intense shaking and vibration.

APPLICATIONS

Biology, chemistry, environment, general analysis laboratory.
It allows disintegration of cells and biological tissue, DNA protein extraction, ether hydrolysis RNA, reactions output acceleration and increase, earth and sediments treatment according to EPA SW methods which simplifies the Soxhet method in time, quality control, R&D, sample gas remove, dissolution and homogenization, emulsion, dispersion, liposomes formation, proteins microencapsulation, etc.

FEATURES

The equipment consists of a control and power unit and an ultrasonic transducer (homogenizer).
Control unit: Epoxy coated external metallic case and ABS front panel. It consists of a LCD display, cycle time programming push buttons, impulse intervals, maximum power and temperature with 10 programs configurable by the user. Probe and connector for the sample temperature control.
Ultrasonic transducer consists of a piezoelectric converter with a ¼ inches titanium alloy probe (5,6mmØ and 60mm height).
It is hold by means of a retort stand and an adjustable clamp, max. 44 cm height.

CONTROL PANEL

On/off switch.
Parameters indicator LCD display.
Ultrasonic power adjustable control (1-99%).
Push button from 0 to 9 for parameters selection: Time (1” – 2hours).
Maximum impulses and temperature.
SET push button: select parameters.
CLEAR push button: cancel parameters.
ENTER push button: validate parameters.
START/STOP push button: cycle beginning and end.
PAUSE push button: pause function.
RECALL-SAVE push button: memory to save 10 programs.

ACCESSORY

Anti-noise cabin
Made in double isolated layer that protects from high noises emited by the ultrasound effects.
It comes with a transparent door.
Part No. 5059601

MODEL

Part No.	KHz Frequency	Height/Width/Depth (exterior) cm	Power W	Weight Kg
5059600	20	22 19 33	500	6,7

It is supplied with a support-rod adjustable in height.

V solid mixer homogeneizer “VS-5”, “VS-8” and “VS-50”

CAPACITY: FROM 5 TO 50 KG. (INDUSTRIAL DESIGN)

APPLICATIONS

For the use in pharmaceutical, chemistry and alimentary industry.
For powder, granulated and small concentrated batches that are sent to the production plant after being investigated in laboratory.

FEATURES

Made of stainless steel AISI 304.
It have two loading entrances in V and an unloading hole which is protected with isolated covers with silicon gaskets.
Engine group with shaking device at a constant speed of 18 rpm.

CONTROL PANEL

Start button.
Stop button.
Container positioner button.
Timer from 1 to 99,9h.

VS-50 Model

MODELS

Model	Part no.	Volume Liters	Load capacity (50%) Liters	RPM	Height / Width / Depth (external cm)			Power W	Weight Kg
VS-5	5810100	5	2,5	18	58	72	37	550	47
VS-8	5810101	8	4	18	64	81	37	550	52
VS-50	5810102	50	20	15	130	150	50	750	250

SPARE PART

Silicone gasket for VS-5, VS-8 and VS-50
Part No. 5810110 (Unit).

Multifunctional grinding mill “TR-20”

FOR CRASHING AND SHEARING (INDUSTRIAL DESIGN)

APLICATIONS

For a wide range of products grinding, solid, fragile, soft and semi-hard ones. For the use in pharmaceutical, chemistry and alimentary industry in general.

FEATURES

Made of stainless steel AISI 304.
Device for different kind of easily changeable sieves. From 0,12 mm Ø to 0,80 mm Ø.
It is supplied with a sieve of 0,18 mm Ø.
Only suitable for grinding samples with relative humidity below 20%.

Model	Part No.	Capacity Kg / h	Db	RPM	Measures (cm) Height./ Width. / Depth.			Power Kw	Weight Kg
TR-20	5810000	10 a 30	85	4200	70	40	80	2,2	85

ACCESSORIES

Sieves

Part no.	Sieve Ø mm.
5810007	1 mm
5810001	0,80 mm
5810002	0,38 mm
5810003	0,25 mm
5810004	0,18 mm
5810005	0,12 mm

Device for an easy sieve insertion.

SPARE PARTS Shear Part no. 5810006

ROTATORY EVAPORATOR AND PUMPS

EVAPORATORS

PERISTALTIC DOSING PUMP

MEMBRANE VACUUM AND PRESSURE PUMP
"VACUM-PRES"

MEMBRANE VACUUM PUMPS

ROTARY VEIN VACUUM PUMPS

WATER RECIRCULATION VACUUM PUMP

LIQUID TRANSFER PUMP, ELECTRIC

LIQUID TRANSFER PUMP, MANUAL

CENTRIFUGAL PUMPS

Evaporators	page	46 and 47
Peristaltic dosing pumps	page	49
Rotary vein pump	page	50
Membrane vacuum pumps	pages	50 to 52
Vaccum pumps	page	52 and 53
Water recirculation pumps	page	53
Centrifugal pumps	page	53
Liquid transfer pumps	page	54

"La habilidad es lo que permite hacer ciertas cosas. La actitud determina si se hacen bien."
Jon Holtz

Rotatory evaporator "RS 3000-V"

FOR 1000, 2000 AND 3000 ML. FLASKS.

Quality and safety. Rotary speed and bath temperature regulation

FEATURES

Compact rotatory evaporator composed of stainless steel AISI 304 case.
Manual elevator system and bath made of dur-al alloy chemically treated.
Rotatory speed: from 20 to 120 rpm.
Bath temperature: up to 200 ºC.
External probe temperature: up to 100 ºC.
Vacuum breaker with air inlet filter.

CONTROL PANEL

1. Starting main switch ON/OFF.
2. Digital reading indicator of external probe temperature.
3. Bath temperature digital regulator.
4. Rotator pump switch.
5. Heater bath switch.
6. Water recirculation pump switch.
7. Regulator knob of rotating speed.
   Vacuometer built-in the case.

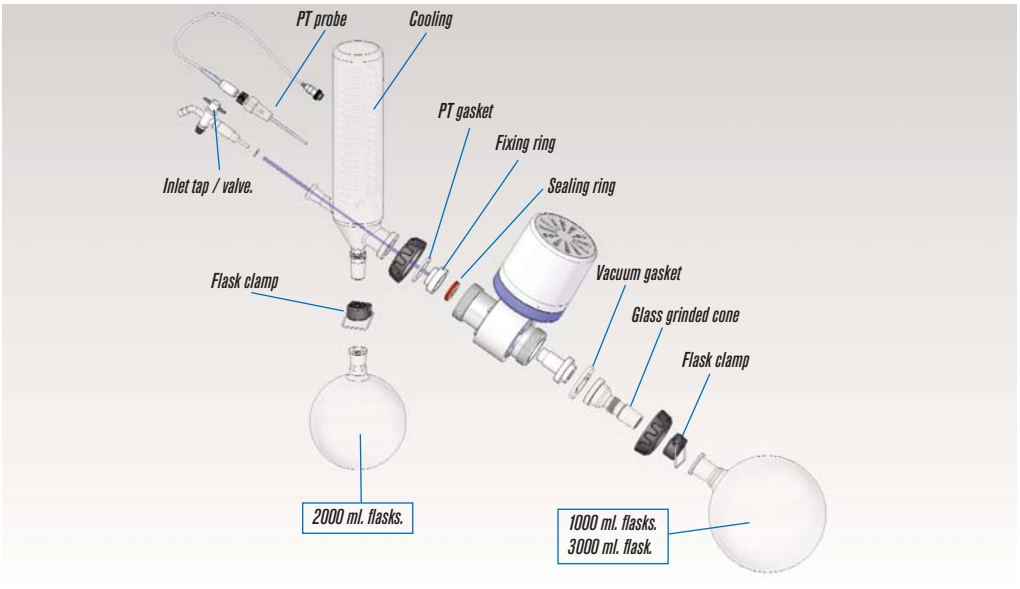
MODEL

	Part no	Speed Regulation t.p.m.	Height / Width / Depth (exterior) cm			Power W	Weight Kg
RS 3000-V	6003000	0 to 120	26	46	45	1010	28

It is completely supplied with a tap for solution, a PT100 probe, a coolant, one 3000 ml. flask, one 2000 ml flask, one 1000 ml. flask and its accessories.

GLASS AND ITS ACCESSORIES DIAGRAM

SPARE PARTS



ACCESSORY

Vacuum regulator for ambient air entrainment. Part No. 6003010

High capacity rotatory macro evaporator “COM-1010” and “COM-1020”

CAPACIDAD COM-1010: 10 LITERS
CAPACIDAD COM-1020: 20 LITERS

Supplemented with a wide range of optional accessories.

NEW

APPLICATIONS

The rotatory macro evaporator is mainly used in the level pilot and in biological, pharmaceutical, chemical, food and other product productions.

FEATURES

With a large diameter evaporator flask that allows the diffusion of the solution and a quick evaporation.
The macro evaporator allows the addition of multiple accessories to form a complete distillation equipment.

MODELS	COM-1010	COM-1020
Part No.	5195410	5195420
Evaporator flask	10 liters	20 liters
Receptor flask	5 liters	10 liters
Speed regulation	Continuous speed regulation	
Rotary speed	10-130 r/min	
Heating bath	Stainless steel	
Temperature control	Digital display, 0-99ºC.	
Achievable vacuum	399.9 Pa	
Evaporator capacity	Water >3.2L/h Alcohol>6.5L/h	Water >3.2L/h Alcohol>6.5L/h
Lift	Powered lift	
Power supply	220 V/50 Hz	380 V/50 Hz III
Power	4.8 Kw	6.3 Kw
Dimensions (cm)	170x55x92 (HeightxWidthxDepth)	210x60x120 (HeightxWidthxDepth)

ACCESSORIES

1. Membrane pump COM-401.
Part No. 5195421
2. Coolant circulation COM-30L.
Part No. 5195422

Vacuum pump.
(See page. 50)
Part No. 5900621

Vacuum trap.
(See page. 50)
Part No. 4001611

Peristaltic pump “Percom N-M”

ELECTRONIC SPEED CONTROL WITH DIGITAL DISPLAY,
WITH MULTI HEAD ADAPTER FOR TUBES FROM 4 TO 12 mm Ø (ext.). MAXIMUM WALL THICKNESS 1,5 mm.
ADJUSTABLE FLOW RATES FROM 1080 TO 73800 ml/hr.

FEATURES

Small footprint bench top model
Quiet with minimal vibrations.
Speed control 20 to 200 r.p.m.

CONTROL PANEL

Push button Stop/Start/switch.
Digital speed display.
Push button increase speed control.
Push button decrease speed control.

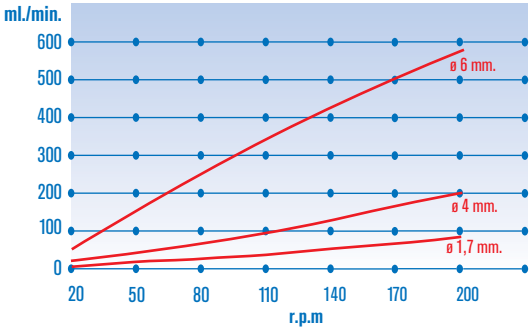
BACK

External control connection using a foot switch for Start / Stop, supplied as an accessory.

MODEL

Part No.	Height / Width / Depth (exterior) cm	Pump rate of H_2O ml/hr	Power W	Weight Kg
3001300	16 12 18	1080 to 73800	12	2.6

Graph of pump rate/r.p.m. dependent on the internal tube Ø.



Graph showing with liquids: Distilled water. These characteristics vary according to the density of the liquid.

Peristaltic dosing pump “Peristaltic PR-2003”

ELECTRONIC SPEED CONTROL AND DIGITAL DISPLAY.
MULTI TUBE ADAPTER FROM 4 TO 12 mm Ø (ext.). MAXIMUM WALL THICKNESS 1,6mm.
ADJUSTABLE DOSING RATE PROGRAMMABLE FROM 10 ML TO 10 LITRES.
MAXIMUM PUMP RATE 1500 ml / minute.

FEATURES

Small foot print, bench top.
Silent and free from vibrations.
Pump tube held by a simple clamp
Glass dosing tip “PECIPUMP” provides precise dispensing.
Dispense rate: The pump can dispense set volumes over a set time period.
Flow rate: The pump dispenses at a constant rate over a set time or continuous operation.

CONTROL PANEL

Numeric keypad to enter values.
LCD display of 16 x 2 characters.
Calibration memory.
Change pump direction, control from the panel.
Rotation direction indicator
Foot switch connection for Start/Stop.

TECHNICAL SPECIFICATIONS

Speed (r.p.m.): . . . . . 60 - 400
Resolution (ml): . . . . . 1 or 0.1
Dispensing range (ml): . . . . . 10 - 9999
Pump rate . . . . . See table
Nº of programs: 99
Nº of repeat doses: 9999
Repetition interval: . . . . . 1 - 9
Maximum tube wall (mm): 1,6
Maximum external tube diameter (mm): 12
Note: The precision depends on the tube Ø and the speed.

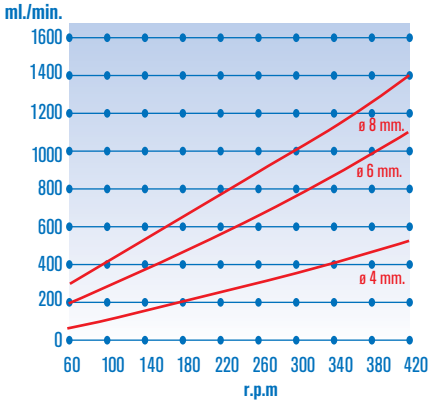
BACK

Main On/Off switch.
Foot switch connection Start - Stop, for operation from a distance, supplied as an accessory.

MODEL

Part No.	Height/Width/Depth (exterior) cm	Pump rate of H_2O ml/hour	Power W	Weight Kg
4129050	25 19 23	90,000	65	4

Graph of pump rate/r.p.m. dependent on the internal tube Ø.



Graph showing with liquids: Distilled water. These characteristics vary according to the density of the liquid.

Dose rate (ml/minute)		
Interior Ø mm	60 r.p.m.	420 r.p.m.
4	80	480
6	140	1100
8	180	1400

ACCESSORIES FOR PERISTALTIC PUMPS “PERCOM N-M” AND “PR2003”

Standard silicon tubing. (see page: 52)

START STOP foot pedal controller. Part No. 1001044

Membrane vacuum pumps “MV 50 and MV 100”

FOR AIR, GASES AND STEAM.

Free of lubrication • Free of maintenance • Quiet

APPLICATIONS

Vacuum filtration.
Vacuum distillation.
Rotating evaporators.
Gas extraction and transport.
Vacuum drying.

COMUN FEATURES

Constructed in aluminium.
Membrane of polifluoropreno, resistant to the corrosion and long-life.
Refrigeration system that allows a continuous operation of 24 hours.

MODEL “MV 50”

CONTROL PANEL

Vacuum and pressure gauges.
Adjustable pressure and vacuum.
Tensile handle for easy transport.
Button On-Off.

MODEL “MV 100”

CONTROL PANEL

Vacuum indicator.
Vacuum regulator.
Button On-Off.

MODELS	Part No.	Vaccum Rate m³/h	Vaccum Limit mbar	Pressure bar	Heigh / Width / Depth (exterior) cm	Power W	Power supply	Weight Kg
MV 50	5910100	1,8	200	2	23,5 16 21	160	220V/50Hz	8
MV 100	5910101	3,6	200	2,75	23,5 16 30	160	220V/50Hz	9

They are supplied with a 1 meter of silicone tube Ø 8 x 12mm.

Vacuum pump

ROTARY VEIN PUMP WITH ANTI RETURN VALVE PREVENTS OIL FLOW BACK, SUITABLE FOR GENERAL LABORATORY APPLICATIONS. OVER TEMPERATURE MOTOR PROTECTION CUT-OUT AND MAIN ON/OFF SWITCH.

FEATURES

Asbestos veins and internal joints.
Aspiration connection 16 mm Ø in model 5900620
and 16 mm Ø in model 5900621.
Analogue vacuum gauge.
High oil volume and forced lubrication.
Oil reservoir charge capacity:
25 cc in model 5900620 and 55 cc in model 5900621.
Exhaust filter and ballast.
Shock absorber mounted.
Low noise level (62db)
Maximum working temperature 60 °C.
Portable with lifting handle.

Part No. 5900620

Part No. 5900621

MODELS

Part No.	Pump rate m³/hr	Vacuum limit mbar	Height / Width / Depth (exterior) cm	r.p.m.	Power W	Weight Kg
5900620	3,6	0,1	23 27 12	1400	120	7,6
5900621	3,6	0,05	27 35 14	1400	180	11

ACCESSORY

High pressure **rubber tubes** of 18 x 26 mm Ø. Part No 5900624
High pressure **rubber tubes** of 8 x 15 mm Ø. For Vacuum oven connection “VACIOTEM”. Part No 5900625
Pump oil for vacuum pumps, 1 litre bottle. Part No. 5515030

SPARE Vacuum gauge (Fits both models). Part No. 5515031

Membrane vacuum pump

SUITABLE FOR AIR, GAS AND VAPOURS.

FEATURES

Transfer, evacuation and compression, free from contamination.
The models N-86 and N-022 of 2.5 and 4 bar of relative pressure, can be used also as a compressor.
Can be operated dry.
No lubrication required.
Maintenance free.
Silent.
The double head models are made with linear two phase membranes.
All Models (except model N-022), are made with a patented system of diaphragms manufactured with optimum tension, that results in a smaller more durable pump.
Approximate loss 6 x 10-3 mbar x L/s
Complete with thermal breaker and fuse.
Medium to high resistance to chemicals, (model dependant).
We advise that you check the compatibility of the pump performance with the materials that will be in contact with the pump parts (see table).

N-86
Part No. 5910106

N-816
Part No. 5910108

N-022
Part No. 5910107

N-820 Part No. 5910009
or N-840 Part No. 5910110

MODELS / SPECIFICATIONS	N-86	N-022	N-816	N-820	N-840
Part No.	5910106	5910107	5910108	5910009	5910110
Vacuum pump rate (to 1 Atm, of pressure)	5.5 l/min	13 l/min	16 l/min	20 l/min	34 l/min
	0.33 m^3/h	0.78 m^3/h	0.96 m^3/h	1.2 m^3/h	2.04 m^3/h
Vacuum limit (mbar) absolute	160 mbar	100 mbar	20 mbar	8 mbar	8 mbar
Pressure (bar) relative	2.5 bar	4 bar	0.5 bar	1 bar	1 bar
Tube connection, Ø interior	4 mm	6 mm	6 mm	10 mm	10 mm
Number of heads and phases	1	1	2	2	2
Head material	PPS	Aluminium	PPS	PTFE	PTFE
Membrane material (diaphragms)	PTFE	PTFE	PTFE	PTFE	PTFE
Valve material	FFPM	Stainless steel	FFPM	FFPM	FFPM
Motor protection level	IP-20	IP-20	IP-20	IP-44	IP-44
Gas operating temperature and permissible ambient			5 to 40 °C		
Current (A) / Power (W)	0.63 / 65	0.7 / 100	0.6 / 100	0.7 / 120	1.5 / 245
Dimensions height x width x depth (cm)	14 x 9 x 17	19 x 15 x 20	14 x 9 x 36	21 x 15 x 31	23 x 17 x 34
Weight (Kg)	1.9	4	3.95	9.3	12.6

APPLICATIONS AND CHEMICAL RESISTANCE	N-86	N-022	N-816	N-820	N-840
Chemical resistance (depends on medium being pumped.)	medium-high	medium-high	medium-high	medium-high	medium-high
For gasses and vapours very aggressive or corrosive	-	-	-	✓	✓
For gasses and vapours slightly aggressive or corrosive	✓	✓	✓	✓	✓
For liquid transfer and evacuation	✓	✓	✓	✓	
For liquid transfer, evacuation and as a compressor	✓	✓	-	-	-
Ideal for vacuum filtration	✓	✓	✓	✓	✓
Ideal for vacuum filtration, evaporation, drying and gel drying	-	-	-	✓	✓

SPARE PARTS	N-86	N-022	N-816	N-820	N-840
Spares Kit: 1 membrane +2 valves + 2 gaskets	5910120	-	-	-	-
Spares Kit: 1 membrane +2 valves + 1 gasket	-	5910121	-	-	-
Spares Kit: 2 membrane +4 valves + 4 gaskets	-	-	5910122	5910123	5910124

Silicon tube for peristaltic and membrane pumps

MODELS

	Part No.	interior Ø mm	exterior Ø mm
Standard tube*	8991202*	4	7
	8991201*	6	9
	8991200*	8	11

	Part No.	interior Ø mm	exterior Ø mm
Calibrated tubing*	5253300*	0.8	4
	5253400*	1.7	4.9
	0686203	3	7
	5253600*	3.1	6.3
	5253500	4.8	9.8
	0686210	5	9
	5253900	6.3	11.3
	0686216	8	12

(*) Tubing supplied in 1 meter lengths.
(*) Part Numbers with asterisk* are adaptables to peristaltic pumps “Percom N-M” and “PR-2003”. See page 49

Sink weights and glass connections

FOR CENTRIFUGAL AND PERISTALTIC PUMPS.

FEATURES

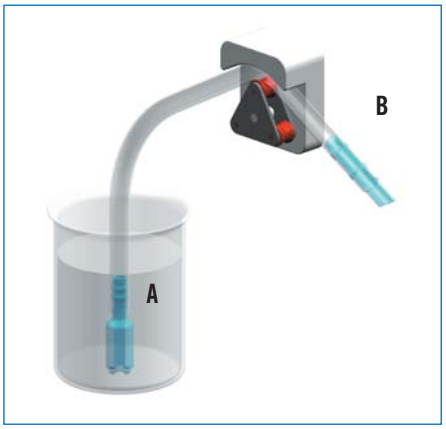
Made of glass.
Adapters for centrifugal and peristaltic pumps.
For better aspiration and dispensing.

A. Sink weight “ASPIPUMP”
Surface olive that fixes to the tube. The sink weight maintains the tube at the bottom of the vessel being used for the aspirant liquid.
Part No. Tube size

5991204	4 mm Ø interior.
5991206	6 mm Ø interior.
5991208	8 mm Ø interior.

B. Spout “PECIPUMP”
Surface olive is pushed onto the inside of the dispensing end of the tube, liquids can then be dispensed easily and accurately.
Part No. Tube size

5991203	4 mm Ø interior.
5991205	6 mm Ø interior.
5991207	8 mm Ø interior.



A. *Sink weight “ASPIPUMP” an efficient way to aspirate to the last drop.*
B. *Spout “PECIPUMP” an exact way to dispense.*

Membrane vacuum pump “Vacum-Sel”

FEATURES

Small footprint, bench top.
Quiet and vibration free.
Maximum working temperature: 40 °C.

CONTROL PANEL

Mains power switch.
Vacuum gauge, scale 0 to -1 bar.
Vacuum in.
Air out.

MODEL

Part No.	Pump Rate litres/min.	Vacuum limit	Height / Width / Depth (exterior) cm	Power W	Weight Kg
3001001	1.08	-0.6 bar ≈ 440 mm Hg	19 14 19	35	3

Membrane vacuum and pressure pump “Vacum-Pres”

FEATURES

Small footprint, bench top.
Quiet and vibration free.
Maximum working temperature: 40 °C.

CONTROL PANEL

Mains power switch.
Vacuum gauge, scale 0 to -1 bar.
Pressure gauge, scale 0 to 2.5 bar.
Control for pressure/vacuum.
Vacuum in.
Pressure out.

MODEL

Part No.	VACUUM Pump Rate /min.	VACUUM Vacuum limit	Pressure Pressure Rate /min.	Pressure Max. Pressure	Height / Width / Depth (exterior) cm	Power W	Weight Kg
3001002	1.08	-0.6 bar=440 mm Hg	1.3	1.2 bar	19 14 19	35	3.2

Water recirculation vacuum pump

DESCRIPTION

Made from a centrifugal pump that pulses water at a high velocity through suction aspirators, creating a pump rate of 10 litres/min from each pump connection. The vacuum achieved, 5 to 40mbar is dependent on the water temperature in the reservoir. Aspirated gasses from both inputs mix in the 10 litre reservoir. Although the interior of the pump is made from stainless steel and polypropylene it is a requirement to change the water in the pump to limit any attack of any chemicals or vapours absorbed in the water. For better protection of equipment it is recommended to connect a "Scrubber" to wash and neutralise any corrosive gasses. The pump includes an exit valve that allows the water to be circulated externally. This can be used to empty and change the water in the reservoir to form an external re-circulation of water.

FEATURES

Reduced water consumption.
2 independent connections, aspiration pump vacuum rate 10 litres/min.
Vacuum limit: 5 and 40 mbar (dependent on water temperature).
Capacity: 10 litres.
Low noise level (<65dBA).
Valve connections for entrance and exit of vacuum and external water recirculation.

CONTROL PANEL

2 vacuum connections.
2 analogue vacuum gauges.
Illuminated mains switch.

ACCESSORY

Extraction system and neutralisation of vapours.
Made up of a "Scrubber" unit that blocks the passage of condensed acid vapours and neutralises the gas vapour in NaOH, and a recirculating water pump that provides an adequate pump rate to aspirate vapours.
It is supplied with 3 Kg. acid vapours neutralizer solution.

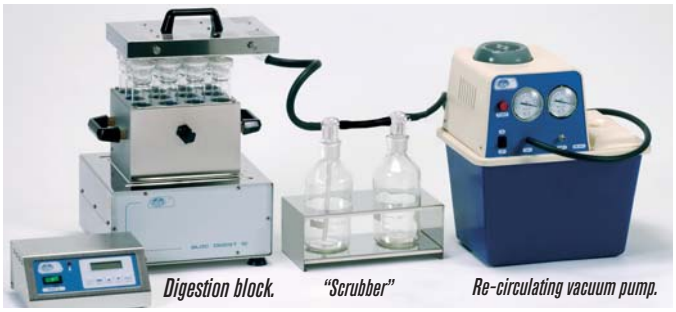
"Scrubber" unit

Part No.	Height / Width / Depth (exterior) cm	Weight Kg
4001611	32 31 16	2

Spare part:
3 Kg. acid vapours neutralizer solution. **Part No.** 4001610

MODEL

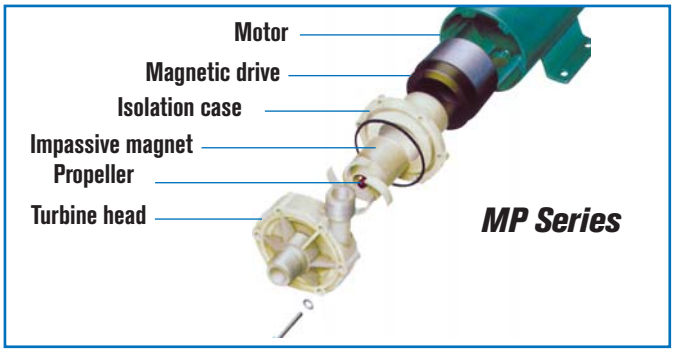
Part No.	Height / Width / Depth (exterior) cm	Vacuum limit mbar	Pump rate litre/minute	Power W	Weight Kg
4001612	44 39 28	betwen 5 and 40	10	280	10



Complete unit image for a Kjeldahl distillation block.

SEISUN

Centrifugal pumps "MP"



FEATURES

Centrifugal pump for re-circulating and transferring of liquids.
A selection of models with pump rates of 8 to 60 litres/min.
The motor power to the turbine is transmitted via a magnetic coupling.
All parts in contact with liquids are chemically resistant materials.
Manual priming.

SERIES MP

Dimensions per model in mm.

MODEL	Depth	Height	Width	Ø
MP-15R	129	82	74	60
MP-20R	210	108	116	92
MP-40RX	277	130	122	102
MP-100R	322	175	150	110

TECHNICAL DATA	MP-15R	MP-20R	MP-40Rx	MP-100R
Part No.	5900610	5900611	5900612	5900613
Pump rate (max) P (pressure) =0 (litres/min)	8	17	47	60
Precision (min) Q (pump rate)=0 (bar)	0.21	0.37	0.40	0.50
Tube connection (aspiration)	14 mm Ø	18 mm Ø	26 mm Ø	26 mm Ø
Tube connection (output)	14 mm Ø	18 mm Ø	26 mm Ø	26 mm Ø
Normal working temperature (°C)	0 - 80	0 - 80	0 - 80	0 - 80
Function cycle	continuous	continuous	continuous	continuous
Power consumption (W)	10	20	65	250
Pump material: Body	Polypropylene with a mixture of fibre glass			
Turbine material:	Polypropylene with a mixture of fibre glass			
Pump spindle/axle material:	ceramic aluminium oxide			
Seals and junctions material:	EPDM	EPDM	EPDM	EPDM
Voltage:	220-240V 50-60Hz			

Liquid transfer pump, manual “RP-90P”

MADE FROM CHEMICALLY AND CORROSION RESISTANT POLYPROPYLENE. ROTARY MOVEMENT.

FEATURES

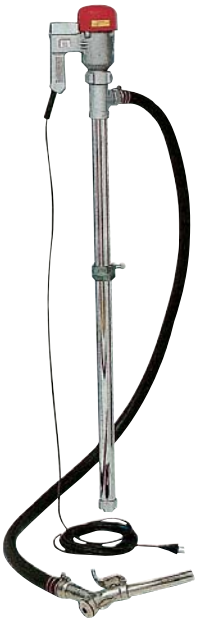
Manual rotary suction movement that extracts liquid or sucks up liquid from a drum, composes of a pump handle, dip tube 1.2 M long by 1 inch Ø, with adjustable clamp that fastens to the barrel and an outlet tube of 3/4". Easy to use, light weight and very robust.

MODEL

Part No.	Pump rate litres/min.	Weight Kg
5252040	20	1.6

Liquid transfer pump, electric “FA-100”

SUITABLE FOR NON CORROSIVE AND NON FLAMMABLE LIQUIDS.



FEATURES

All metal with electric air displacement motor drive, with steel suction tube 1 m long and 38 mm Ø. Maximum height 13 m.

MODEL

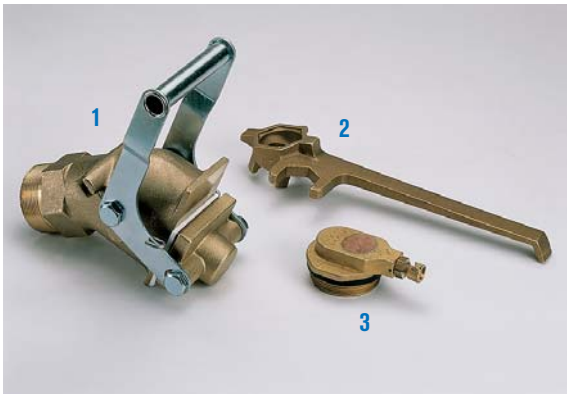
Part No.	Pump rate litres/min.	R.p.m.	Power W	Weight Kg
5929041	86	10000	120	6.6

SPARES

1. Drum faucet: 2” in diameter.
Made of brass.
Part No. 5252038

2. Drum Plug key for opening drum, standard model.
Made of brass.
Part No. 5252039

3. Air bleed drum cap 2” in diameter.
Made of brass.
Part No. 5252037



ELECTRICAL AUTOCLAVES FOR STERILIZATION

Vertical desktop autoclaves Pages 58 to 59

Pressure regulator

Vertical stand autoclaves. Pages 60 to 63

Microprocessor control and atmospheric purge

Water distiller for autoclaves Pages 63

Horizontal stand autoclave Page 64

Microprocessor control

Horizontal stand autoclaves Pages 65 to 67

Microprocessor control and fractional vacuum purge

Polypropylene and polyester bag sealers Pages 68

Autoclaves for preserved food Pages 69 to 70

"The process of scientific discovery is, in effect, a continual flight from wonder."
Albert Einstein

ELECTRICAL AUTOCLAVES FOR STERILIZATION

Wide range of electrically heated bench top and top loading autoclaves.Pressure range from 0.62 to 2 bar, Capacity: 1.5, 8, 12, 18, 20, 23, 25, 50, 80 and 150 litres.

Complies with the pressure and autoclave directives

- ***50 Years of sterilization experience.***
- ***Quality and innovation.***
- ***A new dimension in design and technology***

PRINCIPAL OF STEAM STERILIZATION:

STERILIZATION IS THE PROCESS OF THE DESTRUCTION AND ELIMINATION OF ALL FORMS OF MICROBIAL LIFE, INCLUDING BACTERIA AND ITS SUB-FORMS.

THE LABORATORY AUTOCLAVE CONSISTS OF A VESSEL IN WHICH STEAM FLOWS AT A HIGH PRESSURE WITH A STERILIZATION PURPOSE. SATURATED STEAM WILL IMMEDIATELY CONDENSE AND THUS RELEASING ITS HIGH EVAPORATION HEAT, WHICH IS IN FACT THE DESTRUCTIVE AGENT. IN ORDER THAT STERILIZATION WOULD BE EFFECTIVE, STEAM MUST BE SATURATED AND, CONSEQUENTLY, ALL THE AIR INSIDE THE VESSEL MUST BE PURGED BEFORE INITIALIZING THE PROCESS.

IN THE FOLLOWING PAGES J.P. SELECTA OFFERS AN EXTENSIVE RANGE OF AUTOCLAVES WITH A CHOICE OF ATMOSPHERIC PURGING OR VACUUM PURGING SYSTEMS. A CHOICE OF MICROPROCESSOR CONTROLLED SYSTEMS ARE OFFERED INCLUDING DRYING CYCLES AT THE END OF THE STERILIZATION CYCLE.

Electrical Autoclaves for sterilization

THREE DIFFERENT CONTROL SYSTEMS:

REGULATION 1 SYSTEM

CONTROL BY PRESSURE WITH ATMOSPHERIC PURGE:
MICRO 8 MED 12 MED 20

REGULATION 2 SYSTEM

MICROPROCESSOR CONTROL OF TEMPERATURE AND STERILIZATION CYCLE, ATMOSPHERIC AIR PURGE:

AUTESTER P 1,5 (mod. vertical)
PRESOCLAVE III 50 (mod. vertical)
PRESOCLAVE III 80 (mod. vertical)

REGULATION 3 SYSTEM

MICROPROCESSOR CONTROL OF TEMPERATURE AND STERILIZATION CYCLE, PULSED VACUUM AIR PURGE:

AUTESTER ST DRY PV-B 12 (mod. horizontal)
AUTESTER ST DRY PV-B 18 (mod. horizontal)
AUTESTER ST DRY PV-B 23 (mod. horizontal)

AUTESTER ST DRY PV-III 25 (mod. horizontal)

CLASE B

RS-232 and USB interface output of parameters to a computer, printer or USB adapter.

The printer can be built-in the autoclaves together with the control panel:
AUTESTER ST DRY PV-III 50 (mod. vertical)
AUTESTER ST DRY PV-III 80 (mod. vertical)
AUTESTER ST DRY PV-III 150 (mod. vertical)
PRESOCLAVE III 50 (mod. vertical)
PRESOCLAVE III 80 (mod. vertical)

SUMMARY TABLE OF MODEL RANGE

QUICK OVERVIEW

MODELS	Part No.	System DRY	Capacity litres	Temperature °C	Pressure bar	Power W	Control	Purge control	Type
MICRO 8	4001745	NO	8	121 and 134	1 and 2	1000	Pressure thermostat	Manual	Vertical bench top
MED 12	4001756	NO	12	121 and 134	1 and 2	1800	Pressure thermostat	Atmospheric	Vertical bench top
MED 20	4001757	NO	20	121 and 134	1 to 2	2500	Pressure thermostat	Atmospheric	Vertical
PRESOCLAVE III 50	4001758	NO	50	115 to 134	0.62 to 2	3600	Electronic controller	Atmospheric	Vertical
PRESOCLAVE III 80	4002136	NO	80	115 to 134	0.62 to 2	3600	Electronic controller	Atmospheric	Vertical
AUTESTER ST DRY PV-B 12	4001727	YES	12	121 and 134	1 and 2	1800	Microprocessor	Purged vacuum	Horizontal bench top
AUTESTER ST DRY PV-B 18	4001734	YES	18	121 and 134	1 and 2	1500	Microprocessor	Purged vacuum	Horizontal bench top
AUTESTER ST DRY PV-B 23	4001735	YES	23	121 y 134	1 and 2	1700	Microprocessor	Purged vacuum	Horizontal bench top
AUTESTER ST DRY PV-III 25	4002420	YES	25	105 to 134	0.21 to 2	2510	Microprocessor	Purged vacuum	Horizontal bench top
AUTESTER ST DRY PV-III 50	4002516	YES	50	105 to 134	0.21 to 2	3600	Microprocessor	Purged vacuum	Vertical
AUTESTER ST DRY PV-III 80	4002517	YES	80	105 to 134	0.21 to 2	3600	Microprocessor	Purged vacuum	Vertical
AUTESTER ST DRY PV-III 150	4002518	YES	150	105 to 134	0.21 to 2	7500	Microprocessor	Purged vacuum	Vertical
STERIL-FOOD COM 20	4002421	NO	20	70 a 121	1	2500	Microprocesador	Automatic	Vertical
STERIL-FOOD MAN 80	4002427	NO	80	70 to 121	1	3600	Microprocessor	Automatic	Vertical
STERIL-FOOD COM 80	4002422	NO	80	70 to 121	1	3600	Microprocessor	Automatic	Vertical
STERIL-FOOD MAN 150	4002428	NO	150	70 to 121	1	7500	Microprocessor	Automatic	Vertical
STERIL-FOOD COM 150	4002423	NO	150	70 to 121	1	7500	Microprocessor	Automatic	Vertical

Autoclaves for sterilization “MICRO 8”, “MED 12” and “MED 20”

PRESSURE REGULATOR THERMOSTAT OF 1 AND 2 bar. TEMPERATURES 121 ºC AND 134 ºC.
VERTICAL DESKTOP MODELS. “MICRO 8” CAPACITY: 8 LITRES. “MED 12” CAPACITY: 12 LITRES.
VERTICAL STAND MODEL “MED 20” CAPACITY: 20 LITRES.

An economic alternative. Semiautomatics.

SAFETY:

SAFETY VALVE:	**PREVENTS THE PRESSURE WITHIN THE AUTOCLAVE OVERPASSING THE MAXIMUM SET LIMIT.**
SAFETY PRESSURE:	**DISCONNECTS POWER TO THE HEATER IN CASE OF OVERPASSING THE PRESSURE SET LIMIT.**
SAFETY THERMOSTAT:	**DISCONNECTS THE HEATING IN CASE OF OVERTEMPERATURE OR LACK OF WATER IN THE TANK.**
	THERMALLY INSULATED LID MADE OF MOLDED THERMOPLASTIC.

COMMON FEATURES

AISI 304 stainless steel external case and top.
Stainless steel chamber and lid, with easy opening.
INCOLOY special stainless steel heater element, which provides long life, low corrosion and high temperatures resistance.
Manual air purge when starting **(“MICRO 8” model).**
Automatic atmospheric purge **(“MED 12” and “MED 20” models).**
Safety device to prevent lid opening.
Starting main switch.

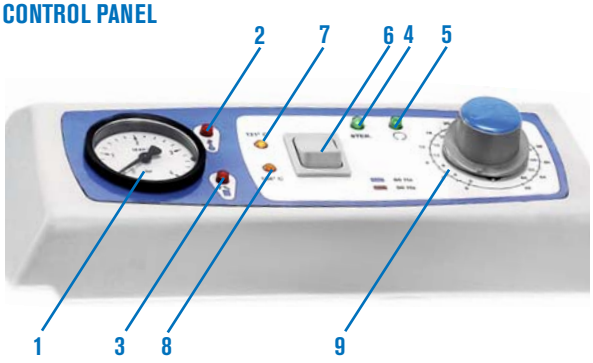
REAR PART

Mains source.
Two fuse carriers.
Safety thermostat.

SIDE PART

Drain outlet.
Steam and drainage selective valve.

CONTROL PANEL



1. Pressure gauge.
2. Over temperature alarm light indicator.
3. Door open light indicator.
4. Sterilization phase light indicator.
5. Sterilization end of cycle light indicator.
6. Pressure selector 121ºC or 134ºC.
7. Light indicator at 121ºC.
8. Light indicator at 134ºC.
9. Timing from 0 to 60'.

Autoclave for sterilization “MICRO 8”

DESKTOP MODEL

MODEL

Part No.	Capacity litres	Ø (usable) cm	Height	Height/Width/Depth (exterior) cm			Power W	Weight Kg
4001745	8	24	15	40	38	38	1000	13

It comes complete with a stainless steel wire basket of Ø 22x14cm high. Part no. 1004771.

Autoclave for sterilization “MED 12”

DESKTOP MODEL

Features: see page 58

MODEL

Part No.	Capacity litres	Ø (usable)	Height cm	Height/Width/Depth (exterior) cm			Power W	Weight Kg
4001756	12	24	26	46	38	38	1800	18

It comes complete with a stainless steel wire basket of Ø 22x24cm high. Part no. 1004772.

Autoclave for sterilization “MED 20”

VERTICAL STAND MODEL.
CONFORMS TO APPARATUS PRESSURE REGULATION DIRECTIVES.

Features: see page 58

MODEL

Part No.	Capacity litres	Ø (usable)	Height cm	Height/Width/Depth (exterior) cm			Power W	Weight Kg
4001757	20	24	41	70	38	38	2500	41

It comes complete with two stainless steel wire baskets of Ø 22x24cm and Ø 22x14cm high.
Part no. 1004772 and 1004771.

Autoclaves for sterilization “Presoclave III” 50 and 80

MICROPROCESSOR TEMPERATURE AND CYCLE CONTROL AND ATMOSPHERIC PURGE.
ELECTRONIC CONTROL OF TIME AND TEMPERATURE RANGE FROM 115 °C TO 134 °C. (0.62 TO 2 bar).
CONFORMS TO APPARATUS PRESSURE REGULATION DIRECTIVES.
VERTICAL MODEL: 50 AND 80 LITRES.

SAFETY:

SAFETY OVER PRESSURE VALVE:	PREVENTS OVER PRESSURE ABOVE THE MAXIMUM SET LIMIT.
SAFETY PRESSURE SWITCH:	DISCONNECTS POWER TO THE HEATER IF THE UNIT EXCEEDS THE MAXIMUM PRESSURE LIMIT.
SAFETY THERMOSTAT AND WATER LEVEL:	DISCONNECT POWER TO THE HEATER IF INSUFFICIENT WATER OR OVER TEMPERATURE.
SAFETY LID:	PREVENTS THE LID BEING OPENED IF THE CHAMBER IS UNDER PRESSURE.
SAFETY INSULATION:	THERMALLY INSULATED LID .

An economic alternative, semi-automatic

FEATURES

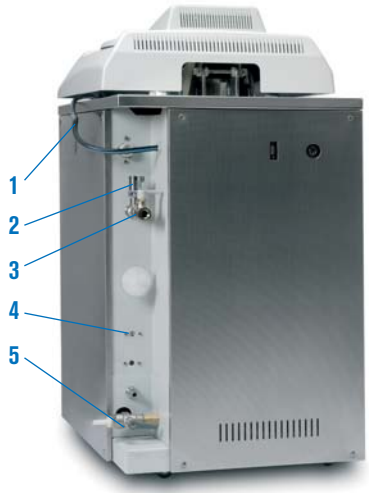
External case made from stainless steel.
INCOLOY stainless steel heater elements, hard waring, resistant to corrosion and high temperatures.
Sterilization chamber and door made from stainless steel.
Automatic purge to atmosphere
Lid,6 point closure.

CONTROL PANEL

1. Pressure gauge.
2. Illuminated alarm indicator.
3. Illuminated indicator end of cycle.
4. Illuminated indicator door open
5. Temperature display.
6. Time display
7. Temperature set pushbutton (range from 115 °C to 134 °C).
8. Pushbutton increase value.
9. Push button START
10. Push Button STOP
11. Push button Reduce value.
12. Push button select time, (range from 3’ to 99’).
13. Push button open lid.

MODELS	Part No.	Capacity litres	Ø (usables cm)	Height	Height / Width / Depth (exterior cm)			Power W	Weight Kg
PRESOCLAVE III 50	4001758	50	30	70	117	48	62	3000	75
PRESOCLAVE III 80	4002136	80	40	60	107	58	72	3600	100

Does not include baskets and drums, order separately.



BACK VIEW:

1. Mains power.
2. Safety valve.
3. Steam empty valve.
4. Safety thermostat
5. Drain selector valve.

ACCESSORIES: AISI 304 Stainless steel **wire baskets** and **drums.**
For **Presoclave III 50**, Part. no: 4001725.
Capacity, 3 baskets Ø 25 and 20 cm. height. Part No. 1000495
For **Presoclave III 80**, Part. no: 4002136.
Capacity, 2 baskets Ø 36 and 28 cm. height. Part No. 1000496
Sterilization **drum** made from AISI 304 stainless steel.
For **Presoclave III 50**, Part. no: 4001725.
Capacity, 3 drum Ø 25 and 18 cm. height. Part No. 1002418
For **Presoclave III 80**, Part. no: 4002136.
Capacity, 2 drum Ø 35 and 27 cm. height. Part No. 1002419
Detergent Bio-Sel.
Water distillation unit especially for autoclaves.
USB adapter model. Pen-Drive included (Memory board) for data storage.
Part No: 4120131

COMPLEMENTS That needs to be factory installed:
Pt100 second sensor only temperature reader. Part No. 4001219 (see page 63).
Printer of continuous paper roll with print out of temperature, pressure, time and mode. Part No. 4002421 (see page 62).
Loading and unloading crane. Part No. 1002426 (see page 70).

Autoclaves for sterilization “Autester ST DRY PV III”

MICROPROCESSOR PROCESS CONTROL.
AUTOMATIC VACUUM DRY AND PURGE “PREVACUUM”
PROGRAMMABLE TEMPERATURE FROM 105 °C TO 134 °C (0.21 TO 2 bar).
CONFORMS TO APPARATUS PRESSURE REGULATION DIRECTIVES.
VERTICAL FLOOR STANDING MODEL: 50, 80 AND 150 LITRES.

NEW DESIGN

REGULATION 3 SYSTEM

CONFORMITY

EN 61010-1	SAFETY FOR EQUIPMENT FOR LABORATORY USE
EN 61010-2-040	SAFETY FOR STERILIZER EQUIPMENT FOR LABORATORY USE
EN 61326	ELECTROMAGNETIC COMPATIBILITY FOR EQUIPMENT FOR LABORATORY USE.

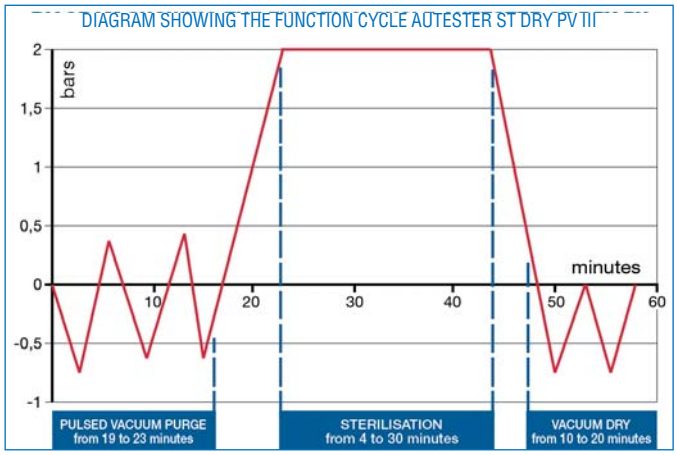
FEATURES

Stainless steel exterior and top.
Stainless steel lid.
Lid, six closure point system.
Pulsed vacuum system and atmosphere purge.
Incorporated steam generator, connected to the main chamber.
Water reservoir for clean water for the steam generator boiler.
External water connection if required.
6 function modes.
RS 232 for PC parameters printing (back side).
Printer output.
USB output for PEN-DRIVE data logging and Computer connection.
Connection for a second temperature sensor.
Memory for 9 customer set programs.

USB

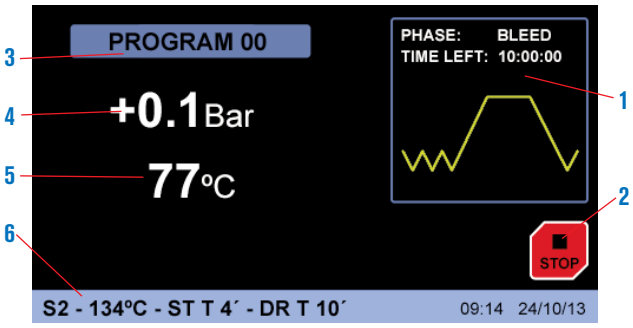
SAFETY

Safety: The lid cannot be opened if the chamber is under pressure.
Safety valve: Prevents over pressure over the maximum limit.
Safety pressure switch: switches the heater power off to if over pressure.
Safety Lid: insulated lid protection.

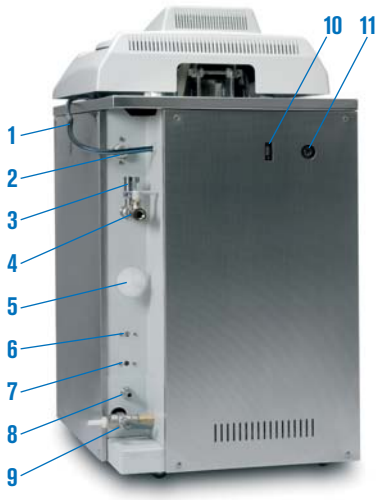


CONTROL PANEL

TFT touch screen with virtual pushbuttons.



1. Graphical representation of real time process
2. Start/Stop virtual pushbutton.
3. Running program.
4. Press indicator.
5. Temperature indicator.
6. Running program parameters.



BACK VIEW

1. Mains input.
2. External water supply.
3. Safety valve.
4. Vacuum vapour valve.
5. Air in filter valve.
6. Safety thermostat.
7. Safety thermostat.
8. Empty tank valve.
9. Drain tank valve.
10. RS232 connector.
11. 2nd Temperature sensor connection.

MICROPROCESSOR FEATURES

The microprocessor controls the performing of the air extraction process, sterilizing and drying, executing the selected procedures and commands by the user, adjusting the following parameters:

- Sterilization temperature from 105°C up to 134°C.
- Sterilization time from 3' to 59'.
- Drying time from 20' to 60'.
- Up to 10 user-configurable programs.
- Six operating modes:
- Solid 1 - Solid 2 fractions. - Solid 3 fractions - Drying - Liquids - Liquids 2 probes
- Verification test
- Vacuum - Bowie Dick.
- Settings:
- Units – languages (Spanish, English, French).
- USB or printer module. - Clock: date/time.
- External water: on/off.
- Password
- Calibration
- Temperature probe 1 - Temperature probe 2
- Water dosing.
- Audible and visual alarm for overtemperature and insufficient temperature.
- Network failures detection and memorization
- Safety therrmostat by software
- Sterilization cycles data logging with capacity for over 500 cycles.
- Internal cleaning program
- Software for PC
- Temperature correcction
- Summarized user manual on screen
- Graphical representation of real time process

Error messages of functions and program execution are displayed and an acoustic alarm sounds. The vapour generator automatically cuts out.

MESSAGES:

1. E 2PROM
2. RTC FAULT
3. SENSOR PRECISION
4. HEATER PROBE
5. CHAMBER PROBE
6. OVER PRESSURE
7. VACUUM
8. PRESSURE
9. BOILER TEMPERATURE
10. TEMPERATURE LOW FAULT
11. INPUT ERROR
12. STERILIZATION
13. LEVEL 1
14. LEVEL 2
15. DOOR
16. PRINTER NO PAPER
17 PAPER JAM
18. ELECTRICAL FAULT

MODELS	Part No.	Dry	Capacity litres	Ø / Height (usables) cm		Height / Width / Depth (exterior) cm			Temp. °C	Water Reservoir H_2O capacity.	Basket size	Power W	Weight Kg
AUTESTER ST DRY PV III 50	4002516	**Yes**	**50**	**30**	**63**	**117**	**48**	**62**	**105 to 134**	**10**	**3**	**3000**	**108**
AUTESTER ST DRY PV III 80	4002517	**Yes**	**80**	**40**	**60**	**107**	**58**	**72**	**105 to 134**	**10**	**2**	**4850**	**136**
AUTESTER ST DRY PV III 150*	4002518	**Yes**	**150**	**50**	**70**	**118**	**80**	**95**	**105 to 134**	**20**	**3**	**7500***	**250**

Comes without baskets and drums.

* The part number 4002426 due to its power rating is only manufactured for three phase 230V or 400V. Specify preference when ordering.

COMPLEMENTS: Factory fitted options.

Printer of continuous paper roll with print out of temperature, pressure, time and mode. Part No. 4002417

Pt100 Sensor (See page 63).

Loading and unloading crane. Part No. 1002426 (see page 70).

ACCESSORIES: AISI 304 Stainless steel **wire baskets** and **drums.**

For **Autester ST DRY PV-II 50,** Part No: 4002515.
Capacity, 3 baskets Ø 25,5 and 20 cm. height. Part No: 1000495
For **Autester ST DRY PV-II 80,** Part No: 4002425.
Capacity, 2 baskets Ø 36 and 28 cm. height. Part No: 1000496
For **Autester ST DRY PV-II 150,** Part No: 4002426.
Capacity, 3 baskets Ø 44,5 and 22 cm. height. Part No: 1000780
Sterilization **drum** made from AISI 304 stainless steel.
For **Autester ST DRY PV-II 50,** Part No: 4002515.
Capacity, 3 drum Ø 25 and 18 cm. height. Part No. 1002418
For **Autester ST DRY PV-II 80,** Part No: 4002425.
Capacity, 2 drum Ø 35 and 27 cm. height. Part No. 1002419
Detergent Bio-Sel. (see page 63)
Water distillation unit especially for autoclaves. (see page 63).

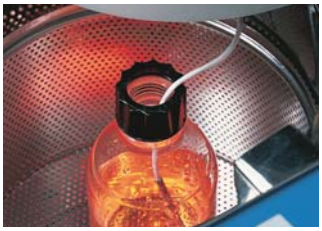
PARAMETERS AND PROGRAMS PRE INSTALLED IN THE AUTOCLAVE MICROPROCESSOR

(Note: All these parameters are adjustable by the user)

Nº Programme	Description	Temperature Sterilization	Time Sterilization	Time Dry	Purge
0	Free	-	-	-	-
1	Unwrapped instruments	134 °C	4 min	15 min	2 (1)
2	Wrapped instruments	134 °C	12 min	30 min	3 (2)
3	CJD	134 °C	20 min	20 min	3 (2)
4	Delicate unwrapped	121 °C	15 min	15 min	2 (1)
5	Delicate wrapped	121 °C	30 min	30 min	3 (2)
6	Disinfecting	105 °C	25 min	15 min	1 (3)
7	Liquids	121 °C	30 min	-	1 (3)
8	Solids	121 °C	15 min	30 min	1 (3)
9	Solids	134 °C	4 min	30 min	1 (3)

(1) Double Vacuum purge.
(2) Triple Vacuum purge.
(3) Atmospheric purge (No vacuum).

OPTIONS: for vertical autoclaves, need to be factory fitted.



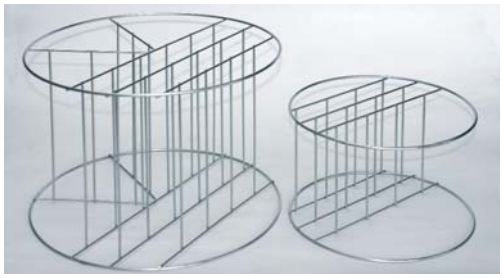
Pt 100 Sensor. 2nd Probe for reading sample temperature.
To guarantee in all circumstances that the system has completed the cycle to the set time and temperature parameters, the Autester ST DRY PV II autoclave can be installed with a temperature probe that can be placed within the culture flask, residual packets etc.
When the probe is connected to the controller of the autoclave, it is automatically recognised by the microprocessor, whereby the real time temperature values detected by the probe, are displayed and printed.
For autoclaves PRESOCLAVE III this Pt100 sensor only reads the temperature with an external thermometer.
Part No. 4001219
Loading and unloading crane. Part No. 1002426 (see page 70).

ACCESSORIES FOR VERTICAL AUTOCLAVES

AISI 304 stainless steel wire baskets.

Part No.	Ø	Height cm	Suitable for autoclaves Part No.	Number of baskets
1004771	22	14	4001745	1
1004772	22	24	4001756	1
1004771	22	14	4001757*	1 +
1004772	22	24	4001757*	1
1000495	27	20	4001758 - 4002516	3
1000496	36	28	4002136 - 4002517	2
1000780	44	22	4002518	3

Note:* For autoclave Part No. 4001757 supplied with 1 basket Part No. 1004771 + 1 basket Part No. 1004772



AISI 316 stainless steel wire dividers for autoclave baskets.
Part No.
1001217 4 divider compartments for basket part no. 1000495.
1001218 6 divider compartments for basket part no. 1000496.
1001222 7 divider compartments for basket part no. 1000780.

Sterilization Drums.

Part No.	Ø	Height cm	Suitable for autoclaves Part No.	Capacity Drums
1002418	25	18	4001758 - 4002516	3
1002419	35	27	4002136 - 4002517	2
1002420	28	18	**Not suitable for our autoclaves.**	

Water distiller, specially for autoclaves "DEST-4".
Distillation capacity: 1.5 litres/hour. Internal capacity 4 litres.
Case made from thermo resistant plastic.
Internal stainless steel.
Cooling by forced air though a condenser. Without glass heater elements.
Easy to use. Safety cut out system if over temperature due to insufficient water.
Comes complete with a 4 litre three way dispenser plastic bottle with filter.
Note: for daily use it is recommended to change the filter every 3 months.

No external additional water required

Part No.	Capacity Distillation litre/Hour	Conductivity µs/cm	Ø	Height cm	Power W	Weight Kg
4001729	1.5	5	29	39	750	3.5

Spare: Dispenser spout with filter. Part No. 4001730

Detergent "BIO-SEL"
We recommend the use of BIO-Sel detergent for cleaning, it is also biodegradable and free from Phosphates.
Part No.
1000025 Capacity 1 litre.
1000026 Capacity 4 litres.
1000852 Box of 12 x 1 litre flasks.
1000853 Box of 4 x 4 litre flasks.

Autoclave for liquids and solids sterilization "Autester ST DRY PV III" 25

CAPACITY: 25 LITRES. SPACE FOR 12 BOTTLES OF 250 ML, 9 OF 500 ML, 3 OF 1000 ML AND 2 OF 2000 ML.
CONFORMS TO THE REGULATION - 97/23/CEE EQUIPMENT UNDER PRESSURE.

REGULATION 3 SYSTEM

Complete selection of programs. Displays in English - Spanish - French.

FEATURES

Sterilization chamber and lid made from AISI 316 stainless steel.
External case epoxy coated.
Digital control of all autoclave operations.
Large back lit LCD 2 x 24 character display.
Air filter, purifies air before entering in the sterilization chamber.
Separate clean water reservoir and waste water.
RS-232 Interface output of parameters to a computer or for printer.
USB output for PEN-DRIVE data logging and Computer connection.

SAFETY

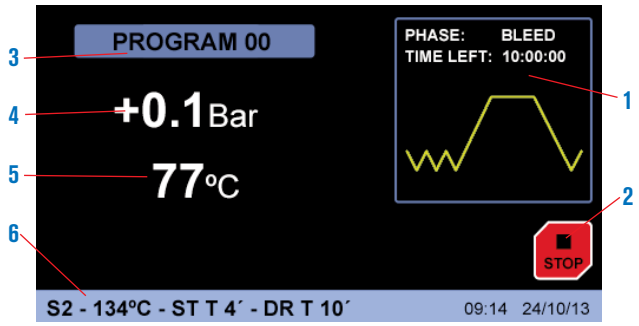
Safety valve.
Prevents the door being opened if under pressure or high temperature is produced.
Temperature safety thermostat.
Door closed correctly detector
Thermally protected lid.

MICROPROCESSOR FUNCTIONS

Controlled parameters are:
• Sterilization temperature from 105°C up to 134°C.
• Sterilization time from 3' to 59'.
• Drying time from 20' to 60'.
• Up to 10 user-configurable programs.
• Six operating modes:
- Solid 1 - Solid 2 fractions. - Solid 3 fractions - Drying - Liquids - Liquids 2 probes
• Verification test
- Vacuum - Bowie Dick.
• Settings:
- Units – languages (Spanish, English, French). - USB or printer module. - Clock: date/time. - External water: on/off.
• Password
• Calibration
- Temperature probe 1 - Temperature probe 2 - Water dosing.
• Audible and visual alarm for overtemperature and insufficient temperature.
• Network failures detection and memorization
• Safety therrmostat by software
• Sterilization cycles data logging with capacity for over 500 cycles.
• Internal cleaning program
• Software for PC
• Temperature correcction
• Summarized user manual on screen
• Graphical representation of real time process

CONTROL PANEL

TFT touch screen with virtual pushbuttons.



1. Graphical representation of real time process
2. Start/Stop virtual pushbutton.
3. Running program.
4. Press indicator.
5. Temperature indicator.
6. Running program parameters.

NEW DESIGN
RS232
USB

MODEL	Part No.	Capacity litres	Ø/Depth (usables) cm		Height/Width/Depth (exterior) cm			Power W	Weight Kg
AUTESTER ST DRY PV III 25	4002420	25	30	35	58	46	59	2510	52

Comes complete with three trays, extractor forceps, and additional support for instruments and sterile wrapping bags.

PARAMETERS AND PROGRAMS PRE INSTALLED IN THE AUTOCLAVE MICROPROCESSOR

(Note: All these parameters are adjustable by the user)

Nº Programme	Description	Temperature Sterilization	Time Sterilization	Time Dry	Purge
0	Free	-	-	-	-
1	Unwrapped instruments	134 °C	4 min	15 min	2 (1)
2	Wrapped instruments	134 °C	12 min	30 min	3 (2)
3	CJD	134 °C	20 min	20 min	3 (2)
4	Delicate unwrapped	121 °C	15 min	15 min	2 (1)
5	Delicate wrapped	121 °C	30 min	30 min	3 (2)
6	Disinfecting	105 °C	25 min	15 min	1 (3)
7	Liquids	121 °C	30 min	-	1 (3)
8	Solids	121 °C	15 min	30 min	1 (3)
9	Solids	134 °C	4 min	30 min	1 (3)

(1) Double Vacuum purge.
(2) Triple Vacuum purge.
(3) Atmospheric purge (No vacuum).

MESSAGES:

1. E 2PROM
2. RTC FAULT
3. SENSOR PRECISION
4. HEATER PROBE
5. CHAMBER PROBE
6. OVER PRESSURE
7. VACUUM
8. PRESSURE
9. BOILER TEMPERATURE
10. TEMPERATURE LOW FAULT
11. INPUT ERROR
12. STERILIZATION
13. LEVEL 1
14. LEVEL 2
15. DOOR
16. PRINTER NO PAPER
17 PAPER JAM
18. ELECTRICAL FAULT

ACCESSORIES

Ink Printer (no thermal).
Paper size 2 1/4" (56 mm) wide.
Includes communications and power cable.

Model

Part No.	Height/Width/Depth cm			Power	Weight Kg
4120113	4	16	10	DC 5V 3A	1

Water distiller especially for Autoclaves. (See page 63).
Bag sealers (See page 68).
Special tray for bottles of 0.25, 0.5, 1 or 2 litres. Part No. 4002416

Autoclave for sterilization “Autester ST DRY PV” Class B

AUTOMATIC VACUUM DRY AND PURGE.
PROGRAMS TO 121 °C AND 134 °C (1 AND 2 bar).
MODEL HORIZONTAL. CAPACITY: 12, 18, AND 23 LITRES.

APPLICATIONS

"Class B" autoclaves are used within the field of general medicine, dentistry, veterinary, tattoo parlours and sterilization applications in general, to sterilize any material that could have been in contact with body fluids including blood.
The general capabilities of the instrument are regulated by EN 13060 that guarantees the differing sterilization applications.
The normal processes include: Solids with and without wrapping, porous material with and without wrapping and utensils that have cavities and holes (e.g. dentistry materials.)

To guarantee sterilization of these materials the “AUTESTER ST DRY PV” Class B, autoclaves, have an efficient staged vacuum, that performs a complete extraction of air that allows penetration of the steam vapour.
The same vacuum system is used to obtain the dry phase, which is required for perfect storage of sterilized materials.
The “AUTOCLAVES ST DRY PV” Class B includes verification and validation programs.

CONFORMITY:

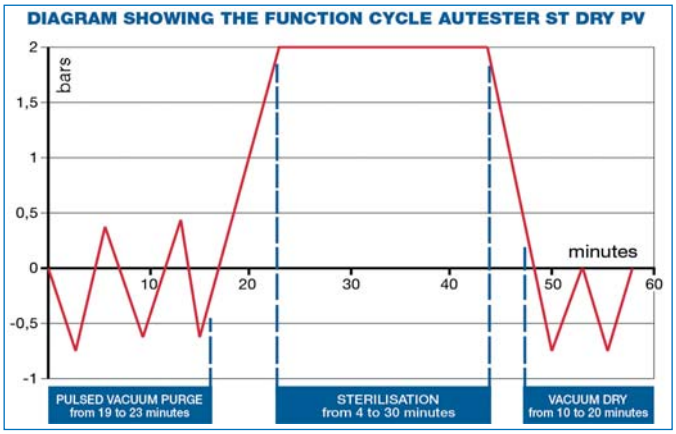
EN 13060	SMALL GENERAL PURPOSE STEAM STERILIZERS.
EN 61010-1	EQUIPMENT SAFE FOR LABORATORY USE.
EN 61010-2-040	SAFETY FOR STERILIZER EQUIPMENT FOR LABORATORY USE
EN 61326	ELECTROMAGNETIC COMPATIBILITY FOR EQUIPMENT USED IN THE LABORATORY.

SAFETY:

SAFETY VALVE: PREVENTS THE PRESSURE EXCEEDING THE MAXIMUM SET LIMIT.
SAFETY THERMOSTAT: DISCONNECTS THE HEATER AGAINST OVER TEMPERATURE OR LOW WATER IN THE RESERVOIR.
THERMALLY INSULATED LID.

12 litres

18 and 23 litres



Staged fractional vacuum: Extracts air from the load that permits absolute steam vapour penetration.

Sterilization stage: Sterilization within the time and temperature selected.

Dry cycle: Extracts the humidity from the load leaving it suitable for storage.

Autoclave for sterilization Autester “ST DRY PV” 12 Class B

CAPACITY: “ST DRY PV”: 12 LITRES.

According to directive: 97/23/CEE equipment under presure,3.3.

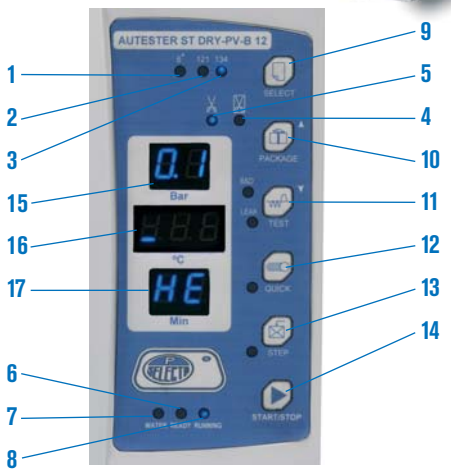
FEATURES

Stainless steel internal chamber.
Staged vacuum purge.
Dry by vacuum
Incorporated steam generator.
Water reservoir to supply the chamber
High vapour penetration of porous material
Used in digestive studies, ophthalmology, operating theatres etc .
Printer interface.
USB adapter for parameters memorization (optional).

SAFETY

Safety valve. Prevents over pressure over the maximum working limit.
Safety thermostat. Disconnects power to the heater if over temperature or low water in the reservoir.
Thermally protected lid.

CONTROL PANEL



TEMPERATURE CONTROL AND AUTOMATIC MICROPROCESSOR CYCLE.

1. Textile materials
2. 121 °C.
3. 134 °C.
4. Wrapped solids.
5. Solids (Not wrapped).
6. Low level water indicator.
7. Autoclave ready for operation.
8. Sterilization cycle in process
9. Program selection.
10. Select wrapped or non wrapped.
11. Test.
12. Fast sterilization.
13. "maintain hot" the chamber.
14. Preheat.
15. Pressure indicator (bar).
16. Temperature indicator (°C).
17. Time Indicator (min.).

CYCLES	134 °C Wrapped	134 °C Not Wrapped	121 °C Wrapped	121 °C Not Wrapped	Textiles	Test Bowie Dick	Test Vacuum
Sterilization Temperature	134 °C	134 °C	121 °C	121 °C	134 °C	134 °C	-
Sterilization pressure	2.1 bar	2.1 bar	1.1 bar	1.1 bar	2.1 bar	-	2.1 bar
Vacuum purge time	8 min.	4 min.	8 min.	4 min.	8 min.	-	-
Sterilization time	12 min.	4 min.	30 min.	20 min.	12 min.	3.5 min.	10 min.
Dry time	10 min.	10 min.	10 min.	10 min.	15 min.	1 min.	-

MODEL	Part No.	Capacity litres	Ø / Depth cm		External dimensions cm			Trays dimensions cm			Power W	Weight kg
					Height	Width	Depth	Height	Width	Depth		
AUTESTER ST DRY PV B 12	4001727	12	20	35	39,2	48,7	60	1,8	14	29,5	1800	42,2

Comes complete with:
spare joint, door adjustment key, support with three trays, extractor forceps, empty water filter and waste water out.

ACCESSORIES

USB adapter model.
Pen-Drive included (Memory board) for data storage.
Part No: 4120130

Thermal Printer.
Paper size 2 1/4” (56 mm) wide.
Includes communications and power cable.
Power: DC 5V 3A
Part No: 4120123
Water distiller especially for Autoclaves. (See page 63).
Bag sealers (See page 68).

Autoclave for sterilization “Autester ST DRY PV” 18 Class B “ST DRY PV” 23 Class B

CAPACITY: “ST DRY PV” 18: 18 LITRES. “ST DRY PV” 23: 23 LITRES..

According to directive: 97/23/CEE equipment under presure,3.3.

FEATURES

Digital electronic control.
Stainless steel internal chamber.
Staged vacuum purge.
Dry by vacuum
Incorporated steam generator.
Water reservoir to supply the chamber
High vapour penetration of porous material
Used in digestive studies, ophthalmology, operating theatres etc.
Automatic or manual filling of the water tank.
Printer interface.
USB adapter for parameters memorization (optional).

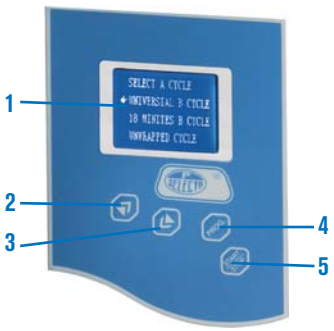
TEMPERATURE CONTROL AND AUTOMATIC MICROPROCESSOR CYCLE.

SAFETY

Mechanism door lock, prevents the door being opened accidentally.
Safety valve. Prevents over pressure over the maximum working limit.
Safety thermostat. Disconnect power to the heaters if over temperature or low water in the reservoir are produced.
Thermally insulated lid.
Dirty water tank full alarm.

CONTROL PANEL

1. LCD screen.
2. Push button increase parameters.
3. Push button decrease parameters.
4. Push button menu.
5. Push button Start-Stop.



CYCLES	134 °C Emergency	134 °C Solid	134 °C Hollow	134 °C Sanguinary	121 °C Solid	121 °C Hollow	134 °C Glass	121 °C Tampon	134 °C Bowie Dick	134 °C Helix	134 °C User-defined	Test Vacuum
Sterilization Temperature	134 °C	134 °C	134 °C	134 °C	121 °C	121 °C	134 °C	121 °C	134 °C	134 °C	134 °C	-
Sterilization pressure	2,1 bar	2,1 bar	2,1 bar	2,1 bar	1,1 bar	1,1 bar	1,1 bar	1,1 bar	2,1 bar	2,1 bar	-	-
Vacuum purge number	1	1	4	3	1	3	1	3	3	3	3	-
Sterilization time	4 min.	4 min.	4 min.	18 min.	20 min.	20 min.	4 min.	30 min.	3,5 min.	3,5 min.	4 min.	-
Dry time	8 min.	4 min.	10 min.	10 min.	8 min.	10 min.	4 min.	18 min.	3min.	3 min.	3 min.	-

MODEL	Part No.	Capacity litres	Ø / depth cm		External dimensions cm Height	Width	Depth	Trays dimensions cm Height	Width	Depth	Power W	Weight kg
AUTESTER ST DRY PV 18	4001734	18	24,5	36	40	47	83	2	20,5	28	1500	46,6
AUTESTER ST DRY PV 23	4001735	23	24,5	47	40	47	94	2	20,5	38	1700	48

Comes complete with:
spare joint, door adjustment key, support with three trays, extractor forceps, empty water filter and waste water out.

ACCESSORIES

USB adapter model.
Pen-Drive included (Memory board) for data storage.
Part No: 4120130
Ink Printer (no thermal).
Paper size 2 1/4” (56 mm) wide.
Includes communications and power cable.
Power: DC 5V 3A
Part No: 4120123
Water distiller especially for Autoclaves. (See page 63).
Bag sealers (See page 68).

Bag sealer “S-400”

SUITABLE FOR POLYPROPYLENE-POLYESTER STERILISING BAGS WITH A PAPER BASE.

FEATURES

Metal epoxy covered case.
Pressure sealer. Manual cut.
Stainless steel AISI 304 reel support at the back.

CONTROL PANEL

Illuminated mains switch.
Lamp on when the thermostat has reached the pre-set working temperature.

MODEL

Part No.	Seal Width mm	Maximum seal length mm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
4100041	9	270	12 35 21	200	5.3

Bag sealer “Seal-1000”

FOR POLYPROPYLENE AND POLYESTER BAGS WITH A STERILE PAPER BASE.

FEATURES

Metal construction with stainless steel tray.
Pressure sealer unit with lateral leaver with two bilateral cutting edges.
Constant sealing temperature (from 180 °C and 200 °C).
External support for rolls of up to 240mm wide, with adjustable separator sides to accommodate different roll sizes.

CONTROL PANEL

Illuminated start switch.
Indicator, optimum seal temperature.

Part No.	Seal width mm	Maximum seal length mm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
4101712	10	260	30 36 43	400	6.5

Automatic bag sealer “Seal-Com 2”

IN ACCORDANCE WITH DIN 58953 SECTION 7 STANDARD. FOR SEALING STERILE PAPER, POLYPROPYLENE-POLYESTER BAGS. CONTINUOUS SEALING, AUTOMATIC ADVANCE.

Continuous Thermosealer

FEATURES

Exterior made from stainless steel.
Heating time: 4 minutes.
Seal width: 10 mm.
Sealing speed: 6 m/min.
Digital control and display of temperature and time.
Acustic sign of cycle starting.

CONTROL PANEL

Luminous “ON” switch.
Luminous “Manual or Automatic” switch.

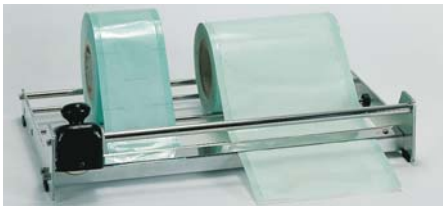
MODEL

Part No.	Height / Width / Depth (sealer) cm	Power W	Weight Kg
4100044	16 48 26	400	13

SEALING MACHINE ACCESSORIES

Rolls of paper for sterilization “Polisteril”
Paper base polypropylene and polyester bags showing differing ink prints of sterilized items.

Part No.	Bag width cm	Bag length m
4100075	7,5	100
4100100	10	100
4100200	20	100



Sterile paper “Policort” trimmer
Completely made of metal with back and reel support, for a capacity of 2 x 200mm or 4 x 100 mm wide reels.
Circular cutting knife edge.
Measurements: 13 high x 51 wide x 32 cm deep.
Weight: 2.8 Kg.
Part No. 4100045

Date stamping machine for sterile bags.

Part No. 4100046

STERILIZED
30 OCTOBER 2015
VALID FOR 3 MONTHS.

OPTIONS: **Ultrasonic cleaning** baths for dentistry, “Ultrasons-Digit” (see page 96). **Dry sterilizer** “DRYTIME” poupinel oven (see page 137).

Autoclaves for preserved food pasteurization/sterilization "STERIL-FOOD" 20, 80 and 150

SELECTABLE TEMPERATURE BETWEEN 70 ºC & 121ºC.
CAPACITY: 20, 80 & 150 L.
AUTOCLAVES "MAN" MODEL NEED A COMPRESSED AIR EXTERNAL INSTALATION.
AUTOCLAVES "COM" MODEL INCLUDE COMPRESOR AND DO NOT NEED COMPRESSED AIR INSTALLATION.
WATER SUPPLY NEEDED WITH LOW-CAL CONTENT AND DRAINAGE. (WATER PRESURE: 3 BAR MINIMUM).

CONFORMITY		
	EN 61010-1	SAFETY FOR EQUIPMENTS FOR LABORATORY USE .
	EN 61010-2-040	SAFETY FOR STERILIZER EQUIPMENTS.
	EN 61326	ELECTROMAGNETIC COMPATIBILITY.
	EN/97/23/EC	SAFETY FOR PRESSURE EQUIPMENTS.

APPLICATIONS

Preserved food sterilization.
Very suitable for small productions and wide variety.

FEATURES

External case, top, tank and lid made of stainless steel.
Tank fill by external water inlet.
Temperature control probe inside the sample.
Counter pressure system to prevent the cans breakage.
Temperature, time and pressure registered in USB.

SAFETY

Device that avoids opening the lid when the chamber is under pressure.
Safety valve: Prevents overpressure over the maximum limit.
Safety pressure switch: Disconnects heater when there's overpressure.
Thermally insulated lid.
Door properly closed detector.
Double filter retention

CONTROL PANEL

1. Parameters LCD display.
2. Microprocessor single button.
3. Operation Led.
4. Start/stop push button.
5. USB adapter.
6. Open lid knob.
7. USB function light indicator.

MICROPROCESSOR FEATURES

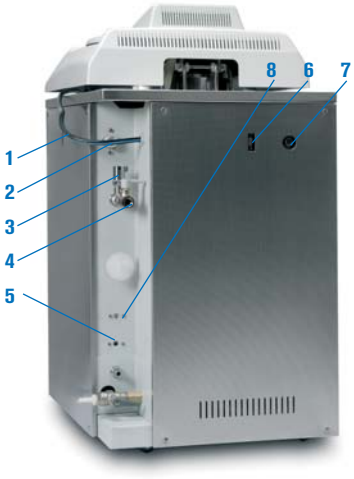
Microprocessor controls sterilization and cooling process:

- Pasteurization temperature from 70ºC to 100ºC.
- Sterilization temperature from 100ºc to 121ºC.
- Sterilization time from 1' to 99':
- Selectable cooling temperature.
- Programs – from 0 to 9 user configurable.
- Configuration: - Units. – Languages (Spanish, English, French).
  - Timer: date/hour. – External water: on/off.
- Password
- Calibration – Control probe temperature.
  - Sample probe temperature

Any error message of functions or execution is displayed in the panel and an acoustic alarm sounds, automatically cutting the steam generator out.

BENEFITS

Water quick cooling.
High efficiency in heat treatment
Respect the organoleptic properties of food.
Easy and quick changing of heat treatment parameters.
10 user defined programs.
Models with built-in compressor.



BACK VIEW

1. Mains input.
2. External water supply.
3. Safety valve.
4. Vacuum steam valve.
5. Safety thermostat.
6. RS232 connector.
7. Second probe connector.
8. Compressed air inlet.

MODELS	Part No.	Drying	Capacity litres	Ø / Height (usable) cm	Height/Width/ Depth (external) cm	Temp. ° C	Capacity baskets	Power W	Weight Kg
STERIL-FOOD COM 20	4002421	NO	20	24 41	70 38 38	70 to 121	2	2500	55
STERIL-FOOD MAN 80	4002427	NO	80	40 60	107 58 72	70 to 121	2	3600	136
STERIL-FOOD COM 80	4002422	NO	80	40 60	107 58 72	70 to 121	2	3600	136
STERIL-FOOD MAN 150*	4002428	NO	150	50 70	118 80 95	70 to 121	3	7500*	250
STERIL-FOOD COM 150*	4002423	NO	150	50 70	118 80 95	70 to 121	3	7500*	250

It is supplied without baskets or drums. *Part numbers 4002428 and 4002423, due to their power consumption are manufactured for three phase 230V or 400V. Specify preference when ordering.

COMPLEMENTS FOR "PRESOCLAVE III 50 - 80", "AUTESTER ST DRY PV III 50 - 80 - 150" AND "STERIL-FOOD 80 - 150"

Loading and unloading crane

Baskets elevator for loading and unloading of autoclaves of 50, 80 and 150L
With adapter for handling baskets without deforming.
Axial rotation for placing baskets to a trolley.
Total lift height: 2.4 m (autoclave assembled)
Outside completely stainless steel.
Maximum load: 50Kg.
Power: 230V 300W
Must be factory installed.
Control panel: ON / OFF button + UP / DOWN pushbutton integrated into a single command.
Part No: 1002426

ACCESORIES FOR STERIL-FOOD

Decalcifier "C-3"

APPLICATIONS

Pre-treatment of water with high content of lime, for general laboratory use.
Recommended for distillation units use, from 25° French water hardness.

TECHNICAL DATA

AISI 304 stainless steel metallic tank with manual device of salt regeneration by two-way wrenches.
Resin capacity: 12 litres. Regeneration by salt: 2 Kg.
Cyclical output by regeneration: 1200 litres at 60° French degrees / 4800 litres at 35° French degrees.
Cyclical output by regeneration for distillation: from 300 to 800 litres.
Maximum mains inlet pressure: 4,5 Kg/cm2.
Maximum input permissible hardness: 60° French degrees.
Output hardness: 1° French degree.
External measurements: 62 height x 19 cm Ø. Weight: 20 Kg.
Part Number 0703052

It comes complete with ¾ in and out hoses.

AISI 304 stainless steel wire baskets. Maximum load capacity: 8 kg.

Part No.	For autoclave litres	Ø / Height (Usable) cm	Capacity baskets	Bottle capacity Ø72x85mm	Ø82x115mm
1000496	80	36 x 28	2	55	55
1000780	150	45 x 22	3	162	150
1000786	150	47 x 15	5	150	95

Note: To optimize the load in the autoclave, we manufacture baskets on demand suitable to the size and weight of your containers.

LOW TEMPERATURE Cooled Incubators, Refrigerators and freezers...

Flake ice maker	page	73
Refrigerated cabinets “Medilow” S, M, L & LG	page	73
Refrigerated medical cabinets, S, L & M	page	74
Upright freezers “Templow” S, M, L, P and Z	page	75 and 76
Storage refrigerators “Stocklow” LS & GS	page	77
Chest freezers “Combatemp”	page	77

“Luck is not chance, it is toil. Fortune is expensive, smile is earned.”
Emily Dickingson

LOW TEMPERATURE
Model selection table

QUICK OVERVIEW

Equipment type	Model	Forced Air	Regulation	CAPACITY			
Refrigerated Cabinets				180 litres	236 litres	544 litres	544 litres Glass
+1 ... +40 °C	Medilow	Yes	Digital	2101270	2101271	2101272	2101273
Storage refrigerators				236 litres	352 litres	319 litres	
+0 ... +15 °C	Pharmalow	Yes	Digital	2101274	2101275	-	
+0 ... +15 °C	Pharmalow	Yes	Digital	-	-	2101501	
Storage freezers				513 litres			
-14 ... -25 °C	Templow-M	No	Digital	2101279			
				304 litres			
-15 ... -25 °C	Templow-S	No	Digital	2101278			
				600 litres			
-10 ... -35 °C	Templow-L	Yes	Digital	2101280			
				345 litres (Two compartments)			
+3 ... -30 °C	Templow-P	Yes	Digital	2101285			
				252 litres (Two compartments)			
+2 ... -40 °C	Templow-Z	Yes	Digital	2101282			
Storage refrigerators				600 litres	600 litres Glass		
+1 ... +15 °C	Stocklow LS	Yes	Digital	2101283	-		
+1 ... +15 °C	Stocklow GS	Yes	Digital	-	2101284		
Chest Freezers				206 litres	215 litres	343 litres	352 litres
-14 ... -28 °C	Combatemp	No	Digital	2101040	-	2101041	-
-10 ... -40 °C	Combatemp	No	Digital	-	2101181	-	2101182
Flake ice maker				40 litres	85 litres	150 litres	
	"IMS 45"	Compressor	-	5020100	-	-	
	"IMS 85"	Compressor	-	-	5020101	-	
	"IMS 150B"	Compressor	-	-	-	5020103	

OTHER LOW TEMPERATURE DEVICES

Thermocycler for thermal cycles **PCR-K96**

(See page 238)

Shaking Bath **Unitronic**

(See page 93)

Cryo circulators **Frigiterm-TFT**

(See page 103)

Bath immersion coolers **Digit-cool**

(See page 105)

Refrigerated cabinet **Refricub**

(See page 218)

Cold Plate **Plac-center**

(See page 217)

Cooling Coils for baths **Frigedor**

(See page 107)

Microtube, table top cooler boxes for microtubes of 0.5 to 2 ml / 15 ml.

(See page 190)

Precision Peltier cooled incubator / cabinets **Prebatem**

(See page 155 and 156)

Refrigerated environmental cabinets **Hotcold**

(See page 160)

Incubator cabinets **Blood bank**

(See page 80)

Flake ice maker “IMS” 40, “IMS” 85 and “IMS 150”

“IMS” 40 MODEL: PRODUCTION 40 Kg-24 HOURS.
“IMS” 85 MODEL: PRODUCTION 85 Kg-24 HOURS.
“IMS” 150B MODEL: PRODUCTION 150 Kg-24 HOURS.

MODELS	Part No.	24h.(kg) Production	Tank Capacity (Kg)	Height / Width / Depth cm	Power W	Weight Kg
IMS-40	5020100	40	8	72 38 54	280	40
IMS-85	5020101	85	13	88 55 61	420	57
IMS-150B	5020103	150	35	98 71 69	695	70

Features: See page. 191.

Refrigerated cabinets “Medilow” S, M, L & LG

WITH FORCED AIR FAN CIRCULATION.
WITH DIGITAL ELECTRONIC TEMPERATURE CONTROL.
TEMPERATURE RANGE CONTROLLABLE FROM +2 °C TO +40 °C. WITH A STABILITY OF ±1.5 °C. RESOLUTION 1 °C.
CAPACITY: 180, 236 AND 544 LITRES.

SAFETY: CONFORMS TO EN61010.1. OVER TEMPERATURE SAFETY THERMOSTAT INSTALLED.

Models Medilow M and L.
Medilow M. Capacity: DBO 3 blocks

Model Medilow LG, double glass door.

Model Medilow S. Capacity: DBO 2 blocks

APPLICATIONS

Determination of BOD at 20°C, Measurement of enzyme activity at 25°C. Storage and Preservation of samples, Incubation, Cosmetics, Botany, Food Products, etc.

TEMPERATURE CONTROL

Electronic temperature control with digital display.
Pt 100 temperature probe.
Probe failure alarm.

FEATURES

Epoxy covered external case.
Easy to clean, strong, molded ABS Interior.
Vibration and CFC free hermetically sealed compressor.
Turbine fan air circulation, enclosed within the unit.
External hole for connecting inside probes, etc.
Internal power connection to a maximum of 500 W.
Adjustable level front supports.
Door can be hung to open left or right.
Door lock.

CONTROL PANEL

Temperature control.
Live-time temperature display.
Pre-selected temperature display.
Increase value, push button.
Decrease value, push button.
Program parameter selection, push button.
Configure push button.

MODELS	Part No.	Capacity litres	Door glass	Height / Width / Depht (interior) cm	Height / Width / Depht (exterior) cm	Number of shelves	Internal power points	Power W	Weight Kg
MEDILOW-S	2101270	180	-	70 51 44	85 60 60	3	2	250	36
MEDILOW-M	2101271	236	-	106 47 44	125 60 61	3	2	330	47
MEDILOW-L	2101272	544	-	145 60 56	164 75 73	4	6	330	73
MEDILOW-LG*	2101273*	544	YES	145 60 56	164 75 73	4	6	330	82

Comes complete with steel shelves, PVC laminated.
*Anti mist double glazed insulated door, with fluorescent interior light.

SPARE PARTS Shelves

For Medilow S/M/L/LG Part No.	2101270	2101271	2101272/2101273
Shelves	1001813	1001814	1001815

Refrigerated medical cabinet “Pharmalow” S, L and M

WITH FAN ASSISTED CIRCULATION.
TEMPERATURES RANGE FROM +0 °C UP TO +15 °C.

APPLICATIONS
Products that require a constant below atmosphere temperature, preservation of pharmaceutical products, medications, micro-tubes, etc.

COMMON FEATURES
External case and metallic door.
White coated and interior made of anti-toxic white sheet.
Double glazed door and interior light for model M.
Hermetically sealed compressor.
Homogeneous, turbine fan assisted air circulation.
Automatic de-frost with water evaporation system.
Adjustable level, front base supports.
Door can be mounted to open left or right.
Door lock.

CONTROL PANEL
Temperature thermostat regulator.
Digital thermometer display for models S and L
Electronic digital temperature control model M.

Refrigerator “Pharmalow” S and L

MODELS	Part No.	Capacity litres	Height / Width / Depht (interior) cm	Height / Width / Depht (exterior)cm	Number of shelves	Power W	Weight Kg
Pharmalow S	2101274	236	106 47 44	125 60 61	4	170	47
Pharmalow L	2101275	352	145 47 44	164 60 61	4	180	56

Comes complete with steel shelves, PVC laminated.

Model Pharmalow S with 4 shelves.

SPARE PARTS Shelves

For Pharmalow S/L. Part No.	2101274/2101275
Shelves	1001814

ACCESSORIES Need to be factory fitted.

Model Pharmalow S and L with frame support and drawers.

Frame support, partitioned metallic drawers.
Modular system with perforated base, sliding drawers, each drawer is divided into three fixed compartments, each compartment with four removable methacrylate partitions.
Frame support for Pharmalow S (Part No. 2101274), with 4 drawers and 48 partitions in total, (maximum capacity: 6 drawers).
Part No. 1001306
Frame support for Pharmalow L (Part No. 2101275), with 5 drawers and 60 partitions in total, (maximum capacity: 10 drawers).
Part No. 1001307

OPTIONAL
Drawer with 3 compartments and 12 partitions.
Part No.1001308

Details of frame support, drawers, dividers and partitions.

Model Pharmalow M with 6 shelves.

Storage refrigerator with double glazed anti mist door “Pharmalow” M

WITH DIGITAL ELECTRONIC TEMPERATURE CONTROL

MODEL

Part No.	Capacity litres	Height / Width / Depht (interior) cm	Alto / Ancho / Fondo (exterior)cm	Power W	Power HP	Number of shelves	Weight Kg
2101501	319	139 48 45	198 60 64	360	1/4	6	98

Comes complete with steel shelves, PVC laminated.

ACCESSORY **“Pharmalow” S - L and M.** Must be factory fitted.

Circular graphic register independently powered.
Temperature range: -10 °C up to 40 °C. Precision ±2% at 12 °C.
Chart speed selection of 24 hours or 7 days. Disc Ø 125mm
Graphic register dimensions:
18 cm high x 22 cm wide x 35 cm deep.
Powered by an LR-6 1.5V battery. Battery life 1 year.
Part No. 2101621

SPARE PARTS
Part No
1001533 Brackets (4 units).
1001536 Shelves
Each shelf requires 4 brackets.

Upright freezers “Templow” S, M,L,P and Z.

APPLICATIONS
Preservation and storage of products that require to be preserved at low temperatures.

Upright freezer “Templow” S

DIGITAL TEMPERATURE CONTROL,
TEMPERATURE RANGE FROM -15 °C TO -25 °C.
8 DRAWERS WITH INDIVIDUAL FREEZER COMPARTMENTS.

FEATURES
Epoxy covered metallic external case.
Strong, molded, chemically resistant ABS interior.
Manual defrost with water evaporation system.
Door can be hung to open left or right.

CONTROL PANEL
Mains power ON/ OFF switch.
Temperature thermostat regulator.
Temperature indicator lamp.
Audible and visual alarms.
Push button alarm reset/stop.
Push button with quick freeze indicator.

Upright freezer “Templow” M

TEMPERATURE RANGE FROM -14 °C TO -25 °C.
7 INDIVIDUAL FREEZER COMPARTMENTS WITH 14 BASKETS.

FEATURES
Epoxy covered external case.
Strong, chemically resistant, ABS molded case.
Specially coated “Rilsan”, wire mesh baskets.
Manual defrost, with water evaporation system.
The door can be hung to open left or right.
Lockable door.

CONTROL PANEL
Temperature thermostat regulator.
Digital temperature display.

Upright freezer “Templow” L

WITH FAN ASSISTED AIR CIRCULATION.
TEMPERATURE RANGE FROM -10 °C UP TO -35 °C.
COMES WITH 4 SHELVES.

FEATURES
External and internal case made completely of AISI 304 stainless steel, with water sump and drain.
Chemically resistant.
Acclimatized hermetically sealed CFC free compressor.
Automatic defrost with electrical water evaporation system.
Regulable shelves.
Adjustable front level supports.
The door can be hung to open, left or right.
Door lock.

CONTROL PANEL
Mains power ON/ OFF switch.
Electronic temperature regulator.
Digital temperature display.

MODELS	Part No.	Capacity litres	Range °C	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Power W	Weight Kg	
TEMPLOW S	2101278	304	-15 to -25	151	44	42	184	60	63	110	81	Comes with 8 drawers
TEMPLOW M	2101279	513	-14 to -25	151	61	56	186	75	75	345	109	*Comes with 14 baskets
TEMPLOW L	2101280	600	-10 to -35	155	51	65	215	70	83	600	130	*Comes with 4 shelves

Comes with steel PVC laminated shelves and baskets.

Refrigerated cabinets with double compressor “Templow” P

FOR TEMPERATURES FROM 3°C UP TO 8°C IN UPPER CASE.
FOR TEMPERATURES FROM -9°C UP TO -30°C IN LOWER CASE.
WITH 4 TRAYS IN UPPER CASE AND 3 DRAWERS IN LOWER CASE.

FEATURES

External case and metallic door.
White coated and interior made of anti-toxic white sheet.
Double compressor which offers maximum temperature stability.
Gradual adjustment of the trays for a versatile use of the interior.
Door with lock and key.

CONTROL PANEL

Digital electronic control.
Alarms of low and high temperature, door open and power failure.
Parameters configuration.
Upper case temperature indicator display.
Lower case temperature indicator display. Parameters value increase/decrease.
Last 3 warning signs pre-setting.
10 mm diameter hole for PT100 probe.

Refrigerated cabinet “Templow” Z

FOR TEMPERATURES FROM 2 °C UP TO 9°C IN UPPER CASE.
FOR TEMPERATURES FROM -10 °C UP TO -40°C IN LOWER CASE.
WITH 3 TRAYS AND 1 DRAWER IN UPPER CASE. WITH 4 DRAWERS IN LOWER CASE.

FEATURES

External case and interior completely made of ABS resistant to chemical agents.
Hermetically sealed tropicalized compressor.
Automatic defrosting with water evaporation by temporized electrical defrost.
Supports for height adjustable shelves.
Door lock.

CONTROL PANEL

High precision electronic control with **digital** indicator.
Password lock.
Temperature printout (last 7days).
Parameters configuration.
Upper case temperature indicator display.
Lowe case temperature indicator display.
Parameters value increase/decrease.
All adjusted parameters activation.

MODELS	Code	Capacity litres	Range °C	Height/Width/Depth (interior) cm	Height/Width/Depth (exterior) cm	Power W	Weight Kg
TEMPLOW P	2101285	Upper 240 Lower 105	Upper 3 to 8 Lower -9 to -30	Upper 110 44 43 Lower 59 43 43	200 60 61	345	85
TEMPLOW Z	2101282	Upper 153 Lower 99	Upper 2 to 9 Lower -10 to -40	Upper 80 47 46 Lower 41 39 36	177 62 60	400	78

Templow P: Comes complete with 4 PVC steel coated trays and 3 plastic drawers.
Templow Z: Comes complete with 3 glass trays and 5 plastic drawers.

Storage refrigerators “Stocklow” LS and GS

NEW DESIGN

SIN CFC • CFC FREE • SANS

WITH FAN ASSISTED CIRCULATION.
MODEL L, WITH METAL DOOR. TEMPERATURE CONTROLLABLE FROM +1 °C TO +8 °C.
MODEL G, WITH DOUBLE GLAZED ANTI MIST DOOR.TEMPERATURE CONTROLLABLE FROM +1 °C TO +8 °C.

APPLICATIONS

Preservation and storage of products that require below ambient temperatures.

FEATURES

Chemically resistant.
Tropical hermetic compressor.
Automatic defrost with electrical water evaporation system.
Support rack and shelves.
Adjustable front level supports.
The door can be hung to open left or right.
Door lock.

There are two versions:
Stocklow LS which is completely made of metal, both interior and exterior, AISI 304 stainless steel door.
Stocklow GS inside made of AISI 304 stainless steel and epoxy white external case with glazed door that enables internal view.

CONTROL PANEL

Mains power, ON/OFF switch.
Electronic temperature regulator.
Digital temperature display.
Interior light only(Double glazed door model).

Model Stocklow LS, with metallic door.

Model Stocklow GS, with metallic door.

MODELS	Part No.	Capacity litres	Door	Height / Width / Depht (interior) cm	Height / Width / Depht (exterior) cm	Number of shelves	Power W	Weight Kg
STOCKLOW LS	2101283	600	Metallic	138 62 68	210 73 84	3	250	120
STOCKLOW GS	2101284	600	Glass	138 62 68	210 73 84	3	250	125

Comes complete with steel shelves, PVC laminated.

Chest Freezers “Combatemp”

CONTROLLABLE TEMPERATURE RANGE FROM -14 °C TO -28 °C.
CONTROLLABLE TEMPERATURE RANGE FROM -10 °C TO -45 °C.

APPLICATIONS

Suitable for preservation and freezing of sample.

FEATURES

Epoxy covered external case. Interior of aluminium, with guide supports for baskets or trays.
The interior of the door is made of easy to clean, strong, chemically resistant, moulded ABS.
Drop down lockable door with compensating support hinges. Hermetically sealed compressor, silent and vibration free.
Automatic interior light when the door is opened. (all models except Combatemp S-30.)
Digital electronic temperature control.
N.T.C. Sensor.

CONTROL PANEL

Temperature control.
Digital live and preset temperature display.
Push-button temperature selector.

MODELS	Part No.	Capacity litres	Freezing capacity in 24hrs Kg	Temperature up to °C	Height / Width / Depht (interior) cm	Height / Width / Depht (exterior) cm	Power W	Weight Kg
COMBATEMP S-30	2101040	206	28	-28	74 63 53	92 75 71	160	38
COMBATEMP L-30	2101041	343	38	-28	74 100 53	92 113 71	200	56
COMBATEMP S-40	2101181	215	30	-40	63 89 41	92 113 76	230	57
COMBATEMP L-40	2101182	352	40	-40	65 117 50	92 137 81	400	72

Note: Part No. 2101040 is supplied with 1 basket. Part No. 2101041 is supplied with 2 baskets.

SPARE PARTS Baskets

For Combatemp. Part No.	2101040 / 2101041	2101181	2101182
Baskets	1001810	1001811	1001812

HAEMATOLOGY. Blood bank instrumentation

Shakers for platelet bags	page	79
Incubation chamber	page	79
Platelet bags incubator cabinets	page	80
Blood bank refrigerated cabinets	pages	81 to 82
Shaking monitor	page	82
Plasma bags defrost baths	page	83
Automatic sealer and plasma extractor	page	83

Horizontal shakers for platelet bags "APL-54" and "APL-108"

NEW

HORIZONTAL MOVEMENT AT A FIXED SPEED OF 66 R.P.M., LATERAL SHUFFLE OF 40 MM.
MODEL "APL-54": CAPACITY FOR 54 PLATELET BAGS.
MODEL "APL-108": CAPACITY FOR 108 PLATELET BAGS.

Platelet bags constant shaking for long periods of time.

FEATURES

Epoxy covered case with treated aluminium platform with AISI 304 stainless steel racks for bags.
Stirring automatic restart in 30 seconds and pause device for bags handling.
Acoustic alarm in case of power failure.
LCD display informing of the events log: it counts the number of power failures and their duration.
When power is restored, the device automatically restarts the stirring.

CONTROL PANEL

Single button to adjust:

-Date and time programmation.
-Shaking stop button for 30 seconds.
-Alarms reset.
-Moving to review the number of incidences.
-Shaker stop time programmation.

MODELS	Part No.	Nº of Shelves	Capacity bags	Height / Width / Depth Cm.	Power W	Voltage V	Weight Kg
APL-54	3000980	9	54	40 44 39	50	230	22
APL-108	3000981	18	108	40 84 38	50	230	35

It can be supplied for 110 V- 60 Hz on demand.

Incubation chamber "PLX-IN"

FOR PLATELET BAGS "APL-54" SHAKING, CAPACITY 54 PLATELET BAGS.
FOR REGULABLE TEMPERATURES FROM 18 ºC UP TO 60 ºC.
RESOLUTION 0,1 ºC. STABILITY ±0,1 ºC. HOMOGENEITY ±0,5 ºC. SET ERROR ±0,3 ºC.

Peltier effect. No compressor group. Quiet, vibrations free, high accuracy and low consumption.

NEW

FEATURES

Made of transparent methacrylate with swinging door that allows an easy access to the working area and an inside chamber view during bags shaking.
AISI 304 stainless steel lower base.
Auto shut-off protective device in case of door opening and automatic restart in 30 seconds.

CONTROL PANEL

Start-up main switch with digital temperature regulation.

MODEL

Part No.	Height / Width / Depth (exterior) cm	Height / Width/ Depth (interior) cm	Power w	Weight Kg
3000958	44 63 65	33 60 50	360	38

It can be supplied for 110 V- 60 Hz on demand.

Incubation chamber "PLX-IN" Part No. 3000958 with "APL-54" shaker Part No. 3000980

Note: For a correct bag preservation, it is recommended to keep a temperature between 20 and 24 ºC.

Platelet bags incubated cabinets “Blood Bank” E and F

NEW

EXCLUSIVE DESIGN ADAPTED TO ACCOMODATE PLATELET BAGS STIRRERS “APL”.
FORCED AIR CIRCULATION.
FIXED TEMPERATURE AT +20 °C. STABILITY ±1,5 °C. RESOLUTION 1 °C.
SEVEN DAYS GRAPHIC TEMPERATURE REGISTER.

SAFETY:
LOW TEMPERATURE THERMOSTAT LIMITER.
VISUAL AND ACOUSTIC INDICATORS: EXCESSIVE LOW TEMPERATURE (+18 °C), EXCESSIVE HIGH TEMPERATURE (+24 °C), OPEN DOOR, MAINS FAILURE AND BATTERY FAILURE.
TEMPERATURE GRAPHIC REGISTER. 7 DAYS RECORDER, AUTONOMY 6 MONTHS.
ACOUSTIC ALARM ON ALL FAIL CONDITIONS. ACOUSTIC INDICATOR.

Model E

Model F

APPLICATIONS

Storage cabinet specially designed for platelet bags preservation.

COMMON FEATURES

AISI 304 stainless steel external cabinet and internal lining.
Double glazed door, reversible lockable door, easy to change, with automatic feed-back mechanism and manual locking.
Hermetically sealed compressor mounted on antivibration settlement with forced type evaporator and ventilated type condenser.
Shelves and supports in steel PVC laminated.
2 power outlet base for model “Blood-Bank E” max. power 500 W
6 power outlet base for model “Blood-Bank F” max. power 500 W
Inner air circulation for a more temperature homogeneity.
Refrigerant R134a.
Temperature sensors located in similar conditions to platelet bags.
Circular graphic register built-in.
Microprocessor temperature control that allows configuration and visualization of the following parameters by means of the display:

- **Entry code.**
- **External alarm signal.**
- **SET adjustment.**
- **Alarm adjustment.**
- **Calibration.**

CONTROL PANEL

1. Digital display
2. Battery life indicator.
3. Open door indicator.
4. Mains failure indicator.
5. Increase value button.
6. Decrease value button.
7. Validate / RESET alarm.
8. Seven days graphic register.

OPTIONAL COMPLEMENT

Alarm messages transmision
Automatic transmission system of alarm or incident SMS messages by using a GSM module SIM card activated. Ability to connect up to 2 phones.
GSM Module. Part No: 2101622

MODELS	Part No.	Capacity litres	Capacity stirrers	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Power W	Power HP	Number of shelves	Weight Kg
Blood Bank E	2101509	600	2 x APL-54	136 58 69	207 70 82	350	3/8	2	115
Blood Bank F	2101510	1300	4xAPL-54 o 2xAPL-108	136 128 69	208 140 82	1100	3/8	2	190

They are supplied with trays.

Blood bank refrigerated cabinets “Blood Bank” A, B, C and D

FORCED AIR CIRCULATION.
FIXED TEMPERATURE +4 °C. STABILITY ±1.5 °C. RESOLUTION 1 °C.
SEVEN DAYS GRAPHIC TEMPERATURE REGISTER.
CAPACITIES FROM 90 TO 480 BLOOD BAGS.

SAFETY:
ALARMS SYSTEMS VISUAL AND ACOUSTIC: LOW TEMPERATURE (+2°C), OVER TEMPERATURE (+6°C), DOOR OPEN, MAINS FAILURE AND BATTERY FAILURE. INDEPENDENT BATTERY BACKUP GRAPHIC TEMPERATURE REGISTER. 7 DAY RECORDER, AUTONOMY 6 MONTHS. ACOUSTIC ALARM ON ALL FAIL CONDITIONS. REMOTE ACOUSTIC ALARM.

Models A and B with optional drawer rack.

Model C

Model D

APPLICATIONS

AISI 304 storage cabinets specifically designed and manufactured for blood bag storage.

COMMON FEATURES

Stainless steel. AISI 304. external cabinet and interior lining.
Double glazed antimist, reversible lockable door, easy to change, self close door if left ajar. Hermetically sealed compressor mounted on shock absorbers with evaporator and forced air condenser.
Fan air circulation maintaining homogeneous temperature distribution.
Refrigerant R134a.
Temperature sensors are located and calibrated to read simulated blood bag conditions.
Independently powered circular graphic register.
Microprocessor controlled temperature control via a display that can configure the following parameters:

- **Open code.**
- **Activate external alarm.**
- **Adjust SET.**
- **Adjust alarm.**
- **Calibration.**

CONTROL PANEL

1. Digital display
2. Battery life indicator.
3. Open door indicator.
4. Mains failure indicator.
5. Increase value button.
6. Decrease value button.
7. Validate / RESET alarm.
8. Seven days graphic register.

OPTIONAL COMPLEMENT

Alarm messages transmision
Automatic transmission system of alarm or incident SMS messages by using a GSM module SIM card activated. Ability to connect up to 2 phones.
GSM Module. Part No: 2101622

MODELS	Part No.	Capacity litres	Capacity bags	Height / Width / Depht (interior) cm	Height / Width / Depht (exterior) cm	Power W	Power HP	Number of shelves	Weight Kg
Blood Bank A	2101497	319	110	139 48 45	198 60 64	360	1/4	5	98
Blood Bank B	2101498	442	150	126 58 55	198 70 71	360	1/4	5	111
Blood Bank C	2101499	600	200	136 58 69	207 70 82	350	3/8	5	115
Blood Bank D	2101500	1300	480	136 128 69	208 140 82	1100	3/8	10	190

Comes complete with steel shelves, PVC laminated.

Models A and B with optional rack system.

OPTIONAL ACCESSORIES,

Metallic drawers, to be ordered separately.
Modular rack system of drawers, divided into compartments and subdivided by plastic dividers for different bag classification, bags are placed upright longitudinal.

Blood Bank A,
System of 5 drawers of 18 bags per drawer. Capacity 90 bags.
Part No **1001501**

Blood Bank B,
System of 5 drawers of 30 bags per drawer. Capacity 150 bags.
Part No. **1001502**

Blood Bank C,
System of 5 drawers for 40 bags per drawer. Capacity 200 bags.
Part No. **1001503**

Blood Bank D,
System of 12 drawers (6 in each compartment) for 40 bags per drawer.
Capacity 480 bags.
Part No. **1001504**

Detailed image of the drawers with dividers.

SPARE PARTS

Brackets and shelves

For Bloodbank code	2101497	2101498	2101499 / 2101500
Brackets - 4 units	**1001801**	**1001801**	**1001801**
Shelves	**1001804**	**1001805**	**1001806**

Each shelf requires 4 brackets.

Shaking monitor for blood collection "HEDO2"

FOR BAGS BLOOD COLLECTION PROCESSES. SWINGING PLATFORM.

FEATURES

HEDO2 is a digital blood collection monitor, created to control and monitoring blood collection processes. It has been designed to perform simple, precise and accurate operations.
It is composed of:
-Easily removable tray.
-Wired or wireless interface networking.
-Automatic clamp closing at the end of the donation.
-Automatic tare calculation.
-Real time monitoring of the donation showed on the digital display.
-Stand alone mode (operating with rechargeable battery). 8 hours life.
-Tube sensor presence.
Power supply: 110-220V / 50-60 Hz.

MODEL

Part No.	Max weight Capacity g	Precision g	Resolution g	Height / Width / Depth (external) cm	Power W	Weight Kg
5010000	**999**	**±3**	**1**	**19 32 32**	**60**	**5**

It is supplied with a transport suitcase.

ACCESSORIES

Wireless data transfer Hedo-2. Part No. **5010001**
Wireless connection module Hedo-2. Part No. **5010002**
Barcode reader Hedo-2. Part No. **5010003**
Alarm lamp pool Hedo-2. Part No. **5010004**

Plasma bags defrost baths and temperature controllers for red cells packed “Unitronic-OR”

NEW

“UNITRONIC-OR-4” CAPACITY FOR 4 BAGS.
“UNITRONIC-OR-12” CAPACITY FOR 12 BAGS.
SHAKING SPEED, TIME AND TEMPERATURE DIGITAL ELECTRONIC REGULATION.
FOR REGULABLE TEMPERATURES FROM AMBIENT +5 UP TO 36 °C.
STABILITY ± 0,05 °C. HOMOGENEITY ± 0,1 °C. SET TEMPERATURE ERROR ± 1 °C. RESOLUTION 0,1 °C.

SAFETY:
NORMA DIN 12879.0. SAFETY THERMOSTAT ADJUSTABLE WITH MANUAL RESET FOR SWITCHING THE BATH OFF IN CASE OF OVERTEMPERATURE.

Regulable reciprocal shaking from 10 to 70 oscillations per minute

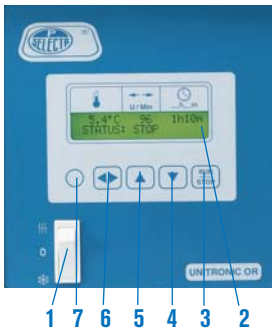
Controllable time from 1 minute up to 99 hours 59 minutes. End of cycle acoustic alarm

RS232

MODELS	Part No.	Bags capacity	Height / Width / Depth (exterior) cm	Power W	Weight Kg
OR-4	3001250	4	40 54 44	1500	25
OR-12	3001251	12	40 74 44	2000	34

FEATURES

Linear motion shaking tray from 10 to 100 oscillations per minute, with a variable stroke length of 32 or 46 mm.
Digital selection and reading of temperature, speed and time.
Temperature sensor: Pt 100 thermo-resistant.
RS-232 outlet for parameter’s reading and printing in a computer.
External case of AISI 304 stainless steel.
Internal tank with an AISI 304 stainless steel rack for the correct accommodation of plasma bags.
Drain tap built-in.



CONTROL PANEL

1. Main switch selector.
2. LCD screen that shows:
- Temperature, oscillations and time.
- Alarms: probe and temperature failure.
- Configuration: °C or °F, calibration and working limits.
3. Start / Stop button.
4. Parameter value decrease button.
5. Parameter value increase button.
6. Temperature, oscillations and time selector button.
7. Configuration button.

Blood bags tube automatic sealer “Sealcom-B”

FOR TUBES FROM Ø 3 TO 6MM.

MODEL

Part No.	Sealing width mm Ø	Height / Width / Depth (exterior) cm	Power sealing W	Weight Kg
5800060	3 to 6	15 16 34	400	7

FEATURES

Metal epoxy covered external case.
AISI 304 stainless steel sealing head.
A microprocessor provides an automatic sealing by dielectric heating when inserting part of the tube in the piston.
Sealing time from 1 to 2 seconds.

CONTROL PANEL

Main switch, with light indicator.
Light indicating operation, sealing and end of sealing.

Manual plasma extractor “PR-B”

NEW

EASY TO USE
MANUAL SYSTEM THAT ACCEPTS ALL KINDS OF PLASMA BAGS.
TRANSPARENT PLATFORM FOR VISUAL CONTROL OF THE PLASMA.
STAINLESS STEEL AISI 304 CABINET.

MODEL

Part No.	Height / Width / Depth (exterior) cm	Weight Kg
5800061	25 17 30	2,6

BATHS: WATER AND OIL, DRY BLOCKS AND ULTRASONIC

Water and oil baths with analogue control	pages	86 to 88
Sand baths	page	87
Circulation pump	page	87
Water and oil baths with digital control	pages	88 to 91
Histology paraffin bath	page	92
Bank of water and oil baths	page	92
Precise shaking baths **Microprocessor control**	page	93 and 94
Viscosimeter bath	page	94
Ultrasonic cleaning baths	page	95 to 97

"The entrepreneur always searches for change, responds to it, and exploits it as an opportunity."
Peter Drucker

BATHS; WATER AND OIL, SAND, AND ULTRASONIC

Summary table of the different models

QUICK OVERVIEW

RS232

BATHS WATER / OIL Range	Model	Control	Safety thermostat	CAPACITY / PART No. 1.5 litres	Stability	RS-232
+30 ... 110 °C	Aquaterm	Thermostat	No	3000916	±2 °C	No
				1 litre		
+30 ... 110 °C	Baher	Thermostat	No	7000540	±3 °C	No
				4 litres		
+40 ... 80 °C	Termofin	Thermostat	No	3000459 (Paraffin)	±1 °C	No
				2.5 litres		
+5 ... 110 °C	Univeba	Thermostat	Yes	3000400	±1 °C	No
				2.5 litres		
+5 ... 200 °C	Univeba	Thermostat	Yes	3000401	±2 °C	No
				11 litres		
+5 ... 110 °C	Termobat	Thermostat	Yes	3000587	±2 °C	No
				11 litres		
+5 ... 200 °C	Termobat	Thermostat	Yes	3000588	±3 °C	No

				2 litres	5 litres	12 litres	20 litres	45 litres		
+5 ... 110 °C	Precisterm	Thermostat	Yes	6000137	6000138	6000140	6000141	6000142	±1 °C	No
+5 ... 200 °C	Precisterm	Thermostat	Yes	6000385	6000386	6000387	6000388	6000389	±2 °C	No
+5 ... 99.9 °C	Precisdig	Digital µ	Yes	-	6001195	6001196	6001197	6001198	±0.1 °C	No
+5 ... 200 °C	Precisdig	Digital µ	Yes	-	6001236	6001237	6001238	6001239	±0.5 °C	No
+5 ... 80 °C	Agibat-20	Digital	Yes	-	-	-	6032012	-	±0.5 °C	No

				2x2 litres	4x2 litres	6x2 litres				
+5 ... 200 °C	Precisbat	Thermostat	No	6001462	6001472	6001482	-	-	±2 °C	No
Baths with stirring or shaking				27 litres						
+5 ... 99.9 °C	Unitronic Reciprocating	Digital µ	Yes	6032011 (Shaker bath)		-	-	-	±0.05 °C	Yes
0 ... 99.9 °C	Unitronic Reciprocating C	Digital µ	Yes	6001173 (Shaker bath)		-	-	-	±0.05 °C	Yes
Baths for viscometers										
+5 ... 100 °C	VB-1423	Digital	Yes	-	-	-	3001423	-	±0.05 °C	No

µ: with microprocessor. +5 indicates ambient temperature +5 °c.

Sand baths

	Model	Control	Height / Widht / Depth (usable) cm			Height / Widht / Depth (usable) cm		
... +400 °C	Combi-Sand	Electronic	5	18	38	5	30	30
Part No.				6000708			6000709	

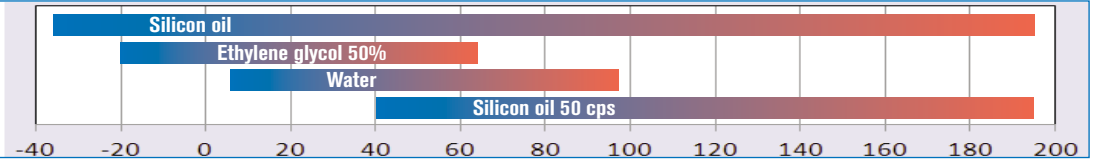
Ultrasonic cleaning baths with heating and with digital electronic regulation.

Part No.	Capacity litres	Height / Widht / Depth (usable) cm			Power heater W
3000865	5	15	24	14	75
3000866	6	15	30	15	75
3000867	10	15	30	24	225
3000868	22	15	50	30	375
3000869	40	20	50	40	1000

Ultrasonic cleaning baths without heating

Part No.	Capacity litres	Height / Widht / Depth (usables) cm		
3000512	1	6	14	14
3000683	2,6	9	23	13
3001208	4	10	30	14
3000513	6	15	30	14
3000837	6,5	14	24	Ø
3000617	9	15	50	14
3000514	9	15	30	23
3000515	20	15	50	30

BATH TEMPERATURE LIQUIDS GUIDE.



Water bath "Aquaterm"

ADJUSTABLE TEMPERATURE FROM 30 °C TO 110 °C. STABILITY ±2 °C.

Economic option

FEATURES

AISI 304 stainless steel tank with epoxy coated base.
Heater element embedded in high temperature, corrosive resistant INCOLOY.

CONTROL PANEL

Temperature regulator thermostat switch, synchronised with an indicator lamp.

MODEL

Part No.	Capacity litres	Ø (usable)	Height cm	Ø (exterior)	Height cm	Power W	Weight Kg
3000916	1.5	20	11.5	22	20.5	640	1.3

ACCESSORIES IN AISI 304. STAINLESS STEEL

Perforated shelf.
Part No. 6000998

Flat Lid with 5 concentric ring set.
Part No. 3000917

Boiling bath "Baher"

ADJUSTABLE TEMPERATURE FROM 30 °C TO 110 °C. STABILITY ±3 °C.

FEATURES

Rapid boiling (6-7 minutes).
AISI 304 stainless steel tank and epoxy coated base.
Heater element embedded in INCOLOY stainless steel.

CONTROL PANEL

Temperature regulator thermostat switch, synchronised with an indicator lamp.

MODEL

Part No.	Capacity litres	Ø (usable)	Height cm	Ø (exterior)	Height cm	Power W	Weight Kg
7000540	1	14	11	15	19	640	1

ACCESSORIES MADE OF STAINLESS STEEL

Lid with bakelite handle.
Part No. 7000572

Rack 24 haemolysis tubes up to 13 mm diameter.
Part No. 7004002

Rack for 24 tubes up to 18 mm diameter.
Part No. 7000541

Perforated shelf.
Part No. 6001194

Water and oil baths "Univeba"

WATER BATH: ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C TO 110 °C STABILITY ±2 °C.
OIL BATH: ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C TO 200 °C STABILITY ±3 °C.

SAFETY:

CONFORMS TO THE DIN STANDARD 12877 BY INCORPORATING A MANUALLY RESET OVER TEMPERATURE SAFETY CUT-OUT.

APPLICATIONS

To be used with a rotary evaporator or as a stand alone Bains Marie bath.

FEATURES

Tank interior and exterior case made of AISI 304 stainless steel. The heater element is embedded in a protective INCOLOY stainless steel shield.

CONTROL PANEL

Illuminated main power switch indicator lamp. Hydraulic temperature thermostat regulator synchronised with an indicator lamp. Safety thermostat cut out indicator lamp.

MODELS

Part No.	Maximum Temperature °C	Capacity litres	Ø (usable)	Height cm	Height / Widht / Depth (exterior) cm			Power W	Weight Kg
3000400	110	2.5	18	13	19	22	27	390	4
3000401	200	2.5	18	13	19	22	27	640	4

ACCESSORIES MADE OF STAINLESS STEEL

1- **Heating element cover shelf.**
Part No. 6000033

2- **Reduction ring** cover lid of 110, 80, 60 and 37 mm Ø. With a thermometer location hole in the lid. Part No. 7004001

3- **Tube rack** for 24 haemolysis tubes up to 13 mm Ø.
Part No. 7004002

4- **Tube support** rack for 24 tubes up to 18 mm Ø.
Part No. 7000541

5- **Thermometer.**
Part No.
1000120 up to 120 °C.
1000873 up to 220 °C.

Water and oil baths “Termobat”

ADJUSTABLE TEMPERATURE FROM AMBIENT+5 °C TO 110 °C. STABILITY ±2 °C TO 200 °C. STABILITY ±3 °C.

SAFETY:
CONFORMS TO THE DIN STANDARD 12877 BY INCORPORATING A MANUALLY RESET OVER TEMPERATURE SAFETY CUT-OUT.

APPLICATIONS

To be used with a rotary evaporator for flasks up to 10 litres or as a stand alone bains marie.

FEATURES

Tank interior made of AISI 304 stainless steel,with an epoxy coated base.
The heater element is embedded in a protective INCOLOY stainless steel shield.

CONTROL PANEL

Main power switch, with luminous indicator lamp.
A hydraulic temperature thermostat regulator is synchronised with an indicator lamp.

Large capacity

MODELS

Part No.	Maximum Temperature °C	Capacity litres	Ø (usable) cm	Height cm	Ø (exterior) cm	Height cm	Power W	Weight Kg
3000587	110	11	29	17	29	25	2100	5.5
3000588	200	11	29	17	29	25	2100	5.5

ACCESSORIES MADE OF AISI 304 STAINLESS STEEL

Reduction ring cover lid of 210, 180, 145, 115 and 80 mm Ø. With a location hole for a thermometer.
Part No. 7000589

Heater element cover shelf.
Part No. 6000055

Thermometer.
Part No.
1000120 up to 120 °C.
1000873 up to 220 °C.

Sand baths “Combiplac-Sand”

ADJUSTABLE PLATE TEMPERATURE UP TO 400 °C.

FEATURES

Electronic energy heater controller. The steel hotplate surface has an evenly distributed heater element providing homogeneous heat distribution.
The non warping AISI 304 stainless steel sand bath can be easily removed for cleaning.
The Hotplate can be used independently without the sand bath. The hotplate casing is made of AISI 304 stainless steel.

CONTROL PANEL

Mains power switch with luminous “On” indicator lamp.
Electronic heater power control between 0 to 100 %.
Heater operation indicator lamp.
The back of the unit is fitted for an electronic thermometer “Sensotherm” or digital electronic controller “Electemp-TFT” described under regulators and controllers (see page 293).

MODELS

Part No.	Height / Widht/ Depth (usable) cm			Height / Widht / Depth (exterior) cm			Power W	Weight Kg
6000708	5	18	38	18	22	41	2300	13
6000709	5	30	30	21	32	35	2800	15

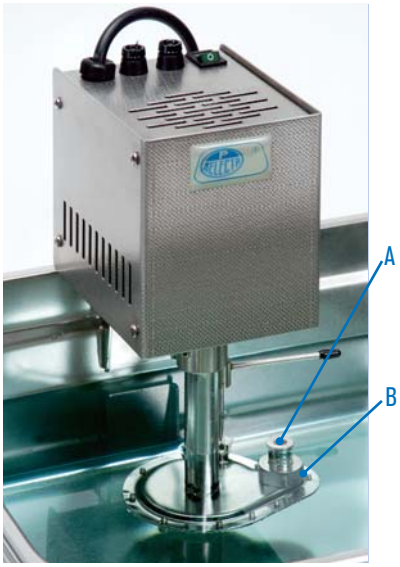
Circulation pump “Ciragit”

FEATURES

Metal construction, with all components in contact with liquid made of AISI 304 stainless steel.
The unit can be adjusted to fit most tanks or baths, can be submerged and held in position by an adjustable height support clamp.
Pump circulation with adjustable flow rates allowing external circulation of liquids.
ON/ OFF illuminated power switch with light when on.
Interchangeable flow output connector:
- position A: Internal tank circulation.
- position B: External circulation.

SPECIFICATIONS

OUTPUT water:
20 °C , 12 l/ min.- 150 mbar
OUTPUT silicon oil:
50 °C 4 l/min.- 130 mbar
Dimensions:
9.5 x 12.5 x 23 cm
Power: 30 W
Weight: 2.5 Kg.
Part No. 3000402



Water and oil baths “Precisterm”

ADJUSTABLE TEMPERATURE RANGE FROM AMBIENT +5 °C UP TO 110 °C, STABILITY ±1 °C.
ADJUSTABLE TEMPERATURE RANGE FROM AMBIENT +5 °C UP TO 200 °C, STABILITY ±2 °C.

Extensive range of sizes and accessories

Stainless steel interior and external case

FEATURES

Capacity; from 2 litres up to 45 litres.
Double skinned tank of AISI 304 stainless steel with an exterior case of AISI 304 stainless steel.
Heating elements embedded in INCOLOY heat and corrosion resistant stainless steel.

CONTROL PANEL

Illuminated mains power switch.
Hydraulic thermostat temperature control, synchronised with the “ON” indicator lamp.
Safety thermostat cut out indicator lamp.

MODELS

Part No.	Maximum Temperature °C	Capacity litres	Height / Widht / Fondo (usable) cm			Height / Widht / Depth (exterior) cm			Power W	Weight Kg
6000137	110	2	15	15	13	20	20	27	390	3.5
6000385	200	2	15	15	13	20	20	27	640	3.5
6000138	110	5	15	30	14	20	37	27	600	6
6000386	200	5	15	30	14	20	37	27	1110	6
6000140	110	12	15	30	30	20	40	42	1100	8
6000387	200	12	15	30	30	20	40	42	1400	8
6000141	110	20	15	48	30	20	58	42	1500	10
6000388	200	20	15	48	30	20	58	42	2100	10
6000142*	110	45	15	62	50	22	69	62	2400	18
6000389*	200	45	15	62	50	22	69	62	3800	18

All water baths are supplied with heating elements protection shelf.
* With built in drain tap.

SAFETY:

DIN 12877 STANDARD.
THE UNIT WILL CUT OUT IF THERE IS INSUFFICIENT LIQUID OR IF THE BATH TEMPERATURE EXCEEDS THE SET TEMPERATURE.
A MANUAL RESET ADJUSTABLE TEMPERATURE SAFETY THERMOSTAT IS PLACED AT THE BACK OF THE UNIT.

ACCESSORIES. See page 91.

Water baths “Precisdig” with or without anti-evaporation folding lid

DIGITAL CONTROL AND DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURE RANGE FROM AMBIENT+5 °C TO 99.9 °C, STABILITY ±0.1 °C, HOMOGENEITY ±1 °C.
ADJUSTABLE TEMPERATURE RANGE FROM AMBIENT+5 °C TO 200 °C, STABILITY±0.5 °C, HOMOGENEITY ±2.5 °C.

SAFETY: DIN 12877 STANDARD. THE UNIT WILL CUT OUT IF THERE IS INSUFFICIENT LIQUID OR IF THE BATH TEMPERATURE EXCEEDS THE SET TEMPERATURE. A MANUAL RESET ADJUSTABLE TEMPERATURE SAFETY THERMOSTAT IS PLACED AT THE BACK OF THE UNIT.

Programmable temperature and time. Interior and exterior made from Stainless steel

MODELS

Part No.	Temperature maximum °C	Capacity litres	Height / Widht / Depth (usable) cm	Height / Widht / Depth (exterior) cm	Power W	Weight Kg
6001195	99,9	5	15 30 14	20 37 27	600	6
6001236	200	5	15 30 14	20 37 27	1100	6
6001196	99,9	12	15 30 30	20 40 42	1100	8
6001237	200	12	15 30 30	20 40 42	1400	8
6001197	99,9	20	15 48 30	20 58 42	1500	10
6001238	200	20	15 48 30	20 58 42	2100	10
6001198	99,9	45	15 62 50	20 69 62	2400	18
6001239	200	45	15 62 50	20 69 62	3800	18

All baths with heating shelf and drainage. Faucet included.

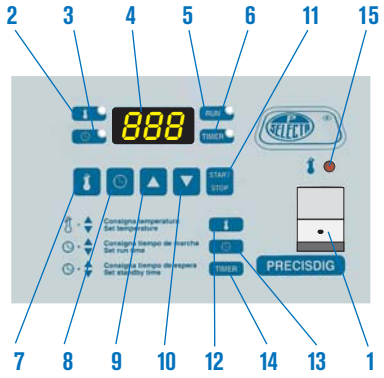
MODELS WITH MAKROLON® FOLDING LID

Part No.	Temperature maximum °C	Capacity litres	Height / Widht / Depth (usable) cm	Height / Widht / Depth (exterior+lid) cm	Power W	Weight Kg
6001186	99,9	12	15 30 30	40 40 42	1100	8
6001187	99,9	20	15 48 30	40 58 42	1500	10
6001188	99,9	45	15 62 50	40 69 62	2400	18

All baths with heating shelf and drainage. Faucet included.

FEATURES

Double skinned tank of AISI 304 stainless steel with an external case of AISI 304 stainless steel.
Heating elements embedded in INCOLOY heat and corrosion resistant stainless steel.
Comes complete with drain tap.



CONTROL PANEL

1. Illuminated mains switch.
2. Temperature mode indicator.
3. Time mode indicator.
4. Temperature and time indicator.
5. Start time indicator.
6. Waiting / delay time indicator.
7. Temperature set button.
8. Time set button.
9. Increase, push button.
10. Decrease, push button.
11. Stop and start time.
12. Read Temperature.
13. Set start up time: from 1 min. to 9 hours 59 min, or up to 99.9 hours once the set temperature has been reached.
14. Set waiting / delay time: from 1 to 24 hours.
15. Safety thermostat indicator lamp.

MAKROLON® FOLDING LID PROPERTIES

Due to its transparency, you can visualize the bath’s inside. It improves temperature stability, and restricts evaporation and pollution

ACCESSORIES. See page 91.

Water bath with inner stirring “Agibat-20” with digital control and display of temperature and time

ADJUSTABLE TEMPERATURE RANGE FROM AMBIENT +5ºC UP TO 80ºC. STABILITY ±0.1°C.
SET TEMPERATURE ACCURACY ±1 °C, WORKING TEMPERATURE PRECISION 0.1 °C.

P.Selecta original model. More space. More accuracy. Economical.

Stirring detail by internal circulation pump.

FEATURES

Double skinned tank, inner case made of AISI 304 stainless steel.
External case of AISI 304 steel.
Submerged heating elements in INCOLOY special alloy.
It comes complete with drain tap.

STIRRING SYSTEM

These baths have an aspiration and outflow internal circulation pump which allow a constant flow stirring.
Flow: 8 litres per minute.

CONTROL PANEL

See page 89.
Three positions switch: only heater, heater + stirring and start/stop.

MODEL WITH MAKROLON® FOLDING LID

Due to its transparency, you can visualize the bath’s inside.
It improves temperature stability, and restricts evaporation and pollution.

MODELS

Part No.	Lid Makrolon®	Maximum Temp °C	Litres Capacity	Height/Width/Depth (usable) cm			Height/Width/Depth (exterior) cm			Power W	Weight Kg
6032012	Yes	80	20	15	48	30	40	58	42	2010	11
6032013	No	80	20	15	48	30	40	58	42	2010	12

All baths with heating shelf and drainage. Faucet included.

ACCESSORIES. See page 91.

SAFETY:

DIN 12877 STANDARD. THE UNIT WILL CUT OUT IF THERE IS INSUFFICIENT LIQUID OR IF THE BATH TEMPERATURE EXCEEDS THE SET TEMPERATURE. A MANUAL RESET ADJUSTABLE TEMPERATURE SAFETY THERMOSTAT IS PLACED AT THE BACK OF THE UNIT.

ACCESSORIES FOR"PRECISTERM", "PRECIDSDIG" AND "AGIBAT-20"

Suitable for all "PRECISTERM", "PECISDIG" and "AGIBAT-20" models.

Removable constant liquid level.
Part No. 6001400
Note: Not compatible with gale and Makrolon® lid.

Fixed, constant liquid level.
Part No. 6000123

Únicamente para baños modelo "PRECISTERM"

Thermometer support with locking screw (up to 40 mm).
Part No. 6000896

Thermometer.
Part No.
1000120 up to 120 °C.
1000872 up to 120 °C, extra long, suitable for Gable lid.
1000873 up to 200 °C, extra long, suitable for Gable lid.

1. **Gable lid** with thermometer location position hole.
2. **Flat lid with concentric reduction rings** of 105, 80, 60 and 37 mm Ø. With thermometer location position hole.
   Note: The perforated lid avoids the lock of the Makrolon® folding lid.
3. **Support frame** for tube racks.
4. **Tube Racks** various tube diameters available.

Capacity litres	Model code AGIBAT-20	Model code PRECISTERM	Model code PRECISDIG	1 Gable lid	2 Lid with concentric reduction rings	3 Support frame
2		6000137 - 6000385		-	6003231 1 place	-
5		6000138 - 6000386 - 6001195*- 6001236*		6000710	6003232 2 places	1001199
12		6000140 - 6000387 - 6001196*- 6001237*		6000711	6003234 4 places	1001200
20	6032012*6032013*	6000141 - 6000388 - 6001197*- 6001238*		6000712*	6003236 6 places	1001201
45		6000142*- 6000389*- 6001198*- 6001239*		6000714	6001603 12 places	1001205

* Comes complete with drain tap. * For all baths except those carrying Makrolon® lid.

Capacity litres	for PRECISDIG baths with Makrolon® lid	2 Lid with concentric reduction rings	3 Support frame
12	6001186	6003234 4 places	1001200
20	6001187	6003236 6 places	1001201
45	6001188	6001603 12 places	1001205

4 Tube racks (requires support frame)									
Part No.	Tube Ø mm	Number of tubes per rack	Rack Dimensions Height / Widht / Depth (usable) cm			Number of racks by bath capacity litres 5	12	20	45
1001202	13	36	8	8.2	23.6	1	3	5	10
1001203	16	24	8	8.2	23.6	1	3	5	10
1001204	20	24	8	8.2	23.6	1	3	5	10

Stabilising rings "circum" prevents flasks from floating when placed in a water bath. Suitable for all types of flasks,erlenmeyers, etc. See page. 177.

Histology paraffin section mounting bath “Termofin”

ADJUSTABLE TEMPERATURE FROM 40 °C TO 80 °C.
STABILITY ±1 °C.

APPLICATIONS

Suitable for the fusion and preservation of paraffin wax in a liquid state that enables the user to see the floated sections.

FEATURES

Aluminium inner tank and lid with a P.T.F.E. matt black coating. Thermometer location hole in the lid to read temperature.

CONTROL PANEL

Mains power ON/OFF switch. Hydraulic temperature thermostat regulator synchronised with an indicator lamp.

MODEL

Part No.	Capacity litres	Ø (usable)	Height cm	Ø (exterior)	Height cm	Power W	Weight Kg
3000459	4	25	10	34	14	430	2.3

Comes complete with lid and thermometer.

ACCESSORY

Thermometer support (can only be used without the lid).
Part No. 6004591
NOTE: Wax dispenser (see page 217).

Bank of oil and water baths “Precisbat”

ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C UP TO 200 °C, STABILITY ± 2 °C.
INDEPENDENT TEMPERATURE CONTROL FOR EACH POSITION.

FEATURES

Inner vessel made of AISI 304 stainless steel with the external case made of AISI 304 stainless steel.
The heater element is embedded in stainless steel INCOLOY alloy, that is corrosion and heat resistant.
Each position has a lid with concentric reduction rings of; 105, 80, 60 and 40 mm in Ø.
An adjustable support frame is mounted at the back of the unit to facilitate the mounting and support of flasks, condensers and other apparatus, etc.
Capacity: 2 litres per position.

CONTROL PANEL

Independent control for each position.
Mains ON/OFF with luminous “ON” indicator lamp for each position.
Hydraulic thermostat temperature control synchronised with the “ON” indicator lamp.

MODELS

Part No.	Temperature maximum °C	Number of places	Height / Widht / Depth (usable each position) cm	Height / Widht / Depth (exterior) cm	Power W	Weight Kg
6001462	200	2	12 14 12	19 35 29	1300	5.5
6001472	200	4	12 14 12	19 67 29	2560	10
6001482	200	6	12 14 12	19 100 29	3800	15

ACCESSORIES

Perforated shelf (One per tank) made of AISI 304 stainless steel. Part No. 6000011

Clamp for supporting flasks and condensers. Part No. 7000403

Thermometer up to 220 °C.
Part No.1000873

Bosshead for supporting clamps.
Part No. 1000069

Precise reciprocal shaking baths controled by microprocessor "Unitronic Reciprocating Shaking Bath" and with refrigeration "Unitronic Reciprocating Shaking Bath C"

UNITRONIC RECIPROCATING SHAKING BATH LINEAR: TEMPERATURE RANGE FROM AMBIENT +5 °C TO 99.9 °C.
UNITRONIC RECIPROCATING SHAKING BATH C LINEAR: TEMPERATURE RANGE FROM 0 °C TO 99.9 °C.
STABILITY ±0.05 °C HOMOGENEITY ±0.1 °C, SET TEMP. ERROR ±1 °C, RESOLUTION 0.1 °C.

SAFETY:
DIN 12877 STANDARD. THE UNIT WILL CUT OUT IF THERE IS INSUFFICIENT LIQUID OR IF THE BATH TEMPERATURE EXCEEDS THE SET TEMPERATURE. A MANUAL RESET ADJUSTABLE TEMPERATURE SAFETY THERMOSTAT IS PLACED AT THE BACK OF THE UNIT.

Reciprocal linear agitation, controllable from 10 to 100 oscillations per minute

Controllable time from 1 minute to 99 hours 59 minutes

MICROPROCESSOR CONTROL WITH DIGITAL DISPLAY AND PUSH BUTTON TEMPERATURE, SPEED AND TIME SELECTION. RS-232 INTERFACE FOR PRINTER OR COMPUTER OUTPUT.

RS232

APPLICATIONS

Cell culture and biological samples, yeasts and general applications that require stable and reproducible temperatures.

COMMON FEATURES

Linear motion sliding tray from 10 to 100 oscillations per minute, with a variable stroke length of 32 or 46 mm.
Digital display and selection of temperature, oscillations and time.
Temperature sensor: thermo-resistant Pt100.
Rack frame support made of AISI 304 stainless steel incorporated in the tank that can accommodate a selection of flasks and racks.
Internal tank made of AISI 304 stainless steel with an external case of AISI 304 stainless steel.
Built in drain tap.
Ventilated hermetically sealed compressor for refrigeration in the "Unitronic - C".

CONTROL PANEL

1. Mains power switch.
2. LCD screen that shows:
   - Temperature, oscillations per minute and time.
   - Alarms: set temperature and probe failure.
   - Configuration: °C or °F, temperature calibration and set working temperature limits.
3. Push button Start/ Stop.
4. Push button to decrease value.
5. Push button to increase value.
6. Push button for parameter selection: temperature, strokes per min. and time.
7. Push button for configuration.

"Unitronic Reciprocating Shaking Bath"

"Unitronic Reciprocating Shaking Bath C" Refrigerated Bath

MODELS	Part No.	Capacity litres	Height / Width / Depth (bath) cm	Height / Width / Depth (support carriage) cm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
UNITRONIC RECIPROCATING	6032011	27	18 48 29	17 35 24	30 74 40.5	1500	25
UNITRONIC RECIPROCATING-C	6001173	27	18 48 29	17 35 24	30 74 63.5	1750	43

ACCESSORIES FOR UNITRONIC RECIPROCATING SERIES

Support Platform for Erlenmeyer flasks.
Made of AISI 304 stainless steel with location holes for various configurations of Erlenmeyer flask clip supports.
Sizes: 50, 100, 250, 500 and 1000 ml.

Part No.	Width / Depth (platform) cm		No. of flasks and capacity per platform 50 ml	100 ml	250 ml	500 ml	1000 ml	Weight Kg
3001004	23.5	34.5	20	12	6	6	3	1

Racks: made of AISI 304 stainless steel.
Capacity: 2 racks.

Part No.	Tube Ø mm	No tubes per rack	Height / Width / Depth (rack) cm		
1001233	13	70	8.5	11	34
1001234	16	48	8.5	11	34
1001235	20	48	8.5	11	34

Adapter clips for Erlenmeyer flasks.
Made of tempered stainless steel.
Part No.

1001003	Adapter for 50 ml.
1000978	Adapter for 100 ml
1000979	Adapter for 250 ml.
1000980	Adapter for 500 ml.
1000981	Adapter for 1000 ml.

Gable Lid: made of AISI 304 stainless steel.
Part No. 6000713

Precision Viscometer Bath "VB-1423"

DIGITAL TEMPERATURE CONTROL FROM AMBIENT +5 °C TO 100 °C.
STABILITY ±0.05 °C. HOMOGENEITY ±0.05 °C. SET ERROR VALUE ±0.09 °C.
RESOLUTION 0.1 °C.

SAFETY:
SAFETY THERMOSTAT CONFORMS TO THE DIN 12876. MANUAL RESET.

Precise constant temperature Kinematic Viscometer Bath

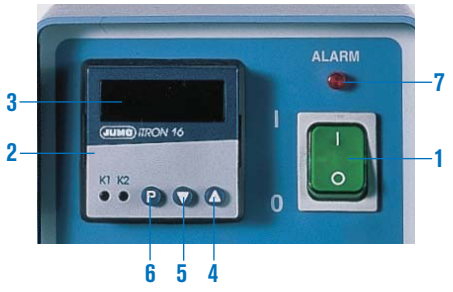
Manufactured for the calibration of viscometers, conforms to UNE 400313, ISO3105, ASTM 445 & 2515 specifications

FEATURES

Temperature sensor; Pt100 thermo-resistor, stainless steel AISI 304 lid with three viscometer locations ports, three independent lids and an additional location port for the control thermometer. The main body of the bath is made of a 20 litre borosilicate glass tank. A white plate is located at the back to help optimize and read the viscometers.

CONTROL PANEL

1. Main power switch with luminous ON.
2. Temperature regulator:
   3. Real time temperature display.
   4. Push button increase value.
   5. Push button decrease value.
   6. Push button configure operation.
7. Safety thermostat safety lamp.



MODEL

Part No.	Temperature control range °C	Capacity litres	Height / Ø (tank) cm		Height / Ø (total) cm		Power W	Weight Kg
3001423	amb.+5 up to 100	20	32	30	47	30	1000	8

ACCESSORIES

Universal viscometer support. made from PTFE with stainless steel AISI 304 support. Suitable for the following viscometers :

- Cannon-Fenske for transparent liquids.
- Cannon-Fenske for opaque liquids.
- Ubbelohde.
- Ostwald.
- BS U Tube.
-Cannon-Manning semi-micro.
- Ubbelohde type BS/IP/SL, BS/IP/SL(S) & type BS/IP/MSL.
- DIN Ubbelohde.

Part No. 1001453

Calibration Chronometers (see page 295).

Thermometers for viscometer baths.
Part No.

1001454	Thermometer ASTM	120C at	38.6 to	41.4 °C	divisions of	0.05 °C.
1001455	Thermometer ASTM	121C at	98.6 to	101.4 °C	divisions of	0.05 °C.
1001456	Thermometer ASTM	91C at	20.0 to	50.0 °C	divisions of	0.1 °C.
1001457	Thermometer ASTM	92C at	40.0 to	70.0 °C	divisions of	0.1 °C.
1001458	Thermometer ASTM	93C at	60.0 to	90.0 °C	divisions of	0.1 °C.
1001459	Thermometer ASTM	94C at	80.0 to	110.0 °C	divisions of	0.1 °C.

Ultrasonic Cleaning Baths "Ultrasons", "Ultrasons UB-1488", "Ultrasons-H", "Ultrasons-HD"and "Ultrasons-P"

FUNDAMENTAL THEORY

The principal of ultrasonic cleaning consists of the use of high frequency sound waves (40 kHz), produced by a generator through a transducer, which propagates them mechanically inside the tank, this produces a cavitation effect which leads to the formation of millions of low pressure microscopical bubbles which carry out molecular cleaning, eliminating impurities, polluting agents and dirt from the parts or material which must be cleaned.
Complex parts can be cleaned without disassembly since the cavitation penetrates wherever the cleaning solution is in contact with the surface.
The generator of these baths is completely transistorised and incorporated, working through the "Sweeping frequency" system, which ensures uniform cavitation at all points of the resonance tank.

COMMON FEATURES

Double bodied tank, made entirely of stainless steel.
Emptying drain, anti-parasite filter, adjustable timer and heating, model dependent.

APPLICATIONS

Laboratories in general: acceleration of chemical reactions, degassing of liquids, cell disruption, cleaning of sieves, pipettes, micro-pipettes, cuvettes, trays, viscometers, decomposition of radioactive substances, etc.
Dentistry: Cleaning of prosthesis, instruments, etc.
Optics: Cleaning of frames, lenses, and contact lenses, etc.

SUMMARY TABLE

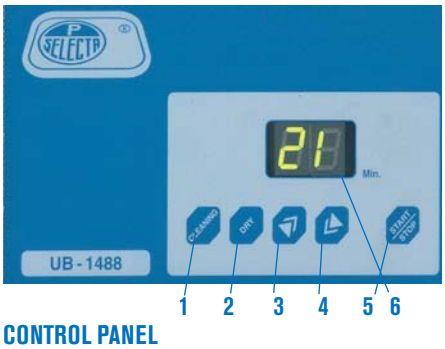
Medicine: Cleaning of instruments in general, forceps, probes, scalpels etc.
Jewellery and Watch making: Cleaning of all kind of watches and jewels.
Industry: Cleaning of all electronic components, printed circuit boards, semiconductors, petrol injector sieves and filters, etc.

Ultrasonic bath, Automatic Lift and Dry "Ultrasons-UB-1488"

Selecta original model. Quick dry, without having to control the instrument

FEATURES

Bath with automatic basket elevator that operates at the end of the time cleaning cycle.
Hot air drying by two-turbine air fans that switch on at the start of the elevation and finalise the complete operation. Waste drain at the front of the instrument.
Removable support basket.



CONTROL PANEL

1. Cleaning time control: 0-15 minutes.
2. Push button drying time: 0-15 minutes.
3. Push button increase value.
4. Push button reduce value.
5. Push button stop / start.
6. Digital timer display.

MODEL

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Generator power W	Power total W	Weight Kg
3001488	6	15	30	14	30	40	34	150	2150	12

Comes complete with basket.

Ultrasonic cleaning baths "Ultrasons" without heating

3 *Part No. 3000513 Cap. 6L*

4 *Part No. 3000617 Cap. 9L*

8 *Part No.3001208 Cap. 4L*

7 *Part No. 3000515 Cap. 20L*

2 *Part No. 3000683 Cap. 2,6 L*

1 *Part No. 3000512, Cap. 1L*

5 *Part No. 3000837 Cap. 6,5L (suitable for sieves and filters etc.)*

6 *Part No. 3000514 Cap. 9L*

CONTROL PANEL

Timer switch for 0 -15 minutes or continuous operation. Indicator lamp when the unit is in operation.

MODELS

Part No.		Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Generator power W	Timer 0-15'	Waste drain	Weight Kg
3000512	1	1	6	14	14	20	20	18	50	Yes	No	2,5
3000683	2	2,6	9	23	13	22	29	19	100	Yes	No	4
3001208	8	4	10	30	14	24	33	18	100	Yes	Yes	7
3000513	3	6	15	30	14	30	36	20	150	Yes	Yes	9,5
3000837	5	6,5	14	24	Ø	30	27,5	Ø	150	Yes	No	8
3000617	4	9	15	50	14	30	56	20	200	Yes	Yes	10,7
3000514	6	9	15	30	23	30	36	30	200	Yes	Yes	13
3000515	7	20	15	50	30	30	56	36	400	Yes	Yes	22

COMPLEMENT

Detergent "BIO-SEL"

Bio-degradable, phosphate free. Excellent cleaning power just by mixing only 20ml per litre of water. BIO-SEL, in a 2% solution has a 9.7 pH level. Low toxicity. This detergent disperses, emulsifies, segregates, dissolves, suspends and breaks down dirtiness.

1000025 Capacity 1 litre.
1000026 Capacity 4 litres.
1000852 Box of 12 x 1 litre bottles.
1000853 Box of 4 x 4 litres bottles.

Baskets

Lids are not compatible with baskets.

Lid with concentric reduction ring

ACCESSORIES

Baskets and Lids.

Made of AISI 304 stainless steel.

Cleaner model Part No.	BASKET Part No.	BASKETS Height / Width / Depth (cm)			LID WITH CONCENTRIC REDUCTION RING Part No.	Number of positions	LID WITH HANDLE Part No.
3000512	6005123	5	11	11	6005122	1	6005121
3000683	6006833	7	20	12	6006832	1	6006831
3001208	6001209	7	26	13	-	-	6005131
3000513	6005133	12	26	13	6005132	2	6005131
3000837	6008373	13	23	Ø	-	-	6008371
3000617	6005144	12	46	12	6005134	3	6005124
3000514	6005143	13	29	23	6005142	2	6005141
3000515	6005153	13	49	29	6003236	6	6005151

Ultrasonic Bath "Ultrasons-Digit"

5 CYCLES ELECTRONIC DIGITAL TIME CONTROL
CAPACITY 1.4 LITRES

FEATURES

Internal tank made from stainless steel, with minimum and maximum level indicator.
External case, basket and lid made from PVC.
Maximum cleaning power , frequency 42 KHz

CONTROL PANEL

Pushbutton start/ stop
Timer 5 programs selection in seconds:
90" - 180" - 280" - 380" and 480".
Wide application range from jewellery, watches, optical components. Dentistry and general laboratory use.

MODEL

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Power W	Weight Kg
5900650	1.4	6	13	16	15	17	22	70	1.75

Comes complete with basket and see through transparent PVC lid.

Model "Elegant".

Heating cleaning bath "Ultrasons-HD"

DIGITAL ELECTRONIC REGULATION OF TEMPERATURE AND TIME
FOR TEMPERATURES FROM AMBIENT +5ºC TILL 80ºC

Optimum cleaning efficiency

It comes complete with a universal basket, lid with handle and drain device.

Bath Part. No. 3000865 (5 Litres capacity) is also supplied with basket for small items.

FEATURES

Double body container, completely made of stainless steel and with waste drain device.

CONTROL PANEL

Illuminated main switch.
Start-stop push button.
Increase/decrease time push button in minutes (from 0' to 60').
Increase/decrease temperature push button in ºC.

MODEL

Part No.	Capacity litres	Height/Width/Depth (usable) cm			Height/Width/Depth (exterior) cm			Power Generator W	Power Heater W	Weight Kg
3000865	5	15	24	14	27	31	18	120	75	3,8
3000866	6	15	30	15	27	35	18	180	75	5,8
3000867	10	15	30	24	35	38	28	240	225	8,2
3000868	22	15	50	30	27	58	35	600	375	15
3000869	40	20	50	40	40	65	50	900	1000	25

It comes complete with a universal basket, small basket for small items, lid with handle and drain device.

Heated Ultrasonic baths "Ultrasons-H"

AJUSTABLE TEMPERATURE FROM AMBIENT +5 °C HASTA 75 °C.

APPLICATIONS

For long pieces cleaning (especially for pipettes) .

Note: For cleaning long objects whose length may exceed that of the tank, such as tubes, pipettes, etc, it has been proved that they are submitted to the same cavitation effect by introducing them in a test tube filled with liquid and placed vertically in the cleaner.

FEATURES

Evenly distributed heating element, adhered to the tank for maximum heat transfer.

CONTROL PANEL

Adjustable thermostat heater.
Heater "on" indicator lamp.
Timer switch from 0-15 minutes or continuous operation.
In operation on indicator lamp.

MODEL

Part No.	Capacity litres	Height/Width/Depth (usable) cm			Height/Width/Depth (exterior) cm			Power Generator W	Power Heater W	Weight Kg
3000839	9	15	50	14	30	56	20	200	800	11

ACCESSORIES

Basket, Height 12/Width 46/Depth12 cm. Part No 6005144
3 Lid with concentric reduction ring. Part No 6005134
Lid with handle. Part No 6005124
See page: 91

Ultrasonic pipette cleaner "Ultrasons-P"

FEATURES

Designed for automatically cleaning and rinsing pipettes, mounted inside a basket, pipettes are ultrasonically cleaned and rinsed.
Minimum rinsing time by using a water siphon action through the inside of the pipettes.
Metallic areas in contact with liquid are made of AISI 316 stainless steel.
The outer casing is made of AISI 304 stainless steel.
Cylindrical vessel in transparent acrylic, with lid to avoid splashing.
Connector(1") water inlet and siphon-drain tube.
Basket with handle in polypropylene for the easy handling and carrying of the pipettes.

CONTROL PANEL

Timer from 0-15 minutes or continuous operation.
Indicator lamp showing when the bath is in operation.

MODEL

Part No.	Capacity litres	Ø / Height (usable) cm		Height / Widht/ Depth (exterior) cm			Power W	Weight Kg
3000910	10	15	64	84	34	40	250	15

IMMERSION THERMOSTATS AND DRY-BLOCKS

Immersion thermostats. Analogue control	page	100
Immersion thermostats. Digital & Touch screen control	pages	101 to 106
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Circulating criothermostat	page	103
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"It is characteristic of science that the full explanations are often seized in their essence by the percipient scientist long in advance of any possible proof."
John Desmond

THERMOSTAT BATHS AND IMMERSION THERMOSTATS

Summary table of the different models

EQUIPMENT FOR STABLE AND PRECISE TEMPERATURE CONTROL.

QUICK OVERVIEW

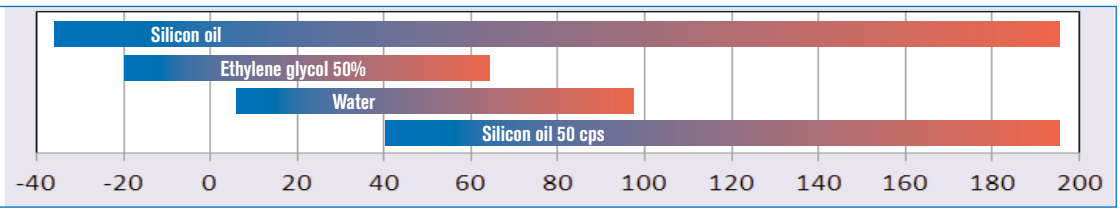
RS232

Range	Model	Part No.	Control	Volume máx. litres	Stability °C	Set error °C	RS-232
+5 ... 100 °C	Termotronic II	3000389	Analogue	20	±0,2	-	No
+5 ... 150 °C	Digiterm-S-150	3000543	Digital µ	20	to 150 °C ±0,05	±1	Yes
+5 ... 200 °C	Digiterm-TFT-200	3000544	TFT Touch screen µ	20	to 200 °C ±0,1 to 100 °C ±0,05	±2	Yes
0 ... 100 °C	Digit-Cool	3001373	Digital µ	20	to 100 °C ±0,05 to 0 °C ±0,05	±1	Yes
+5 ... 150 °C	Digiterm-S-150-20	3000548	Digital µ	20	±0,05	-	Yes
+5 ... 150 °C	Digiterm-S-150-27	3000549	Digital µ	27	±0,05	-	Yes
+5 ... 200 °C	Digiterm-TFT-200 20	3000550	TFT Touch screen µ	20	±0,1	±2	Yes
+5 ... 200 °C	Digiterm-TFT-200 27	3000551	TFT Touch screen µ	27	±0,1	±2	Yes
+5 ... 200 °C	Ultraterm-TFT-200	3000545	TFT Touch screenµ	8	to 100 °C ±0,05 to 200 °C ±0,1	±1 ±2	Yes
-10 ... 100 °C	Frigiterm-TFT-10	3000546	TFT Touch screenµ	8	to 100 °C ±0,05 to 0 °C ±0,05 to -10 °C ±0,1	±1	Yes
-30 ... 100 °C	Frigiterm-TFT-30	3000547	TFT Touch screen µ	8	to 100 °C ±0,05 to 0 °C ±0,05 to -10 °C ±0,2	±1	Yes
+5 ... up to 90 °C	Interheater	6001491	Digital	20 l/min.	-	±1	No
Refrigerated coils							
-20 ... 20 °C	Frigedor	3000778	No controller	20	-	-	No
-20 ... 20 °C	Frigedor-Reg	3001214	Digital	20	±1,5	±1,5	No

THERMOSTATS DRY-BLOCKS Range	Model	Control	Blocks-1	Blocks-3	Blocks-4	Stability	
30 ... 200 °C	Tembloc	Digital µ	7462200	-	-	±0,75 °C	With multiple adapters.
30 ... 200 °C	Multiplaces	Digital µ	-	7471200	-	±0,75 °C	With multiple adapters.
FIXED 37 °C	Clinic-bloc	-	7001569	-	-	±0,5 °C	Capacity 20 tubes of 75 x 13mm. VAC.
FIXED 37 °C	Bio-bath	-	7001561	-	-	±0,5 °C	Capacity 15 cuvettes of 10 x 10mm.
+5 ... 60 °C	TRM-4	Digital µ	-	-	5109200	±0,5 °C	For 4 microtiter plates.
+5 ... 100 °C	TR100-6	Digital µ	5109100	-	-	±0,5 °C	WITH SHAKING. With multiple adapters.

µ: with microprocessor.
+5: ambient +5 °C.

BATH TEMPERATURE LIQUIDS GUIDE.



Thermostat immersion “Termotronic II”

TEMPERATURE CONTROLLABLE FROM AMBIENT +5 °C TO 100 °C.

SAFETY:
STANDARD DIN 12876.
SAFETY OVER TEMPERATURE THERMOSTAT WITH SIGNAL LAMP ALARM

FEATURES

Electronic temperature control.
Pt100 temperature sensor.
Maximum volume to maintain maximum temperate: 20 litres. Heater elements made of INCOLoY stainless steel.
Fitted with a stirring circulating pump.
All parts in contact with liquids made of stainless steel AISI 304
Fixing nut on the side.
Minimum required tank depth: 14 cm

CONTROL PANEL

Illuminated mains switch.
Temperature control selector.
Heater “on” indicator lamp.

MODEL

Part No.	Temp. Range °C	Stability °C	Height / Width / Depth (exterior) cm	Pump Pressure / Flowrate H_2O	Power W	Weight Kg
3000389	Amb.+5 to 100	±0.2	32* 11 16	150 mbar 5 l/min.	1000	2.5

* Height measured with the thermometer included.
It is supplied with a thermometer.

ACCESSORIES

Methacrylate tank “Clinic-Term”

Part No.	Capacity litres	Temp. max. °C	Height / Width / Depth (usable) cm	Capacity Rack	Weight Kg
1000544	8	60	14 16 39	4	2

Racks for the “Clinic-Term” made of AISI 304 stainless steel.
Racks for 50 micro-tubes of 11mm Ø. Part No. 1000546
Racks for 50 haemolysis tubes and coagulation tests with a diameter of 13 mm. Part No. 1000545
Racks for 14 tubes with a diameter of 18mm. Part No. 1000547
Racks for 8 cuvettes for spectrophotometers, 10 mm square, standard for monotest flask of different sizes. Part No. 1000548
Note: The methacrylate tank should not be used over 60 °C.

Methacrylate transparent tank.
Designed to be used with the immersion thermostat “Termotronic II”.

Part No.	Capacity litres	Temp. max. °C	Height / Width / Depth (usable) cm	Capacity Rack	Weight Kg
1000397	7	60	10 20 38	4	2

Rack for 24 haemolysis tubes up to 13 mm Ø, made from AISI304 S.S. Part No. 1002532
Rack for 14 test tubes up to 16 mm Ø, made from AISI 304 S.S. Part No. 1002531

Metal baths. Manufactured with a double external AISI 304 stainless steel skin and an AISI 304 stainless steel pressed bath interior.

Part No.	Capacity litres	Height / Width / Depth (usable) cm	Height / Width / Depth (exterior) cm	Weight Kg
6000390	9	15 29 22	20 34 28	3.5
6000391	12	15 30 31	20 37 35	4.3
6000392*	20	15 48 30	20 55 35	6.6
6000393*	27	20 48 30	25 55 35	7.6
6001093*	45	15 62 50	23 70 56	11

* With drain tap and lifting handles.

IMMERSION THERMOSTATS WITH DIGITAL AND TOUCH SCREEN CONTROL

The most precise solution for maintaining constant liquid temperatures

SAFETY:
STANDARD DIN 12876.
ADJUSTABLE OVER TEMPERATURE SAFETY THERMOSTAT WITH MANUAL RESET AND LOW LIQUID LEVEL FLOAT SENSOR.

COMMON FEATURES

Temperature probe Pt 100.
Heating element made of stainless steel INCOLOY resistant to high temperatures and corrosive environments.
Circulation Pump for internal or external temperature control for:
(Polarimeters, refractometers and viscometers, etc).
Cooling coil to maintain ambient temperatures using tap water.
External temperature control connection using a Pt 100 probe (see page 106).
External metal case coated in a corrosive resistant epoxy.
All parts in contact with liquid are made of AISI 304 stainless steel.

NEW DESIGN

PARTS THAT ARE IN CONTACT WITH LIQUID

-Safety over temperature thermostat.
-Liquid level float.
-Cooling coil.
-Heating element made of stainless steel INCOLOY that can withstand high temperatures and is corrosion resistant.
-Refrigeration coil connections.
-Pt 100 temperature probe.
-Circulation pump.
-Pump outlet for external circulation.
-Circulating pump outlet.

Outlet nut of the fluid flow fixed in A or B interchangeable:
A. Internal stirring within the tank.
B. External circulation.

H_2O FLOW OUTPUT

	Flow l/m
Cuvette inner circulation level	**Up to 7,05**
External circulation level raised to a meter.	**Up to 5,16**

Tests made with silicone tubes of 8 mm internal Ø.

TWO DIFERENT CONTROL SYSTEMS:

REGULATION SYSTEM A **Digital display and** REGULATION SYSTEM B **TFT touch screen.**

DIGITERM-S-150

Specific functions of models with digital screen:
- Real time temperature reading.
- Display resolution 0.1 °.
- Connection device for external temperature Pt100 probe.
- Permanent view of set temperature.
- Low liquid level indication.
- Heating indicator.
- Monitoring temperature: high limit / low limit.
- Automatic calibration of a point.

DIGITERM TFT-200, ULTRATERM-TFT-200, FRIGITERM-TFT-10, FRIGITERM-TFT-30

REGULATION SYSTEM B

Specific functions of models with touch screen:
- Acoustic and visual alarm.
- Clock and calendar.
- Single or cyclic On / Off programming.
- Up to 10 work programs.
- Up to 6 segments per program.
- Stability time in each segment (from 1 min to 99h).
- Power control program (between 10% and 100%).
- Alarms and events storage.
- Probe error detection.
- Self Diagnostics.
- Network failure detection and saving.
- Over temperature and low temperature alarms and memorization (date, start time, end time and temperature).
- Safety thermostat (TS) by software.
- Mechanic safety thermostat (TS).
- USB and RS -232 output.
- PC software.
- User manual on screen .
- Configurable parameters: Date / time, temperature correction , data collection interval, language (English, Spanish and French) , °C / °F selection , over temperature and low temperature limit.
- Temperature control auto-tuning.
- Circulation pump speed control.
- 10 points automatic calibration.

Immersion thermostat with digital control “Digiterm S-150”

ADJUSTABLE TEMPERATURE FROM AMBIENT +5°C TO 100°C.
With external refrigeration from -20 to 100.

High precision temperature control

SAFETY:
STANDARD DIN 12876. 1. SAFETY OVER TEMPERATURE THERMOSTAT WITH ADJUSTABLE MANUAL RESET
2. OVER TEMPERATURE ALARM - 3. LOW LIQUID LEVEL FLOAT

FEATURES

Maximum working volume to maintain maximum temperature: 20 litres.
A clamp and finger screw attach the unit to the tank, alternatively the extendible support bridge accessory can be used.
Minimum fixing depth to the tank: 14 cm.
RS-232 interface for computer control or printing data.

CONTROL PANEL

1. Bath temperature display indicator.
2. Set temperature display indicator.
3. Heater function light indicator.
4. Set value decrease button.
5. Set value increase button.

NEW DESIGN

REGULATION SYSTEM A

MODELS	Part No.	Control range °C	Stability °C	Height / Width / Depth (exterior) cm	Pump Pressure / Flowrate H₂0	Power W	Weight Kg
DIGITERM S-150	3000543	Amb +5 to 150	±0,05	28 18 19	150 mbar-5,6 l/min.	1060	3,9

Accessories (See page. 106).

Immersion thermostat with TFT touch screen “Digiterm TFT-200”

ADJUSTABLE TEMPERATURE FROM AMBIENT +5°C TO 200°C.
With external refrigeration from -20 to 200.

High precision temperature control

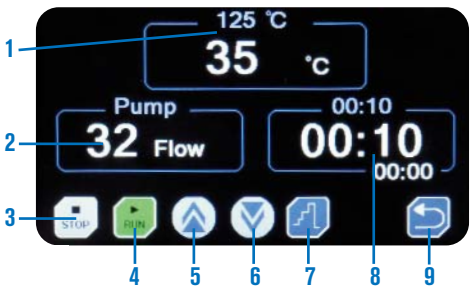
SAFETY:
STANDARD DIN 12876. 1. SAFETY OVER TEMPERATURE THERMOSTAT WITH ADJUSTABLE MANUAL RESET
2. OVER TEMPERATURE ALARM - 3. LOW LIQUID LEVEL FLOAT

FEATURES

Maximum working volume to maintain maximum temperature: 20 litres.
A clamp and finger screw attach the unit to the tank, alternatively the extendible support bridge accessory can be used.
Minimum fixing depth to the tank: 14 cm.
RS-232, USB and Ethernet output.

CONTROL PANEL

1. Set/ current temperature indicator.
2. Pump flow indicator (%).
3. Stop button.
4. Start button.
5. Push up parameter.
6. Push down parameter.
7. Ramps / cycles button.
8. Set / current time indicator in hours / minuts.
9. Return button.



NEW DESIGN

REGULATION SYSTEM B

MODELS	Part No.	Control range °C	Stability °C	Height / Width / Depth (exterior) cm	Pump Pressure / Flowrate H₂0	Power W	Weight Kg
DIGITERM TFT-200	3000544	amb.+5 to 200	at 100 °C ±0,05 at 200 °C ±0,1	28 18 19	150 mbar-5,6 l/min.	2060	4,5

Accessories (See page. 106).

Recirculation thermostat “Ultraterm-TFT-200”

ADJUSTABLE TEMPERATURES
FROM AMBIENT+5 °C TO 200 °C.

NEW DESIGN

REGULATION B SYSTEM

SAFETY:
STANDARD DIN 12876. SAFETY OVER TEMPERATURE THERMOSTAT WITH ADJUSTABLE MANUAL RESET LOW LIQUID LEVEL SENSOR PROTECTION.

FEATURES

Maximum working volume to maintain maximum temperature: 8 litres.
AISI 304 stainless steel top and lid with an inner tank of AISI 304 stainless steel.
Complete with a pump for internal and external liquid circulation with inlet and outlet connectors. A cooling coil to maintain ambient temperatures using tap water is also provided.
A RS-232 interface for print out or computer control comes as standard.
A drain tap is also fitted.

MODEL

Part No.	Capacity litres	Control range °C	Stability °C	Height / Width / Depth (usable) cm	Height / Width / Depth (exterior) cm	Pump Pressure / Flowrate H₂0	Power W	Weight Kg
3000545	8	From amb. +5 to 200 °C With external refrigeration from -20 to 200	to 100 °C ±0.05 to 200 °C ±0.1	15 20 14	36 28 36	150 mbar-12 l/min	2060	9.5

Refrigerated recirculation baths “Frigiterm-TFT-10” and “Frigiterm-TFT-30”

ADJUSTABLE TEMPERATURE FROM -10 °C TO 100 °C. STABILITY: 0 °C TO 100 °C, ±0.05 °C / -10 °C, ±0.1 °C.
ADJUSTABLE TEMPERATURE FROM -30 °C TO 100 °C. STABILITY: 0 °C TO 100 °C, ±0.05 °C / -30 °C, ±0.2 °C.
SET ERROR : ±1 °C. RESOLUTION: 0.1 °C.

NEW DESIGN

REGULATION B SYSTEM

SIN CFC • CFC FREE • SANS CFC

SAFETY:
STANDARD DIN 12876. SAFETY OVER TEMPERATURE THERMOSTAT WITH ADJUSTABLE MANUAL RESET. LOW LIQUID LEVEL SENSOR PROTECTION.

FEATURES

Maximum working volume to maintain maximum temperature: 8 litres.
AISI 304 stainless steel top and lid with an inner tank of AISI 304 stainless steel.
Complete with a pump for internal and external liquid circulation with inlet and outlet connectors. A drain tap is placed at the side of the unit.
A hermetically sealed compressor is mounted on anti-vibration mounts.
A RS-232 interface for connection to a printer or computer.

MODELS

	Part No.	Capacity litres	Control range °C	Height / Width / Depth (usable) cm	Height / Width / Depth (exterior) cm	Pump Pressure / Flowrate H₂0	Power W	Compresser power H.P.	Weight Kg
FRIGITERM-10	3000546	8	-10 + 100	12 20 14	36 66 44	150 mbar-12 l/min	1150	1/8	28
FRIGITERM-30	3000547	8	-30 + 100	12 20 14	36 66 44	150 mbar-12 l/min	1460	3/8	30

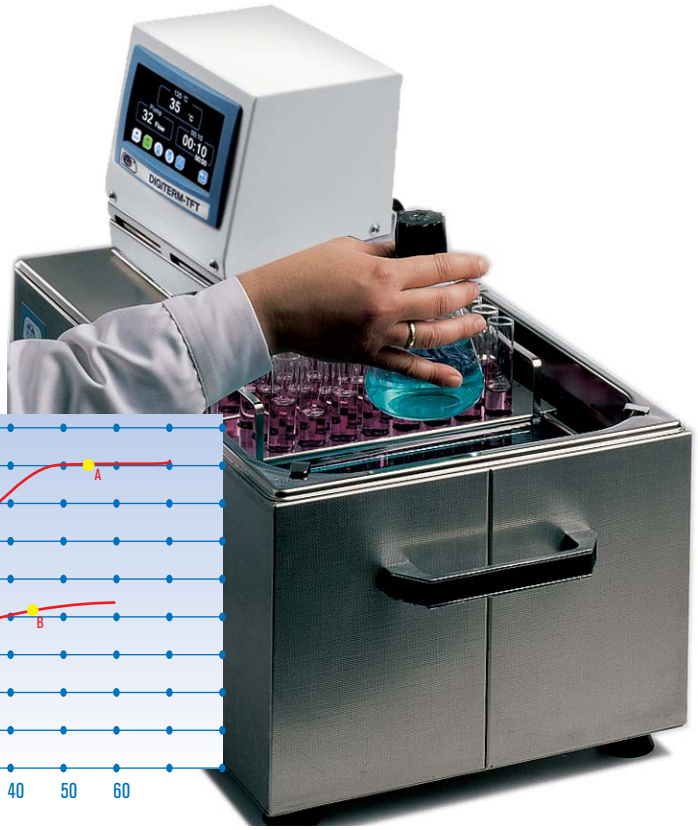
PRECISE CIRCULATING BATHS
Choice of baths and immersion circulators "Digiterm-S-150" and "Digiterm-TFT-200"

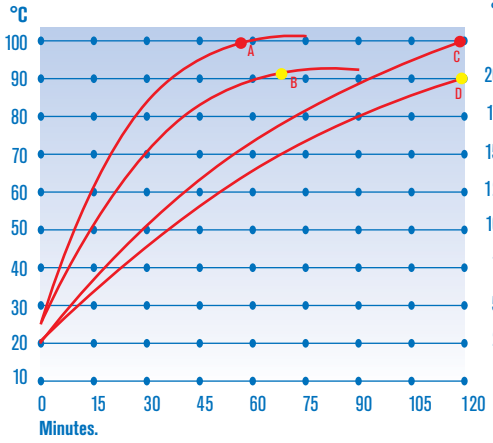
NEW DESIGN

CONTROLLABLE TEMPERATURES FROM AMBIENT +5 °C TO 150 OR 200 °C.
CAPACITY FROM 20 TO 27 LITRES.

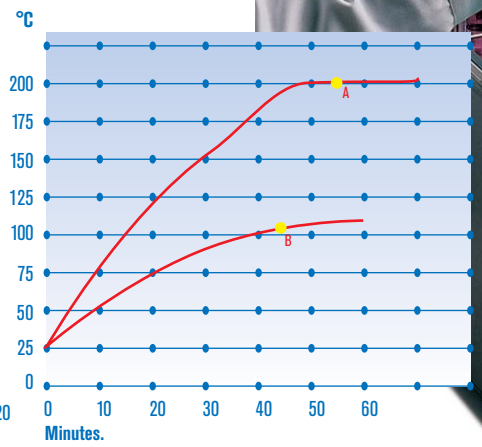
APPLICATIONS
Incubation processes, Enzymatic reactions, Fermentation, laboratory cultures in general.

COMMON FEATURES
Double skinned baths with an AISI 304 stainless steel internal tank with an AISI 304 stainless steel external, for convenience, handles at the side and drain tap are provided as standard. A detachable immersion thermostat for controlling stirring and temperature is fitted. A cooling coil with the use of tap water or cooled re-circulator can be used to maintain ambient temperatures. Internal or external circulation pump (Polarimeters, refractometers and viscometers, etc)





Graph of temperature and time for the Tectron Bio 100 and Digiterm-S-100 and Digiterm-TFT-200, units with capacity of 20 litres.
Tests completed with water up to 100°C:
A. Digiterm-TFT-200 with lid at 100 °C.
B. Digiterm-TFT-200 no lid at 90 °C.
C. Digiterm-S-100 with lid at 100 °C.
D. Digiterm-S-100 with no lid at 90 °C.



Graph of temperature and time for the Digiterm 100 and 200, units with capacity of 20 litres.
Tests completed with Silicon oil up to 200°C:
A. Digiterm-TFT-200 with lid at 200 °C.
B. Digiterm-TFT-200 with lid at 100 °C.
27 litres capacity baths take 20% more time to reach the same temperature.

Bath circulators "Digiterm-S-150"

NEW DESIGN

REGULATION A SYSTEM

CUVETTES SET OF 20 AND 27 L. CAPACITY, WITH THERMOSTATIC EQUIPMENT INCLUDED.
FORT TEMPERATURES FROM AMB+5 TO 150 °C.
STABILITY: ±0.05 °C. RESOLUTION: 0.1 °C.

SAFETY:
SAFETY STANDARD DIN 12876.
SAFETY ADJUSTABLE OVER TEMPERATURE CUT OFF WITH MANUAL RESET.
LOW LIQUID LEVEL CUT OFF.

MODELS	Part No.	Temperature Range °C	Cuvettes Capacity litres	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Pump Pressure mbar	Pump Pump rate l/min	Power W	Weight Kg
DIGITERM-S-150-20	3000548	150	20	15 30 29	36 55 35	150	12	1060	9.2
DIGITERM-S-150-27	3000549	150	27	20 30 29	41 55 35	150	12	1060	10.8

ACCESSORIES see page 106.

Bath circulators “Digiterm-TFT-200”

WITH IMMERSION THERMOSTAT DIGITERM-TFT-200.
CUVETTES SET OF 20 AND 27 L.
FROM AMBIENT +5 °C TO 200 °C. STABILITY ±0.1 °C. SET ERROR ±2 °C. RESOLUTION 0.1 °C.

NEW DESIGN

REGULATION B SYSTEM

SAFETY: CONFORMS TO THE DIN 12876. STANDARD. ADJUSTABLE OVER TEMPERATURE SAFETY CUT OFF WITH ADJUSTABLE MANUAL RESET. LOW LIQUID LEVEL CUT OFF. ELECTRICAL FAULT ALARM.

FEATURES

Temperature sensor probe Pt 100.
Heating element made of stainless steel INCOLOY, resistant to high temperatures and corrosive environments.
Circulation pump with flow rate, suitable for external temperature control for: (Polarimeters, refractometers, viscometers, etc).
Cooling coil to maintain ambient temperatures, using tap water.
External temperature control connection using a Pt 100 probe (see page106).
External metal case with a corrosion resistant epoxy coating.
All parts in contact with liquid are made of AISI 304 stainless steel.
Handles at the side and drain tap.

MODELS	Part No.	Temperatura Range °C	Cuvettes Capacity litres	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Pump Pressure mbar	Pump Pump rate l/min	Power W	Weight Kg
TFT-200 20	3000550	200	20	15 30 29	36 55 35	150	12	2060	10
TFT-200 27	3000551	200	27	20 30 29	41 55 35	150	12	2060	12

ACCESSORIES see page 106.

ACCESSORIES for the DIGITERM-S-150 and DIGITERM-TFT-200. Made of AISI 304 stainless steel.

1. **Gable lid.** Part No. 3001295
2. **Lifting rack support. Capacity 3 tube racks.** Part No. 1001296
3. **Tube racks for lifting rack support.**

Part No.	For Ø tubes mm	Capacity Rack tubes	Height/Width/Depth (exterior) cm
1001202	13	36	8 8.2 23.6
1001203	16	24	8 8.2 23.6
1001204	20	24	8 8.2 23.6

SIN CFC • CFC FREE • SANS CFC

RS232

Immersion thermostat for baths “Digit-Cool”

DIGITAL SELECTOR AND TEMPERATURE CONTROL ADJUSTABLE FROM 0 °C TO 100 °C.
STABILITY: 100 °C ±0.1 °C, AND AT 0 °C ±0.05 °C. SET ERROR: ±0.1 °C. RESOLUTION: 0.1 °C.

SAFETY: STANDARD DIN 12876. SAFETY OVER TEMPERATURE THERMOSTAT WITH ADJUSTABLE MANUAL RESET. LOW LIQUID LEVEL SENSOR PROTECTION.

FEATURES

Maximum volume to achieve the working temperature: 20 litres.
Minimum depth of the elements with contact with the liquid: 15 cm.
Hermetically sealed compressor.
RS-232 out put to a computer control or printer.
Portable control and stirring unit with lifting handle.

Autonomous unit with cooling system

Compressor unit built-in

Digitcool thermostat with bath and 4 place ring set lid.

CONTROL PANEL

Main power switch.
LCD Display showing working parameters.
Push button configuration selector.
Push button parameter selection.
Push button increase/decrease set value.
Start / Stop, push button.

MODEL

Part No.	Control Range °C	Height / Width / Depth (exterior) cm	Pump Pressure / Flow H_2O	Power W	Power H.P.	Weight Kg
3001373	0 +100	45 21 51	150 mbar / 12 l/min	1460	1 / 5	22

ACCESSORIES See page 106.

ACCESSORIES for thermostatic unit digit-cool.

Stainless steel baths.
Double skinned with an AISI 304 stainless steel exterior with a bath of AISI 304 stainless steel interior.
Supplied with a drain tap and lifting handles.

MODELS

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Weight Kg
6000392	20	15	48	30	20	55	35	6.6
6000393	27	20	48	30	25	55	35	7.6

1. Lifting rack support. .
Capacity 3 tube racks. Part No. 1001296

2. Tube racks for lifting rack support.

Part No.	For Ø tubes mm	Capacity Rack tubes	Height / Width / Depth (exterior) cm		
1001202	13	36	8	8.2	23.6
1001203	16	24	8	8.2	23.6
1001204	20	24	8	8.2	23.6

Ring set lid 105, 80, 60 and 37 mm Ø reduction rings and a check thermometer location hole in the lid.
Capacity 4 places.
Part No. 1001374

Digitcool thermostat with bath and 4 place ring set lid.

ACCESSORIES FOR IMMERSION THERMOSTATS

Pt100 temperature sensor with handle
4 mm Ø x 135 mm long submersion.
Supplied with a 150cm cable and connector .
Part No. 1000893

Extension support bridge.
Made of AISI 304 stainless steel, adjustable, to fit the immersion thermostat models "Tectron and "Digiterm".
Support for apertures from 22 to 44 cm across.
Part No. 6001092

Example showing the support bridge. Part No. 6001092.

Stainless steel baths.
Double skinned with an AISI 304 stainless steel exterior and internal bath of AISI 304 stainless steel.

MODELS

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Weight Kg
6000390	9	15	29	22	20	34	28	3.5
6000391	12	15	30	31	20	37	35	4.3
6000392*	20	15	48	30	20	55	35	6.6
6000393*	27	20	48	30	25	55	35	7.6
6001093*	45	15	62	50	23	70	56	11

* With drain tap and lifting handle.

Stainless steel baths, thermally insulated. Ideal for low temperatures. Suitable for J.P. Selecta refrigerated units. Similar to our other bath but with additional internal expanded foam insulation that prevents external condensation or heat loss, working temperature range from –40°C to +90°C.

MODELS

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Height / Width / Depth (exterior) cm			Weight Kg
6003901	9	15	29	22	24	40	34	6
6003921*	20	15	48	30	24	61	41	9
6003931*	27	20	48	30	29	61	41	11

* With drain tap and lifting handles.

Methacrylate baths. Maximum temperature 60 °C.

MODELS

Part No.	Capacity litres	Height / Width / Depth (usable) cm			Thickness mm
1000394	8	15	18	31	6
1000544	9,5	14,5	16,5	39	6
1000395	13	15	23	40	8
1000396	30	20	30	50	8

Removable constant liquid level. Suitable for any type of bath. Adjustable height to obtain the required liquid level.

Part No.
6001400 Bath depth up to 15 cm.
6001800 Bath depth up to 20 cm.

Thermometer support. Stainless steel, suitable for thermometer. Fixation aperture up to 40 mm.
Part No. 6000896

Thermometer.

Suitable for "Tectron-Bio" immersion thermostat. Scale -20 to 100 °C.
Part No. 3009100

Refrigerated cooling coils for baths “Frigedor” and “Frigedor-Reg”

TEMPERATURES FROM -20 °C TO +20 °C.

APPLICATIONS

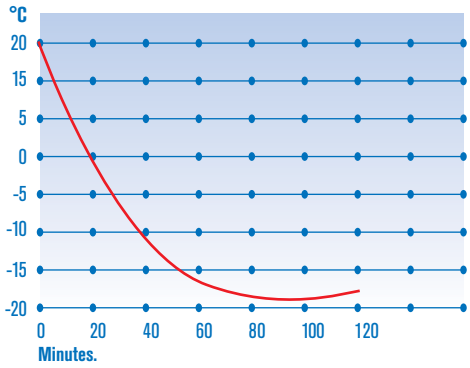
Designed for bath and tank applications that require below ambient temperatures.

COMMON FEATURES

The unit is bench mountable and contains within the epoxy coated case a CFC free hermetically sealed compressor with condenser and evaporator, the cooling coil is made of AISI 304 stainless steel.

COIL DIMENSIONS

Refrigerated immersion length: 900 mm.
Cooling coil Ø: 45 mm.
Coil length: 150 mm.



Graph showing the cooling performance of the 8 litre H_2O “Frigedor” With insulated stirring tank.

MODEL FRIGEDOR

No temperature controller incorporated.
Continually operates the compressor.

CONTROL PANEL

Mains switch with “ON” indicator lamp.

MODEL FRIGEDOR REG

Equipped with a temperature controller with digital control and display. Includes a Pt 100 temperature probe.
Resolution: 1 digit.

CONTROL PANEL

Mains switch with indicator “ON” lamp. Digital temperature controller with push buttons, connector for the Pt 100 temperature probe. (See page 106).

MODELS	Part No.	Temperature range °C	Stability °C	Height / Width / Depth (exterior) cm	Cooling potential	Power W	Weight Kg
FRIGEDOR	3000778	-20 to +20	–	41 21 34	to -20 °C = 50 W	285	14
FRIGEDOR-REG	3001214	-20 to +20	±1.5	41 21 34	to -20 °C = 50 W	285	14

We recommend our thermally insulated baths (see page 106).

Water recirculators “Interheater”

FROM AMBIENT +5°C TO 90°C .

SAFETY: STANDARD DIN 12876. OVER TEMPERATURE SAFETY ADJUSTABLE THERMOSTAT WITH MANUAL RESET.

DESCRIPTION

Water circulation unit, designed to feed closed water loop circuits for condensers, distillation columns, reactor jackets, viscometers, electrophoresis baths etc. designed specifically for:
- Constant temperature.
- Constant pump rate of refrigerated fluid.
- Closed loop circuit, avoids the build up of scale in cooling coils,and cooling circuits.

FEATURES

Digital electronic temperature regulation.
Circulation flow: 20 L/min.
Inox covered steel case.
RS-232, USB and Ethernet output for recording temperatures.
Hose connectors Ø 12mm internal.
230V single phase.
INTERHERATER Heating power 2 or 4 KW control panel selectable.

CONTROL PANEL

Mains switch.
Digital temperature control.
Pressure gauge.
Water level in the reservoir.
“Autotunning” function for optimizing the temperature control of each facility.
Supports 9 programmable temperature profiles including temperature ramps and steps.

MODEL

Part No.	Height / Width / Depth (exterior) cm	Regulation range °C	Power W	Weight Kg
6001491	70 43 56	5 to 90	4100	22

ACCESSORY

Roll of 25 m of reinforced silicone hose.
Part number 1001540

THERMOSTAT DRY-BLOCKS

WITH DIGITAL ELECTRONIC CONTROL OF TEMPERATURE AND TIME

SAFETY: CONFORMS TO EN 61010 DIRECTIVE, OVER TEMPERATURE CUT OUT SYSTEM.

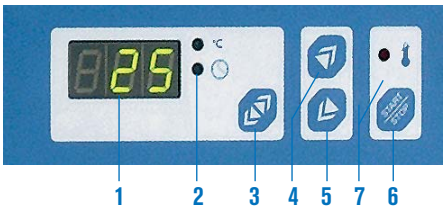
High precision. Free from contamination.

APPLICATIONS

Clinical, biochemical and chemical laboratories.
Incubation of DNA, enzyme assays, residual testing in dairy, incubation and fusion of AGAR, cell culture.
Thermo control to dry, boiling, evaporation, concentration, hydrolysis, digestion etc.

COMMON FEATURES

Dry block systems have several advantages over wet contact methods such as: no risk of evaporation of heating liquid, higher working temperatures, better long term temperature stability and no sample cross contamination or germination of bacteria in the bath.
Digital temperature calibration. Timer from 1 to 999 minutes or continuous operation. Over temperature alarm.
Heating elements are distributed evenly across the contact surface maintaining an even distribution of heat.
Easy to use digital temperature and time control with a digital display (3 Digits).
Built in temperature sensor Pt 100.
Interchangeable blocks made of anodised DURAL alloy to accommodate a variety of tube diameters.
(Customer specific sizes also available.)
External case made of epoxy covered steel with an AISI 304 stainless steel top.



CONTROL PANEL

1. Digital display showing temperature and time in minutes.
2. Indicator show displayed parameter (Time or temperature.).
3. Push button selector to show time or temperature.
4. Push button increase displayed value.
5. Push button decrease displayed value.
6. Push button Start / Stop.
7. Over temperature alarm indicator.

Dry block heater for tubes “Tembloc”

ACCESSORIES

Metal blocks, size: 105 Ø x 55 mm high.
Part No.
7000346 for 34 x 6 mm Ø tubes
7000714 for 18 x 1.5 ml. Eppendorf tubes
7001224 for 24 x 12 mm Ø tubes.
7001618 for 18 x 16 mm Ø tubes.
7000208 for 8 x 20 mm Ø tubes.
7000256 for 6 x 25 mm Ø tubes.
7000715 Blank block with no holes for customized demand.

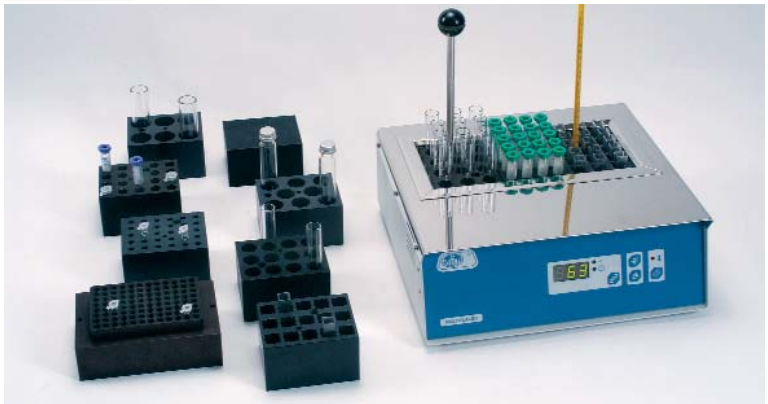
MODEL

Part No.	Temperature °C	Stability °C	Homogeneity %	Set error %	Resolution °C	Height / Width / Depth (exterior) cm	Power W	Weight Kg
7462200	30 - 200	±0.75	±1.5	±2	1	11 19 29	350	3.7

Supplied complete with thermometer 0-200 °C and extraction tool for blocks.

Dry Block heater for tubes “Multiplaces”

CAPACITY: THREE BLOCKS.



ACCESSORIES

Metal Blocks: 55 high x 95 wide x 75 mm deep.
Part No.
7000306 For 30 x 6 mm Ø tubes (total 3 blocks = 90 tubes).
7000716 For 20 x 1.5ml, Eppendorf tubes. (total 3 blocks = 60 tubes.)
7031220 For 20 x 12 mm Ø tubes (total 3 blocks = 60 tubes).
7031612 For 12 x 16 mm Ø tubes (total 3 blocks = 36 tubes).
7003208 For 8 x 20 mm Ø tubes (total 3 blocks = 24 tubes).
7001256 For 6 x 25 mm Ø tubes (total 3 blocks = 18 tubes).
7000717 Blank block without holes, can be customised to customer requirements.
7001474 Block for 15 cuvettes 10 x 10. Capacity: 3 blocks.
7001475 Block for 96 well microplates of 1.2 ml. Capacity: 1 block.

MODEL

Part No.	Temperature °C	Stability °C	Homogeneity %	Set error %	Resolution °C	Height / Width / Depth (exterior) cm	Power W	Weight Kg
7471200	30 - 200	±0.75	±1.5	±2	1	11 31 31	700	7.4

Supplied complete with thermometer 0-200 °C and extraction tool for blocks.

Metallic thermostat dry block “Clinic-Bloc” and “Bio-Bath”

FIXED TEMPERATURE OF 37 °C WITH CHECK THERMOMETER.

SAFETY: NORM EN 61010. OVER TEMPERTURE CUT-OUT FITTED.

“CLINIC-BLOC”
Capacity 20 tubes (5x4) of 75x13 mm. VAC. Part No.7001569

“CLINIC-BLOC” 1537
Capacity 15 cuvettes (5x3) of 10x10 mm. Part No. 7001570

For VAC tubes (75x13)
Part No. 7001569

For cuvettes (10x10)
Part No. 7001570

MODEL

Part No.	Height / Width / Depth (exterior) cm	Stability °C	Power W	Weight Kg
7001569	11 18 28	±0.5	10	2.4
7001570	11 18 28	±0.5	10	2.4

“BIO-BATH”
Capacity 8 tubes (5x4) of 75x13 mm VAC.

MODEL

Part No.	Height / Width / Depth (exterior) cm	Stability °C	Power W	Weight Kg
7001561	8.8 9.6 7	±0.5	8	0.5

Thermo shaker “TRM-4” for Microtiter plates

WITH ELECTRONIC CONTROL AND DIGITAL DISPLAY OF TEMPERATURE, SHAKING SPEED AND TIME.
FOR TEMPERATURES FROM AMBIENT +5 °C. TO 60 °C. STABILITY ± 0,5 °C.

NEW DESIGN

APPLICATIONS

For clinical analysis, immunology and nutritious quality control use.

FEATURES

External ABS case with a platform for heating and shaking 2-4 96-well Microtiter plates.
Upper lid with aluminium plate coated inside, and simultaneous heating system to the main platform.
Digital display of current and set point temperature, time and shaking speed parameters.
Acoustic and luminous indications at the end of the cycle and due to malfunction in temperature or time programmed.
A built-in motor generates a uniform movement depending on the speed programmed, protected to over temperature with auto switch off and switch on activation.
Temperature calibration to meet the user’s needs.
Protection device for over temperature that provides safety and reliability.

CONTROL PANEL

LCD display indicating temperature, speed in r.p.m. and time.
Push button SET to program temperature, speed in r.p.m. and time.
Push button ▲ increase value.
Push button ▼ decrease value.
Push button START / STOP for starting and stopping the shaking system.
Push button OFF for any function.

Cover inner plate with heating system.

SPECIFICATIONS

Temperature: Ambient +5ºC to 60ºC.
Heating time: ≤23 min (to 60ºC).
Shaking range: 100-1200rpm.
Orbital rotation: 2mm.
Timer: From 1 min. to 99h. 59 min.

MODEL

Part No.	Temperature °C	Stability °C	Block homogeneity °C	Height / Width (platform) cm	Height / Width / Depth (exterior) cm	Power W	Weight5 Kg
5109200	ambient +5 to 60	±0,5	±0,5	21,5 30	18 40 39	132	9.5

Metallic dry block thermo shaker "TR100-G"

WITH ELECTRONIC CONTROL AND DIGITAL DISPLAY OF TEMPERATURE, SHAKING SPEED AND TIME. FOR ADJUSTABLE TEMPERATURE FROM AMBIENT +5 ºC. UP TO 100 ºC.

APPLICATIONS

Wide applications of TR100-G for DNA analysis, lipids and other cellular components extraction, DNA libraries creation, DNA amplification, electrophoresis pre-denaturalization, serum solidification, etc.

FEATURES

External ABS case with multiadapter device for different blocks depending on the analysis to be made.
Digital display of current and set point temperature, time and shaking speed parameters.
Acoustic and luminous notification at the end of the cycle and due to malfunction in temperature or time programmed.
A built-in motor generates a uniform movement depending on the speed programmed, protected to over temperature with auto switch off and switch on activation.
Temperature calibration to meet the user's needs.
The thermostat includes a heater platform to adapt multiple blocks, depending on the analysis to be made.
Protection device for over temperature that provides safety and reliability.

CONTROL PANEL

LCD display indicating temperature, speed in r.p.m. and time.
Push button SET to program temperature, speed in r.p.m. and time.
Push button ▲ increase value.
Push button ▼ decrease value.
Push button START / STOP for starting and stopping the shaking system.
Push button OFF for any function.

SPECIFICATIONS

Temperature: Ambient +5ºC to 100ºC.
Heating time: ≤23 min (to 100ºC).
Shaking range: 200-1500rpm.
Orbital rotation: 2mm.
Timer: From 1 min. to 99h. 59 min.

MODEL

Part No.	Temperature ºC	Stability ºC	Block homogeneity ºC	Height / Width / Depth (exterior) cm	Power W	Weight Kg
5109100	ambient +5 to 100	±0,5	±0,5	18 21 30	88	9.5

ACCESSORIES

ABS coated **metallic blocks** adapted to TR100-G thermostat by means of fixing screws to the block. Easy to clean and autoclavable.

For 24 tubes of Ø 11mm.
Depth: 30 mm.
Part No. 5109101

For 12 tubes of 15 ml.
Ø Up to 15 mm.
Depth: 100 mm.
Part No. 5109102

For 6 tube of 50 ml.
Ø Up to 28 mm.
Depth: 100 mm
Part No. 5109103

For 96 microtubes of 0,2 ml. with polypropylene lid.
Part No. 5109104

For 54 microtubes of 0,2 ml. with polypropylene lid.
Part No. 5109105

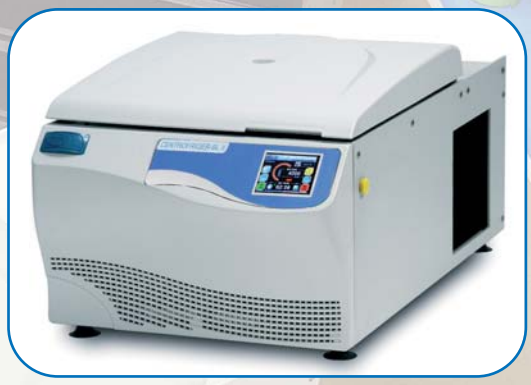
For 15 microtubes of 0,5 ml. and 20 microtubes of 1,5 ml. with polypropylene lid.
Part No. 5109106

For 35 microtubes of 1,5 ml. with polypropylene lid.
Part No. 5109107

For 35 microtubes of 2 ml. with polypropylene lid.
Part No. 5109108

Thermocycler for thermal cycles "B960" See page 238.

CENTRIFUGES



Hand operated centrifuges	**page**	**114**
Microtubes and vials centrifuge	**page**	**114**
Centrifuge angle rotor for 15 ml.	**page**	**114**
Digital electronic control centrifuges	**pages**	**115 to 117**
High speed centrifuges and refrigerated	**pages**	**118 to 131**
TFT Touch screen control		
Centrifuges for flasks and blood bags	**page**	**123 to 131**
Tubes of glass and plastic and buckets	**page**	**132**
Kit for blood and plasma centrifuges	**page**	**133**

"Inspiration exists, but you can only find it by working for it"
Pablo Picasso

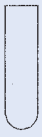
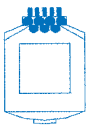
Centrifuge comparison by model and tube capacity

Description	Micro-haematocrit	Reaction vial	Reaction vial	Hemolisis	Glass
Capacity		0.25/0.5 ml	1.5/2.2 ml	5 ml	7 ml
Dimensions	Ø 1.4 x 75 mm	Ø 6,3/7 x 47/49 mm	Ø 10.7/13 x 42 mm	Ø 12.5 x 75 mm	Ø 12 x 100 mm
Description			Tube RIA	Tapval or VAC tube	
Capacity			5 ml	5 ml	
Dimensions			Ø 12 x 55/75 mm	Ø 13 x 75/80 mm	

SUMMARY TABLE OF CENTRIFUGES BY MODEL IN RELATION TO VOLUME, CAPACITY SPEED AND MAXIMUM RCF (G). *QUICK OVERVIEW*

Model	Part No.	Max. Volume ml	Max. Volume of tube ml	R.p.m. max.	R.c.f. max. (xg)					
Manual	7000014	30	15	1500	360					
	7000015	60	15	1500	360					
	7000016	2 x butyrometer	–	1500	370					
Cencom II	7002240	90	15	4000	1760					
Centro 4-BL	7002560	20	5	5000	2907				4	
Centro 8-BL	7002356	120	15	4500	2515				8	8
Centrolit II-BL	7002357	40,5	2,2	12000	14103	24	18	18		
Centromix-BLT	7002556	120	25	12000	14200				8	4
Mixtasel-BLT	7002576	400	100	4200	2901				24 16	24
Centronic-BLT	7001768	400	100	13500	19048	24	40	30	24 16	24
Centrofriger-BLT	7001769	400	100	15300	23550	24	40	30	24 16	24
Meditronic-BLT	7001476	800	200	11000	12619			30 48	48 28	48
Medifriger-BLT	7001477			15000	23470					
Macrotronic-BLT	7001485	2000	500	10000	12296			80	80 48	96
Macrofriger-BLT	7001486			12000	17706					
Macrofriger-BLT-Blood	7001490	9600	1000	4070	5370					144

See page 132 for tubes and accessories. Tubes supplied as an accessory unless stated.

Plastic with cap	Glass	Glass	Plastic with cap	Glass	Falcon	Glass	Bottle	Glass	Bottle	Bottle	Butyrometer	ASTM
10 ml	15 ml	25 ml	30 ml	50 ml	50 ml	100 ml	200 ml	250 ml	500 ml	1000 ml		
Ø 16.1 x 81.1 mm	Ø 16 x 100 mm	Ø 24 x 100 mm	Ø 25.3 x 92 mm	Ø 34 x 100 mm	Ø 29.5/35 x 117 mm	Ø 44/45 x 100 mm	Ø 56.5 x 104 mm	Ø 56 x 147 mm	Ø 69 x 159 mm	Ø 98/100 x 160-175 mm		Ø 58 x 158 mm
												
Tapval or VAC tube	Falcon				Plastic with cap				Blood bag	Microtiter		ASTM
10 ml	15 ml				80/85 ml				500/600 ml	6x96		100 ml
Ø 16 x 100 mm	Ø 16/23 x 120 mm				Ø 38 x 112 mm					Ø 85 x 130 mm		Ø 37 x 200 mm
												
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16	18 16	8	8	8	4	4						
10 16	18 16	8	8	8	4	4						
10 16	18 16	8	8	8	4	4						
20 28	28 12	8	6	8	4 6	6	4			6x96		
20 68	68 16	36	20	16	8 6	4	4	4	4	12x96		4 4
	102	54		24		12	6		6 12	6		

Hand operated centrifuges

FEATURES

For 15 ml and butyrometer tubes.
Comes with a table holding clamp.
Adaptable heads for 2 or 4 x 15 ml tubes or for 2 butyrometer tubes.

MODELS

Part No.	Comes with head for	Max. speed r.p.m.	Max. R.c.f.	Weight Kg
7000014	2 tubes	1500	360	1.1
7000015	4 tubes	1500	360	1.2
7000016	2 butyrometers	1500	370	1.2

Comes with head and metal buckets.

Head for two tubes.
Part No. 7000017
Head for four tubes.
Part No. 7001388

Bucket for 15 ml tubes.
Part No. 7001500
Head for two butyrometers.
Part No. 7000018

Centrifuge Angle rotor "Cencom II"

WITH ANGLE ROTOR FOR 6 X 15 ml TUBES AND 6 ADDITIONAL ADAPTERS FOR 15 ML FALCON TUBES.
DIGITAL ELECTRONIC CONTROL OF SPEED AND TIME. ADJUSTABLE SPEED UP TO 4000 r.p.m. (1790 R.c.f.)

SAFETY:

SAFETY ACCORDING TO EN. 61010.2.020 SAFETY MICRO-SWITCH THAT DISCONNECTS THE POWER TO THE MOTOR WHEN THE LID IS OPENED. PROTECTIVE FUSE LOCATED AT THE BACK OF THE INSTRUMENT.

APPLICATIONS

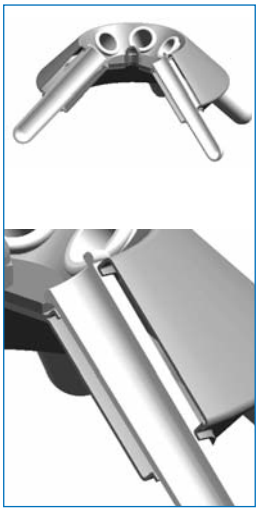
General laboratory use and teaching.

FEATURES

External case made from coated ABS plastic.
Rubber suspended motor, reduces any motor vibrations.
Fixed angle 6 place rotor with identification code.
Transparent polycarbonate lid that allows the user to see inside the centrifuge.
Speed selection from 1000 to 4000 r.p.m. in 500 r.p.m. steps.
Time selection from 1' to 60' in steps of 1'.

CONTROL PANEL

Digital display of speed and time.
Push button Start-Stop.
Push button selector for speed and time.
Push button increase value.
Push button decrease value.



Cross section view of the angle rotor showing bucket and bucket support.

MODEL

Part No.	Tube capacity ml	Height/Ø (exterior) cm	Max. speed r.p.m.	Max. R.c.f.	Power W	Weight Kg
7002240	6 x 15	28 26	4000	1760	80	4.5

Supplied complete with 6 x 15 ml tubes with adapters and 6 adapters for 15 ml Falcon tubes.

ACCESSORY

Adapter. Suitable for 13 Ø x 75 mm VAC tubes. Rotor capacity, 6 adapters.
Part No. 1001556

Digital microprocessor controlled Centrifuges, Series BL and BLT

INDUCTION DRIVE, MAINTENANCE FREE (NO CARBON BRUSHES).
-SPEED CONTROL BY VARIABLE FREQUENCY SYSTEM.
-RELIABLE FUNCTIONS AND REPEATABILITY.
-LOGICAL EASY TO USE CONTROL PANEL.
-SUSPENDED, DAMPENED VIBRATION FREE MOTOR DRIVE, GUARANTEES SMOOTH OPERATION.
-QUIET OPERATION, INTERNAL INSULATION WHICH ABSORBS NOISE AND VIBRATIONS.
-SUCTION SUPPORT FEET THAT PREVENTS BENCH CREEP.

SAFETY:

AUTOMATICALLY STOPS IF OUT OF BALANCE.
LID CANNOT BE OPENED IF THE MOTOR IS RUNNING.
SYSTEM CANNOT BE STARTED IF THE LID IS OPEN.
SPEED LIMITED BY EACH ROTOR.

TWO DIFERENT CONTROL SYSTEMS: REGULATION SYSTEM A **Digital display and** REGULATION SYSTEM B **TFT touch screen**

CENTROLIT II-BL - CENTRO 4-BL - CENTRO 8-BL

REGULATION SYSTEM A

Specific functions of models with digital screen:
-Electronic control of speed.
-Electronic control of time.

CENTROMIX BLT - MIXTASEL BLT - CENTRONIC BLT - CENTROFRIGER BLT - MEDITRONIC BLT - MEDIFRIGER BLT - MACROTRONIC BLT - MACROFRIGER BLT - MACROFRIGER BLT-BLOOD

REGULATION SYSTEM B

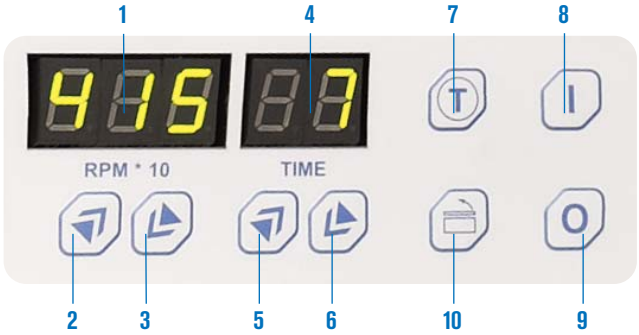
Specific functions of models with touch screen:
- Acoustic and visual alarm
- 10 working programs with 6 parameters for each program: acceleration, braking, rpm, time, type of rotor.
- Network failure detection and storage.
- Safety thermostat (refrigerated models only).
- USB output.
- Software for PC
- Temperature correction (refrigerated models only).
- Languages: Spanish, English and French.
- Overtemperature and Low temperature alarm.
- Manual user on screen.
- Rotors list available on screen.
- Door open alarm.
- Centrifugation cycles with up to 4 time-speed steps.
- Rotor and motor running hours log.

CENTRIFUGES ELECTRONIC DIGITAL CONTROL
"Centrolit II-BL", "Centro-4-BL", "Centro-8-BL",
With induction drive maintenance free motor.

SAFETY:
UNE-EN 61010.2.020. ELECTROMAGNETIC LID LOCK, PREVENTS THE OPENING OF THE CENTRIFUGE IF THE ROTOR IS IN MOTION. PREVENTS THE STARTING OF THE MOTOR IF THE LID IS OPEN. ROTOR AND BUCKETS ARE IDENTIFIED BY LASER SIGNAL. AUTOCLAVABLE.

COMMON FEATURES

Electronic control with digital display of speed and time, with acceleration and brake ramp.
Timer controllable from 1' to 60' or continuous operation.
Rubber suspended motor that guarantees a smooth operation.
Digital speed display.
Pulse button, that drives the motor while pressed.
Automatic stop if out of balance, with indicator light.
Suction base supports that adhere to the work bench surface.
Quiet operation, insulated interior that absorbs noise and vibrations.
In the case of mains failure, manual open override aperture.
Noise level 50-60dBA.
Rotors and buckets with laser identification.
Autoclavable.



CONTROL PANEL

1. Speed display.
2. Push button increase speed.
3. Push button reduce speed.
4. Run Time display.
5. Push button increase run time.
6. Push Button decrease run time.
7. Push button pulse start (RUN/STOP).
8. Push button start.
9. Push button stop.
10. Push button open lid.

Centrifuge "Centrolit II-BL"

SUITABLE FOR HAEMATOCRIT AND SMALL VIALS OF 0.25/0.5 ml AND TUBES OF 1.5/2.2 ml.
FREE MAINTENANCE INDUCTION DRIVE MOTOR.

ABS plastic moulded external case.

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depth (exterior) cm	Power W	Weight Kg
7002357	66.6	18 x 1.5 / 2.2 ml	20 28 34	200	6.5

SPARES. Tubes (see page 132).

ACCESSORIES

Interchangeable rotors made of hardened anodised aluminium. Autoclavable.

Part No. head	Rotor type	Volume rotor	Tube capacity maximum	Max. R.p.m.	Max. R.c.f. (xg)
7001704	Micro-haematocrit	-	24 x 1.4 mm Ø	12000	13143
7001703	Angle+lid	40.5 ml	18 x 0.25/0.5 ml + 18 x 1.5/2.2 ml	12000	14103
7001702	Angle PCR	6,4 ml	32 x 0.2 mm Ø	12000	12500

Angle rotors supplied without tubes.
Micro-haematocrit rotor supplied with one box of 100 tubes.

Micro-haematocrit reader.
Suitable for micro-haematocrit rotor 7001704.
Part No. 7000929

Centrifuge “Centro-4-BL”

WITH SWINGOUT HEAD FOR 4 TUBES OF 75 X 13 mm VAC.
FREE MAINTENANCE INDUCTION DRIVE MOTOR.

Control panel features (see page 116).
Centrifuge kit for separating plasma rich platelets from whole blood.

MODEL

Part No.	Height / Width / Depht (exterior) cm			Power W	Max. R.p.m.	Max. R.c.f. (xg)	Weight Kg
7002560	20	28	34	170	5000	2907	6

Rotor comes without tubes.

ABS plastic moulded external case.

Centrifuge “Centro-8-BL”

WITH ANGLE ROTOR FOR 7-15 ml TUBES AND 75 X 13 mm VAC (WITH ADAPTERS).
FREE MAINTENANCE INDUCTION DRIVE MOTOR.

Control panel features (see page 116).

ABS plastic moulded external case

MODEL

Part No.	Max. Volume ml.	Tube capacity	Height / Width / Depth (exterior) cm			Power W	Max. R.p.m.	Max. R.c.f. (xg)	Weight Kg
7002356	120	8 x 15 ml	20	28	34	170	4500	2515	6.5

Supplied complete with 8 x 15 ml glass tubes.

ACCESSORIES

Bucket adapter for 7 ml tubes.
Rotor capacity: 8 adapters.
Part No. 7000700

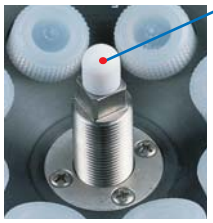
Bucket adapter for 75 x 13 mm VAC. tubes.
Rotor capacity: 8 adapters.
Part No. 1001557

SPARES. Tubes (see page 132).

MICROPROCESSOR CONTROLLED CENTRIFUGES
"Centromix BLT", "Mixtasel BLT", "Centronic BLT" and "Centrofriger BLT"

COMMON FEATURES

Robust all metal construction:
-External case made from DUR-Al alloy.
-Internal bowl and top plate all stainless steel
-Internal steel safety chamber within the case.



Rotor identification head (only models "Centronic BLT" and "Centrofriger BLT") when the centrifuge lid is closed the rotor communicates all the data of the functions of it. This prevents, before use, any risk of failure of using the wrong rotor in a program or exceeding the rotors running parameters. The advantage of this system is that we can add additional rotors to the range without changing the centrifuge model.

Electronic circuits, microprocessor digital control of all parameters and functions: speed, acceleration, brake, RCF, temperature, timer, 10 program storage, automatic rotor recognition and alarm system.

Induction drive maintenance free motor.

Low noise level 50-60 dBa.

Rotors, buckets and adapters are identified with an inalterable engraved laser code.

Air circulation system, to limit any excessive rise in temperature within the centrifuge, all air circulated within the chamber is channelled out of the back and is not re-circulated, this means that the centrifuges internal temperature will remain low and constant.

Hermetically sealed compressor, mounted on anti-vibration mounts with re-circulating evaporator around the centrifuge chamber. (only applies to refrigerated centrifuges).

CONTROL PANEL

TFT Touch screen

1. Enter parameters key.
2. Speed analog indicator .
3. RPM reading key.
4. RCF reading key.
5. Acceleration ramp programmed.
6. Temperature programmed. (refrigerated models only).
7. Reading the real time temperature. (refrigerated models only).
8. Rotor model in use.
9. Door opening key.
10. RPM or RCF programmed.
11. RPM or RCF real-time reading
12. Start process key.
13. Stop process key.
14. Programmed braking ramp.
15. Time set-up in process.
16 Elapsed time reading.

Centrifuge "Centromix BLT"

WITH A CHOICE OF ROTORS AND INTERCHANGEABLE ADAPTERS.
FREE MAINTENANCE INDUCTION DRIVE MOTOR.

External DUR-AL case, with AISI 304 stainless steel bowl.

HEAD AND BUCKET REDUCERS

Reducers for bucket. Part No. **7001066:**
7001813 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001814 For 1 tube 10 ml (16 Ø x 80 mm).
7001815 For 1 tube 7 ml (12 Ø x 100 mm).
7001816 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for bucket. Part No. **7001067:**
7000700 For 1 tube 7 ml (12 Ø x 100 mm).
1001557 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. **7000555:**
7000700 For 1 tube 7 ml (12 Ø x 100 mm).
1001557 For 1 tube 5 ml (12,5 Ø x 75 mm).

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depht (exterior) cm	Power W	Weight Kg
7002556	120	4 x 25 ml	23 30 35	180	12

ACCESSORIES Rotors and interchangeable buckets and adapters.

Part No. head	Rotor type	Part No. bucket	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
7000555	Angle	–	150 ml	10 x 15 ml	16.5 x 100	4400	2063
7001065	Swing out	–	–	–	–	–	–
	Swing out	7001066	100 ml	1 x 25 ml	24 x 100	4400	2601
	Swing out	7001067	60 ml	1 x 15 ml	16.5 x 100	4400	2601
7001065	Swing out	7001068	28 ml	1 x 7 ml	12 x 100	4400	2601
	Swing out	7001573	40 ml	2 x 5 ml VAC	13 x 75	4400	2163
	Swing out	7001070	60 ml	VAC	16 x 100	4400	2601
	Swing out	7001072	–	undrilled	–	4400	2601
7001702	Angle PCR	–	6,4 ml	32 x 0.2 ml	-	12000	12500
7001704	Microhaemato.	–	-	24 x 1.4 mm Ø	-	12000	13143
7001703	Angle+lid	–	40.5 ml	18 x 0.25/0.5 ml	-	12000	14103

Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

7000555

7001065

7001702

7001066 7001067 7001068 7001573 7001070 7001072

Centrifuge “Mixtasel-BLT”

MAINTENANCE FREE INDUCTION DRIVE MOTOR.

Polyvalent with rotors and interchangeable adapters

Control panel features (see page 118).

External case of DUR-AL alloy with ABS plastic coated front AISI 304 stainless steel bowl.

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depht (exterior) cm	Power W	Weight Kg
7002576	400	4 x 100 ml	34 41 54	210	22

ACCESSORIES

Swing out rotor with interchangeable sealed buckets and adapters, each with identification code. Autoclavable.

Swing out rotor

7009079

Open bucket

7000731

Adapters

7000734 7000735 7000736 7001647 7000737 7000738 7001648 7000739 7000740

7000609

Part No. head	Rotor type	Bucket open	Sealed bucket	Part No. adapter	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	Swing out	7000731	7000732	7000734	200 ml	1 x 50 ml	34 x 100	5000	4137
	Swing out	7000731	7000732	7000735	200 ml	2 x 25 ml	24 x 100	5000	4137
	Swing out	7000731	7000732	7000736	420 ml	7 x 15 ml and VAC*	16.5 x 100	5000	4137
7009079	Swing out	7000731	7000732	7001647	240 ml	6 x 10 ml	17 x 110	5000	4137
	Swing out	7000731	7000732	7000737	336 ml	12 x 7 ml	12 x 100	5000	4137
	Swing out	7000731	7000732	7000738	240 ml	12 x 5 ml	12.5 x 75	5000	4137
	Swing out	7000731	7000732	7001648	140 ml	7 x 5 ml and VAC*	13 x 75	5000	4137
	Swing out	7000731	7000732	7000739	144 ml	12 x 3 ml	11 x 100	5000	4137
	Swing out	7000731	7000732	7000740	-	undrilled	-	5000	4137
7000609	Swing out	-	-	-	-	6 x 96 microtiter	-	4200	2702

*VAC: Blood tube with stopper.

** Bucket part nos. 7000731 and 7000732 accommodate 1 x 200 ml polypropylene bottle with cap without the need of an adapter.

Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

ACCESSORIES

Interchangeable angle rotors with lids, made of hardened anodised aluminium. Rotors come with identification system. Autoclavable rotors and buckets.

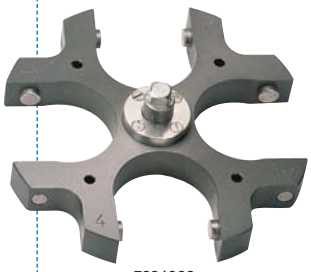
Part No. head	Rotor type	Max. volume	Tube capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
7001705	Angle+lid	270 ml	18 x 15 ml	16.5 x 100	4200	2669
7001711	Angle+lid	400 ml	8 x 50 ml	34 x 100	4200	1921

7001705

7001711

Swing out rotor, interchangeable buckets and adapters each with identification code. Autoclavable.

Swing out rotor



7001326

BUCKETS

7001700 *7000793* *7000794* *7000795* *7000796* *7000797* *7000930* *7000931* *7001073* *7001074* *7000798*

7001315

Sealed bucket with hermetically sealed lid.

ADAPTERS

7001316 *7001317* *7001318* *7001319* *7001320* *7001321* *7001322*

Part No. Rotor	Rotor type	Part No. bucket	Sealed bucket	Part No. adapter	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	Swing out	7001700	–	–	400 ml	1 x 100 ml	44 x 104	4200	2901
	Swing out	7000793	–	–	200 ml	1 x 50 ml	34 x 100	4200	2901
	Swing out	7000794	–	–	100 ml	1 x 25 ml	24 x 100	4200	2901
	Swing out	7000795	–	–	240 ml	4 x 15 ml	16.5 x 100	4200	2901
	Swing out	7000796	–	–	140 ml	5 x 7 ml	12 x 100	4200	2901
	Swing out	7000797	–	–	100 ml	5 x 5 ml	12.5 x 75	4200	2441
	Swing out	7000930	–	–	240 ml	4 x 15 ml Falcon	16.5 x 120	4200	3030
	Swing out	7000931	–	–	200 ml	1 x 50 ml Falcon	30 x 117	4200	3030
	Swing out	7001073	–	–	16 VAC	4 VAC*	16 x 100	4200	2901
7001326	Swing out	7001074	–	–	16 VAC	4 VAC*	13 x 75	4200	2441
	Swing out	7000798	–	–	undrilled	–	–	4200	2901
	Swing out	–	7001315	100 ml glass tube**	400 ml	1 x 100 ml	44 x 104	4200	2901
	Swing out	–	7001315	7001316	200 ml	1 x 50 ml	34 x 100	4200	2901
	Swing out	–	7001315	7001317	100 ml	1 x 25 ml	24 x 100	4200	2901
	Swing out	–	7001315	7001318	240 ml	4 x 15 ml	16.5 x 100	4200	2901
	Swing out	–	7001315	7001319	140 ml	5 x 7 ml	12 x 100	4200	2901
	Swing out	–	7001315	7001320	100 ml	5 x 5 ml	12.5 x 75	4200	2901
	Swing out	–	7001315	7001321	64 ml	4 VAC*	13 x 75	4200	2901
	Swing out	–	7001315	7001322	undrilled	-	-	4200	2901

*VAC(r): Blood tube with cap (bung).
**Sealed bucket part no. 7001315 accommodates a 100 ml glass tube without the need of an adapter.
Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

HEAD AND BUCKET REDUCERS

Reducers for head. Part No. **7001711:**
7001707 For 1 tube 50 ml (29 Ø x 103 mm).
7001708 For 1 tube 25 ml (24 Ø x 100 mm).
7001709 For 1 tube 30 ml (25 Ø x 92 mm).
7001710 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001780 For 1 tube 10 ml (16 Ø x 80 mm).
7001781 For 4 tubes 7 ml (12 Ø x 100 mm).
7001782 For 4 tubes 5 ml (12,5 Ø x 75 mm).

Reducers for bucket. Part No. **7001700:**
7001779 for 1 tube 85 ml (38 Ø x 112 mm).

High speed centrifuges with microprocessor control "Centronic BLT" and "Centrofriger BLT"

Versatile. Large range of rotors and adapters. Maintenance free induction motor drive.

Control panel features (see page 115).
External case of DUR-AL alloy with ABS plastic coated front AISI 304 stainless steel bowl.

Model "Centronic BLT"

Model "Centrofriger BLT" refrigerated, temperature range -12 °C to 40 °C.

MODEL

Part No.	Max. Volume ml	Max. number of tubes	Height / Width / Depht (exterior) cm	Power W	Weight Kg
7001768	400	4 x 100 ml	34 41 54	440	22

MODEL

Part No.	Max. Volume ml	Max. number of tubes	Height / Width / Depht (exterior) cm	Power W	Weight Kg
7001769	400	4 x 100 ml	34 41 71	960	39

Note: The rotor being used limits the actual temperature in the chamber due to the speed and ambient temperature. Internal temperature indicated on the LCD display.

ACCESSORIES

Angle rotors with lid, made of anodised hardened aluminium with identification system. All rotors are autoclavable.

7001670

7001324

7001706

7001702

7001325

7001323

7001671

7001672

7001673

7001408 *With calculator reader*

Part No. head	Rotor type	Max. volume	Tubes capacity	Ø x Length mm	CENTRONIC BL-II Max. R.p.m	CENTRONIC BL-II Max. R.c.f. (xg)	CENTROFRIGER BL-II Max. R.p.m	CENTROFRIGER BL-II Max. R.c.f. (xg)
7001670	Angle+lid	270 ml	18 x 15 ml	16.5 x 100	4200	2669	4200	2669
7001706	Angle+lid	400 ml	8 x 50 ml	34 x 100	6000	3920	6000	3920
7001325	Angle+lid	500 ml	6 x 50 ml	29 x 103	6000	18844	6000	24204
7001324	Angle+lid	180 ml	6 x 30 ml	25 x 92	13500	15890	15300	20410
7001323	Angle+lid	100 ml	10 x 10 ml	16 x 80	13500	18335	15300	23550
7001671	Angle+lid	40.5 ml	18x0.25/0.5 ml + 18x1.5/2.2 ml	-	13500	15992	15300	20541
7001672	Angle+lid	60 ml	40 x 0.25/0.5 ml	-	13500	13298	15000	20120
7001673	Angle+lid	45 ml	30 x 1.5/2.2 ml	-	13500	19048	15000	23716
7001408	Angle+lid	Microhaematocrit	24	1.4 x 75	12000	15935	12000	15935
7001702	Angle PCR	6,4 ml	32 x 0.2 ml	-	12000	12500	12000	12500

Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

ACCESSORIES

Swing out rotor with interchangeable sealed buckets and adapters, each with identification code. Autoclavable.

Swing out rotor

7001407

BUCKETS

7001700 *7000793* *7000794* *7000795* *7000796* *7000797* *7000930* *7000931* *7001073* *7001074* *7000798*

Sealed bucket with hermetically sealed lid.

7001315

ADAPTERS

7001316 *7001317* *7001318* *7001319* *7001320* *7001321* *7001322*

Part No. head	Rotor Type	Part No. bucket	Sealed bucket	Part No. adapter	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	Swing out	7001700	-	-	400 ml	1 x 100 ml	44 x 104	5000	4137
	Swing out	7000793	-	-	200 ml	1 x 50 ml	34 x 100	5000	4137
	Swing out	7000794	-	-	100 ml	1 x 25 ml	24 x 100	5000	4137
	Swing out	7000795	-	-	240 ml	4 x 15 ml	16.5 x 100	5000	4137
	Swing out	7000796	-	-	140 ml	5 x 7 ml	12 x 100	5000	4137
	Swing out	7000797	-	-	100 ml	5 x 5 ml	12.5 x 75	5000	3318
	Swing out	7000930	-	-	240 ml	4 x 15 ml Falcon	16.5 x 120	5000	4109
	Swing out	7000931	-	-	200 ml	1 x 50 ml Falcon	30 x 117	5000	4109
	Swing out	7001073	-	-	16 VAC	4 VAC*	16 x 100	5000	4137
7001407	Swing out	7001074	-	-	16 VAC	4 VAC*	13 x 75	5000	3318
	Swing out	7000798	-	-	undrilled	-	-	5000	4137
	Swing out	-	7001315	100 ml glass tube**	400 ml	1 x 100 ml	44 x 104	5000	4137
	Swing out	-	7001315	7001316	200 ml	1 x 50 ml	34 x 100	5000	4137
	Swing out	-	7001315	7001317	100 ml	1 x 25 ml	24 x 100	5000	4137
	Swing out	-	7001315	7001318	240 ml	4 x 15 ml	16.5 x 100	5000	4137
	Swing out	-	7001315	7001319	140 ml	5 x 7 ml	12 x 100	5000	4137
	Swing out	-	7001315	7001320	100 ml	5 x 5 ml	12.5 x 75	5000	4137
	Swing out	-	7001315	7001321	64 ml	4 VAC*	13 x 75	5000	4137
	Swing out	-	7001315	7001322	undrilled	-	-	5000	4137

*VAC(r): Blood tube with cap.
**Sealed bucket part no. 7001315 accommodates a 100 ml glass tube without the need of an adapter.
Micro-haematocrit rotor comes with a box of 100 tubes and calculus graph.
Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

HEAD AND BUCKET REDUCERS

Reducers for head. Part No. 7001706:
7001707 For 1 tube 50 ml (29 Ø x 103 mm).
7001708 For 1 tube 25 ml (24 Ø x 100 mm).
7001709 For 1 tube 30 ml (25 Ø x 92 mm).
7001710 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001780 For 1 tube 10 ml (16 Ø x 80 mm).
7001781 For 4 tube 7 ml (12 Ø x 100 mm).
7001782 For 4 tube 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. 7001325:
7001791 For 1 tube 25 ml (24 Ø x 100 mm).
7001792 For 1 tube 30 ml (25 Ø x 92 mm).
7001793 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001794 For 1 tube 10 ml (16 Ø x 80 mm).
7001795 For 2 tubes 7 ml (12 Ø x 100 mm).
7001796 For 2 tubes 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. 7001324:
7001797 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001798 For 1 tube 10 ml (16 Ø x 80 mm).
7001799 For 1 tube 7 ml (12 Ø x 100 mm).
7001800 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. 7001670:
7000700 For 1 tube 7 ml (12 Ø x 100 mm).
1001557 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for head. Part No. 7001323:
7001801 For 1 tube 5 ml (12,5 Ø x 75 mm).
Reducers for bucket. Part No. 7001700:
7001779 For 1 tube 85 ml (38 Ø x 112 mm).

ACCESSORIES

Swing out rotor with interchangeable sealed buckets and adapters, each with identification code. Autoclavable.

Swing out rotor | Open bucket | Adapters

7009079 | 7000731 | 7000734 | 7000735 | 7000736 | 7001647 | 7000737 | 7000738 | 7001648 | 7000739 | 7000740 | 7000609

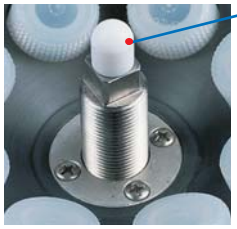
Part No. head	Rotor type	Bucket open	Sealed bucket	Part No. adapter	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	Swing out	7000731	7000732	7000734	200 ml	1 x 50 ml	34 x 100	5000	4137
	Swing out	7000731	7000732	7000735	200 ml	2 x 25 ml	24 x 100	5000	4137
	Swing out	7000731	7000732	7000736	420 ml	7 x 15 ml and VAC*	16.5 x 100	5000	4137
7009079	Swing out	7000731	7000732	7001647	240 ml	6 x 10 ml	17 x 110	5000	4137
	Swing out	7000731	7000732	7000737	336 ml	12 x 7 ml	12 x 100	5000	4137
	Swing out	7000731	7000732	7000738	240 ml	12 x 5 ml	12.5 x 75	5000	4137
	Swing out	7000731	7000732	7001648	140 ml	7 x 5 ml and VAC*	13 x 75	5000	4137
	Swing out	7000731	7000732	7000739	144 ml	12 x 3 ml	11 x 100	5000	4137
	Swing out	7000731	7000732	7000740	–	undrilled	-	5000	4137
7000609	Swing out	–	–	–	–	6 x 96 microtiter	-	4200	2702

*VAC: Blood tube with stopper.
** Bucket part nos. 7000731 and 7000732 accommodate 1 x 200 ml polypropylene bottle with cap without the need of an adapter.
Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

Microprocessor controlled centrifuges “Meditronic BLT”, “Medifriger BLT”, “Macrotronic BLT” and “Macrofriger BLT”

COMMON FEATURES

Induction drive maintenance free motor.
Low noise level 50-60dBa.
Robust all metal construction:
-External case made from DUR-Al alloy.
-Internal bowl and top plate all stainless steel
-Internal steel safety chamber within the case.
Electronic circuits, microprocessor digital control of all parameters and functions: speed, acceleration, brake, RCF, temperature, timer, 10 program storage, automatic rotor recognition and alarm system.



Rotor identification head, when the centrifuge lid is closed the rotor communicates all the data of the functions of it. This prevents, before use, any risk of failure of using the wrong rotor in a program or exceeding the rotors running parameters. The advantage of this system is that we can add additional rotors to the range without changing the centrifuge model.

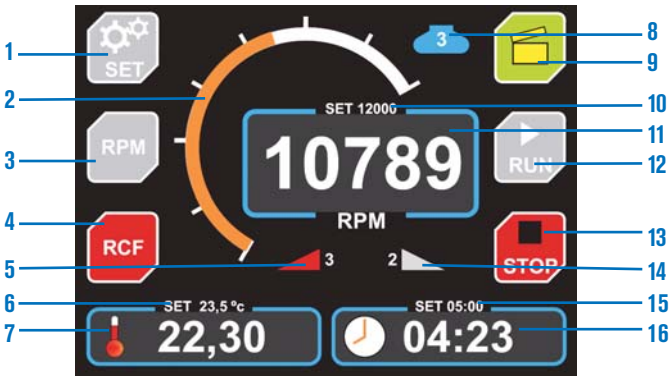
All Rotors, buckets and adapters are identified with an inalterable engraved laser code.

Air circulation system, for centrifuges without refrigeration to limit any excessive rise in temperature within the centrifuge, all air circulated within the chamber is channelled out of the back and is not re-circulated, this means that the centrifuges internal temperature will remain low and constant.

Hermetically sealed compressor, mounted on anti-vibration mounts with re-circulating evaporator around the centrifuge chamber. (only applies to refrigerated centrifuges).

CONTROL PANEL

Touch screen



1. Enter parameters key.
2. Speed analog indicator .
3. RPM reading key.
4. RCF reading key.
5. Acceleration ramp programmed.
6. Temperature programmed. (refrigerated models only).
7. Reading the real time temperature. (refrigerated models only).
8. Rotor model in use.
9. Door opening key.
10. RPM or RCF programmed.
11. RPM or RCF real-time reading
12. Start process key.
13. Stop process key.
14. Programmed braking ramp.
15. Time set-up in process.
16. Elapsed time reading.

High speed centrifuges with microprocessor control "Meditronic-BLT" and "Medifriger-BLT"

Capacity up to 800 ml. Maintenance free induction motor drive.

NEW DESIGN

Control panel features (see page 123).
External case made of DUR-AL alloy with an AISI 304 stainless steel bowl.

Model "Meditronic-BLT"

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depth (exterior) cm	Power W	Weight Kg
7001476	800	4 x 200 ml	38 46 52	520	44

Model "Medifriger-BLT" refrigerated, temperature range -12 °C to 40 °C.

MODEL

Part No.	Max. Volume ml	Max. Number of tubes	Height / Width / Depth (exterior) cm	Power W	Weight Kg
7001477	800	4 x 200 ml	38 68 52	1230	70

Note: The rotor being used limits the actual temperature in the chamber due to the speed and ambient temperature. Internal temperature indicated on the LCD display.

ACCESSORIES

Angle rotors with lid, made of anodised hardened aluminium with identification system. All rotors are autoclavable.

7000741 *7000742* *7000743*

7001449 *7001448* *7001447* *7001446* *7001445* *7001444*

Part No. head	Rotor type	Max. volume	Tube capacity	Ø x Length mm	MEDITRONIC BL-S Max. R.p.m	MEDITRONIC BL-S Max. R.c.f. (xg)	MEDIFRIGER BL-S Max. R.p.m	MEDIFRIGER BL-S Max. R.c.f. (xg)
7000741	Angle+lid	600 ml	6 x 100 ml	44 x 104	4500	3170	4500	3170
7000742	Angle+lid	400 ml	8 x 50 ml	34 x 100	4600	3075	4600	3075
7000743	Angle+lid	360 ml	24 x 15 ml	16.5 x 100	4800	3761	4800	3761
7001449	Angle+lid	510 ml	6 x 85 ml	38 x 105	8000	6868	12000	15455
7001448	Angle+lid	400 ml	8 x 50 ml	29 x 103	8000	7802	12000	15938
7001447	Angle+lid	180 ml	6 x 30 ml	25 x 92	9000	7424	14000	17965
7001446	Angle+lid	200 ml	20 x 10 ml	16 x 80	9000	8964	11000	13390
7001445	Angle+lid	100 ml	10 x 10 ml	16 x 80	9000	7293	15000	20124
7001444	Angle+lid	45 ml	30 x 1.5/2.2 ml	-	11000	12619	15000	23470

Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

ACCESSORIES

Swing out rotor with interchangeable sealed buckets and adapters, each with identification code. Autoclavable.

Swing out rotor

7009079

Sealed bucket with hermetically sealed lid.

7000732

Open bucket

7000731

Adapters

5715202

7000733

7000734

7000935

7000735

7000736

7000934

7001646

7001647

7000737

7000738

7001648

7000739

7000740

7000609

Part No. head	Rotor type	Bucket open	Sealed bucket	Part No. adapter	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	Swing out	7000731	7000732	Bottle 200 ml 5715202**	800 ml	1 x 200 ml	56.6 x 104	5000	4137
	Swing out	7000731	7000732	7000733	400 ml	1 x 100 ml	44 x 104	5000	4137
	Swing out	7000731	7000732	7000734	200 ml	1 x 50 ml	34 x 100	5000	4137
	Swing out	7000731	7000732	7000935	200 ml	1 x 50 ml Falcon	30 x 117	5000	4137
	Swing out	7000731	7000732	7001645	240 ml	2 x 30 ml	25 x 92	5000	4137
	Swing out	7000731	7000732	7000735	200 ml	2 x 25 ml	24 x 100	5000	4137
	Swing out	7000731	7000732	7000736	420 ml	7 x 15 ml and VAC*	16.5 x 100	5000	4137
7009079	Swing out	7000731	7000732	7000934	180 ml	3 x 15 ml Falcon	16.5 x 120	5000	4137
	Swing out	7000731	7000732	7001646	–	4 x 17 Ø x 110 mm	-	5000	4137
	Swing out	7000731	7000732	7001647	240 ml	6 x 10 ml	17 x 110	5000	4137
	Swing out	7000731	7000732	7000737	336 ml	12 x 7 ml	12 x 100	5000	4137
	Swing out	7000731	7000732	7000738	240 ml	12 x 5 ml	12.5 x 75	5000	4137
	Swing out	7000731	7000732	7001648	140 ml	7 x 5 ml and VAC*	13 x 75	5000	4137
	Swing out	7000731	7000732	7000739	144 ml	12 x 3 ml	11 x 100	5000	4137
	Swing out	7000731	7000732	7000740	–	undrilled	-	5000	4137
7000609	Swing out	–	–	–	–	6 x 96 microtiter	-	4200	2702

*VAC: Blood tube with stopper.

** Bucket part nos. 7000731 and 7000732 accommodate 1 x 200 ml polypropylene bottle with cap without the need of an adapter.

Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

HEAD REDUCERS

Reducers for head. Part No. 7000741:
7001770 For 1 tube 85 ml (38 Ø x 105 mm).
7001771 For 1 tube 50 ml (34 Ø x 100 mm).
7001772 For 1 tube 50 ml (29 Ø x 103 mm).
7001773 For 1 tube 25 ml (24 Ø x 100 mm).
7001774 For 1 tube 30 ml (25 Ø x 100 mm).
7001775 For 3 tubes 15 ml (16,5 Ø x 100 mm).
7001776 For 3 tubes 10 ml (16 Ø x 80 mm).
7001777 For 7 tubes 7 ml (12 Ø x 100 mm).
7001778 For 7 tubes 5 ml (12,5 Ø x 75 mm).

Reducers for head. Part No. 7000742:
7001707 For 1 tube 50 ml (29 Ø x 103 mm).
7001708 For 1 tube 25 ml (24 Ø x 100 mm).
7001709 For 1 tube 30 ml (25 Ø x 92 mm).
7001710 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001780 For 1 tube 10 ml (16 Ø x 80 mm).
7001781 For 4 tubes 7 ml (12 Ø x 100 mm).
7001782 For 4 tubes 5 ml (12,5 Ø x 75 mm).

Reducers for head. Part No. 7001449:
7001783 For 1 tube 50 ml (34 Ø x 100 mm).
7001784 For 1 tube 50 ml (29 Ø x 103 mm).
7001785 For 1 tube 25 ml (24 Ø x 100 mm).
7001786 For 1 tube 30 ml (25 Ø x 92 mm).
7001787 For 2 tubes 15 ml (16,5 Ø x 100 mm).
7001788 For 2 tubes 10 ml (16 Ø x 100 mm).
7001789 For 5 tubes 7 ml (12 Ø x 100 mm).
7001790 For 5 tubes 5 ml (12,5 Ø x 75 mm).

Reducers for head. Part No. 7001448:
7001791 For 1 tube 25 ml (24 Ø x 100 mm).
7001792 For 1 tube 30 ml (25 Ø x 100 mm).
7001793 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001794 For 1 tube 10 ml (16 Ø x 80 mm).
7001795 For 2 tubes 7 ml (12 Ø x 100 mm).
7001796 For 2 tubes 5 ml (12,5 Ø x 75 mm).

Reducers for head. Part No. 7001447:
7001797 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001798 For 1 tube 10 ml (16 Ø x 80 mm).
7001799 For 1 tube 7 ml (12 Ø x 100 mm).
7001800 For 1 tube 5 ml (12,5 Ø x 75 mm).

Reducers for head. Part No. 7001445/7001446:
7001801 For 1 tube 5 ml (12,5 Ø x 75 mm).

Reducers for head. Part No. 7000743:
7000700 For 1 tube 7 ml (12 Ø x 100 mm).
1001557 For 1 tube 5 ml (12,5 Ø x 75 mm).

Microprocessor controlled Centrifuge "Macrotronic-BLT" and "Macrofriger-BLT"

Multi-capability. Capacity from 1.5/2.2 ml vials up to tubes of 500 ml and 500ml blood bags.

Maintenance free induction motor drive.

Control panel features (see page 123).
External case made of DUR-AL alloy with an AISI 304 stainless steel bowl.

NEW DESIGN

Model "Macrotronic-BLT"

Model "Macrofriger-BLT" refrigerated, temperature range -12 °C to 40 °C.

MODEL

Part No.	Max. volume ml	Max. No. of bags	Height / Width / Depth (exterior) cm	Power W	Weight Kg
7001485	2000	4 x 500 ml	45 60 66	720	76

MODEL

Part No.	Max. volume ml	Max. No. of bags	Height / Width / Depth (exterior) cm	Power W	Weight Kg
7001486	2000	4 x 500 ml	97 60 66	1230	156

Note: The rotor being used limits the actual temperature in the chamber due to the speed and ambient temperature. Internal temperature Indicated on the LCD display.

ACCESSORIES

Angle rotors with lid, made of anodised hardened aluminium with identification system. All rotors are autoclavable.

7000561

7000560

7001650

7001651

7001652

7001653

7001654

Part No. head	Rotor type	Max. volume	Tube capacity	Ø x Length mm	MACROTRONIC BL Max. R.p.m	MACROTRONIC BL Max. R.c.f. (xg)	MACROFRIGER BL Max. R.p.m	MACROFRIGER BL Max. R.c.f. (xg)
7000561	Angle+lid	600 ml	12 x 50 ml	34 x 100	4530	3785	4530	3785
7000560	Angle+lid	840 ml	56 x 15 ml	16.5 x 100	4030	3268	4030	3268
7001650	Angle+lid	1500 ml	6 x 250 ml	62 x 122	8000	10373	9000	13129
7001651	Angle+lid	510 ml	6 x 85 ml	38 x 105	10000	10731	12000	15452
7001652	Angle+lid	400 ml	8 x 50 ml	29 x 103	10000	11066	12000	15935
7001653	Angle+lid	360 ml	12 x 30 ml	25 x 92	10000	12296	12000	17706
7001654	Angle+lid	200 ml	20 x 10 ml	16 x 80	10000	11066	12000	15935

Swing out rotor with interchangeable sealed buckets and adapters, each with identification code. Autoclavable.

Open bucket

7000746

Swing out rotor

7000745

Sealed bucket with hermetically sealed lid.

7000756

Adapters

7001387

7001657

7000747

7001658

7000748

7000939

7001659

7001660

7000749

7000750

7000938

7001661

7001662

7000751

7000752

7000753

7000754

7000755

Part No. head	Rotor type	Bucket open	Sealed bucket	Part No. adapter	Totel max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	Swing out	7000746	7000756	7001387	800 ml	1 x 200 ml	56.6 x 104	5000	4615
	Swing out	7000746	7000756	7001657	500 ml	1 x 125 ml	51 x 115	5000	4615
	Swing out	7000746	7000756	7000747	400 ml	1 x 100 ml	44 x 104	5000	4615
	Swing out	7000746	7000756	7001658	320 ml	1 x 80 / 85 ml	38 x 105	5000	4615
	Swing out	7000746	7000756	7000748	400 ml	2 x 50 ml	34 x 100	5000	4615
	Swing out	7000746	7000756	7000939	400 ml	2 x 50 ml Falcon	30 x 117	5000	4615
	Swing out	7000746	7000756	7001659	400 ml	2 x 50 ml	29 x 103	5000	4615
	Swing out	7000746	7000756	7001660	600 ml	5 x 30 ml	25 x 92	5000	4615
	Swing out	7000746	7000756	7000749	500 ml	5 x 25 ml	24 x 100	5000	4615
7000745	Swing out	7000746	7000756	7000750	720 ml	12 x 15 ml	16.5 x 100	5000	4615
	Swing out	7000746	7000756	7000750	720 ml	12 VAC*	16.5 x 100	5000	4615
	Swing out	7000746	7000756	7000938	240 ml	4 x 15 ml Falcon	16.5 x 120	5000	4615
	Swing out	7000746	7000756	7001661	-	12 VAC*	13 x 75	5000	4615
	Swing out	7000746	7000756	7001662	480 ml	12 x 10 ml	16.8 x 85	5000	4615
	Swing out	7000746	7000756	7000751	560 ml	20 x 7 ml	12 x 100	5000	4615
	Swing out	7000746	7000756	7000752	400 ml	20 x 5 ml	12.5 x 75	5000	4615
	Swing out	7000746	7000756	7000753	240 ml	20 x 3 ml	11 x 100	5000	4615
	Swing out	7000746	7000756	7000754	120 ml	20 de 1.5 / 2.2 ml	-	5000	4615
	Swing out	7000746	7000756	7000755	undrilled	–	-	5000	4615

*VAC: Blood tube with stopper.

Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

ACCESSORIES

Swing out rotor

7001450

Open bucket
1 blood bag

7001451

7001395

Adapters

7001655

7001396

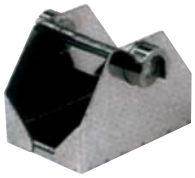
7001397

7001398

7001399

7001400

7001401



7001656

Bucket for
3 x 96 well plates

Part No. head	Rotor type	Bucket open	Part No. adapter	Total max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
7001450	swing out	7001451	7001395	2000 ml	1 x 500 ml	70 x 165	3200	2358
	swing out	7001451	7001655	1000 ml	1 x 250 ml	62 x 122	3200	2358
	swing out	7001451	7001396	800 ml	1 x 200 ml	56.6 x 104	3200	2358
	swing out	7001451	7001397	800 ml	2 x 100 ml	44 x 104	3200	2358
	swing out	7001451	7001398	800 ml	4 x 50 ml	34 x 100	3200	2358
	swing out	7001451	7001399	900 ml	9 x 25 ml	24 x 100	3200	2358
	swing out	7001451	7001400	1020 ml	17 x 15 ml	16.5 x 100	3200	2358
	swing out	7001451	7001401	672 ml	24 x 7 ml	12 x 100	3200	2358
	swing out	7001656	-	-	3 plates x 96 microtiter	-	3200	2117

Swing out rotor

7000552

Buckets

7000763

7001075

7000764

200 Height x36 mm Ø
for buckets Part No. 7001075

7001088

ASTM buckets
for testing
sediments in oil and
petroleum

158 Height x 58 mm Ø max.
for buckets Part No. 7000764

7000767

Part No. head	Rotor type	Open Bucket	Total max. Volume (4 adapters)	Bucket/Adapter capacity	Ø x Length mm	Max. R.p.m.	Max. R.c.f. (xg)
	swing out	7000763	1000 ml	1 x 250 ml	56 x 147	3520	3567
7000552	swing out	7001075	4 x 1 ASTM	1 x ASTM cylindrical	36 x 200	3720	3567
	swing out	7000764	4 x 1 ASTM	1 x ASTM pear shaped	58 x 158	3720	3567

Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.

HEAD REDUCERS

Reducers for head. Part No. 7001650:
7001803 For 1 tube 100 ml (44 Ø x 104 mm).
7001804 For 1 tube 85 ml (38 Ø x 105 mm).
7001805 For 1 tube 50 ml (34 Ø x 100 mm).
7001806 For 2 tubes 50 ml (29 Ø x 103 mm).
7001807 For 1 tube 50 ml (30 Ø x 117 mm).
7001808 For 3 tubes 30 ml (25 Ø x 92 mm).
7001809 For 7 tubes 15 ml (16,5 Ø x 100 mm).
7001810 For 7 tubes 10 ml (16 Ø x 100 mm).
7001811 For 12 tubes 7 ml (12 Ø x 100 mm).
7001812 For 12 tubes 5 ml (12,5 Ø x 75 mm).

Reducers for head. Part No. 7001651:
7001783 For 1 tube 50 ml (34 Ø x 100 mm).
7001784 For 1 tube 50 ml (29 Ø x 103 mm).
7001785 For 1 tube 25 ml (24 Ø x 100 mm).
7001786 For 1 tube 30 ml (25 Ø x 92 mm).
7001787 For 2 tubes 15 ml (16,5 Ø x 100 mm).
7001788 For 2 tubes 10 ml (16 Ø x 100 mm).
7001789 For 5 tubes 7 ml (12 Ø x 100 mm).
7001790 For 5 tubes 5 ml (12,5 Ø x 75 mm).

Reducers for head. Part No. 7001652:
7001791 For 1 tube 25 ml (24 Ø x 100 mm).
7001792 For 1 tube 30 ml (25 Ø x 100 mm).

7001793 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001794 For 1 tube 10 ml (16 Ø x 80 mm).
7001795 For 2 tubes 7 ml (12 Ø x 100 mm).
7001796 For 2 tubes 5 ml (12,5 Ø x 75 mm).

Reducers for head. Part No. 7001653:
7001797 For 1 tube 15 ml (16,5 Ø x 100 mm).
7001798 For 1 tube 10 ml (16 Ø x 80 mm).
7001799 For 1 tube 7 ml (12 Ø x 100 mm).
7001800 For 1 tube 5 ml (12,5 Ø x 75 mm).

Reducers for head. Part No. 7000560:
7000700 For 1 tube 7 ml (12 Ø x 100 mm).
1001557 For 1 tube 5 ml (12,5 Ø x 75 mm).

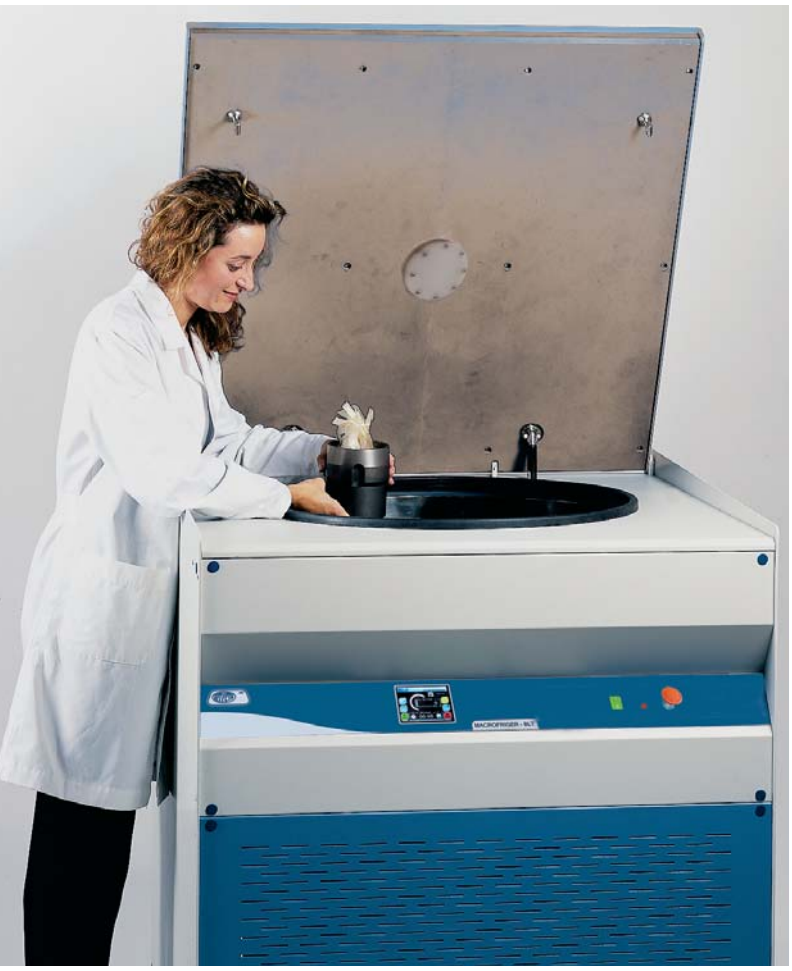
Refrigerated high capacity microprocessor controlled centrifuge suitable for tubes, flasks and blood bags “Macrofriger-BLT-Blood”

CONTROLLABLE TEMPERATURES FROM 0 TO 35 °C.
CAPACITY FOR FLASKS UP TO 1000 ml AND ESPECIALLY FOR TRIPLE AND QUAD BLOOD BAGS FROM 500-800 ml.
MAXIMUM CAPACITY 12 BAGS.

REGULATION B SYSTEM

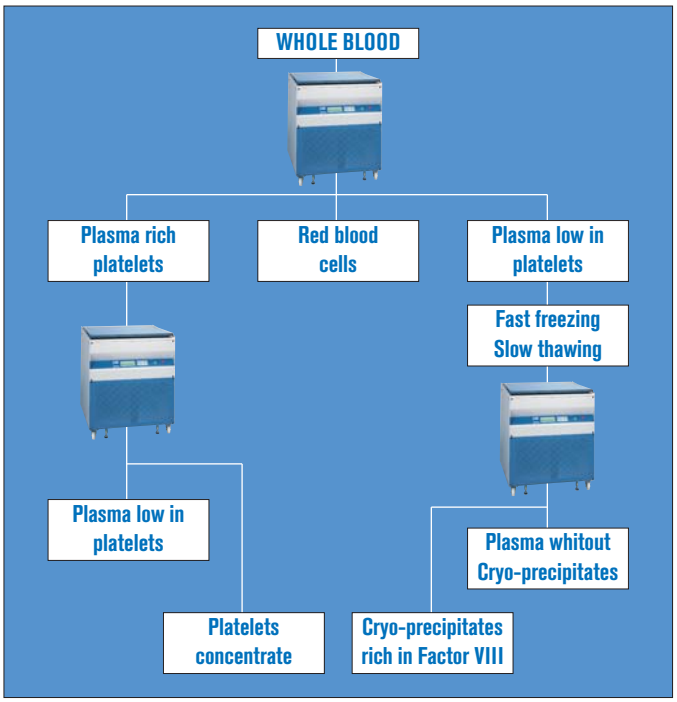
NEW DESIGN

Original J.P. Selecta design. With maintenance free induction drive motor

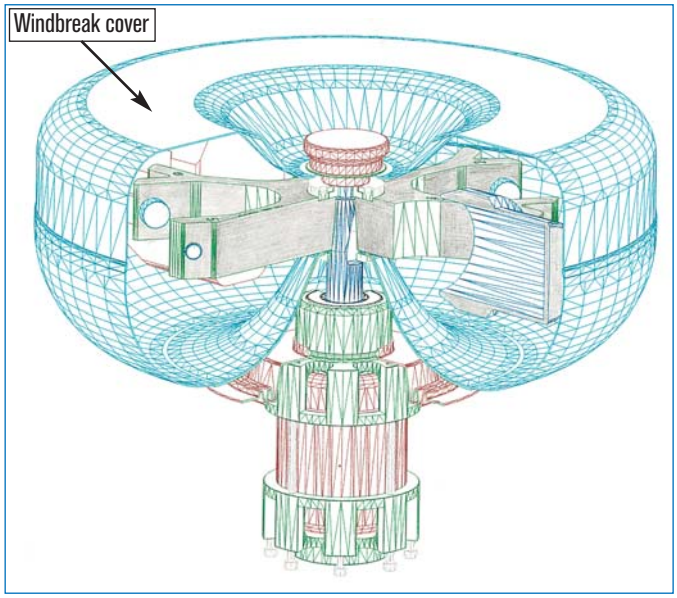


APPLICATIONS

Specially designed for blood bank applications, where repeatability, precision and reliability of: speed, time, temperature, acceleration and deceleration are significant factors in obtaining perfect separations of the distinct blood fractions.



Serology investigatios.
Molecular biology.
Serum separation, pharmaceutical applications.



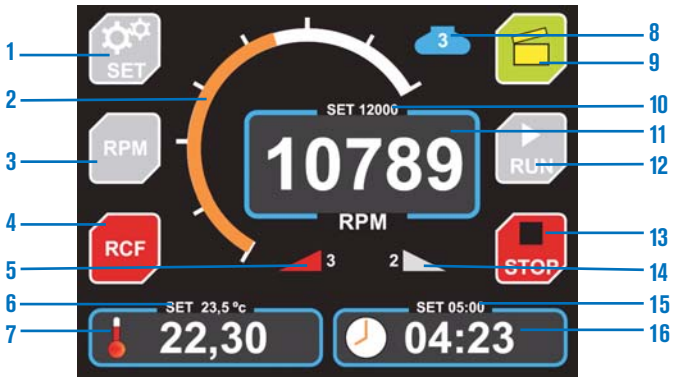
Cross-section of the motor, rotor drive mechanism, showing the windbreak protector with lid that reduces the air resistance and maintains a regulated temperature.

FEATURES

Case: internal structure of tubular steel with lateral Dur-al supports.
Internal Stainless steel bowl .
Aluminium windbreak cover with detector and alarm sensor that prevents the centrifuge operation without it.
Safety shield: 8 mm thick steel.
Swing-out rotor, buckets and adapters made of high-density material, engraved identification unalterable.
Suspended motor with silent-block and shock absorbers that guarantee smooth, quiet operation without vibrations.
Drive force: equipped with an induction drive maintenance free and highly efficient pollution free motor.
Semi-hermetically sealed, compressor pollution free with no hydrocarbons or fluorocarbons.
Mounted on an anti vibration adjustable rubber feet.
Microprocessor digital control of all functions: speed, acceleration, brake, R.C.F., temperature, time, 20 program memory, rotor identification, operation fault alarm.
Digital indicator of the rotor and blood bag buckets operating hours.

SAFETY:
SAFETY, CONFORMS TO UNE-EN 61010-2-020.
PROTECTIVE INTERNAL CYLINDER BETWEEN THE CASE AND BOWL.
THE LID CANNOT BE OPENED WHILE THE ROTOR IS SPINNING.
THE MOTOR CANNOT SPIN WHILE THE LID IS OPEN.
IMBALANCE DETECTOR, AUTOMATICALLY STOPS IF THERE IS ANY IMBALANCE.
DOUBLE ELECTROMAGNETIC LID LOCK.
IF THERE IS A POWER FAILURE, A FAIL SAFE SYSTEM CAN BE USED TO OPEN THE LID.
EMERGENCY STOP BUTTON.

CONTROL PANEL
Touch screen



1. Enter parameters key.
2. Speed analog indicator .
3. RPM reading key.
4. RCF reading key.
5. Acceleration ramp programmed.
6. Temperature programmed. (refrigerated models only).
7. Reading the real time temperature. (refrigerated models only).
8. Rotor model in use.
9. Door opening key.
10. RPM or RCF programmed.
11. RPM or RCF real-time reading
12. Start process key.
13. Stop process key.
14. Programmed braking ramp.
15. Time set-up in process.
16 Elapsed time reading.

Image showing the rotor and double buckets for quad and triple blood bags of 500 and 800 ml.

TECHNICAL SPECIFICATION

Maximum volume:	9600 ml
Maximum bucket volume:	1600 ml
Speed:	from 300 to 4070 r.p.m.
Accuracy:	± 5 r.p.m.
Resolution r.p.m.:	10 r.p.m.
R.C.F.:	from 29 to 5370
Imbalance:	± 5 g
Accuracy:	4 g
Temperature range:	from -10 °C to 35 °C
Temperature stability:	±4 °C
Resolution:	1 °C
Temperature range:	99 min. 59 sec.
Centrifuge radius:	290 mm
Acceleration profile:	5
Brake profile:	9 linear 6 quadratic
Voltage:	230/400 three phase.
Power:	4500 VA

MODEL

Part No.	Max. Volume ml	Max. Capacity	Height / Width / Depth (exterior) cm			Power W	Weight Kg
7001490	9600	6 x 1600 ml	105	96	96	5500	420

ACCESSORIES

Swing out rotor 6 place, treated steel.

Part No. **7001391**

Vasos y reductores intercambiables con señal de identificación. Autoclavables.

Buckets with two compartments for blood bags of 500 to 800 ml. For triple and quad bags
Part No.**7001392**

Single bucket. Capacity: 1 blood bag of 500 to 800 ml or 1 flask of 1 litre or with tube adapters.
Part No. **7001393**

Bags holder set for double cup 7001392
Part No. **0928292**

Adapters for single bucket Part No. 7001393.

Bottle

1001394 *7001395* *7001396* *7001397* *7001398* *7001399* *7001400* *7001401*

Double Bucket	Single Bucket	Part No. adapter	Total max. Volume (6 adapters)	Capacity: bags, tubes by adapter	Ø x Length mm	R.p.m. Min./Max.	R.c.f. (xg) Min./Max.
7001392	–	–	9600 ml	2 bags 500 or 800 ml	-	300/4070	29/5370
–	7001393 Capacity without adapter: 1 bag of 500 to 800 ml or 1x bottle 1000 ml	Bottle 1000 ml 1001394	6000 ml	1 bottle 1000 ml or 1 bag	98 x 175	300/4070	29/5370
–		7001395	3000 ml	1 bottle 500 ml	70 x 165	300/4070	29/5370
–		7001396	1200 ml	1 bottle 200 ml	56.6 x 104	300/4070	29/5370
–		7001397	1200 ml	2 tubes 100 ml	44 x 104	300/4070	29/5370
–		7001398	1200 ml	4 tubes 50 ml	34 x 100	300/4070	29/5370
–		7001399	1350 ml	9 tubes 25 ml	24 x 100	300/4070	29/5370
–		7001400	1530 ml	17 tubes 15 ml	16.5 x 100	300/4070	29/5370
–		7001401	1008 ml	24 tubes 7 ml	12 x 100	300/4070	29/5370

Note: All buckets and adapters come without tubes unless stated, see page 132 for tubes and accessories.
Other adapters can be manufactured to the customers specification.

COMPLEMENTS

Blood bank refrigerated cabinets “Blood Bank” A, B, C and D

FORCED AIR CIRCULATION.
FIXED TEMPERATURE +4 °C. STABILITY ±1.5 °C. RESOLUTION 1 °C.
SEVEN DAYS GRAPHIC TEMPERATURE REGISTER.
CAPACITIES FROM 90 TO 480 BLOOD BAGS.

FEATURES

See page. 81

MODELS	Part No.	Capacity litres	Capacity bags	Height / Width / Depht (interior) cm	Height / Width / Depht (exterior) cm	Power W	Power HP	Number of shelves	Weight Kg
Blood Bank A	2101497	319	110	139 48 45	198 60 64	360	1/4	5	98
Blood Bank B	2101498	442	150	126 58 55	198 70 71	360	1/4	5	111
Blood Bank C	2101499	600	200	136 58 69	207 70 82	350	3/8	5	115
Blood Bank D	2101500	1300	480	136 128 69	208 140 82	1100	3/8	10	190

Comes complete with steel shelves, PVC laminated.

COMMON ACCESSORIES. Tubes of glass and plastic.

Plastic tubes and flasks with screw cap lids.

Volume ml	Dimensions mm	Type	Part No.	Material	Max. (xg) range	Temperature °C
10	16 Ø x 80	Comecta	5752399	Polypropylene	50000	4 ... 121
		Herolab	5752421	Polypropylene	57000	-180 ... 145
		Herolab	5752401	Polycarbonate	57000	-150 ... 121
30	25 Ø x 92	Comecta	5752398	Polypropylene	50000	4 ... 121
		Herolab	5752955	Polypropylene	64000	-180 ... 145
		Herolab	5752951	Polycarbonate	64000	-150 ... 121
50	29 Ø x 103	Comecta	5752397	Polypropylene	50000	4 ... 121
		Herolab	5753205	Polypropylene	69000	-180 ... 145
		Herolab	5753201	Polycarbonate	69000	-150 ... 121
80	38 Ø x 105	Comecta	5752396	Polypropylene	40000	4 ... 121
		Herolab	5753243	Polypropylene	50000	-180 ... 145
		Herolab	5753241	Polycarbonate	50000	-150 ... 121
200	56.6 Ø x 104	Herolab	5715202	Polypropylene	10000	-180 ... 145
		Herolab	5715203	Polycarbonate	10000	-150 ... 121
250	62 Ø x 122	Comecta	5752395	Polypropylene	13200	4 ... 121
		Herolab	5753411	Polypropylene	33000	-180 ... 145
		Herolab	5753401	Polycarbonate	33000	-150 ... 121
500	70 Ø x 165	Herolab	5753512	Polypropylene	14000	-180 ... 145
		Herolab	5753501	Polycarbonate	14000	-150 ... 121
1000	98 Ø x 175	Herolab	5752571	Polypropylene	4936	-180 ... 145
		Herolab	5752561	Polycarbonate	4936	-150 ... 121

Type HEROLAB polycarbonate tubes transparent Polypropylene tubes translucent. Autoclavable.

Type COMECTA polypropylene translucent. Autoclavable.

Glass Tubes.

Volume	Dimensions mm	Part No.
Micro-haematocrit*	1.4 Ø x 75	7000910
7 ml	12 Ø x 100	7000773
15 ml	16.5 Ø x 100	7000772
25 ml	24 Ø x 100	7000771
50 ml	34 Ø x 100	7000770
100 ml	44 Ø x 104	7000769
250 ml	56 Ø x 147	7000768
ASTM	Conical	7001088
ASTM	Pear shape	7000767

*Box of 100 tubes.

SPARE

Buckets for angle rotors.

Suitable for model	Part No. 7001403 15 ml plastic	Part No. 7001500 15 ml metal	Part No. 7005000 50 ml metal	Part No. 7001000 100 ml metal
Cencom II Part No. 7002240	Yes			
Centro-8 Part No. 7002356		Yes		
Centromix II-BL Part No. 7002555		Rotor 7000550		
Meditronic BL-S Part No. 7001376		Rotor 7000743	Rotor 7000742	Rotor 7000741
Medifriger BL-S Part No. 7001377		Rotor 7000743	Rotor 7000742	Rotor 7000741
Macrotronic BL Part No. 7001385		Rotor 7000560	Rotor 7000561	
Macrofriger BL Part No. 7001386		Rotor 7000560	Rotor 7000561	

ALL THE ROTORS, BUCKETS AND ADAPTERS COME WITH LASER ETCHED IDENTIFICATION.

Centrifuge kit for separating plasma rich platelets from whole blood

MADE UP OF:

Centrifuge "CENTRO-4-BL"

Swing-out rotor (not an angle rotor), that performs the correct separation of the distinct blood fractions.
Capacity: 4 tubes, 75 x 13 mm VAC tubes.
Electronic control with digital display. Maximum speed of 5000 r.p.m. Maximum time 15 minutes or continuous operation. Fixed acceleration and deceleration rate.
Strong moulded external case of ABS plastic, extremely light weight, (6 Kg).
Part No. **7002560**

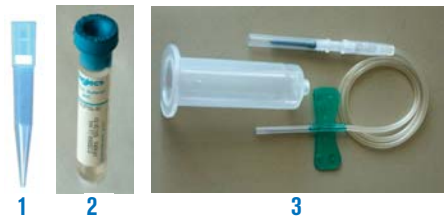
Metallic thermostat dry block "BIO-BATH"

Small size with a fixed temperature of 37 ºC with check thermometer, 8 tube positions for 75x13 VAC tubes.
Note: Reduces the waiting time for the patient.

MODEL

Part No.	Height / Width / Depht (exterior) cm	Stability ºC	Power W	Weight Kg
7001561	8.8 9.6 7	0.5	8	0.5

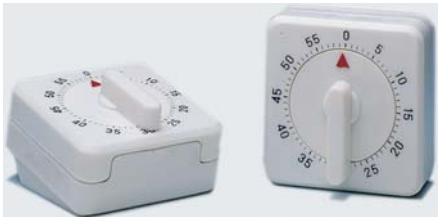
Part No. **5904013** **Pipette** fixed volume "Dispen-Fix" 50 µl
Part No. **5904014** **Pipette** fixed volume "Dispen-Fix" 100 µl
Part No. **5904017** **Pipette** fixed volume "Dispen-Fix" 500 µl
Part No. **1001562** **Support** rack made from stainless steel for 3 pipettes
Part No. **1001563** **Tube rack** made from stainless steel for 24 tubes (6x4) of 75x13 mm VAC tubes.
Part No. **1001574** **Flask** containing 10% calcium chloride, quantity 30 units. 10 ml. per flask.
Part No. **1001568** **Strap** bracelets of pure silicon "Esmarch". 3 units.



1 2 3

1 Part No. **1001558** **Pipette tips, sterile** with filters packed as individual tips, size 5-200 µl, and quantity 250 units.*
1 Part No. **1001559** **Pipette tips**, sterile with filters packed as individual tips, size 100-1000 µl, and quantity 250 units.*
2 Part No. **1001565** **Tubes VE** Sodium citrate 75x13mm VAC tubes, blue 4 ml sterile tubes. Box of 100 units.
2 Part No. **1001566** **Tubes** 75x13 mm sterile,100 units in bags of 4 units.
3 Part No. **1001567** **Micro extractor** for the extraction of blood by vacuum. Box of 50 units. Complete with two adapters.

Note: * All above components are individually sterilized.
If aseptic conditions are required a laminar flow cabinet should be used for sample manipulation.



Part No. **5900499** **Timer alarm bench top** "RELAVIS" 0-60 minutes.

J.P. SELECTA has designed an effective small centrifuge and thermostat dry block that is suitable for easy transportation for consultants, emergency services, reception labs and clinical trials etc. To maintain the complete kit, a robust **metallic case** with moulded interior is provided. The complete kit comprises of:

1 centrifuge "Centro-4", 1 metallic thermostat dry block "Bio-Bath", mains cables, 3 fixed volume pipettes "Dispen-Fix", 1 rack 24 tubes, 1 timer "Relavis", and 2 boxes for consumables, tubes, tips, micropercusors, strips and flasks. In the lid are clip positions for easy access for the pipette rack and 3 pipettes. Total weight with all items: 11.5Kg.

Part No. **1001570** **Metallic** case with moulded compartments Armaflex, two perspex boxes for tubes and consumable Clips for pipette support.

STERILIZATION AND BACTERIOLOGICAL OVENS - FURNACES

Poupinel sterilizers	page	137
Drying and sterilization ovens	pages	138 to 150
Universal precision ovens	pages	143 to 144
High temperature ovens	page	147
Vacuum ovens	pages	148 to 149
Desiccators	page	150
Bacteriological incubators	pages	151 to 154
Cooled low temperature incubator	pages	155 to 156
Incubator chamber	page	157
CO_2 incubator	page	158
Cooled incubators	pages	159 to 161
Electric muffle furnaces	pages	162 to 164

"The key to quality is found in the personal commitment of each and every one within a company and by the management taking the lead."
Eugenio d'Ors

LABORATORY OVENS AND INCUBATORS

Leading edge technology. Maximum Precision.

Drying and sterilization ovens:

Drying: For all drying processes of diverse laboratory material or glass material in general, printed circuits, granule and powder, etc.

Sterilization: They guarantee microorganisms destruction, either pathogen ones or not, which will be over or inside the material. They allow sterilization of powder and non-volatile viscose substances. For a good sterilization, a temperature between 160 ºC and 180 ºC and 2 hours exposition is usually required.

Vacuum drying ovens:

They are developed for applications of thermal and drying treatments of heat-sensitive products.

Bacteriological culture ovens:

For microorganisms or culture incubation in clinical diagnosis, in sanitary or nutritious industry. The samples are preserved at a determined temperature and period of time.

Cooled low temperature ovens:

For microorganisms or culture incubation, in clinical diagnosis, in sanitary or nutritious industry. The samples are preserved at a determined temperature and period of time.

Anaerobic cell and tissue cultures for CO_2 ovens:

Essential element in laboratories for research, cell biology, molecular biology, different cancer sorts and general pharmaceutical laboratories.

Conforms to the international directives for safety and precision.
MODEL RANGE:

- ***Drying and sterilization.***
- ***Universal: Programmed for cultures and sterilization.***
- ***Vacuum drying.***
- ***Bacteriological cultures.***
- ***Low temperature- High Precision Peltier systems.***
- ***CO_2 Incubators.***
- ***Precise refrigerators and cooled incubators.***
- ***More than 70 models with capacities from 19 to 720 litres.***
- ***Controllable temperatures from −10 to 250 °C and 400 °C.***
- ***Analogue or digital control through a microprocessor for temperature and time.***
- ***Wide range of accessories for varying applications.***

OVENS, INCUBATORS AND FURNACES

Summary table of the different models

QUICK OVERVIEW

MODEL RANGE STERILIZERS POUPINEL	MODELS	CONTROL	CAPACITY					Safety	RS-232	USB
			2.5 litres	19 litres						
100 ... 250 °C	DRYTIME	ANALOGUE	2000911	-				YES	-	-
60 ... 250 °C	DRYTERM	ANALOGUE	-	2000787				YES	-	-
GLASS DRYING			126 litres							
40 ... 170 °C	DRYGLASS	ANALOGUE	2000381					YES	-	-
CONVECTION NATURAL			19 litres	36 litres	52 litres	80 litres	150 litres			
40 ... 250 °C	CONTERM	ANALOGUE	2000208	2000209	2000200	2000210	2000201	YES		-
Ambient+5 ... 250 °C	DIGITHEAT-TFT	TFT Touch screen µ	2001251	2001252	2001253	2001254	2001255	YES	YES	YES
FORCED AIR, FAN CONVECTION BENCH TOP				33 litres	47 litres	76 litres	145 litres			
Ambient+5 ... 250 °C	DIGITRONIC-TFT	TFT Touch screen µ		2005163	2005165	2005167	2005169	YES	YES	YES
Ambient+5 ... 250 °C	DIGITRONIC-TFT glass door	TFT Touch screenµ		2005164	2005166	2005168	2005170	YES	YES	YES
FORCED AIR, FAN CONVECTION FLOOR STANDING			216 litres	288 litres	400 litres	720 litres				
Ambient+5 ... 250 °C	DRYBIG 230/400V III PHASES	DIGITAL µ	2002961	2002971	2003721	2003741		YES	YES	YES
Ambient+5 ... 250 °C	DRYBIG 230V I PHASE	DIGITAL µ	2002962	2002972	-	-		YES	YES	YES
HIGH TEMPERATURE			80 litres							
60 ... 400 °C	HIGHTEMP 230/400V III PHASES	DIGITAL µ	2001406					YES	-	-
VACUUM OVEN			3 litres	47 litres						
35 ... 200 °C	VACIOTEM T	DIGITAL µ	-	4001489				YES	YES	YES
35 ... 200 °C	VACIOTEM TV	DIGITAL µ	-	4001490				YES	YES	YES
Ambient+5 ... 170 °C	VACUO-TEMP	DIGITAL	4000474					YES	-	-
DESICCATOR			55 litres							
			1001403					YES	-	-
INCUBATION CHAMBER			110 litres							
Ambient+5 ... 57 °C	BOXCULT	DIGITAL	3000957					YES	-	-
INCUBATORS BENCH TOP			19 litres	36 litres	52 litres	80 litres	150 litres			
Ambient+5 ... 80 °C	INCUBAT	ANALOGUE	2000205	2000206	2001615	2000207	2000994	YES	-	-
Ambient+5 ... 80 °C	INCUDIGIT-TFT	TFT Touch screen µ	2001256	2001257	2001258	2001259	2001260	YES	YES	YES
INCUBATORS LARGE AND FLOOR STANDING			288 litres	400 litres	720 litres					
Ambient+5 ... 80 °C	INCUBIG-TFT	TFT Touch screen µ	2000238	2000239	2000240			YES	YES	YES
LOW TEMPERATURE CABINETS			36 litres	80 litres	150 litres					
5 ... 60 °C	PREBATEM-TFT	TFT Touch screen µ	2000963	2000964	2000965			YES	YES	YES
CO_2 INCUBATOR					150 litres					
Ambient+5 ... 50 °C	INCUBATOR CO_2	DIGITAL µ			4002628			YES	YES	YES
WITH REFRIGERATION			160 litres	319 litres	442 litres	600 litres				
+5 ... 65 °C	HOTCOLD-S	DIGITAL µ	2101618	-	-	-		YES	-	-
0 ... 50 °C	HOTCOLD A-B-C	DIGITAL µ	-	2101502	2101503	2101504		YES	YES	YES
-10 ... 50 °C	HOTCOLD UB - UC	DIGITAL µ		-	2101505	2101506		YES	YES	YES
5 ... 50 °C	HOTCOLD GL	DIGITAL µ	-	-	-	2101507		YES	YES	YES

MUFFLE FURNACE			3 litres	3.6 litres	8 litres	9 litres				
Up to ... 1150 °C	SELECT-HORN-TFT	TFT Touch screen	-	2000366	-	2000367		YES	YES	YES
Up to ... 1100 °C	R	TFT Touch screen	2000368	-	2000369	-		YES	-	-

µ: with microprocessor.

Poupinel dry heat sterilizer “Drytime”

ADJUSTABLE TEMPERATURES FROM 100 °C UP TO 250 °C.
STABILITY: ±6 °C.

APPLICATIONS

For quick surgical sterilization of diverse instruments surgical odontological, etc.

FEATURES

Heating by shielded elements in the base which provide a rapid temperature rise.
Flap door.
Inner chamber in AISI 304 stainless steel.
Removable tank with extraction clamps.
Epoxy-coated outer casing.

SAFETY

Over temperature cut out incorporated. EN.61010 Standard.

CONTROL PANEL

Mains switch.
Mains indicator lamp.
Hydraulic thermostat for temperature control.
Timer 0 to 120 min. with automatic off.
Analogue temperature reading thermometer.

Part No. 00009096

MODEL

Part No.	Capacity litres	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
2000911	2.5	5 30 16	17 40 32	430	8

Poupinel dry heat sterilizer “Dryterm”

ADJUSTABLE TEMPERATURES FROM 60 °C UP TO 250 °C.
STABILITY: ±10 °C.

APPLICATIONS

For surgical sterilization of diverse instruments surgical odontological,etc.

FEATURES

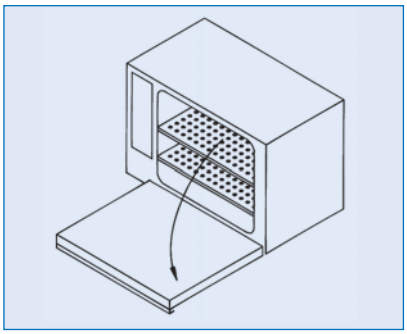
Heating by shielded elements in the base that provides a rapid rise in temperature.
Flap door.
Inner chamber made of AISI 304 stainless steel, complete with a heater cover, three shelf runners and two perforated shelves 10 mm high.
Epoxy-coated outer casing.

SAFETY

Over temperature cut out incorporated. EN.61010 Standard.

CONTROL PANEL

Hydraulic thermostat temperature control.
Locking device for thermostat knob.
Timer 0 to 120 min. with automatic switch off.
Heater “ON” indicator.
Analogue temperature reading thermometer.



MODEL

Part No.	Capacity litres	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
2000787	19	25 32 23	37 54 34	770	19

Glass drying oven “Dryglass”

FAN ASSISTED AIR CIRCULATION.
ADJUSTABLE TEMPERATURE FROM 40 °C TO 170 °C.

SAFETY:
EN.61012 STANDARD OVER TEMPERATURE SAFETY CUT OUT FITTED.
DIN 12880. STANDARD (CLASS 2 AND 3.1) ADJUSTABLE SAFETY THERMOSTAT FITTED.

FEATURES

Hydraulic thermostat for temperature control.
Air circulation by turbo fan.
Inner chamber made of AISI 304 stainless steel with shelf runners.
Removable tempered glass sliding doors.
Ventilation port for steam.
Epoxy coated external case.

STANDARD EQUIPMENT

2 shelves and 4 shelf guides.

CONTROL PANEL

Dual heating power selector switch.
Mains indicator lamp.
Hydraulic thermostat for temperature control.
Locking system of thermostat knop.
Heater “ON” operation indicator lamp.
Analogue thermometer.
Adjustable over temperature safety thermostat, that cuts off the power if the control thermostat fails, manual reset with “on” indicator lamp.

MODEL

Part No.	Capacity litres	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Shelf Positions	Power W	Weight Kg
2000381	126	45 70 40	66 94 54	8	3000	65

ACCESSORIES

Accessories must be factory installed.

Part No.

2000002 **Timer switch** 0-120 minutes.
2000003 **Timer switch** 0-12 hours.

2000009 **24 hour programmer** with continuous on/off cycling up to every 15 minutes.

SPARES

Part No.
2000081 **Shelf guides** x 2.
2000091 **Shelf.**
Each shelf requires 2 guides.

OVENS AND INCUBATORS PREMIER RANGE

PREMIER SERIE

MODELS:
- NATURAL AIR CONVECTION, DRYING AND STERILIZATION.
- FAN ASSISTED CIRCULATION, UNIVERSAL APPLICATIONS.
- NATURAL AIR CONVECTION, BACTERIOLOGY AND INCUBATION.

CONTROL: ANALOGUE OR DIGITAL MICROPROCESSOR CONTROL OF TEMPERATURE AND TIME, MODEL DEPENDENT.
COMPLIES WITH THE STANDARDS: DIN 50011 - DIN 58945. REQUIRED FOR HEATING, STABILITY AND HOMOGENEITY.

SAFETY:
STANDARD EN.61010. INCORPORATED FIXED OVER TEMPERATURE DEVICE .
STANDARD DIN 12880. (CLASS 2 AND 3.1)SAFETY THERMOSTAT CONTROLLER FITTED.

Leading edge technology

Detailed longitudinal cross section.

COMMON FEATURES

Construction.

1. External case treated with a corrosive resistant epoxy coating.
2. Internal part: Easy to clean AISI 304 stainless steel double chamber, self adjusting door seal and adjustable shelves and guides.
3. Control panel: independent insulated control panel to facilitate all types of instruments, controls and regulators.
4. Adjustable air inlet.
5. Flexible floating door seal, self adjusting that maintains the best possible seal.

Technical Properties.

6. Excellent thermal qualities of the insulation has the optimum performance according to heater capacity and power consumption, with minimal external temperature loss.
7. Independent heating chamber for the heating elements to obtain an even heat distribution and rapid temperature equilibrium and stabilization.

Fan assisted convection models have a turbo fan.
All incubators for bacteriology and cell culture have a second inner door of tempered glass.

Technology from J. P. Selecta:

8. **Adjustable guide and shelf positions.**
9. **Double seal around the chamber to provide a gentle but effective seal.**
10. **Floating spring door that adjusts the pressure and absorbs the thermal expansion.**
11. **Adjustable door pressure system closure.**

Internal tempered glass door.

NOTE:
For all models, the values for stability and homogeneity shown are based on temperature conditions with the ventilation closed.
The optimum homogenization of temperature within the chamber is based on a reasonable load that does not surpass more than 70 % of the volume of the chamber. The graphic results shown for temperature for each model are based on the above criteria.

CONTROL PANELS

Models with Analogue control.

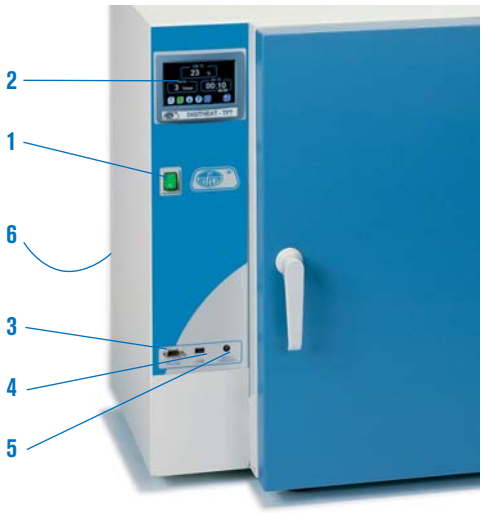
1. Main switch.
2. "On" indicator lamp.
3. Temperature control thermostat.
4. Heating "ON" indicator lamp.
5. Analogue thermometer temperature indicator.
6. Vacant positions for additional accessories.
7. Controllable safety thermostat that disconnects power to the heater in case of a fault in the main thermostat, manual reset (Directive DIN12880.2 class 2 and 3.1) and function signal lamp.

Models with 4.3 inches TFT touch screen.

1. Main switch.
2. TFT touch screen:

Visual audible alarm .
Clock calendar.
Single or cyclic On / Off programming.
Up to 10 work programs.
Up to 6 segments per program.
Stability time in each segment (from 1 min to 99h) .
Alarms and events storage.
Probe error detection.
Self Diagnostics.
Ramps between segments.
Door open alarm.
Network failure detection and saving.
Over temperature and low temperature alarms and memorization (date, start time, end time and temperature).
Safety thermostat (TS) by software.
Mechanic safety thermostat (TS).
PC software.
User manual on screen.
Temperature control auto-tuning.
Configurable parameters: Date / time, temperature correction , data collection interval, language (English, Spanish and French) , °C / °F selection , over temperature and low temperature limit.

3. **RS-232 output.**
4. **USB output.**
5. **Security thermostat.**
6. **Ethernet output para for LAN connection.**



MODEL SUMMARY TABLE

Models	CONTERM	DIGITHEAT	DIGITRONIC	INCUBAT	INCUDIGIT
TYPE	**Drying Oven**	**Drying Oven**	**Universal**	**Bacteriological Incubator**	**Bacteriological Incubator**
CONTROL	**Temperature**	**Temperature + time**	**Temperature + time**	**Temperature**	**Temperature + time**
DISPLAY	**Analogue**	**Digital**	**Digital**	**Analogue**	**Digital**
AIR	**Convection**	**Convection**	**Fan assisted**	**Convection**	**Convection**
CIRCULATION	**natural**	**natural**		**natural**	**natural**
CAPACITY LITRES	**19 - 36 - 52 - 80 - 150**	**19 - 36 - 52 - 80 - 150**	**33 - 47 - 76 - 145**	**19 - 36 - 52 - 80 - 150**	**19 - 36 - 52 - 80 - 150**

ACCESSORIES

Part No.
2000002 **Timer switch** 0-120 minutes.
Suitable for **CONTERM**.
2000003 **Timer switch** 0-12 hours.
Suitable for **CONTERM** and **INCUBAT.**

2000009 **24 hour programmer** with continuous on/off cycling up to every 15 minutes.
Suitable for **CONTERM** and **INCUBAT.**

Part No.
2000016 **Digital printer for time and temperature** with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.
Suitable for **DIGITHEAT**, **DIGITRONIC** and **INCUDIGIT.**

Optional communication modules
Part No. 2101623 Module for Wifi network.
Part No. 2101624 Module for Bluetooth.
Part No. 2101625 Module RF.
Part No. 2101626 RS-232 to RS-485 converter.
Suitable for **DIGITHEAT**, **DIGITRONIC** and **INCUDIGIT.**

DRYING AND STERILIZATION OVENS

PREMIER SERIE

REGULATION A SYSTEM

Drying and sterilization ovens “Conterm”

NATURAL CONVECTION.
TEMPERATURE THERMOSTAT CONTROL WITH ANALOGUE THERMOMETER.
FOR ADJUSTABLE TEMPERATURES FROM 40 °C UP TO 250 °C.
STABILITY: ±0.3 °C UP TO 150 °C. HOMOGENEITY: ±3,25 °C UP TO 150 °C.

SAFETY:
STANDARD EN.61010. INCORPORATED FIXED OVER TEMPERATURE DEVICE .
STANDARD DIN 12880. (CLASS 2 AND 3.1) SAFETY THERMOSTAT CONTROLLER FITTED.

FEATURES, CONTROL PANEL, SAFETY, STANDARD AND ACCESSORIES (see pages 139 and 140).

Models Conterm, Part No. 2000208, 2000209 and 2000210.

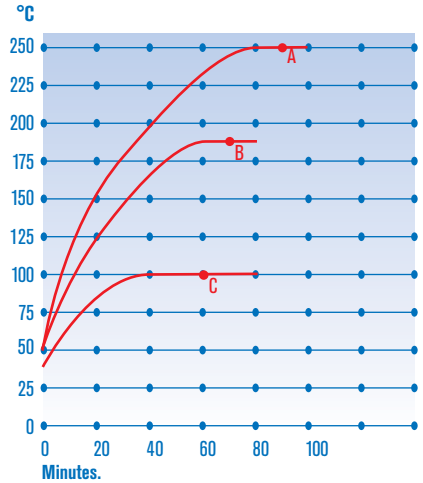
Model Conterm type Poupinel, Part No. 2000200 and 2000201.

STANDARD EQUIPMENT

2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Shelf Positions	Power W	Weight Kg
2000208	19	30 25 25	50 60 44	5	640	27
2000209	36	40 30 30	60 65 49	7	950	35
2000200	52	33 47 33	53 82 52	5	1075	44
2000210	80	50 40 40	70 74 59	8	1230	54
2000201	150	50 60 50	70 95 68	8	2150	76



Performance graph of temperature and time.
A. Set at 250 °C: 1 h 30'.
B. Set at 180 °C: 1 h 12'.
C. Set at 100 °C: 1 h.

ACCESSORIES

Accessories must be installed in the factory.

Part No.
2000002 **Timer switch** 0-120 minutes.
2000003 **Timer switch** 0-12 hours.

2000009 **24 hour programmer** with continuous on/off cycling up to every 15 minutes.

SPARES

Shelves and guides.

Oven Part No.	2000208	2000209	2000200	2000210	2000201
Guides set (2 units)	2000011	2000012	2000012	2000013	2000015
Shelves	2000021	2000022	2000024	2000023	2000025

Each shelf requires two guides (one set).

Drying and sterilization ovens “Digitheat-TFT”

PREMIER SERIE

REGULATION B SYSTEM

NEW DESIGN

NATURAL CONVECTION.
MICROPROCESSOR CONTROL WITH TFT TOUCH SCREEN.
ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C UP TO 250 °C.
STABILITY: ±0.3 °C, UP TO 150 °C. HOMOGENEITY: ±3,25 °C, UP TO 150 °C.
SET ERROR: ±2 % OF THE WORKING TEMPERATURE. RESOLUTION: 1 °C.

SAFETY:
STANDARD EN.61010. INCORPORATED FIXED OVER TEMPERATURE DEVICE .
STANDARD DIN 12880. (CLASE 2 AND 3.1)CONTROLLABLE SAFETY THERMOSTAT FITTED.

Reaches working temperature with minimum delay

USB

RS232

FEATURES, CONTROL PANEL, SAFETY, STANDARD AND ACCESSORIES (see pages 139 and 140).

Model Digitheat type Poupinel, Part No. 2001253 and 2001255.

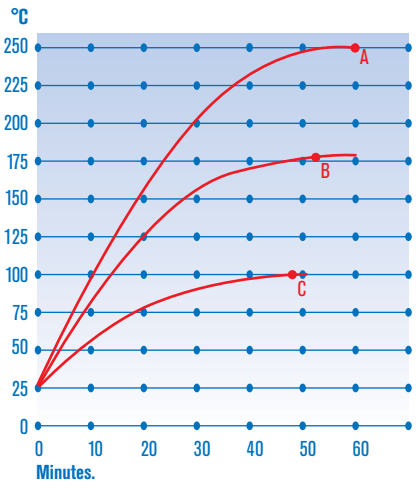
Model Digitheat, Part No. 2001251, 2001252 and 2001254.

STANDARD EQUIPMENT

2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Shelf Positions	Power W	Weight Kg
2001251	19	30 25 25	50 60 44	5	600	24
2001252	36	40 30 30	60 65 49	7	900	35
2001253	52	33 47 33	53 82 52	5	1000	44
2001254	80	50 40 40	70 74 59	8	1200	59
2001255	150	50 60 50	70 95 68	8	2100	73



Performance graph of temperature and time.
A. Set at 250 °C: 60'.
B. Set at 180 °C: 54'.
C. Set at 100 °C: 48'.

ACCESSORIES

2000016 Digital printer for time and temperature with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.

SPARES

Shelves and guides.

Oven Part No.	2001251	2001252	2001253	2001254	2001255
Guides set (2 units)	2000011	2000012	2000012	2000013	2000015
Shelves	2000021	2000022	2000024	2000023	2000025

Each shelf requires two guides (one set).

Universal precision ovens “Digitronic-TFT”

FAN ASSISTED CIRCULATION.
BACTERIOLOGICAL ASSAYS, DRYING PROCESSES AND STERILIZATION.
MICROPROCESSOR CONTROL WITH TFT TOUCH SCREEN.
ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C UP TO 250 °C.
STABILITY: ±0.3 °C, UP TO 100 °C. HOMOGENEITY: ±1 °C, UP TO 100 °C.
SET ERROR: ±2% OF THE WORKING TEMPERATURE. RESOLUTION: 1 °C.

PREMIER SERIE

REGULATION B SYSTEM

NEW DESIGN

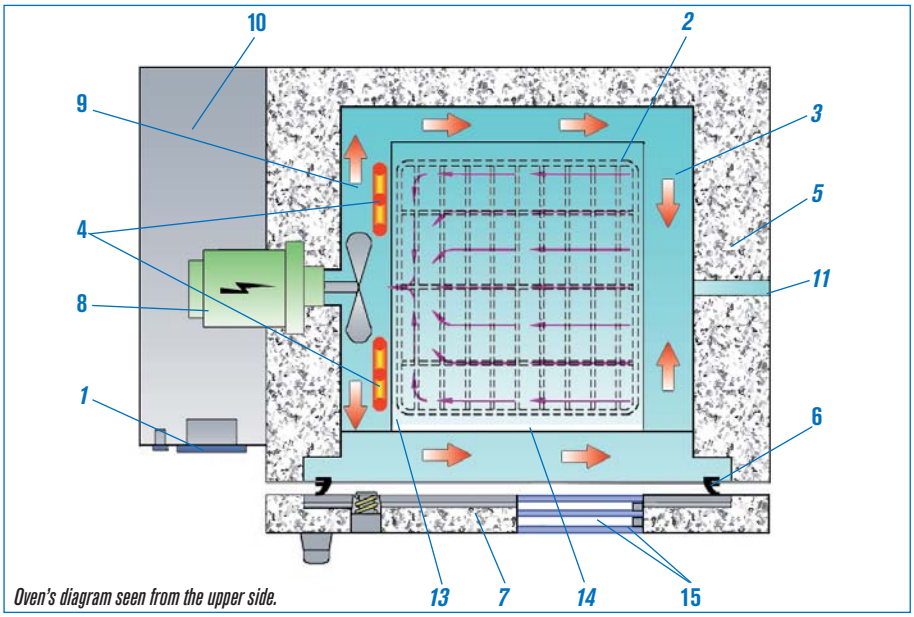
SAFETY:
EN.61012 STANDARD OVER TEMPERATURE SAFETY CUT OUT FITTED.
ADJUSTABLE OVER TEMPERATURE SAFETY THERMOSTAT DIN 12880. (CLASS 2 AND 3.1) FITTED.

Multipurpose oven. Fast response and recuperation of temperature.

FEATURES

1. TFT touch screen.
2. Inner chamber made of AISI 304 stainless steel.
3. Pre-mixing chamber made of AISI 304 stainless steel.
4. Homogeneously distributed shielded heating elements with complete air circulation throughout.
5. Low external temperature due to excellent thermal insulation.
6. Flexible silicon door gasket around the entrance of the chamber.
7. Excellent door seal due to the floating inner door that adjusts and absorbs the thermal expansion.
8. Turbo fan made of AISI 304 stainless steel that makes to circulate the air at the working temperature.
9. Diagram showing the air flow from the pre-mixing chamber around the heating elements prior to entry to the oven’s chamber.
10. Independent insulated control box.
11. Epoxy coated outer case.
12. Ventilator with adjustable outlet (access at the back of the unit).
13. Adjustable height positions for guides and shelves.
14. Shelves made of AISI 304 stainless steel.
15. Toughened double safety glass door for viewing the contents of the oven without having to open the door. (Model dependent).

CONTROL PANEL, SAFETY, STANDARD AND ACCESSORIES (see pages 139 and 140).



Oven’s diagram seen from the upper side.

USB

RS232

Temperature ramps graphic.

Model Digitronic with solid metal door. Part No. 2005163 and 2005167. (With toughened glass window door. Part No. 2005164 and 2005168).

Model Digitronic type Poupinel, door with toughened double glass window Part No. 2005166 and 2005170.

Model Digitronic type Poupinel, Part No. 2005165 and 2005169.

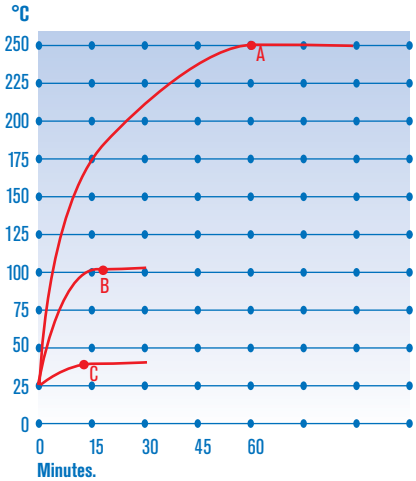
STANDARD EQUIPMENT

2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Door Type	Heating rate to 100 ºC minutes	Recovery time* minutes	Complete air exchange per hour	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Shelf Positions	Power W	Weight Kg
2005163	33	metal	15	7	16	40 28 30	60 65 55	7	1200	38
2005164	33	glass	15	7	16	40 28 30	60 65 55	7	1200	40
2005165	47	metal	16	7	16	33 45 32	53 81 58	5	1200	46
2005166	47	glass	16	7	16	33 45 32	53 81 58	5	1200	50
2005167	76	metal	17	9	14	50 38 40	70 75 65	8	1600	58
2005168	76	glass	17	9	14	50 38 40	70 75 65	8	1600	64
2005169	145	metal	17	10	12	50 58 50	70 95 72	8	2000	74
2005170	145	glass	17	10	12	50 58 50	70 95 72	8	2000	79

* Recovery time: the door was opened for 1 minute. After that, this is the time to recover the set temperature to 100 °C.



Note: The stability and homogeneity curves for time and temperature shown on the graph apply to models that have a metal door.

Performance graph of temperature and time.
A. Set at 250 °C: 60'.
B. Set at 100 °C: 18'.
C. Set at 37 °C: 12'.

SPARES

Shelves and guides.

Oven Part No.	2005163 2005164	2005165 2005166	2005167 2005168	2005169 2005170
Guides (2) (Set)	2000012	2000033	2000013	2000015
Shelves	2000072	2000073	2000074	2000075

Each shelf requires two guides i.e. one set.

ACCESSORIES

Preparation of furnaces for drying moisture saturated samples. (Arids, muds, sands ...)
When adding turbine, the number of renewals of the air inside the furnace per hour multiplies by 10.
Must be factory installed
Part No. 2000095

Drying and sterilization ovens “Dry-Big”

FAN ASSISTED CIRCULATION.
DIGITAL CONTROL AND DISPLAY OF TEMPERATURE AND TIME
ADJUSTABLE TEMPERATURES FROM 40 °C UP TO 250 °C
STABILITY: ±0.4 °C, UP TO 100 °C. HOMOGENEITY: ±2 °C, UP TO 100 °C
SET ERROR : ±2.5% OF THE WORKING TEMPERATURE. RESOLUTION: 1 °C

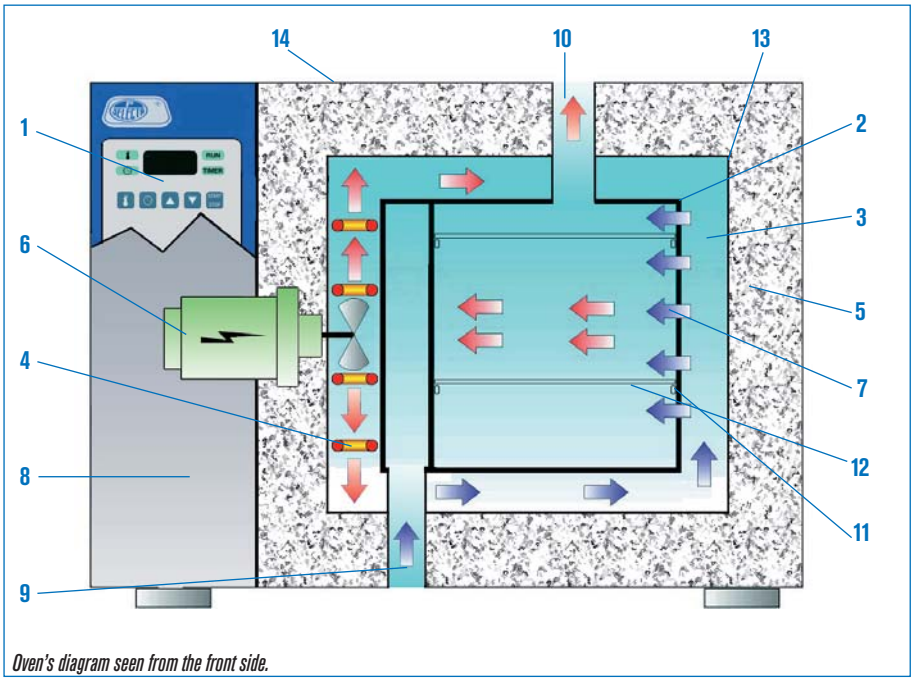
RS232

SAFETY:
STANDARD EN.61010. FIXED OVER TEMPERATURE DEVICE FITTED.
STANDARD DIN 12880. (CLASS 2 AND 3.1)ADJUSTABLE SAFETY THERMOSTAT FITTED.

Fast working and recovery temperature

FEATURES

1. Microprocessor controlled with digital display of temperature and time, pre-programmable time start and run time once the set temperature has been achieved through the Pt100 temperature sensor.
2. Inner chamber made of AISI 304 stainless steel.
3. Pre mixing chamber made of AISI 304 stainless steel.
4. Shielded heating elements with complete air circulation, homogeneously distributed throughout.
5. Low external temperature due to excellent thermal insulation.
6. Ventilation fan to force the air to circulate in the oven.
7. Diagram showing the air flow from the premixing chamber round the heating elements to the oven chamber.
8. Independent insulated control box.
9. Air inlet.
10. Ventilator with adjustable outlet of 120 Ø mm.
11. Shelf guides.
12. Shelves made of AISI304 stainless steel.
13. Flexible silicon door gasket around the entrance of the chamber.
14. Epoxy coated outer case.



Oven’s diagram seen from the front side.

CONTROL PANEL

1. Illuminated mains switch.
2. Temperature mode indicator.
3. Time mode indicator.
4. Display for temperature and time.
5. Operating, Status mode.
6. Delay time state indicator.
7. Push button temperature selector.
8. Push button time selector.
9. Push button “increase” value or parameter.
10. Push button “decrease” value or parameter.
11. Push button Stop/Start.
12. Set temperature.
13. Set run time: time period from 1 minute to 9 hours 59 minutes, or up to 99.9 hours, once the set temperature value has been reached.
14. Set wait time before starting the run, time period from: 1 to 24 hours.
15. RS-232 Interface output to a computer, for printer or USB adapter.
16. Adjustable safety thermostat that overrides the microprocessor in case of failure, with manual reset and indicator lamp.

STANDARD EQUIPMENT

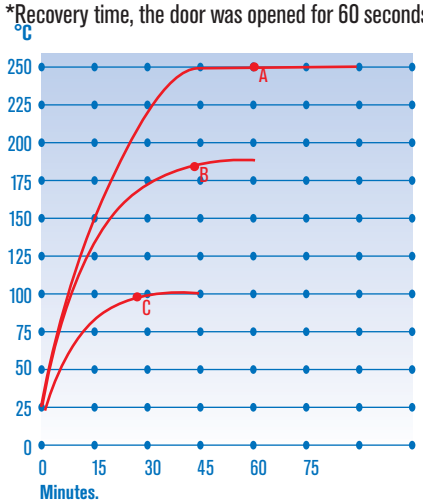
2 Shelves.

MODELS

Part No.	Voltage	Capacity litres	Heating rate to reach 100 °C, minutes	Recovery time* minutes	Air exchanges per hour	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Number of shelf positions	Power W	Weight Kg
2002961	230 / 400 three phase	216	16	10	12	60 60 60	87 112 84	6	4000	150
2002962	230 single phase									
2002971	230 / 400 three phase	288	18	10	11	80 60 60	107 112 84	8	5000	161
2002972	230 single phase									
DOUBLE DOOR CABINET										
2003721	230 / 400 three phase	400	18	13	6	100 80 50	128 132 74	10	5250	200
2003741	230 / 400 three phase	720	19	13	6	120 100 60	150 152 80	12	6000	264

Energy saving, three phase units are recommended.

*Recovery time, the door was opened for 60 seconds, time taken to recover to the set temperature of 100 °C.



Performance graph of temperature and time.
A. Set at 250 °C: 1 h 6'.
B. Set at 180 °C: 42'.
C. Set at 100 °C: 24'.

SPARES

Shelves.

Oven Part No.	2002961/62	2002971/72	2003721	2003741
Shelves	2000062	2000062	2000063	2000064

ACCESSORIES

4120131 USB adapter model.
Pen-Drive included (Memory board) for data storage.

Accessories that must be installed in the factory :

2000016 Digital printer for time and temperature with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.

2000007 Digital programmable microprocessor. Capacity: 10 programs of 100 segments. Programmable timer: up to 99 hours 59' 59''. Program repetition: up to 99 times. Programs can also be linked for up to 4 stages.
RS-232 interface for data download to a printer or computer.

High temperature oven “Hightemp”

FAN CONVECTION.
DIGITAL CONTROL AND DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURES FROM 60 °C UP TO 400 °C.
STABILITY: ±1 °C, UP TO 300 °C. HOMOGENEITY: ±3 °C, UP TO 300 °C
SET ERROR : ±2 % OF THE WORKING TEMPERATURE.

SAFETY:
STANDARD DIN 12880. ADJUSTABLE OVER TEMPERATURE THERMOSTAT FITTED.

FEATURE

Digital electronic temperature control. Independent control box chamber thermaly insulated.
Shielded heating elements.
Fan circulation motor with thermal cut out, motor operates independently from the heating elements,the motor can be activated during the cooling cycle.
Inner chamber in AISI 304 heat resistant stainless steel with a high tolerance against corrosion and high temperatures.
Fixed position shelf guides.
Ventilation device with adjustable outlet.
Epoxy-coated outer casing.

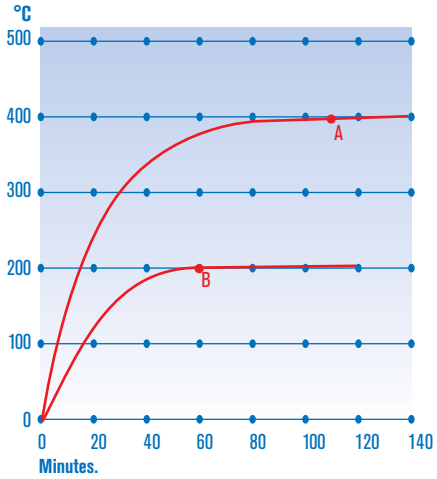
STANDARD EQUIPMENT

2 shelves made of AISI 304 stainless steel.

CONTROL PANEL

Main switch.
Mains indicator lamp.
Heater switch.
Heater operation indicator lamp.
Digital electronic temperature control.

Electronic safety thermostat with a K type probe that cuts off power to the heating elements in case of a controller fault. (standard to DIN 12.880 class 2).



Performance graph of temperature and time.
A. Set at 400 °c: 1h 50'.
B. Set at 200 °c: 1h.

ACCESSORIES. Shelves made of AISI 304 stainless steel. Part No. 2000071

MODEL

Part No.	Voltage	Capacity litres	Height / Width / Depth (interior) cm shelf			Height / Width / Depth (exterior) cm			N° of shelf positions	Power W	Weight Kg
2001406	230 / 400 three phase	80	50	40	40	80	120	61	4	4000	158

ACCESSORIES

Accessories that must be installed in factory.

Part No.

2000002 **Timer switch** 0-120 minutes.

2000003 **Timer switch** 0-12 hours.

2000009 **24 hour programmer** with continuous on/off cycling up to every 15 minutes.

Vacuum drying oven "Vaciotem-TV"

DIGITAL TEMPERATURE CONTROL, ELECTRONIC VACUUM PRESSURE DISPLAY AND TIMER.
CONTROLLABLE TEMPERATURE FROM 35 °C TO 200 °C
STABILITY ±1 °C, UP TO 100 °C. HOMOGENEITY ±3 °C, UP TO 100 °C. SET ERROR ±2 °C. RESOLUTION 1 °C.

USB

RS232

SAFETY:
OVER TEMPERATURE CUT OUT FITTED IN ACORDANCE WITH THE EN.61010 STANDARD.
DIN 12880. STANDARD ADJUSTABLE SAFETY THERMOSTAT FITTED.

FEATURE

Digital electronic control of: temperature, vacuum pressure and pre-selected programmable timer.
Temperature sensor Pt100
Automatic air inlet at the end of the operation cycle.
Heating element placed evenly around the chamber.
Chamber made of AISI 304 stainless steel.
Trays made of anodised aluminium.
Door with hardened glass window, which sits on to a silicon gasket that absorbs any contractions and expansions that may occur.
Vacuum port with bleed valve.
Air valve at the front.
Vacuum pump connection at the back.
Epoxy covered outer case.
RS-232 Interface output for parameters to a computer, printer or USB adapter.

CONTROL PANEL

1. RS232 interface.
2. Air inlet.
3. Air inlet valve.
5. Vacuum pressure indicator lamp.
6. Air inlet valve indicator lamp, end of cycle.
7. Running indicator lamp.
8. Under vacuum indicator lamp.
9. Digital vacuum display in mbar.
10. Push button to select vacuum.
11. Push button to select electronic valve at the end of the cycle.
12. Push button to increase value.
13. Push button to decrease value.
14. Push button to STOP/START.
15. Indicator of mode temperature.
16. Indicator of mode time.
17. Indicator of operating.
18. Indicator of mode waiting time.
19. Digital display of temperature or time.
20. Push button to select temperature.
21. Push button to select time.
22. Push button to increase value.
23. Push button to decrease value.
24. Push button to STOP/START.
25. Mains switch.
26. Safety thermostat in operation.

BACK

27. Air inlet.
28. Pump power connection.
29. Vacuum connection.
30. Adjustable safety thermostat

MODEL

Part No.	Vacuum Max.	Capacity litres	Ø / Depth (interior) cm	Height / Width / Depth (exterior) cm	Shelves	Power W	Weight Kg
4001490	10^{-2} mm Hg	47	34 52	54 76 70	2	2000	73

Note: To obtain the optimum homogeneity at the set temperature, the load should not surpass more than 70 % of the volume of the chamber.

ACCESSORIES

4120131 USB adapter model. Pen-Drive included (Memory board) for data storage.

Accessories see page 150

SPARE PARTS

Shelves. (2)
Part No. 2000030

Vacuum oven “Vaciotem-T”

DIGITAL TEMPERATURE AND TIMER CONTROL.
CONTROLLABLE TEMPERATURE FROM 35 °C TO 200 °C.
STABILITY ±1 °C, UP TO 100 °C. HOMOGENEITY ±2 °C, UP TO 100 °C. SET ERROR ±1 °C. RESOLUTION 1 °C.

SAFETY:
OVER TEMPERATURE CUT OUT FITTED IN ACORDANCE WITH THE EN.61010 STANDARD.
DIN 12880. STANDARD ADJUSTABLE SAFETY THERMOSTAT FITTED.

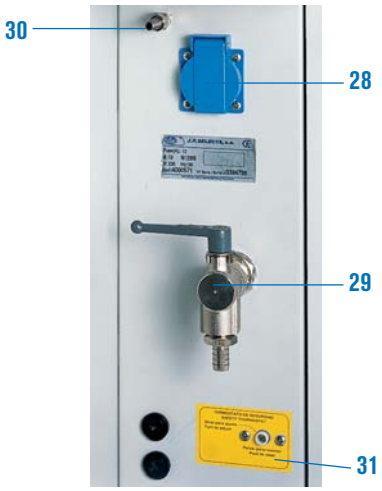
FEATURE

Digital electronic control of temperature and pre-selected programmable timer.
Running time range: from 1 minute to 9hrs 59 min. or 99.9 hrs.
Pre-program start time, (wait time range): 1 hr to 24 hrs
Temperature sensor Pt100
Heating element placed evenly around the chamber.
Chamber made from AISI 304 stainless steel.
Trays made from anodised aluminium.
Door with hardened glass window, which sits on to a silicon gasket that absorbs any contractions and expansions that may occur.
Vacuum port with bleed valve
Air valve at the front
Vacuum pump connection at the back.
Epoxy covered outer case.
RS-232 Interface output of parameters for a computer, printer or USB adapter.

CONTROL PANEL

1. RS 232 connector.
2. Air inlet.
3. Air inlet valve.
4. Vacuum gauge.
15. Temperature mode indicator.
16. Time mode indicator.
17. Operation indicator.
18. Waiting time indicator.
19. Time and temperature digital display.
20. Push button to select temperature.
21. Push button to select time.
22. Push button to increase value.
23. Push button to reduce value.
24. Push button to STOP/START.
25. Mains switch.
26. Safety thermostat indicator lamp.
27. Vacuum pump control switch.

BACK
28. Vacuum pump power connection.
29. Vacuum connection.
30. Air inlet.
31. Adjustable safety thermostat.



MODEL

Part No.	Vacuum Max.	Capacity litres	Ø / Depth (interior) cm	Height / Width / Depth (exterior) cm	Shelves	Power W	Weight Kg
4001489	10^{-2} mm Hg	47	34 52	54 76 70	2	2000	73

Note: To obtain the optimum homogeneity at the set temperature, the load should not surpass more than 70 % of the volume of the chamber.

ACCESSORIES

4120131 USB adapter model. Pen-Drive included (Memory board) for data storage.

Accessories see page 150

SPARE PARTS

Shelves. (2)
Part No. 2000030

VACUUM EQUIPMENT ACCESSORIES FOR VACIOTEM-T AND VACIOTEM-TV

Vacuum pump "VACUM-10 Pa"

ROTARY VEIN PUMP WITH ANTI RETURN VALVE PREVENTS OIL FLOW BACK, SUITABLE FOR GENERAL LABORATORY APPLICATIONS. OVER TEMPERATURE MOTOR PROTECTION CUT-OUT AND MAIN ON/OFF SWITCH. RECOMMENDED FOR THE "VACIOTEM T AND TV" AND THE DESICCATOR "VACUO-TEMP".

FEATURE

Heat resistant veins and internal joints
Aspiration inlet flange: 16 mm Ø.
High oil volume and forced lubrication.
Exhaust filter and ballast.
Shock absorber mounted.
Free from vibrations
Low noise level (62db).
Maximum working temperature 60 °C.
Portable, with lifting handle included.

MODEL

Part No.	Pump rate m^3/h	Vacuum limit mbar	Height / Width / Depth (exterior) cm	r.p.m.	Power W	Weight Kg
5900621	3,6	0.06	27 35 14	1400	180	11

Heated vacuum desiccator "Vacuo-Temp"

WITH TEMPERATURE THERMIC LIMITER.
TIME AND TEMPERATURE DIGITAL ELECTRONIC CONTROL.
ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C TO 170 °C.
STABILITY: ±1 °C. RESOLUTION: 1 °C.
TIME FROM 1' TO 999', OR CONTINUOUS.

FEATURES

AISI 304 stainless steel outer casing.
Polished aluminium alloy flat surface plate with an effective vacuum seal.
Tempered glass bell jar with silicon gasket seal.
Shielded heating element.
Pt 100 temperature probe.
Vacuum pump connection at the back of the unit.
Vacuum bleed valve.

CONTROL PANEL

Main switch.
Analogue vacuum gauge.
Digital time & temperature display.
Overheating alarm.
Visualized parameter indicator.
Push button for the visualized parameter.
Push button to increase the parameter.
Push button to decrease the parameter.
Button On-Off.

MODEL

Part No.	Vacuum Max	Usable volume litres	Ø heating plate cm	Heigth / Width / Depth (exterior) cm	Power W	Weight Kg
4000474	10^{-2} mm Hg	3	23.5	17 28 34	540	9

Supplied complete with bell jar and silicon seal.

SPARES

Tempered glass bell 15 cm high and 23 cm Ø. Part No. 4000475
Silicon seal. Part No. 4000476

Desiccator for materials

WITH HYDROMETER CONTROL.

APPLICATIONS

Cabinet with protection against humidity and dust for anhydrous, biological and chemical preservation of samples.

FEATURE

Made of robust transparent 12mm thick methacrylate.
The door has a silicon seal and magnetic catch.
Volume: 55 Litres.
Dimensions 50 cm high x 38 cm wide x 29 cm deep.
Supplied complete with three perforated shelves and a stainless steel AISI 304 tray to hold desiccating material.
Part No. 1001403

BACTERIOLOGICAL INCUBATORS

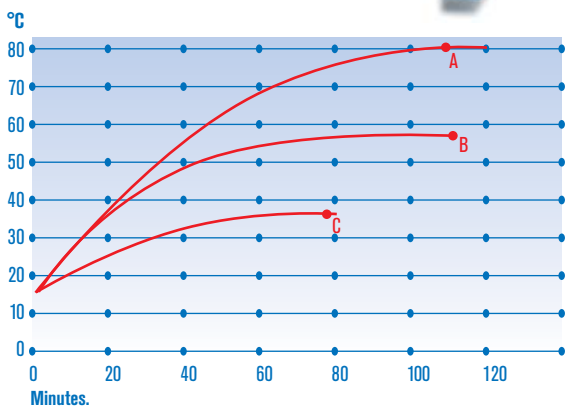
Bacteriological incubators “Incubat”

NATURAL CONVECTION.
TEMPERATURE THERMOSTAT CONTROL WITH ANALOGUE THERMOMETER.
ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C UP TO 80 °C.
STABILITY: ±0.1 °C, UP TO 37 °C. HOMOGENEITY: ±0.5 °C, UP TO 37 °C
INTERNAL GLASS DOOR.

FEATURES, CONTROL PANEL, STANDARD AND ACCESSORIES (see pages 139 and 140).

SAFETY:
OVER TEMPERATURE CUT OUT INCORPORATED ACCORDING TO THE EN.61010 STANDARD.
ADJUSTABLE SAFETY THERMOSTAT DIN 12880. FITTED.

Horizontal model. Part No. 2001615



Performance graph of temperature and time.
A. Set at 80 °C: 1 h 54'.
B. Set at 56 °C: 1 h 46'.
C. Set at 37 °C: 1 h 18'.

STANDARD EQUIPMENT

2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Shelves positions	Power W	Weight Kg
2000205	19	30	25	25	51	57	49	5	165	26
2000206	36	40	30	30	60	62	54	7	245	36
2001615	52	33	47	33	53	79	57	5	275	46
2000207	80	50	40	40	70	72	64	8	315	54
2000994	150	50	60	50	70	92	74	8	535	78

SPARES

Shelves and guides.

Oven Part No.	2000205	2000206	2001615	2000207	2000994
Set guides (2 units)	2000011	2000012	2000012	2000013	2000015
Shelves	2000021	2000022	2000024	2000023	2000025

Each shelve requires two guides (one set).

ACCESSORIES

Accessories must be factory installed.

Part No.
2000003 **Timer switch** 0-12 hours.

2000009 **24 hour programmer** with continuous on/off cycling up to every 15 minutes.

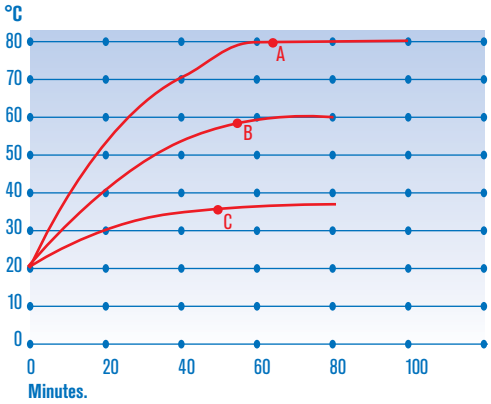
Digital bacteriological incubators “Incudigit-TFT”

NATURAL CONVECTION.
DIGITAL CONTROL AND DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C UP TO 80 °C.
STABILITY: ±0.1 °C, UP TO 37 °C. HOMOGENEITY: ±0.5 °C, UP TO 37 °C.
SET ERROR: ±2% OF THE WORKING TEMPERATURE, RESOLUTION 0.1 °C
INTERNAL TEMPERED GLASS DOOR.
DOUBLE CHAMBER, MINIMUM RISK OF SAMPLE CONTAMINATION.
INSIDE WITHOUT OPENINGS AND WITH ROUNDED CORNERS. EASY TO CLEAN.

FEATURES, CONTROL PANEL, STANDARD AND ACCESSORIES (see pages 139 and 140).

SAFETY:
OVER TEMPERATURE CUT OUT INCORPORATED ACCORDING TO THE EN.61010 STANDARD.
ADJUSTABLE SAFETY THERMOSTAT DIN 12880. FITTED.

Horizontal model. Part No. 2001258



Performance graph of temperature and time.
A. Set at 80 °C: 1 h 12'.
B. Set at 56 °C: 54'.
C. Set at 37 °C: 48'.

STANDARD EQUIPMENT

2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Shelves positions	Power W	Weight Kg
2001256	19	30	25	25	51	57	49	5	150	26
2001257	36	40	30	30	60	62	54	7	225	36
2001258	52	33	47	33	53	79	57	5	250	46
2001259	80	50	40	40	70	72	64	8	300	54
2001260	150	50	60	50	70	92	74	8	525	75

SPARES

Shelves and guides.

Oven Part No.	2001256	2001257	2001258	2001259	2001260
Guides (2) (Set)	2000011	2000012	2000012	2000013	2000015
Shelves	2000021	2000022	2000024	2000023	2000025

Each self requires two guides i.e. one set.

ACCESSORIES

must be factory installed.

2000016 **Digital printer for time and temperature** with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.

Incubators for bacteriology and cell culture "Incubig-TFT"

NATURAL CONVECTION.
MICROPROCESSOR CONTROL AND DIGITAL DISPLAY OF TEMPERATURE AND TIME.
ADJUSTABLE TEMPERATURE FROM AMBIENT +5 °C TO 80 °C.
STABILITY: ±0.1 °C, UP TO 37 °C. HOMOGENEITY: ±0.5 °C, UP TO 37 °C.
SET ERROR: ±2% OF THE WORKING TEMPERATURE, RESOLUTION 0.1 °C
INTERNAL TEMPERED GLASS DOOR.

PREMIER SERIE

REGULATION B SYSTEM

NEW DESIGN

USB

RS232

SAFETY:
STANDARD EN.61010 OVER TEMPERATURE CUT OUT FITTED.
STANDARD DIN 12880. ADJUSTABLE SAFETY THERMOSTAT FITTED.

Capacities up to 720 litres

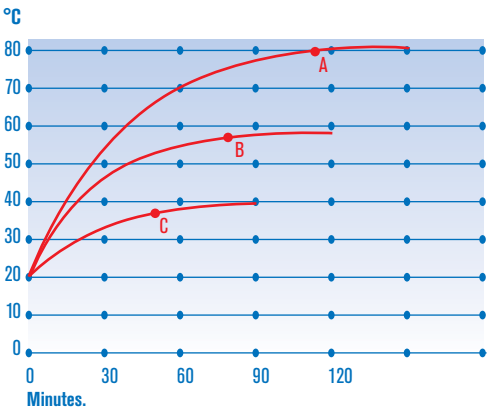
FEATURE

Microprocessor control and 4.3 inches TFT touch screen display.
Large surface area heating elements.
Inner chamber made of AISI 304 stainless steel.
Double door, interior door of tempered glass that allows the user to see the contents of the chamber without opening the door.
Adjustable air vent.
Epoxy covered external case.

STANDARD EQUIPMENT

For Part No. 2000238, 2 shelves and 4 shelf guides.
For Part No. 2000239 and 2000240, 2 shelves.

Model Part No. 2000238.



Performance graph of temperature and time.
A. Set at 80 °C: 1 h 45'.
B. Set at 56 °C: 1 h 10'.
C. Set at 37 °C: 54'.

Note: To obtain the optimum homogeneity at the set temperature, the load should not surpass more than 70 % of the volume of the chamber.

Models Part No. 2000239 and 2000240.

CONTROL PANEL

4.3 inches TFT touch screen models:

1. Main switch.
2. TFT touch screen:

Visual audible alarm.
Clock calendar.
Single or cyclic On / Off programming.
Up to 10 work programs.
Up to 6 segments per program.
Stability time in each segment (from 1 min to 99h) .
Alarms and events storage.
Probe error detection.
Self Diagnostics.
Ramps between segments.
Door open alarm.
Network failure detection and saving.
Over temperature and low temperature alarms and memorization (date, start time, end time and temperature).
Safety thermostat (TS) by software.
Mechanic safety thermostat (TS).
USB and RS -232 output.
PC software.
User manual on screen.
Temperature control auto-tuning.
Configurable parameters: Date / time, temperature correction , data collection interval, language (English, Spanish and French) , °C / °F selection , over temperature and low temperature limit.

3. **RS-232 output.**
4. **USB output.**
5. **Security thermostat.**
6. **Ethernet output para for LAN connection.**

MODELS

Part No.	Type	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Nº of shelf guides	Power W	Weight Kg
2000238	1 door	288	80	60	60	97	91	76	8	570	87
2000239	2 door	400	100	80	50	130	114	75	10	1100	160
2000240	2 door	720	120	100	60	152	134	85	12	1600	225

ACCESSORY

4120131 USB adapter model.
Pen-Drive included (Memory board) for data storage.

Accessories must be factory installed.

2000016 Digital printer for time and temperature with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.

SPARES

Shelves and guides.

Oven Part No.	2000238	2000239	2000240
Shelves	2002372	2000063	2000064
Guides (2) (Set)	2002371	-	-

Each self requires two guides i.e. one set.

Incubator for Petri capsules

NATURAL CONVECTION.
MICROPROCESSOR REGULATION AND TEMPERATURE DIGITAL CONTROL.
FOR ADJUSTABLE TEMPERATURES FROM AMBIENT +5°C TO 60°C.
STABILITY: ±0,1°C TO 37°C. HOMOGENEITY: ±0,1°C TO 37 °C. SETPOINT ERROR: ±0,1°C. RESOLUTION: 0,1°C.

Small size. Culture visual control. Transportable.

APPLICATIONS

Specially designed for bacteria and fungi cultures in Petri capsules at the same temperature of human body.

FEATURES

Culture surface 320 x 220 mm (Inner height: 20mm)
Culture visual monitoring.
Transparent cover.
Easy access to samples.
Approximate capacity: (single level) (mm)
15 Petri capsules of Ø55.
10 Petri capsules of Ø80.
7 Petri capsules of Ø90.
6 Petri capsules of Ø100.
3 Petri capsules of 120x120.
2 Petri capsules of Ø140.

MODEL

Part No.	Margin T° °C	Height / Width / Depth (Exterior) cm			Height / Width / Depth (interior) cm			Power W.	Weight Kg
4002629	Amb +5 to 60	7	45	25	2	32	22	300	3.5

Cooled low temperature incubator “Prebatem-TFT”

FORCED AIR FAN CIRCULATION.
MICROPROCESSOR CONTROLLED WITH DIGITAL DISPLAY
ADJUSTABLE TEMPERATURES FROM 5 °C UP TO 60 °C. RESOLUTION 0.1 °C
SEMICONDUCTOR HEATING AND COOLING SYSTEM.
QUIET-STABLE - FREE FROM VIBRATIONS - VERY ACCURATE - LOW POWER CONSUMPTION.
INNER TEMPERED GLASS DOOR.

PREMIER SERIE

REGULATION B SYSTEM

NEW DESIGN

USB

RS232

SAFETY: **CONFORMS TO THE DIN 50011 STANDARD FOR TEMPERATURE STABILITY AND HOMOGENEITY.**
CONFORMS TO THE DIN 12880.STANDARD ADJUSTABLE SAFETY THERMOSTAT FITTED.

Leading edge technology, Peltier effect. No compressor.

APPLICATIONS

Biotechnology, Bacteriology, Plasma fractionation, Biology, Enzymatic test, Research, Serum studies, metrology, Botany, Phytopharmacy, Cosmetics, Water analysis and Agricultural research, feeding, new techniques for protein crystallization.

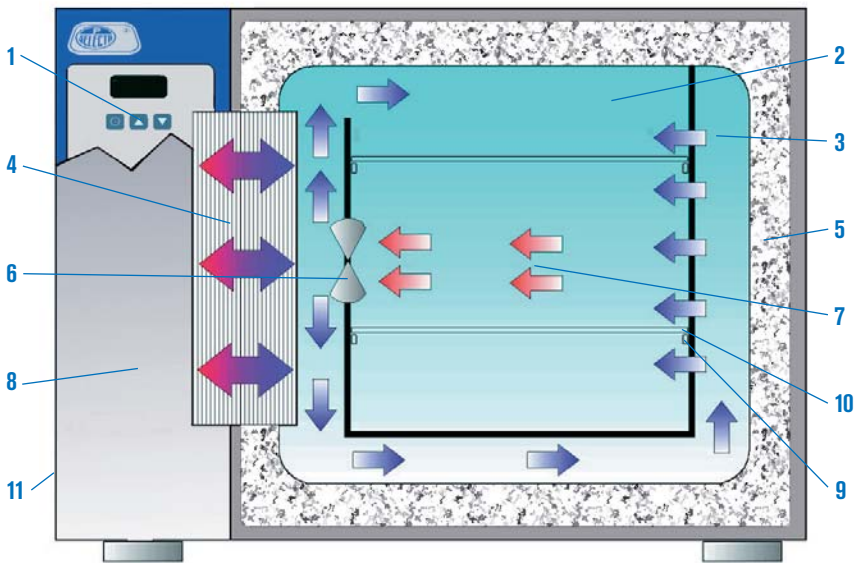
PERFORMANCE

	Specification	
	at 10 °C	at 37 °C
Stability	±0.5 °C	±0.1 °C
Homogeneity	±0.1 °C	±0.3 °C
Set error	±0.25 °C	±0.20 °C

FEATURE

1 .**4.3 inches TFT touch screen.**
2. Inner chamber and elements made of AISI 304 stainless steel.
3. Premixing temperature chamber.
4. Semiconductor- static radiator for heating and cooling.
5. Excellent thermal insulation within the chamber.
6. Turbo fan to make the air circulate.
7. Diagram showing the homogeneous air flow from the premixing chamber of the semiconductor cooling / heating system.
8. Independent insulated control box .
9. Support rack for trays.
10. Shelves of AISI 304 stainless steel.
11. Epoxy coated outer case.

Oven’s diagram seen from the front side.



Forced air passes through the heat exchanger chamber prior to entering the main cabinet chamber.

Cross section of the circulation of air maintaining the temperature in the cabinet below ambient by the use of an electronic heat exchanger rather than a compressor.

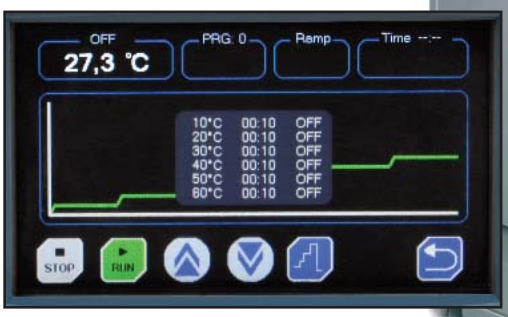
CONTROL PANEL

1. Main switch.
2. TFT touch screen:
Visual audible alarm.
Clock calendar.
Single or cyclic On / Off programming.
Up to 10 work programs.
Up to 6 segments per program.
Stability time in each segment (from 1 min to 99h) .
Alarms and events storage.
Probe error detection.
Self Diagnostics.
Ramps between segments.
Door open alarm.
Network failure detection and saving.
Over temperature and low temperature alarms and memorization (date, start time, end time and temperature).

Safety thermostat (TS) by software.
Mechanic safety thermostat (TS).
USB and RS -232 output.
PC software.
User manual on screen.
Configurable parameters: Date / time, temperature correction , data collection interval, language (English, Spanish and French) , °C / °F selection , over temperature and low temperature limit.
3. **RS-232 output.**
4. **USB output.**
5. **Security thermostat.**
6. **Ethernet output para for LAN connection.**

CONTROL PANEL

Main switch.
Mains indicator lamp.
Microprocessor control and digital temperature display.
Adjustable safety thermostat.



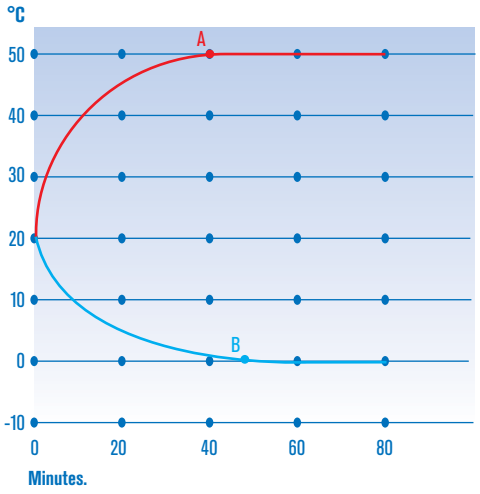
Graph of temperature ramps

STANDARD EQUIPMENT

2 shelves and 4 shelf guides.

MODELS

Part No.	Capacity litres	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Shelf guides	Power consumption W/hr. at 5 °C	at 40 °C	Power W	Weight Kg
2000963	36	40 30 30	60 65 49	7	70	50	310	54
2000964	80	50 40 40	70 75 59	8	75	55	310	73
2000965	150	50 60 50	70 95 68	8	90	60	310	94



Performance graph of temperature and time.
A. Set at 50 °C: 40'.
B. Set at 0 °C: 48'.

ACCESSORIES

Accessories must be factory installed.

Digital printer for time and temperature with numerical printout on continuous paper roll, with print intervals from 1 minute to 99 hours.
Part No. 2000016

Optional communication modules
Part No. 2101623 Module for Wifi network.
Part No. 2101624 Module for Bluetooth.
Part No. 2101625 Module RF.
Part No. 2101626 RS-232 to RS-485 converter.

Note: To obtain the optimum homogeneity at the set temperature, the load should not surpass more than 70 % of the volume of the chamber.

SPARES

Shelves and guides.

Oven Part No.	2000963	2000964	2000965
Guides (2) (Set)	2000012	2000013	2000015
Shelves	2000022	2000023	2000025

Each self requires two guides i.e. one set.

Incubation chamber “Boxcult”

FAN CONVECTION.
ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C UP TO 57 °C.
STABILITY: ±0.25 °C, UP TO 37 °C HOMOGENEITY: ±1 °C, UP TO 37 °C.
SET ERROR: ±2 % OF THE WORKING TEMPERATURE. RESOLUTION 0.1 °C.

SAFETY:
SAFETY STANDARD EN 61010. OVER TEMPERATURE SAFETY THERMOSTAT FITTED.

FEATURE

Made of transparent methacrylate that allows the user to see inside the incubator during operation. To facilitate the access to the working area the unit has a wide front door, and a removable base made of AISI 304 stainless steel. The fan convection circulation system ensures an even and rapid recovery of temperature.
A 30 mm Ø port at the rear can be used to connect power to apparatus inside the chamber.
Supplied as accessories, the removable base allows the Boxcult to be mounted on the “Rotabit” reciprocal / orbital shaker. (described in the stirrer section.)
The metallic top of the chamber includes the heating elements, air circulation fan and temperature control.

CONTROL PANEL

Main switch.
Digital electronic temperature control.

Incubation chamber “Boxcult” Part No. 3000957 with base Part No.3001172 and support rack with two shelves Part No. 1000973. Supplied as accessories.

MODEL

Part No.	Capacity litres	Height / Width / Depth (interior) cm			Height / Width / Depth (exterior) cm			Power W	Weight Kg
3000957	110	50	47	47	61	51	51	220	18

Supplied without bottom base, or stainless steel rack and shelves.

Orbital & shaker stirrer “Rotabit” part number 3000974 with incubation chamber “Boxcult”

For an easy handling, all control devices are outside the chamber enclosure

ACCESSORIES

Removable bottom base made of AISI 304 stainless steel. Part No. 3001172

Stainless steel rack with 4 shelves positions, each one separated by 9 cm. Comes complete with 2 removable shelves. Useful dim. 43 cm long and 41 cm wide. Part No. 1000973

CO_2 Incubators for anaerobic cell and tissue cultures "Incubator CO_2"

MICROPROCESSOR CONTROL WITH DIGITAL DISPLAY OF TEMPERATURE AND CO_2.
ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C TO 50 °C
STABILITY: ±0.2 °C, UP TO 37 °C. HOMOGENEITY: ±0.5 °C, UP TO 37°C. RESOLUTION: 0.1 °C.
ALARM RANGE: FROM AMBIENT+5 °C TO 50 °C. RESOLUTION: 0.1 °C.
CO_2 RANGE: FROM 0 TO 20%. STABILITY: ±0.3%. RESOLUTION: 0.1%

USB

RS232

SAFETY:
STANDARD DIN 12880. DOUBLE INDEPENDENT OVER TEMPERATURE SAFETY THERMOSTAT.
CO_2 DEVIATION FROM SET VALUE. OPEN DOOR INDICATOR, ELECTRICAL FAULT INDICATOR. LOW CO_2 PRESSURE.

Infrared CO_2 sensor

Chamber sterilization function

FEATURE

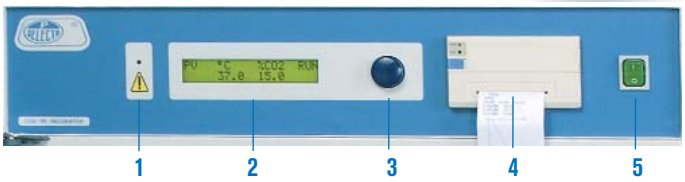
External case of steel coated with epoxy with insulated chamber.
The chamber is made of stainless steel with removable shelf supports and easy clean system.
Two doors; one interior of tempered glass with silicon gasket and a heated external steel door with magnetic seal to prevent condensation on the glass door.
Smooth door action, to prevent jolts or vibrations disturbing the contents of the incubator.
The CO_2 input is by a metal tube of 6 mm Ø x 4 mm at the back of the unit.
RS-232 Interface output for a computer, printer or USB adapter.

CONTROL SYSTEM

Digital electronic control of temperature and CO_2, by a single multilevel control button and LCD screen, that controls all functions within the chamber.

HUMIDITY CONTROL

The humidity level within the chamber is at a constant 98% RH level, that is produced directly by water evaporation previously introduced at the bottom of the chamber.



CONTROL PANEL

1. Visual alarm indicator.
2. LCD display of all parameters.
3. Button single control of multilevel functions.
4. Printer (Optional)
5. Main On switch.

MODEL

Part No.	Capacity litres	Height/Width/Depth (interior) cm	Height/Width/Depth (exterior) cm	Shelf guide positions	Power W	Weight Kg
4002628	150	65 50 46	95 65 73	9	800	110

Comes with two shelves.

ADDITIONAL Shelves stainless steel. Part No. 1001675

ACCESSORIES

USB adapter model.
Pen-Drive included (Memory board) for data storage.
Part No. 4120131

Printer: temperature, CO_2, time and status.
(Needs to be factory fitted.)
Part No. 4001676

Fyrite CO_2 analyser.
Monitor for checking the CO_2 % concentration. The unit has a graduated scale of 0 to 20 %. Reagent valid for 300 analysis. Should not be used with explosive gasses.
Part No. 4000632

Reagent flask 64 ml. Part No. 4000635

PRECISE COOLED INCUBATORS HOTCOLD

HOTCOLD S	CONTROLLABLE TEMPERATURES FROM	+5 °C TO 65 °C
HOTCOLD A-B-C	CONTROLLABLE TEMPERATURES FROM	0 °C TO 50 °C
HOTCOLD UB-UC	CONTROLLABLE TEMPERATURES FROM	-10 °C TO 50 °C
HOTCOLD GL	CONTROLLABLE TEMPERATURES FROM	0 °C TO 50 °C (DEPENDING ON WORKING MODE)

SAFETY:
DIN STANDARD 12880.2
SAFETY THERMOSTAT FITTED THAT DISCONNECTS POWER TO THE HEATER IF THE CONTROLLER FAILS. MANUAL RESET.

APPLICATIONS

Enzymatic tests, serum and plasma fractions BOD tests, cosmetics, botany, pharmacy, industry, agriculture, bacteriology, biotechnology and research.

Refrigerated cabinet "Hotcold S"

FORCED AIR CIRCULATION.
DIGITAL ELECTRONIC CONTROL OF TEMPERATURE AND TIME, ADJUSTABLE FROM +5 °C TO 65 °C.
STABILITY ±0.1 °C, UP TO 20 °C. HOMOGENEITY ±0.5 °C, UP TO 20 °C. SET ERROR ±2 °C.
RESOLUTION 0.1 °C.

FEATURES

Epoxy coated external case. Interior AISI304 stainless steel. Door with double glazed glass to maintain internal temperature. Illumination switch with internal fluorescent light. Side port for the introduction of external cables probes and tubes etc.
Cooling gas R134a.
4 wheels with brake.
Two safety power sockets.

CONTROL SYSTEM

Electronic digital controller for temperature and time.
Timer and off programmable from 1' to 99 hrs 59'.
Programmable defrost.
High and low temperature alarm.
Temperature calibration.

CONTROL PANEL

1. Display for temperature / time.
2. Temperature indicator.
3. Time indicator.
4. Alarm indicator.
5. Heater functioning indicator.
6. Push button for set temperature.
7. Push button for set time.
8. Mains switch.
9. Push button to increase value.
10. Push button to decrease value.
11. Push button to confirm value.

STANDARD EQUIPMENT

2 shelves and 4 shelf guides.

SPARES

Part No.
1001619 **Guides (2) (Set).**
1001620 **Shelves.**

Optimum temperature homogenization can be achieved with an even load distribution of up to 70% unit volume.

MODEL

HOTCOLD	Part No.	Range °C	Capacity litres	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Number of shelves	Motor HP	Power W	Weight Kg
S	2101618	+5 +65	160	50 65 50	163 128 63	10	3/8	400	70

Precise refrigerated cabinets “Hotcold A-B-C-UB-UC”

FORCED AIR CIRCULATION.
DIGITAL ELECTRONIC CONTROL OF TEMPERATURE AND TIME.
HOTCOLD A-B-C ADJUSTABLE TEMPERATURE FROM 0 °C TO 50 °C.
HOTCOLD UB-UC ADJUSTABLE TEMPERATURE FROM -10 °C TO 50 °C.

NEW DESIGN · SIN CFC · CFC FREE · SANS CFC · RS232 · USB

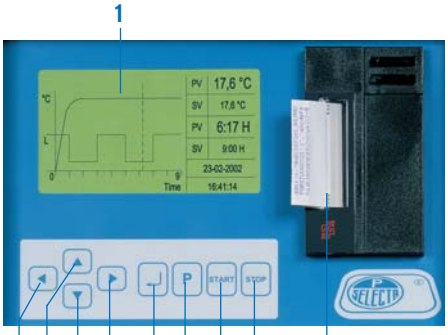
SAFETY:
DIN STANDARD 12880.2 SAFETY THERMOSTAT FITTED THAT DISCONNECTS POWER TO THE HEATER IF THE CONTROLLER FAILS. MANUAL RESET.

PRECISION TABLE

STABILITY	±0.1 °C, UP TO 20 °C
HOMOGENEITY	±0.5 °C, UP TO 20 °C
SET ERROR	±0.5 °C
RESOLUTION	0.1 °C

Models A, B and UB.

Models C and UC.



CONTROL PANEL

1. Graphic display.
2. Push button increase value.
3. Push button decrease value.
4-5. Push button move cursor.
6. Push button, validate set value.
7. Push button set program.
8. Push button start.
9. Push button stop.
10. Printer for time and temperature (Optional). Part No. 2101508, (needs to be factory fitted.)

FEATURES

Exterior case, door and interior made from AISI 304 stainless steel.
steel shelves, PVC laminated.
Reversible door which can be opened by either side, with easy to change the lock and the joint, manual lockout.
Hermetically sealed compressor with anti vibration mounts with fan forced evaporation unit with ventilated condenser
Homogeneous internal temperature by forced circulating air.
Refrigerant R134 for models B and C.
Refrigerant R404 for model UB and UC.
Two safety power sockets.
Two external ports for external connections.
Temperature calibration.
Adjustable timer.
RS-232 Interface output for a computer, printer or USB adapter.

CONTROL SYSTEM

Programmable graphic display of temperature and time. All operation modes are programmable in up to 5 cycles and each cycle can be programmed at 1 hour intervals. These cycles can be repeated indefinitely or can be manually finished. Up to 5 different temperatures can be programmed into each cycle. All parameters can be stored. A temperature safety thermostat comes as standard.

MODELS

HOTCOLD	Part No.	Range °C	Capacity litres	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Number of shelves	Included shelves	Power W	Power HP	Weight Kg
A	2101502	0 +50	319	139 48 45	198 60 64	14	3	236	1/5	78
B	2101503	0 +50	442	126 58 55	198 70 71	14	3	236	1/5	89
C	2101504	0 +50	600	136 58 69	207 70 82	14	4	351	3/8	100
UB	2101505	-10 +50	442	126 58 55	198 70 71	14	3	597	1/2	94
UC	2101506	-10 +50	600	138 58 69	207 70 82	14	4	593	1/2	110

NOTE: the HOTCOLD has internal power sockets that allows the use of a non-heating mixer shaker or stirrer or equipment for BOD assays to be powered internally. Alternatively power cables can be fed through external ports at each side of the unit. See chapter Mixers stirrers and shakers.

ACCESSORIES

USB adapter model.
Pen-Drive included (Memory board) for data storage.
Part No. 4120131

Printer shows temperature and time. Needs to be factory fitted.
Part No. 2101508

SPARES

Brackets and guides.

Cabinet Part No.	2101502	2101503 / 2101505	2101504 / 2101506
Brackets set (4 units).	1001801	1001801	1001801
Shelves	1001804	1001805	1001806

Each self requires 4 brackets i.e. one set.

Precision refrigerated cabinets “Hotcold GL”

FORCED AIR CIRCULATION.
DIGITAL ELECTRONIC CONTROL OF TEMPERATURE,TIME AND HUMIDITY.
SUITABLE FOR TEMPERATURES FROM 5 °C TO 50 °C.

PRECISION TABLE

STABILITY	±0.5 °C
HOMOGENEITY	±1 °C
SET ERROR	±1 °C
RESOLUTION	0.1 °C

SAFETY:
SAFETY STANDARD:CONFORMS TO THE DIN 12880.2.
ADJUSTABLE OVER TEMPERATURE CUT OUT FITTED THAT CUTS OFF HEATING IF OVER TEMPERATURE FAILS, MANUAL RESET.

APPLICATIONS

Refrigerated climate cabinet for botany testing of plants flowers, seed germination, photosynthesis agriculture etc. that require control of temperature, humidity and light.

Specifically designed with four function modes:

Mode A: Refrigerated incubator from 5 °C to 50 °C.
Mode B: Refrigerated incubator with illumination from 10 °C to 50°C
Mode C: Refrigerated incubator from 18 °C to 40 °C with an adjustable humidity range from 50 to 98%.
Mode D: Refrigerated incubator with illumination from 18 °C to 40 °C with an adjustable humidity range from 50 to 98%.

		Mode A	Mode B	Mode C	Mode D
Humidity		NO	NO	YES	YES
Illumination		NO	YES	NO	YES
Temperature range		5 / 50 °C	10 / 50 °C	18 / 40 °C	18 / 40 °C
Stability		±0.5 °C	±0.5 °C	±0.5 °C	±0.5 °C
Homogeneity		±1.0 °C	±1.0 °C	±1.0 °C	±1.0 °C
Resolution		0.1 °C	0.1 °C	0.1 °C	0.1 °C
Set Error		±1.0 °C	±1.0 °C	±1.0 °C	±1.0 °C
Humidity range		-	-	50 / 98% Hr	50 / 80% Hr
Illumination range (Choice of 3)		-	0 / 4 K / 12 K lux	-	0 / 4 K / 12 K lux
Humidity resolution		-	-	1%	1%
Humidity precision	50 - 75%	-	-	±3%	±4%
	75 - 80%	-	-	±4%	±5%

FEATURES

Exterior case, door and interior made from AISI 304 stainless steel. Reversible door can be fitted to open from either side, with automatic closing if left open.

The door interior supplies fluorescent illumination to the chamber, the power of which can be selected as 0 / 4K or 12 K Lux.

Hermetically sealed compressor with anti vibration mounts with fan forced evaporation unit with ventilated condenser.

Fan circulated homogeneous temperature.

All operation modes are programmable in up to 5 cycles of which each cycle can be programmed at 1 hour intervals. These cycles can be repeated indefinitely or can be manually terminated.

The humidity is constant during the program.

There are 10 Program storage memories of all parameters.

The fan, temperature radiator and two thermal safety internal electrical sockets are located in the upper chamber.

Two external ports are located on each side for the introduction of tubes and cables for other diverse applications.

A humidity tray is located at the back of the unit for controlling humidity and is generated through evaporation.

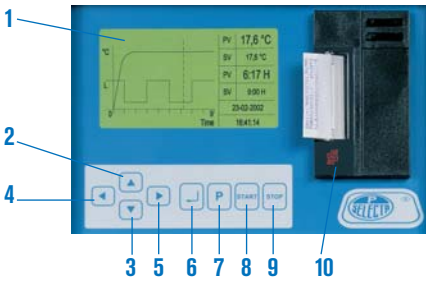
RS-232 Interface output for a computer, printer or USB adapter.

CONTROL PANEL

1. Graphic display.
2. Push button increase value.
3. Push button decrease value.
4-5. Push button move cursor.
6. Push button, validate set value.
7. Push button set program.
8. Push button start.
9. Push button stop.
10. Printer for time and temperature (Optional). Part No. 2101508, (needs to be factory fitted).

STANDARD EQUIPMENT

2 shelves and 8 brackets.



ACCESSORY

USB adapter model.
Pen-Drive included (Memory board) for data storage.
Part No. 4120131

Printer shows temperature and time. Needs to be factory fitted.
Part No. 2101508

SPARES

Part No.
1001801 **Brackets (4) (Set)**
1001806 **Shelves**
Each self requires 4 brackets i.e. one set.

MODEL

HOTCOLD	Part No.	Range °C	Capacity litres	Height / Width / Depth (interior) cm	Height / Width / Depth (exterior) cm	Number of shelves	Motor HP	Power W	Weight Kg
GL	2101507	5 +50	600	138 58 69.5	208 75 115	14	3/8	950	265

NOTE: The HOTCOLD has internal power sockets that allow the use of a non-heating mixer shaker or stirrer or equipment for BOD assays to be powered internally. Alternatively power cables can be fed through external ports at each side of the unit. See chapter Mixers stirrers and shakers.

Muffle Furnaces

Electric Muffle Furnaces “Select-Horn-TFT”

TEMPERATURE CONTROLLABLE UP TO 1150 °C.
SET ACCURACY: ±1 °C OF THE SET VALUE. RESOLUTION: 1 DIGIT.
DIGITAL ELECTRONIC CONTROLLER FOR TEMPERATURE AND TIME WITH TFT COLOUR TOUCH SCREEN.

SAFETY:
PROBE BREAK DISCONNECTS THE POWER TO THE FURNACE AUTOMATICALLY.
MICROSWITCH THAT DISCONNECTS THE POWER OF THE HEATER ELEMENTS WHEN THE DOOR IS OPEN.
FLIP DOOR THAT CAN ALSO BE USED AS A SUPPORT TRAY AND USER PROTECTED FROM THE HOT INTERNAL SURFACE.

APPLICATIONS
Incineration processes, drying, degradation, re-heating, thermal treatments etc.

FEATURES
Interior chamber constructed from high quality lightweight refractory bricks, with a high alumina content with no asbestos or iron oxide.
Evenly distributed exceptional long life heating elements, annealed frequently at a high fusion point.
Excellent thermal insulation made from Ceramic fibre of low density and thermal conductivity.
Low consumption with maximum performance.
Rapid temperature recovery after the door has been opened.
Flap door with easy to change components.
Support tray made from special steel used as a base to support assay material.
USB and RS-232 output.

CONTROL PANEL
General
Main switch.
TFT touch screen 4.3”.
Clock calendar.
Two working modes, normal or programming.
SPA – FRE – ENG menu.
Self-test on starting.
Temperature control auto-tuning.
ºC/ºF selection.
Type K probe.
Normal mode
Set point temperature selection
Up ramp or no ramp.
Stability time from 1 min to 99h or continuous.
Programming mode
10 programs capacity.
6 segments per program.
Stability time in each segment from 1 min to 99h (or continuous in the last segment)
Up ramps between segments or no ramps
Daily - weekly On / Off programming.

Temperature ramps graph

Alarms
Network failure detection alarm.
Probe error detection alarm.
Over temperature and low temperature alarms.
Visual audible warning alarms.
Up to 100 alarms storage (date, start time, end time and alarm type).
Datalogging
Datalogging memory up to 15000 data.
Logging interval from 5 seconds to 30 min.
Data download via RS -232 or USB.
PC software for on-line registration (via RS-232).

Image of the flap door system in operation.

MODELS

Part No.	Capacity litres	Height / Width / Width (interior) cm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
2000376	3.6	10 15 24	52 54 56	2500	54
2000377	9	15 20 30	58 59 65	3000	70

Supplied complete with support tray, made from annealed steel.

SPARES
Support tray made from special steel used as a base to support assay material.
Code 0203681 for furnace Part No. 2000366
Code 0203692 for furnace Part No. 2000367

Electric muffle furnaces “R-3 L” and “R-8 L” 1100 °C

FOR TEMPERATURES ADJUSTABLE UP TO 1100 °C.
MICROPROCESSOR CONTROL WITH TFT TOUCH SCREEN.
PRECISION ±2 °C OF THE SET VALUE.
RESOLUTION: 1 DIGIT.

NEW

REGULATION B SYSTEM

USB

FEATURES

Metal external case with vent at the back of the unit.
Interior and door made of ceramic fibre, resistant and durable (No asbestos). Heater situated at the side and bottom of the chamber.
USB and RS-232 output.

Temperature ramps graph

CONTROL PANEL

General
Main switch.
TFT touch screen 4.3”.
Clock calendar.
Two working modes, normal or programming.
SPA – FRE – ENG menu.
Self-test on starting.
Temperature control auto-tuning.
ºC/ºF selection.
Type K probe.

Normal mode
Set point temperature selection
Up ramp or no ramp.
Stability time from 1 min to 99h or continuous.

Programming mode
10 programs capacity.
6 segments per program.
Stability time in each segment from 1 min to 99h (or continuous in the last segment)
Up ramps between segments or no ramps
Daily - weekly On / Off programming.

Alarms
Network failure detection alarm.
Probe error detection alarm.
Over temperature and low temperature alarms.
Visual audible warning alarms.
Up to 100 alarms storage (date, start time, end time and alarm type).

Datalogging
Datalogging memory up to 15000 data.
Logging interval from 5 seconds to 30 min.
Data download via RS -232 or USB.
PC software for on-line registration (via RS-232).

MODEL	Part No.	Capacity litres	Height / Width / Depht (interior) cm			Height / Width / Depht (exterior) cm			Power W	Weight Kg
N-3	2000368	3	11.5	12.5	20	43	34	47	1700	18
N-8	2000369	8	13	20	30	51	44	56	1800	28

Supplied complete with a refractory ceramic tray as a base and support for material to be assayed.

ACCESSORIES FOR MUFFLE FURNACES

Adaptable only for "Select-Horn-TFT" furnaces Part No. 2000376 and 2000377
All accessories need to be fitted in the factory prior to delivery.

Exterior exhaust tube.
Located at the furnace back with a ventilator motor to extract gases and vapours.
With an 80 mm Ø hat adapter.
Gases and Vapours can be extracted outside through the connecting tube.
Power consumption: 30 W.
Part No. 2001477

COMPLEMENTS

Gloves Thermal “Kevlar 800”
Conforms to EN 388, EN407 and EN420 standards.
For use with temperatures up to 800 °C, Made from seamless terry knit, with double face fibres, high level of protection against heat and flame.
Length 36 cm, universal fit.
Part No. 5000042

Crucible tongs.
With thermally protected plastic coated handles. With bow, curved tips.
Part No. 1001590 Total length 220 mm.
Part No. 1001591 Total length 330 mm.

Crucibles made of zirconium Zr.
Crucibles made of pure nickel Ni.
Crucibles made of glazed porcelain.
Crucibles made of stainless steel.
Crucibles made of quartz.
(See page 182).

Electric muffle furnace “N-30 L” 1300 °C

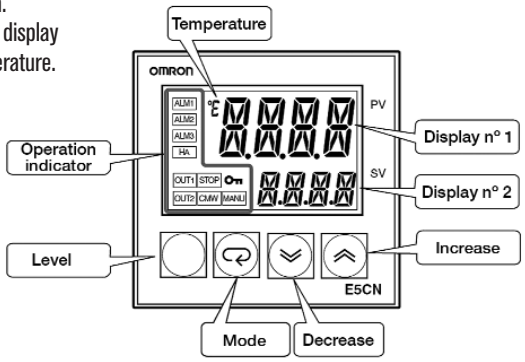
FOR TEMPERATURES ADJUSTABLE UP TO 1300 °C.
ELECTRONIC DIGITAL TEMPERATURE CONTROL.
PRECISION ±2 °C OF THE SET VALUE.
RESOLUTION: 1 DIGIT.

FEATURES

Metal external case with vent at the back of the unit. Interior and door made from ceramic fibre, resistant and durable (No asbestos). Heater situated at the side and bottom of the chamber.

CONTROL PANEL

Illuminated mains On/Off switch.
Temperature control with digital display of both the set and actual temperature.
Programmable in steps of 1 °C.
Fitted with a type K probe.



MODEL	Part No.	Capacity litres	Height / Width / Depht (interior) cm	Height / Width / Depht (exterior) cm	Power W	Voltage V	Weight Kg
N-30 L	2200853	30	27.5 24 43	63 87 84	4600	230	120

Supplied complete with a refractory ceramic tray as a base and support for material to be assayed.

Electric muffle furnaces “N-3 L”, “N-8 L”, “N-13 L”, “N-22 L”and “N-80 L” 1100 °C

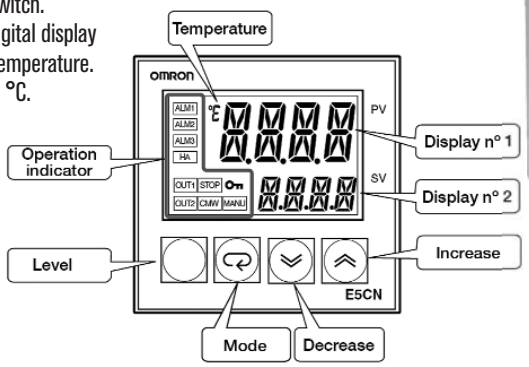
FOR TEMPERATURES ADJUSTABLE UP TO 1100 °C.
ELECTRONIC DIGITAL TEMPERATURE CONTROL.
PRECISION ±2 °C OF THE SET VALUE.
RESOLUTION: 1 DIGIT.

FEATURES

Metal external case with vent at the back of the unit. Interior and door made from ceramic fibre, resistant and durable (No asbestos). Heater situated at the side and bottom of the chamber.

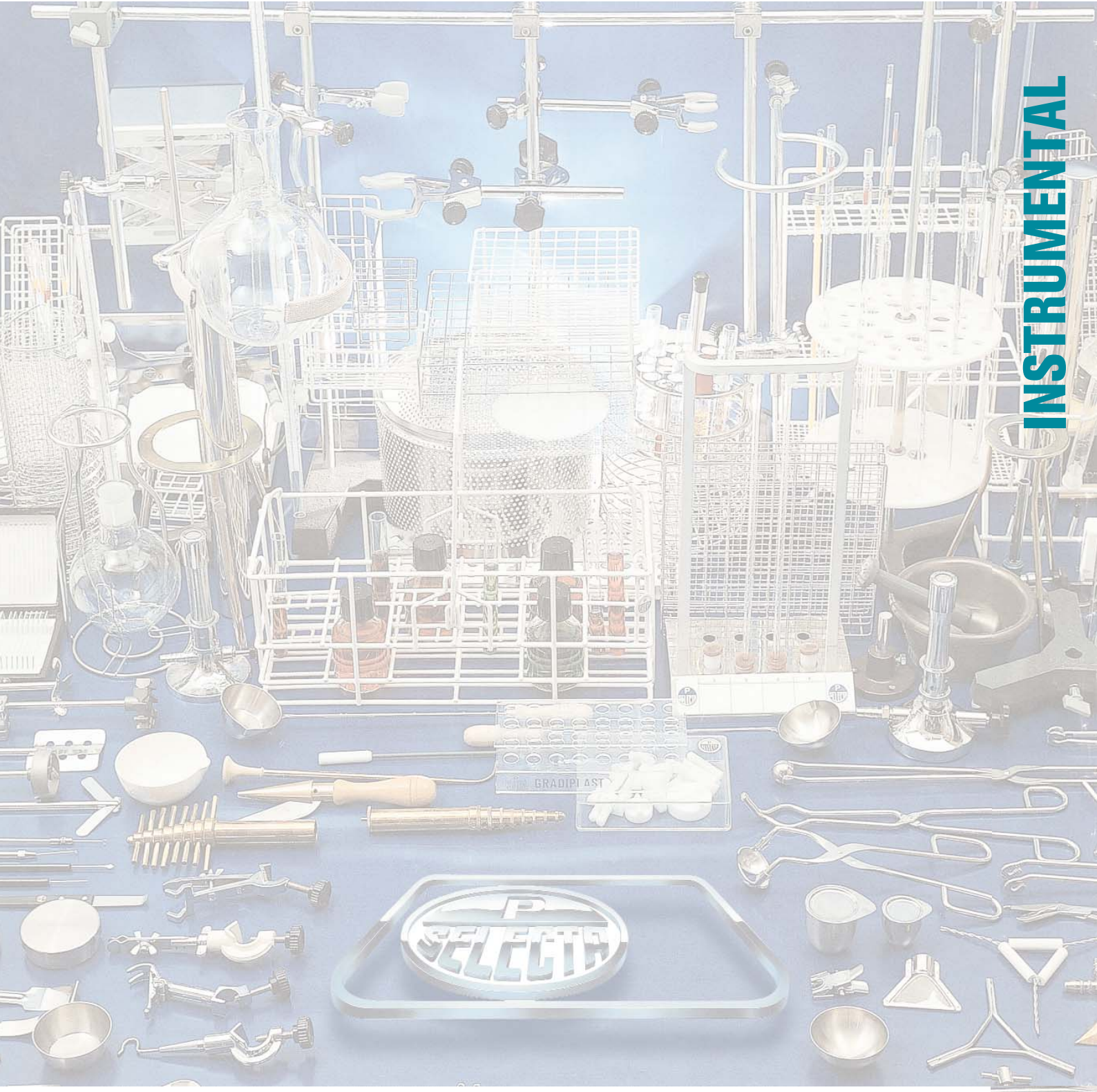
CONTROL PANEL

Illuminated mains On/Off switch.
Temperature control with digital display of both the set and actual temperature.
Programmable in steps of 1 °C.
Fitted with a type K probe.



MODELO	Part No.	Capacity litres	Height / Width / Depht (interior) cm	Height / Width / Depht (exterior) cm	Power W	Voltage V	Weight Kg
N-3 L	2200850	3	11,5 12,5 20º	43 34 47	1700	230	18
N-8 L	2200851	8,2	14 20 30	50 44 53	1800	220	33
N-13 L	2200852	13	18 22,5 36	55 50 70	1800	230	38
N-22 L	2200854	22	15,5 27,5 50	61 60 89	3000	230	58
N-80 L	2200855	80	48 40 40	157 94 98	7500	400 / 3 N	170

Supplied complete with a refractory ceramic tray as a base and support for material to be assayed.



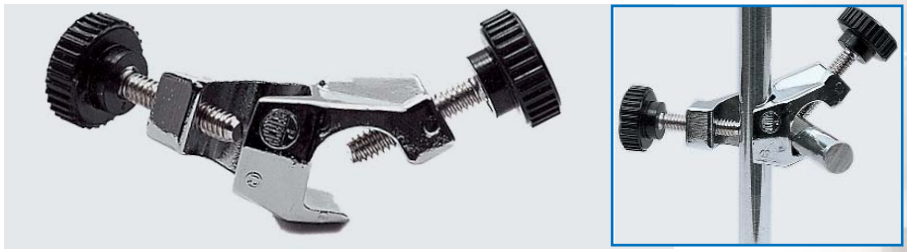
INSTRUMENTAL

Clamps and Stands	pages	166 to 177
Spatulas, scoops and vessels	pages	178 to 182
Stainless steel. Series Labor-Hospital +	pages	183 to 184
Racks, baskets and storage for tubes, pipettes and flasks	pages	185 to 194
Flakes ice maker	page	190
Burners and hot air gun	pages	195 to 198
Diverse laboratory instruments	pages	199 to 211

"A well equipped laboratory is where all types of science can be complete to a high standard."
Patrick Blachett

Clamps and Stands

CLAMPS MADE OF LIGHT WEIGHT "DURAL CROM" ALLOY EXTRAORDINARILY STRONG.
TONGS MADE OF AISI 304 STAINLESS STEEL.
RETORT STANDS - LABORATORY JACKS AND SCAFFOLDING.



BOSSHEAD
Chrome plated. For Ø from 5 to 17 mm.
Part No. 1000069

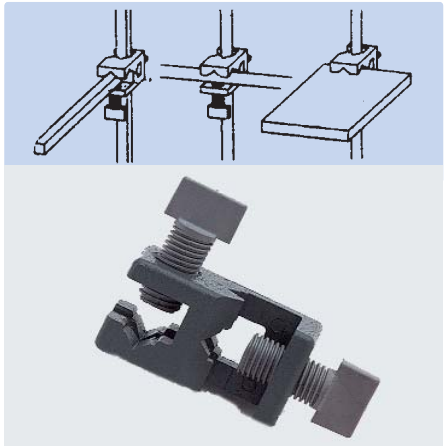
BOSSHEAD "MINI"
Chrome plated. For Ø from 5 to 12 mm.
Part No. 1001460

BOSSHEAD XL
Maximum opening. For rods 13 to 32 mm Ø.
Part No. 5057022

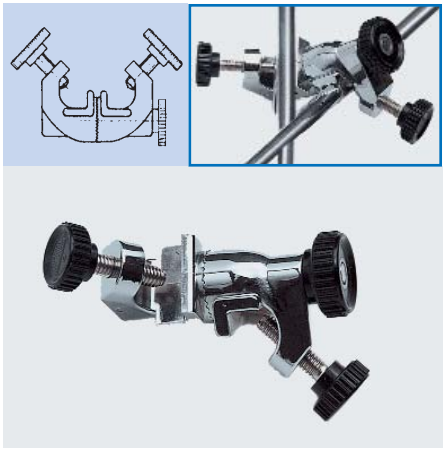
BOSSHEAD "MEDI"
For Ø from 5 to 20 mm.
Part No. 1001461 Chrome plated.
Part No. 1001462 Anodised black.

BOSSHEAD "SUNTECH"
For retort bars of 5 to 22 mm Ø.
With screw clamp joints. Ideal for supporting overhead stirrers.
Part No. 5900600

BOSSHEAD "MAXIM"
For large diameters.
Chrome plated with one opening to hold rods up to 30 mm Ø. Second opening up to 20 mm Ø.
Part No. 7000408



BOSSHEAD "PASS"
Original Phywe.
For joining and clamping multipurpose, round or rectangular rods up to 12 mm across.
For cross T and parallel arrangements.
Part No. 7204055



BOSSHEAD "GIROFIX"
Conforms to DIN standard 12895-E16.
Chrome plated with swivel toothed clamp for holding rods at any angle. For rod Ø from 5 to 15mm.
Part No. 7000531

J.P Selecta

OIRIGINAL BOSSHEAD "TREVINGE"
Made of chrome plated "Dural" alloy.
Due to its strength, it is suitable for multilevel and three dimension constructions.
Part No. 7008133 For Ø of 9 to 13 mm.
Part No. 7008253 For Ø of 19 to 25 mm.

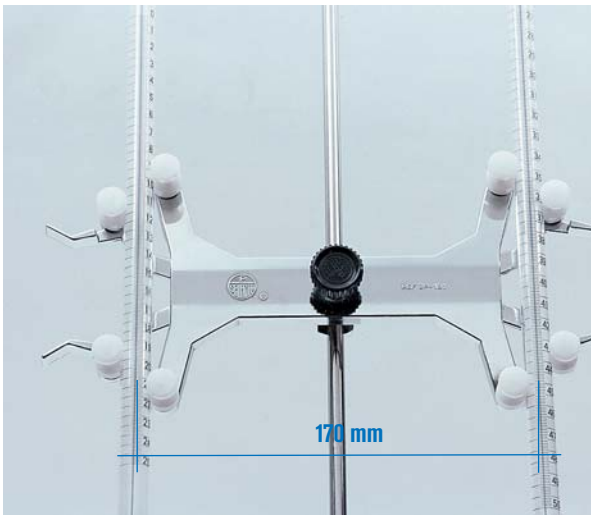
BOSSHEAD FOR THERMOMETERS
Thermometer support for water and oil baths with locking screw (up to 40 mm). Thermometer rod diameters up to 7mm Ø.
Part No. **6000896**

THERMOMETER CLAMP
Swivel bosshead and press lock, made of AISI 304 stainless steel.
For Ø from 6-15 mm.
Part No. **6000036**

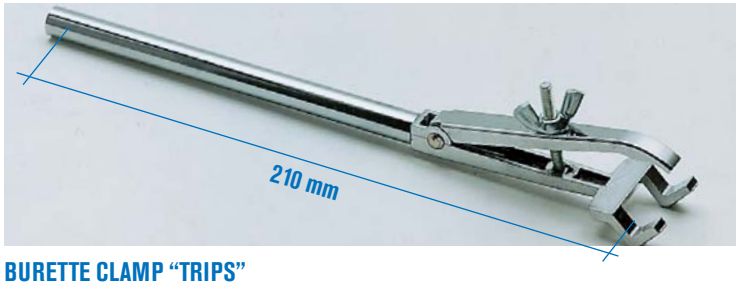
THERMOMETER CLAMP
Hook at one end for a thermometer.
Chrome plated.
Part No. **1000037**

BURETTE STAND
With AISI 304 stainless steel rod of 10 mm Ø x 600 mm high. Weight 2 Kg. Made specifically for the "DUPLEX" burette clamp with two plates at the base, black and white.
Part No. **6000117**

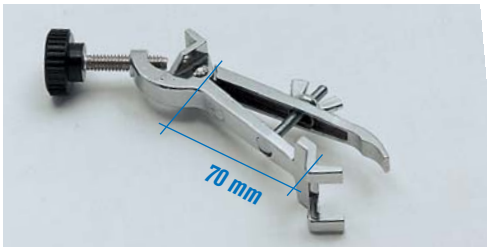
Model burette stand Part no. 6000117 and double burette part no. 7000181



DOUBLE BURETTE CLAMP "DUPLEX"
Self adjusting clamp for 2 burettes, with central bosshead screw. Made of Chrome plated metal with PVC coated jaws. Enables complete visibility of the burette scale while being held. Part No. **7000181**



BURETTE CLAMP "TRIPS"
Made of chrome plated metal for Ø from 4 to 20 mm.
Part No. **7000521**

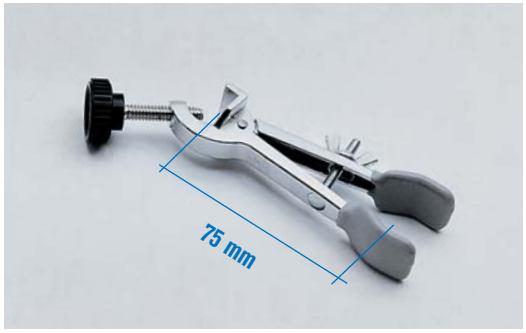


BOSSHEAD BURETTE AND TUBE CLAMP "TRIPS"
Made of chrome plated metal for Ø from 4 to 20 mm.
Part No. **7005211**

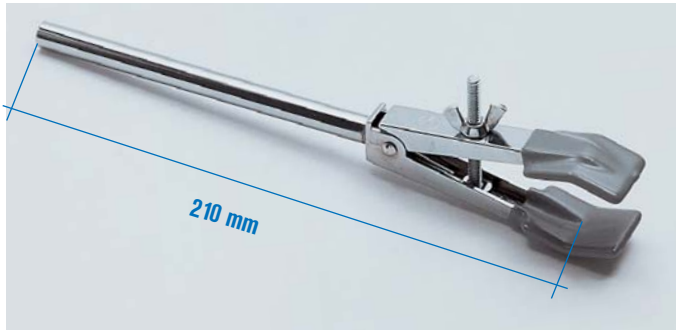
SPRING CLAMP FOR BURETTES AND THERMOMETERS "AUTOMATIC"
Made of chrome plated metal with spring clamp jaw. For Ø from 0 to 25 mm.
Designed for test tubes.
Part No. **7000025**

BOSSHEAD WITH "AUTOMATIC" CLAMP FOR BURETTES AND THERMOMETERS
Made of chrome plated metal with spring clamp jaw.
For Ø from 0 to 25 mm.
Part No. **7000251**

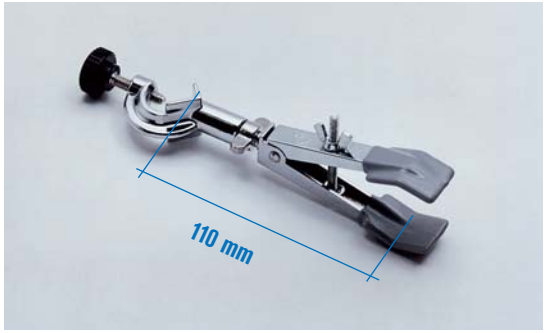
CLAMP FOR BURETTES AND TUBES
Made of chrome plated metal with two prong jaws coated with PVC.
For Ø from 7 to 25 mm.
Part No. 7000130



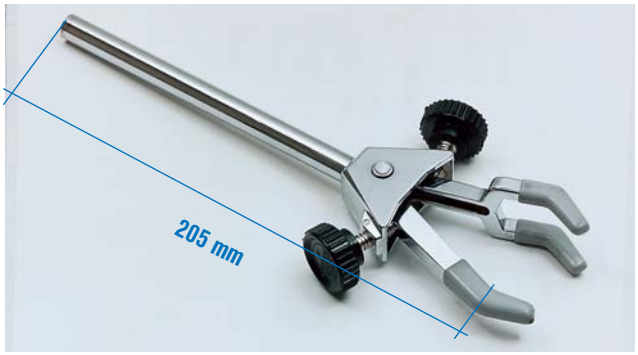
BOSSHEAD WITH BURETTE AND TUBE CLAMP
Made of chrome plated metal with PVC coated double prong jaws.
For Ø from 7 to 25 mm.
Part No. 7000140



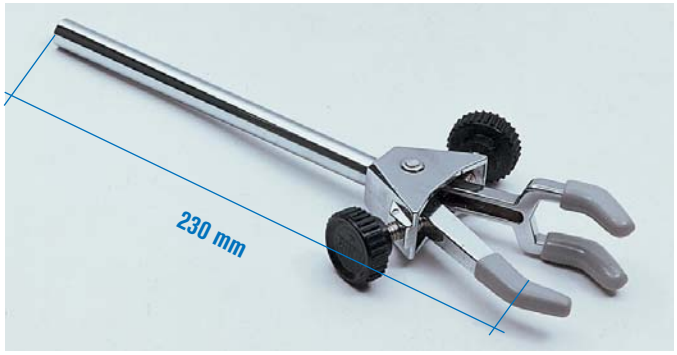
CLAMP FOR BURETTES AND CONDENSERS
Made of chrome plated metal with PVC coated jaws.
For Ø from 12 to 45 mm.
Part No. 7000131



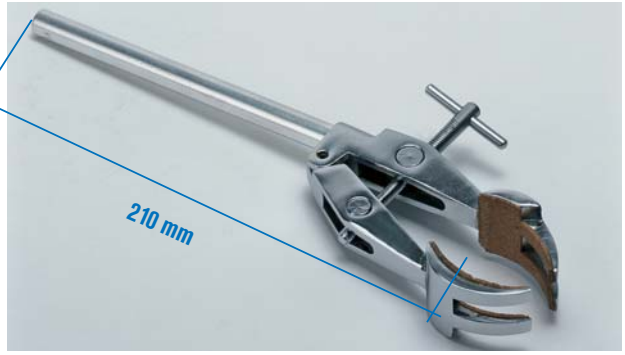
SWIVEL CLAMP BOSSHEAD FOR CONDENSERS
Swivel clamp with double PVC lined jaws For Ø from 12 to 45 mm.
Part No. 7000141



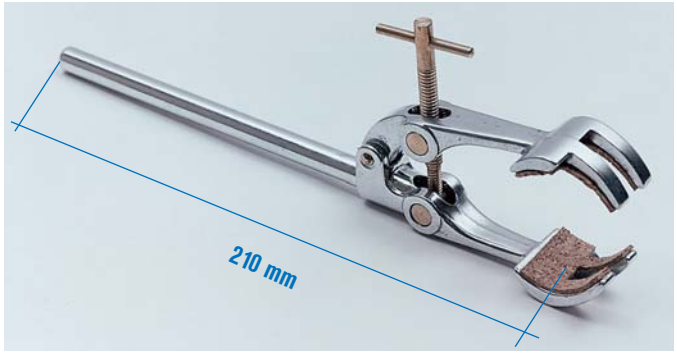
CLAMP "TRIPLEX"
Three pronged PVC coated clamp made of chrome plated metal.
For Ø from 0 to 35 mm.
Part No. 7000160



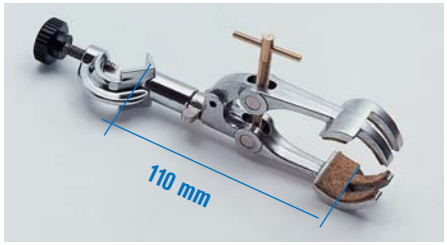
CLAMP "TRIPLEX"
Three pronged PVC coated clamp made of chrome plated metal.
For Ø from 0 to 60 mm.
Part No. 7000161



UNIVERSAL CLAMP "MINIMAX CROM"
Chrome plated with cork protected jaws.
For Ø from 0 to 80 mm.
Part No. 1001463

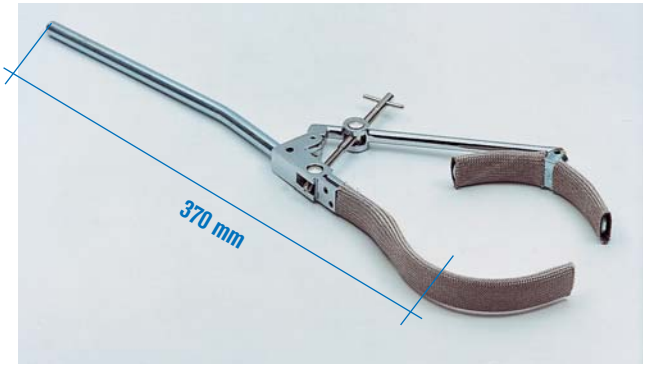


UNIVERSAL CLAMP "MINIMAX"
Made of Dur-aluminium with cork lined jaws.
For Ø from 0 to 80 mm.
Part No. 7000403

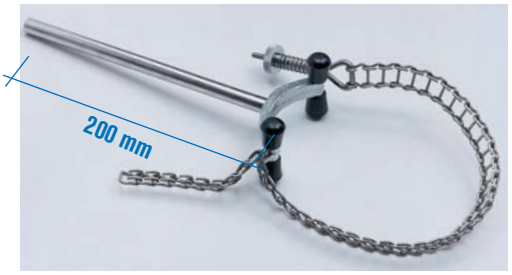


SWIVEL UNIVERSAL CLAMP "MINIMAX"
For Ø from 0 to 80 mm.
Part No. 7000404

UNIVERSAL CLAMPS"GIROMAX" WITH METAL ROTATION
With cork lined jaws. With a hinge joint of 180° rotation angle.
For Ø from 0 to 80 mm.
Part No. 7004031



BEAKER CLAMP "MAXIM"
Made of chrome plated metal with clamp end covered with stabilized glass fibre.
For Ø from 80 to 180 mm.
Part No. 7000406



CLAMP "MEDIMAX"
With chain and spring clamp made of AISI 304 stainless steel.
For Ø from 90 to 145 mm.
Part No. 7000405

CONICAL JOINT CLIPS
Made from AISI 304 stainless steel.
Part No.

1000716	joint	7.5/16
1001019	"	10/19
1001221	"	12/21
1001423	"	14/23
1001926	"	19/26
1002429	"	24/29
1002932	"	29/32
1004540	"	45/40

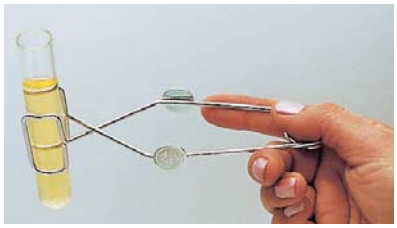
GROUND ROUND JOINT CLIPS
Made of chromed steel.
Part No.

1040913	joint	round	13 mm.
1040919	"	"	19 mm.
1040929	"	"	29 mm.
1040935	"	"	35 mm.

CONICAL JOINT CLIPS
Made of PMP (polymethyl pentane).

Part No.	joint	colour
1001095	10/19	black
1001096	14/23	yellow
1001097	19/26	blue
1001098	24/29	green
1001099	29/32	red
1001100	34/35	orange
1001101	45/40	brown

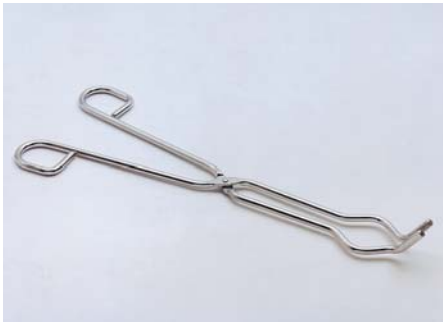
GROUND ROUND JOINT CLIPS
Made of AISI 304 stainless steel
with ratchet fixed pin.
Part No. 1001720 round joint 19 mm.
Part No. 1001464 round joint 29 mm.
Part No. 1001465 round joint 35 mm.



TEST TUBE TONGS
Made of nickel plated steel.
For tubes up to 30 mm Ø. Total length 145 mm.
Part No. 1000285

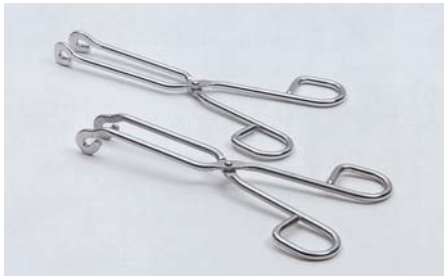
TEST TUBE TONGS
Made of wood.
For tubes from 12 up to 25 mm Ø.
Total length 180 mm.
Part No. 1001094

CRUCIBLE TONGS
Original "J.P.Selecta" design with opposite equilibrium.
Made of Electro-bright finished AISI 304 stainless steel.
Part No. 1001330 Total length 400 mm.

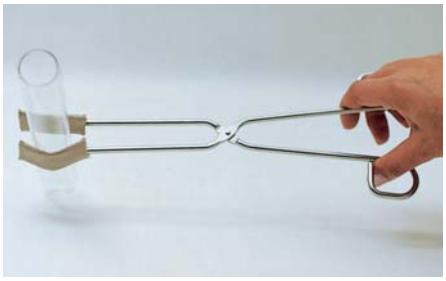


CRUCIBLE TONGS
With bow, curved tips and flat hinge.
Electro-bright AISI 304 stainless steel finish.
Part No. 1010420 Total length 200 mm.
Part No. 1010430 Total length 300 mm.
Part No. 1010440 Total length 400 mm.
Part No. 1010450 Total length 500 mm.

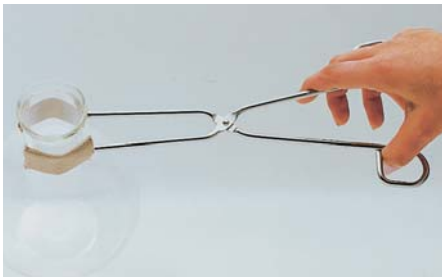
CRUCIBLE TONGS
With bow, curved tips.
With thermally protected plastic coated handles.
Part No. 1001590 Total length 220 mm.
Part No. 1001591 Total length 330 mm.



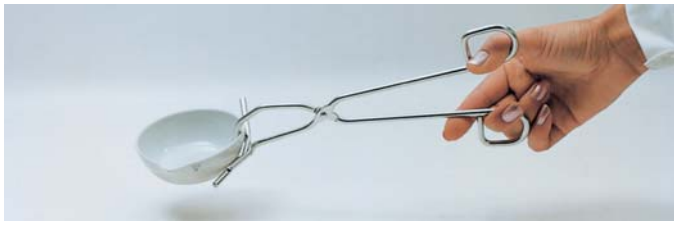
STERILIZATION TONGS
Made of AISI 304 electro-bright finished stainless steel.
Total length 200 mm.
Part No. 1002801 Straight end.
Part No. 1002802 Curved end.
Used for bandages, syringes, instruments, test tubes etc.



TONGS FOR FLASKS AND TUBES
Electro-bright finished AISI 304 stainless steel.
For diameters from 15 to 60 mm.
Tong tips covered with stabilized glass fibre.
Part No. 1028130 Total length 300 mm.
Part No. 1028140 Total length 400 mm.

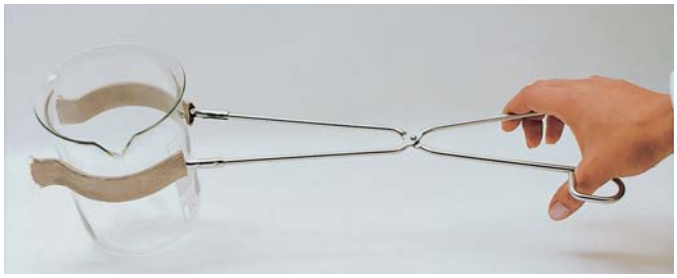


TONGS FOR FLASKS AND TEST TUBES
Sterilization Tongs. Made of AISI 304 electro-bright finished stainless steel. For diameters from 25 to 60 mm.
Tong ends covered with stabilized glass fibre.
Part No. 1028230 Total length 300 mm.
Part No. 1028240 Total length 400 mm.

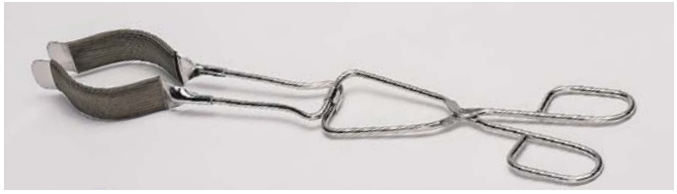


DISH TONGS
Made of eletro-bright finished AISI 304 stainless steel.
Part No. 1000283 Total length 250 mm.

BEAKER TONGS "PROTECVAS"
Clamps beakers up to 2000 ml.
With a span from 50 to 120 mm Ø.
Jaws protected with rubber pads.
Total length 300 mm.
Part No. 7000532



BEAKER TONGS
Made of AISI 304 electro-bright finished stainless steel.
Made for beakers from 150 to 1000 ml.
For diameters from 60 to 100 mm.
Tong tips covered with stabilised glass fibre.
Part No. 1000284 Total length 450 mm.



BEAKER TONGS
Original "J.P.Selecta" design with opposite equilibrium.
Made of Electrobright finished AISI 304 stainless steel.
For beakers from 150 to 1000 ml.
For diameters from 60 to 100 mm.
Tong ends covered with a glass fibre sleeve.
Part No. 1001331 Total length 450 mm.

LABORATORY SCISSORS

AISI 410 stainless steel.

1 **Scissors universal "Multi purpose"** with a serrated/ dented blade.
Suitable for cutting hard plastic, cardboard and soft wire etc.
Part No. 1001468 Cut length 50 mm. Total length 180 mm.

2 **Long laboratory scissors.**
Part No. 1001469 Cut length 100 mm. Total length 250 mm.

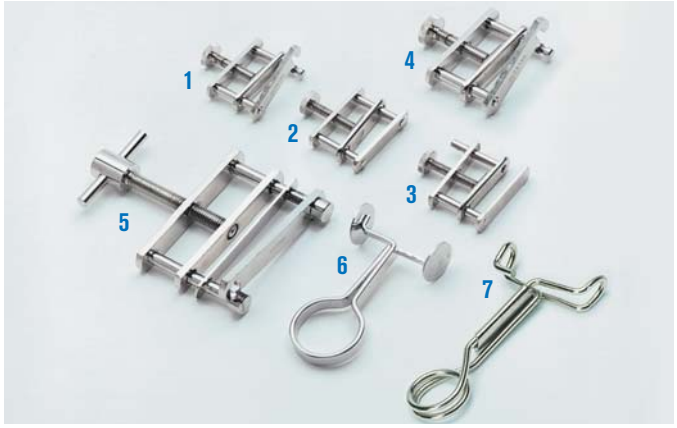
3 **Straight multi purpose scissors.** General use and bandage dressing.
Part No. 1001470 Cut length 50 mm. Total length 140 mm.

4 **Curved multi purpose scissors.** General use and bandage dressing.
Part No. 1000806 Cut length 40 mm. Total length 145 mm.

5 **Dissection scissors**
Part No. 1000807 Cut length 35 mm. Total length 125 mm.

6 **Small dissection scissors**
Part No. 1001471 Cut length 25 mm. Total length 110 mm.

7 **Flat serrated scissors** ideal for laminates, negatives, chromatography, etc.
Part No. 1001472 Flat Length 40 mm. Total length 160 mm.



HOFFMAN CLAMPS / MOHR CLAMPS

1 **Hoffman clip dual**, open-close.
Part No. 1000063 Maximum opening: 15 mm.

2 **Hoffman clip closed**
Part No. 1000662 Maximum opening: 15 mm.

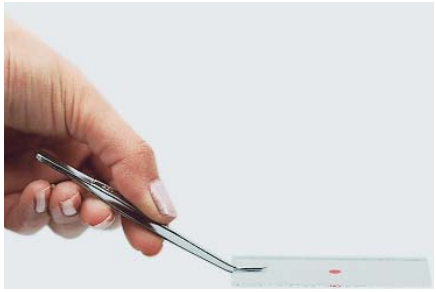
3 **Hoffman clip open**
Part No. 1000661 Maximum opening: 15 mm.

4 **Hoffman clip dual medium**, open-closed.
Part No. 1001467 Maximum opening: 25 mm.

5 **Hoffman clip large**, open and close.
Part No. 1000064 Maximum opening: 30 mm.

6 **Mohr clamp**, stainless steel AISI 304 electro bright finish.
Part No. 1000067 Total length: 70 mm.

7 **Mohr clamp**, nickel wire.
Part No. 1001337 Total length: 70 mm.



FORCEPS FOR LIFTING SLIDES

Made of AISI 304 stainless steel, with flat jaws.
Length: 105 mm. Suitable for lifting, slides, watch glass or small flat object.
Part No. 1000105

DISSECTING FORCEPS

1 **Dissecting Straight forceps round tips**, made of AISI304 stainless steel.
Part No. 1000580 Total length 140 mm.

2 **Dissecting Straight forceps fine tips**, made of AISI304 stainless steel.
Part No. 1000801 Total length 140 mm.

3 **Dissecting curved forceps round tips,** made of AISI 304 stainless steel.
Part No. 1000865 Total length 140 mm.

4 **Dissecting curved forceps fine tips**, made of AISI304 stainless steel.
Part No. 1000864 Total length 140 mm.

MAXIMUM OPENING

5 **Sprung straight forceps with curved fine tips**,made of AISI 304 stainless steel.
Part No. 1001190 Total length 160 mm.

6 **Sprung straight forceps with fine tips**, made of AISI 304 stainless steel.
Part No. 1001189 Total length 160 mm.

7 **Curved point**, AISI 304 stainless steel forceps.
Part No. 6000128 Total length 160 mm.

8 **Fine point**, AISI 304 stainless steel forceps.
Part No. 1001191 Total length 120 mm.

HEAT AND SPILLS PROTECTION PAD GLOVE

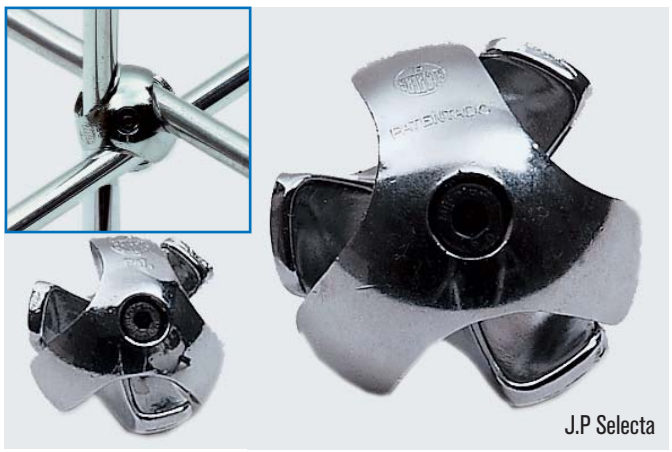
Made of flexible silicon that fits all hand sizes.
Part No. 1001255

BOSSHEAD "P" TYPE

Nickel alloy bosshead.
For fixing perpendicular structures.
For 12 mm Ø bars.
Part No. 1000011

ACCESSORY

Allen hex key. Suitable for "P" type bosshead.
Part No. 1000111



ORIGINAL BOSSHEAD "TREVINGE"

Made of chrome plated "Dural" alloy.
Due to its strength, suitable for multilevel and three dimension constructions.
Part No. 7008133 For Ø of 9 to 13 mm.
Part No. 7008253 For Ø of 19 to 25 mm.

RODS AND TUBES

12 mm Ø bars and rods. To be used with the "TREVIN" and "P" type bossheads.

Dur-aluminium rods.		**AISI 304 stainless steel tube.**	
Part No.	Length	Part No.	Length
6000026	60 mm.	6000016	60 mm.
6000220	200 mm.	6000120	200 mm.
6000235	350 mm.	6000135	350 mm.
6000270	700 mm.	6000170	700 mm.
6002100	1000 mm.	6001100	1000 mm.
6002150	1500 mm.	6001150	1500 mm.
6002200	2000 mm.	6001200	2000 mm.
6002300	3000 mm.	6001300 (rod)	3000 mm.

UNIVERSAL MOUNTING BASE

Bench top multiple rod support.
Suitable for mounting and supporting vertical and horizontal bars.
Part No. 1000050

MOUNTING FOOT SUPPORT FOR RODS

For rod Ø of 12 mm.
Part No. 1000101 Rod position horizontal.
Part No. 1000049 Rod position vertical.

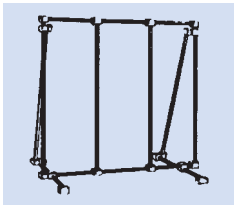
SIMULTANEOUS FOOT SUPPORT

For rod Ø of 12 mm.
Simultaneous positions, horizontal and vertical.
Part No. 1001102

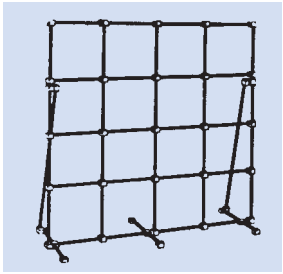
BENCH CLAMP "PASS"

Original Phywe. Clamps to the bench while holding from 4 to 12 mm diameter rod. Bench top width up to 40mm.
Part No. 1394855

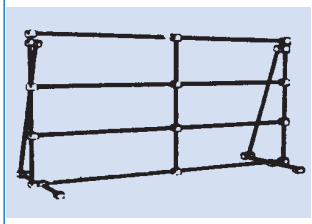
SUPPORT STAND KITS



700 high x 700 mm long.
Made up of:
8 rods 700 mm long.
2 rods 350 mm long.
16 “P” type bossheads.
4 foot supports.
1 Allen key.
Part No. 6000090 **Dur-aluminium**
Part No. 6000190 **AISI 304 stainless steel**

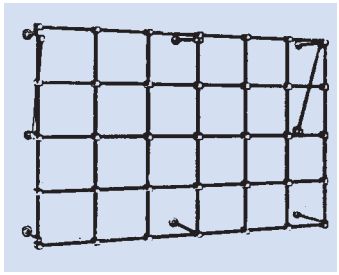


1000 high x 1000 mm long.
Made up of:
10 rods of 1000mm long.
2 rods 700 mm long.
3 rods 350 mm long.
34 “P” type bossheads.
6 foot supports.
1 Allen key.
Part No. 6000902 **Dur-aluminium**
Part No. 6001902 **AISI 304 stainless steel**



700 high x 1000 mm long.
Made up of:
4 rods 1000 mm long.
5 rods 750 mm long.
2 rods 350 mm long.
20 “P” type bossheads.
4 foot supports.
1 Allen key.

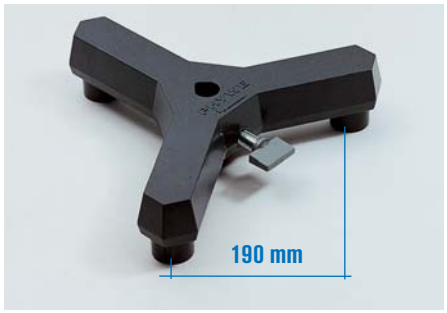
Part No. 6000901 **Dur-aluminium**
Part No. 6001901 **AISI 304 stainless steel**



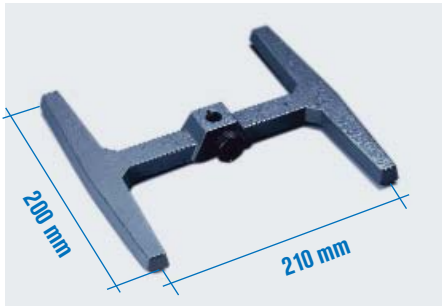
1000 high x 2000 mm long.
Made up of:
5 rods 2000 mm long.
7 rods 1000 mm long.
8 rods 200 mm long.
2 rods 350 mm long.
45 “P” type bossheads.
8 foot supports.
1 Allen key.
Part No. 6000903 **Dur-aluminium**
Part No. 6001903 **AISI 304 stainless steel**

SUPPORT “STAND”
Solid base, three vertical rods of 800 mm in height, two horizontal rods of 500 mm in length, six “P” type bossheads. Made of Dur-aluminium.
Weight: 6.5 Kg.
Part No. 6000482

CENTRAL ROD RETORT STAND
Vertical rod of Dur-aluminium of 10 Ø x 600mm high.
Weight: 3 Kg.
Base dimensions 315 x 200 mm.
Part No. 6000046



TRIPOD SUPPORT “PASS”
Original Phywe.
To support square and round rods from 6 to 14 mm dia.
Weight: 2 Kg.
Base with levelling screws.
Part No. 6200255



DOUBLE BASE SUPPORT T “MINI”
Small foot support with screw clamp for removable rods from 8 to 12 mm Ø.
Weight: 1.2 Kg.
Part No. 6001103

STANDARD RODS
Made from AISI 340 stanless steel. Suitable for double "T MINI" and Tripod "PASS"

Part No. 6001160	8 Ø x 500 mm length
Part No. 6000534	10 Ø x 600 mm length
Part No. 6000535	12 Ø x 700 mm length

U SHAPED STAND

AISI 304 stainless steel of
20 Ø x 800 mm high.
Very stable.
Weight: 7 Kg.
Part No. 6000411

DOUBLE BASE SUPPORT T "MAXI"

Rod of AISI 304 stainless steel of 20 Ø x 800 mm high.
Designed to support weights up to 20 Kg at 300 mm height from the base. Useful for stirrers.
Weight: 7 Kg.
Part No. 6000410

DOUBLE BASE SUPPORT T TELESCOPE

Stainless steel base AISI 304 of 32 mm Ø.
Telescopic elevation from 725 to 1025 mm.
Maximum support weight 20 Kg. Actual weight: 7.7 Kg
Compatible with Part No. 5057022 (See page 166).
Part No. 5057011

TRIPOD SUPPORT STAND

AISI 304 stainless steel rod.

Part No.	Ø x Height	Weight Kg
6002278	8 x 500	1.4
6022710	10 x 600	1.8
6022712	12 x 700	2.5

Rods made of Dur-aluminium

Part No.	Ø x Height	Weight Kg
6000798	8 x 500	1.2
6000799	10 x 600	1.5
6007912	12 x 700	2

UNIVERSAL ARM SUPPORT

With holder for up to 4 sensors or electrodes.
Very stable heavy base.
Ideal for working at varying heights.
Part No. 1001552

RETORT STAND

Conforms to the DIN 12892. Standard.

Rods made of AISI 304 stainless steel

Part No.	Rod Ø x height	Plate size length x width	Weight Kg
6002268	8 x 500 mm.	200 x 125 mm.	2
6022610	10 x 600 mm.	250 x 160 mm.	3
6022612	12 x 700 mm.	315 x 200 mm.	3.6
6022613	12 x 800 mm.	315 x 200 mm.	3.8

Rods of Dur-aluminium

Part No.	Rod Ø x height	Plate size length x width	Weight Kg
6000778	8 x 500 mm.	200 x 125 mm.	1.4
6000779	10 x 600 mm.	250 x 160 mm.	2.4
6007712	12 x 700 mm.	315 x 200 mm.	3
6077812	12 x 800 mm.	315 x 200 mm.	3.4

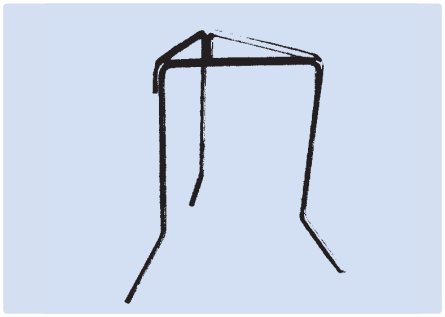
TRIANGLE SUPPORTS

Made of 4 mm Ø AISI 304 stainless steel with electro-bright finish.

Part No.	Side	Part No.	Side
1002874	40 mm.	1002877	70 mm.
1002875	50 mm.	1002878	80 mm.
1002876	60 mm.	1028710	100 mm.

REFRACTORY TUBE AND WIRE TRIANGLE SUPPORTS

Part No.	Side
1000825	50 mm.
1000826	60 mm.
1000827	75 mm.



TRIPOD STAND "TRISOP"

Made of galvanised steel.

Part No.	Side	Total height
1000524	130 mm.	200 mm.

TRIPOD SUPPORTS WITH ROUND TOP

AISI 304 stainless steel

Part No.	Ø ext. ring	Total height
6002868	80 mm.	210 mm.
6028610	100 mm.	210 mm.
6028612	120 mm.	210 mm.
6028614	140 mm.	210 mm.

Nickel plated steel

Part No.	Ø ext. ring	Total height
1000818	80 mm.	210 mm.
1008110	100 mm.	210 mm.
1008112	120 mm.	210 mm.
1008114	140 mm.	210 mm.
1008116	160 mm.	210 mm.

TRIPOD STAND WITH RING TOP.

Galvanised steel.

Part No.	Ø ext. ring	Total height
7000808	80 mm.	210 mm.
7008010	100 mm.	210 mm.
7008012	120 mm.	210 mm.

TRIPOD STAND WITH RING TOP, ADJUSTABLE HEIGHT

Galvanised steel.

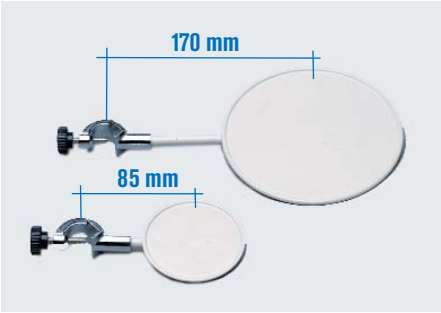
Part No.	Ø ext. ring	Adjustable height
7022810	100 mm.	170 to 250 mm.
7022812	140 mm.	170 to 250 mm.
7022814	180 mm.	170 to 250 mm.

1. DECANTING FLASK SUPPORT

Made of polypropylene. With support flasks up to 12 cm Ø.
Part No. 1001346

2. DECANTING FLASK SUPPORT WITH BOSSHEAD

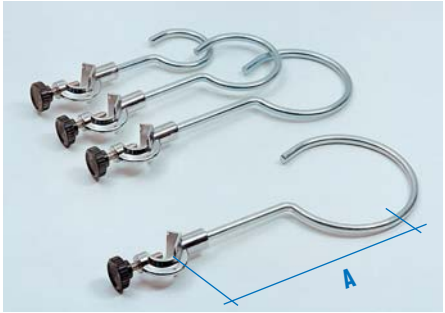
Made of polypropylene. With support flasks from 30 to 150 mm Ø.
Complete with reduction ring.
Part No. 1001347



CIRCULAR SUPPORT PLATFORMS WITH BOSSHEAD

To support flat bottom vessels and instruments.
Chrome plated bosshead.

Part No.	Plate Ø
6000879	80 mm.
6000880	150 mm.



OPEN RING BOSSHEAD SUPPORTS

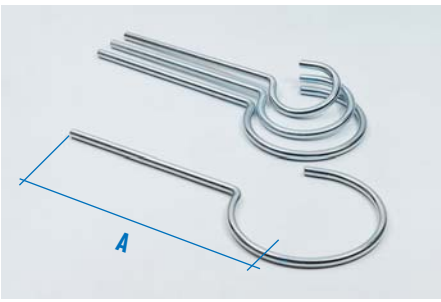
Made of galvanised steel.

Part No.	Ring exterior Ø	Usable length A
7000506	60 mm.	100 mm.
7000508	80 mm.	130 mm.
7005010	100 mm.	160 mm.
7005012	120 mm.	170 mm.
7005014	140 mm.	180 mm.

CLOSED RING BOSSHEAD SUPPORTS

Made of galvanised steel.

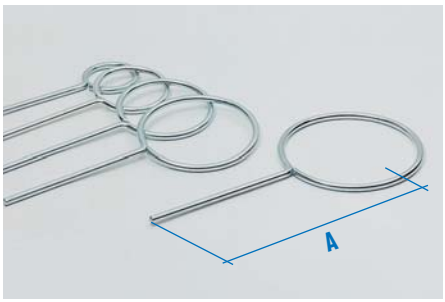
Part No.	Ring exterior Ø	Usable length A
7000536	60 mm.	100 mm.
7000538	80 mm.	130 mm.
7005310	100 mm	160 mm.
7005312	120 mm.	170 mm.
7005314	140 mm.	180 mm.



OPEN RING RETORT SUPPORTS

Made of galvanised steel.

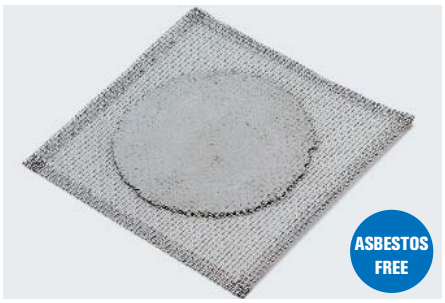
Part No.	Ring exterior Ø	Usable length A
1000206	60 mm.	180 mm.
1000208	80 mm.	195 mm.
1002010	100 mm.	200 mm.
1002012	120 mm.	215 mm.
1002014	140 mm.	225 mm.



CLOSED RING RETORT SUPPORTS

Made from galvanised steel.

Part No.	Ring exterior Ø	Usable length A
1000236	60 mm.	180 mm.
1000238	80 mm.	195 mm.
1002310	100 mm.	200 mm.
1002312	120 mm.	215 mm.
1002314	140 mm.	225 mm.



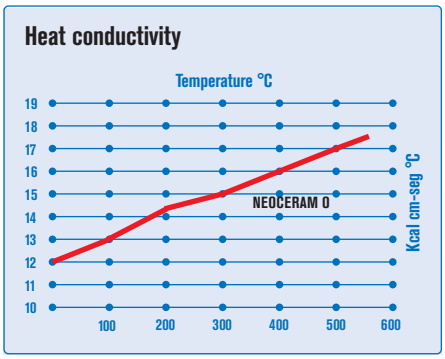
GAUZE IRON WIRE WITH CERAMIC FIBRE

Part No.	
1087102	100 mm Side.
1087122	120 mm Side.
1087142	140 mm Side.
1087162	160 mm Side.
1087182	180 mm Side.
1087202	200 mm Side.

CERAMIC PLATES "NEOCERAM"

Resistant to temperatures
from -200 °C to 700 °C.

Part No.	
1000684	120 x 120 x 5 mm.
1000685	140 x 140 x 5 mm.
1000686	160 x 160 x 5 mm.



Resistant to temperatures from -200 °C to 700 °C.
Excellent heat conductor.
20% better heat transfer compared to a conventional gauze ceramic.
High chemical resistance to aggressive compounds.
Easy to clean and long lasting.

TRIPOD STAND FOR CERAMIC PLATES

With adjustable sides to prevent the plate from moving or tilting.
Total height 210 mm.

Part No.	For plates of
1000687	120 x 120 mm.
1000688	140 x 140 mm.
1000689	160 x 160 mm.

LABORATORY JACK "LAB-ELE"

With anodised aluminium base.

Part No. **1000294** Usable platform: 115 x 140 mm.
Elevated height: 260 mm.
Maximum support weight: 1 kg.

Part No. **7000295** Top plate: 200 x 200 mm.
Maximum elevated height: 260 mm.
Max. support weight: 1.7 kg.
With hole and clamp screw for a support rod of 10 Ø x 600 mm high.

LABORATORY JACKS "LAB-STEEL"

Made completely of AISI 304 stainless steel.
Robust construction and stable body for supporting heavy weights.
Models:

"LAB-STEEL" MINI
Part No. **1001104** Platform Dims.: 145 x 145 mm. Elevation height 55 to 155 mm. Maximum support weight: 1.3 Kg.

"LAB-STEEL" MEDI
Part No. **1001161** Platform Dims.: 200 x 200 mm. Elevation height 65 to 270 mm. Maximum support weight: 2 Kg.

"LAB-STEEL" MAXI
Part No. **1001105** Platform Dims.: 250 x 250 mm. Elevation height 65 to 270 mm. Maximum support weight: 3 Kg.

TABLE TOP "ALMANDINE"

Made of polyester mineral resin.

Features:
Excellent chemical resistance, with resistance to class 1 and 2 chemicals.
Resists abrasion, boiling water, dry heat, fire and scratches.
Stains easily removed with a detergent or abrasive cleaner.

Applications:
Protects bench top surfaces against aggressive chemicals, burns and scratches.
Suitable for working with: Acids, alkali bases, solvents or dyes.
Preparation of horizontal agar gels.
Preparation of petri dishes, etc.

Part No.	Width	Thickness	Depth	
1001090	48 cm	0.6 cm	45 cm	Without level
1001091	48 cm	0.6 cm	45 cm	With adjustable level supports

STABILISING RINGS "CIRCUM"

P.V.C coated steel.

Applications:
The weight of the ring stabilises and prevents flasks from floating when placed in a water bath. Suitable for Conical, volumetric and all types of flasks.

Part No.	Colour	Mode	Ø interior mm.	Weight g.
1001169	red	open	50	207
1001170	red	open	70	340
1001171	red	open	100	470
1001734	blue	closed	48	270
1001735	blue	closed	70	360
1001736	blue	closed	90	440

Ring support holder, made of stainless steel.
Part No. **1001737**

Spatulas, scoops and vessels.

STAINLESS STEEL AND NICKEL EVAPORATING BASINS.
STAINLESS STEEL, NICKEL AND ZIRCONIUM CRUCIBLES.

MICRO SPATULA WITH FLAT ENDS

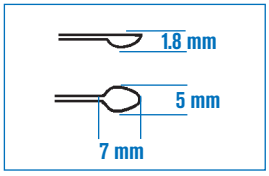
Made od AISI 304 stainless steel.

Part No.	Length	Width
1027680	80 mm.	4 mm.
1276120	120 mm.	4 mm.
1276150	150 mm.	4 mm.
1276210	210 mm.	4 mm.

MICRO SPATULA WITH FLAT AND SPOON ENDS

Made of AISI 304 stainless steel.

Part No.	Length	Width
1277100	100 mm.	4 mm.
1277150	150 mm.	4 mm.
1277210	210 mm.	4 mm.



MICRO-SPATULA CURVED ENDS

Made of stainless steel AISI 304.

Part No. 1001581 Length 150 mm.

SPATULA FLAT AND GROOVED ENDS

Made of Stainless steel AISI 304.

Part No. 1000855 Total length 180 mm. Flat width 9 mm. Grooved width 8 mm.

SPATULA WITH CURVED ENDS

Made of stainless steel AISI 304.

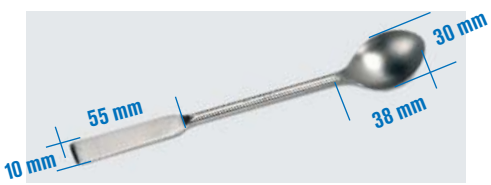
Part No.	Length	Width
1010313	130 mm.	11 mm.
1001518	150 mm.	11 mm.
1010318	180 mm.	11 mm.
1010321	210 mm.	11 mm.

SPATULA WITH SPOON AND FLAT ENDS

Part No.	Length	Width	
1096120	120 mm.	18 mm.	stainless steel AISI 304.
1096150	150 mm.	20 mm.	stainless steel AISI 304.
1196120	120 mm.	18 mm.	Pure nickel.
1196150	150 mm.	20 mm.	Pure nickel.

CHISEL AND GROOVED SPOON END SPATULA

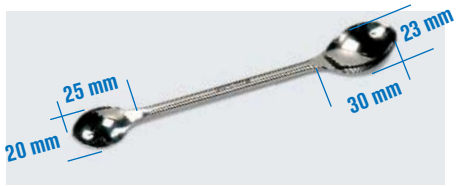
Part No.	Length	Width	
6021312	120 mm.	18 mm.	stainless steel AISI 304.
6021315	150 mm.	20 mm.	stainless steel AISI 304.
6121312	120 mm.	18 mm.	Pure nickel.
6121315	150 mm.	20 mm.	Pure nickel.



FLAT SPATULA WITH SPOON

Made of Stainless steel AISI 304.

Part No. 1001583 Length 180 mm.



SPATULA DOUBLE SPOON ENDS

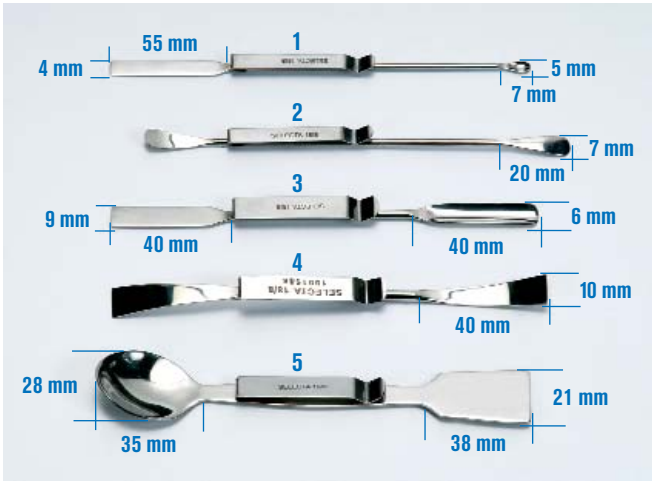
Made of Stainless steel AISI 304.

Part No. 1001582 Length 150 mm.

DOUBLE SPATULA SEMI-MICRO

Made of Stainless steel AISI 304. Total length 140 mm
Rectangular end: 35 long x 7 mm wide.
Oval end: 35 long x 7mm wide.

Part No. 1278140



SPATULA WITH POCKET CLIP

Part No.

1. 1001585 Micro-spatula flat spoon end. Length 150 mm.
2. 1001586 Micro-spatula curved end. Length 150 mm.
3. 1001587 Spatula flat with grooved end. Length 150 mm.
4. 1001588 Spatula double end flat. Length 150 mm.
5. 1001589 Spatula flat and spoon ends. Length 150 mm.

Specially designed for lab coats with upper pocket.

FLAT AND CURVED END SPATULA

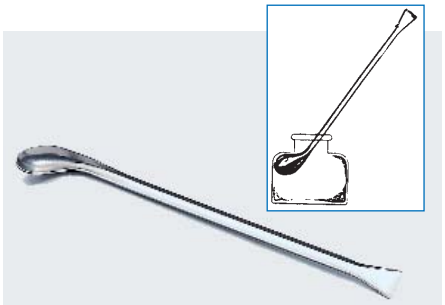
Made of AISI 304. stainless steel.

Part No.	Length	Width
6099120	120 mm.	20 mm.
6099150	150 mm.	24 mm.
6099180	180 mm.	24 mm.
6099210	210 mm.	24 mm.

SPATULA DOUBLE CURVED ENDS

Made of AISI 304. stainless steel.

Part No.	Length	Width
6100120	120 mm.	15 mm.
6100150	150 mm.	25 mm.
6100180	180 mm.	25 mm.
6100210	210 mm.	25 mm.



GROOVED SPATULA

Grooved spoon, made of AISI 304 stainless steel.
Total length: 190 mm.
Designed to remove residues from flasks and bottles due to the flat sharp end and curved spoon.
Part No. 1096190

SPATULA SPOON FLAT-CONCAVE

Made Stainless steel AISI 304.
Part No. 1001584 Length 250 mm.

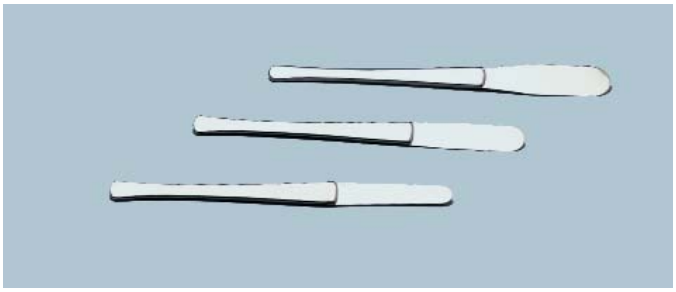
FLAT SPATULA WITH SPOON

Analytical type, made of AISI 304 Stainless steel. Total length: 210 mm.
Rectangular end: 40 long x 9 mm wide.
Spoon end: 30 long x 18 mm wide.
Part No. 1095210

PASTE KNIFE WITH WOODEN HANDLE

Blade made from tempered Stainless steel.

Part No.	Blade length	Blade width	Part No.	Blade length	Blade width
1010280	80 mm.	14 mm.	1102160	160 mm.	24 mm.
1102100	100 mm.	16 mm.	1102200	200 mm.	29 mm.
1102120	120 mm.	18 mm.	1102240	240 mm.	34 mm.
1102140	140 mm.	22 mm.	1102280	280 mm.	34 mm.



FLEXIBLE SPATULA

With stainless steel AISI 304 blade and handle.

Part No.	Total length	Blade length	Blade width
1000856	160 mm.	52 mm.	11 mm.
1000857	160 mm.	52 mm.	15 mm.
1000858	170 mm.	60 mm.	20 mm.

MULTI PURPOSE KNIFE

With a black bakelite® handle. Designed for comfort and safety
Made of tempered stainless steel.
Total length: 230 mm.
Blade length: 95 mm.
Part No. 1000862

SPATULA POCKET POUCH

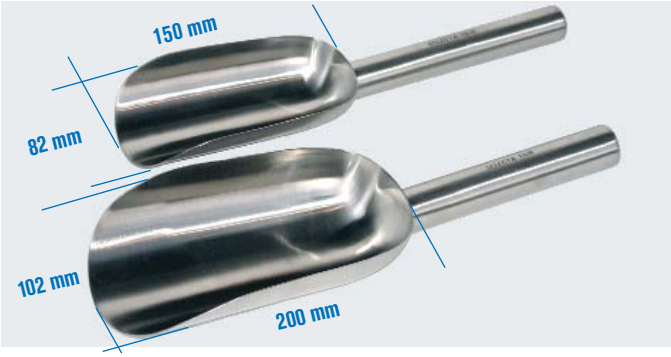
Part No. 1001530
Contents:
1 Flexible spatula. Part No. 1000856 . 1 Semi micro spatula. Part No. 1278140
1 Micro spatula flat spoon. Part No. 1277150. 1 Dissection scissors. Part No. 1000807
1 Forceps blunt end. Part No. 1000580

SODIUM SPOON

With brass basket. Ø 25 mm. Total length: 190 mm.
Part No. 1000805

POWDER SCOOPS

Length: 100 mm. Width: 26 mm.
Part No. 6000278 Stainless steel AISI 304.
Part No. 6001278 Pure nickel.



SCOOPS WITH HANDLE

Made of stainless steel AISI 304.
Part No. 1001592 Medium Total length 320 mm.
Part No. 1001593 Big Total length 360 mm.

VIBRATING SPATULA AND BALANCE WEIGHT FORCEPS

Vibrating spatula.
With manual vibrating device. Made of AISI 304 stainless steel.
Part No. 1000413 Curve end. Total length 176 mm. Width 12 mm.
Part No. 1000412 Grooved end. Total length 176 mm. Width 12 mm.

Balance weight forceps.
Made of AISI 304 stainless, electrobright finish. Total length 93 mm.
Part No. 1000217

Forceps for balance weights.
Made of AISI 304 stainless, electrobright finish. Total length 100 mm.
Part No. 1000216

FUSION SPOONS

Made of AISI 304 stainless, wooden handle. Total length: 350 mm.

Flat base. Volume 90 ml.
Part No. 6000093

Round base. Volume 75 ml.
Part No. 6000094

SCOOPS WITH HANDLE

Made of stainless steel AISI 304.

Part No.	Total length	Usable length	Width	Capacity
1000859	180 mm.	100 mm.	50 mm.	120 ml.
1000860	260 mm.	150 mm.	75 mm.	450 ml.
1000861	310 mm.	200 mm.	100 mm.	1500 ml.
1001354	330 mm.	210 mm.	150 mm.	2000 ml.

FUNNEL WITH HANDLE

Made of AISI304 stainless steel.

Part No. 1000906 100 mm Ø x 100 mm high x 10 mm exit.
Part No. 1000907 120 mm Ø x 112 mm high x 10 mm exit.
Part No. 1000908 150 mm Ø x 159 mm high x 20 mm exit.
Part No. 1000909 200 mm Ø x 183 mm high x 20 mm exit.

SPOON WITH HANDLE

Made of AISI304 stainless steel.

Part No. 1001594 Capacity 100 ml. Total length 240 mm.
Part No. 1001595 Capacity 200 ml. Total length 280 mm.
Part No. 1001596 Capacity 300 ml. Total length 360 mm.

FLAT BOTTOM BASINS

Stainless steel AISI 304	Nickel Ni			
Part No.	Part No.	Ø	Height	Volume
1009160	1019160	60 mm.	25 mm.	40 ml.
1009170	1019170	70 mm.	25 mm.	60 ml.
1009180	1019180	80 mm.	30 mm.	90 ml.
1091100	1191100	100 mm.	35 mm.	180 ml.

EVAPORATION BASINS, ROUND BOTTOM

Stainless steel AISI 304	Nickel Ni			
Part No.	Part No.	Ø	Height	Volume
1009260	1019260	60 mm.	25 mm.	35 ml.
1009270	1019270	70 mm.	25 mm.	50 ml.
1009280	–	80 mm.	30 mm.	75 ml.
1092100	–	100 mm.	35 mm.	125 ml.

PETRI DISH WITH LID

Stainless steel AISI 304	Nickel Ni			
Part No.	Part No.	Ø	Height	Volume
1002126	1012126	60 mm.	20 mm.	50 ml.
1002128	1012128	80 mm.	20 mm.	90 ml.
1021210	–	100 mm.	25 mm.	150 ml.
1021212	–	120 mm.	25 mm.	260 ml.
1021215	–	150 mm.	30 mm.	550 ml.

BUCKETS WITH HANDLES

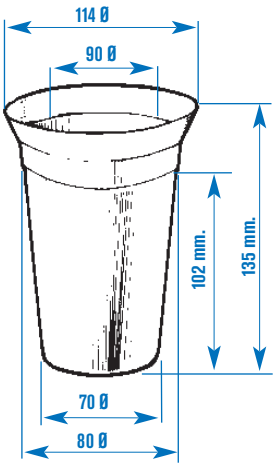
Without graduation.

Part No.	Height	Ø	Capacity
1001599	270 mm	270 mm	10 litres
1001600	300 mm	300 mm	15 litres

BUCKET LIDS

Part No. 1001601 Suitable for buckets 10 litres Part No. 1001599
Part No. 1001602 Suitable for buckets 15 Litres Part No. 1001600

DYE BEAKER
Stainless steel AISI 304.
Volume: 500 ml.
Part No. 6000291



Crisol de cuarzo

CRUCIBLES

AISI 304 STAINLESS STEEL

Part No.	Ø	Height	Thickness	Volume	Lids Part No.
1098302	30 mm.	32 mm.	2 mm.	20 ml.	6009730
1098402	40 mm.	42 mm.	2 mm.	45 ml.	6009740
1009830	30 mm	32 mm.	0.6 mm.	20 ml.	6009730
1009840	40 mm.	42 mm.	0.6 mm.	45 ml.	6009740
1009850	50 mm.	55 mm.	0.8 mm.	85 ml.	6009750
1009860	60 mm.	65 mm.	0.8 mm.	140 ml.	6009760

PURE NICKEL Ni

Part No.	Ø	Height	Thickness	Volume	Lids Part No.
1198302	30 mm.	32 mm.	2 mm.	20 ml.	6019730
1198402	40 mm.	42 mm.	2 mm.	45 ml.	6019740
1198502	50 mm.	55 mm.	2 mm.	85 ml.	6019750
1198602	60 mm.	65 mm.	2 mm.	140 ml.	6019760
1019830	30 mm.	32 mm.	0.6 mm.	20 ml.	6019730
1019840	40 mm.	42 mm.	0.6 mm.	45 ml.	6019740
1019850	50 mm.	55 mm.	0.6 mm.	85 ml.	6019750
1019860	60 mm.	65 mm.	0.6 mm.	140 ml.	6019760

ZIRCONIUM Zr

Part No.	Ø	Height	Thickness	Volume	Lids Part No.
1000563	33 mm.	30 mm.	1 mm.	20 ml.	6000567
1000564	47 mm.	43 mm.	1 mm.	50 ml.	6000568
1000565	52 mm.	48 mm.	1 mm.	75 ml.	6000569
1000566	59 mm.	51 mm.	1 mm.	100 ml.	6000570

QUARTZ GLASS

Part No.	Ø	Height	Thickness	Volume	Lids Part No.
1000570	45 mm.	36 mm.	1,5 mm.	38 ml.	1000620
1000571	50 mm.	40 mm.	1,5 mm.	49 ml.	1000621
1000572	60 mm.	48 mm.	1,5 mm.	90 ml.	1000622
1000573	35 mm.	44 mm.	1,5 mm.	24 ml.	1000623
1000574	40 mm.	50 mm.	1,5 mm.	40 ml.	1000624
1000575	55 mm.	62 mm.	1,5 mm.	75 ml.	1000625

QUARTZ GLASS FOR INCINERATION

Part No.	Ø	Height	Thickness	Volume	Lids Part No.
1000576	27 mm.	45 mm.	1,5 mm.	20 ml.	Included
1000577	25 mm.	38 mm.	1,5 mm.	15 ml.	Included

STAINLESS STEEL AISI 304- PURE NICKEL - ZIRCONIUM - QUARTZ

STAINLESS STEEL is usable at temperatures from -180 °C to +500 °C. Resistant to nitric acid, nitrate and potassium permanganate. Good resistance to concentrated alkaline solutions. Average resistance to acetic acid, hydrogen sulphide diluted, phosphoric low concentration, and solutions of sulphites, boric acid, organic acids and bromides.

NICKEL unalterable in the air and stainless up to temperatures of 500 °C, good resistance to molten alkali and seawater.
Excellent performance in the presence of wet chlorine or hydrochloric acid gas up to 500 °C. Slowly attacked by organic acids, hydrochloric and sulfuric acids.
Low resistance to diluted nitric acid.

THE ZIRCONIUM unalterable in the air and clean, resistant up to 550 °C in an oxidizing atmosphere at 1500 °C in inert gas (argon or nitrogen), **in many cases to replace platinum crucibles** in all melting and in particular the sodium peroxide and carbonates. **About 100 melting per crucible**, making them very economical with reference to the others, either porcelain crucibles, steel or nickel. Resistant to most alkali solvents (Na, K, Li), carbonates, hydroxides, peroxides, borates, nitrates, chlorides, some fluorides and sulfuric acid up to 75% concentrate.
Hydrofluoric acid attacks it.

QUARTZ GLASS has a high temperature resistant (liquid glass transition 1130°C) as well as a low thermal expansion. It is considered a unique material for several scientific applications due to its purity (can only be attacked by hot phosphoric acid and hydroflouric acid) and thermal characteristics. Furthermore, quartz glass has extraordinary optical properties through its spectral transparency and high irradiation resistance.

Stainless steel receptacles.

QUALITY AISI 304.

LABORATORY-HOSPITAL + SERIES

ROUND BASINS

Part No.	Ø exterior	Ø interior	Height	Volume
8081810	133 mm.	118 mm.	45 mm.	400 ml.
8081812	175 mm.	157 mm.	58 mm.	850 ml.
8081814	217 mm.	199 mm.	66 mm.	1650 ml.
8081815	255 mm.	245 mm.	110 mm.	3400 ml.
8081817	318 mm.	297 mm.	117 mm.	7000 ml.

RECTANGULAR TRAYS

Conical shape

Part No.	Exterior Height	Exterior Width	Exterior Depth	Interior Width	Interior Depth
8080801	40 mm.	190 mm.	125 mm.	158 mm.	112 mm.
8080802	45 mm.	244 mm.	161 mm.	211 mm.	147 mm.
8080803	50 mm.	305 mm.	195 mm.	270 mm.	177 mm.
8080804	55 mm.	338 mm.	261 mm.	301 mm.	241 mm.

Long shape

Part No.	Exterior Height	Exterior Width	Exterior Depth	Interior Width	Interior Depth
8080208	18 mm.	175 mm.	62 mm.	145 mm.	49 mm.
8080207	28 mm.	380 mm.	160 mm.	351 mm.	145 mm.

STERILIZATION BOXES WITH LID

Part No.	Height	Width	Depth
8085504	30 mm.	170 mm.	70 mm.
8085505	50 mm.	200 mm.	100 mm.

BOXES WITH ROUND LIDS

Part No.	
8085514	140 Ø x 65 mm high. Volume 1000 ml.
8085515	180 Ø x 75 mm high. Volume 1500 ml.

KIDNEY DISHES

Part No.	
8085301	32 high x 200 mm long.
8085302	37 high x 250 mm long.
8085303	42 high x 300 mm long.

TALL BEAKERS AND JUGS

Mirror finish stamped beakers and jugs with a curved lip.
Easily cleaned and resistant to large numbers of chemical agents.

1 Standard	2 With Spout	3 With handle and spout		
Part No.	Part No.	Part No.	Ø x Height	Volume
8002902	8012902	8092902	72 x 84 mm.	250 ml.
8002905	8012905	8092905	86 x 129 mm.	500 ml.
8029010	8129010	8929010	102 x 150 mm.	1000 ml.
8029020	8129020	8929020	132 x 184 mm.	2000 ml.
8029030	8129030	8929030	160 x 180 mm.	3000 ml.
8029040	8129040	8929040	180 x 200 mm.	4000 ml.
8029050	8129050	8929050	200 x 220 mm.	5000 ml.

LIDS FOR BEAKERS AND JUGS

Part No.	Beaker size	Part No.	Beaker size
8000250	250 ml.	8003000	3000 ml.
8000500	500 ml.	8004000	4000 ml.
8001000	1000 ml.	8005000	5000 ml.
8002000	2000 ml.		

BUCKET WITH HANDLE

Buckets. Graduated from 1 to 12 litres.
320 Ø x 300 mm high. Volume 12 litres.
Part No. 8000252
Bucket lids
Part No. 1002521

MEDICINE CUPS

Part No.
8085530 Graduated. Capacity 30 ml.
8085531 Graduated. Capacity 50 ml.
8085532 With handle, no graduations. Capacity 300 ml.

SERILISATION JAR

100 Ø x 155 mm high.
Volume 1000 ml.
Part No. 8080904

ROUND BASIN

370 Ø x 145 mm high. Volume 9000 ml.
Part No. 8000140

SUPPORT FOR ROUND BASIN

Portable with rubber wheels and brake.
Basin Part No. 8000140.
Part No. 6010140

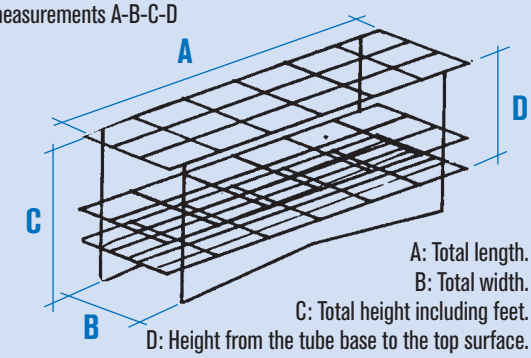
SUPPORT FOR BUCKETS

Portable with rubber wheels and brake.
For bucket Part No. 8000252.
Part No. 6010252

Racks, baskets and storage for tubes pipettes and flasks

TUBE RACKS

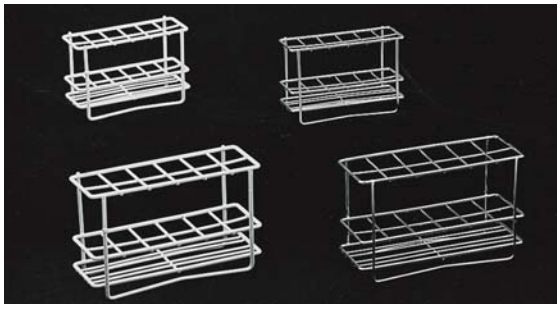
Schematic diagram indicating external measurements A-B-C-D



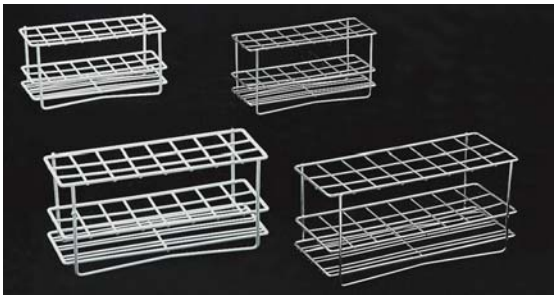
A: Total length.
B: Total width.
C: Total height including feet.
D: Height from the tube base to the top surface.

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1001563	Stainless steel	24 (6 x 4)	13 mm VAC	95	70	70	60

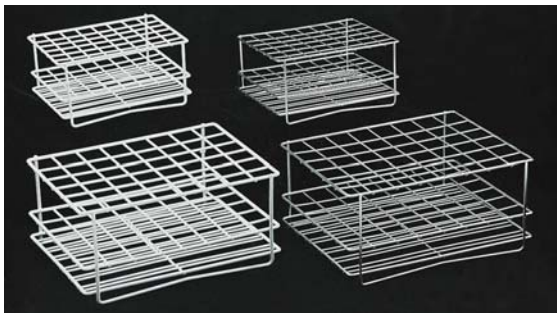
Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1001212	PVC coated wire	12 (4 x 3)	13 mm	65	50	65	50
1025500	Stainless steel wire AISI 304	12 (4 x 3)	13 mm	65	50	65	50



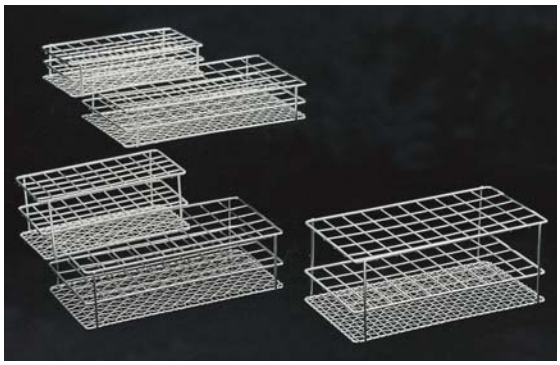
Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1026112	PVC coated wire	12 (6 x 2)	16 mm	120	45	80	65
1026412	PVC coated wire	12 (6 x 2)	25 mm	180	65	110	95
1025512	Stainless steel wire AISI 304	12 (6 x 2)	16 mm	120	45	80	65
1025812	Stainless steel wire AISI 304	12 (6 x 2)	25 mm	180	65	110	95



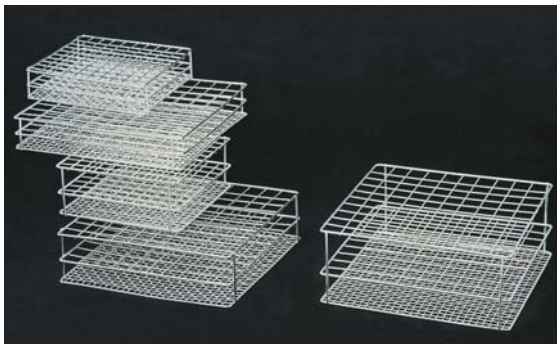
Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1026124	PVC coated wire	24 (8 x 3)	16 mm	160	65	80	65
1026424	PVC coated wire	24 (8 x 3)	25 mm	235	95	110	95
1025524	Stainless steel wire AISI 304	24 (8 x 3)	16 mm	160	65	80	65
1025824	Stainless steel wire AISI 304	24 (8 x 3)	25 mm	235	95	110	95



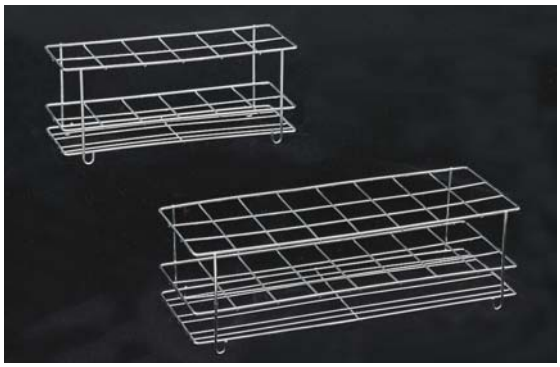
Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1026148	PVC coated wire	48 (8 x 6)	16 mm	160	125	80	65
1026448	PVC coated wire	48 (8 x 6)	25 mm	235	180	110	95
1025548	Stainless steel wire AISI 304	48 (8 x 6)	16 mm	160	125	80	65
1025848	Stainless steel wire AISI 304	48 (8 x 6)	25 mm	235	180	110	95



Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1000603	Stainless steel wire AISI 304	50 (10 x 5)	13 mm	162	84	35	35
1000605	Stainless steel wire AISI 304	50 (10 x 5)	13 mm	162	84	60	60
1000607	Stainless steel wire AISI 304	50 (10 x 5)	18 mm	210	110	40	40
1000609	Stainless steel wire AISI 304	50 (10 x 5)	18 mm	210	110	60	60
1000611	Stainless steel wire AISI 304	50 (10 x 5)	18 mm	210	110	85	85



Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1000604	Stainless steel wire AISI 304	100 (10x10)	13 mm	162	162	35	35
1000606	Stainless steel wire AISI 304	100 (10x10)	13 mm	162	162	60	60
1000608	Stainless steel wire AISI 304	100 (10x10)	18 mm	210	210	40	40
1000610	Stainless steel wire AISI 304	100 (10x10)	18 mm	210	210	60	60
1000612	Stainless steel wire AISI 304	100 (10x10)	18 mm	210	210	85	85

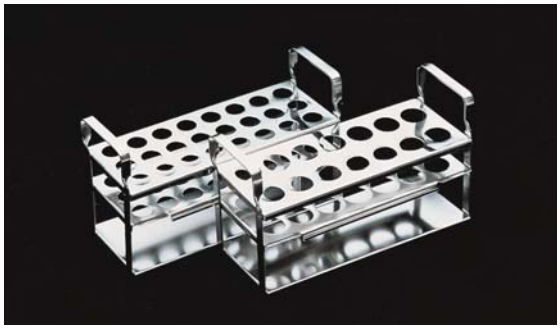


Suitable for Nessler tubes

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1004012	Stainless steel wire AISI 304	12 (6 x 2)	40 mm	260	90	110	95
1004024	Stainless steel wire AISI 304	24 (8 x 3)	40 mm	345	130	110	95

Suitable for Falcon tubes with lids

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1001715	Stainless steel wire AISI 304	15 (5 x 3)	16 mm Falcon 15 ml	120	80	90	75
1001716	Stainless steel wire AISI 304	8 (4 x 2)	30 mm Falcon 50 mm	145	80	90	75



With rack linking guides

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1002532	Stainless steel AISI 304	24 (8 x 3)	12 mm	160	62	65	–
1002531	Stainless steel AISI 304	14 (7 x 2)	16 mm	160	62	65	–

Suitable for butyrometer

Part No.	Made of	Number of tubes	For tube	Dimensions ext. mm A	B	C	D
1025412	Stainless steel AISI 304	12 (6 x 2)	Butyrometer	200	70	165	–
1025424	Stainless steel AISI 304	24 (8 x 3)	Butyrometer	285	95	165	–

With decanting aid

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1000433	Anodised aluminium colour silver	120 (15 x 8)	11 mm	300	170	50	–
1000434	Anodised aluminium colour silver	120 (15 x 8)	14 mm	300	170	50	–

Stackable and numeric

Stackable racks

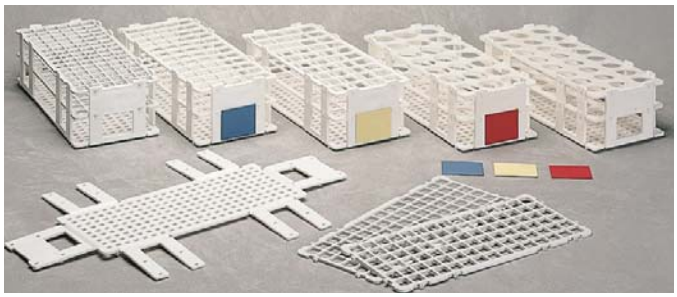
Made of anodised aluminium with alphanumeric from 1 to 10 and A to E.

Part No.	External dimensions mm. Height	Width	Depth	Tube Capacity	For tubes of Ø up to
1000830	60	165	95	50	11 mm
1000831	60	195	100	50	14 mm
1000832	60	220	110	50	16 mm

Transparent methacrylate racks

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1052012	Transparent methacrylate	24 (8 x 3)	12 mm	170	90	50	50
1052016	Transparent methacrylate	24 (8 x 3)	16 mm	190	100	60	60
1052022	Transparent methacrylate	24 (8 x 3)	22 mm	255	150	80	80
1052026	Transparent methacrylate	24 (8 x 3)	26 mm	300	170	110	110

Part No.	Made of	Number of tubes	For tube Ø up to	Dimensions ext. mm A	B	C	D
1001251	Methacrylate	25 (5 x 5)	11 mm	85	80	35	30
1001252	Methacrylate	25 (5 x 5)	12 mm	85	80	55	50



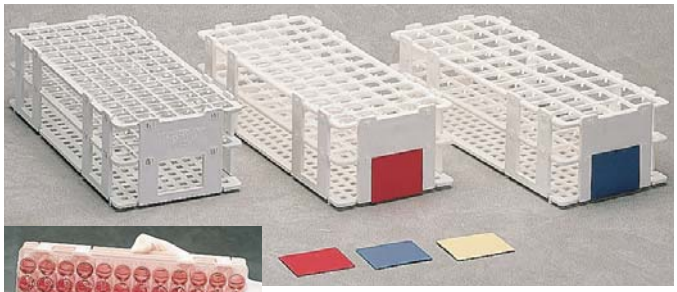
PROPISEL RACKS

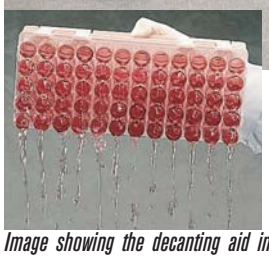
Made of high density white polypropylene.
Easy to assemble. Stackable. Autoclavable. These racks do not float and are suitable for water baths for temperatures up to 140 °C.
Each rack has a cross reference numbering systems for easy tube identification.
Easily cleaned with a disinfectant. Colour white.
Accessory rack identification cards are available in: yellow, blue and red.

Models

Part No.	Number of tubes	For tubes up toØ mm	External dims. cm Height	Width	Depth
1001115	90	13	7	10.5	25
1001116	60	16	7	10.5	25
1001117	40	20	7	10.5	25
1001118	24	25	7	10.5	25
1001119	21	30	7	10.5	25

ACCESSORY
Indentification cards, autoclavable.
Part No.
1001120 Yellow
1001121 Blue
1001122 Red





PROPISEL-FIX RACKS

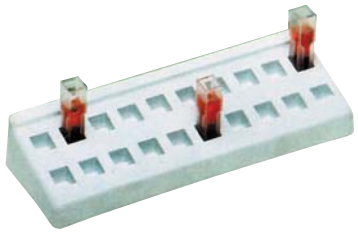
Made of high density polypropylene. Comes with decanting aid that holds the tubes in place in the rack while the complete rack is emptied in one operation. Features: Same feature as the "Propisel".

Image showing the decanting aid in use and tubes still in place.

Models

Part No.	Number tof tubes	For tubes up toØ mm	External dims. cm Height	Width	Depth
1001123	90	11 to 13	7	10.5	25
1001124	60	14 to 16	7	10.5	25
1001125	40	19 to 20	7	10.5	25

ACCESSORY
Indentification cards, autoclavable.
Part No.
1001120 Yellow
1001121 Blue
1001122 Red



RACK FOR 20 10 mm ⧄ SQUARE CUVETTES

Made of polypropylene. Positioning cross-reference.
Height 35 mm. Width 70 mm
Depth 210mm
Colour: white
Part No. 1001528

CIRCULAR RACK

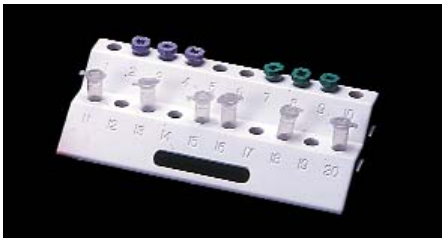
Made in polyethylene for 4 tubes of 25 mm Ø, 8 tubes of up to 19 mm Ø and 16 up side down peg tube supports.
Dimensions: 95 high x 180 mm Ø.
Part No. 1001339

RACK FOR 1.5 AND 2 ml MICROTUBES

Made of Polycarbonate, stackable, numbered positions and autoclavable. Number of tubes: 24 microtubes.
Diameter: up to 11 mm Ø.
Part No. 1001340

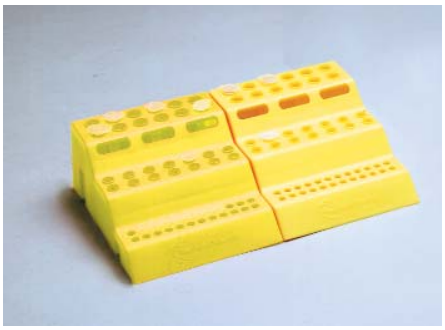
RACK FOR 1.5 AND 2 ml MICROTUBES

Made of solid polypropylene, ideal for refrigerator and freezer storage. Numbered positions and autoclavable.
Capacity: up to 80 micro-tubes.
Part No. 1001341



RACK FOR 20 MICROTUBES OF 1.5 TO 2 ml

Made of polypropylene. Racks can be linked and fitted together. Numbered locations. Total length 21 cm.
Part No. 1001523



THREE LEVEL MICROTUBE RACK FOR 0.2 - 0.5 AND 1.5 ml

Made from polypropylene and can be linked at either end to form longer racks. Numbered positions.
Lower level 24 micro tubes of 0.2 ml.
Middle level 14 micro tubes of 0.5 ml.
Upper level 12 micro tubes of 1.5 ml.
Standard colour yellow.
Part No. **1001542**

MULTI SUPPORT TUBE RACK TUBE SIZE Ø 10/13 AND 14/17 mm

Suitable for drying and storing of tubes. Autoclavable.
Suitable for use in a water bath.
Standard colour blue.
Part No. **1001543** Group of 80 spikes for tubes of 10-13 mm Ø.
Part No. **1001544** Group of 50 spikes for tubes of 14-17 mm Ø.

REVERSIBLE TUBE RACK FOR MICROTUBES 0.2/0.5 AND 1.5/2 ml

Made from polypropylene with removable lid that fits on any side.
Alphabetic identification positions.
Face A for 168 micro tubes of 0.2 ml and 12 x 1.5 ml.
Face B for 110 micro tubes of 0.5 ml and 12 x 1.5 ml.
Standard colour yellow.
Part No. **1001545**

REVERSIBLE TUBE RACKS FOR 0.5 - 1.5 AND 2 ml TUBES

Face A for 96 micro tubes of 0.5 ml.
Face B for 96 micro tubes of 1.5 to 2 ml.
Made from polypropylene with removable lid.
Alphabetic tube position identification.
Height 26 mm, with lid 50 mm. Width 115 mm. Length 250 mm.
Standard colour yellow.
Part No. **1001524**

BOX TO STORE 100 CRYO VIALS AND 1.5 TO 2 ml MICROTUBES

Made from polyethylene, with hinged, lid and pressure latch close.
Alphabetical grid tube location within the lid.
Height with lid 55 mm. Width 140 mm. Length 140 mm.
Standard neutral colour.
Part No. **1001525**

BOX FOR 50 CRYO VIALS AND 1.5 TO 2 ml MICROTUBES

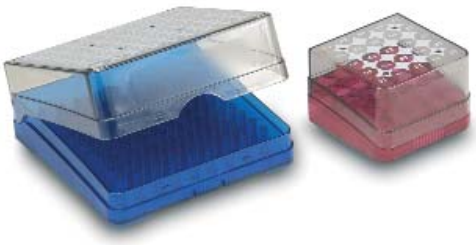
Made from polyethylene, with hinged, lid and pressure latch close.
Alphabetical grid tube location within the lid.
Height with lid 55 mm. Width 80 mm. Length 140 mm.
Standard neutral colour.
Part No. **1001526**

STORAGE BOX FOR 96 TUBES OF 0.2 ml

Made from polypropylene, with hinged lid and pressure latch close.
Alphanumeric identification positions.
Height with lid 30 mm. Width 90 mm. Length 130 mm.
Standard colour yellow.
Part No. **1001527**

BOX FOR STORING 12 X 10 mm ⊿ CUVETTES

Made from Polypropylene, with hinged lid and pressure latch close.
Removable base.
Cuvette heights up to 60 mm high.
Height with lid 60 mm. Width 115 mm. Length 115 mm.
Standard colour neutral.
Part No. **1001529**



FREEZER BOXES FOR VIAL STORAGE

Made from polycarbonate.
Suitable for freezer or liquid nitrogen storage for temperatures between -196 °C to +121 °C.
Alphanumeric identification, with ventilation holes and drain. Pressure lid.
Part No. **1001713** Box of 25 vials.
Height with lid 55mm. Width 75 mm. Length 75 mm.
Part No. **1001714** Box of 100 vials, Lid with hinge.
Height with lid 55mm, Width 130mm. Length 130 mm.

Chiller and cooler storage boxes

COMMON FEATURES

Specially designed for protecting and maintaining PCR* reagents, enzymes, bacteria, viruses and other biological samples cool or frozen during use. Also provides protection from temperature fluctuation, defrost cycles and freezer power failure.

Made from polycarbonate with a pre-filled chamber of non-toxic gel, complete with alphabetical identification grid in the lid.
Freezer temperature resistant down to -135 °C.
Tubes are isolated and have no contact with the cooling solution.

* Note: PCR is a registered name of Hoffman-La Roche.

"QUICK FREEZE" CONTAINER

Quick freeze container with the capacity for 12 tubes 0.5 ml or 2 ml tubes.
Unique reproducible freezer system for biological samples using ethanol samples of DNA and RNA.
It will maintain the interior temperature for up to 45 minutes after removal from a freezer.
Freezing speed:
2 ml solution of alcohol at –20 °C, 3 minutes.
2 ml solution of water 0 °C, 4 minutes.
Size (with lid): 95 high x 100 depth x 140mm width.
Part No. **5601050**

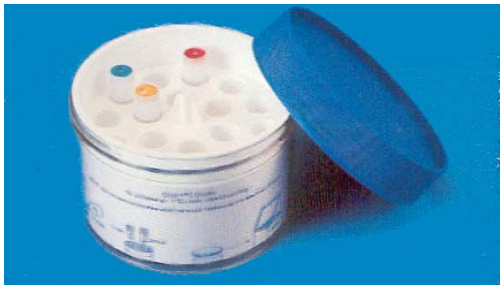
Cooler 1052 *Cooler 1051*

MINI FREEZER CONTAINERS "COOLER 1051" AND "COOLER 1052"

Cooler 1051
Freezer container at 0 °C with the capacity for 12 tubes of 0.5 to 2 ml.
Alphanumeric matrix on the lid.
It will maintain temperature for up to 2 to 5 hours
Size (with lid): 95 high x 100 depth x 140mm width.
Part No. **5601051**
Cooler 1052
Freezer container at 0 °C to –20 °C with a capacity for 32 tubes of 0.5 to 2 ml.
Alphanumeric matrix on the lid.
Double insulation body and lid that can maintain the internal temperature for a period of up to 2 hours.
Size (with lid): 105 high x 130 depth x 270 mm width.
Part No. **5601052**

MINI FREEZER CONTAINERS "COOLER 1053"

Freezer container at 0 °C with the capacity for 12 tubes of 16/17 mm Ø and 15 ml centrifuge tubes.
Alphanumeric matrix on the lid.
It will maintain temperature for up to 2 to 5 hours.
Size (with lid): 150 high x 140 depth x 190 mm width.
Part No. **5601053**



CONTAINER "CRYO 1 °C COOLER"

Freezer container with constant reproducible progressive cooling rate of 1 °C/min with a capacity for 18 cryo tubes of 1.2 to 2 ml
Operation: fill the container with alcohol isopropanol (C_3H_8O) and place tube rack inside replace the lid and put into a freezer.
The container can be placed in a water bath for thawing.
Capacity of C_3H_8O = 250ml
Size (with lid): 86 high x 117 mm Ø.
Part No. **5601055**

"ICE BUCKET"

Container with lid, made of double-bodied polystyrene of 2 mm thickness with thermal insulation that is chemically resistant, made from expanded polystyrene.
Ideal for maintaining samples submerged in ice for short time periods. Capacity 3-5 litres.
External dimensions: 19 height x 27 width x 27 cm depth.
Internal dimensions: 17 height x 25 width x 25 cm depth.
Part No. **5601054**

Flake ice maker “IMS-40”, “IMS-85” and “IMS-150B”

“IMS” 40 MODEL: PRODUCTION 40 kg-24 HOURS.
“IMS” 85 MODEL: PRODUCTION 85 kg-24 HOURS.
“IMS” 150 MODEL: PRODUCTION 150 kg-24 HOURS.

APPLICATIONS

For preservation and storage of analytic samples, biological tissues, cellular cultures and other applications that require maintenance of the temperature below ambient.

FEATURES

External case made of AISI 304 stainless steel.
Thermal isolated inside.
High capacity for flake ice production from running or purified water.
Water pressure between 1,5 and 3 bars.
Automatic switch off when there’s water shortage and when the ice tank capacity is full.

CONTROL PANEL

Main power switch.
Luminous indicator for: Flake ice production.
Water shortage.
Ice tank full.

MODELS	Part no.	24 h. (Kg) Production	Tank Capacity(Kg)	Height / Width / Depth cm	Power W	Power supply	Weight Kg
IMS-40	5020100	40	8	72 38 54	280	220V/50Hz	40
IMS-85	5020101	85	13	88 55 61	420	220V/50Hz	57
IMS-150B	5020103	150	35	94 63 61	685	220V/50Hz	76

COMPLEMENT “ICE BUCKET”

See page 190

Manual hidraulic press “PM-15”

MAXIMUM PRESSURE LOAD: 15 TONS

NEW

FEATURES

Compact and easy to use, designed for a maximum pressure load of 15 tons, especially for pressing in chemical research laboratories and materials for preparing ceramic composite. This machine has an integrated auto return hydraulic pump.

Tablets from 6.3mm to 19mm can be compacted with the MT matrix accessory, for KBR compression technique and fluorescence analysis works.
Cylinder elevation of 0-25mm.

MODEL

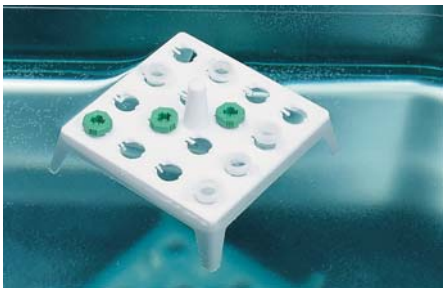
Part No.	Max. Pressure tons	Height / Width / Depth mm	Weight Kg	Max. Working area mm Height / Width / Depth
5810200	15	55 13 21	30	150 x 160 x 160

ACCESORIES

Part No. 5810201 MT Matrix 12.5mm
Part No. 5810202 MT Matrix 6.3mm
Part No. 5810203 MT Matrix 19mm
Part No. 5810204 MT Matrix 3.2mm

FREEZING CONTAINER

For sample freezing with liquefy gas (liquid nitrogen), liquids and solutions.
Spherical inside. Exterior made of AISI 304 stainless steel.
Double body with thermal isolated PRTFE joint.
Hit-resistant.
External measures: 14 high x 24cm wide.
Capacity: 1.5 L. Weight Kg: 2,9.
Part No. **1001640**



FLOATING TUBE RACK 1.5 AND 2 ml MICRO-TUBES

Made of polypropylene, with a support to hold microtubes. Ideal for constant temperature application.
Capacity: 16 microtubes.
Dimensions: 4 high x 10 wide x 10 cm deep.
Part No. **1001342**

THERMOMETER AND PIPETTE RACK

Made of polypropylene.
No. of positions: 12 positions.
Part No. **1001314**

PIPETTE RACK "CIRPIP"

Portable upright rack for pipettes and thermometers, made of PVC. No. of positions: 93 of various sizes.
Stable heavy base with drain
Weight 0.4 Kg.
Part No. **1001254**

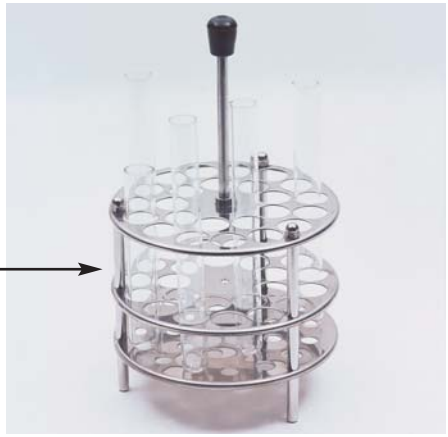
PIPETTE RACK "STABIL"

Pipette rack made from polyethylene for 28 pipettes or thermometers up to 14 mm Ø. Stable heavy base with drain and two adjustable height supports.
Weight 1.5 Kg.
Part No. **1001466**

SAMPLE CONTAINERS "CONTESEL"

Applications: designed for dispensing, storage or preservation of organic and inorganic samples.
Polypropylene container and quick fit screw cap lid.
Lid system with flap AQUISEL (international patent.) That allows the manipulation of the sample without having to remove the lid and maintains a seal.
Dosing by means of an automatic or standard pipette.
Vessel graduated to: 20, 40, 60, 80 and 100 ml, frosted screen for writing.
Includes gullet for pouring .
Comes complete with violet coloured lid valve.

Part No.	colour	capacity ml	total height cm	quantity
1001699	violet	100	7	300



CIRCULAR RACKS

Made of AISI 304 stainless steel.
138 mm Ø x 120 mm high. Suitable for the "Baher" and "Univeba" baths (see BATHS for more details).
Part No. **7000541** for 24 tubes up to 18 mm in Ø.
Part No. **7004002** for 24 tubes up to 13mm in Ø.

SUPPORT AND DRAIN RACK FOR PIPETES "SOP-PIP"

Made AISI 304 stainless steel.
Holds up to 112 pipettes of different sizes.
Part No. 1001223

TILTED SUPPORT RACK "SOP-INC"

Suitable for pipettes, hydrometers and thermometers rack, made of methacrylate. 6 positions.
Part No. 1000015

KJELDAHL FLASK SUPPORT

Made of AISI 304 stainless steel with electrobright finish.
Suitable for flasks up to 500 ml.
Part No. 1000002

PIPETTE RACK

Made of AISI 304 stainless steel.
No. of places: 6 dosing pipettes of various sizes up to 28 cm in length. (See pages 215 - 216).
Part No. 1001215

SUPPORT RACK FOR PIPETTE AID "COM-PIP"

Made of AISI 304 stainless steel.
No. of places: 6 dosing pipettes of various sizes.
(See page 215-216).
Part No. 1001702

ROUND BOTTOM FLASK SUPPORT

Made of moulded rubber (E.P.D.M.). Temperature resistance up to 100 °C. Specially designed with stepped surface to support different flask diameters. From 100 ml up to 10 litre capacity.
Dimensions: 50 mm high x 160 mm Ø.
Part No. 1000863

TABLE TOP OR WALL MOUNTABLE DRAIN RACK

Made of PCV coated wire.
640 high x 500 mm wide.
With 79 positions, complete with drip tray.
Part No. 1000481

DRAIN RACK

Made of PCV coated wire.

32 positions.
300 high x 400 mm wide.
Part No. 1024132

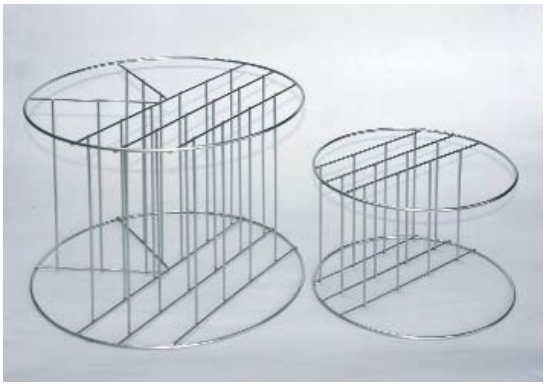
48 positions.
500 high x 400 mm wide.
Part No. 1024148

88 positions.
620 high x 500 mm wide.
Part No. 1024188

WIRE BASKETS

Made of AISI 304 stainless steel sheet with electro-bright finish. Designed to fit the Selecta autoclaves. (See page 55 to 70).

Part No.		Part No.	
1004771	220 Ø x 140 mm high.	1000496	365 Ø x 265 mm high.
1000596	220 Ø x 240 mm high.	1000780	435 Ø x 205 mm high.
1000495	265 Ø x 185 mm high.		



ACCESSORY

Basket dividers, stainless steel AISI304 , electrobright finish.

Part No.		For baskets, Part No.
1001217	4 compartment divider	1000495
1001218	6 compartment divider	1000496
1001222	7 compartment divider	1000780

WIRE BASKETS

Electropolished stainless steel AISI 304.

Part No.	Dimensions	With cross dividers. Part No.
1025115	210 Ø x 180 mm high	1125115
1025121	150 Ø x 120 mm high	1125121
1025124	240 Ø x 180 mm high	1125124

STERILIZATION DRUMS

Made from AISI 304 stainless steel. Designed to fit the Selecta autoclaves. (See page 55 to 70.)

Part No.	Ø cm	Height cm	
1002418	28	18	
1002419	35	27	
1002420	28	18	**Doesn't match Selecta autoclaves.**

STERLIZER CAN FOR PIPETTES

Made from Stainless steel AISI 304.

Part No.	height mm	Ø mm
1000829	400	72
1001126	400	130

STERILIZATION CONTAINER FOR PETRI DISHES

Made of AISI 304 stainless steel. Complete with Petri dish rack for up to 120 mm Ø.

Models Part No.	height / Ø mm	No. of plates
1001127	260 / 130	10
1001128	400 / 130	18

PETRI DISH RACK

Made of AISI 304 stainless steel, with electro-bright finish.
For 10 dishes of 80 to 100 mm Ø.
Part No. 1000259

PIPETTE BASKET

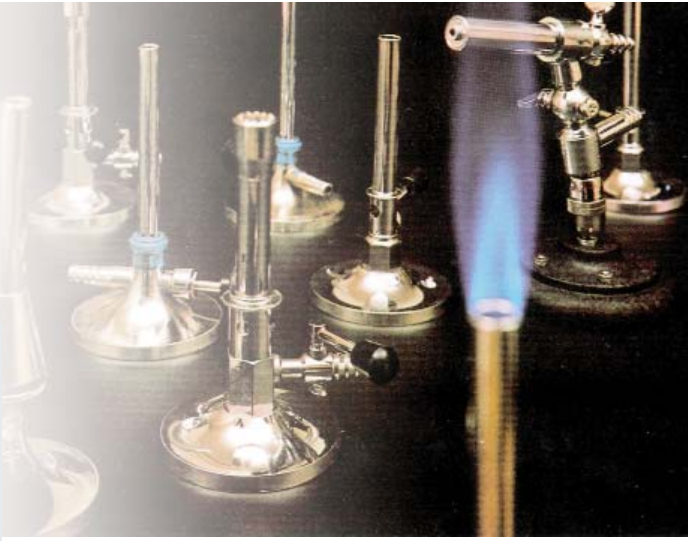
Made of AISI 304 stainless steel with electro-bright finish. 90 mm Ø x 250 mm high.
Part No. 1000251

STERILIZATION CONTAINER FOR PIPETTES

Made from Stainless steel AISI 304. Lid interior and base lined with silicon to protect pipette end and tip.

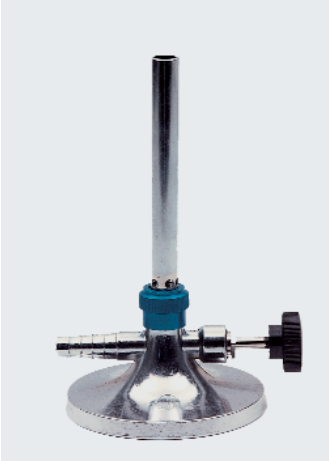
Part No.	height mm	⊠ mm
1001597	290	65
1001598	340	65

Burners, alcohol, butane, propane and natural gas



ALCOHOL BURNER
Screwcap jar with wick.
Capacity 120 ml.
Part No. 1001256

ALCOHOL BURNER
Chrome plated top with wick height control.
With lid and chain.
Capacity 85 ml.
Part No. 1001434



BUNSEN BURNER
With both gas and air regulator.
Tube Ø exterior: 11 mm. Total height: 140 mm.
Part No.
7000134 For butane/propane gas.
7009133 For natural gas.

SIMPLE BUNSEN BURNER
Air regulator only, nickel plated.
External tube Ø : 11 mm. Total height: 130 mm.
Part No.
7000044 For butane/propane gas.
7000937 For natural gas.

MEKER BURNERS
With gas and air regulator.

Model Small. External tube Ø at its maximum point: 22 mm. Total height: 175 mm.
Part No.
7001108 For butane/propane gas.
7001109 For natural gas.

Model Medium. External tube Ø at its maximum point: 27 mm. Total height: 185 mm.
Part No.
7001110 For butane/propane gas.
7001111 For natural gas.

Model Large. External tube Ø at its widest part: 32 mm. Total height: 190 mm.
Part No.
7001112 For butane/propane gas.
7001113 For natural gas.

MEKER BURNER
With permanent flame. Gas and air control.
External tube Ø at its widest point: 22 mm.
Total height: 175 mm.
Part No.
7001106 For butane/propane gas.
7001107 For natural gas.

TECLU BURNER
With air and gas regulator.
External tube Ø: 13 mm. Total height: 180 mm.
Part No.
7012019 For butane/propane gas.
7094519 For natural gas.

NATURAL GAS BURNERS
With air and gas regulator.
With approved gas pressure connection 1/2" nut and olive, supplied as an accessory.
External tube Ø: 11 mm. Total height: 165 mm.

Part No.	For gas	Working pressure	Normal power	Weight Kg
7001551	natural	18 mbar	0.69 kw	1.6

ACCESSORY
Gas tube with connections (see page 196).

BUNSEN BURNER WITH SAFETY GAS CUT OUT

With gas and air regulator
Designed for maximum laboratory safety.
Equipped with a flame detector that will shut off the gas supply within 20 seconds if the flame is extinguished.
With tube connection.
Tube Ø ext.: 11 mm. Total height: 140 mm.

Part No.	Gas type	Pressure	Nominal power
7001546	butane	28/37 mbar	0.69 kw
7001547	natural	18 mbar	0.69 kw

BURNER FOR BUTANE GAS

Suitable for use with bottled gas "International Camping Gas ". Approved following ACTA of the GENERAL LABORATORY ANALYSIS AND SERVICES FOR INDUSTRY. Manufactured in accordance with the "regulation for apparatus used with combustible gasses" decree 1651/1974. External tube Ø: 14mm. Direct regulated pressure. Nominal power 0.72 Kw at 1 bar.
Part No. 7000666

ACCESSORIES

Wide flame burner head made of tin. Suitable for the "Camping Gas" burner.
Part No. 7003612

Tripod support with flat ring, fitted with a burner, suitable for "Camping Gas International" bottle.
Exterior Ring Ø : 140 mm.
Interior Ring Ø: 110 mm.
Part No. 7000489

BUNSEN BURNER WITH SAFETY GAS CUT OUT, NATURAL GAS

With gas and air regulator.
Designed for maximum laboratory safety.
Equipped with a flame detector that will shut off the gas supply within 20 seconds if the flame is extinguished.
Tube connection of 1/2 inch. Supplied as an accessory.
Tube Ø ext.: 11 mm. Total height: 165 mm.

Part No.	Gas type	Pressure	Nominal power	Weight Kg
7001539	natural	18 mbar	0.69 kw	1.6

ACCESSORY

Gas cable with connections, flexible coated stainless steel 100 cm long with 1/2 inch connection with quick fit and safety valve. Conforms to the UNE 60715 & BS669. Safety regulations.
Part No. 1001541

HIGH POWER BURNER

With air and gas regulators. Tube Ø ext. at its maximum diameter 21 mm. Total height 170 mm.
Part No. 7000225 Suitable for butane/propane.
Part No. 7009223 Suitable for Natural gas.

BUNSEN BURNER

With air and gas regulators.
Ø ext. tube: 11 mm. Total height: 140 mm.

Part No.	Gas type	Pressure	Nominal power
7000657	butane	28/37 mbar	0.69 kw
7000658	natural	18 mbar	0.69 kw

Tube Ø ext. : 13 mm. Total Height: 170 mm.

Part No.	Gas type	Pressure	Nominal power
7000660	butane	28/37 mbar	1.14 kw
7000661	natural	18 mbar	1.14 kw

BUNSEN WITH PERMANENT PILOT FLAME

Permanent flame. Total height: 150 mm.
Part No.
1000875 For butane/propane gas (45/57 mbar).
1000876 For natura gas (18/25 mbar).

BUNSEN BURNER WITH CONICAL TUBE TECLU

With air and gas regulators.
Total height: 150 mm.

Part No.	Gas type	Pressure	Nominal power
7000663	butane	28/37 mbar	0.69 kw
7000664	natural	18 mbar	0.69 kw

BUNSEN J2000 BLUE UNIVERSAL

For Butane gas. Instant safety flame push button ignition incorporating a LOCK/ON mechanism that prevents accidental fires, Unit switches off when the users hand is removed. Gas fill by a simple lighter gas fuel as used common gas lighters. Long life flint. Power by a 1.5 V battery.

APPLICATIONS

Microbiology, bacteriology, dentistry and for general use where a fine hot flame is required for fast heat and fusion.

Part No. 1001114

BURNER "MICROTORCH"

APPLICATIONS:

Used for soldering, dentistry, general laboratory use. Suitable for plastic moulds, glass and metal tubes. etc. Butane gas.

Portable with a removable bench top base.
Microflame instant piezo electric start.
Flame temperature controllable to 1300 °C.
Refill using common gas lighter cartridge.
Gas capacity: 26 g.
Total time before refill: 2 hours.
Part No. 5000011

BLOW PIPES

Part No.

1000877 Butane gas.
1000878 Natural Gas.

ACCESSORIES

FLAME SPREADER BURNER HEAD

Straight form.
Stainless steel AISI 304.

Part No. 7003611 For tube of Ø 11 mm.
Part No. 7003613 For tube of Ø 13 mm.

FLAME SPREADER BURNER HEAD

Straight form.
Made of tin.

Part No. 7003612 For tube of Ø 11 mm.
Part No. 7003614 For tube of Ø 13 mm.

GAUZE IRON WIRE WITH CERAMIC FIBRE

Part No.

1087102 100 mm side.
1087122 120 mm side.
1087142 140 mm side.
1087162 160 mm side.
1087182 180 mm side.
1087202 200 mm side.

TRIPOD STAND WITH RING TOP

Galvanised steel.

Part No.	Ø exterior ring	Total height
7000808	80 mm.	210 mm.
7008010	100 mm.	210 mm.
7008012	120 mm.	210 mm.

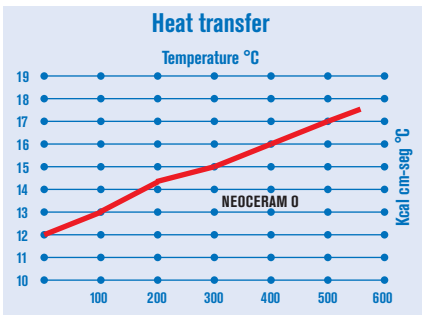
(For variable height tripods see page 175).

CERAMIC PLATES "NEOCERAM"

Resistant to temperatures from -200 °C to 700 °C.

Part No.

1000684 120 x 120 x 3 mm.
1000685 140 x 140 x 3 mm.
1000686 160 x 160 x 3 mm.



Excellent heat conductor.
20% better heat transfer compared to a conventional gauze ceramic.
High chemical resistance to aggressive compounds.
Easy to clean and long lasting.

Infrared tip sterilizer “Sterilbio”

APPLICATIONS
Sterilization of culture tips, needles and small instruments. Incinerates organic material at 900 °C for 5/8 seconds.

FEATURES
Made from ceramic elements with a quality quartz tube interior.
Does not need purged oxygen and can be used in anaerobic environments.
Eliminates problems of aerosols and bacterial contamination.
Support at the side for 4 Kolle handles, needles, lancet or dissecting forceps etc.

MODEL

Part No.	Height/Width/Depth (exterior) cm			Ø/Length (tube interior) cm		Power W	Weight Kg
3000788	20	13	18	1.4	15	110	1.5

Hot Air gun “Salki 1500”
WORKING TEMPERATURE 400 °C AND 590 °C.

APPLICATIONS
Suitable for heating liquids, solids and gasses:
- Dry
- Soft solder
- Fusions
- Evaporation
- Curing adhesives
- Plastic moulds
- Softening surfaces
- Fast defrost
- Film drying R.X.
- Chromatography applications drying paper and electrophoresis.
- Heating moulds and drying dental moulds etc.

FEATURES
Industrial model with vertical angle support.
Brushless motor.
Three positions:
- Position 0 stop.
- Position I temperature 400 °C.
- Position II temperature 590 °C.

MODEL

Part No.	Temperature °C	Power W	Weight Kg
5000750	until 590	1500	0.8

ACCESSORIES

Burner head 75 mm.
Part No. 5011148

Shaft Ø 20 mm.
Part No. 5014415

Tube deflector.
Surface 75 mm.
Part No. 5014449

Diverse laboratory instruments

Pocket Balance “Pocket Scale”

FEATURES
Capacity up to 200 g, measuring in g, oz and qty.
Digital LCD display.
Stabilization time ±3 seconds.
Tare by subtraction to maximum weight.
Piece counting function and automatic reset to zero.
Automatic calibration, external.
Batteries 3 x 1.5 V.
Lid to cover the weighing pan and operation menu.

MODEL

Part No.	Max. weight. capacity g	Precision ±g	Height / Width / Depth (exterior) mm			Width / Depth (plate) mm		Weight Kg
5830024	200	0.1	24	74	120	74	71	0.13

Comes with protective cover.

Several Instruments

DIAMOND POINT PENCIL
For glass engraving.
Part No. 1001130

TUNGSTEN SCRIBE
For glass engraving, slides, ceramics, plastic etc. Retractable tip and pocket clip.
Part No. 1001674

GLASS TUBE CUTTER
For tubes with diameters up to 30 mm.
Part No. 1000016

CORK PRESS
Model Crocodile shape.
Part No. 6000070

LABORATORY VIBRO-ENGRAVER SIGNOGRAPH-COM 25 DIAMOND
For engraving all types of glass, metal, plastic material, ceramic etc. Mains voltage 220-230 V. 50Hz. Power consumption: 25 W. Comes complete with a set of 5 engraving tips: Diamond, carbide, tempered steel and two for decorative work.
Part No. 1001129

WATER JET VACUUM PUMPS

Part No.	Material	Pressure	Pump rate	Aspiration
4000633	PVC	2 Kg	8 l/min	2.6 l/min
7000293	Metal	2 Kg	5 l/min	1 l/min
7000292	Metal	2 Kg	5 l/min	0.5 l/min

BLOW PIPE
Student model.
Total length: 250 mm.
Part No. 1000595

MORTARS WITH PESTLE
Made of grey steel. Only suitable for dry products.

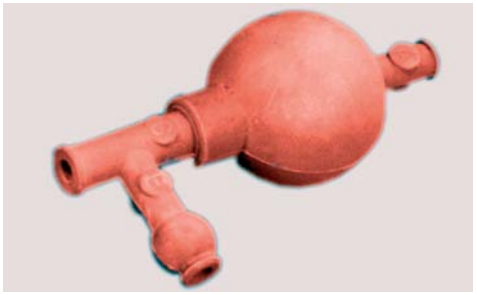
Part No.	Ø Usable	Height
1004713	130 mm	65 mm
1004715	150 mm	75 mm

CORK BORER SHARPENER
With a wooden handle, blade of tempered steel.
Part No. 7000004

CORK BORER

Electrobrite finish. Universal handle. Part No.		Electrobrite finish. Individual handle. Part No.	
7000846	6 bores.	7000856	6 bores.
7000848	8 bores.	7000858	8 bores.
7008412	12 bores.	7008512	12 bores.

MINI CORK BORER
1001332 6 bores: 4, 4.9, 5.5, 6.4, 8 and 9.5 mm Ø.



PIPETTE FILLER, RUBBER BULB.
With three glass ball valves for filling, fine adjustment and empty. Accepts pipettes from 6 to 10 mm Ø.
Part No. 1001733

RICHARDSON RUBBER BULB
With net covered decompression bulb.
For blowing out bench top automatic burettes.
Part No. 1001168

SPECTACLES "ULTRASPEC 2000"
Ideal for laboratory use. UV resistant.
Conforms to: DIN 4646-47 and DIN 58211; Spain MT 16/MT 17 regulations.
Safety glasses made from one single lens, extremely light weight, anti-scratch coated. Panoramic vision due to a 180° single lens. One size fits all.
Ventilation anti mist vents at the side of the legs.
Part No. 5028192

SPECTACLES "ULTRASPEC 1000"
Ideal for working in the laboratory, UV resistant.
Conforms to: DIN 4646-47 and DIN 58211; Spain MT 16/MT 17.
Safety glasses made from one single lens, extremely lightweight, comfortable with a 180° panorama. Adjustable legs: length and angle.
Detachable frame for easy cleaning.
Style: Sporty.
Part No. 5028194

2. GOGGLES FLEXIBLE "IVYMEN 3000"
Ideal for general laboratory use.
Conforms to: EN-166.
Panoramic view. Prescription spectacles can be used underneath the goggles.
Made from transparent flexible plastic that moulds to the face. Held on by an stretch band. Indirect vents at the side prevent misting.
Part No. 5028196

1. SPECTACLES "IVYMEN 1000"
Ideal for general laboratory use.
Conforms to: DIN 4646-47 and DIN 58211.
Safety Spectacles of one single lightweight lens, comfortable protection.
With a wide panorama of 180°. Adjustable legs: length and angle.
Removable frame for easy cleaning. Style: Sporty.
Part No. 5028195

3. SPECTACLES "IVYMEN 2000"
Ideal for general laboratory use.
Conforms to: DIN 4646-47 and DIN 58211
Safety spectacles of one single lightweight anti scratch lens. Perceptual panoramic vision of 180°. Can be use over normal prescription spectacles.
Indirect vents at the side of the legs prevent misting.
Part No. 5028193

GLOVES ANTI-ACID "SOLVEX-PLUS"
Conforms to CE standards.
Effective protection against chemical products and solvents, manufactured with a thick coating of strong durable Nitrile.
Flexible with anti bacterial and fungal protection for hygiene and against skin irritations.
Length 32 cm. Universal fit.
Part No. 5000044

GLOVE HAND PROTECTOR AGAINST HEAT AND SPILLS
Adaptable silicon glove.
Part No. 1001255

GLOVES THERMAL "KEVLAR 400"
Conforms to: EN-388 and EN407
These gloves can withstand temperatures up to 400 °C.
Manufactured from Kevlar terry knit, seamless, with double face fibres, ambidextrous fit, high level of protection against heat and flame. Length 25 cm, universal fit.
Part No. 5000041

APRON ANTI-ACID "DELNEO 125"
Conforms to: EN 342 and EN 511 standards.
For effective protection against chemicals and solvents, made from high resistant Neoprene.
Part No. 5000045

GLOVES THERMAL "KEVLAR 800"
Conforms to EN 388 and EN407 standards.
For use with temperatures up to 800 °C, Made from terry knit, seamless, with double face fibres, high level of protection against heat and flame. Length 36 cm, universal fit.
Part No. 5000042

PROTECTIVE MASK "P3-SL"
Conforms to DIN-EN 149:2001 standards.
High range auto-filtering mask, for particles, dust, mists and smoke use. Made of cellulose and with a filtration valve.
Part. No 5000046

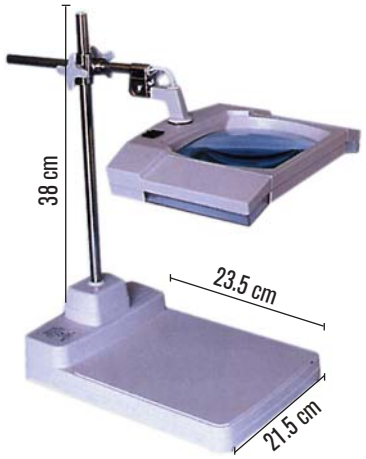
TABLE TOP MAGNIFIERS WITH ILLUMINATION

Magnifiers with high quality lenses and double lateral illumination, plastic body.

Extendable and height adjustable angle poise, 89 cm made from epoxy coated metal.

Lens size cm	Magnification	Power	Weight Kg
15 height x 19 width	3 x	2 x 9 W	3.5

Part No. **5310500**



With support base, large base with adjustable height and orientation.

Lens size cm	Magnification	Power	Weight Kg
16 height x 19 width	3 x	2 x 7 W	2.3

Part No. **5310506**

VERNIER CALLIPERS WITH DIGITAL DISPLAY DIN 862

5 digits display.
AISI 304 Stainless steel with double measuring scale.
Reproducibility: 0.01 mm or 0.0005 inches
1.5 V battery power.
Battery life: 1 year of continuous use.
Comes complete with wooden case.
Part No.

5900601	Measuring range: 0 - 150 mm or 0 - 6".
5900603	Measuring range: 0 - 300 mm or 0 - 12".

BIFOCAL AND MONOFOCAL "MAGNIFIER"

Magnifying glass bifocal "Magnifier"
Completely made of high impact plastic.

Part No.	Ø Lens	Magnification	Bifocal
5310501	65 mm	3 x	5 x
5310502	90 mm	2 x	5 x

Magnifying glass monofocal "Magnifier"
Lens made of high quality ground crystal.
Rim made from chromed steel with plastic handle.

Part No.	Ø Lens	Magnification
5310503	50 mm	2 x
5310504	75 mm	2 x
5310505	100 mm	2 x

PALMER MICROMETER WITH DIGITAL DISPLAY DIN 862

5 digits.
Measuring range: 0-25 mm or 0-1 inch. Resolution: 0.001 mm or 0.0001 inches.
Precision: 0.002 mm. 1.5 V battery power.
Battery life: 1 year of continuous use.
Comes complete with wooden case.
Part No. **5900602**

NEW

AUXILIARY TABLES HEIGHT ADJUSTABLE FOR LABORATORY

Cabinet in a corrosive resistant epoxy coated.
Supplied with 4 lockable wheels for an easy transportation and 4 suction cups for a static clamping.
Specially designed to support different laboratory instruments (Ovens, furnaces, centrifuges, etc...).
5 adjustable heights: 72, 75, 78, 81 or 84 cm.

Part No.	Measurements cm	Load Capacity Kg	Weight Kg
1001781	**75 width x 60 depth**	**120**	**25**
1001780	**100 width x 70 depth**	**150**	**29**

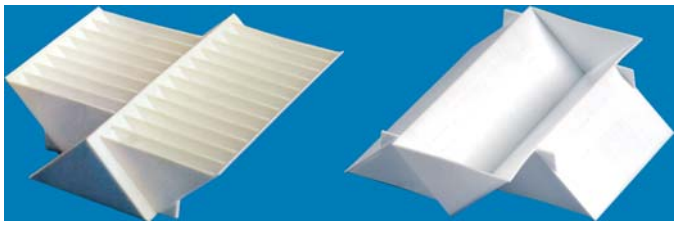
MEASURING RANGE

Made of polypropylene with silicon joints, for volumes up to 25 ml. Precise and safe, ergonomic design that allows filling and emptying without having to change the setting. Flexible thermoplastic seal against any type of burette. A button on the side empties the burette automatically. Easily dismantled and cleaned.

Part No.	Capacity	Identification colour
1001131	0 to 2 ml	Blue
1001132	0 to 10 ml	Green
1001133	0 to 25 ml	Red

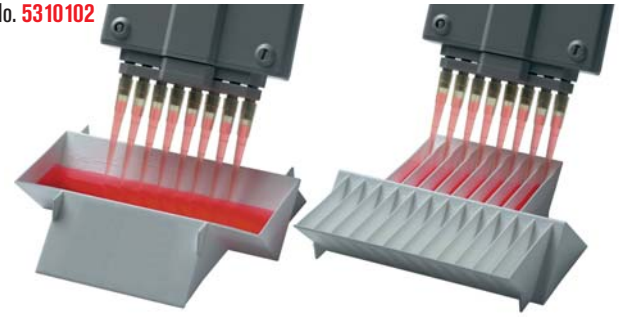
PIPETTE RACK "COM-PIP"

Made from AISI 304 stainless steel.
Capacity 6 pipettes of differing sizes.
Part No. 1001702



REVERSIBLE POLYPROPYLENE UNIVERSAL TRAY

Suitable for 8 and 12 channel micro-pipettes, 5 ml capacity per channel or 1 single capacity of 50 ml, graduated at 10-25-40 and 50 ml.
Part No. 5310102



BRUSHES "COMCEP"

Made with natural bristles. Applications:

1 - Pipettes and capillaries of 3 to 5 mm Ø. (Brush)
2 - Graduated pipettes and tubes from 5 to 10 mm Ø. (Brush)
3 - Haemolysis tubes 8 to 10 mm Ø. (Brush)
4 - Test tubes and graduated flasks of 10 to 16 mm Ø. (Brush)
5 - Burettes of 25 to 50 ml and tubes of 15 to 20 mm Ø. (Brush).
6 - Cylinders, flasks and test tubes etc. from 20 to 32 mm Ø. (Fan Brush).
7 - Erlenmeyer flasks, test tubes, flasks etc. from 25 to 45 mm Ø. (Fan Brush).
8 - Flasks, Erlenmeyer flasks and test tubes etc. 35 to 80 mm Ø. (Fan Brush).
9 - Beakers cylinders and Erlenmeyers etc. from 50 to 100 mm Ø. (Brush).
10 - Test tubes of 16 to 25 mm Ø. (Brush).
11 - Test tubes of 16 to 25 mm Ø. (Fan Brush).
12 - Flasks, round bottom flasks of 0 to 100 mm Ø.
13 - Beakers of 50 to 250 mm Ø. (brush with handle).

Part No.	Style	Bristle mm Ø	Bristle mm lenght	Length total mm	Bristle type
1001143	1	4	90	400	Goat hair
1001144	2	10	100	700	Goat hair
1001145	3	10	90	240	Pig bristle
1001146	4	15	100	320	Pig bristle
1001147	5	25	100	700	Pig bristle
1001148	6	30	100	300	Pig bristle
1001149	7	35	100	440	Pig bristle
1001150	8	55	100	440	Horse hair
1001151	9	80	130	700	Horse hair
1001333	10	25	130	350	Pig bristle
1001334	11	25	100	320	Pig bristle
1001335	12	110	450	450	Nylon
1001336	13	40	250	400	Nylon

POLYCARBONATE CONICAL FLASKS

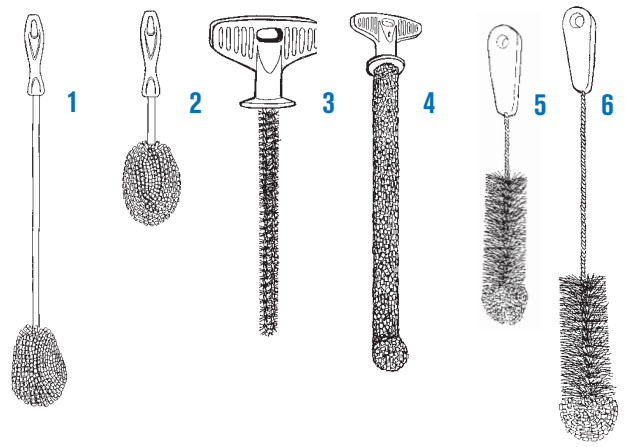
DURABLE,
CAPACITY 250 ml

Rigid, transparent, autoclavable, unbreakable, reusable.
Density: 1.20 g/ml.
Temperature resistance from -135 °C to +135 °C.
Excellent chemical resistance including acids. Exceptions chemical that attack polycarbonate. Two models with or without screw-top, PP caps included.

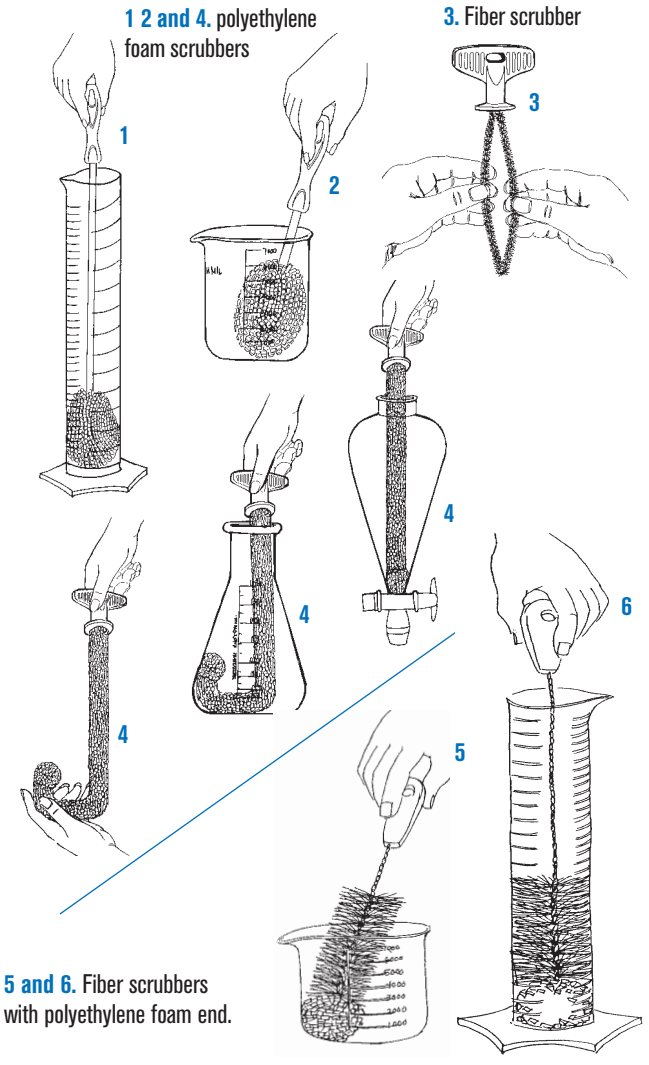
Part No.	Capacity ml	PP cap	Specific weight
5310100	250	Not	1.2
5310101	250	Yes	1.2

Laboratory sponges and fiber scrubbers

Features
Designed specially for cleaning plastic and glass items.
Made from polyethylene foam that is durable and long lasting (20 times more than a sponge or brush.) Do not absorb water, easily cleaned with hot or cold water.



Examples of sponge uses



Models

1. Used for all types of tubes and cylinders such as: test tubes distillation tubes, thermal flasks, cryogenic vessels, measuring cylinders etc.

Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
1	1001435	70	100	480

2. Used for cleaning short vessels such as: jars, beakers, etc.

Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
2	1001436	70	100	250

3. Scrubber suitable for all types of assay tube up to 25 mm Ø. Adjustable width.

Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
3	1001437	22	170	220

4. Suitable for all types of tubes and vessels including Conical flasks, etc. Very flexible, can be used in vessels with small necks, such as separating funnels, by simply pressing down the scrubber that is sufficiently flexible to take the internal shape and also be easily extracted.

Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
4	1001438	20	380	440

5. Fiber scrubber with brush polyethylene at the end, suitable for cleaning flasks, culture jars and vessels in general.

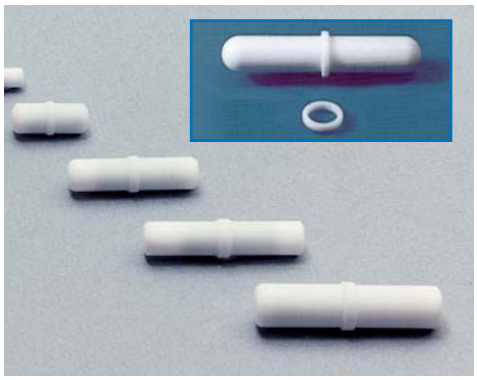
Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
5	1001439	50	140	300

6. Fiber scrubber with brush polyethylene at the end, suitable for any kind of vessels cleaning, test-tubes, culture jars and flasks in general.

Nº	Part No.	Sponge width mm	Sponge length mm	Total length mm
6	1001440	50	180	500

Stirrer bars and propellers

TO CHOOSE THE CORRECT STIRRER BAR: THE LENGTH SHOULD BE APPROX. 2/3 OF THE DIAMETER OF THE VESSEL BEING USED.



STIR-BARS FOLLOWERS FOR MAGNETIC STIRRERS.

Encased in PTFE with pivot ring, temperature resistant to +275 °C.

Part No.

1000009	6 Ø x 10 mm long	without pivot ring.
1000012	4 Ø x 12 mm long	without pivot ring.
1000019	7 Ø x 20 mm long	with pivot ring.
1000032	8 Ø x 32 mm long	with pivot ring.
1000039	8 Ø x 40 mm long	with pivot ring.
1000045	10 Ø x 45 mm long	with pivot ring.
1001061*	12 Ø x 75 mm long	with pivot ring.
1001062*	16 Ø x102 mm long	with pivot ring.
1001063*	16 Ø x127 mm long	with pivot ring.
1001064*	19 Ø x150 mm long	with pivot ring.

* With pivot ring for large volumes.

CONCENTRIC STIR-BAR WITH BEAKER COVER "CENTRIMAN"

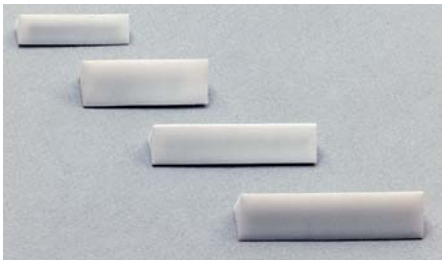
Encased in PTFE with an adjustable axis bar made of AISI 304 stainless steel. Suitable for applications with volumes of 100 to 2000 ml.

Soft start stirring and adjustable height prevents the stir-bar jumping inside the vessel.

Conical fitting lid of polypropylene with excellent chemical and thermal properties that resists temperatures up to 160 °C. The lid has an auto-lubricating central axis hole with two lateral air displacement holes.

Part No.

1000900	Concentric stir-bar with conical fitting lid for beakers volumes of 100 ml to 500 ml. Length 32 mm.
1000901	Beaker capacities of 500 ml up to 1000 ml. Stir-bar length 50 mm.
1000902	Beaker volumes of 1000 ml up to 2000 ml. Stir-bar length 55 mm.



TRIANGULAR STIR-BAR "TRIMAG"

Encased in heat resistant PTFE of temperatures up to 275 °C. useful for "dissolving solids" and stirring silts. Liquids flow upwards as well as sideways. Quiet with excellent stability. Suitable for flat bottomed vessels.

Part No.

1000536	9 side x 35 mm long.
1000538	12 side x 50 mm long.
1000537	14 side x 40 mm long.
1000539	14 side x 55 mm long.

STARHEAD STIR BAR

Circular, encased in heat resistant PTFE for temperatures up to 275 °C. Useful for tubes,matrix flasks and round bottom vessels.

Part No.

1000790	25 Ø x 15 mm high.
1000791	40 Ø x 17 mm high.

BOX OF 17 ASSORTED STIR BARS

Box with 17 assorted stir-bars encased in temperature resistant PTFE for temperatures up to 275 °C.

Contents:

1 stir-bar with pivot ring 6x10 mm.
1 stir-bar with pivot ring 4 x12 mm.
1 stir-bar with pivot ring 7x20 mm.
2 stir-bars with pivot ring 8x32 mm.
2 stir-bars with pivot ring 8x40 mm.
2 stir-bars with pivot ring 10x45 mm.
1 triangular stir-bar of 9x35 mm.
1 triangular stir-bar of 14x40 mm.
1 triangular stir-bar of 12x50 mm.
1 triangular stir-bar of 14x55 mm.
1 stir-bar Rotor-Pat of 11x35 mm.
1 oval stir-bar of 16x30 mm.
1 oval stir-bar of 20x40 mm.
1 star head stir-bar of 20x15 mm.
1 star head stir-bar of 40x17 mm.

Part No. 1000487

STIR BAR "ROTOR-PAT"

Encased in PTFE useable up to temperatures of 275 °C.

Excellent stability with strong vortexing turbulence, useful for round bottom or convex bottom flasks.

Part No.

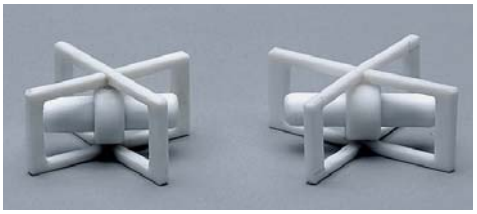
1000001 10 Ø max. x 32 mm long.

OVAL STIR-BARS

Encased in PTFE for temperatures up to 275 °C. Can be used in all types of vessel and recommended for round bottom flasks.

Part No.

1000788	16 Ø x 30 mm long.
1000789	20 Ø x 40 mm long.



FLOATING MAGNETIC STIR-BAR "IMANFLOTER"

Encased completely in PTFE. Dismountable structure, autoclavable. Designed specifically for low constant speed stirring. Recommended for tissue culture applications.

The floating conception of the Imamfloter minimises the grinding effect of cell damage as there is no friction on the bottom of the flask.

Medium speed levels prevent the IMANFLOTER from jumping within the vessel.

Part No.	Total length	Stir bar length
1000897	50 mm.	39 mm.
1000898	60 mm.	45 mm.

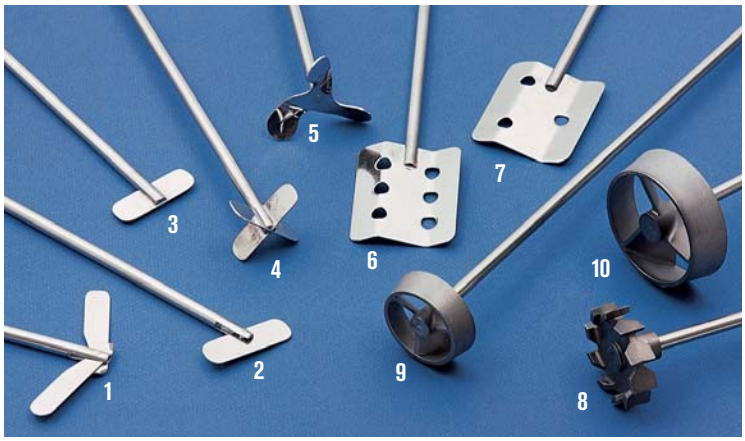
STIR-BAR RETRIEVER

Flexible, encased in PTFE.

Part No.

1000020 Length: 280 mm.

OVERHEAD STIRRER ACCESSORIES "RZR"



STIRRING SHAFTS WITH ROTORS

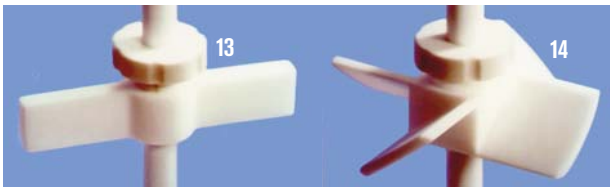
Shaft with AISI 304 stainless steel rotor. Shaft: 7mm Ø.

Part No.	Rotor type	Ø shaft mm	Total length mm	Features
6002891	1	90	400	Double fly vane
6002892	2	60	400	Fly vane
6002893	3	50	400	Fixed blade
6002894	4	50	400	Double cross vane
6002895	5	58	400	Helix
6002896	6	70	450	Six hole paddle
6002897	7	70	450	Three hole paddle
5050921	8	46	400	Radial turbine
5050932	9	45	400	Turbo helix 45 mm Ø
5050933	10	66	400	Turbo helix 66 mm Ø

SHAFTS WITH PTFE PADDLES

Shaft of 8 mm Ø.

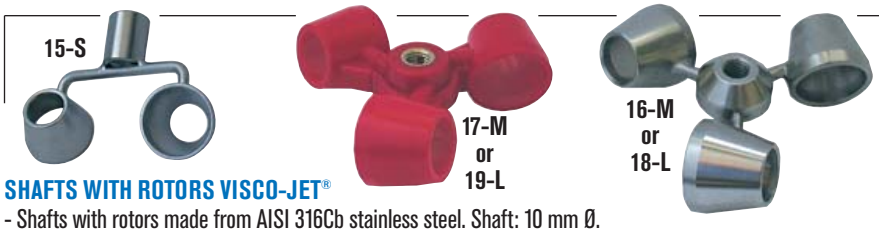
Part No.	Rotor type	Ø shaft mm	Total Length mm	Features	Speed range r.p.m.
5050934	11	50	500	Helix PTFE	500
5050935	12	80	500	Anchor PTFE	500



ADJUSTABLE HEIGHT SHAFT STIRRERS

Shafts made of AISI 304 stainless steel coated in PTFE and PTFE stirrer paddles. Shaft: 8 mm Ø. Adjustable height paddles using a locking thread.
Can be used with differing paddles on the same shaft to create a multiple mixing action.

Part No.	Rotor type	Ø shaft mm	Total Length mm	Features
5050936	13	70	400	Shaft PTFE
5050937	14	40	400	Helix PTFE
5050938	**Shaft PTFE** Spare or additional paddle for multiple stir effect			
5050939	**Helix PTFE** Spare or additional paddle for multiple stir effect			



SHAFTS WITH ROTORS VISCO-JET®

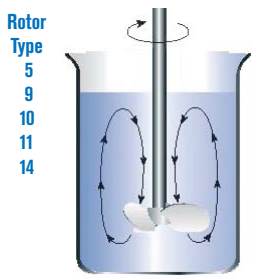
- Shafts with rotors made from AISI 316Cb stainless steel. Shaft: 10 mm Ø.
- Shaft made from AISI 316Cb stainless steel with POM plastic rotor. Shaft: 10 mm Ø.

Part No.	Rotor type	Ø shaft mm	Total Length mm	Features	Speed range r.p.m.
5050950	15-S	60	500	Doble cone-S Stainless	200 - 800
5050951	16-M	80	500	Triple cone-M Stainless	200 - 700
5050952	17-M	80	500	Triple cone-M Plastic	200 - 700
5050953	18-L	120	500	Triple cone-L Stainless	120 - 500
5050954	19-L	120	500	Triple cone-L Plastic	120 - 500

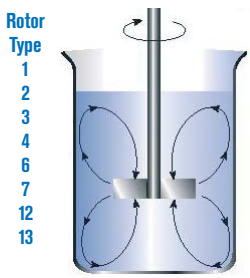
VISCO-JET®

A suitable system for all types of stirring.
Dynamic stirring with turbulent flow on vessel walls and bottom.
Homogenised liquids and fluids of low viscosity.
The fluid is aspirated by the widest part of the cone and is expulsed by acceleration from the smaller Ø, creating in the middle a turbulent effect; prevents the formation of foam, clots, aeration and heating up of the sample, degasses the medium being stirred.
Reduces the vortex formed, for short stir periods.

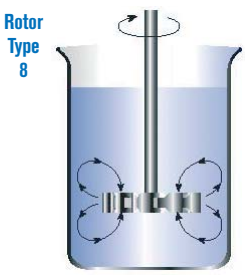
Graphic effect of the incident fluid flow using differing paddle forms: paddle, helix, turbine and conical Visco-Jet®



Axial flow, diagram showing the agitation flow. Representative of rotors with blades angles of 90° in relation to the stirring axis. (Rotor type; Helix).



Radial flow, diagram showing the agitation within the liquid medium. Representative of rotors such as paddles and anchors that run parallel to the stirring axis



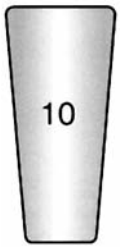
Radial flow, diagram showing the agitation within the liquid. Representative of radial turbine rotors that run parallel to the stirring axis.

Dynamic radial flow, diagram showing the principal of agitation through a cone within the liquid. Representative of the Visco-Jet®. Rotors. Excellent results for minimum power consumption.

Sterile stoppers

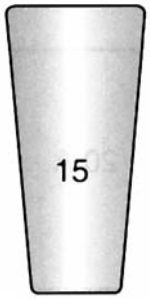
Features
Designed for microbiology and cell culture applications.
Made from very flexible cellulose, tapered to fit most sizes of: Erlenmeyer, matrix flasks and tubes.
Sterile to 200 °C.
Permeable to air.
Transpirable.
Hermetically adjustable by pressing on the top of the glass vessel.

RANGE OF SIZES 1:1

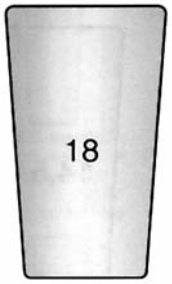


For Ø of 9
to 11.5 mm
Part No. **1001478**

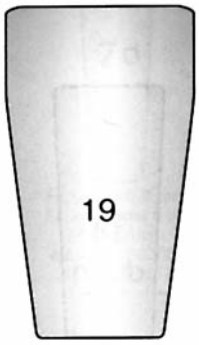
For Ø of 12.5
to 14.5 mm
Part No. **1001479**



For Ø of 13.5
to 15.5 mm
Part No. **1001480**



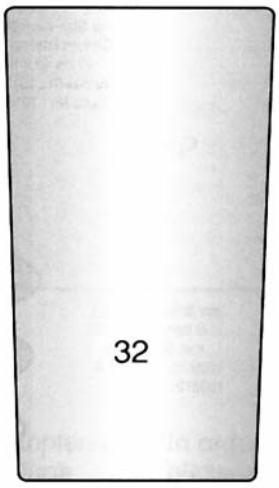
For Ø of 17.5
to 18.5 mm
Part No. **1001481**



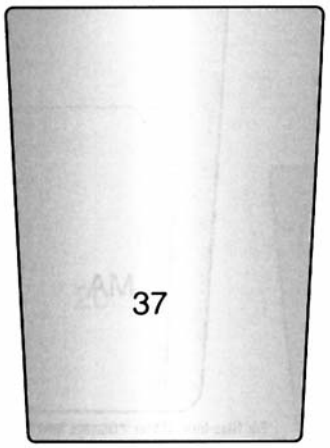
For Ø of 18 to 22 mm
Part No. **1001482**

For Ø of 25 to 27 mm
Part No. **1001483**

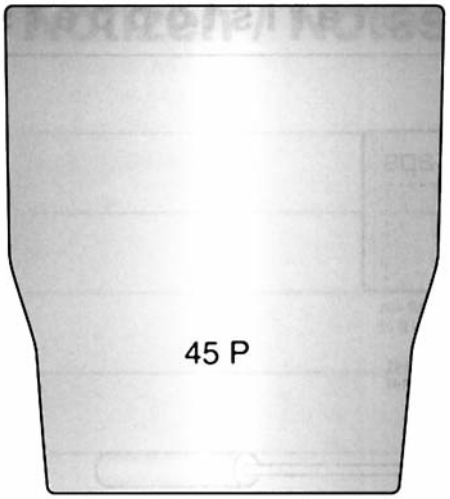
For Ø of 28
to 31 mm
Part No. **1001484**



For Ø of 31 to 35 mm
Part No. **1001485**



For Ø of 36 to 42 mm
Part No. **1001486**



For Ø of 44
to 48 mm
Part No. **1001487**

Caps for biological culture tubes “Sero-Tap”

Made of anodised aluminium with internal AISI 304 stainless steel spring inside the cap.
Not hermetically sealed. Autoclavable at 1 bar.

INTERIOR HOLDING CLIP.

Made of anodised aluminium with internal AISI 304 stainless steel spring inside the cap. Not hermetically sealed. Autoclavable at 1 bar.

Part No.	**For tubes Ø 12 - 13 mm**
1012131	Colour Blue
1012132	Colour Silver
1012133	Colour Gold
1012134	Colour Garnet
1012135	Colour Black

Part No.	**For tubes Ø 19 - 20 mm**
1019201	Colour Blue
1019202	Colour Silver
1019203	Colour Gold
1019204	Colour Garnet
1019205	Colour Black

Part No.	**For tubes Ø 15 - 16 mm**
1015161	Colour Blue
1015162	Colour Silver
1015163	Colour Gold
1015164	Colour Garnet
1015165	Colour Black

Part No.	**For tubes Ø 24 - 26 mm**
1024261	Colour Blue
1024262	Colour Silver
1024263	Colour Gold
1024264	Colour Garnet
1024265	Colour Black

Part No.	**For tubes Ø 17 - 18 mm**
1017181	Colour Blue
1017182	Colour Silver
1017183	Colour Gold
1017184	Colour Garnet
1017185	Colour Black

Part No.	**For tubes Ø 28 - 30 mm**
1028301	Colour Blue
1028302	Colour Silver
1028303	Colour Gold
1028304	Colour Garnet
1028305	Colour Black

Self-sealing parafilm ® M

PARAFILM®
Dispenser

APPLICATIONS

Parafilm ® M, is ideal for laboratories because it is a thermoplastic, self-sealing film that enables to cling even to irregular surfaces, culture tubes, flasks, Erlenmeyers, bottles, Petri capsules and any kind of recipients with an adequate sealing, protected against moisture loss, spillage, pollution or evaporation.

FEATURES

Parafilm ® M, is a translucent waxy polyethylene film of 127µm width which slowly stretches to about three or four times its original length.

PROPERTIES

It is resistant to acids, gases and alkaline solutions as well as methanol and many common reagents. It resists operating temperatures from -45 ºC to 50ºC. It can be sterilized by using radiation techniques as hydrogen peroxide.

MODELS

Part No.	Roll width mm.	Roll length m.
1012201	50	75
1012202	100	38
1012203	100	75

ACCESSORIES

Paraffin dispenser ® made of blue ABS plastic for 50 and 100 mm. width Parafilm® rolls, with built-in cutter
Capacity: One or two 50 mm. rolls or one 100 mm. roll.
Part No: 1012200

POLYPROPYLENE TOPS FOR CULTURE TUBES "BACTI-CAPS"

General features:
Adaptable to the tubes by three flexible internal flaps that hold onto the edge of the tube, not a hermetic seal, for minimal sample evaporation.
Highly resistant to culture media, acids, alkalis, alcohol and ether.
Easy to clean, can be sterilized at 121 °C (1 atm, vapour pressure).
Not suitable for dry sterilization.
Come in 5 colours:
YELLOW, BLUE, WHITE, RED and GREEN.

Part No.	For tube Ø 12 - 13 mm
5726013	Yellow Colour
5726113	Blue Colour
5726213	White Colour
5726413	Red Colour
5726513	Green Colour

Packet of 100 units.

Part No.	For tube Ø 15 - 16 mm
5726016	Yellow Colour
5726116	Blue Colour
5726216	White Colour
5726416	Red Colour
5726516	Green Colour

Packet of 100 units.

Part No.	For tube Ø 18 - 19 mm
5726019	Yellow Colour
5726119	Blue Colour
5726219	White Colour
5726419	Red Colour
5726519	Green Colour

Packet of 100 units.

Part No.	For tube Ø 24 - 25 mm
5726025	Yellow Colour
5726125	Blue Colour
5726225	White Colour
5726425	Red Colour
5726525	Green Colour

Packet of 100 units.

Part No.	For tube Ø 37 - 38 mm
5726238	White Colour

Boxes of 25 units

WEIGHING BOATS "ACCU-WEIGH"

Anti-static, Suitable for weighing with reproducible tare weight.
Free from contaminants, Wide range of sizes.

General features:
Made from high impact polystyrene with a flat base, round edge, smooth surface, contamination free and hydrophilic.
Flexible and easy to manipulate, suitable for liquids and solids.
Supplied in two forms:
- Diamond, black or white colours.
- Rectangular, white colour.

Part No.	Shape	Capacity ml	External dimensions mm Height	Width	Depth	Weight g	Colour	Quantity
5726004	Diamond	5	3.8	31	54	0.25	White	100 units
5726005	Diamond	5	3.8	31	54	0.25	Black	100 units
5726006	Diamond	30	13.5	55	85	1.00	White	100 units
5726007	Diamond	30	13.5	55	85	1.00	Black	100 units
5726008	Diamond	100	20	92	132	2.6	White	100 units
5726009	Diamond	100	20	92	132	2.6	Black	100 units
5726010	Rectangular	7	8.5	44	44	0.65	White	100 units
5726011	Rectangular	100	24	80	80	2.2	White	100 units
5726012	Rectangular	250	24	134	134	6.1	White	100 units

ALUMINIUM DISHES

Pressed with crenulated edge.
No static.
Withstands temperatures up to 450 °C.
Can be used as a lid by mounting one on top of another.
Ideal for sample testing of solids, humidity, mixtures of emulsions and moisture determinations by weight loss.
Suitable use as a weighing boat, cooling or evaporation of samples.
Single use and disposable.

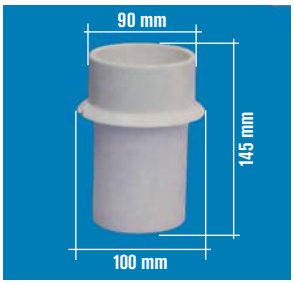
Part No.	Thickness mm	Height. / Ø (usable) mm		Quantity
5726000	0,2	5	42	packet of 112 units
5726001	0,2	10	57	packet of 110 units

Porcelain

GLAZED PORCELAIN, RESISTANT TO THERMAL SHOCK UP TO 1050 °C.
BETTER CHEMICAL AND ACID RESISTANCE COMPARED TO GLASS.
INCOMPATIBLE WITH HYDROFLUORIC ACID AND ALKALI SALTS.

GLAZED PORCELAIN TRAYS

Part No.	Height mm	Length mm	Base length mm	Width mm	Base width mm
5310001	15	50	42	28	17
5310002	15	60	52	30	20
5310003	18	87	80	60	50
5310004	18	120	110	60	45



STAINING BEAKER INTERIOR AND BOTTOM GLAZED

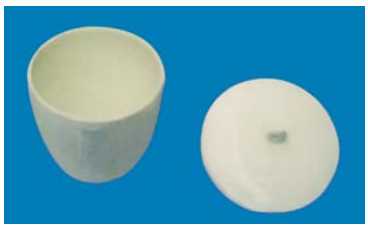
Part No.	Capacity ml	Total Height mm	Ø mm	Support ring Ø mm
5310028	500	145	90	100

MORTAR AND PESTLE, WITH SPOUT, UNGLAZED INTERIOR AND PESTLE

Part No.	Capacity ml	Length mm	Ø Bottom mm	Ø superior mm	Handle length mm	Ø Pestle mm
5310023	100	45	60	100	110	30
5310024	300	62	80	130	140	37
5310025	500	74	90	160	170	42
5310026	1000	90	114	216	200	48

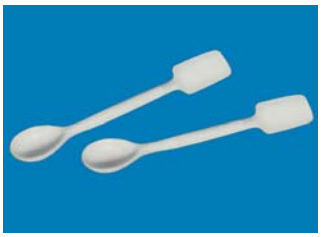
GLAZED PORCELAIN EVAPORATION BASINS, ROUND BOTTOM WITH SPOUT

Part No.	Capacity ml	Length mm	Ø exterior mm
5310005	35	25	60
5310006	60	30	74
5310007	100	35	90
5310008	300	52	126
5310009	500	58	168



CRUCIBLES MEDIUM HEIGHT WITH GLAZED LIDS

Part No.	Capacity ml	Height mm	Ø Bottom mm	Ø Top mm
5310015	15	30	21	35
5310016	25	36	23	40
5310017	50	46	30	53
5310018	100	57	34	63



SPATULA SPOON GLAZED

Part No.	Total Length mm
5310022	140

FLAT BOTTOM CRUCIBLE WITH HANDLE AND SPOUT

Part No.	Capacity ml	Height mm	Ø Top mm	Ø Bottom mm
5310010	50	34	60	36
5310011	100	45	80	52
5310012	200	52	96	56
5310013	300	62	110	66
5310014	500	70	132	80

CRUCIBLES, LOW FORM WITH LIDS, GLAZED

Part No.	Capacity ml	Height mm	Ø Bottom mm	Ø Top mm
5310019	15	23	19	43
5310020	25	27	24	47
5310021	50	38	28	59

COMBUSTION BOATS, UNGLAZED

Part No.	Height mm	Width mm	Depth Width mm	Exterior length ml
5310027	10	15	9	95

AGATE MORTAR AND PESTLE

Suitable for grinding and mixing, medium and hard substances.
Very resistant to abrasions and contamination.
Hardness: 7 Mohs scale.
Compression resistance: 110 Kg/mm^2
Breaking resistance: 210 Kg/mm^2
Mortar and pestle polished externally and internally.

Models Part No.	Capacity ml	Ø / Base (interior) mm		Dimensions (exterior) mm
5310029	15	45	11	60
5310030	30	65	16	80
5310031	70	80	24	100
5310032	140	105	32	120

SPARES

Pestle

Part No.	For Mortar Part No.	Handle length mm
5310033	5310029	77
5310034	5310030	95
5310035	5310031	100
5310036	5310032	130

GREY IRON MORTAR WITH PESTLE

In grey iron.

Part No.	Ø usable	Height
1004713	130 mm	65 mm
1004715	150 mm	75 mm

Sealer “305-C”

FEATURES

Sealer for any type of thermo-plastic material up to 0.4 mm thickness.
Easy to use: Pressure and release.
Manual cutting by slip cutting edge.
Energy saving system by a micro-switch, activated only when the sealing arm is in place.
Heat impulse for only 0.2 to 1.3 seconds.
Time controll according to the thickness of plastics to be seal.
A LED and audible beep are activated when the seal is complete.

MODEL

Part No.	Seal Width mm	Maximum seal length mm	Maximum plastic thickness mm	Seal time seconds	Height / Width / Depth (exterior) cm	Power W	Weight Kg
5800042	5	300	0.4	of 0.2 to 1.3	19 48 8.2	1100	5.2

Supplied complete with 2 heaters, 2 PTFE heater covers and cutting blade.

ADDITIONAL SPARES: Maintenance kit 305-C: 2 heaters, 2 PTFE heater covers and cutting blade Part No. Part No. 5800044

Sealer “455”

HIGH THROUGHPUT SEALER.

FEATURES

Ideal for large size samples.
Sealer for any type of thermo-plastic material up to 0.8 mm thickness.
Easy to use by pressing a foot pedal which enables to have the hands free in order to manipulate the bag.
Includes a platform of 45 cm wide x 12 cm depth to support the sample. This platform is adjustable in height up to 19.5 mm to adapt different volumes.
Energy saving system by a micro-switch, activated only when the sealing arm is in place.
Heat impulse for only 0.2 to 2.2 seconds.
Time controll according to the thickness of plastics to be seal.
A LED and audible beep are activated when the seal is complete.
Replaceable PTFE anti stick coated heaters.
The pressure of the pedal can be adjusted.
Includes a recoil mains cable at the back of the unit.
All metal robust construction.
Adjustable base level.

MODEL

Part No.	Seal Width mm	Maximum seal length mm	Maximum plastic thickness mm	Seal time, seconds	Height / Width / Depth (exterior) cm	Power W	Weight Kg
5800047	5	450	0.8	of 0.2 to 2.2	90 54 38	1000	29

Supplied complete with 2 heaters and a fuse.

ADDITIONAL SPARES: Maintenance kit 455: 2 heaters and fuse. Part No. 5800049

Portable sealer “150-C”

Bench top sealer.

Manual sealer.

FEATURES

Plastic sealer, PE, PP and thermoplastic material such as cellophane, Aluminium covered paper and craft paper up to 0.6 mm thickness.
Easy to use pressure clamp.
Parallel seal for both sides of the bag.
Superior heaters covered in PTFE that produces a parallel hermetic seal.
Two temperature selection switch 120 °C and 180 °C

MODEL

Part No.	Seal Width mm	Maximum seal length mm	Maximum plastic thickness mm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
5800038	14	150	0.6	9 17 18	50	0.6

Vacuum sealer “Sealcom-V”

OPTIMUM QUALITY SEAL AND PRESERVATION.
SUITABLE FOR SEALING SOLIDS AND LIQUIDS.

APPLICATIONS

Vacuum seal for any type of thermoplastic material: polyethylene, polypropylene, polyester, aluminium etc. Ideal for sealing solids, liquids, powders, granules, seeds, fruit, food, medical apparatus, forensics, chemical products, sludge samples, mud, cores, etc. Prevents the oxidation, mould and decomposition. Prolongs the quality, durability and freshness of items to be stored.

FEATURES

Bench top. Stainless steel AISI 304 robust construction with transparent lid.
Easy to use and program. After closing the door the complete process is automatic.
Operates using a oil vacuum pump (type AV-30 or N32).

CONTROL PANEL

Vacuum gauge with scale 0 to -0.1 Mpa.
Sealer temperature adjustment, high, medium or low.
Push button emergency stop.
LED indicator of operation.
Digital selection and display of the following parameters:
- Vacuum time 0-99 seconds.
- Seal time 0 to 9.9 seconds
- Discharge time 0 to 9.9 seconds

MODEL	Part No.	Seal Width mm	Max. seal length mm	Pump rate m^3/h	Vacuum limit Mpa	Height / Width / Depth (usable) cm	Height / Width / Depth o (exterior) cm	Power W	Weight Kg
SEALCOM-V	4100050	10	260	10	-0.1	5 28 32	28 32 52	370	35

Supplied with a maintenance kit that includes 2 heaters, 3 PTFE heater covers. 1 lid seal and a 250 ml bottle of oil.

ADDITIONAL SPARES
Maintenance kit for Sealcom-V: 2 heaters, 3 PTFE heater covers. 1 lid seal. Part No. 4100051
Vacuum pump oil: 1 litre bottle (Type AV-30). Part No. 4100052

Bag sealer “S-400”

SUITABLE FOR POLYPROPYLENE-POLYESTER STERILIZING BAGS WITH A PAPER BASE.

FEATURES

Metal epoxy covered case.
Pressure sealer. Manual cut.
Stainless steel AISI 304 reel support at the back.

CONTROL PANELS

Illuminated mains switch.
Lamp “ON” when the thermostat has reached the pre-set working temperature.

MODEL

Part No.	Seal Width mm	Maximum seal length mm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
4100041	9	270	12 35 21	200	5.3

SEALING MACHINE ACCESSORIES

Rolls of paper for sterilisation “Polisteril”

Paper base polypropylene and polyester bags showing differing ink prints of sterilized items.

Part No.	Bag width cm	Bag length m
4100075	7,5	100
4100100	10	100
4100200	20	100

SEE A FULL RANGE OF BAG SEALERS FOR STERILIZATION AND ACCESSORIES ON PAGE 68

Automatic bag sealer
“Seal-Com 2”. Part No: 4100044

Bag sealer
“Seal-1000”. Part No: 4101712

INSTRUMENTS FOR BIOLOGIE AND HISTOLOGIE

RECTANGULAR HOTPLATE "PLACFIN"

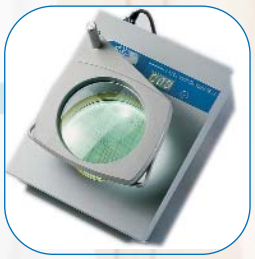
KOLLE MANDLES LOOPS
Infrared sterilizers.

LABORATORY LIGHT

PIPETTE DISPENSERS AND AUTOMATIC DISPENSERS

PARAFFIN WAX FLOATING BATHS

BLOOD AND CELL COUNTERS



COLONY COUNTERS

Instruments for dissection and slide boxes	pages 213 to 216
Magnifier screen	page 216
Hand microtome	page 216
Wax dispenser and paraffin wax floating	page 217
Cooling plates and baths	pages 217 to 219
Stackable anatomy - Histology	page 219
Dispensing pipettes	pages 220 to 222
Digital counter for blood and colony counter	pages 223 to 224
Ultraviolet sterilizer and westergren supports	page 224

"Work is the law of life, and to reject it as boredom is to submit to it as torment."
Victor Hugo

LABORATORY SCISSORS

Made of AISI 410 stainless steel.

1 Scissors universal "Multi purpose" with a serrated/notched blade.
Suitable for cutting hard plastic, cardboard and soft wire etc.
Part No. 1001468 Cut length 50 mm. Total length 180 mm.

2 Large laboratory scissors.
Part No. 1001469 Cut length 100 mm. Total length 250 mm.

3 Multipurpose straight scissors, general use and bandages.
Part No. 1001470 Cut length 50 mm. Total length 140 mm.

4 Multipurpose scissors, general use and bandages.
Part No. 1000806 Cut length 40 mm. Total length 145 mm.

5 Dissection scissors.
Part No. 1000807 Cut length 35 mm. Total length 125 mm.

6 Mini dissection scissors.
Part No. 1001471 Cut length 25 mm. Total length 110 mm.

7 Flat scissors with serrated edge, ideal for laminates, negatives and chromatography.
Part No. 1001472 Flat length 40 mm. Total length 160 mm.

DISSECTION NEEDLES

Plastic handled, AISI 304 stainless steel needle.

Part No.	Point	Total length
1000431	Lancet	140 mm
1000275	Fine	140 mm

DISSECTION NEEDLES

Hexagonal metallic handle with a AISI 304 stainless steel needle.

Part No.	Point	Total length
1001359	Lancet	40 mm
1001360	Fine	140 mm

SCALPEL HANDLE No. 4

Made of AISI 304 stainless steel, comes with three sterile blades No. 20, 22 and 23.
Part No. 1001361
Spares:
Part No.
1001362 10 sterile blades nº 20
1001363 10 sterile blades nº 22
1001364 10 sterile blades nº 23

ANATOMY SCALPEL

Made of AISI 304 stainless steel.
Blade length: 35 mm.
Part No. 1000809

FORCEPS RING SHAPED TIP

AISI 304 stainless steel forceps for picking up swabs and textiles etc.
Part No. 1001192

DISSECTION KIT

Model Student.
Contains: 1 fine point probe, 1 lancet probe, 1 blunt end forceps, 1 fine tip forceps, 1 scalpel handle nº 4, 3 sterile blades for scalpel handle nº 4, 1 scissors, 1 magnifying glass, 1 style probe, 1 scalpel.
Part No. 1001365

DISSECTION KIT

Wooden box.
Contents: 1 fine needle, 1 lancet needle, 1 dissection forceps blunt end, 1 forceps fine point, 1 scalpel handle nº 4 with 3 sterile blades Nos. 20, 22 & 23, 1 scalpel and 1 scissors.
Part No. 1001152

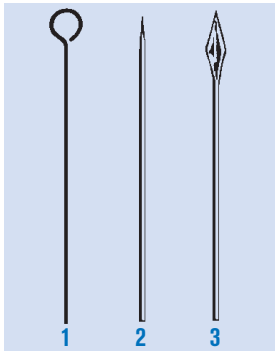
DISSECTING FORCEPS AND GENERAL LABORATORY USE

Made of AISI 304 stainless steel with electro-bright finish.

Type	Description	Total length	Part No.
1	**Dissecting Straight forceps round tips**	140 mm	1000580
2	**Dissecting Straight forceps fine tips**	140 mm	1000801
3	**Dissecting curved forceps round tips**	140 mm	1000865
4	**Dissecting curved forceps fine tips**	140 mm	1000864
5	**Sprung straight forceps with curved fine tips** with wood laminate sides	160 mm	1001190
6	**Forceps straight serrated fine point,** with wood laminate sides.	160 mm	1001189
7	**Laboratory forceps curved point**	160 mm	6000128
8	**Laboratory forceps fine point**	120 mm	1001191

KOLLE HANDLES

Nickel metal handle with loop end of Ni-Cr.
Handle length: 43 mm. Internal loop Ø: 3 mm.
Part No.
1000033 Bakelite handle. Handle length: 200 mm.
1000488 "Pasteur", with metal handle. Handle length: 290 mm.



1. KOLLE HANDLE

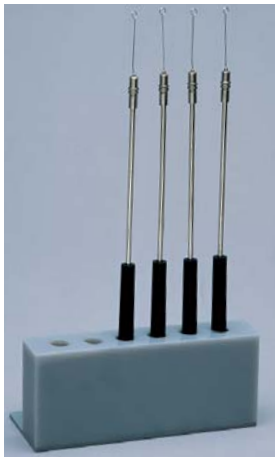
Loop end.
Handle length: 43 mm. Loop Ø: 3 mm.
Part No.
1000013 Made of Ni-Cr.
1000014 Made of Platinum iridium (10% iridium).

2. NEEDLE FOR KOLLE HANDLE

Made of Ni-Cr.
Part No. 1000802

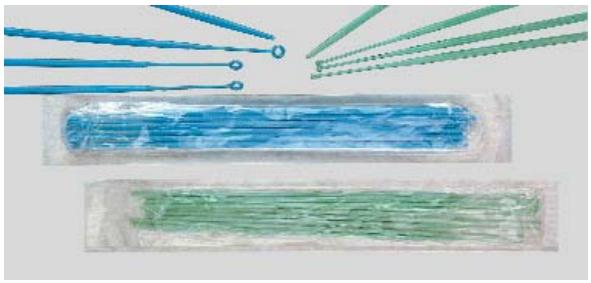
3. LANCET TIP FOR KOLLE HANDLE

Made of Ni-Cr. Total long: 50 mm.
Part No. 1000803



STAND

Support rack for Kolle handles dissection needles made of hardened methacrylate.
Capacity: 6 places.
Part No. 1000903



STERILE CULTURE LOOPS

Disposable flexible polystyrene culture handle, one loop and one pointed end.

Part No.	Capacity	Colour	internal loop Ø	In packets of
1000866	1 µl	green	1 mm	20 units
1000867	10 µl	blue	4 mm	20 unts

INFRARED TIP STERILIZER "STERILBIO"

Applications

Sterilization of culture tips, needles and small instruments. Incinerates organic material at 900 °C for 5/8 seconds.

Features

Made from ceramic elements with a quality quartz tube interior.
Does not need purged oxygen and can be used in anaerobic environments.
Eliminates problems of aerosols and bacterial contamination.
Support at the side for 4 Kolle handles, needles, lancet or dissecting forceps etc.

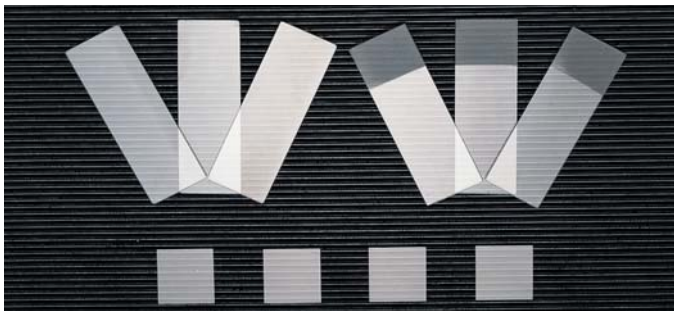
Model

Part No.	Height/Width/Depth (exterior) cm			Ø/Length (tube interior) cm		Power W	Weight Kg
3000788	20	13	18	1.4	15	110	1.5

BURNER J-2000 UNIVERSAL

For Butane gas. Instant safety flame, push button ignition, incorporating a LOCK/ON mechanism that prevents accidental fires, the unit switches off when the users hand is removed. Gas filled, using simple lighter gas fuel, as used in common gas lighters. Long life flint. Power by a 1.5 V battery.

Applications: Microbiology, bacteriology, dentistry and for general use where a fine hot flame is required for fast heat and fusion.
Part No. 1001114



GLASS SLIDES

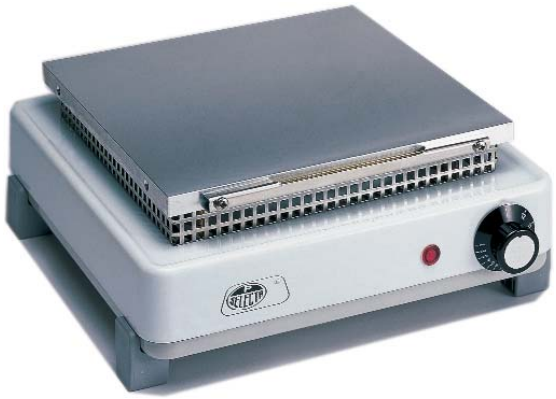
Slides, unground of 26 x 76 x 1.5 mm thickness.
Box of 72 units.
Part No. 5600400

Slides of 26 x 76 x 1.5 mm with ground end of 26 x 20 mm for writing.
Box of 72 units.
Part No. 5600399

Cover slide of 18 x 18 mm.
Box of 100 units.
Part No. 5600396

Cover glass of 22 x 22 mm.
Box of 100 units.
Part No. 5600397

Cover glass of 24 x 24 mm.
Box of 100 units.
Part No. 5600398

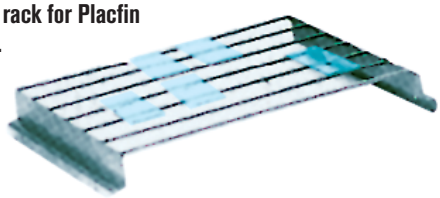


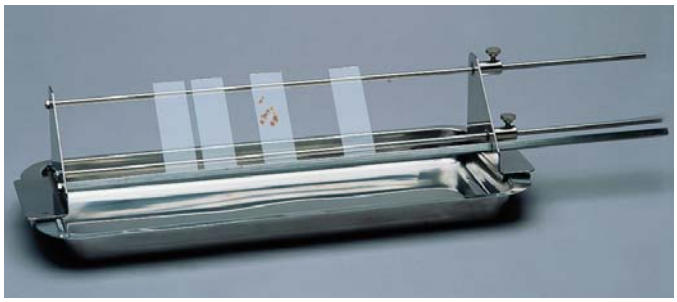
RECTANGULAR HOTPLATE "PLACFIN"

Adjustable temperature from ambient+5 °C to 130 °C.
Stability ±3 °C. Not suitable for boiling.
Coated with chemically treated aluminium, enamelled outer case.

Part No.	Width/Depth (plate) cm		Height/Width/Depth (exterior) cm			Power W	Weight Kg
7000497	23	22	8	22	30	400	3.7

ACCESSORY: Slide support rack for Placfin
"Placfin" slide support adapter.
Made of AISI 304 stainless steel. Capacity: up to 18 slide of 76 x 25 mm (in a horizontal or inclined position).
Part No. 7000498

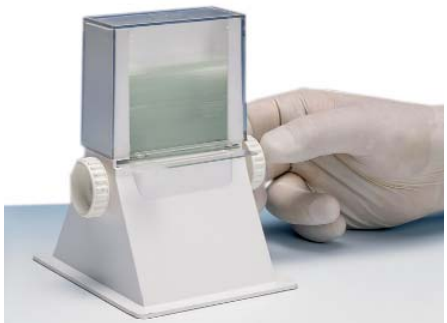




SLIDE STAINING STAND

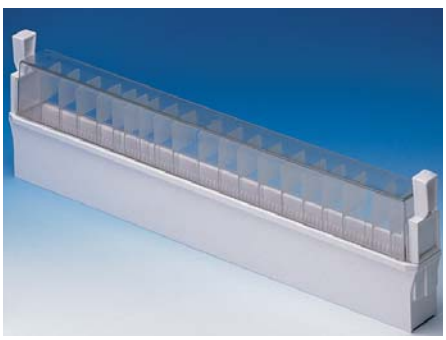
Extendible and made of AISI 304 stainless steel. Fits tanks and trays up to 50 cm in length. Capacity 12 to 14 slides inclined at an angle.
Part No. 6000904

ACCESSORY: Long rectangular instrument tray.
Made from AISI 304 stainless steel, 350mm long x 150mm wide.
Part No. 8080207



SLIDE DISPENSER

Made of ABS plastic with a transparent polycarbonate lid. With single slide manual extraction.
Capacity 50 slides of 76 x 26 mm.
Part No. 1001366

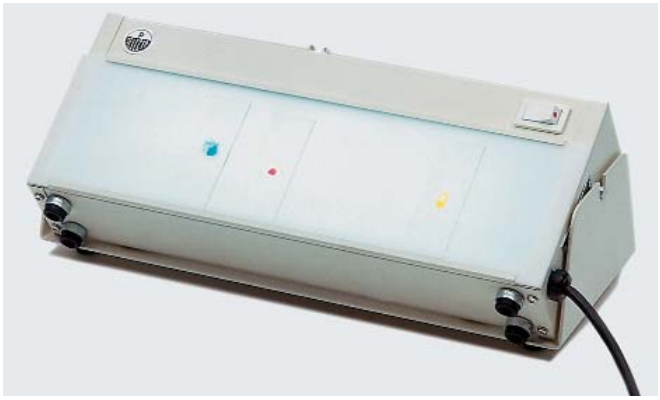


SLIDE SUPPORT RACK, FOR 26 x 76 mm SLIDES

Made from ABS plastic with transparent polycarbonate lid. Holds 100 slides in a vertical position, with numbered guides and index table.
Part No. 1001367

FORCEPS FOR LIFTING SLIDES

Made of AISI 304 stainless steel, with flat jaws.
Length: 105 mm. Suitable for lifting, slides, watch glass or small flat object.
Part No. 1000105



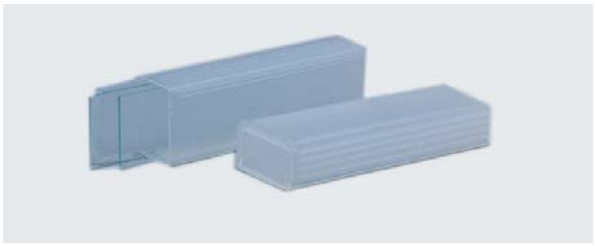
LABORATORY LIGHT "LABOR-LAM"

Used for the classification and manipulation of blood images of; anti serum transparencies, albumin control, RH tests, colony counting, micro examination, colloidal rings, observation of precipitates, acid and oil filters etc. Swivel accessory for bench or wall mount bracket. Light: white light with diffusing methacrylate screen. Temperature 30 °C to 35 °C on the screen surface. Screen light: 300 mm long x 85 mm wide. External dimensions: 320 mm long x 130 mm wide x 55 mm high. Power: 8 W.
Part No. **3000438**

ACCESSORY: Table top support. Swivel type. Part No. **7000483**

STORAGE BOX FOR 26 x 76 mm SLIDES

Made of white ABS with a hinge lid and catch, numbered slots for slides and a cork base. An index for slide identification is placed inside the lid.
Part No. **1001371** for 100 slides

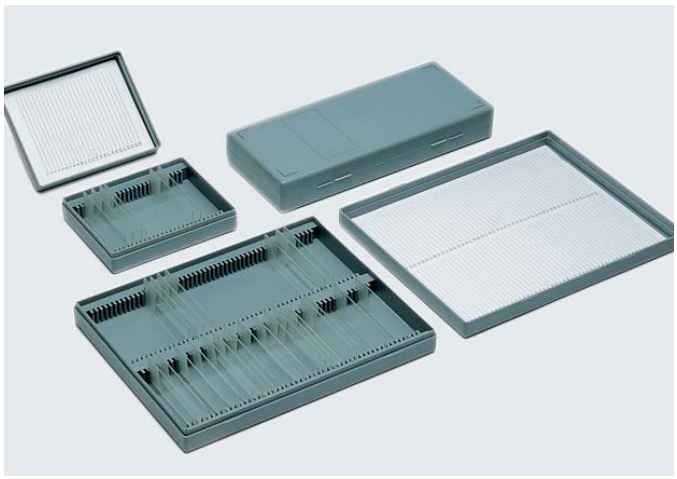


SLIDE BOXES

Holds 5 slides, made of polypropylene. Ideal for personal use. Dimensions:82 mm long x 30 mm wide.
Part No. **1000869**

SLIDE BOX FOR STORING 26 x 76 mm SLIDES

PVC base, colour white, with numbered dividers.
Index in the lid interior.
Part No. **1052050** for 50 slides
Part No. **1052100** for 100 slides



STORAGE BOX FOR SLIDES OF 26 x 76 mm

Made of polystyrene with numbered slots and index in the lid.
Part No. **1001368** for 25 slides
Part No. **1001369** for 50 slides
Part No. **1001370** for 100 slides

EPS SLIDE HOLDER FOR 5 SLIDES

Polystyrene slide holder designed for transporting and preservation of samples and the mailing of slides with safety, such as blood samples, serum and section samples. System of 5 divided sections to prevent rubbing against each other in transit. Up to 10 slides (75 x 24mm). A fitted lid holds the slides in place.
Dimensions: 53 mm height x 100 mm long x 63 mm deep.
Part No. **1001717** Packs of 25 units

Hand microtome

Cylindrical hand microtome, that can achieve a minimum cut of 10 µm, using a manual advanced mechanism.
External milled knob with a micrometer scale of 50 divisions of 10 µm.
Maximum sample section of 20 mm.
Precise internal sample holder with a maximum aperture of 8 mm.
Part No. **5900019**
Supplied complete with a carry case, dissection forceps, blade and a 5 mm thick glass base.

Cooling plate “Plac-Center”

DIGITAL DISPLAY WITH ANALOGUE TEMPERATURE CONTROLLER.
ADJUSTABLE TEMPERATURES FROM -10 TO 5 °C.

APPLICATIONS

Designed to keep material in a solid state.

FEATURES

External case made of AISI 304 stainless steel. Cooling plate made of black anodised aluminium.
Anti vibration, hermetically sealed CFC free compressor.

CONTROL PANEL

Illuminated Mains ON/OFF switch.
Analogue electronic temperature control with digital display (2 digits).
Resolution: ±1 digit.
Temperature probe: PTC.

MODEL

Part No.	Width/Depth (plate) cm		Height/Width/Depth (exterior) cm			Power HP	Power W	Weight Kg
4000501	30	15	27	33	50	1/3	160	15

Wax dispenser “Dispenser”

ADJUSTABLE TEMPERATURE FROM AMBIENT +5 TO 100 °C.
STABILITY ±1.5 °C.

FEATURES

External metal case coated with epoxy. Internal tank made of aluminium coated with black indelible PTFE. Independently heated tap.

CONTROL PANEL

Illuminated Mains switch.
Indicator lamp shows when the heater is on.
Adjustable temperature thermostat controller.
Adjustable tap temperature controller.

MODEL

Part No.	Capacity litres	Ø / Height (usable) cm		Ø / Height (exterior) cm		Power W	Weight Kg
4000490	4	20	15	28	30	400	5

Paraffin wax floating out bath for histology samples “Termofin”

ADJUSTABLE TEMPERATURE FROM 40 °C TO 80 °C. STABILITY ±1 °C.

APPLICATIONS

Suitable for the fusion and preservation of paraffin wax in a liquid state that enables the users to see the floated sections.

FEATURES

Bath and lid made of black PTFE. coated aluminium with a location hole in the lid for a thermometer.

CONTROL PANEL

Mains ON/OFF switch. Adjustable temperature thermostat synchronised with an indicator lamp while heating.

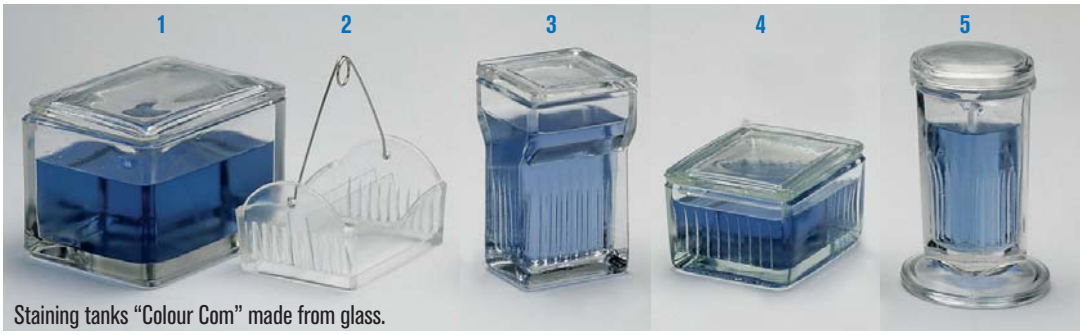
MODEL

Part No.	Capacity litres	Ø / Height (usable) cm		Ø / Height (exterior) cm		Power W	Weight Kg
3000459	4	25	10	34	14	430	2.3

Supplied complete with lid and thermometer.

ACCESSORY
Thermometer support (can only be used without the lid).
Part No. 6004591

PTFE coated lid



Staining tanks “Colour Com” made from glass.

Staining tank with screw cap hermetically sealed lid.

STAINING TANK

Part No.	Type	Height / Width / Depth (exterior) mm	Slide quantity	Applications
1001138	1	85 105 70	10 of 76 x 26 mm	Tank with lid, requires rack No. 2 that is placed inside.
1001139	2	30 90 48	10 of 76 x 26 mm	Tank rack, bottomless, submerge in No.1 tank.
1001140	3	105 60 55	16 of 76 x 26 mm	Hellendahl vertical tank with lid.
1001141	4	50 85 70	10 of 76 x 26 mm	Horizontal staining tank with lid.
1001142	5	105 45 45	10 of 76 x 26 mm	Coplin, vertical staining tank with lid.
1001352	6	110 56 56	10 of 76 x 26 mm	Coplin, staining tank made of polyethylene with lid.

1. ANGLE FORM MOULDS

For paraffin wax covers.
Supplied as two separate angular plates made of AISI 304 stainless steel.

Part No.	Height / Width / Depth (usable mould) mm	Part No.	Height / Width / Depth (usable mould) mm
6051622	14 22 44	6051645	20 45 85
6051635	20 35 65	6051690	25 90 150

2. COMPACT MOULDS WITH LID

For tissue covered moulds.

Part No.	Height / Width / Depth (usable mould) mm	Part No.	Height / Width / Depth (usable mould) mm
7051720	9 20 20	7051735	9 26 35
7051725	9 25 25	7051740	9 26 40

3. ROUND INSERT MOULDS

Made of perforated AISI 304 stainless steel with lid.

Part No.	Ø mm	Height mm
1051837	37	8

Cooling bath “Refricub”

ELECTRONIC CONTROL WITH DIGITAL DISPLAY
ADJUSTABLE TEMPERATURE DOWN TO -25 °C.

APPLICATIONS

Suitable for maintaining paraffin wax and waxes in a solid form for long periods of time, etc.

FEATURES

Temperature homogeneity: ±2 °C.
Precision of temperature controller: 1 °C.
External case made of epoxy covered metal with AISI 304 stainless steel tank and top.
An anti vibration hermetically sealed CFC free compressor is mounted in the base of the unit, supplied with ventilated evaporator, regulating valve and condenser.

CONTROL PANEL

Illuminated mains indicator switch.
Electronic controller for temperature with two digit digital display with a resolution of: ±1 digit.
PTC probe.

Part No.	Capacity litres	Height/Width/Depth (tank) cm	Height/Width/Depth (exterior) cm	Power HP	Power W	Weight Kg
4100519	18	20 30 31	80 46 44	3/8	350	22

Chromatography tanks

APPLICATIONS

For quantitative analysis. Useful for storing and protecting the plates by means of the hermetic upper lid.

FEATURES

Made of heavy thick glass, with a flat bottom, ground rims with rounded edges. Solid glass rectangular lid, smooth base with ground edges to make an air tight fit tank. Rectangular glass lid with handle, smooth base and ground surface for hermetically sealed closure with the tank.

MODELS	Part No.	Heigh/Width/Depth mm	Nº of plates	With Lid
MINICROM	1001162	139 135 80	1	Yes
CROMACROM	1001163	139 135 80	1	Yes
MULTICROM	1001164	240 236 118	5	Yes

The model MULTICROM has 5 plate slots to maintain the plate upright.

Stackable Anatomy - Histology sample storage chest

FEATURES

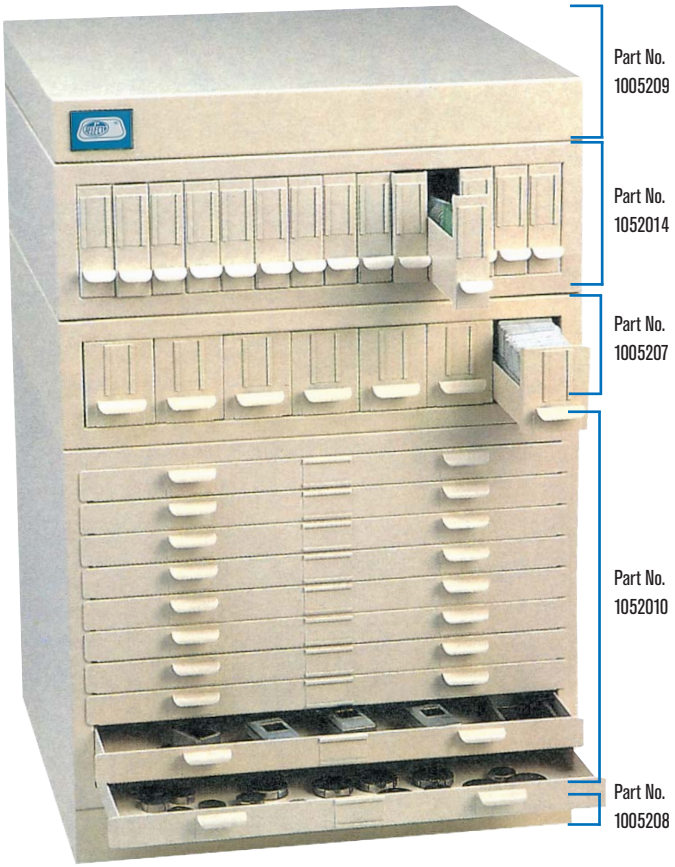
Manufactured in steel epoxy coated. Resistant to corrosive atmospheres.

STACKABLE MODULAR SYSTEM

Cabinet for storing slides.
Complete with 14 drawers for slides of 26 x 76 mm.
Drawer capacity: 350 slides.
Part No. 1052014

Cabinet for storing transparencies.
Complete with 7 drawers for transparencies of 50 x 60 mm.
Drawer capacity: 230 transparencies.
Part No. 1005207

Cabinet for storing paraffin wax mounted samples.
Complete with 10 drawers.
Part No. 1052010



MODELS

Part No.	Height / Width / Depth (usable) cm	Height / Width / Depth (exterior) cm	Weight Kg
1052014	9 2.6 45	14 48 48	9.5
1005207	7.2 5.8 47	12 48 48	6.5
1052010	2.6 43.5 47	34.5 48 48	18.5

Base and lid units
Mounted on the top or as a support base. Fits the individual modules to form distinct user definable cabinets.

Part No.		Height / Width / Depth (external) cm	Weight Kg
1005208	Base	5,5 48 48	2,5
1005209	Lid	5,5 48 48	2,5

Fixed volume dispensing pipettes "Dispen-Fix"

WITH VALIDATION TEST ACCORDING TO SERIAL NUMBER.

FEATURES

Fixed volume pipettes from 1 to 1000 µl, model dependent.
Simple and easy to use.
Discard tip ejection for all models.
Comes complete with calibration tool.

MODELS	Part No.	Capacity µl	Accuracy %	Precision %
Dispen-Fix	5904009	5	±2.0	< 0.8
Dispen-Fix	5904010	10	±1.6	< 0.5
Dispen-Fix	5904011	20	±1.0	< 0.3
Dispen-Fix	5904012	25	±1.0	< 0.3
Dispen-Fix	5904013	50	±0.8	< 0.3
Dispen-Fix	5904014	100	±0.8	< 0.25
Dispen-Fix	5904015	200	±0.8	< 0.15
Dispen-Fix	5904017	500	±0.8	< 0.2
Dispen-Fix	5904018	1000	±0.8	< 0.13

Variable volume dispensing pipettes "Dispen-Var"

WITH VALIDATION TEST ACCORDING TO SERIAL NUMBER.
AUTOCLAVABLE UP TO 121 °C.

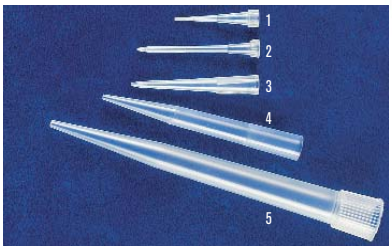
FEATURES

Variable volume from 1 to 5000 µl, model dependent.
Simple and easy to use adjustable dispense volume.
Digital set volume selection.
Discard tip ejection for all models up to 1000 µl.
Comes complete with calibration tool.

MODELS	Part No.	Capacity µl	Divisions µl	Precision %
Dispen-Var	5900010	1 - 10	0.1	< 1.5 - < 0.4
Dispen-Var	5900020	2 - 20	0.1	< 1.5 - < 0.8
Dispen-Var	5900100	10 - 100	1	< 1.0 - < 0.3
Dispen-Var	5900200	20 - 200	1	< 1.0 - < 0.5
Dispen-Var	5901000	100 - 1000	10	< 0.8 - < 0.28
Dispen-Var	5905006	1000 - 5000	10	< 0.4 - < 0.2

ACCESSORIES. PIPETTE TIPS AND RACKS. Accurate and precise, made of polypropylene.

Models Nº image	Part No.	Range µl	Colour	Qty. tips x part No.	Suitable for pipette part No.	Volumes pipette µl
1	Tips 5490040	0.1- 10	Transparent	1000	5904009	5
	Rack 5490035	0.1- 10	Transparent	96	5904010	10
					5900010	1 - 10
2	Tips 5490041	2 - 20	Transparente	1000	5900020	2 - 20
	Rack 5490036	2 - 20	Transparente	96		
3	Tips 5490042	5 - 200	Transparent	1000	5904011	20
	Rack 5490037	5 - 200	Transparent	96	5904012	25
					5904013	50
					5904014	100
					5904015	200
					5900100	10 - 100
					5900200	20 - 200
4	5490044	101 - 1000	Blue	1000	5904017	500
	5490034	101 - 1000	Blue	96	5904018	1000
					5901000	100 - 1000
5	5490047	1000 - 5000	Blue	500	5905006	1000 - 5000
	5490039	1000 - 5000	Blue	500		



Pipette rack.
Made of AISI 304 stainless steel. No. of places: 6 dosing pipettes up to 28 cm in length.
Part No. 1001215

Rack for pipette tips.

Multichannel variable volume dispensing pipettes "Multi-Var 8"

NUMBER OF CHANNELS: 8.

TOPSCIEN™

NEW

FEATURES

Due to its excellent tips alignment, they offer a great advantage in microtitrer techniques such as: agglutination, immunological radio assays, hemagglutination, antibiotic test, etc. (All models are calibrated according to DIN 12600 recommendations)

MODELS	Part No.	Tips Range µl	Nominal Volume Accuracy A < ±%		Coefficient variation Nominal volume CV < %		Increments µl	Tips types µl
			Min %	Max %	Min %	Max %		
Multi-Var 8	5905027	5-50	0.8	6	0.4	3	0.1	200
Multi-Var 8	5905028	10-100	0.8	4	0.3	2	0.2	200/300
Multi-Var 8	5905029	20-200	0.8	4	0.3	1.5	0.2	200/300

ACCESSORIES

Pipette tips rack. Part No. 5490037
Carousel support for a maximum 3 multichannel pipettes. Part No. 5490034

Repeat multi dispenser "Repette-HW"

COMECTA

UP TO 49 SUCCESSIVE DISPENSES WITHOUT THE NEED TO REFILL.
DISPENSING VOLUME FROM 2 µl UP TO 5000 µl.

FEATURES

Multi dispenser pipette.
Precise repeat dispenser.
Ideal for dispensing low and high viscosity liquids.
Designed for rapid dispensing.
Depending on the setting, the dispenser can discharge up to a maximum of 49 times successively, without the need to be refilled.
Accepts 8 different syringes.
Precision table using COMECTA syringes. (These values are based on a maximum volume for each pipette using distilled water at ambient temperature):

Type syringe ml	Volume doses µl	Precision nominal volume A ≤ ±%		Variation coefficient nominal volume CV ≤ %	
		10%	2%	-10%	2%
0.5	10 - 50	0.8	4.0	0.6	1.4
1.25	25 - 125	0.8	4.0	0.3	0.8
2.5	50 - 250	0.7	3.5	0.2	0.8
5	100 - 500	0.5	2.5	0.2	0.6
12.5	250 - 1250	0.3	1.5	0.2	0.4
25	500 - 2500	0.3	1.5	0.2	0.4
50	1000 - 5000	0.3	1.5	0.15	0.4

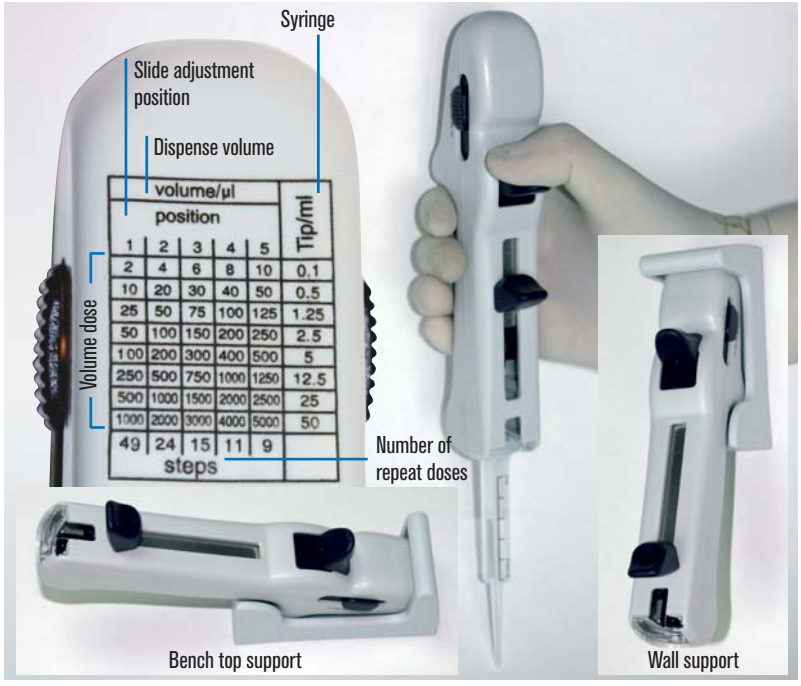
ACCESSORIES

Steril syringes. Supplied in individual bag.

Part No.	Volume ml	Syringes x part No.
5490053	0,5	100
5490054	1,25	100
5490055	2,5	100
5490056	5	100
5490057	12,5	50
5490058	25	50
5490059	50	50

Dispense volumes from 2 µl up to 5000 µl, depending on syringe used.
Maximum viscosity per syringe is:
50 ml = 20 mPas, 5 ml = 260 mPas and 1.25 ml = 977 mPas.
Maximum pressure: 500 mbar.
Operating temperature: from 15 to 40 °C.
At the back of the dispenser shows a quick table reference of the volume and dose, that shows the repeatable dose from the syringe to be used and the correct slide position.
Includes an easy to locate wall or bench support.
Supplied complete with a 5 ml syringe and an autoclavable PP adapter for 25 and 50 ml syringes.

Repeat multi dispenser "Repette HW".
Part No. 5490050



SPARE

8	5490060	**Adapter made from PP** for 25 and 50 ml syringes

Motorized pipette dispenser “Rota-Filler 3000®”

FOR ANY KIND OF PIPETTES FROM 1 TO 100 ML.

NEW DESIGN

FEATURES

Three positions switch for fast or slow aspiration and dispensation or gravitatorial dispensation for free dispensing.
The pressure over the ergonomic bulbs allows modulation, speed control of aspiration and dispensation.
It is supplied with a couple of 0,45 µm filter by default for and effective protection against contaminated air either of the equipment during aspiration or of the sample during dispensation.
Two rechargeable and interchangeable batteries.
Low-battery light indicator signal.
Can be used while recharging.

TECHNICAL DATA

Charger of 65/12 mA. Charge time: 14 hours.
Weight: 215 g.
Dimensions: 170 height x 47 width x 143 length mm.
Pipettes: from 1 to 100 ml (glass and plastic).

Motorized pipette dispenser “Rota-Filler 300®”.
Part no: 5900700

It includes bench top support.

It includes wall support.

COMPLEMENT

5 hydrophobe filters pack of 0,45 µm.
Part no: 5900701

Manual pipette dispenser “Pipet”

FOR ANY KIND OF PIPETTES FROM 1 TO 100 ML.

FEATURES

Ergonomic, comfortable, solid, lightweight and ease of use.
It has been designed with an ultracompressor silicone bulb that provides a soft manual control of the pipette, either in aspiration or dispensation.
Once the bulb is squeezed, control with the toggle both speeds, the aspiration and dispensation one. Push the middle button to expel blowing-out any liquid remaining in the pipette. 0,45 µm .
Measure: 25 mm Ø.
Weight: 130 g.
Manual pipette dispenser “Pipet”. Part no 5900800

COMPLEMENT

5 hydrophobe filters pack of 0,45 µm.
Part no: 5900801

Measuring range “COM-PIP”

FEATURES

Made of polypropylene with silicon joints, for volumes up to 25 ml. Precise and safe, ergonomic design that allows filling and emptying without having to change the setting. Flexible thermoplastic seal against any type of burette. A button on the side empties the burette automatically. Easily dismantled and cleaned.

Part No.	Capacity	Identification colour
1001131	0 to 2 ml	Blue
1001132	0 to 10 ml	Green
1001133	0 to 25 ml	Red

PIPETTE RACK “COM-PIP”

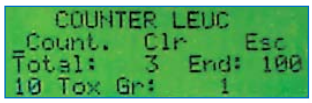
Made from AISI 304 stainless steel.
Capacity 6 pipettes of differing sizes.
Part No. 1001702

Digital cell counter for blood components “CC-1431”

USB

FEATURES

Designed for any type of cell or type counting and blood analysis.
Languages: Spanish, English and French.
Operating menu displayed on the screen, 4 LCD lines of 20 characters per line.



Visualization of data can be displayed as partial, total, and absolute or percentage of key strokes.
Possibility to correct the last count.
Memorizes the last pulsed count and identifies it on the screen.
Audible pulse control when the key is pulsed, advises when the count limit is reached.
Up to 14 separate key inputs per program.
Power: 12 V. Includes mains adapter.
USB interface for download of results to a computer.
Includes software for PC with the following parameters: Patient Number, Laboratory name, Date, Hour, Comments and comparison of previous results after treatment.

MODEL

Part No.	Height / Width / Depth cm	Power W	Weight Kg
7121431	7 15 22	6	0.6

FOUR PROGRAMS INCLUDED:

LEUC (leukocytes)
- Leukocyte count.
- 14 different cell types.
- 3 Keys for counts that are not used in the final count:
  («11. Normo» «12. Tox Gr» «14. Ery»).
- Total cell count (at the end of counting) selectable from 100 to 1000 in steps of 100.

MYEL (myelocytes).
- Myelocytes count.
- 14 different cell types that accumulate to the total count.
- Total cell count selectable from 100 to 1000 in steps of 100.

RETI (reticuloecytes/erythrocytes)
- Reticuloecytes count.
- No. of cells by configurable view from 50 to 250.
- 1 Key for reticulocyte fields.
- 1 Key for erythrocytes that are not included in the final count.
- Total (end of count) fixed at 1000.

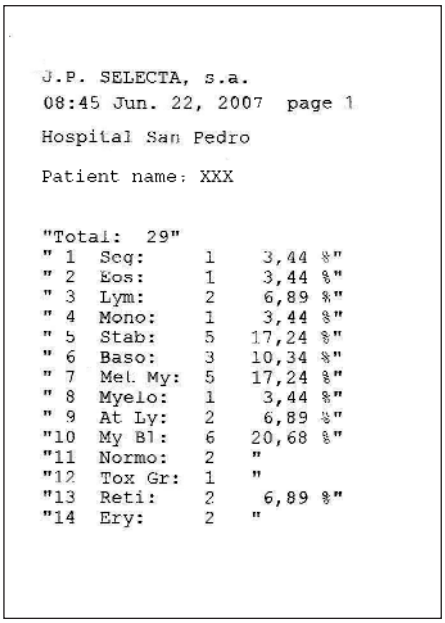
FREE (program, customer set)
- Configurable count.
- Each key can be activated or deactivated for the count.
- Total cell count (at the end of counting) selectable from 100 to 1000 in steps of 100.

KEYS

Two control keys:
- SELECT: choose one program or one option.
- ENTER: accept the option choose.

14 Keys for different cell types:

- Seg: Segments or granulocytes.
- Eos: Eosinocytes.
- Lym: Linfocytes.
- Mono: Monocytes.
- Stab: Bands.
- Baso: Basocytes.
- Met My: Metamielicocytes.
- Myelo: MieloBlasts.
- At Ly: Linfocytes untypical.
- My Bi: Mielococytes Binucleads.
- Normo: NormoBlasts.
- Tox. Gr.: Granulocytes toxic.
- Reti: Reticulocytes.
- Ery: Eritrocytes / EritoBlasts.

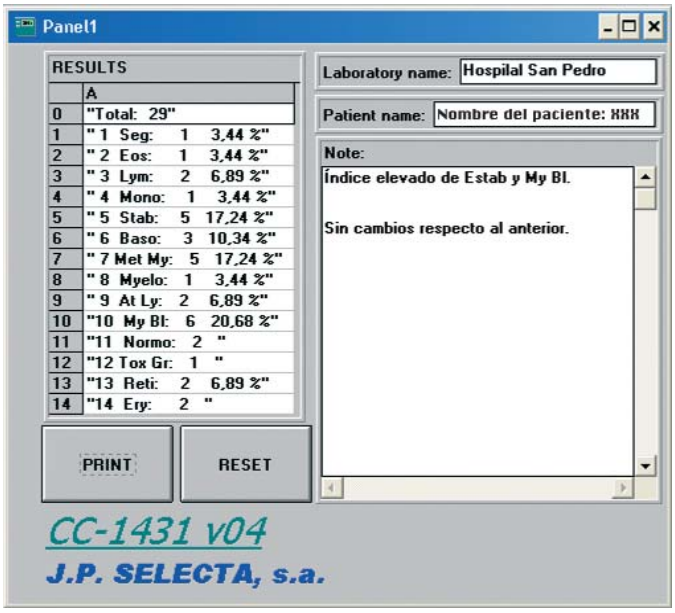


```
J.P. SELECTA, s.a.
08:45 Jun. 22, 2007  page 1
Hospital San Pedro

Patient name: XXX

"Total:  29"
" 1  Seg:      1    3,44 %"
" 2  Eos:      1    3,44 %"
" 3  Lym:      2    6,89 %"
" 4  Mono:     1    3,44 %"
" 5  Stab:     5   17,24 %"
" 6  Baso:     3   10,34 %"
" 7  Mel. My:  5   17,24 %"
" 8  Myelo:    1    3,44 %"
" 9  At Ly:    2    6,89 %"
"10  My Bl:    6   20,68 %"
"11  Normo:    2   "
"12  Tox Gr:   1   "
"13  Reti:     2    6,89 %"
"14  Ery:      2   "
```

Report.



Software download and report.

Colony counter “Digital S”

FOR PETRI DISH OF UP TO 100 mm DIAMETER.

APPLICATIONS

Molecular Biology, Genetics and microbiology.

FEATURES

The unit records each pulsed colony count on the digital screen to a total of 999 counts.
Pressure to count can be made by any way (pencil, or pen tip etc.).
Epoxy coated casing. Reversible interior background part in white or black.
Steady, (glare free) fluorescent illumination,clear and wide view visibility.
Removable plates for housing varying sizes of Petri dishes.
Location for reversible contrast plates.
Magnifying glass X2 with adjustable height and rotation support

CONTROL PANEL

Mains switch.
Numerical digital display: 3 digits.
Audible confirmation beep for each count. Zero reset button. RESET.

MODEL

Part No.	Ø of magnifying glass cm	Magnification	Height / Width / Depth (exterior) cm	Power W	Weight Kg
4905000	12.5	2x	25 23 30	20	3.5

Supplied complete with Wolffhuegel disc.

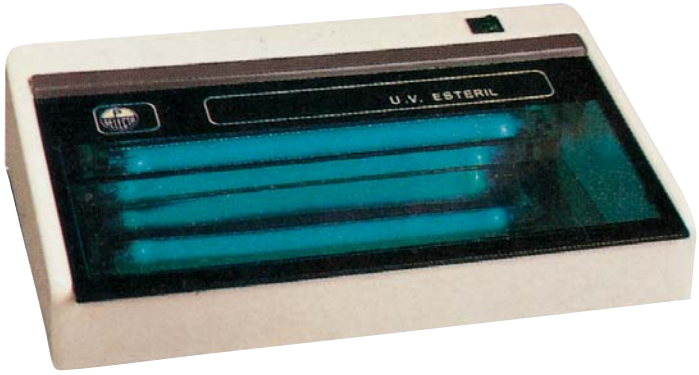
ACCESSORY
5 Wolffhuegel discs.
Part No. 4905001

Bench top ultraviolet radiation sterilizer

Fast destruction of germs by U.V. radiation based on the principle that albuminoid bodies absorb energy that which prevents germination and reproduction of the bacteria. Suitable for destroying: bacterias, virus, spores, yeast and mildew.

FEATURES

Main body made of expanded polystyrene, with a polished AISI 304 stainless steel tray that reflects the U.V radiation and a protective smoke coloured methacrylate top that allows the samples to be seen and at the same time, it is opaque to U.V. light.
U.V. Wave length: U.V. 2537 Angstroms.
U.V. lamp life span: 5000 hours approx.



CONTROL PANEL

Illuminated Mains switch.
To prevent accidental sight or skin damage a safety micro-switch that cuts off the power if the U.V. protective cover is removed.

MODEL

Part No.	Height/Width/Depth (interior) cm	Height/Width/Depth (exterior) cm	Power W	Weight Kg
3000416	7 to 9 50 20	17 57 38	15	7.5

SPARE
Germicidal tube. Part No. 0022113

Westergren sedimentation pipette support stand

Sedimentation tube support stand.
Made of AISI 304 stainless steel.
Supports pipettes with a replaceable vial type rubber plug. Easy to clean.
Sectioned, tilted, 45 °C front panel scribble board for notes.
Designed so that the tubes can be mounted only with one hand.
Part No.
1000093 Three Place.
1000096 Six place.
1000912 Twelve place.

HEATING MANTLES AND HOTPLATES

HEATING MANTLES

Two position heating	page	227
Heating mantles with digital electronic regulation	page	228
Heating mantels made with a double woven mineral wool	page	229
Banks of heating mantles for Kjeldahl and soxhlet	page	230
Flexible heatings	page	231

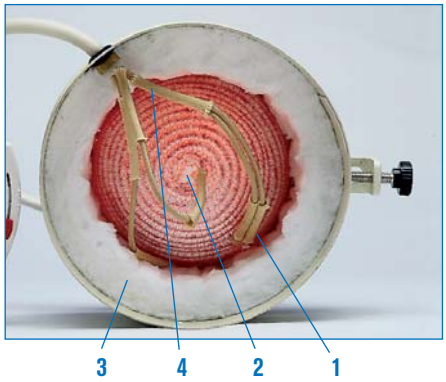
HOT PLATES

Ceramic top hotplates	page	232
Round hotplates	pages	233 to 234
Rectangular hotplates	pages	234 to 235
Bank of circular hotplates and for kjeldahl and soxhlet	page	236

"The first requisite for success is the ability to apply your physical and mental energies to one problem incessantly without growing weary."
Thomas Edison

HEATING MANTLES FOR FLASKS

SAFETY:
FOLLOWING CE STANDARDS, IN THE CASE OF LIQUID SPILLS AN EARTH WIRE IS WOVEN INTO THE MANTLE TO PREVENT ELECTRIC SHOCKS.



COMMON FEATURES

1. Hand woven mineral wool with flexible braiding, which adapts snugly around the flask, with drain hole, replaceable .
2. The heating element is distributed homogeneously throughout the mantle. Connectors and cables are protected by mineral fibre tubes. Efficient low power consumption of 1 w/cm^2. Maximum mantle temperature of 450 °C.
3. Double walled fibre wool thermally insulated casing.
4. Pure Nickel connection terminals protected by mineral fibre tubing that prevent the deterioration of the contact due to high temperature.

Support for retort bar.

APPLICATIONS

For digestion distillation, extraction, evaporation and boiling processes.

MODELS SELECTION SUMMARY TABLE

Capacity ml	Ø flask mm	Fibroman C 2 positions	Fibroman D Woven	Fibroman O Funnel hole	Agiman Woven	Fibroman HT-W Electronic regulator	Micro for Kjeldahl banks banks	No. Places	For Kjeldahl/Soxhlet banks	No. Places
100	65	3003141	–	–	–	3031470	6014204	4	–	–
100	65	–	–	–	–	–	6014206	6	–	–
250	83	3003142	3004192	–	3000447	3031471	–	–	–	–
500	102	3003145	3004195	–	3000448	3031472	–	–	6003294	4
500	102	–	–	–	–	–	–	–	6003296	6
1000	132	3031410	3041910	3049110	3000449	3031473	–	–	–	–
2000	164	3031420	3041920	3049120	3000450	3031474	–	–	–	–
3000	190	3031430	–	–	–	–	–	–	–	–
5000	222	3031450	–	3049150	–	–	–	–	–	–
6000	235	3031460	–	–	–	–	–	–	–	–
10000	290	3314100	–	3491100	–	–	–	–	–	–
20000	365	3314200	–	3491200	–	–	–	–	–	–

Heating mantle for flasks “Fibroman-C”

DUAL HEATING POWER.

With power heating switch selector

FEATURES

Two position isolated rocker switch heating control with power on indicator lamp.

TECHNICAL DESCRIPTION

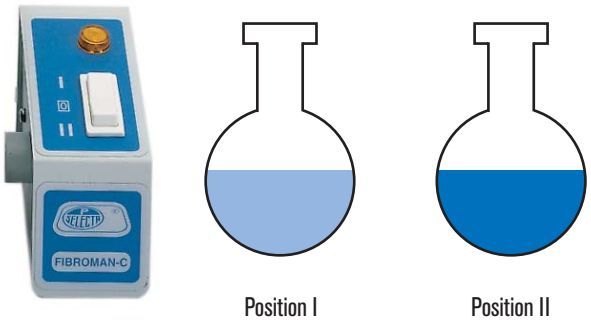
- DUR ALLOY aluminium exterior case with epoxy coating.
- Suspended mineral wool woven heating mantle.
- Heating element homogeneously distributed throughout the woven mantle.
- Thermally insulated case, mineral wool fibre insulation.
- Nickel connectors.
- Retort stand clamp at the back of the unit.
- To prevent breakage or spills a drain hole is provided at the bottom of the mantle.
- Safety earth connection.

MODELS

Part No.	Flask capacity ml	Flask Ø approx. mm	Ø / Height (exterior) cm		Power W	Weight Kg
3003141	100	65	16	11	130	1
3003142	250	83	18	11	130	1,1
3003145	500	102	20	12	270	1,2
3031410	1000	132	22	13,5	410	1,4
3031420	2000	170	26	14	530	2
3031430	3000	190	29	18	620	2,2
3031450	5000	222	33	19	840	3,2
3314100	10000	290	38	22	1400	4,7
3314200*	20000	365	48	26	2300	11

* The mantle part no. 3314200 supplied without the 2 position controller and switch.
See Accessories on (page 230) and Regulators and controllers (pages 293 and 294).

CROSS SECTION OF HEATED FLASKS



Position I
50% power output.

Position II
100% power output.

ACCESSORY

Support bar Dur-Aluminium of 12 Ø x 700 mm long.
Part No. 6000270

Heating mantles for flasks “Fibroman HT-W”

FOR ADJUSTABLE TEMPERATURES FROM AMBIENT +5 °C TO 400 °C.
STABILITY ±0,5 TO 1 °C ACCORDING TO TEMPERATURE.
ELECTRONIC REGULATION OF TEMPERATURE WITH DOUBLE SCREEN TO SHOW THE PRESENT TEMPERATURE AND THE PROGRAMMED ONE.

FEATURES

External case made of AISI 304 stainless steel.
Heating elements homogeneously distributed inside of the mineral wool woven and thermically insulated.
Pure nickel connection terminals.
Temperature control system by inner thermocouple.
TC probe connector included in the equipment for the liquid temperature control inside the flask.
Device to hold support bar.

CONTROL PANEL

On / Off switch.
Digital display indicating set and real temperature.
Heating operating led.
Push button ▲ increase temperature.
Push button ▼ decrease temperature.
Side: TC probe connector for the liquid real temperature.

Device that allows to hold the rod has supported.

MODELS

Part No.	Flask Capacity ml	Ø Flask mm	Height / Width / Depth (exterior) cm	Ø Lenght Sensor TC mm	Stability °C	Power W	Weight Kg
3031470	100	65 to 67	13 22 26	4 170	±0.5 to 1	130	1,5
3031471	250	83 to 87	13 26 29	4 170	±0.5 to 1	216	3
3031472	500	102 to 105	13 26 29	4 170	±0.5 to 1	220	3,5
3031473	1000	132 to 139	14 30 33	4 170	±0.5 to 1	530	4
3031474	2000	164 to 170	16 31 34	4 200	±0.5 to 1	650	5

Note: the heating mantles are supplied with TC probe connected to the case.

ACCESSORIES

Support bar Dur-Aluminium, 12 mm Ø x 700 mm long.
Part No. 6000270

Double bosshead.
Part No. 1000069

Spring clamp to hold thermometers.
Part No. 7000025

Clamp to support and hold condensers or other glassware.
Part No. 70001161

Heating mantle for flasks “Fibroman-D”

FEATURES
Soft mantle made with a double woven mineral wool. A mains switch and safety earth are also fitted. The mantle can be supported by a retort ring or tripod stand.

MODELS

Part No.	Flask capacity ml	Ø / Height (exterior) cm		Power W	Weight Kg
3004192	250	15	6.5	130	0.8
3004195	500	17	7	270	0.9
3041910	1000	20	8.5	410	1
3041920	2000	24	11	530	1.5

See accessories (page 230) and controller (pages 293 and 294).

ACCESSORIES

Retort Part No.	Tripod Ring Part No.	Mantle Part No.
7041921	7041922	3004192
7041951	7041952	3004195
7419101	7419102	3041910
7419201	7419202	3041920

Heating mantle for flasks and funnels “Fibroman-O”
WITH TRIPOD SUPPORT STAND.

APPLICATIONS
Suitable for round bottom flasks, decanting funnels and reaction flasks with a bottom drain.

FEATURES
- Woven mineral fibre mantle.
- Epoxy coated exterior.
- On/Off switch.
- Safety earth.

MODELS

Part No.	Flask capacity ml	Ø / Height (Exterior dims.) cm		Ø cm Bottom hole	Tripod Height cm	Power W	Weight Kg
3049110	1000	24	10.5	8	34	410	1.5
3049120	2000	28.5	12	8	36	530	2.5
3049150	5000	37.5	17.5	9	38	840	3.5
3491100	10000	43.5	20	9	43	1400	5
3491200	20000	48	25	12	36	2300	13

Due to its capacity the part no. 3491200, 20000 ml capacity is manufactured in a cylindrical case.
See accessories (page 230) and controller (pages 293 and 294).

Heating mantle for flasks
ADAPTABLE FOR THE “AGIMAN” STIRRER UNIT.

MODELS

Part No.	Flask capacity ml	Ø / Height (Exterior dims.) cm		Power W	Weight Kg
3000447	250	15	6.5	130	0.8
3000448	500	17	7	270	0.9
3000449	1000	20	8.5	410	1
3000450	2000	24	11	530	1.5

ACCESSORIES
Mantle magnetic stirrer “Agiman”. With interchangeable mantle adapters. Electronic control of stir speed (up to 1600 r.p.m.).
Connection at the back for an electronic contact thermometer “Sensoterm” or digital electronic regulator “Electemp-TFT”.
See controller (pages 293 and 294).
Part No. 7000446

Stirring mantle with adapter device.

Stirring mantle, complete.

Banks of heating mantles for digestion, Kjeldahl, Soxhlet extraction and round bottle flasks

CONTROLLABLE MANTLE TEMPERATURE UP TO 550 °C.

FEATURES

Independent heating control for each position.
2 height and angle adjustable bars to support condensers or other glassware for digestion or extraction.
External case made of AISI 304 stainless steel.
Safety earth strip fitted.

CONTROL PANEL

Temperature control with a pulsed energy regulator. An indicator lamp shows when the mantle is on.

MODELS

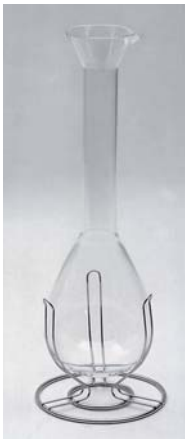
Part No.	For flasks	Flask volume ml	No. of places	Height / Width / Depth (exterior) cm			Power W	Weight Kg
6003294	Kjeldahl / Soxhlet	300-500	4	18	76	25	1500	12
6003296	Kjeldahl / Soxhlet	300-500	6	18	105	25	2200	16
6014204	Micro-Kjeldahl	100	4	16	59	21	510	9
6014206	Micro-Kjeldahl	100	6	16	81	21	900	12

Supplied with: 2 bars and 4 clamps for Kjeldahl/Soxhlet models.
1 bar and 2 clamps for Micro-Kjeldahl models.

ACCESSORIES (DIGESTION)

Fume extractor tube clips made of AISI 304 stainless steel.
Part No.
6000008 For bank of Macro-Kjeldahl.
6000009 For bank of Micro- Kieldahl

Borosilicate glass fume extractor tubes.
Part No.
1000104 For: Bank Macro-Kjeldahl, 4 positions.
1000106 For: Bank Macro-Kjeldahl, 6 positions.
1042044 For: Bank Micro-Kjeldahl, 4 positions.
1042066 For: Bank Micro-Kjeldahl, 6 positions.



Kjeldahl flask support made of AISI304 stainless steel. Flasks 300-500 ml.
Part No. 1000002

ACCESSORIES EXTRACTION

Double nut boss head.
Part No. 1000069

Clamp for holding condensers.
Part No. 7000403

EXTRACTION AND NEUTRALIZATION OF GASSES.

Reduces water wastage.

"Scrubber" **Re-circulation pump**

Designed to neutralize and absorb fumes generated in the Kjeldahl digestion process.
Composed of a "Scrubber unit" that blocks the passage and neutralizes the condensed acids, and a re-circulating water pump that produces sufficient vacuum to aspirate the vapours.
No mains water connection required. Prevents waste contamination.
Low noise level (<65dBA).
Re-circulating pump made from chemically resistant materials.
It is essential to put the " Scrubber" unit together with the neutralizer solution between the digestion block and the re-circulating pump.

"Scrubber" unit

Part No.	Height / Width / Depth (exterior) cm			Weight Kg
4001611	32	31	16	2

It is supplied with 3 Kg. acid vapours neutralizer solution.

Re-circulating water vacuum pump.

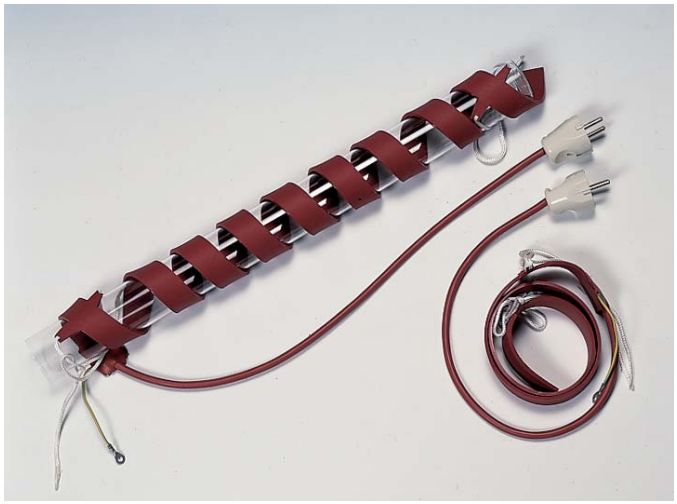
Part No.	Height / Width / Depth (exterior) cm			Vacuum level bar	Pump rate litre/minute	Weight Kg
4001612	44	39	28	0.98	10	10

Spare part

3 Kg. acid vapours neutralizer solution. **Part No.** 4001610

Heating tapes

HEATING TAPE SURFACE TEMPERATURE UP TO 210 °C. CONFORMS TO VDE EN 60335-A.



FEATURES

Heating elements distributed homogeneously between flexible moulded sheets of silicon.

APPLICATIONS

Used for heating small areas such as heating ducts for distillation, valves and pipes etc.

MODELS

Part No.	Length m	Width mm	Power W
3003178	0.80	25	180
3031710	1	25	210
3031715	1.5	25	265

Flexible heating cord

FEATURES

For tape surface temperatures up to 180 °C. Thermally insulated using flexible silicon tube.

APPLICATIONS

For heating small areas such as heating ducts, distillation, valves and pipes etc.

MODELS

Part No.	Length m	Ø Cord mm	Power W
1000781	1.5	3	45
1000782	3	3	90
1000783	6	3	180
1000784	12	3	360

Large surface area heating mats

MAT SURFACE TEMPERATURES UP TO 210 °C.
CONFORMS TO VDE STANDARD EN 60335-A.

FEATURES

The heating element is insulated and distributed homogeneously between two sheets of flexible moulded silicon.
Heating Power: 0.39 W cm^2.
Mat surface temperature up to 210 °C.
Held in place by hooked spring fittings.

APPLICATIONS

Suitable for heating drums up to 200 litres Ø 60 cm.
Total: 3 bands of 171 cm in length x 15 cm wide.
Power consumption 3000 W.
Part No. 4000200

ACCESSORIES

Controller (pages 293 and 294).

HOTPLATES

Ceramic top hotplates “Ceramic-plac”

ADJUSTABLE HOT PLATE TEMPERATURE UP TO 400 °C. MAXIMUM SUPPORTABLE WEIGHT: 40 KG.

SAFETY
CONFORMS TO THE EN 61010 STANDARD,OVER TEMPERATURE CUT-OUT FITTED.

Excellent resistance to chemicals.Unaffected by thermal shock

Model part no. 3000920

Model part no. 3000921

Model part no. 3000919

FEATURES AND ADVANTAGES

The “CERAMIC-PLAC” has the following features and advantages:
- Flat, smooth surface.
- Excellent resistance to chemical agents.
- High heating power within the heated area that permits extreme temperature within a short heat up time.
- Excellent thermal qualities and penetration of infrared radiation.
- Easy to clean.

FEATURES

- External case of AISI 304 stainless steel.
- Heating elements mounted on ceramic fibre thus making an insulated compact block.
- Temperature energy control from 6 % to 70 % of nominal power. (Model Part No. 3000919 and 3000920).
- Hydraulic thermostat temperature control up to 400 °C (Model Part No. 3000921).

MODELS

Part No.	Heating Zones	Heating area in cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg	Control system
3000919	1	18 Ø	10	28	33	1800	5.5	Energy controller
3000920	2	14 Ø + 14 x 14 ⊠	10	27	47	2200	7.5	With individual energy controllers for each zone
3000921	1	30 x 30 ⊠	10	49	49	3700	11	With hydraulic thermostat

Round Hotplates

HOTPLATE TEMPERATURE UP TO 400 °C. WITH 6 PLACE HEATING POWER CONTROLLER.

FEATURES

Cast steel plate with embedded heating elements throughout the plate surface.
Fast heating rate at maximum power setting.
Enamelled outer casing that is resistant to high temperatures and corrosive agents.

CONTROL PANEL

Controller 6 position power settings.

MODELS

Part No.	Plate Ø cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
1000718	12	8	20	20	1000	2.1
1000442	15	8	22	22	1600	3
1000443	19	8	26	26	2100	4.5

Hotplate - Circular "Selectemp"

ADJUSTABLE HOT PLATE TEMPERATURE FROM 45 °C TO 250 °C. STABILITY ±2 °C.

FEATURES

Temperature control using a thermostat located in the center of the plate.
Non warping steel plate with embedded heating element throughout the plate's surface.
Enamelled outer casing, resistant to high temperatures and corrosive agents.

CONTROL PANEL

Hydraulic thermostat temperature control synchronised with an indicator lamp.
12 levels regulable button.

MODEL

Part No.	Plate Ø cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
1000444	15	8	22	22	1500	3

ACCESSORY

Circular sand, oil or water bath made of AISI 304 stainless steel, suitable for the "Selectemp" hotplate. Dimensions 200 mm dia x 115 mm high.
Comes complete with a lid with concentric reduction rings.
Part No. 7000008

Hotplate double circular "Duplac"

FOR PLATE TEMPERATURES UP TO 400 °C.

FEATURES

Hot plate with non warping cast steel plate with embedded heating elements throughout the hot plate surface.
Independent plate temperature control is maintained by pulsed energy controllers.
The exterior is epoxy covered steel.

CONTROL PANEL

Two temperature energy controllers.
Two indicator lamps function when the heaters are on.

MODEL

Part No.	Plate Ø cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4000634	19	15	47	24	1900	8.5

Hotplate-Rectangular "Combiplac"

PLATE TEMPERAURE ADJUSTABLE UP TO 400 °C.

FEATURES

Electronic energy temperature control.
The non warping steel hotplate has heating elements embedded throughout the hotplate surface maintaining the heat distribution.
The main case is made of AISI 304 stainless steel.

CONTROL PANEL

Main power switch with "ON" indicator lamp.
Electronic energy control from 0 to 100 %.
An indicator lamp shows when the unit is hot.
Connector at the back for the external digital thermometer, "Sensoterm" or "Electemp-TFT".
See Regulators and Controllers (pages 286 and 287).

MODELS

Part No.	Width / Depth (plate) cm		Height / Width / Depth (exterior) cm			Power W	Weight Kg
3000156	20	40	12	22	55	2300	9
3000718	30	30	13	33	46	2800	13

ACCESSORIES

Sand bath adapters. Made entirely of AISI 310 stainless steel, removable for easy cleaning.

Part No.	Hotplate Part No.	Height/Width/Depth (Sand tray dims) cm		
6000719	3000156	5.5	20	40
6000720	3000718	5.5	31	31

Hotplate-Circular "Combiplac"

PLATE TEMPERATURE ADJUSTABLE UP TO 400 °C.

FEATURES

Electronic energy controller and embedded heating element throughout the non warping steel hotplate surface.
A retort bar can be located in a hole at the back of the unit.
The main case is made of AISI 304 stainless steel.

CONTROL PANEL

Main power switch with "ON" indicator lamp.
Temperature controlled by a 0 - 100 % energy controller.
A lamp indicates when the hot plate is "ON".
A Thermometer "Sensoterm" or "Electemp-TFT" that can be added and are listed as accessories.
See section Regulators and Controllers (pages 293 and 294).

MODELS

Part No.	Plate Ø cm	Height / Width / Depth (exterior) cm			Power W	Weight Kg
3002301	12	10	16	27	550	2
3002302	19	13	21	30	950	3

ACCESSORIES

Suitable for the 12 cm Ø hotplates only Part No.3002301:

Bath of AISI 304 stainless steel of 140 mm Ø x 75mm high, with concentric reduction ring lid, Suitable for water, oil or sand. Part No. 7002510

Round bottom flask adapter made of aluminium and suitable for Kjeldahl flasks of 50 to 100 ml and 50 to 100 ml round bottom flasks. Part No. 1002290

Round bottom flask adapter made of aluminium and suitable for Kjeldahl flasks of 300 to 800 ml and round bottom flasks of 250 to 500 ml. Part No. 1002280

Support rod of 12mm Ø and 500 mm high, fits on to the main body of the hotplate. Suitable for the circular Combiplacs 3002301 and 3002302.
Part No.1000725

Electronic contact thermometers with digital readout "Sensoterm".
With Pt100 sensor with stainless steel AISI 304 sheath.
Part No. 1001009
Features. See Regulators and Controllers (pages 293 and 294).

Electronic temperature controller "Electemp-TFT"

Part No.	Height / Width / Depth (exterior) cm			Max power (at 230 V) W	Weight Kg
3000897	10.5	13.5	21	3100	1.250

Features. See Regulators and Controllers (pages 293 and 294).

Rectangular precision hotplate “Plactronic”

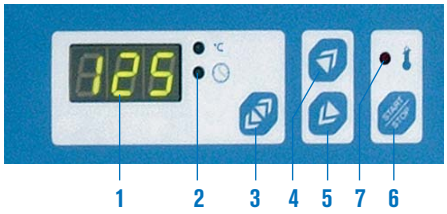
ADJUSTABLE TEMPERATURE FROM AMBIENT +5 UP TO 200 °C STABILITY ±0.5 °C.
WITH ELECTRONIC DIGITAL TEMPERATURE AND TIME CONTROL DISPLAY.
SUITABLE FOR THERMAL TESTS (NOT SUITABLE FOR BOILING TESTS).
SURFACE PLATE COATED WITH P.T.F.E. FOR PROTECTION AGAINST CHEMICALS.

FEATURES

Digitalelectronic temperature and timer control. and Digital display (3 digits).
Display resolution: 1°C.
Temperature probe Pt 100.
DUR aluminium alloy hotplate’s coated with P.T.F.E., with heating elements embedded in the plate surface.
Main case, heater element and protective grill, made of AISI 304 stainless steel.

SAFETY:
CONFORMS TO EN61010. OVER TEMPERATURE SAFETY CUTOUT FITTED.

Maximum precision



CONTROL PANEL

1. Digital display of temperature and time.
2. Indicator lamp to show the parameters (temperature or time).
3. Push button to select visualised parameter.
4. Push button to increase parameter value.
5. Push button to decrease parameter value.
6. Push button start and stop.
7. Indicator alarm if the plate is over temperature.

MODELS

Part No.	Width / Depth (plate) cm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
6155100	24 24	13 25 42	700	7.5
6156100	20 40	13 22 57	800	8
6157100	25 60	13 27 77	1000	16.5

Rectangular hotplate “Placfin”

ADJUSTABLE HOT PLATE TEMPERATURE
FROM AMBIENT +5 °C UP TO 130 °C. STABILITY ±3 °C.
SUITABLE FOR THERMAL TESTS (BUT NOT BOILING).

FEATURES

Temperature control by a hydraulic thermostat.
Protected thermometer from 0 °C to 130 °C.
Hotplate surface protected by chemically treated aluminium, with heating elements distributed throughout the hotplate’s surface.
Enamelled external case, resistant against corrosive chemicals.

CONTROL PANEL

Hydraulic thermostat control, synchronised with an indicator lamp when in operation.

MODEL

Part No.	Width / Depth (plate) cm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
7000497	23 22	11 22 30	400	3.7

ACCESSORY

Slide support adapter made of AISI 304 stainless steel. Capacity: up to 18 slide of 76 x 255 mm (in a horizontal position).
Part No. 7000498

Bank of circular hotplates "Uniplac"

ADJUSTABLE TEMPERATURE HOTPLATE UP TO 400 °C. SUITABLE FOR KJELDAHL DIGESTION ASSAYS AND SOXHLET EXTRACTION.

FEATURES

Independent hotplate control using pulsed energy regulators.
Cast steel hotplates with embedded heating elements distributed throughout the hotplate's surface.
Adjustable height and angle stand bars for supporting condensers and other glassware etc.
External case made of AISI 304 stainless steel.

CONTROL PANEL

Independent temperature control for each position.
- Temperature control by pulsed energy regulators.
- Indicator lamps showing when the hotplate is on.

MODELS

Part No.	No. of places	Plate Ø cm	Height / Width / Depth (exterior) cm	Power W	Weight Kg
6002314	4	12	23 77 27	2200	15
6002316	6	12	23 105 27	3300	22

ACCESSORIES

Bath of AISI 304 stainless steel of 140 mm Ø x 75mm high, with concentric reduction ring lid, Suitable for water, oil or sand.
Part No. 7002510

Round bottom flask adapter made of aluminium and suitable for Kjeldahl flasks of 50 to 100 ml and 50 to 100 ml round bottom flasks.
Part No. 1002290

Round bottom flask adapter made of aluminium and suitable for Kjeldahl flasks of 300 to 800 ml and round bottom flasks of 250 to 500 ml.
Part No. 1002280

ACCESSORIES FOR KJELDAHL DIGESTION

Kjeldahl support Bar for Kjeldahl flasks, made of AISI 304 stainless steel.
Part No. 6023141 4 places
Part No. 6023161 6 places

Clamp for Kjeldahl condenser tubes made of AISI 304 stainless steel.
Part No. 6000008

Borosilicate glass fume tube.
Part No. 1000104 4 place
Part No. 1000106 6 place

EXTRACTION AND NEUTRALIZING SYSTEM FOR GASSES AND VAPOURS.

Prevents water wastage.

"Scrubber" **Recirculating pump.**

Features (see page 251).

Models

Unit "Scrubber"

Part No.	Height / Width / Depth (exterior) cm	Weight Kg
4001611	32 31 16	2

It is supplied with 3 Kg. acid vapours neutralizer solution.

Water recirculating vacuum pump

Part No.	Height / Width / Depth (exterior) cm	Vacuum level bar	Vacuum pump rate litres/minute	Weight Kg
4001612	44 39 28	0.98	10	10

ACCESSORIES SOXHLET EXTRACTION

Boss head for supporting clamps.
Part No. 1000069

Clamp for flasks or condenser tubes.
Part No. 7000403

ANALYTICAL TECHNIQUES

Thermocycler for thermal cycles	**page**	**238**
Spectrophotometers	**pages**	**239 to 242**
Colorimeters	**pages**	**243**
Microtiter strip reader and water quality meter	**page**	**244**
Microplate reader and washer	**page**	**245**
pH-meters	**pages**	**246 to 247**
Conductivity meter	**page**	**248**

"As long as men are free to ask what they must, free to say what they think, free to think what they will, freedom can never be lost and science can never regress. "
Julius Oppenheimer

Thermocycler for thermal cycles “B960”

WITH FOUR ADAPTER MODULES FOR 0.2ML VIALS, 0.5ML VIALS AND WELLS.
ADJUSTABLE TEMPERATURES FROM 0ºC TO 99 ºC.

Advanced technology. Peltier effect.

APPLICATIONS

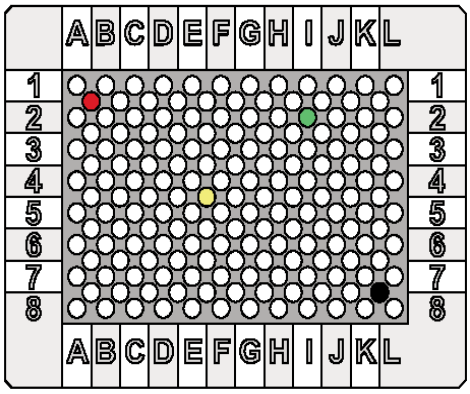
It is used in molecular biology to amplify DNA via a method based in the polymerase chain reaction process.

BASIC PRINCIPLE

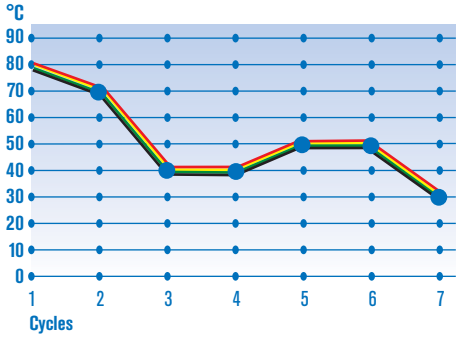
The equipment performs a certain quantity of thermal cycles depending on the method used and repeat them many times for a while, and at the end, the initial DNA fragment Fiber have been replicated thousands times.
For a better process output, changes between temperature levels must be made with minimum time. With thermocycler K96, the cycle temperature can be reached in seconds, even if beginning from remote positions of the last set point. These changes take place by keeping a perfect uniformity between different block points.
The system can also be programmed to produce a linear gradient of temperature widthways the block. This achieves that the highest level of productivity points of the process is optimized and located.

FEATURES

The thermocycler is composed of an inner lid system with heater and with adjustable height in order to perfectly adapt to the samples size. This prevents condensations in the upper side of the samples.
The equipment is based on a heat bomb controlled by continuous electric current and composed by several thermo electrical modules of Peltier effect, a low thermal resistance radiator and a fan convention system.
As it is integrated in the same block, this system allows increasing the process output and also fast transferring and extracting the block’s temperature, going from the highest temperature level to the lowest in a minimum time.
The powerful control microprocessor allows monitoring the point where the process is at any moment, and showing it on the screen with real-time graphic images.
There is a useful elaborated software for processes organization, accessible by means of the keyboard and a high resolution LCD screen.



384 wells block, with red, yellow, green and black identification in diferent positions.



Graphic detail that shows temperature perfect uniformity in the different block wells, distinguished by different colours: red, yellow, green, black. It also shows how uniformity is maintained during all the thermal cycle periods, previously programmed in the display.

INTERCHANGEABLE BLOCKS

Each block incorporates a connector that identifies it and allows the thermocycler to recognize it. There’s also an extractor handle which makes easy the block support use.

Thermal cycler door open with a heater system on the back side of the door to avoid condensations.

TECHNICAL SPECIFICATIONS

Temperature range: 0ºC to 99ºC.
Durability: 99min. 99sec.
Warming-up speed: 4ºC/sec.
Cooling down speed: 4ºC/sec.
Uniformity: At 95ºC ±0.4ºC.
From 20ºC to 75ºC ±0.2ºC.
Precision: ±0.2ºC.
Programmed gradient: From 2ºC to 30ºC according to the program.
Temperature range gradient: 30-99 ºC.
Heater lid: From 70 to 115ºC according to the program.
Max. cycles number: 299.
Stored programs: Up to 1000.
Graphic display of 14.5cm, 320x240 pixels.
USB 2.0, LAN and RS232 output.

CONTROL PANEL

START switch.
Interactive graphic display.
Numeric and functions keyboard.
Height levelling control of the inner lid.

MODEL

Part No.	Height / Width / Depth (exterior) cm	Power supply	Power W	Weight Kg
5109000	25 27 38	220V/50-60Hz	780	7,8

ACCESSORIES

Interchangeable modules:

A. 96 vials of 0,2 ml. Code: 5109001
B. 54 vials of 0,5 m.l Code: 5109002
C. 96 vials of 0,2 ml + 77 vials of 0,5 ml. Code: 5109003
D. 384 wells Code: 5109004

Visible range spectrophotometers “V-1100” and “VR-2000”

“V-1100” MODEL WITH MANUAL WAVELENGTH SETTINGS AND AUTOMATIC BLANK.
“VR-2000” MODEL WITH AUTOMATIC WAVELENGTH SETTINGS AND BLANK.

“V-1100” Part no. 4120025

“VR-2000” Part no. 4120026

APPLICATIONS

They are widely used in colleges and enterprises for general quantitatives analysis and experiments based in absorbance measurements.

COMMON FEATURES

High quality silicon photometric diode detector and **1200 lines/mm** diffraction grating ensure the high quality accuracy and precision.
Digital display for an easy readout.
Automatic zero and blank (easy to use). Easy switching of transmittance, absorbance and concentration modes, just by pressing one key.
Large sample compartment, which can accommodate 5 to 100mm path length cuvettes with optional holders.
Its pre-aligned design makes it possible to change the halogen lamps by the user himself.

Optional:
Optional software based on Windows® which can expand the applications to standardcCurve and kinetics.

V-1100 MODEL

Easy of use.
Ergonomic and solid design for a continuous suitable use, for students and workers.

VR-2000 MODEL

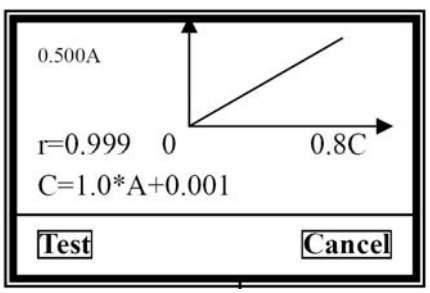
Large LCD screen (128x64bits).
It can display a total of 50 groups of data (3 groups per screen).
It can display standard curve and kinetics curve graphic.
The system can also save the test results.
A total of 50 data groups and 10 standard curves can be saved in the RAM memory.
At most 9 standard samples can be used to establish a standard curve.
The curve and the curve equation will be displayed simultaneously on the screen.The unknown concentration solutions, can be measured by the curve.
If one knows the coefficient **k** and **b** of the formula: **C=kA+b**, one can input the value directly.
Data is stored in the memory in case of power cut.

ACCSESORIES

(see page 241).

MODEL	V-1100	VR-2000
Part No.	4120025	4120026
Wavelength range	325-1000 nm	
Spectral bandwidth	5 nm	4 nm
Optical system	Single beam, diffraction grating 1200 lines/mm	
Wavelength adjustment	Manual	Automatic
Wavelength accuracy	±2 nm	±1 nm
Wavelength repeatability	1 nm	0,5 nm
Photometric accuracy	±0,3% T	±0,5% T
Photometric repeatability	±0,3% T	
Photometric range	-0,3-3 A, 0-200% T. 0-9999 Concentration	
Stray light	0,5% T	0,3% T
Stability	± 0,004 A/h @ 500 nm	± 0,002 A/h @ 500 nm
LCD Display	3,5 Digits	128x64 pixels
Detector	Silicon	
Sample compartment	10 mm path length standard cuvette (100mm optional)	
Light source	Tungsten lamp	
Output	USB, Parallel port (printer)	
Mains supply	220 V / 50Hz AC or 110 V / 60 Hz AC	
External dimensions (HxWxD)	160 x 480 x 360 mm	180 x 470 x 370 mm
Weight (Kg)	8	12

SPARE	V-1100	VR-2000
Halogen lamp (visible)	4312004	4312007



Graphic display visualized detail of a regression line for concentration calculation. (VR-2000)

Ultraviolet and visible range spectrophotometers “UV-2005” and “UV-3100”

AUTOMATIC WALVELENGTH POSITIONING AND BLANK SETTING

“UV-2005” Part no. 4120020

“UV-3100” Part no 4120021

APPLICATIONS

Suitable for pharmaceutical and biochemical laboratories, kinetics, quantitative analysis, wavelength scanning, multiple components and DNA/protein analysis.

COMMON FEATURES

Spectrophotometers UV-2005 and UV-3100 have been developed for accurate tests; Its stray light is only of 0.05% T. They are flexible, easy-to-use and maximize value. Value is provided from every day perfomance. The independent local software provides the following functions: Basic Mode, Quantitative Test, Kinetics and System Utilities.
Data is stored in the memory in case of power cut.
The Special application software provides a complete control of the spectrophotometer from a PC, through the built-in USB port.
Wavelength scanning models can be upgraded when connected to the PC via the special software based in Windows®.
Automatic wavelength settings.
Halogen and deuterium lamps can be switch on/off individually to extend lamp lifetime.
Its pre-aligned design makes it possible to change lamps for the user himself.
Large sample compartment for 5-100mm path length cuvettes, with optional holders.
A wide range of optional accessories can also be selected.

UV-2005 MODEL

Large LCD screen (128x64bits).
It can display a total of 200 groups of data (5 groups per screen).
It can display standard curve and kinetics curve graphic.
The system can also save the test results.
A total of 200 data groups and 200 standard curves can be saved in the RAM memory.

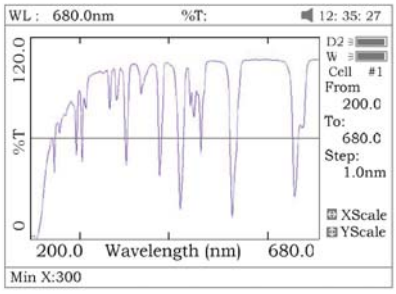
UV-3100 MODEL

Absorbance, transmittance and concentration measurements.
It establishes or uses stored calibration equations to measure solutions of unknown concentration.
Spectrum scan of sample at any selected wavelength range with choice of scanning speed and wavelength interval.
Measurement of absorbance changing versus time with reaction rate calculation function.
Measurement at multiple wavelengths to analyse and determine the composition of the mixtures.
Calculation of concentration and DNA purity.
Note: ratio at other wavelengths can be measured.

ACCSESORIES

(see page 241).

MODELS	UV-2005	UV-3100
Part No.	4120020	4120021
Wavelength range	190-1100 nm	
Spectral bandwidth	2 nm	
Optical system	Single beam, diffraction grating 1200 lines/nm	
Wavelength accuracy	±0,5 nm	
Wavelength repeatability	0,3 nm	
Photometric accuracy	±0,3% T	
Photometric repeatability	±0,2% T	
Photometric range	-0,3-3 A, 0-200% T. 0-9999 Concentration	
Stray light	0,05% T @220 nm, 340 nm	
Stability	± 0,002 A/h @ 500 nm	
LCD Display	Graphic(128x64)	Graphic(320x240)
Scanning velocity	-	High,Med, Low.Max 3000 nm/min.
Uniformity	-	± 0,002 A (200-1000nm)
Sample compartment	10mm path length standard cuvette (100mm optional)	
Light source	Halogen and deuterium lamps (pre-aligned)	
Output	USB, parallel port (printer)	
Power requirements	220 V / 50Hz AC or 110 V / 60 Hz AC	
External dimensions(HxWxD)	180 x 470 x 370 mm	160 x 480 x 360 mm
Weight (Kg)	14	16



Graphic display visualized detail of holmium crystal scanning, from a UV3100 spectrophotometer.

SPARE PARTS	UV-2005	UV-3100
Halogen lamp (visible)	4312007	
Deuterium lamp (UV)	4312006	

ACCESSORIES

Thermostatted flow Peltier cuvette holder.
Temperature range: from 15 ºC. to 40 ºC. in steps of 0.1 ºC (ambient temperature ± 22ºC.)
Precision: ± 0,2 ºC.
Sample suction volume: 1, 2, 3, 4, 5, 7.5, 10, 12.5, y 15 ml/min.
LCD Display: 128x64 pixels.

Model

Part No.	Height / Width / Depth (controller) cm	Height / Width / Depth (cuvette holder) cm	Power W	Weight Kg
4120018	11,5 27 17	10 12 7	30	3,5

Cuvette holder
For long cuvettes, pathlength between 1 and 50 nm. Part No. 4120030
For path leength100 mm. cuvettes. Part No. 4120031

Part No.4120030

Part No. 4120031

Part No. 4120032

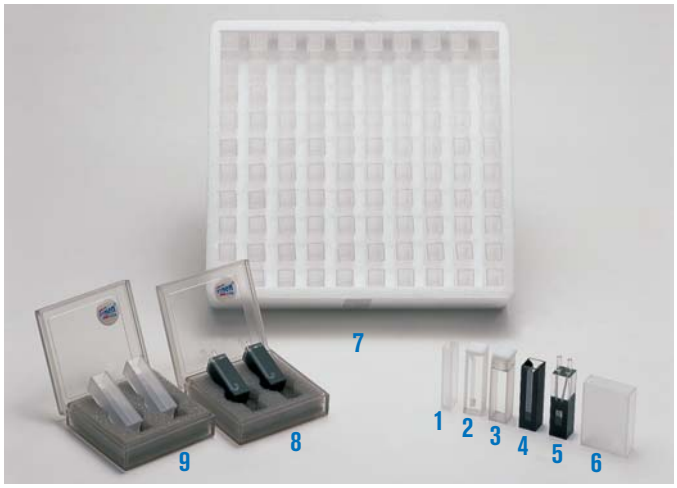
Test tubes holder
For tubes from 10 to 20 mm. Ø Part No. 4120032

Ink printer (not thermal). Paper 2 1/4" (56 mm) wide roll. Includes power transformer and interface cables. (5V-3A)

Model

Part No.	Height / Width / Depth cm	Weight Kg
4120117	4 16 10	1

Cuvettes for Spectroscopy



FEATURES

Range of polystyrene, glass and quartz cuvettes.
Standard size pathlength 10mm x 45mm high.
Special cuvette pathlength 40mm x 45 mm high (fig 6).
Special cuvette pathlength 4mm x 45 mm high (fig 1).

MODELS

Standard cuvettes

Part No.	Figure	Material	Optical path length	Description	Presentation
5100020	9	Quartz	10 mm	Standard square, "macro"	Pack of 2 units
5100021	9	Glass	10 mm	Standard square, "macro"	Pack of 2 units
5100022	7	Polystyrene	10 mm	Standard square, "macro", disposable	Box of 100 units
5100025	8	Glass	10 mm	Flow through cell, square "micro"	Pack of 2 units

Special cuvettes

Part No.	Figure	Material	Optical path length	Description	Presentation
5100014	6	Glass	40 mm	Rectangular	Pack of 1 unit
5100015	5	Glass	10 mm	Flow through cell. Window 5 x 10 mm	Pack of 1 unit
5100016	4	Glass	10 mm	Standard square, "micro"	Pack of 1 unit
5100017	3	Glass	10 mm	Standard square, "macro" with round lid	Pack of 1 unit
5100018	2	Quartz	10 mm	Semi-micro	Pack of 2 units
5100019	2	Glass	10 mm	Semi-micro	Pack of 2 units
5100023	7	Polystyrene	10 mm	Square Semi-Micro, disposable	Box of 100 units
5100024	1	Glass	5 mm	Square Semi-Micro	Pack of 1 unit

Double Beam Spectrophotometer "UV-2300 II"

BAND WIDTH 1.5 nm. TOTAL STABILITY DOUBLE BEAM OPTICS.
AUTOMATIC WAVELENGTH CORRECTION CALIBRATION.
USB PORT FOR DATA STORAGE.
WIDE RANGE OF ACCESSORIES.

RS232

NEW DESIGN

APPLICATIONS

Research, chemistry, biotechnology, general spectroscopy analysis applications, environmental applications.

FEATURES

Monochromator high resolution optics that eliminate any optical aberrations, monochromator "Seya-Namioka", manufacturer of exclusive beam technologies and diffraction gratings in Japan.

Bandwidth 1.5 nm in accordance with European pharmacopoeia recommendations. (the relation between the maximum and minimum absorbence in Toluene and Hexane at 0.02% (V/V) should be more than 1.5T).

Several modes of operation including spectral scanning, time base scanning, multi wavelength determinations, peak and trough detection, etc.

Fast spectra scan displayed on a screen covering the whole spectral range: quick scan 3600 nm/minute, range 190 to 1100 nm

Validation function for GLP/GMP:
This function maintains and assures the optimum working parameters of the instrument. Parameter such as the wavelength precision and noise are monitored.

Memory facilities of analytical results:
The analytical parameters and results can be stored in the "flash" memory, connected by the USB. The stored information can be stored as text and can be transferred to a computer for reporting using MS WORD/EXCELL.

A DNA/RNA function is fitted to quantify the ratio at 260/280 nm.

Controllable from a computer with application specific optional software: **"UV-Analyst Spectrum"**, (see accessories).

USB port. "Flash" memory not included.

Constant temperature 6 place cell changer, 10mm cuvettes, ideal for Kinetics. Part No. 5110029

SPECIFICATIONS

Optical system:	Double beam optics.
Wavelength range	190 nm to 1100 nm.
Band pass:	1.5 nm
ABS range:	-2.000 to 3.000 A or 0 to 300% T.
Stray light:	less than 0.05% (220 nm NaI, 340 nm $NaNO_2$).
Scan speed:	10, 100, 200, 400, 800, 1200, 2400 and 3600 nm/minute.
Wavelength accuracy:	±0.3 nm.
Photometric accuracy:	± 0.002 A from 0 to 0.5 A. ± 0.004 A from 0.5 to 1.0 A.
Baseline stability:	0.003A/hr (500 nm after 2 hours of use.).
Noise level:	0.003 A (at 500 nm).
Light source:	Deuterium D2 and Halogen lamps.
Built in screen:	LCD back light of 190 x 138 mm.
Connections:	RS232 and parallel port.

MODEL	Part No.	Height / Width / Depth cm			Voltage	Weight Kg
UV-2300 II	5110020	25	50	56	110-220V / 50-60Hz	28

SPARES

Tungsten halogen lamp.
Part No. 5110021

Deuterium lamp (UV).
Part No. 5110022

ACCESSORIES

Part No. 5110023 Flow cell 10 mm path length.
Part No. 5110024 Constant temperature single cell holder for 10mm flow cell.
Part No. 5110025 Micro cell holder for 10mm (50 µl) cell.
Part No. 5110026 Long path length cell holder for 100mm cells.
Part No. 5110027 5 Position cell changer for 10mm cuvettes.
Part No. 5110028 Constant temperature cell holder for 10mm cuvettes
Part No. 5110029 6 place constant temperature cell changer for 10mm cuvettes.
Part No. 5110033 **Software UV-Analyst Spectrum.** Simple and logical, enhanced software for multiple applications and results and manipulation of data, calculation such as DNA/RNA ratios.

Semi Automatic clinical analyser "Photometer S-2000"

LOW PROFILE FUNCTIONAL CLINICAL ANALYSER.

APPLICATIONS

Clinical laboratories, Clinical Biochemistry, Haematology, E.I.A. Electrolytes and Ions.

FEATURES

47 most commonly used Pre-programmed clinical methods: cholesterol, glucose, blood iron, LHD, AST, UREA etc.
Storage for up to 134 methods and up to 1000 stored results.
6 analytical fitting routines: final point, bio-chromatic, regression fit, multi-standard curve, best fit and kinetics.
Graphic display LCD (640 x 240 pixels, 256 colours).
Lamp life save function.
Graphic display.
Quality control of analysis function.
Built in printer.
Control by "roller ball mouse" or "external mouse."
Temperature conditions: 15 °C to 32 °C: Maximum humidity 85%
RS232 out put interface.

SPECIFICATIONS

Solid state photodiode detector.
Bichromatic optical system with 7 filters, 340, 405, 500, 546, 578, 620 and 670 nm.
Band pass: 10 nm.
Flow cell: 30 ul.
Measuring range: from 0.000 to 2.500 ABS.
Resolution: display 0.001 ABS, calculations to 0.0001ABS.
Thermostatted Peltier cuvette holder: 25, 30 and 37 °C Precision ±0.1 °C.
Tungsten halogen lamp of 6V 10 W.
Comes complete with protective cover, spare lamp and two rolls of printer paper.

MODEL

Part No.	Height / Width / Depth cm			Power rating	Power W	Weight Kg
4120010	14	45	33	110-220V/50-60Hz	150	10

ACCESSORY

Metallic thermostat dry block "BIO-BATH"

Small size with a fixed temperature of 37 °C with check thermometer, 8 tube positions for 75x13 VAC tubes.
Note: Accelerates the extraction of plasma for faster results and waiting time for the patient.

MODEL

Part No.	Height / Width / Depht (exterior) cm			Stability °C	Power W	Weight Kg
7001561	8.8	9.6	7	0.5	8	0.5

SPARE. Halogen lamp 6 V 10 W. Part No. 4312015

Digital colorimeter "Clormic"

MICROPROCESSOR CONTROLLED.
AUTOMATIC ZERO ABSORBANCE AND 100% TRANSMITTANCE.
ALPHANUMERIC 20 CHARACTER 2 LINE L.C.D. DISPLAY.

APPLICATIONS

Chemistry Laboratory, quality control, environmental control.

FEATURES

Wavelength range: 400 to 800 nm, by using special filters with a 30 nm band pass.
12 position Filter disc wheel selection .
Standard filters: 420, 440, 490, 520, 550, 580, 620 and 680 nm.
Expanded Absorption range: -0.3 to 3.5 O.D. in real time.
Transmission: 0 to 100 T %.
Photometric accuracy: >1 %.
Photometric precision: ±1 %.
Photometric stability: 0.004 A/hr.
Light source: Long life tungsten lamp.
Detector: Solid state.
Sample chamber: 10 mm cuvettes or test tubes of 12 and 16 mm Ø.
Minimum volume: 1 ml.
Display: Alphanumeric LCD display of 2 lines of 20 characters.
Calculation functions: Transmission T %. Absorbence, Concentration by factor or standard concentrations.
Calibration: Self adjusting by software.
RS-232 interface.

CONTROL PANEL

ON/OFF switch.
Interactive LCD display.
Numeric and function keypad.

MODEL

Part No.	Built in printer	Height / Width / Depth cm			Power W	Weight Kg
4120009	NO	11	18	28	10	4.5

SPARE

Lamp of 6 V / 6 mm.
Part No. 4512009

Microtiter Strip Reader "Reader M-2000"

STORAGE MEMORY FOR UP TO 59 METHODES INCLUDING: FACTORS, STANDARDS OR CALIBRATION CURVES WITH UP TO 10 STANDARDS. ADDITIONAL CALCULATION FEATURES.

RS232

APPLICATIONS

Clinical diagnostics, E.I.A., Veterinary, quality control.

FEATURES

Spectral range: 400 to 700 nm, using interference filters of 10 nm band pass.
Supplied complete with a filter of 450 nm (other wavelengths available consult for options.)
Measuring range: -0.2 to 3.5 O.D.
Photometric accuracy: >1%.
Photometric precision: ±1%.
Light source: Long life LED.
Detector: solid state.
59 method memories.
Curve point editing feature.
Software: ABS. Concentration and polynomial curve fitting with up to 10 standards.
RS-232 output to connect a printer or to a PC.
Interface RS-232.

MODEL

Part No.	Height / Width / Depth cm			Power W	Weight Kg
4120013	11	18	28	7	2

ACCESSORY

Ink printer (not thermal). Paper 2 1/4" (56 mm) wide roll. Interface RS232. Includes power transformer and interface cables. (5V-3A)

Model

Part No.	Height / Width / Depth cm			Weight Kg
4120113	4	16	10	1

SPARE

Lamp of 4 mm Ø 5 V.
Part No. 4313030

Multi-parameter water quality meter "MP-2006"

LARGE TOUCH SCREEN. TO MEASURE PH, ORP, CONDUCTIVITY, TDS, SALINITY, DISSOLVED OXYGEN, IONS & TEMPERATURE

NEW

USB

RS232

FEATURES

5.7 inches touch screen.
Capacity to store up to 2200 sets of data. GLP method. Possibility of storing, printing and deleting measuring data. USB and RS-232 ports for PC connection.
Measuring modes: continuous, timing and balance measuring modes.

TECHNICAL DATA

	Range	Accuracy	Resolution
pH:	-2 to +19,999	±0,002 FS	0,001
ORP:	±1999,99 mV	±0,03 FS	0,01 mV
Conductivity:	0,001 µS to +199,9mS	±0,5 FS	0,001µS
TDS:	0,000 mg/L to 19.99g/L	±0,5 FS	0,001 mg/L
Salinity:	(0,0 to 8,00)%	±0,1%	0,1%
Dissolved oxygen:	0,00 to 19.99 mg/L	±0,5 mg/L	0,01 mg/L
Ions:	0 to 19990(ug/L, mol/L)	±0,5%	±1
T[a]:	-0,5 to +135	±0,5 FS	0,1

MODEL

Code	Height / Width / Depth cm			Power	Weight Kg
4120700	29	20	7	230V/50-60Hz	1

ACCESSORIES

Standard electrodes of pH, conductivity and temperature. See page 247.
Special electrodes:

Code	Electrode type	Working temperature	Body material	Measure mm
4120183	Platinum	0-50°	Glass	Ø 12 x 120
4120184	Platinum-2	0-50°	Glass	Ø 12 x 120
4120185	Antimony	0-50°	ABS	Ø 12 x 120
4120186	Tungsten	0-50°	Glass	Ø 12 x 120
4120187	Silver	0-50°	ABS	Ø 12 x 120

Code	Electrode type	Working temperature	Body material	Measure mm
4120189	Calcium	5-60°	Glass	Ø 12 x 120
4120190	Nitrate	5-60°	Glass	Ø 12 x 120
4120191	Copper	5-60°	Glass	Ø 12 x 120
4120192	Chloride	5-60°	Glass	Ø 12 x 120
4120193	Oxygen	5-40°	ABS	Ø 12 x 120
4120194	Reference	5-55°	Glass	Ø 12 x 120

Microplate reader 2100-C

TOTALLY AUTOMATIC TOUCH SCREEN CONTROL.

APPLICATIONS

Clinical diagnostics. Quality control in food analysis, Haematology.

FEATURES

Bi-chromatic optical system with 4 wavelength selection:
405, 450, 492, 630 nm, (other filters from 405 to 700nm available).
Memory for up to 500 programs, 10000 sample results and 1000 patients.
Patient data software, laboratory personnel and analysis reports.
100 typical analysis methods pre programmed.
Capable of performing up to 12 different tests per plate.
Calculations: ABS, Cut-Off, Curve fitting: regression, linear, logarithmic, exponential and potential.
Measuring absorbance range: 0-2.5A
Displayed absorbance range: 0-3.5A
Accuracy:±1.0% or ±0.007 A.
Precision: ±0.5% or ±0.005 A.
Linearity: r > 0.995.
Resolution:0.001 ABS (display); 0.0001 ABS (calculated).
Measuring time: Continuous mode < 5 s, step by step mode < 15 s.
Output RS-232 for download to a computer or a printer.
Parallel printer interface.
Programmable plate vibrating for mixing with control of time and speed.

CONTROL PANEL

LCD display (320 x 240 pixels) of 5.7 inches.
Operating system WINDOWS CE.
Operation by touch screen or optional "Mouse" control (mouse not included).

Touch screen control.
New generation technology.

MODEL	Part No.	Height / Width / Depth (exterior) cm			Voltage	Weight Kg
2100-C	5109999	19	45	33	AC 110-250 V / 50-60 Hz	10

ACCESSORIES

Software for data transfer to computer. Part No. 5109997

Microplate washer 2600-C

COMPLETELY AUTOMATIC. EASY TO USE. 50 WASH PROGRAMS.

APPLICATIONS

Clinical laboratories.
Blood banks.
Quality control food laboratories.

FEATURES

Wash head of 8 x 1. (12 x 1 optional).
Plate wash by 12 x 8 strips or 8 wells/strip.
Plate clean for flat, round and V bottom plates.
Automatic wash and rinse processes.
Reservoirs: 2 litre, wash solution.
2 litre, waste, with liquid level sensor.
Memory for up to 50 wash programs.
Software controll of head's depth adjust and horitzontal position.
Wash cycle times from 1 sec. to 2 hrs.
Wash dosing range: from 50 to 2000ul.
Dosing resolution: 5% CV (based on 350ul of distilled water)
Residual volume (after aspiration):
< 1 µl (Cells, bottom U and V well plates.).
< 5 µl (Cells, bottom of flat well plate.)

CONTROL PANEL

LCD graphic display of 90 x 50mm
Membrane key pad of 9 keys.
Emergency stop button.

MODEL	Part No.	Height / Width / Depth (exterior) cm			Voltage	Weight Kg
2600-C	5110000	14	45	33	AC 110-250 V / 50-60 Hz	12

Digital pH-meter "pH-2003"

PORTABLE METER.

FEATURES

Manual temperature compensation from 0 to 60 °C with sample temperature key pad entry (does not read temperature).
Automatic buffer recognition of two of those three buffers: pH4, pH7 and pH9.
Electrode connector: BNC type.
Includes: carry case and pH electrode.

SPECIFICATIONS

	Range	Precision	Resolution
pH:	0 to 14	±0.03	0.01
mV:	±1400	±2	1

Impedance: 5 x 10^{11} Ohm.

MODEL

Part No.	Height / Width / Depth cm			Power source	Weight Kg
4120300	17	7.5	3	2 x 1.5V batteries	0.5

See "Accessories for pH meters" for selection of electrodes (Page 242).

Digital pH meter "pH-2004"

PORTABLE METER WITH IP65 PROTECTION AGAINST WATER AND DUST.

NEW DESIGN

RS232

FEATURES

Automatic temperature compensation and read out from 0 to 60 °C with temperature sensor Rt-2252. Results memory for up to 250 readings.
Protection against water and dust IP65 (Impermeable to water splashes from any direction.) Automatic buffer recognition and calibration for 1 or 2 buffers, recognition of up to 5 selectable buffers.
RS-232 output to connect a printer or a computer. Electrode connector: BNC type.
Includes: carry case, pH electrode and temperature sensor Rt-2252.
Direct connection to printer Part No. 4120113 (see page 247).
Universal arm support not included. Part No. 1001552 (see page 248).

SPECIFICATIONS

	Range	Precision	Resolution
pH:	0 a 14	±0.02	0.01
mV:	±1800	±2	1
Tª:	0 to 60	±0.5	0.1

Impedance: 1 x 10^{12} Ohm.

MODEL

Part No.	Height / Width / Depth cm			Power source	Weight Kg
4120400	20	10	4.5	4 x 1.5V AA Batteries	0.5

Part No. 1001552

ACCESSORY

pH probe and additional temperature sensor, gel filled. Temperature sensor Rt 2252. With IP65 protective connectors.
Part No. 4120401

ACCESSORY

Portable magnetic stirrer, battery operated and submersible.
Part No. 7001731 for "pH-2003" and "pH-2004" (see page 27).

Digital pH meter "pH-2005"

BENCH TOP MODEL WITH LARGE SCREEN.

NEW DESIGN

RS232

FEATURES

Automatic or manual temperature compensation from 0 to 99.9 °C Automatic buffer recognition and calibration of 2 buffers, recognition of up to 3 buffers: pH 4, pH 7 and pH9.21.
RS-232 output to connect a printer or a computer.
Electrode connection BNC.
Temperature sensor connection Rt-2252.
Includes electrode's support stand.

SPECIFICATIONS

	Range	Precision	Resolution
pH:	0 to 14	±0.02	0.01
mV:	±1999	±1	1
Tª (°C):	0 to 99.9	±0.5	0.1

Impedance: 1 x 10^{12} Ohm.

MODEL

Part No.	Height / Width / Depth cm			Weight Kg
4120500	30	20	7.2	1.5

See accessories for electrode, temperature sensor and buffer solutions.
Not compatible with printer Part No. 4120113 (see page 247).

Digital pH meter “pH-2006”

BENCH TOP, LARGE GRAPHIC TOUCH SCREEN CONTROL.

NEW DESIGN

RS232

FEATURES

Ergonomic touch screen control functions. Includes support arm.
Automatic temperature compensation from –5 to 105 °C.
Up to 5 buffer calibration with 10 buffer recognition.
Stores up to 200 results.
RS-232 output to connect a printer or a computer.
Electrode connector: BNC type.
Rt-2252 Temperature port.
Selectable resolution range.
Direct interface for printer Part No. 4120113 (see accessories).

SPECIFICATIONS

	Range	Precision	Resolution
pH:	-2 to 18	±0.01	0.001
mV:	±1999.9	±0.1	0.01
Tª (ºC):	-5 to 105.0	±0.3	0.1

Impedance: 1 x 10^{12} Ohm.
See accessories for electrodes, temperature probes, buffers and printer.

MODEL

Part No.	Height / Width / Depth cm	Weight Kg
4120600	29 20 7	1

ACCESSORIES for pH meters.

Universal arm support.
With holder for up to 4 sensors or electrodes.
Very stable heavy base.
Ideal for working at various heights.
Part No. 1001552

pH Electrodes

Fig.	Part No.	Range pH	Sensor Tª	Temperature Range	Electrolyte	Dimensions mm	Material Body	Application
1	4120102	0 - 14	No	0 – 80°	Liquid	Ø 12 x 120	Glass	General laboratory use.
2	4120125	0 - 14	Yes	0 – 60°	Gel	Ø 12 x 120	Epoxy	Protective cover. General laboratory and external use.
3	4120101	0 - 14	No	0 – 60°	Gel	Ø 12 x 120	Epoxy	Protective cover. General laboratory and outside use.
4	4120114	0 – 10	No	0 – 60°	Gel	Ø 12 x 120	Epoxy	Surface analysis, Skin, meat, moist semisolids, culture media.
5	4120104	0 - 14	No	0 – 60°	Gel	Ø 12 x 120	Glass	Pointed sensor. Suitable for food, semi-solids, fruit meat etc.
6	4120103	0 - 14	No	0 – 80°	Gel	Ø 8 x 60	Glass	For measuring in tubes. Liquid solutions in general.
7	4120126	0 - 14	Yes	0 – 80°	Liquid	Ø 12 x 120	Glass	Fast response, liquids in general.

Temperature sensors

Fig.	Part No.	Range	Type	Dimensions mm	Material
8	4120121	0-100	Rt-2252	Ø 5 x 120	Stainless steel
9	4120120	0-100	Rt-2252	Ø 12 x 120	Glass

Ion selective electrodes

Part No.	Ion	Range	Limits	Range ºC	Range pH
4120168	Chloride Cl^-	1-3 x 10^{-6}	35.500 - 1	5-50	1-12
4120174	Nitrate NO_3^-	1-7 x 10^{-6}	62.000 - 0.4	0-50	2-11
4120177	Potassium K^+	1-10^{-6}	39.000 - 0.04	0-50	1-9

pH Buffer solutions.

4120107 **Flask 250 ml Buffer ±0.02 pH 4.00** at 20 ºC; 4.01 at 25 ºC
4120108 **Flask 250 ml Buffer ±0.02 pH 7.02** at 20 ºC; 7.001 at 25 ºC
4120127 **Flask 250 ml Buffer ±0.02 pH 9.23** at 20 ºC; 9.18 at 25 ºC
4120109 **Frasco 250 ml KCl 3M solution** (Electrolyte for pH electrodes)

Ink printer (Not thermal).

For use with pH and conductivity meters .
Paper 2 1/4” (56 mm) wide roll.
Interface RS232.
Includes power transformer and interface cables. (5V-3A)

Model

Part No.	Height / Width / Depth cm	Power source	Weight Kg
4120113	4 16 10	DC 5 V, 3 A	1

MAGNETIC STIRRER “AGIMICRO”

Features
Maximum stir volume: 2 litres.
Adjustable stir speed from 40 to 1400 r.p.m.
Excellent chemical resistance.
Location hole at the back for a retort rod. (Accessory)

Control panel
Mains switch with luminous on indicator.
Analogue control of speed in r.p.m.

Model

Part No.	Medidas cm	Power source	Weight Kg
7001638	Ø 12 x 5	230 V 1 W	0.5

Supplied complete with a 8 Ø x 32 mm P.T.F.E. coated stir bar.

ACCESSORY
Support bar and electrode clamp.
Part No. 7001639

Conductivity meter "CD-2004"

PORTABLE EQUIPMENT WITH IP65 PROTECTION AGAINST WATER AND DUST.

FEATURES

Measures conductivity, TDS and salinity.
Automatic range switching.
Automatic temperature compensation.
Calibration using standards for conductivity, TDS and salinity.
RS-232 output to connect a printer or a computer.
Direct printer connection, see part no. 4120113.
Temperature coefficient programable.
Conductivity cell constant adjustment.
Memory for 250 results.
Ambient protection IP65 (protection against water splashes from any direction).
Includes Carry case, conductivity cell K= 1 and temperature sensor Rt-2252.

SPECIFICATIONS

Reading ranges: (automatic)

Conductivity	TDS
0.00 to 19.99 µS/cm	0.00 to 10.00 mg/L
20.0 to 199.9 µS/cm	10.00 to 100.0 mg/L
200 to 1999 µS/cm	100.0 to 1000 mg/L
2.00 to 19.99 mS/cm	1.000 to 10.00 g/L
20 to 199.9 mS/cm	10.00 to 19.99 g/L
(Cell constant K=10)	(Cell constant K=5 or 10)

Salinity range: 0.00 to 8.00
Temperature range: 0.0 a 40.0 °C
Precision:
Conductivity: 1.5% base scale
Salinity: 0.20%
Temperature: 0.3 °C

ACCESSORY

Conductivity cell and temperature sensor.
Conductivity cell with epoxy body. Temperature sensor Rt-2252.
IP65 protection connectors. Part No. 4120411

MODEL

Part No.	Width / Height / Depth cm			Power source	Weight Kg
4120410	21	10	4.5	4 1.5 V batteries	0.5

Conductivity meter "CD-2005"

BENCH TOP METER WITH LARGE SCREEN.

FEATURES

Measures conductivity and TDS.
Automatic or manual setting temperature compensation with fixed coefficient of 2%.
Calibration with standards of conductivity and TDS.
RS-232 output to connect a printer or a computer.
Cell constant adjustment.
Temperature sensor connection Rt-2252.
Temperature measuring range: 0 to 60 °C.

SPECIFICATIONS

Conductivity ranges:
(Manual range change)
0 to 20.00 µS/cm
0 to 200.0 µS/cm
0 to 2000 µS/cm
0 to 10.00 mS/cm
Precision: 1.5% base scale + 1 digit.
TDS ranges: 0 to 1000 mg/L.

MODEL

Part No.	Width / Height / Depth cm	Weight Kg
4120510	30 20 7.2	0.5

Includes sensor stand.

Accessories to complement the meter, conductivity cells, temperature sensors and standards (see accessories).
Not compatible with the printer 4120113.

ACCESSORIES

Conductivity cell

Glass body. Working temperature range 0-100 °C

Fig.	Part No.	K	Sensor Tª (°C)	Dimensions mm	Applications
1	4120220	1	Yes	Ø 12 x 120	General laboratory use up to 2000 µs
3	4120222	0.1	Yes	Ø 12 x 120	Pure water up to 20 µS
4	4120223	10	Yes	Ø 12 x 120	High conductivity up to 200 ms

Temperature sensors

Fig.	Part No.	Range	Type	Dimensions mm	Material
5	4120121	0-100	Rt-2252	Ø 5 x 120	Stainless steel
6	4120129	0-100	Rt-2252	Ø 12 x 120	Glass

Conductivity standards.

4120160 Flask 250 ml Standard ±0.05 of 1278 mS/cm at 20 °C; 1413 mS/cm at 25 °C
4120161 Flask 250 ml Standard ±0.025 of 4.915 mS/cm at 20 °C; 5.446 mS/cm at 25 °C
4120162 Flask 250 ml Standard ±0.06 of 11.67 mS/cm at 20 °C; 12.88 mS/cm at 25 °C

MAGNETIC STIRRER "AGIMICRO"

Features
Maximum stir volume: 2 litres.
Adjustable stir speed from 40 to 1400 r.p.m.
Excellent chemical resistance.
Location hole at the back for a retort rod. (Accessory)

Control panel
Mains switch with luminous on indicator.
Analogue control of speed in r.p.m.

Model

Part No.	Medidas cm	Power source	Weight Kg
7001638	Ø 12 x 5	230 V 1 W	0.5

Supplied complete with a 8 Ø x 32 mm P.T.F.E. coated stir bar.

ACCESSORY
Support bar and electrode clamp.
Part No. 7001639

Universal arm support.
With holder for up to 4 sensors or electrodes.
Very stable heavy base. Ideal for working at varying heights.
Part No. 1001552

NUTRITIONAL AND WATER ANALYSIS APPARATUS

Kjeldahl digestion unit page 251 to 252

Steam distillation unit kjeldahl "Pro-Nitro M" page 253

Automatic NaOH dosage and temporized stop.

Steam distillation unit kjeldahl "Pro-Nitro S" page 254

Automatic boracic and Naoh dosage, sample drainage and temporized stop.

Steam distillation unit kjeldahl "Pro-Nitro A" page 255 to 256

Fully automatic operation. From reagent dosage to the titration

Extractor for fats and oils "Det-Gras N" page 257

Extractor for determination of cellulose and fibre page 258

Alcohol disitillation page 259 to 260

"DQO" and "DBO" water analysis page 261 to 262

Flocculator and water distiller page 263 to 265

"Only in the dictionary does the word success come before work"
Professor Luis Huguet

NUTRITIONAL AND WATER ANALYSIS APPARATUS

EXTRACTION

Organic nitrogen determination by Kjeldahl "BLOC-DIGEST"
Steam distillation of protein, PRO-NITRO "M"
Steam distillation of protein semiautomatic, PRO-NITRO "S"
Kjeldahl distillation automatic PRO-NITRO "A"
Extractor for the determination of cellulose and fibre, "DOSI-FIBER"
Cold extraction unit, "EF-1425"
Solvent extractor unit for the determination of residues, oils and fats in nutritional and other materials DET-GRAS "N"
Sample Hydrolysis unit, "HI-1427"
Wine (Alcohol), distillation unit "DE 1626"

WATER ANALYSIS

Chemical Oxygen Demand in residual water "C.O.D."
Constant temperature refrigerated incubator cabinets, B.O.D. "MEDILOW S, M, L , LG"
Flocculator for water analysis, laboratory "FLOCUMATIC"
Flocculator for water analysis, portable "JARTEST"
De-mineraliser "LAB-ION"
Water Distillation unit , "AQUASEL", "L-3" and "AC-L8"

RECOMMENDED METHODS AND EQUIPMENT: PRO-NITRO M, S and A, DOSI-FIBER, EF-1425, HI-1427, DET-GRAS N, BLOC-DIGEST, DE-1626 and C.O.D.*

ANALYSIS OF CEREAL AND DERIVATIVES	Reference	Pro-Nitro M,S and A	Dosi-Fiber	EF-1425	Det-Gras N	Bloc-Digest
Determination index for cellulose	Method Wladesco		YES	YES		
Insoluble fibre in food	Method Van Soest		YES	YES		
Crude Fibre	Method Weende & Wijkström		YES	YES		
Proteins	Method Kjeldahl	YES				YES
Soxhlet extraction for fat identification	Soxhlet Extraction				YES	
Crude Fat	Soxhlet Extraction				YES	
Arsenic	Determination A. A.					YES
Mercury	Determination A. A.					YES
ANALYSIS OF MILK AND DERIVATIVES	**Reference**	**Pro-Nitro M,S and A**	**Dosi-Fiber**	**EF-1425**	**Det-Gras N**	**Bloc-Digest**
Crude Fat	Soxhlet Extraction				YES	
Crude Protein	Method Kjeldahl	YES				YES
Casein	Method Kjeldahl through precipitation of casein	YES				YES
ANALYSIS OF ALCOHOLIC BEVERAGES	**Reference**	**DE-1626**	**Dosi-Fiber**	**EF-1425**	**Det-Gras N**	**Bloc-Digest**
Degree of alcohol	Method Volumetric	YES				
Volatile Acid	Method Volumetric	YES				
Iron	Method Volumetric					YES
ANALYSIS OF FODDER AND RAW MATERIAS	**Reference**	**Pro-Nitro M,S and A**	**Dosi-Fiber**	**EF-1425**	**Det-Gras N**	**Bloc-Digest**
Raw Cellulose	Method Weende & Wijkström		YES	YES		
Raw Protein	Method Kjeldahl	YES				YES
Raw Fat	Soxhlet estraction				YES	
Volatile base nitrates	Distillation Kjeldahl	YES				
Soluble Raw Fat en hydrochloric acid and Pipsin	Method Kjeldahl	YES				YES
Casein total	Method Kjeldahl in casein precipitate	YES				
Phosphorus	Method Photometric					YES
Hydrocyanic Acid	Distillation in Silver Nitrate	YES				
Pure zolidine	Soxhlet Extraction				YES	
ANALYSIS OF FRUIT BEVERAGES AND DERIVATIVES	**Reference**	**Pro-Nitro M,S and A**	**Dosi-Fiber**	**DE-1626**		**Bloc-Digest**
Total Nitrogen	Method Kjeldahl	YES				YES
Volatile Acids	Distillation measurement			YES		
Arsenic	Dichromate Determination					YES
ANALYSIS OF WATERS	**Reference**	**Pro-Nitro M,S and A**	**Dosi-Fiber**	**D.Q.O./ECO-8/ECO16**		**Bloc-Digest**
Total Nitrogen	Method Kjeldahl	YES				YES
Total Phosphorus	Method Photometric					YES
C.O.D.	Determination by Dichromate			YES		

* Reference: Methods are official publications issued by the MAPA (Ministry of Agriculture, Fisheries and Nutrition) 1993.

Dry block for Determination of Organic Nitrogen by the Kjeldahl method

Models Macro and Micro

THE EQUIPMENT FOR THE DETERMINATION OF ORGANIC NITROGEN IS MADE OF TWO BASIC ELEMENTS:
- **BLOCK DIGESTER (MINERALISATION) WITH PROGRAMMABLE TEMPERATURE CONTROL AND GLASSWARE (MACRO 250 ml AND MICRO 100 ml).**
- **DISTILLATION UNIT "PRO-NITRO M", "PRO-NITRO S" (SEMIAUTOMATIC) AND "PRO-NITRO A" (AUTOMATIC).**

RS232

Digestion Block "Bloc-digest"

FEATURES

Minimal sample manipulation
Uniform heating.
Capacity to store 20 programs of 4 steps for temperature and time.
RS-232 port for temperature register and digestion programation from a PC.
Gas collection system that does not require special water jet pumps.
Supplied complete with:
1 metal heater block.
1 programmer for time and temperature
1 tube support rack
1 gas collector
Digestion tubes.

Complete unit with: Dry-block connected to a programmable process unit, (time and temperature) rack support for tubes and fume extractor.

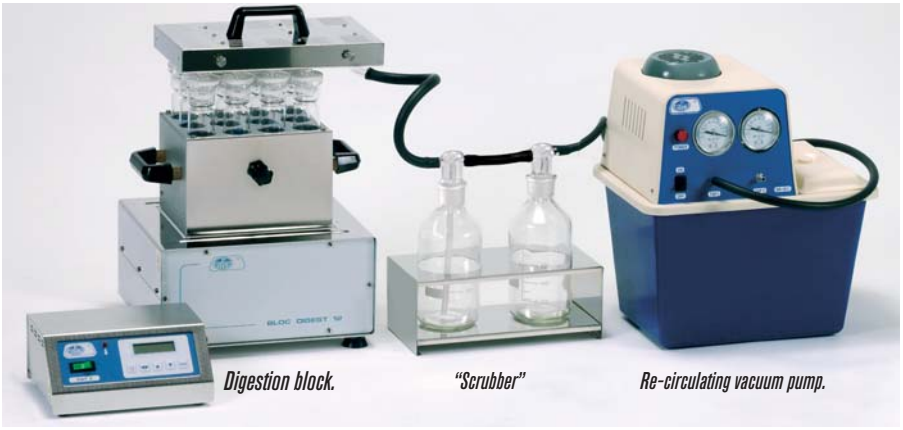
MODELS - COMPLETE UNIT MACRO

MACRO	Part No.	No. of positions
Bloc Digest 6	4000629	6
Bloc Digest 12	4000630	12
Bloc Digest 20	4000631	20

MODELS - COMPLETE UNIT MICRO

MICRO	Part No.	No. of positions
Bloc Digest m 12	4001047	12
Bloc Digest m 24	4001048	24
Bloc Digest m 40	4001049	40

ACCESSORIES: EXTRACTION SYSTEM AND NEUTRALIZATION OF ACID VAPOURS



Digestion block. *"Scrubber"* *Re-circulating vacuum pump.*

Specially designed to absorb and neutralize vapours generated in the Kjedahl digestion processes.
Composed of a "Scrubber unit" that blocks the passage and neutralizes the condensed acids, and a re-circulating water pump that produces sufficient vacuum to aspirate the vapours.
It is essential to put the " Scrubber" unit together with the neutralizer solution between the digestion block and the re-circulating pump. Digester "Bloc Digest 20" requires 2 "Scrubber" units for a proper neutralization of fumes. Note: Pump with part number 4001612 has 2 suction inlets.

Reduces water consumption, no requirement for a constant connection for mains water.
Prevents emission of gas vapours and acidic water to waste.
Low noise level (<65dBA)
Re circulating pump made from chemically resistant materials

"Scrubber" unit

Part No.	Height / Width / Depth (exterior) cm	Weight Kg
4001611	32 31 16	2

It is supplied with 3 Kg. acid vapours neutralizer solution.
Spare part:
3 Kg. acid vapours neutralizer solution.
Part No. 4001610

Water recirculation vacuum pump

Part No.	Height / Width / Depth (exterior) cm	Vacuum level bar	Pump rate Litres/minute	Weight Kg
4001612	44 39 28	0.98	10	10

PARTS LIST AND ACCESSORIES

Heating blocks

To function correctly it is important to include in the purchase the controller unit for time and temperature RAT-2, The block should not be connected directly to the mains supply.

Models	Part No.	No. of positions	Ø tube mm	Height / Width / Depth (exterior) cm	Temperature °C	Power W	Weight Kg
MACRO	4000507	6	42	18 33 28	45 to 450	1500	18
MACRO	4000508	12	42	18 39 33	45 to 450	2100	25
MACRO	4000509	20	42	18 44 39	45 to 450	2500	31
MICRO	4001050	12	26	18 33 28	45 to 450	1500	16
MICRO	4001051	24	26	18 39 33	45 to 450	2100	22
MICRO	4001052	40	26	18 44 39	45 to 450	2500	27

Process programmer for time / temperature RAT-2.

Part No. 4001538

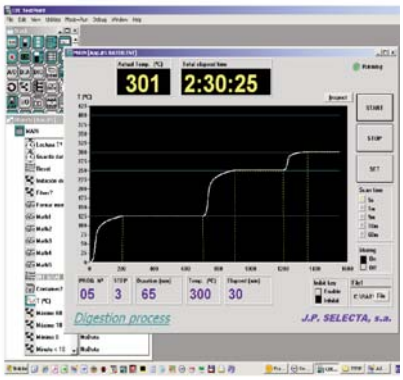
Features

Temperature range from 45 ºC to 450 ºC.
Memory for 20-4 steps programs.
Maximum time per step: 600 minutes.
Acoustic indication for digestion end of program.
Two selectable temperature gradients: kjeldahl/ D.Q.O.
Temperature sense breakage alarm.
Independent control of safety maximum temperature.
Bidirectional RS-232 serial connection. For temperature registration and digestion program edition with the RAT connected to a PC.
Software included.

Electronic controller RAT-2

Control Panel

The control panel and the RAT-2 display allow the creation and execution of the digestion program.
During the digestion, it shows the block temperature, the elapsed time in the program step.



The software included makes easier the digestion program edition and the digester temperature register.

Tube support rack.

Made of chemically treated no corrosive Dural, with handles and side panel that prevents heat loss.

Fume extraction

Unit for collecting fumes supplied with a support rack. Made of borosilcate glass and stainless steel.

Models	Part No.	No. of places	Height / Width / Depth (exterior) cm
MACRO	4005071	6	15 17.5 12.5
MACRO	4005081	12	15 23 18
MACRO	4005091	20	15 28.5 23.5
MICRO	4001053	12	15 17.5 12.5
MICRO	4001054	24	15 23 18
MICRO	4001055	40	15 28.5 23.5

Models	Part No.	No. of places	Height / Width / Depth (exterior) cm
MACRO	4005072	6	15 18 12
MACRO	4005082	12	15 23 18
MACRO	4005092	20	15 29 23
MICRO	4001056	12	15 18 12
MICRO	4001057	24	15 23 18
MICRO	4001058	40	15 29 23

Digestion and distillation tube Series MACRO of 250 ml volume. Graduated to 100 ml 42 mm Ø x 300 mm high.
Part No. 4042300

Tube for digestion and distillation Series MICRO of 100 ml volume. 26 mm Ø x 300 mm high.
Part No. 4001045

Water jet pump for vacuum extraction. Made of PVC designed for the fume extraction of the 20 and 40 place models.
Part No. 4000633

Water Jet pump for vacuum extraction. Metallic, suitable for the extraction of fumes for the 6, 12 and 24 place models. Part No. 7000293

Steam distillation unit Kjeldahl “Pro-Nitro M”

DETERMINATION OF ORGANIC NITROGEN (KJELDAHL METHOD).
AUTOMATIC NaOH DOSAGE AND TEMPORIZE STOP.

Steam distillation Kjeldahl unit.
Simple secure systematic analysis suitable for small to Medium throughput of samples.

FEATURES

Steam distillation system.
Compact steam generator with safety over temperature thermostat and over pressure device.
Safety door, the system will not operate if the door is open.
“Tube in place” sensor: if the tube is not located, the dosing process of NaOH will not take place.
Universal adapter for digestion/distillation tubes MACRO (Ø 42 mm) and MICRO (Ø 26mm)
Small footprint, saves bench top space: The H_2O and NaOH reservoirs are placed within the unit.
Stainless steel case with reinforced ABS plastic front.
Automatic distillate titration kit. (See accessories).

SPECIFICATIONS

Measuring range: from 0.2 to 200 mg of Kjeldahl Nitrogen.
Programmable distillation time.
Nitrogen recovery >99.5%
Distillation speed: from 35-40ml/minute
Typical distillation time: from 7-10 minutes.
Water consumption rate: from 80-100 litres/Hr.
Steam generator water consumption: 2,5 Litres/ Hr.
Water reservoir for steam generator: 6 litres
NaOH reservoir: 2 Litres.

ALARMS

Low water level for the steam generator.
Safety door open or no distillation/digestion tube in place.
Steam generator over temperature.

AUTOMATED SEQUENCES

Open and closure of cooling water to the cooling coil.
Automatic load of NaOH once the distillation has started.
Select NaOH volume.
Stop at the end of the pre-set programmed time.

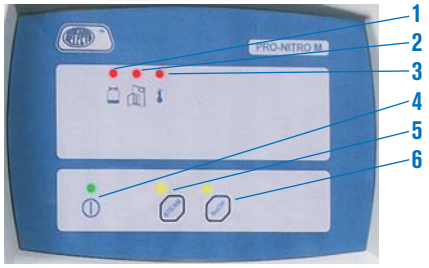
ADDITIONAL REQUIREMENTS

To complete Kjeldahl Nitrogen analysis a digestion block is also required.
(See Bloc Digest pages 251 and 252).

MODEL

Part No.	Height / Width / Depth cm			Power W	Weight Kg
4002627	75	50	50	1800	30

Supplied with a MACRO Ø 42mm tube, set of reagent containers and tubing.



CONTROL PANEL

1. Low water indicator.
2. Door open or no tube presence indicator.
3. Over temperature indicator.
4. Mains on indicator.
5. Push button and indicator start/stop distillation.
6. NaOH volume selection.

ACCESSORIES

Tube for digestion and distillation Series MICRO of 100 ml volume.
Part No. 4001045
Digestion and distillation tube Series MACRO of 250 ml volume.
Part No. 4042300

Adapter kit for automatic determinations. Vessel with location positions for pH electrode, stirrer and reagents and distillate sample.
Part No. 4001724

Polycarbonate conical flasks durable. CAPACITY 250 ml
Part No. 5310100 with cap.
Part No. 5310101 without cap.

Steam distillation unit Kjeldahl Semi-Automatic “Pro-Nitro S”

DETERMINATION OF ORGANIC NITROGEN (KJELDAHL METHOD).
AUTOMATIC BORACIC AND NaOH DOSAGE, SAMPLE DRAINAGE AND TEMPORIZED STOP.

Semi-automatic steam distillation Kjeldahl unit. Simple secure systematic analysis suitable for medium to large throughput of samples.

FEATURES

Steam distillation system. Compact steam generator with safety over temperature thermostat and over pressure device. Safety door, the system will not operate if the door is open.
“Tube in place” sensor: if the tube is not located, the dosing process of NaOH will not take place.
Universal adapter for digestion/distillation tubes MACRO (Ø 42mm) and MICRO (Ø 26 mm).
Small footprint, saves bench top space: The H_2O, NaOH and H_3BO_3 reservoirs are placed within the unit.
Empty Digestion/ Distillation tube system.
Stainless steel case with reinforced ABS plastic front.
Green LED 2 digit display.
Distillation program: (Add NaOH, Add Boric Acid, Distillation time, Empty tube.)
Automatic distillate titration kit. (See accessories).

SPECIFICATIONS

Measuring range: from 0.2 to 200 mg Nitrogen.
Programmable distillation time.
Nitrogen recovery >99.5%
Distillation speed : from 35-40ml/minute
Typical distillation time: from 7-10 minutes.
Water consumption rate: from 80-100 litres/ Hr.
Steam generator water consumption: 2.5 Litres/ Hr.
Water reservoir for steam generator: 6 litres
NaOH reservoir: 2 Litres.
Boric Acid reservoir: 2 Litres

ALARMS

Low water level for the steam generator.
Safety door open or no distillation/digestion tube in place.
Steam generator over temperature.

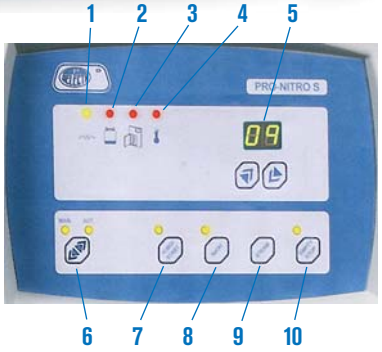
AUTOMATIC

Single push button to start the distillation cycle:
- Boric acid dosing
- Start distillation.
- NaOH dosing
- Stop Distillation (Programmed time transpired.)
- Acoustic indicator at the end of the cycle.

ADDITIONAL REQUIREMENTS

To complete Kjeldahl Nitrogen analysis a digestion block is also required.
(See Bloc Digest pages 251and 252).

CONTROL PANEL



1. Illuminated indicator. Steam generator
2. Low water in the steam generator
3. Door open or no tube present indicator.
4. Over temperature indicator.
5. Push button and display to select parameters.
6. Mode push button, Manual or Automatic.
7. Push button, dose Boric Acid/ Push button START in automatic mode.
8. Dose NaOH push button.
9. Push button, start the distillation in manual mode.
10. Push Button, empty sample tube.

MODEL

Part No.	Height / Width / Depth cm			Power W	Weight Kg
4002851	75	50	50	1800	32

Supplied complete with a MACRO Ø 42 mm tube, set of connection tubes, set of reservoirs.

ACCESSORIES

Tube for digestion and distillation Series MICRO of 100 ml volume.
Part No. 4001045
Digestion and distillation tube Series MACRO of 250 ml volume.
Part No. 4042300

Adapter kit for automatic determinations. Vessel with location positions for pH electrode, stirrer and reagents and distillate sample.
Part No. 4001724

Polycarbonate conical flasks durable. CAPACITY 250 ml
Part No. 5310100 with cap.
Part No. 5310101 without cap.

Automatic steam distillation unit Kjeldahl "Pro-Nitro A"

DETERMINATION OF ORGANIC NITROGEN (KJELDAHL METHOD)
FULLY AUTOMATIC OPERATION. FROM THE REAGENT DOSAGE TO THE TITRATION.

Steam distillation system Kjeldahl, complete with automated "ON-LINE" analysis (evaluation in real time). For systematic precise analysis, with minimum personnel intervention, simple and safe. Adequate for a laboratory with a medium to large throughput of samples.

The Kjeldahl steam distillation unit «PRO-NITRO A» evaluates the distillate at the same time as it is produced (evaluation «On-Line»), the evaluation and distillation are completed as one operation, reducing drastically the analysis time. This type of evaluation offers the following additional advantages: detects the point where the sample no longer produces Nitrogen, which means that, the distillation stops at the optimum maximum Nitrogen recovery and does not prolong the analysis longer than necessary.

The titration is a colorimetric method and is accepted by AOAC and does not require any periodic calibration.

FEATURES

Distillation by steam generation.
Automatic «On-line» colorimetric evaluation.
Steam generator with safety thermostat, over temperature and over pressure device.
Safety, door closed, that prevents distillation if open.
Detects that a digestion/distillation tube is present. This prevents the dosing of NaOH if there is no tube located.
Universal adapter for MACRO (Ø 42 mm) and MICRO (Ø 26 mm)distillation tubes.
Space saving in the laboratory: the reservoirs for the H2O, NaOH, Boric Acid and HCl are located inside the unit.
Empties the digestion/distillation tubes and the collector automatically.
Automatic stop when distillation is complete.
Large LCD display of 20 x 4 characters.
RS232 output to results printer.
Main system made from stainless steel with an ABS plastic front.

SPECIFICATIONS

Measuring range: 0.2 to 200 mg Nitrogen.
Nitrogen recovery:> 99.5%
Distillation speed: from 35 to 45 ml/minute
Coolant water consumption: 80 to 100 litres per hour.
Steam generator water consumption: 2.5 Litre/Hr.
Steam generator water reservoir capacity: 6 litres.
NaOH reservoir capacity: 2 Litres.
Boric Acid reservoir capacity: 2 Litres.
Titrant reagent reservoir capacity: 2 Litres.
Evaluation precision: 1.5%
Minimum reagent dose 0.01ml.

ALARMS

Low water level for the steam generator.
Safety door open or no distillation/digestion tube in place.
Steam generator over temperature.

ADDITIONAL REQUIREMENTS

To complete Kjeldahl Nitrogen analysis a digestion block is also required.
(See Bloc Digest pages 251 and 252).

MODEL

Part No.	Height / Width / Depth cm			Power W	Weight Kg
4002430	75	50	50	1800	38

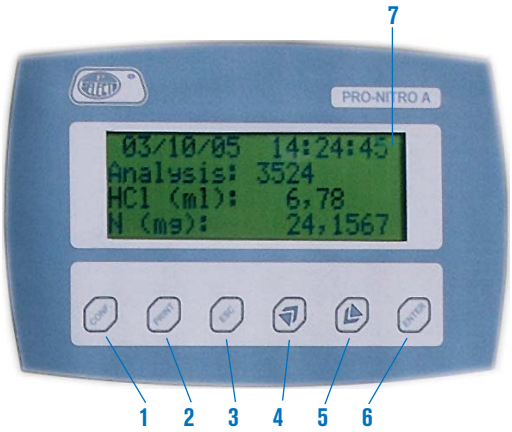
Supplied complete with a MACRO Ø 42 mm tube, set of connection tubes, set of reservoirs, 250 ml. of mixed indicator 4.8 and 100 gr. of sulphate ammonium.

AUTOMATION

Closing and opening of the condenser cooling water in line with the distillation process.
Dosing of Boric Acid.
Dosing of NaOH once the distillation has started.
Select NaOH and Boric Acid volume.
«On-line» evaluation of distillate.
Auto detection of the end of the distillation process.
Special functions to maximise performance.
Special functions for maintenance.

REAGENTS

All the reagents used in the «PRO-NITRO A» are easily located:
- Solution of 30-40% NaOH.
- Solution of Boric Acid at 1% concentration (approx.) with mixed indicators (Bromo-cresol green and methyl red).
- Reagent for titration: HCl or H2SO4 from 0.05N or 0.25N adjusted to 0.001 Normal.



CONTROL PANEL

1. Menu to configure the date, time and selectable parameters.
2. Print the analysis information using the optional printer 4120113, purchased as an accessory.
3. <<ESC>> to cancel changes and escape from the menu.
4. Increase values and navigation through the menu.
5. Decrease values and navigate through the menu.
6. <<ENTER>> to accept changes to parameters and navigation through the menu.
7. LCD display to visualise parameters and results

ADVANTAGES

Excellent precision on results.
Complete Nitrogen recovery from the sample.
Minimum operator intervention.
No calibration required.
Minimum analysis time.

RESULTS

The results can be downloaded to a printer (Optional), required for GLP, and includes the following data:
- Consecutive unrepeatable I.D. number of analysis.
- Date and time.
- Volume of NaOH.
- Volume of Boric acid.
- Reagent normality.
- Nitrogen detected.

```
15/10/05 12:16:08
Analysis Nr: 087598
NaOH:        75ml.
Boric:       25ml.
Normality: 0.1503

Results:
Reagent:    10.521ml
Nitrogen:   22.1382mg
```

ACCESSORIES

Ink printer (not thermal paper), size (4/6/10 cm) suitable for use with the PRONITRO A.
Paper 2 1/4" (56 mm) wide.
Interface RS232.
Includes interface and mains cables.
Part No. 4120113

Digestion and distillation tube. Series MACRO of 250 ml volume. Graduated to 100 ml 42 mm Ø x 300 mm high.
Part No. 4042300

Tube for digestion and distillation. Series MICRO of 100 ml volume. 26 mm Ø x 300 mm high.
Part No. 4001045

QUALITY CONTROL INFORMATION

ALL OF THE KJELDAHL DISTILLATION UNITS 4002430 REQUIRE A PROTOCOL ASSAY FOR THE RECOVERY OF NITROGEN WHEN MANUFACTURED.
THESE RESULTS COME WITH THE EQUIPMENT AND ARE VALID FOR IQ AND OQ CLARIFICATION.

COMPLEMENT

Digital colorimeter "Pro-A 520"

MICROPROCESSOR CONTROLLED.
AUTOMATIC ZERO ABSORBANCE AND 100% TRANSMITTANCE.
ALPHANUMERIC 20 CHARACTER 2 LINE L.C.D. DISPLAY.

APPLICATIONS

Reagent preparation for Pro-Nitro A.

FEATURES

Wavelength range: 400 to 800 nm, by using special filters.
Standard filter: 520 nm.
Expanded Absorption range: -0.3 to 3.5 O.D.
Transmission: 0 to 100 T %.
Photometric accuracy: >1 %. @ 1.000 A.
Photometric precision: ±1 %. @ 1.000 A.
Photometric stability: 0.004 A/hr. @ 0.000 A.
Light source: Long life tungsten lamp.
Detector: Solid state.
Sample chamber: 10 mm cuvettes.
Minimum volume: 1 ml.
Display: Alphanumeric LCD display of 2 lines of 20 characters.
Calculation functions: Transmission T %.
Absorbence, Concentration by factor or standard concentrations.
Calibration: Self adjusting by software.
RS-232 interface.

CONTROL PANEL

ON/OFF switch.
Interactive LCD display.
Numeric and function keypad.

SPARE

Lamp of 6 V / 6 mm.
Part No. 4512009

MODEL

Part No.	Built in printer	Height / Width / Depth cm			Power W	Weight Kg
4120029	NO	11	18	28	10	4.5

Solvent recovery extractor for fats and oils “Det-gras N”

FOR THE DETERMINATION OF FATS BY SOXHLET METHOD.
SAFETY PROTECTION IP65.

Equipment for the extraction of fats and soluble substances that will dissolve in solvents. Based on the Soxhlet methods by Randall, the DET-GRAS-N extracts fats (and or other substances) from the sample by dissolving them in a solvent. If compared to the classic standard soxhlet method, a time saving of between 30-70% can be obtained due to a two stage extraction process and high speed in obtaining high temperatures.

APPLICATIONS

Practically all methods of classic soxhlet extraction can be substituted by the DET-GRAS N. Typical fat determinations are: in meat products, animal fodder, pre-prepared foods, fish etc. Also suitable for the extraction of soluble components in paper paste, textile fibres etc.

FEATURES

Heating by protected electric heater, distributed throughout the radiator surface that provides homogeneous heating throughout the samples.
Electrical safety according to IP65.
Robust temperature control by a durable thermocouple.
Safety over temperature device.
Outer case made of solvents resistant epoxy coated steel.
Extractions can be completed using glass or cellulose thimbles.
Compatible with most common solvents: Petroleum ether. Diethyl ether, hexane, acetone acetonitrile etc.
Supplied complete with 2 sets of seals, adapters for different solvent types.
Typical extraction time (food fats) 50 minutes.

SPECIFICATIONS

Cellulose extraction thimbles $Ø_{ext}$ 26 x 60 mm.
Reusable glass thimbles $Ø_{ext}$ 34 x 80 mm.
Working temperature of 90 to 240 °C.
Solvent recovery 60 to 80 %.
Solvent volume (by sample): up to 50 ml.
Program memories: 16.
Extraction time <<boiling>>: from 0 to 99 minutes.
Extraction time <<rinsing>>: from 0 to 99 minutes.
Time to recuperate solvents: from 0 to 99 minutes.

CONTROL PANEL

LCD display of 2 lines of 20 characters.
Keypad with 4 push buttons to select temperature, time and programs.

MODELS

Part No.	No. of places	Height / Width / Depth cm			Water consumption litres/minute	Power W	Weight Kg
4002841	2	70	45	40	1	200	19
4002842	6	70	75	40	2	600	25

Supplied with	model 6 places	model 2 places
Cellulose sample thimbles	25	25
Thimble rack	3	3
Support rack beakers	3	3
Aluminium tubes for thimble support	6	2
Extraction support for thimbles	18	6
Aluminium solvent beakers	18	6
Magnetic tongs for thimble manipulation	1	1
Tongs for manipulation of Aluminium beakers	1	1
Support rack	1	1
Transporting support handles	1	1
Butyl Joints	6	2
Vitron Joints	6	2

Accessories supplied with the 6 place model.

Extractor for the determination of cellulose and fibre “Dosi-fiber”

APPLICATIONS
Total Fibre (WEENDE,VAN SOEST or similar).Dietary fibre. Neutral detergent fibre. Acid detergent fibre. Other extraction processes which do not use acetic acid, acetic trichloric acid or nitric acid. Textile fibre. Wood and paper fibre.

EQUIPMENT DESCRIPTION
Integral extraction and filtration.
No sample transfer reduces the risk of sample loss, since the tubes,crucibles and filtre are transferred with the samples in place.
Excellent results due to reproducible operating conditions.
Easy sample handling due to the special crucible support stand.
Versatile and precise test procedure that allows the samples to be weighed at various stages in the extraction process.

FEATURES
Rugged external case with a “RILSAN” protective coating. All equipment components; condenser, valves, heater, compressed air valves and controls are all protected within the main case. Infrared heating elements.

CONTROL PANEL
Mains illuminated ON/OFF switch.
Switch for compressed air pump.
Heating element with electronic control.

TECHNICAL DATA
Sample size: 0.5 to 3 g (Normally 1 g).
Reproducibility: approximately ±1 % for fibre level between 5-30 %.
Measuring range: 0.1 to 100 %.
Cooling water consumption: 1 litre/minute.

EQUIPMENT
Comes complete with: crucible with a porosity P-2, Crucible support rack, heater lid and holder manipulator.

6 places extractor, part no. 4000623.

MODELS

Part No.	No. of places	Height / Width / Depth (exterior) cm	Power W	Weight Kg
4000599	4	56 43 32	1000	19
4000623	6	56 57 32	1500	25

ACCESSORIES
Double hotplate for reagents.
Power consumption 1750 W.
Part No. 4000634
Beaker for reagents.
Part No. 1000635

SPARES
Support rack
4 crucibles.
Part No. 4000600

Support rack
for 6 crucibles.
Part No. 4000624

Crucibles
with a P - 2 porosity.
Part No. 4000601

EQUIPMENT FOR THE DETERMINATION OF TOTAL DIETARY FIBRE, ENZYMATIC METHOD
THE DETERMINATION OF TOTAL DIETARY FIBRE BY THE ENZYMATIC METHOD (AOAC, AACC) IS VERY DIFFERENT TO THE WEENDE AND THE DE VAN SOEST METHODS. THE EQUIPMENT FOR THIS ANALYSIS DEPENDS ON THE ENZYME KIT THAT YOU ARE GOING TO USE. ONCE THE TYPE OF ENZYME KIT IS SELECTED THE KIT INSTRUCTIONS WILL INDICATE THE NECESSARY EQUIPMENT TO COMPLETE THE ANALYSIS. THE COLD EXTRACTION UNIT EF-1425 PART NO 4001425 AND THE RECIPROCAL BATH PART NO 6032011 ARE FREQUENTLY USED (SEE PAGE 93).

Cold extraction unit “EF-1425”

DESCRIPTION
Specifically designed unit for cold extraction of up to 6 samples simultaneously, using acetone or other solvents. Complements the Dosi-Fiber for the analysis of crude fibre.
Components: 1 litre receptacle for solvent recovery, suction tube and 6 adapters to hold the filtration crucibles Part No. 4000601.
A pump or jet pump will be required to connect to the suction tube.
Comes complete with: blank stoppers in the case that not all of the 6 crucible places are used and a 1 litre solvent recovery vessel.

FEATURES
Stainless steel AISI 304, extractor, modular construction, easy to use and fast removal for efficient cleaning. Support and crucible rack, made from hardened glass.

MODEL

Part No.	Height / Width / Depth (exterior) cm	Weight Kg
4001425	45 20 34	3

ACCESSORY
Jet pump.
Part No. 7000293

Oenological Distillation unit “DE-1626”

APPARATUS TO OBTAIN THE DISTILLATION OF ALCOHOL FROM ALCOHOLIC BEVERAGES IN ACCORDANCE WITH CEE NO. 2676/90 (WINE ANALYSIS) AND CEE NO. 2870/2000 (ANALYSIS OF SPIRITS.)

APPLICATIONS

Degree of alcohol in wines, Degree of alcohol in spirits, Volatile acids and Sorbic acid.

FEATURES

Vapour distillation.
Designed especially to obtain the distillation of wines and spirits to determine the alcohol grade by volume, volatile acid, ascorbic acid and other components.
Distillation volume up to 400 ml.
Auto stop at the end of the distillation.
Simple operation with minimum service.
Vapour generator protection system.
- Tube Ø 42 mm for volatile acid samples.
- Tube Ø 52 mm for volatile acid samples and 100 ml proof alcohol.
- Tube Ø 80 mm for samples of 200 ml for proof alcohol.
- 200 ml Matrix flask to collect distillate.

Automatic termination of final distillation at 200 ml of distillate. By using the ADD function small quantities of distillate can be added to accurately fill the matrix flask to the mark without having to add water to the distillation.

TECHNICAL SPECIFICATIONS

Validated to the criteria of CEE No. 2676/90 and CEE No. 2870/2000
Distillation speed: 30-40 ml/min (Recover of 200 ml of distillate in 5/6 minutes).
Condenser coolant water rate: 80-100 l/hr.
Generator water consumption: 1 and 1.25 ml for each ml of distillate.
Vapour generator power: 2400 W.

CONTROL PANEL

Control Panel.
Electronic controller.
Mains switch.
START Push button.
STOP Push button.
ADD Push button.
By the use of the ADD button allows the distillate to set burette level, then, there is no need to fill up with water to a level of 200 ml.

VALIDATION

The oenological DE-1626 has been validated by the oenological laboratory INCAVI in Vilafranca del Penedés. This laboratory has completed analysis from the distillation unit DE-1626 for the determination of alcohol proof by volumetric analysis, following the criteria of CEE No 2676/90 and CEE 2870/2000. They have analysed samples of hydrated alcohol, different wines and spirits with a high alcohol content. The unit was successfully appraised by the laboratory.

MODEL

Part No.	Height / Width / Depth cm			Power W	Weight Kg
4001626	90	30	30	2400	20

Supplied with tubes and flasks Ø 42, 52 and 80 mm and a 200 ml matrix flask.

ACCESSORIES

Glass tube adapters.

Part No.	Dimensions
4042300	Ø 42 x 300 mm
1001422	Ø 52 x 300 mm
1000646	Ø 80 x 300 mm

Support rack for 6 tubes, made of stainless steel.

Part No.	Suitable tubes dimensions
4000648	Ø 42 mm
4001473	Ø 52 mm
4001613	Ø 80 mm

Matrix flask 200 ml.
Part No. 1001636

Alcoholmeters, graduations in 0.1 grade alcohol.

Part No.	Graduations
1001629	0 - 10
1001630	10 - 20
1001631	20 - 30
1001632	30 - 40
1001633	40 - 50
1001634	50 - 60
1001635	90 - 100

Alcoholmeters stand 6 places.
Part No. 1000015

COMPLEMENTS FOR THE OENOLOGICAL DISTILLER "DE-1626"

ALL BASIC WINE ANALYSIS WITH A SIMPLE MANUAL EQUIPMENT, COMPOSED OF: OENOLOGICAL ANALYSER PHOTOMETER "M-3000", MICRO-CENTRIFUGE "CENCOM-1" AND DRY-BLOCK THERMOSTAT "ENOBLOC".

Oenological analyser photometer "M-3000"

SMALL BENCHTOP ANALYSER.
FOR COLOR MEASUREMENT, FOLIN-CIOCALTEAU INDEX AND FOR ENZYMATIC ANALYSIS.

RS232

APPLICATIONS

With the oenological application photometer, the following determinations can be performed:
1. Wine colouring intensity (absorbances addition at: 420, 520 and 620 nm.)
2. Folin index (polyphenols).
3. Grapes phenolic colour and maturity by means of *Cromoenos*® method.
4. Enzymatic analysis for grape juice, grape juice-wine and wine. Acids: acetic, malic, gluconic and lactic, glucose, fructose and glycerine.

FEATURES

Wavelength range: from 340 to 750 nm, with interference filters with a 10 nm band pass.
Manual filter selection (12 positions filter disc).
Supplied with filters: 340, 420, 520, 620 and 750nm.
Other optional filters posible.
ABS, T% and concentration reading.
ABS reading range: from -0.3 to 3.5 OD.
T% reading range from 0 to 100%T.
Concentration range: from 0.001 to 9.999
Photometric accuracy: 1%.
Precision: ±1 %.
Photometric stability: better than 0.004 A/h.
Light source: halogen lamp 6V/12W.
Cell holder for 10 mm. path length cuvettes.
Internal calibration by software.

CONTROL PANEL

Filter change knob.
Numeric keypad and for functions.
Alphanumeric display with interactive messages.
RS-232 interface for connection to printer or computer.

MODEL

Part No.	Height / Width / Depth mm			Power W	Weight Kg
4120019	11	18	28	35	3

SPARE

Halogen lamp 6 V 12 W.
Part No. 4313040

Note: A visible ultraviolet range spectrophotometer UV-2005 is needed for a total polyphenols index determination (absorbance 280 nm) and the *Cromoenos*® method exact and accurate measurement.
Part no. 4120020. Page: 235

ACCESSORIES

Glass cuvettes 10 mm. path length. 2 units pack. Part No. 5100021
Glass cuvettes 1 mm. path length. 2 units pack. Part No. 4120034
Polystyrene cuvette, semi-micro, 10 mm. path length. 100 units box. Part No. 5100023
Cuvettes adapter of 1 mm. Part No. 4120033

Metallic thermostat dry block "Enobloc"

APPLICATIONS

To use the enzymatic reagents performing at full capacity, it is recommended to incorporate the thermostat dry-block incubator for tubes/cuvettes at a fixed temperature of 35 ºC.
Part No. 7001570
Capacity: 15 cuvettes pathlength 10 mm, which can be macro or semi-micro of 1,5 ml..

MODEL

Part No.	Height / Width / Depth (exterior) cm			Stability °C	Power W	Weight Kg
7001570	11	18	28	±0,5	10	2,4

APPARATUS FOR WATER ANALYSIS

Thermo reactor for determining COD Chemical Oxygen Demand of waste water plants

STANDARD TO C.E.E. AND UNE 77-004.
REFLUX METHOD.

FEATURES

Composed of a Hot block for 6,12 or 20 samples, process programmer and lifting racks. Uniform heating throughout the block to all samples. Automatic temperature and time control during digestion.
C.O.D. unit comprises of:
- 1 metallic hot block.
- 1 Processor for temperature and time.
- 1 Support rack for tubes.
- 1 Support rack for condensers.
- C.O.D. tubes with an aperture of 29/32.
- Condensers for C.O.D.

MODELS - EQUIPMENT DESCRIPTION

	Part No.	No. of places
DQO. - 6	4000638	6
DQO. - 12	4000639	12
DQO. - 20	4000640	20

INDIVIDUAL PARTS LIST AND SPARES

Hot block. This block cannot be used without the RAT controller of temperature and time.

Part No.	No. of places	Ø tube mm	Height / Width / Depth (exterior) cm	Temperature °C	Power W	Weight Kg
4000507	6	42	18 33 28	45 - 450	1500	18
4000508	12	42	18 39 33	45 - 450	2100	25
4000509	20	42	18 44 39	45 - 450	2500	31

System programmer for temperature/time RAT-2.
Part No. 4001538

Condenser tube support.
Part No.
4000643 6 places.
4000644 12 places.
4000645 20 places.

Tube support rack.
Made of chemically treated dural sheet metal, with handles and removable panels that maintain the heat around the tubes and allow the user to examine the samples during the process.
Part No.
4005071 for C.O.D. 6 (block 4000507).
4005081 for C.O.D. 12 (block 4000508).
4005091 for C.O.D. 20 (block 4000509).

Features
Display of time, temperature and program. Selectable temperature from 45 to 450 °C. Memory capacity: 10 programs of 5 stages of each program. Maximum time per stage: 600 minutes. Visual and acoustic alarm at the end of the cycle. Alarm if the temperature probe fails.

Control Panel
Mains switch.
Temperature display.
Push button to select temperature.
Push button to increase value.
Push button to start.
Push button to stop.
Push button to decrease value.
Push button to select time.
Display time and program number
Push button to select program.

Condenser tubes for C.O.D. process.
Part No. 1000642

Tubes for C.O.D.
Part No. 1000641

Laboratory flocculator“Flocumatic”

FOR THE DETERMINATION OF THE NECESSARY AGENTS REQUIRED FOR SEDIMENTATION.
DIGITAL ELECTRONIC CONTROL OF SPEED AND TIME FUNCTIONS.

Maximum torque per stirring unit is 40 Ncm. Maximum viscosity 30.000 mPas.

APPLICATIONS

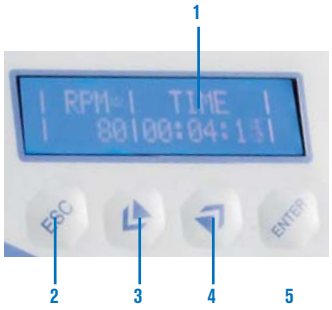
Optimization of coagulant additives and poly-electrolytes for surface and residual water treatment.
Evaluation of the efficiency of an absorbent in toxic agents.
Polyvalent. Without transmissions by belt. Due to its powerful torque it allows stirring and mixing high viscosity substances.

FEATURES

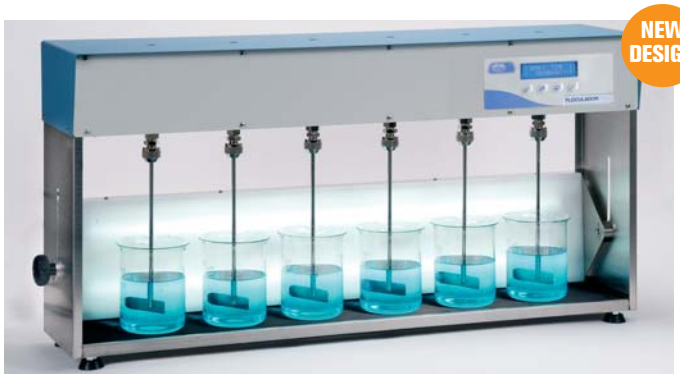
Stirring equipment for 4 or 6 places that accommodates beakers up to 1000 ml tall shape or 2000 ml short shape.
Stirring speed from 15 to 200 r.p.m.
Silent running.
Adjustable timer from 1 to 999 minutes or continuous operation.
Easily adjusted height over head stir, bars made of AISI 304 stainless steel are easily fixed in position.
Two vertical and horizontal adjustable illumination units can be placed in the unit. This adjustable accessory allows the light angle to be varied according to the samples being run. An original Selecta design. See accessories part numbers 3000834 and 3000915, 4 and 6 place models that obtain simultaneous front and back lighting.
The main case of the unit is made of epoxy coated steel, with AISI 304 stainless steel supports with anti slip rubber feet.

CONTROL PANEL

1. Alphanumeric display. Indicates rpm and time.
2. Parameter invalidate button.
3. Parameter value decrease button.
4. Parameter value increase button.
5. Parameter validation button.



NEW DESIGN



Flocculator “Flocumatic” with horizontal and vertical illumination (6 places).

Flocculator “Flocumatic” with horizontal illumination (4 places).

MODELS

Part No.	No. of places	Speed r.p.m.	Height / Width / Depth (exterior) cm			Illumination power W	Power W	Weight Kg
3000833	4	15 - 200	52	70	23	40	160	24
3000914	6	15 - 200	52	99	23	50	170	36

ACCESSORIES

Illumination units, simultaneous lighting horizontal and vertical.

Part No.	Model part No.	
3000834	3000833	4 places.
3000915	3000914	6 places.

Portable flocculator “4P-M”

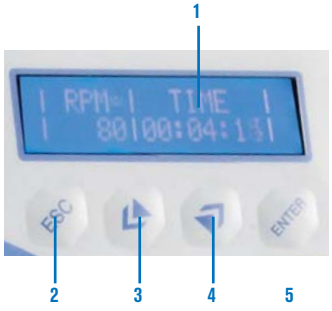
FOUR POSITIONS. WITH ILLUMINATION.

FEATURES

Mains voltage or portable connection to a cigarette lighter within a car (12 V DC), for achieving analysis for a site chemical dose measurements of waste water treatment plants.
Head stirrers made of AISI 304 stainless steel with variable height.
Suitable for vessels up to 1 litre capacity.

CONTROL PANEL

1. Alphanumeric display. Indicates rpm and time.
2. Parameter invalidate button.
3. Parameter value decrease button.
4. Parameter value increase button.
5. Parameter validation button.



MODEL

Part No.	Height / Width / Depth (exterior) cm			Power W	Power supply	Weight Kg
3000835	37	25	27	20	220-240V/50-60Hz	6

NEW

ACCESSORY.

Carrying case.
Part No. 3000836

Water distiller “Aquasel”

DISTILLATION CAPACITY: 4 AND 6 LITRES/HOUR.

Made from stainless steel and glass, easy disassembly for cleaning and storage.

COMMON FEATURES

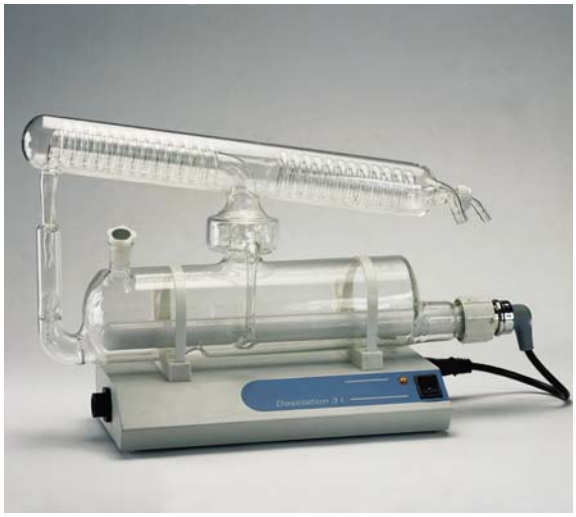
Easy to use, suitable for continuous distilled water requirements.
Boiler unit and heater element made of AISI 304 stainless steel, with lid and condenser made of orosilicate glass. The glassware pressure seal connection is an original Selecta design.
Safety system cuts off power to the heater element if there is not enough water. Distilled water produced is pyrogen free.

MODELS	Part No.	Distillation capacity l/h	Water consumption l/min	Conductivity at 20 °C	Ø / Height (ext.) cm	Power W	Weight Kg
Aquasel 4	4903004	4	1	3 µs/cm	18 43	2400	5
Aquasel 6	4903006	6	2	3 µs/cm	23 68	4800	8

Supplied complete with silicon seals.

Distillation still “L-3”

DISTILLATION CAPACITY: 3 LITRE PER HOUR.



FEATURES

Made entirely of borosilicate glass, with protective case support, designed for functionality, that permits easy access to the quartz heater elements.
Functions: automatic with continuous water production. Produces distilled water of a high purity, free of pyrogens and metal ions.
Equipped with quartz heater elements and protection device using a safety thermostat that is activated in the case of low water pressure to the condenser or boiler unit. The unit automatically reactivates when the water pressure is restored.
Suitable for wall mounting.

MODEL

Part No.	Distillation capacity l/h	Water consumption l/min	Conductivity at 20 °C	Height / Width / Depth (exterior) cm	Power W	Weight Kg
4903000	3	1	3 µs/cm	34.5 56 19	2200	4.5

NEW

Water distiller “D-4 Large”

DISTILLATION CAPACITY: 4 LITRES/HOUR.

FEATURES

Equipment entirely made of borosilicate glass, with protective case designed for functionality that allows an easy access to the glass and heating elements.
Automatic operation.
Continuous production of high purity distilled water, free of dissolved gases, metals, salts and pyrogens.
Spiral heating system.
Double safety system:
1. By a presostat that turns the heater off in case of lack of water supply. 2. Water level device that avoids the computer to function until the heating element is covered with water.

CONTROL PANEL

Power switch.
Lack of water flow indicator lamp.

MODEL

Part No.	Distillation capacity l/h	Water consumption l/min	Conductivity at 20° C	Height / Width / Depth (exterior) cm	Power W	Weight Kg
4903001	4	1	2 µs/cm	69 28 28	3000	6,3

Water distiller, “AC-L4” and “AC-L8”

DISTILLATION CAPACITY: 3.5 AND 8 LITRES/HOUR.

FEATURES

Tank and heating element made from stainless steel.
External case made from epoxy covered steel.
Easily dismantled for cleaning and service. All seals made from silicon.
In the case of over temperature or low water supply, a safety thermostat cuts power to the heater.
Water supply tube Ø 10 to 11 mm.
Distilled water tube connection Ø 12 mm.
Voltage: 230 V / 50/60 Hz

CONTROL PANEL

Illuminated power switch.
Safety switch thermostat with rearm system.

MODELS	Part No.	Distillation capacity l/h	Water consumption l/min	Conductivity at 20 °C	Height / Width / Depth cm			Power W	Weight Kg
AC-L4	4903007	4	1	2,5 µs/cm	44	25	23	3000	12
AC-L8	4903008	8	1,4	2,5 µs/cm	61	26	26	6000	14

Water distiller “L-4 Cabinet”

DISTILLATION CAPACITY: 4 LITRES/HOUR.

NEW

FEATURES

Equipment entirely made of borosilicate glass, with protective case with transparent plastic door that allows an easy access to the glass and heating elements.
The water distiller incorporates a boiler, a large surface cooling and two heating elements with protective quartz.
Desktop model with device to hang it on the wall.
Continuous production of high purity distilled water free of dissolved gases, metals, salts and pyrogens.
Easy to dismantle for a complete cleaning.
Automatic operation.
Totally automatic operation:
• The equipment disconnects when the distilled water tank is full.
• The equipment reconnects when emptied.
• Automatic operation of the distiller.
Double safety system: **1.** By a thermostat that turns the heater off in case of lack of water supply. **2.** Water level device that avoids the computer to function until the heating element is covered with water.

Note on the outlet water: Depending on the inlet water quality, it can be of type II or III (according to ASTM). All parameters have been tested under standard laboratory conditions.

CONTROL PANEL

Start up main switch.
Light indicators of heating, cleaning, of lack of water and tank full.

MODEL

Part No.	Distillation capacity l/h	Water consumption l/min	Conductivity at 20° C	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4903002	4	1	2 µs/cm	40	55	22	1x3000	12

NEW

Water distiller “R-4 Reser”

DISTILLATION CAPACITY: 4 LITRES/HOUR.
STORAGE TANK: 8 LITRES.

FEATURES

External case epoxy covered.
Cooling and heating elements made of stainless steel.
Easy to dismantle for cleaning.
Thermostat that disconnects the heater when there’s lack of water supply.
Monitoring function that disconnects the distiller when the storage tank is complete full, and resumes as it empties.
Distilled water dispenser located in the front part.
Distilled water and water supply racords of 3/4 inch.
Desktop model with device to hang it on the wall.

CONTROL PANEL

Illuminated power switch.
Lack of water flow indicator lamp.

MODEL

Part No.	Distillation capacity l/h	Water consumption l/min	Conductivity at 20° C	Height / Width / Depth (exterior) cm			Power W	Weight Kg
4903005	4	1	2,5 µs/cm	47	54	31	3000	24

Water double distillation “L-4B”

DISTILLATION CAPACITY: 4 LITRES/HOUR.

NEW

FEATURES

Made completely from borosilicate glass with protective case that has easy access to the heater elements and glass parts.
Automatic function and continuous production.
Produces high quality double distilled water free from pyrogen and metallic ions.
It functions through a dual distillation process:
The distilled water from the first stage is collected by the heater reservoir of the second stage, that starts the double distiller function when when the water's level is optimum, thus providing double distilled process.
Protection with a safety thermostat is activated if there is insufficient cooling water.
Reactivated automatically when the water supply is re-established.
Water flow stop if there is an electrical fault.
If it is required to store the distilled water and to prevent over filling, the system stops, switches off power and disconnects the water flow when is full.
Voltage: 400 V / III+N, 50/60 Hz = 8.67 A

MODEL

Part No.	Distillation capacity l/h	Water consumption l/min	Conductivity at 20 °C	Height/Width/Depth cm	Power W	Weight Kg
4903010	4	1,3	0.5 µs/cm	46 66 50	2x3000	25

SPARES

Heater element made of quartz. Part No 4903011
Glass still, borosilicate glass (front –1). Part No. 4903012
Glass still, borosilicate glass (interior-2). Part No 4903013
Condenser, borosilicate glass (the equipment comes with 2 condensers. Price provided is for 1 spare condenser). Part No. 490301

Water distiller, specially for autoclaves “Dest-4”

DISTILLATION CAPACITY: 1.5 LITRES/HOUR. INTERNAL CAPACITY 4 LITRES.

No external additional water required.

FEATURES

Case made from thermo resistant plastic. Internal stainless steel. Cooling by forced air though a condenser. Without glass heater elements, Easy to use. Safety cut out if over temperature due to insufficient water.
Supplied complete with a 4 litres plastic bottle and three dispenser tap with filter.
Note: for daily use it is recommended to change the filter every 3 months.

MODEL

Part No.	Distillation capacity l/h	Conductivity µs/cm	Ø Height cm	Power W	Weight Kg
4001729	1.5	5	29 39	750	3.5

SPARE. Dispensing filter tip. Part No. 4001730

Descaler “C-3”

APPLICATIONS

Pre-treated water that contains large quantities of CaCO3 (lime). For general laboratory use.
Recommended for use with distillation units where water hardness is above 25° french.

TECHNICAL SPECIFICATIONS

Metal container of AISI 304 stainless steel with regeneration of salt by using a two way reverse valve system.
Resin capacity: 12 litres. Regeneration salt: 2 Kg.
Regeneration cycle: 1200 litres to 60° french / 4800 litres to 35° french.
Regeneration cycle for distillation of: 300 to 800 litres.
Maximum mains water pressure: 4.5 Kg/cm^2.
Maximum supplied admissible hardness: 60° french.
Out put hardness: 1° french.
External measurement: 62 cm high x 19 cm Ø.
Weight: 20 Kg.
Part No. 0703052

Comes complete with in and out 3/4" tubing.

50 Litre distilled water reservoir

FEATURES

Recommended for the storage of distilled water. Made of high density polyethylene. 50 litre capacity, with handles and dispenser tap. 15cm Ø top lid with stopper.
Dimensions: 62 cm high x 38 cm Ø.
Part No. 0106006

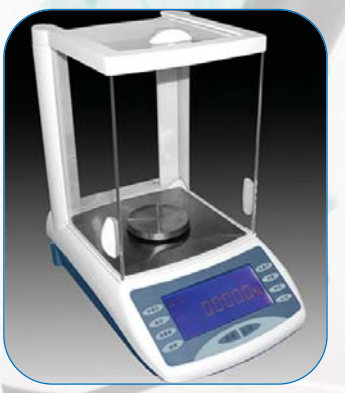
ACCESSORY

Water reservoir trolley.
Robust steel trolley with epoxy coating. Lockable wheels, Inner section for holding jars and carboys etc.
Fits containers 38 cm Ø.
Height 48 cm.
Part No 5903049

BALANCES, MICROSCOPES, AND MELTING POINT

ANTIVIBRATION BALANCE TABLE

MELTING POINT APPARATUS



PRECISE BALANCES

LIGHT SOURCE

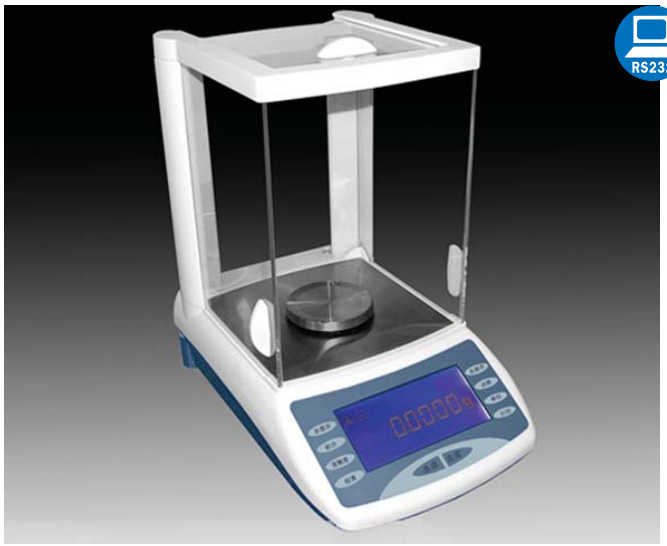
MICROSCOPES

REFRACTOMETERS

Precise balances	page	267
Balance accessories and precision weights	pages	268 to 269
Stereomicroscopes	pages	270 to 271
Microscopes	pages	272 to 278
Microcameras	page	278
Refractometers	pages	279 to 281
Polarimeter	page	281
Melting point apparatus	page	282

"One researcher shines for his questions, not for his answers."
Duque de Levis

Precise analytical balance “FA-2204B”



FEATURES

Digital 7 segment screen.
Time to stability: 8 seconds.
Adjustable time and sensitivity control.
ON/OFF automatic zero adjustment.
Automatic internal 200g calibration.
Tare range by subtraction up to the maximum capacity.
Piece counting function.
Density measurement in the base of the unit.
Units of measurement in g, ct, and oz.
Level adjustment (bubble).
Data interface: RS-232 for connection to a printer.
Operable ambient temperature 5 to 40 °C
Power supply: 110/220 V-50/60Hz.
Supplied complete with cover.

MODELS	Part No.	Maximum weight capacity g	Precision ±g	Linearity ±g	Height / Width / Depth (exterior) cm	Height / Width / Depth (Draft shield) cm	Ø plate cm	Weight Kg
FA-2204B	5830039	200	0.0001	0.0002	35 21 34	24 19 17.5	8	8.5

Electronic Balance “Laborcom”

COMECTA

COMMON FEATURES

Easy to read seven segments display.
Stabilization time: 3 seconds.
ON/OFF. Automatic Zero adjustment
External automatic calibration.
Tare range by subtraction up to maximum capacity.
Piece couting function. Overload indicator.
Operating temperature: from 5 to 35 °C.
Voltage: 220 V ±10 V / 50 Hz.

MODELS	Part No.	Maximum weight capacity g	Precision ±g	Height / Width / Depth (exterior) cm	Ø plate cm	Weight Kg
LABORCOM 110-L	5830025	110	0.01	7 17.5 24	12.5	1.6
LABORCOM 210-L	5830026	210	0.02	7 17.5 24	12.5	1.6
LABORCOM 600-L	5830031	600	0.1	7 17.5 24	12.5	1.6
LABORCOM 1100-L	5830032	1100	0.1	7 17.5 24	12.5	1.6
LABORCOM 2100-L	5830033	2100	0.1	7 17.5 24	12.5	1.6
LABORCOM 11000-L	5830027	11000	1	7 17.5 24	16.5 x 16.5	1.8

Shaking monitor for blood collection “HEDO2”

FOR BLOOD COLLECTION PROCESSES IN BAGS

FEATURES

HEDO2 is a digital blood collection monitor, created to control and monitoring blood collection processes. It has been designed to perform simple, precise and accurate operations.
It is composed of:
Easily removable tray.
Wired or wireless interface networking.
Automatic clamp closing at the end of the donation.
Automatic tare calculation.
Real time monitoring of the donation showed on the digital display.
Stand alone mode (operating with rechargeable battery). 8 hours life.
Sensor to detect the tube presence.
Power supply: 110/220 V-50/60Hz.

MODEL

Part No.	Max weight Capacity g	Precision g	Resolution g	Height / Width / Depth (external) cm	Power W	Weight Kg
5010000	999	± 3	1	19 32 32	60	5

It is supplied with a transport suitcase.

ACCESSORIES

Wireless data transfer Hedo-2. Part No. 5010001
Wireless connection module Hedo-2. Part No. 5010002
Barcode reader Hedo-2. Part No. 5010003
Alarm lamp pool Hedo-2. Part No. 5010004

WEIGHING DISHES "ACCU-WEIGH"

Anti static. Reproducible tare weighing.
Contamination free. Large selection of sizes.

Common features:
Made from high density polystyrene with flat base, round edge, contamination free surface and hydrophilic. Flexible in form for easy manipulation of the sample either liquid or solid.
Manufactured in two forms:
- Diamond form, colours white and black.
- Square form, colour white.

Part No.	Form	Capacity	Height / Width / Depth	Weight	Colour
5726004	Diamond	5	3.8 31 54	0.25	White
5726005	Diamond	5	3.8 31 54	0.25	Black
5726006	Diamond	30	13.5 55 85	1.00	White
5726007	Diamond	30	13.5 55 85	1.00	Black
5726008	Diamond	100	20 92 132	2.6	White
5726009	Diamond	100	20 92 132	2.6	Black
5726010	Square	7	8.5 44 44	0.65	White
5726011	Square	100	24 80 80	2.2	White
5726012	Square	250	24 134 134	6.1	White

Comes in packets of 100 units.

ALUMINIUM WEIGHING BOATS

Static free, pressed dishes with rolled edge.
Withstands temperatures up to 450 °C.
Due to their form the dishes can be used one on top of another to protect samples.
Suitable for testing, solid samples and mixtures of emulsions for moisture content, by differential weight loss method.
Useful for weighing, comparing, freezing or evaporation.
Consumable, single use.

Part No.	Thickness mm	Height / Ø (usable) mm	Comes in
5726000	0.2	5 42	packets of 112 units
5726001	0.2	10 57	packets of 110 units

ANTIVIBRATION BALANCE TABLE

Formica covered metal table with central polished granite plate to support the balance, mounted on silent blocks.
Adjustable shock device. Maximum weight 40 Kg.

Part No.	Height / Width / Depth (exterior) cm	Height / Depth (balance support) cm	Weight Kg
5838101	80 90 70	45 39	70

BALANCE DENSITY MEASUREMENT "PR-SE" (PATENTED)

Applications: System for reading the density of liquids using the immersion of a glass sinker of known volume. Can be used for opaque and viscous liquids for all classes of liquid.
Features: Made of borosilicate glass of low dilatation coefficient and a constant volume.
Mode of operation:
- Locate the tube with liquid on an electronic balance.
- Push the TARE to achieve a zero stable reading
- Introduce and submerse the measuring suspended sinker centrally without tilting the tube, keep suspended.

At this moment the screen will indicate the DIFFERENTIAL WEIGHT, that is exactly the same as the density of the liquids multiplied by 10.
To obtain a density value in mS, it is necessary to have a balance with a minimum resolution of 0.01 g.

Part No.	Density interval g/ml	Maximum tolerance error g/ml	Temperature assay/reference °C
5600000	0.600 - 2.000	±0.0005	20 / 20

Calibrated precision weights class E2 and F1. Certification W.E.C.C. (Western European Calibration Co-operation)

COMMON FEATURES

In the manufacturing of these weights the meteorological requirements are applied to conform with the OIML verification for accuracy, raw material, geometric form, identification and conservation. To guarantee their accuracy, the individual weights are supplied in a partitioned wooden case with a clasp lid and a small tray housing for locating the mg weights. The wooden boxes are lined with velvet for the g and Kg weights.

Weight material
From 1 to 5 mg = aluminium, density approx. 2.7 g/cm^3.
From 10 to 500 mg = alpaca, density 8.6 g/cm^3.
From g and Kg = antimagnetic polished stainless steel, density approx. 8.0 g/cm^3, Without adjustable chamber E2 and with adjustable chamber F1. The calibration certificate is expedited by DKD (member of the W.E.C.C.), which contains the determination and deviation between the nominal mass values, the actual measured value and the tolerance measurement.

Weight	Part No. Weight Class E2	Part No. Certificate E2	Tolerance Max. error ± mg	Part No. Weight Class F1	Part No. Certificate F1	Tolerance Max. error ± mg
1 mg	5838102	5838124	0.006	5838146	5838169	0.020
2 mg	5838103	5838125	0.006	5838147	5838170	0.020
5 mg	5838104	5838126	0.006	5838148	5838171	0.020
10 mg	5838105	5838127	0.008	5838150	5838172	0.025
20 mg	5838106	5838128	0.010	5838151	5838173	0.03
50 mg	5838107	5838129	0.012	5838152	5838174	0.04
100 mg	5838108	5838130	0.015	5838153	5838175	0.05
200 mg	5838109	5838131	0.020	5838154	5838176	0.06
500 mg	5838110	5838132	0.025	5838155	5838177	0.08
1 g	5838111	5838133	0.030	5838156	5838178	0.10
2 g	5838112	5838134	0.040	5838157	5838179	0.12
5 g	5838113	5838135	0.050	5838158	5838180	0.15
10 g	5838114	5838136	0.060	5838159	5838181	0.20
20 g	5838115	5838137	0.080	5838160	5838182	0.25
50 g	5838116	5838138	0.10	5838161	5838183	0.30
100 g	5838117	5838139	0.15	5838162	5838184	0.5
200 g	5838118	5838140	0.30	5838163	5838185	1
500 g	5838119	5838141	0.75	5838164	5838186	2.5
1 Kg	5838120	5838142	1.5	5838165	5838187	5
2 Kg	5838121	5838143	3.0	5838166	5838188	10
5 Kg	5838122	5838144	7.5	5838167	5838189	25
10 Kg	5838123	5838145	15	5838168	5838190	50

SET OF STANDARD WEIGHTS WITH BOX AND MATCHING CERTIFICATE

Set of weights E2 of **1 mg** to **500 mg** Part No. **5831822**
Set of weights F1 of **1 mg** to **500 mg** Part No. **5832822**
Certificate for set of weights **E2** of **1 mg** to **500 mg** Part No. **5862350**
Certificate for set of weights **F1** of **1 mg** to **500 mg** Part No. **5862450**
Material: Wooden box (E2), or resin box (F1), with clasp, tweezers and a small brush.
Weight details: 1 mg, 2 mg, 2 mg, 5 mg, 10 mg, 20 mg, 20 mg, 50 mg, 100 mg, 200 mg, 200 mg and 500 mg. **Total 12 weights = 1.11 g**

Set of weights E2 of **1 mg** to **50 g** Part No. **5831302**
Set of weights F1 of **1 mg** to **50 g** Part No. **5832302**
Certificate for set of weights **E2** of **1 mg** to **50 g** Part No. **5862301**
Certificate for set of weights **F1** of **1 mg** to **50 g** Part No. **5862401**
Material: Wooden box with clasp, lined with velvet, a special glove, housing for extractable fractional weights, tweezers and a small brush.
Weight details: 1 mg, 2 mg, 2 mg, 5 mg, 10 mg, 20 mg, 20 mg, 50 mg, 100 mg, 200 mg, 200 mg, 500 mg, 1 g, 2 g, 2 g, 5 g, 10 g, 20 g, 20 g y 50 g
Total 20 weights = 111.11 g

Set of weights E2 of **1 mg** to **100 g** Part No. **5831303**
Set of weights F1 of **1 mg** to **100 g** Part No. **5832303**
Certificate for set of weights **E2** of **1 mg** to **100 g** Part No. **5862302**
Certificate for set of weights **F1** of **1 mg** to **100 g** Part No. **5862402**
Material: Wooden box with clasp, lined with velvet, a special glove, housing for extractable fractional weights, tweezers and a small brush.
Weight details: 1 mg, 2 mg, 2 mg, 5 mg, 10 mg, 20 mg, 20 mg, 50 mg, 100 mg, 200 mg, 200 mg, 500 mg, 1 g, 2 g, 2 g, 5g , 10 g, 20 g, 20 g, 50 g and 100 g
Total 21 weights = 211.11 g

Set of weights E2 of **1 mg** to **200 g** Part No. **5831304**
Set of weights F1 of **1 mg** to **200 g** Part No. **5832304**
Certificate for set of weights **E2** of **1 mg** to **200 g** Part No. **5862303**
Certificate for set of weights **F1** of **1 mg** to **200 g** Part No. **5862403**
Material: Wooden box with clasp, lined with velvet, a special glove, housing for extractable fractional weights, tweezers and a small brush.
Weight details: 1 mg, 2 mg, 2 mg, 5 mg, 10 mg, 20 mg, 20 mg, 50 mg, 100 mg, 200 mg, 200 mg, 500 mg, 1 g, 2 g, 2 g, 5 g, 10 g, 20 g, 20 g, 50 g, 100 g, 200 g y 200 g
Total 23 weights = 611.11 g

Stereomicroscope “XTX-3C LED and ZTX-20 LED”

NEW DESIGN

Model XTX-3C LED.

Model ZTX-20 LED.

APPLICATIONS

By design and quality optics, these microscopes are recommended especially for long duration work. Ideally suited for biology, botany, archaeology, geology, teaching and electronics.

COMMON FEATURES

Three dimensional optical resolution, wide field of view without side aberrations, excellent crisp contrast and true colour.
Rechargeable battery 3x1800Ah and external charger.
Binocular head inclined at 45° with adjustable interpupillary distance from 55 to 75 mm.
Rotating head of 360° with easy access for large items.
Dioptric correction in the left eyepiece of ±5dp.
Ocular head held with secure fixing screws.
Rubber eyecups.
Pair of eyepieces, wide field of view WF 10x (23 mm Ø). In the model ZTX-3C.
Pair of eyepieces, wide field of view WF 20x (20 mm Ø). In the model ZTX-20.
Objectives of 2 x and 4 x, located in a double objectives support turret with rotation in both directions.
Double focus: by means of a vertical slip clutch of the head up and down a column, with fine adjustment using a bilateral macrometer with rack and pinion tension and control.
Solid base consisting of a platform with double contrast (black and white) circular plate and translucent etched light diffuser, with fixing screw and holding clips.

Model XTX-3C LED: System with double illumination of low voltage 12 V/10 W, with incident light (episcopic) in the head and transmitted (diascopic) in the circular platform.
Model ZTX-20 LED: system with triple illumination of low voltage, with incident light (episcopic) in the head and transmitted (diascopic) in the circular platform, Activated individually or simultaneously, with controllable intensity. Also the incident light incorporates a condenser lens with an extractable blue filter.

Dimensions: XTX-3C LED: 270 high x 117 wide x 190 mm deep.
Dimensions: ZTX-20 LED: 350 high x 320 wide x 190 mm deep.

Stereomicroscope model XTX-3C LED. Part No. 5313113
Stereomicroscope model ZTX-20 LED. Part No. 5313090

ACCESSORIES

Eyepiece with wide field of view WF 5x (single). Part No. 5313091
Eyepiece with wide field of view WF 10x (single). Part No. 5313092
Eyepiece with wide field of view WF 15x (single). Part No. 5313093
Eyepiece with wide field of view WF 20x (single). Part No. 5313094
Wooden box with handle and lock. Part No. 5313022
Ocular with scale 10/100 mm (each unit). Part No. 5313095

SPARES

Set of LED lamps (for XTX-3C LED). Part No. 5313013
Set of LED lamps (for XTX-20 LED). Part No. 5313015

MODELS	Part No.	Objectives	Eyepieces	Magnification	Ø Field of view mm	Working Distance mm	Illumination	Weight kg
XTX-3C LED	5313113	2x	WF-10x	20x	10.0	57	Transmitted or incident	2.8
		4x		40x	5.0			
ZTX-20 LED	5313090	2x	WF-20x	40x	5	40	Transmitted or incident	3.6
		4x		80x	2.5		independent or simultaneous	

Comes complete with key for tightening the axis tension, spare lamp and plastic dust cover.

Stereomicroscopes with Zoom "SQF-L LED, SQF-D LED and SQF-E LED"

NEW DESIGN

Model SQF-L LED.

Model SQF-D LED with Supplementary objective 2x.

APPLICATIONS

By design and quality optics, these microscopes are recommended especially for long duration work. Ideally suited for biology, botany, archaeology, geology, teaching and electronics.

COMMON FEATURES

Variable magnification using a continuous zoom control, with control knobs on either side to enable parfocal centralised focus.
Three dimensional optical resolution, wide field of view without side aberrations, excellent crisp contrast and true colour.
Optics are protected against knocks.
Binocular or Trinocular head (Model dependent), inclined at 45°.
Adjustable interpupillary distance from 54 to 75 mm.
Rotating head of 360° with easy access for large items.
Dioptric correction of ±5 dp in both eyepieces.
Ocular head fixed with secure screws.
Rubber eyecups.
Pair of eyepieces wide field of view **WF20x** (12 Ø) or **WF10x** (22 Ø) model dependent.
Macrometric focus: by means of a vertical slip clutch with a fine adjustment using rack and pinion tension control.
Solid base consisting of a platform with double contrast (black and white) circular plates and translucent etched light diffuser, with fixing screw and holding clips.
Triple illumination LED system, low voltage with incident light (episcopic) in the head and transmitted (diascopic) in the circular platform: activated individually or simultaneously, with controllable intensity.

Model SQF-E LED trinocular
Same characteristics to the SQF-D LED model, except that the head is trinocular and it is supplied with a photography adapter and eyepiece WF 10x with an adjustable focus visor. The photographic eyepiece and camera with support T2 PK and trigger cable have to be ordered as accessories.

ACCESSORIES

Supplementary objective 0.5x. SQF-L	Part No. **5313096**
Supplementary objective 0.75x. SQF-L	Part No. **5313097**
Supplementary objective 1.5x. SQF-L	Part No. **5313098**
Supplementary objective 2x. SQF-L	Part No. **5313099**
Eyepiece with wide field of view HWF 10x (single).SQF-D & E	Part No. **5313081**
Eyepiece with wide field of view HWF 15x (single).SQF-D & E	Part No. **5313082**
Eyepiece with wide field of view HWF 20x (single).SQF-D & E	Part No. **5313083**
Photographic adapter 4x (single). SQF-E	Part No. **5313078**
Video camera for eyepiece (See page 278)	Part No. **5435030**
Adapter CCD of 0.5x suitable for a video camera.	Part No. **5313089**
Eyepiece WF10x with grid (single). (Model SQF-D and E)	Part No. **5313084**
Wooden case with handle and lock.	Part No. **5313016**

SPARES

Set of LED lamps SQF-L	Part No. **5313015**
LED lamp 3 W SQF-D LED and SQF-E LED (transmitted).	Part No. **5313044**
LED lamp 3 W SQF-D LED and SQF-E LED (incident).	Part No. **5313045**

Technical table with the different magnifications, working distance and Ø of the field of view resulting in the configuration of the diverse eyepieces and supplementary objectives available.

MODELS	Part No.	Head	Zoom Range	Eyepieces	Standard magnification	Ø Field of view mm	Working distance mm	Illumination system	Weight kg
SQF-L LED	**5313311**	**Binocular**	**1x - 4x**	**10x**	**1x - 4x**	**26 - 5.8**	**90**	**Transmitted**	**5.5**
SQF-D LED	**5313309**	**Binocular**	**0.67x - 4.5x**	**20x**	**13.4x - 90x**	**17.9 - 2.7**	**105**	**or incident or both**	**6.1**
SQF-E LED	**5313308**	**Triocular**	**0.67x - 4.5x**	**20x**	**13.4x - 90x**	**17.9 - 2.7**	**105**	**simultaneously**	**6.4**

Comes with a dust cover.

Microscope Monocular “M-100 FL LED”

NEW DESIGN

APPLICATIONS

Directed at the requirements of higher education, universities and suitable for: veterinary, dentistry, biology, industry, etc.

FEATURES

Monocular head inclined angle 45° and rotatable through 360°.
Eyepiece, with wide field of view WF 10x (18 Ø) fixed in position using secure screw.
Objectives, parfocal DIN 45 mm **achromatic brightfield** of **4x** (A.N. 0.10), 10x (A.N. 0.25)and 40x retractable (A.N. 0.65).
Total magnification: 40x, 100x and 400x.
Revolving triple objectives turret, rotation in either direction with a fixed axis stop locator.
Focus, vertical slip clutch, bilateral **micrometer** adjustment of 0.002 mm, separate **macrometer** with adjustable tension. Safety fixing screw for tension adjustment and end of focus limit stop.
Stage with spring clip slide holder of 110 x 126 mm.
Condenser, fixed lens and aperture (A.N. 0.65), with diaphragm disk of 5 apertures.
Illumination, transmitted light (diascopic), LED 0.5 W, with collimator lens and blue filter for chromatic corrections.
Robust construction, with power switch and illuminator built into the base.
Dimensions: 360 height x 130 width x 175 mm depth.
Weight 2.8 kg.
Supplied complete with key to adjust the tension of the slip clutch and cover.
Microscope monocular M-100 FL LED (400x).
Part No. **5313119**

ACCESSORIES

Eyepiece Widefield WF-15x with cross hairs (Pointer).
Part No. **5313076**
Eyepiece Widefield WF-20x with reticule.
Part No. **5313077**
Condenser ABBE 1.25 A.N. with filter and iris diaphragm.
Part No. **5313003**
Graduated mechanical stage.
Part No. **5313009**
Video Micro-camera, 3.1 MP-:
- with connection USB for direct connection to a PC, including software.
Part No. **5435034**
Wooden case with carry handle and lock.
Part No. **5313022**

SPARE

LED lamp 0.5 W.
Part No. **5313028**

ACCESSORY

Set of polarisers with circular graduated base and filter. Part No. **5313075**

Microscope Binocular “701 LED”

NEW DESIGN

FEATURES

Binocular head with 45° tilt and full 360° rotation.
Interpupillary distance: 52 to 72 mm.
Dioptric adjustment of ±5 dp in both eyepieces, sharpness compensation for visual differences.
Pair of eyepieces DIN standard **WF10x** (18 mm Ø) and **WF16x**(11mm Ø).
Objectives DIN standard, achromatic, brightfield of 4x (A.N. 0.10), **10x** (A.N. 0.25), **40x** (A.N. 0.65) retractable and 100x (A.N. 1.25) immersion oil and retractable. Colour coded objectives for easy identification.
Total magnification: 1600x.
Four position objectives turret rotating in both directions with stop locator when it is in the correct position.
Large sub stage **135x145** mm, variable height with a rack and pinion mechanism with bilateral coaxial control. **Micrometer** adjustable stage graduated to 0.002 mm and **macrometer** adjustment tension, Movement up to 30 mm.
Safety stop with pre-set adjustable safety level.
Adjustable slide holder, with 0.1 mm scale with a smooth X-Y **40 mm longitudinal** and **80 mm** traversal movement.
Condenser Abbe of 1.25 A.N. with diaphragm iris and exchangeable filters. Rack and pinion height, adjustable.
Illumination transmitted (diascopic), with removable condenser lens and pre-centred lamp LED 3W, with variable intensity control. Suitable for use with an external light source using a plan or concave reflector mirror.
Robust construction that incorporates the illumination source and mains switch in the base.
Size: height 370 x width 200 x depth 225 mm.
Weight 6 Kg.
Supplied complete with blue set filters, matt glass filter, fuse, oil, dust cover.

Power supply: 110/220 V-50/60Hz.
Microscope Binocular 701 LEd. Part No. **5313111**

ACCESSORIES

Eyepiece with wide angle lens WF-5x (single).
Part No. **5313034**
Eyepiece with wide angle lens WF-15x (single).
Part No. **5313004**
Eyepiece with wide angle WF-10x with reticule (single).
Part No. **5313035**
Eyepiece with wide angle WF-10x with pointer (single).
Part No. **5313007**
Video camera for eyepiece (see page. 278)
Part No. **5435030**

SPARE

LED lamp 3 W.
Part No. **5313027**

Polarising Binocular Microscope 206 LED

NEW DESIGN

APPLICATIONS

Wide range of applications, includes bright-field, dark-field, polarization and phase contrast. Ideal for universities, clinics, biology, bacteriology,agriculture and industry.

FEATURES

Binocular head inclined 30° rotatable through 360°.
Adjustable interpupillary distance of 55 to 75 mm.
Diopter adjustment of ±5 dp. in the right eyepiece, compensation for any differences in sharpness.
Paired eyepieces DIN, wide field of view **WF10x** (18Ø) and a pair of **WF16x** (Ø).
Objectives DIN, achromatic brightfield of **4x** (A.N. 0.10), **10x** (A.N. 0.25), **40x** (A.N. 0.65) retractable and **100x** (A.N.1.25) oil immersion retractable; colour coded for rapid identification.
Total magnification: 1600x
Quadruple revolving objectives turret, rotates in both directions with notched location positions.
Large stage of **160 x 140 mm**, height adjustable by mechanical rack and pinion bilateral coaxial focus; 0.002 mm graduated **micrometer** and **macrometer** with adjustable tension (distance 30 mm).
Pre-adjusted, Safety stop limit.
Mechanical stage, (slide holder), graduated scale of 0.1 mm, adjustable in both (x-y) using a smooth rack and pinion movement of **50 mm longitudinal** and **70 mm** transversal.
Condenser Abbe of 1.25 A.N. with iris diaphragm and replaceable filters.
Adjustable height by rack and pinion.
Illumination: transmitted (diascopic), with removable condenser lens and LED 3 W lighting with regulable intensity.
Strong and robust, illuminator incorporated into the base.
Set of simple polarisers: controllable analysis polariser.

Set of simple polarisers.

Comes complete with a set of blue, green and yellow filters, set of simple polarisers, lamp, 2 spare fuses, bottle of immersion oil and plastic cover

MODEL	Part No.	Height / Width / Depth mm			Power supply	Weight Kg
206	5313115	425	245	335	220 V / 50 Hz	7.5

SPARE

3W LED lamp. Part No. 5313046

ACCESSORIES

Eyepiece with wide angle lens WF-5x (single) Part No. 5313034
Eyepiece with wide angle lens WF-15x (single) Part No. 5313004
Eyepiece with wide angle lens WF-10x with reticule (single) Part No. 5313035
Eyepiece with wide angle lens WF-10x with pointer (single) Part No. 5313007

Complete kit for phase contrast, made of: Objectives DIN plan negative phase contrast: 10x (A.N. 0.25), 40x (A.N. 0.65) and 100x (A.N. 1.25) retractable oil immersion, condenser turret phase A.N. 1.25, central telescope and blue filter.
Part No. 5313017

5313017

Darkfield condenser: Permits the observation of low contrast and small size, dispersed in a homogeneous substrate samples which they appear luminescent under a uniform darkfield.
Darkfield condenser A.N. 0.83 - 0.91 dry (operable under low magnification).
Part No. 5313018

5313018

Darkfield condenser A.N. 1.25 - 1.36 oil immersion (operable under high magnification). Part No. 5313019

5313019

Video camera for eyepiece (see page 278)
Part No. 5435030

5435030

Microscopes “3000-A LED, 3000-B LED and 3000-C LED"

EXCELLENT RESOLUTION PLANACHROMATIC OPTICS. HIGH SPECIFICATION OPTICAL MICROSCOPES. MAXIMUM VERSATILITY WITH A WIDE RANGE OF CONFIGURATIONS, MODELS SHOWN ARE BINOCULAR AND TRINOCULAR WITH PHASE CONTRAST, BRIGHT AND DARK FIELD OPTICS, THIS INSTRUMENT IS IDEAL FOR A WIDE RANGE OF APPLICATIONS.

Optics Anti mould / Anti fungal

NEW DESIGN

APPLICATIONS

Biology, bacteriology, cytology, immunology, diagnostics, pathology, agriculture,industry and university laboratories.

3000-A LED (BINOCULAR) AND 3000-B LED (TRIOCULAR).

FEATURES

Head, binocular or trinocular (model dependant), inclined 30° with 360° rotation.
Interpupillary distance adjustable from 53 to 75 mm.
Dioptric adjustment of ±5 dp in the left eyepiece, to compensate any visual differences.
Pair of DIN eyepieces wide field of view **WF 10x** (20 mm Ø).
DIN objectives, planachromatic bright field of **4x** (A.N. 0.10), **10x** (A.N. 0.25), 40x (A.N. 0.65) retractable and 100x (A.N. 1.25) oil immersion retractable, colour coded for rapid identification.
The planachromatic objectives provide an excellent image to the edge of the optical field of view.
Quadruple revolving objectives turret, rotates in both directions with spring ball stop locator when it is in the correct position.
Large substage of **180x140 mm**, rack and pinion adjustable height. Coaxial focus using controls located on both sides, graduated **micrometer** in steps of 0.002 mm and **macrometer** (with adjustable tension of up to 30 mm).
Safety stop with present adjustment.
Adjustable slide holder with a graduated scale of 0.1 mm, made up of a smooth (X-Y) rack and pinion mechanism, **longitudinal** and **transversal** movement of **50 mm** and **75 mm** respectively.
Abbe condenser of 1.25 A.N. precentred, with double lens, iris diaphragm and retractable from the front. Adjustable height using a rack and pinion mechanism.
The Abbe condenser can be easily replaced for special applications with a phase contrast condenser or a darkfield condenser (see accessories).
Transmitted illumination with LED that is formed with a condenser lens, viewing diaphragm removable filters and a precentred, low voltage, adjustable intensity.
Robust stable structure that includes the illumination system in the base, adjustable intensity potentiometer and On/Off switch.
Dimensions: 410 Height x 200 Width x 310 mm Depth.

Microscope Binocular Part No. 3000-A LED. Part No. 5901981
Microscope Triocular Part No. 3000-B LED. Part No. 5901982

Model “3000-B”. Part No. 5901982.

MODEL 3000-C LED PLAN PHASE CONTRAST - BINOCULAR.

FEATURES

Similar characteristics to the model 3000-A LED except for a special configuration of **Plan Phase Contrast objectives**:
The objectives, **DIN quality, are planachromatic with positive phase contrast** of 10x (A.N. 0.25), 25x (A.N. 0.40) 40x (A.N. 0.65) retractable and 100x (A.N. 1.25) retractable and oil immersion.
The condenser is a phase turret A.N. 1.25, with central telescope and a set of white, blue and green filters. With sharp detail for examination of transparent thin sections that can differentiate the refraction index that the human eye cannot differentiate. Excellent for applications in biology, medicine, crystallography, agriculture, industrial plastics and rubber etc.
Microscope Binocular model 3000-C LED. Part No. 5901983

MODELS	Part No.	Head	Eyepieces	Objectives	Technique	Illumination	Weight kg
3000-A LED	5901981	Binocular	WF 10x (20 Ø)	Planachromatic (PL) 4x - 10x - 40x - 100x	Brightfield	3 W LED	8.4
3000-B LED	5901982	Triocular					8.7
3000-C LED	5901983	Binocular		Planachromatic (PL) phase contrast 4x - 25x - 40x - 100x	Phase contrast		8.4

Supplied complete with matt glass filter, fuse and a dust cover.

SPARE
LED lamp 3. Part No. 5313026

ACCESSORIES
See page: 278

Trinocular fluorescence microscope “3002-F”

EXCELLENT RESOLUTION. POLYVALENT, CAN WORK IN EPIFLUORESCENT OR TRANSMITTED LIGHT MODE. WITH TRINOCULAR ADAPTER FOR CAMERA AND VIDEO CAMERA. PHASE CONTRAST AND DARK FIELD MODES AS ACCESSORIES.

NEW DESIGN

OPTICS ANTI MOULD / ANTI FUNGAL

APPLICATIONS

Biology, cytology, oncology, genetics, scientific investigation, clinical diagnostics, epidemic prevention and embryology.

FEATURES

Trinocular head, inclined 30° and rotatable through 360°.
Interpupillary distance adjustable from 55 to 75 mm.
Dioptric adjustment of ±5 dp in the left eyepiece, to compensate for any visual differences.
Pair of wide field DIN eyepieces WF 10x (22 Ø).
Bright field planachromatic DIN objectives of 4x (A.N. 0.10), **10x** (A.N. 0.25), **40x** (A.N. 0.65)retactable, and an oil immersion retractable **100x** (A.N. 1.25) they are colour codified for a quick identification.
Planachromatic objectives provide an excellent image to the edge of the optical field of view.
Quadruple revolving objective turret, with both sides rotation and with a roller baring and a notch stop.
Large sub stage of **180x150 mm**, **rack and pinion** height adjustable, by coaxial focus bilateral controls, graduated micrometer in steps of 0,002 mm and macrometer with adjustable tension (30 mm path). With transmitted light lock plate and **UV** radiation protection screen.
Safety stop with preset adjustable safety level.
Mechanical slide holder (moveable), with graduated scale of 0,1 mm, made up of a smooth movement mechanism (x-y), by a 50mm longitudinal and a 75mm transversal rack and pinion movement.
Abbe condenser of 1.25 A.N., precentred, with double lens, iris diaphragm and retractable **frontal lens**. Rack and pinion height, adjustable.
Abbe condenser can be easily replaced by a phase turret condenser (for contrast) or dark field condenser, for special observation conditions (see accessories).

Transmitted illumination (diascopic), according to Kölher, that consists of a condenser lens, a field diaphragm, removable filters and low voltage halogen precentred lamp of 12V/30W with adjustable intensity.
Robust stable structure that includes the illumination system, the intensity potentiometer and the On/Off switch on its base.

FLUORESCENCE UNIT

Mercury lamp of 100 W/DC
Lamp power supply connected to 110 V/220 V with intensity, voltage and power adjustable by a knob.
Illumination module for reflected fluorescence (Waveband B and G, N free).
The unit includes diaphragm, selectable attenuation filter and 5 positions filter disk: ultraviolet, violet, blue and green filters, and a empty position for transmitted light.

ACCESSORIES

Waveband V and UV. Part No. 5901986

MODEL	Part no.	Eyepieces	Objectives	Technique	Illumination	Weight kg
3002-F	5901984	WF 10x (22 Ø)	Planachromatics (PL) 4x- 10x- 40x-100x	Epifluorescent	Transmitted 12v / 30w & Mercury fluorescence 100w / DC	10,5

Supplied complete with a set of blue, green and white filters, bottle of immersion oil ηD 1.515, mercury lamp 100 w, spare fuse and dust cover.

SPARE PARTS **Halogen lamp** 12 V / 30 W. Part No. 5313021. **Mercury lamp** 100 W DC. Part No. 5313055
Fluorescense omega filters: U V. Part No. 5313060 Violet. Part No. 5313061 Blue. Part No. 5313062 Green. Part No. 5313063

ACCESSORIES FOR MICROSCOPES MODELS “3000-A LED”, “3000-B LED”, “3000-C LED” AND “3002-F”

Eyepiece with wide angle lens WF-15x (single). Part No. 5313073.
Eyepiece with wide angle lens WF-20x (single). Part No. 5902074
Contrast phase kit: Objectives DIN, planachromatic positive phase contrast of 10x (A.N. 0.25), 25x (A.N. 0.4), 40x (A.N.0.65) retractable and 100x (A.N.1.25) retractable oil immersion and phase condenser turret, A.N. 1.25, with central telescope and green filter. Part No. 5901985
Dark Field condenser: Permits the observation of low contrast particles dispersed in a homogenous substrate, that appear luminous in a dark field.
- Dark field condenser: A.N. 0.77 ~ 0.91 dry (low magnification). Part No. 5313071
- Dark field condenser: A.N. 1.25 ~ 1.40 immersion (high magnification). Part No. 5313072

Micrograph Kit, camera mechanism WF 10x with a visor for focus correction and a photographic objective of 2.5 - 4x. (Adaptable for **Digital reflex photographic kit**). Part No. 5902008
Digital reflex photographic kit Composed of a mount, a shutter and a SD memory card of 2Gb. Part No. 55313222
Adapter for a CCD video camera: attachment. Part No. 5313070
Wooden case. Part No. 5313016

5902008 5313071 5313072

5901985 5313222

Microscope biological inverted, trinocular “XDS-1B LED”

ISO 9001

NEW DESIGN

APPLICATIONS

Optical microscope with many benefits, specially designed for biomedicine, biology and for culture analysis in matrix flasks and in microtitre plates, flasks, culture vessels, tubes etc. through the use of its objectives and long working distance condenser, technique uses brightfield or phase contrast.

FEATURES

Robust stable design with lateral arm wrist supports for maximum comfort and easy manipulation.

Trinocular head, inclined 45°.
Interpupillary distance adjustable from 53 to 77 mm.
Diopter correction of ±5dp in the left eyepiece, used to correct differences in sharpness.

Pair of DIN wide field **WF 10x** (22 Ø), telescopic central eyepiece phase contrast DZ11x DZ11x and trinocular photography eyepiece **S 5x** (9.5 Ø).

Objectives DIN planachromatic brightfield,long working distance LWD PL of 10x (A.N. 0.25/working distance W.D.=4.3 mm), **20x** (A.N. 0.40/W.D.=8 mm), **40x** (A.N. 0.40/W.D.=3 mm) and on **negative phase contrast LWD PL ph of 10x** (A.N. 0.25/W.D.=5 mm), colour coded for rapid identification.
Maximum thickness acceptable for receptacle bases 1.2 mm.

Quadruple objectives turret with rotation in both directions with a roller baring and notch stop. Rack and pinion height adjustment mechanism with bilateral coaxial focus controls: **micrometer** of 0.2 mm rotation graduated at 0.002 mm increments and **macrometer** with adjustable tension.
Total working distance 12 mm.

Condenser with long working distance (55 mm), brightfield and phase contrast. Precentred, with iris diaphragm and flip out phase contrast. **Including a phase ring of 25x**. Rack and pinions mechanism for height regulation or lateral removal for more height receptacles of up to 145 mm.

Large stage: dimensions 227x208 mm. Includes 3 stages for optimum accommodation of differing sample vessels: plates and or culture flasks, microtitre plates, etc.

Mechanical sub-stage with graduated scale of 1 mm and vernier of 0.1 mm, made up of a smooth mechanism (x-y) rack and pinion drive with 77 mm longitudinal and 114 mm transversal.

Illumination system, diascopic transmitted light by a halogen lamp of 6 V / 20W, precentred by external knobs and controllable intensity.
The unit includes a field diaphragm with filter carousel of green and grey.

MODEL	Part No.	Height / Width / Depth exterior cm			Weight Kg
XDS-1B LED	5901988	58	30	53	17

Comes complete with 2 flasks, 2 culture plates, wooden holder for eyepieces, objectives and accessories, 2 lamps, 2 spare fuses and a protective cover.

ACCESSORIES

Objectives planachromatic long working distance Negative phase contrast:

Objective PLL ph 20x
(A.N. 0.40 W.D.=8 mm)
Part No. 5313065

Objective PLL ph 40x
(A.N. 0.60 W.D.=3,5 mm)
Part No. 5313066

5313065 *5313066*

Adapter thread CCD 0.5 x
Part No. 5313067

Adapter thread 1 x
Part No. 5313068

Eyepiece WF10x (22 mm)
With reticule Part No. 5313064

5313064

Digital reflex photographic kit, composed of a mount, a shutter and a SD memory card of 2Gb.
Part No. 5313222

5313222

SPARES

3W LED lamp. Part No. 5313029

Microscope metallographical inverted “18AT”

EXCELLENT RESOLUTION. PLANACHROMATIC OPTIC.

NEW DESIGN

APPLICATIONS

Microscope with high capabilities.
Made for large sample observations. Samples are placed on top of an open obstruction free stage.
Binocular or Trinocular configuration with a range of accessories, that convert the instrument into an versatile microscope ideal for the identification and analysis of different materials and alloys. Suitable for a wide range of scientific research applications in metallurgy, physical properties of metals, heat treatments and quality control.

Model triocular 18AT.

FEATURES

Head, binocular or trinocular (model dependent), 45° inclined angle.
Adjustable interpupillary distance from 53 to 77 mm.
Dioptric adjustment of ±5 dp in the left eyepiece, compensating for any visual differences.
Paired eyepieces, DIN quality. Wide field of view **WF 10x** (22 mm Ø).
Objectives DIN grade, planachromatic brightfield of **10x** (A.N. 0.25), **20x** (A.N. 0.50), **50x** (A.N. 0.70), retractable, and **100x** (A.N. 0.85), retractable, using immersion oil. Colour coded for easy and rapid identification.
Magnification range: 100x, 200x, 500x and 1000x.
The planachromatic objectives provide an excellent image, free from aberrations at the edge of the field of view.
Quadruple rotating objectives turret, rotates in both directions with stop locator when in the correct position.
Large sub stage of **242x200 mm,** rack and pinion adjustable height, with bilateral coaxial focus. Micrometer graduated in 0.002 mm steps and **macrometer,** with adjustable tension up to 19 mm.
Safety stop with a pre-set safety level.
Slide holder with scale of 0.1 mm, with a smooth X and Y rack and pinion movement of 15 mm **longitudinal** and 15 mm **traversal** movement.
Illumination: incidental (episcopic), Kölher, that consists of a condenser lens, condenser Abbe of 1.25 A.N., pre-centred with an iris diaphragm, filters and a pre-centred halogen 6 V / 30 W low voltage controllable light source.
Structure, robust with an illumination system in the base, intensity potentiometer and illumination switch.
Dimensions: 40 height x 25 Width x 61 cm depth.
Weight: 15 Kg.
Comes complete with a set of filters: blue, yellow, green and matt glass filter.

Microscope Triocular Part No. 18AT. Part No. 5901990

SPARE

Halogen lamp 6 V / 30 W. Part No. 5313069

ACCESSORIES

5313222

Digital reflex photographic kit composed of a mount, a shutter and a SD memory card of 2Gb. CMOS sensor higher than 10 megapixels. Speed up to 3 pictures per second. LCD display of 2,5 inches. Processed with total image control. Large area viewfinder and high luminosity.

Part No. 5313222

Eyepiece with wide field, of view WF-10x (22 mm) with reticule.
Part No. 5313064

Adapter thread CCD 0.5x.
Part No. 5313067

Adapter thread CCD 1x.
Part No. 5313068

Micrograph Kit comprising of:
Photographic adapter mechanism with eyepiece WF-10x with focus adjustment visor and objective of 4x (adaptable to **Digital reflex photographic kit**).
Part No. 5902014

5902014

Microcameras “R-350”

FEATURES

Revolutionary for its small size. Quality image, digital technology. Can be directly used with a monitor or TV via an a euro connector. Can be input to a video for recording images. (Suitable for a PC with a PCI card for image processing and storage on diskettes or a hard drive). Designed for different applications, especially for diagnostics of dermatological illnesses of the skin scalp or capillary fibre. Other magnifications available: 10x, 100x and 200x.

Sensor ..... .CCD 1/3inches
Resolution lines ..... .400
Pixels (H x V) ..... .320000
System ..... .PAL/NTSC
Minimum illumination ..... .1 LUX
S/R better than ..... .46 db
Horizontal line frequency ..... .15625 Hz
Vertical line frequency ..... .50 Hz
Light source for model ..... .R-350x 0.2 W
Power consumption 2W
Voltage 6V (220-50Hz)
Dimensions: Model R-350-350x ..... .115 x 55 Ø mm
Dimensions: Model R-350-2x ..... .110 x 32 Ø mm
Weight ..... .0.3 Kg

MODELS

R-350-2x. 2 magnification, with euro connector.
Part No. 5435038 System PAL
Part No. 5435032 System NTSC
Suitable for microscopes:
3000B Part No. *5901982* **3001F** Part No. *5901984*
SQF-E Part No. *5313308* **XDS-1B** Part No. *5901988*
18AT Part No. 5901990
R-350-350x. 350 magnification, with euro connector, suitable for monitor or TV monitor.
Part No. 5435035 System PAL
Part No. 5435036 System NTSC

Microcamera model R-350 2x, suitable for microscopes.

Eyepiece video camera

ADAPTS DIRECTLY ONTO THE EYEPIECE OF THE MICROSCOPE OR TRINOCULAR HEAD.

Micro video camera 3.1 MP **with a USB connection**, direct to a PC, includes software.
Part No. 5435030

Light source, cold source, fibre optic “Z-150”

CONSTANT COLOR

APPLICATIONS

Microscopy illumination for small samples free from colour alteration.
Especially recommended for microphotography of live biological samples, cultures, micro-organisms, process control, electronic components, dental studies, etc.

FEATURES

Halogen lamp 150 W. Adjustable illumination intensity control. Forced air circulation. Heat absorption filter. Safety transformer fitted. Primary fuse protection.

CONTROL PANEL

Mains switch. Potentiometer controlled light intensity.

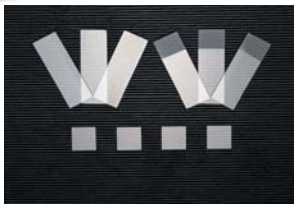
MODEL

Part No.	Height / Width / Depth exterior cm	Power W	Weight Kg
5901016	15 19 25	150	4

SPARE Lamp 150 W.
Part No. 5901017

Supplied with double flexible arm 50 cm long.

Microscope accessories and consumables



GLASS SLIDES

Glass slides (smooth): 26 x 76 x 1.5 mm.
Part No. 5600400 Box of 72.
Glass slides (matt end for notes): 26 x 76 x 1.5 mm.
Part No. 5600399 Box of 72.
Cover slip: 18 x 18 mm.
Part No. 5600396 Box of 100.
Cover slip: 22 x 22 mm.
Part No. 5600397 Box of 100.
Cover slip: 24 x 24 mm.
Part No. 5600398 Box of 100.

SLIDE DISPENSER

Base made of ABS with a transparent Polycarbonate lid, with rotating manual dispenser of individual slides. Capacity 50 slides of 76 x 26 mm.
Part No. 1001366

CLEANING KIT

Suitable for optical microscopes.
Part No. 5313000

WOODEN MICROSCOPE BOX

Solid wood, microscope box, of 3 mm thickness, treated with varnish, fitted with a metallic door, clasp lock and a carry handle.
Microscope Box suitable for Model M-100FL, XTX-3C and ZTX-20.
420 high x 255 wide x 285 mm deep. Part No. 5313022
Microscope Box suitable for Model SQF-L, SQF-E, 2000-A, 2000-B and 2000-C.
Internal dimensions: 420 high x 265 wide x 317 mm deep.
Part No. 5313016

Slide support, Slide box for storing slides, slide staining stands, etc. (See pages 215 to 219).

Refractometer ABBE "2WAJ"

LCD DIGITAL THERMOMETER BUILT-IN.

APPLICATIONS

Ideal for measuring the refractive index ηD of liquids, solids and sugar concentrations (0 - 95% = ηD 1.333-1.531).
Indispensable instrument for industrial chemistry, petroleum, pharmaceutical, food oils and fats, sugars, universities etc.

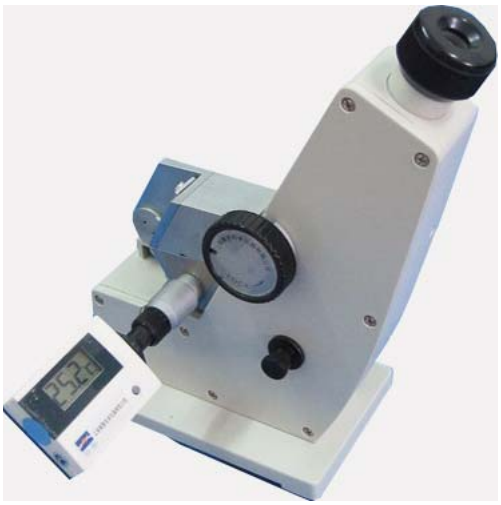
FEATURES

Telescopic system X2 magnification.
Eyepiece with dioptric correction.
Connection for external water bath.
Thermometer 0-70 °C. To see the sample temperature.
Robust metallic construction.
Weight: 2.6 Kg.
Measurements: 240 mm high x 100 mm wide x 200 mm depth.

Measuring range:
Refraction index ηD: 1300 - 1700.
Brix: 0 - 95%.

Measuring definition:
Refraction index ηD: 0.0005.
Precision ηD: ±0.0002.
Brix: 0.25%. Precision: ±0.1%.

Part No. **5901008**
Supplied complete with
- Aluminium carry case,
- 1 bottle of Naphthalene Bromide,
- 1 calibration standard,
- 1 screwdriver and dust cover.



Digital ABBE refractometer "WYA-2S"

APPLICATIONS

Ideal for measuring the refractive index of liquids, solids and sugar concentrations (° Brix), industry: chemical, petroleum, food, pharmaceutical, universities and research etc.

FEATURES

Apparatus equipped with an optical system made of a telescope with dispersion correction, used to define the division line between dark and bright areas.

Precise optics with automatic temperature compensation displayed as °Brix and sample temperature.

Stabilized temperature connection for a water bath.
RS-232 output with software included.

Measuring range:
Refraction index ηD: 1.3000 - 1.7000
Brix Bx - TC: 0 - 95%
Brix Bx: 0 - 95%

Measurement scale definition:
Refraction index ηD: ± 0.0002
Brix Bx - TC: ± 0.1%
Brix Bx: ± 0.1%

Temperature:
Working range: 0 - 50 °C.
Correction range of Bx, in respect to temperature: 15 - 45 °C.

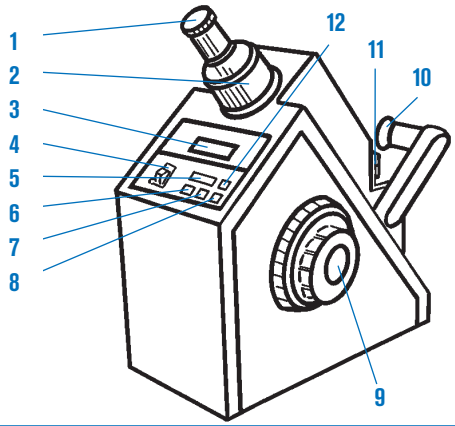
Supplied complete with dust cover and maintenance box that includes:
- 1 bottle of Naphthalene Bromide,
- 1 calibration standard,
- 1 Hex key,
- 3 lamps 6.3V, 0.25 A.
- 3 fuses 1 A.

Optimum precision

MODEL

Part No.	Height / Width / Depth (exterior) cm			Power supply	Weight Kg
5901007	38	18	33	220V ±20V 50Hz	10

CONTROL PANEL



Technical description

1. **Monocular system.**
2. **Telescope adjustment.**
3. **Digital display.**
4. **Mains switch "POWER".**
5. **Push button "READ".**
6. **Push button for Brix with temperature correction "Bx - TC".**
7. **Push button for the refractive index "ηD".**
8. **Push button for Brix without temperature correction "Bx".**
9. **Optical control.**
10. **Light intensity unit.**
11. **Refractometer prism.**
12. **Push button for temperature indicating. "TEMP".**

COMMON FEATURES

Robust metal construction.
Excellent optical quality.
Eyepiece with adjustable dioptric ring to compensate any visual sharpness.
Easy to use, with direct easy to read scales.
Adjustable calibration screw.
Supplied complete with pouch, Pasteur pipette and screwdriver.

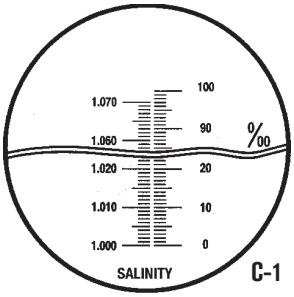
REFRACTOMETER FOR SALINITY ‰ AND DENSITY "C-1"

APPLICATIONS

For the investigation in clinical laboratories (solutions and dissolutions). Industry, food provisions (vegetables, fruit, fish and shell fish).

TECHNICAL SPECIFICATION

Automatic compensation
Temperature: . . . . . 10 - 30 °C.
Salinity range: . . . . . 0 to 100 ‰.
Division Scale: . . . . . 1 ‰.
Density: . . . . . 1000 - 1070.
Division scale: . . . . . .0.001.
Part No. **5901001**



C-1

REFRACTOMETER BRIX% INDEX "C-2", "C-3", "C-4" AND "C-5"

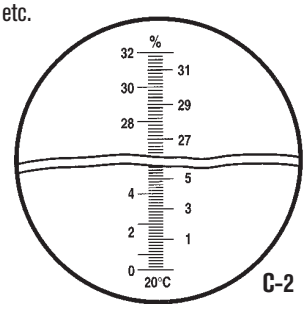
APPLICATIONS

Concentrates of sugar in fruit, juices, gaseous drinks, milk, wine, industrial oils etc.

TECHNICAL SPECIFICATION

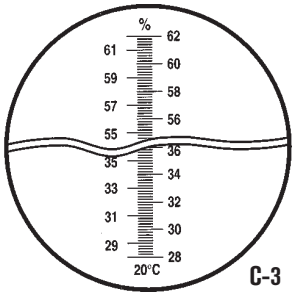
"C-2" Range Brix: . . . . . .0 - 32 %.
"C-3" Rango Brix: . . . . . .28 - 62 %.
Division scale: . . . . . .0.2 %.
Precision . . . . . .±0.2 %.

"C-4" Rango Brix . . . . . .0 - 10 %.
"C-5" Rango Brix . . . . . .0 - 18 %.
Division scale: . . . . . .0.1 %.
Precision: . . . . . .±0.1 %.

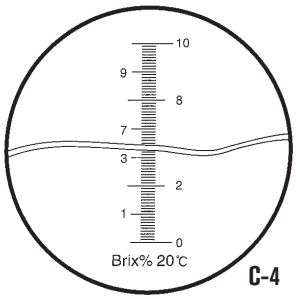


C-2

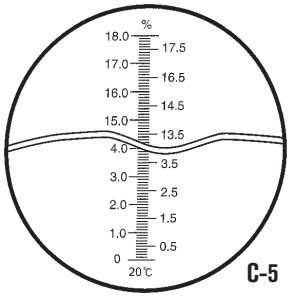
Part No.
5901002 Model C-2
5901020 Model C-2 with temperature compensation
5901003 Model C-3
5901021 Model C-3 with temperature compensation
5901022 Model C-4
5901023 Model C-4 with temperature compensation
5901024 Model C-5
5901025 Model C-5 with temperature compensation



C-3



C-4



C-5

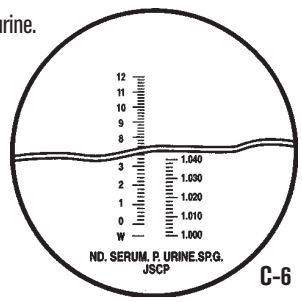
CLINICAL REFRACTOMETER 2 SCALES "C-6"

APPLICATIONS

Suitable for the determination of proteins, serum and specific gravity (density) of urine.

TECHNICAL SPECIFICATION

Proteins in serum: . . . . . .1 - 12 g/100 ml.
Division scale: . . . . . .0.2 g/100 ml.
Urine density: . . . . . .1000 - 1040.
Division scale: . . . . . .0.002.
Part No. **5901006**



C-6

Digital portable refractometers “NR-101” and “NR-151”

APPLICATIONS

Model NR-151. Measurement of % Brix and refractive index ηD.
Ideal for concentrations of sugars in % Brix and the measurement of refractive index ηD. For fruit, juices, drinks, milk, wine, edible oils, food industry, chemicals, pharmaceutical, science, petrochemical, oils, lubricants etc.

Model NR-101. % Brix, refractive index ηD and % salinity.
Ideal for concentrations of sugar % Brix, measuring refractive index ηD and NaCl in % of salinity.
Ideal for fruit, juices, drinks, milk, wine, edible oils, food industry, chemicals, pharmaceutical, science, petrochemical, oils, lubricants etc.

Model NR-151

Model NR-101

COMMON FEATURES

Portable and easy to use.
Alphanumeric display.
Determinations using a high precision photo cell integrated to a CCD camera and digital image processor.
Chamber prism of anti corrosive stainless steel and lid.
Automatic temperature compensation (ATC) to 20 °C, with a sample temperature range from 5 to 40 °C.
Temperature selection °C or °F.
Calibration using distilled water.
Function selection limits and tolerable alarms.
Microprocessor with instant response.
Disconnects automatically if inoperable for 3 minutes.
Low voltage alarm.
Power supply 9V battery.
Operating temperature from 0 to 40 °C at up to 90% relative humidity and a maximum height of 2000 m above sea level.

MODELS	Part No.	Reading and Measurement	Measurement range	Measurement Resolution	Measurement Precision	Temperature Range	Temperature Resolution	Temperature Precision	Height/Width/Depth cm	Weight Kg
NR-151	5901012	Brix %	0.0 - 95.0%	0.1%	±0.1%	0 +40 °C 32 +140 °F	0.1 °C 0.2 °F	±1 °C ±2 °F	6 18 10	0.9
		Refraction index ηD	1.3330 - 1.5318 ηD	0.0001 ηD	±0.0002 ηD					
NR-101	5901013	Brix %	0.0 - 60.0%	0.1%	±0.1%					
		Refraction index ηD	1.3330 - 1.4419 ηD	0.0001 ηD	±0.0002 ηD					
		Salinity %	0.0 - 28.0 %	0.1 %	±0.1 %					

Comes complete with protective carry case, dosing burette, bottle of distilled water and a 9V battery.

Disk polarimeter “polar-2010”

LAURENT TYPE MODEL
SODIUM LAMP ILLUMINATION

APPLICATIONS

Designed for colleges and universities, chemical laboratories, pharmaceutical, clinics, cosmetics and food industry.

FEATURES

Vernier reading definition. Angle ± 0,05 °.
Measuring range of optical rotation: ± 180 °.
Rotation scale division: 1°.
Measuring lens 4x.
Ocular with dioptres adjustment.
Slide rack compartment length: for tubes up to 220 mm.
Monochromatic lamp wave length: 589,3 nm.

MODEL

Part No	External measurements cm. Height / Width / Depth	Consumption W	Weight Kg
5120210	32 43 14	20	5

SPARE PARTS

Sodium lamp. Part No. 5120201

Automatic Melting Point Apparatus "WRS-1B" "WRS-2A"

AUTOMATIC DETERMINATION NO VISUAL CONTROL REQUIRED.

A different conception.

Totally automatic, without the need to visually determine the melting point process

RS232

NEW DESIGN

APPLICATIONS

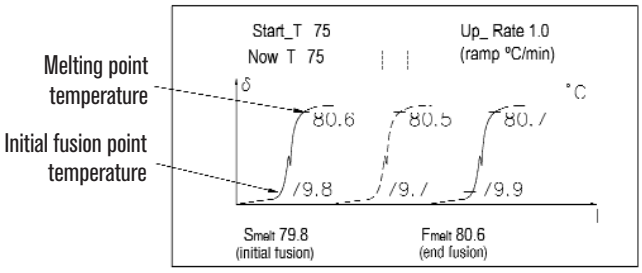
Research laboratories, quality control. Test and control of purity after synthesis in pharmaceutical laboratories.

AUTOMATIC MELTING POINT WRS-1B

Single sample analysis
LCD display, simple alphanumeric keypad.
Melting point determination by photoelectric detection.
Automatic functions. Reads and registers the starting point, fusion point and end point.
Part No. **5609401**

AUTOMATIC MELTING POINT WRS-2A

Simultaneous analysis, three samples.
LCD graphic display and 16 keys numeric keypad.
Melting point determination detector photoelectric.
Automatic functions. Reads and registers the starting point fusion point, end point, melting point curve and average value determination.
Part No. **5609402**



Details of graphic display, calculated average of melting point curves.

MODELS		WRS-1B	WRS-2A
Part No.		5609401	5609402
Digital LCD screen		Numeric	Numeric and graphical
Maximum capillary tube capacity, 1.4 mm Ø ext.		1	3
Temperature range		from 50 °C to 300 °C	
Readable temperature resolution		0.1°C	
Melting point measurement precision		Upto 200 °C ±0.5 °C and from 200 °C to 300 °C ±0.8 °C	
Selectable ramp rate in °C/minute		0.2 - 0.5 - 1 - 1.5 - 2 - 3 - 4 and 5 °C/min.	
Repeatability		0.4 °C ramp rate of 1 °C/min	0.3 °C ramp rate of 1 °C/min. 0.2 °C ramp rate of 0.2 °C/min.
Decending time to reach the start temperature	increasing	from 50 °C of 300 °C 3 minutes	
	decreasing	from 300 °C of 50 °C 5 minutes	
Sample holder		for capillary tubes of 1.4 mm Ø ext. / 1 mm Ø int.	
Sample fill height		3 mm	
Output interface RS-232		9600 baudrate, 1 bit stop and 8 data bits	
Power		110 W	
Power supply		220V-50/60Hz	
Weight		9.5 Kg	12.5 Kg
Weight / Dimensions, height x width x depth in mm		380 x 315 x 200	398 x 278 x 210

Supplied complete with 1000 capillary tubes of 1.4 mm Ø ext set of maintenance tools comprising of star and flat screwdrivers, drill bit of 1.5 mm Ø, allen key 3 mm, lamp and fuse, software and protective cover.

ACCESSORY **Capillary tubes** of 1.4 mm Ø ext. 1.0 mm Ø int. Box of 5000 tubes Part No. **5609404**

SPARE **Lamp** 6.5 V 0.3 A. Part No. **5609405**

ROTARY VISCOMETERS

FLOW CUPS

GLASS VISCOMETERS

MONITOR AND CONTROL

GLASS THERMOMETERS

REACTORS

LABORATORY FUME CUPBOARDS

Laboratory fume cupboards	**page 284**
Vertical laminar flow cabinets	**page 285**
Rotary viscometers	**pages 286 to 288**
Flow cups for measuring liquid viscosity	**pages 289 to 290**
Viscometer precision bath	**page 290**
Glass viscometers	**page 291 to 292**
Monitor and control apparatus	**pages 293 to 297**
Glass thermometers	**pages 296 to 297**
Laboratory reactors	**pages 298 to 299**
Filters	**pages 300 to 301**
Analytical consumables	**pages 302 to 311**

"True knowledge is rigorous and hard on itself. At the same time is amiable and tolerant."
Plutarco

Viscometers, Monitor and control, safety, Consumables.

Laboratory fume cupboards "VG-BS"

FOR STEAM, ACIDS, BASES AND SOLVENTS EXTRACTING.

SAFETY: DESIGNED AND BUILT MEETING EUROPEAN STANDARD UNE-EN 14175-2

COMMON FEATURES

Antiacid continuous ceramic worktop with anti-dumping peripheral rim and evacuation sink.
Inner working chamber built in thermo stable compact resins, antiacids and anti-moisture. M1 fire resistance.
Extraction system with perfectly balanced injected polypropylene turbine. Coupled and protected engine outside the fumes way.
Vertical guillotine door with adjustable height in any position and three sections of 3 + 3mm laminated glass slide which creates a high resistance protection shield.
Self-supporting structure, made of structural elements with 2 mm steel tube, degreased, phosphated and coated with a 70 µ layer of epoxy paint vitrified in the oven. This structure is completely isolated from the working cabin and from the gases contact.
External cover in white melamine board or thermo stable resins in high humidity environments.

ASSEMBLY SYSTEM INTO TWO BODIES

Upper body with cabinet and embedded extractor.
Lower body with a structure, ceramic worktop and remote control panel for fluids and gases in an horizontal housing.
Optional: working system (Walking) at ground level for the input and working with machinery, reactors and organic synthesis appliances. (Request information).

TECHNICAL FEATURES

Lighting level: More than 500 Lux in working area IP 55 or ATEX*.
Extraction volume: from 420 to 4.500 m3/h.
Engines: from 0,75 to 2 CV - IP55 or ATEX*.
Voltage: 220V/50Hz. Single phase / three phase.
***ATEX:** if we work with flammable, solvents or hydrocarbons.
On request: Automatic control unit for variable flow (motor) depending on door's opening. Failure alarm.
On request: Perimeter and ceiling in continuous tiles, for working with sulfuric acid.
On request: Perimeter and ceiling in continuous tiles, for working with perchloric acid. It comes with gas washing.

NEW

Can be supplied with custom measurements on demand.

CONTROL PANEL

ON / OFF push button with green LED and electrical sockets 230V/16A.
Fuel regulator knob (Yellow).
Nitrogen regulator knob (Blue/ green button).
Vacuum regulator knob (Grey/ black button).
Air regulator knob (Blue/ yellow button).
Water regulator knob (Green/ blue button)
Safety locking pin on door for recommended working position.

MODELS	Part No.	Height / Weight / Depth Upper body (exterior) cm	Height / Weight / Depth Lower body (exterior) cm	Height / Weight / Depth Upper body (inner) cm	Height / Weight / Depth Lower body (inner) cm	Upper Weight Kg	Lower Weight Kg
VG-BS-1200	5001613	170 122 90	90 122 90	120 96 62	72 96 55	124	84
VG-BS-1420	5001614	170 142 90	90 142 90	120 116 62	72 116 55	162	116
VG-BS-1720	5001615	170 172 90	90 172 90	120 146 62	72 146 55	200	148
VG-BS-2002	5001616	170 202 90	90 202 90	120 176 62	72 176 55	238	180

ACCESSORIES

PVC Tubes

Part No.	Type	Ø / Length cm
5001617	Rigide	20 200
5001618	Rigide	25 200
5001619	Flexible	20 100
5001620	Flexible	25 100

PVC Elbow joint

Part No.	Ø / Degrees
5001621	20 45°
5001622	25 45°
5001623	20 90°
5001624	25 90°

Safety cabinets

Part No.	Acids & base	Flammables	Doors
5001625	Yes	No	1
5001626	Yes	No	2
5001627	No	Yes	1
5001628	No	Yes	2

Vertical laminar flow cabinets “H-1” and “H-2”

TFT TOUCH SCREEN
CLASS 1

SAFETY:
US STANDARD ST 209 (CLASS 100)
EUROPEAN STANDARD ISO 14644 (CLASS 5) HEPA FILTER (HIGH EFFICIENCY PARTICULATE AIR)

NEW

APPLICATIONS

Water quality control, laboratories and food industries, pharmacies services, haematology and clinical analysis, drug-injecting antibiotics, microscopic analysis, assisted fertilization, cell cultures, etc...

FEATURES

Lower setting made of PMMA transparent methacrylate.
Working surface made of stainless steel AISI 304.
Ultraviolet lamp.
Metallic parts coated with protective polymerization.
Extraction system with silent turbine.
Operating hours counter for HEPA filter replacement.

TECHNICAL SPECIFICATIONS

Illumination level (W-Lux): 500.
Airflow speed (M/S): 0.7 - 1.0.
Noise level (dB): < 67.
Power supply (V-Hz): 220/50.
HEPA filter class H14: 99,999% efficiency for particles of 0.5 microns. Working temperature in ºC: between 15 and 35.

CONTROL PANEL

TFT touch screen
Stop/start push button.
Light push button.
Sterilization push button.
Ventilation push button.
Operating hours counter push button.

MODELS	Part No.	Height / Width / Depth (exterior) cm	Height / Width / Depth (interior) cm	Fluorescent Lamp (W)	UV lamp W	Power W	Weight Kg
H1	5609511	55 46 78	54 38 40	15x1	15x1	150	40
H2	5609510	70 55 90	68 45 50	18x1	18x1	160	60

ACCESSORIES

Supporting tables for cabinets

FOR MODEL	Part No.	Height / Width / Depth (exterior) cm	Weight Kg
H1	5609512	78 55 47	5
H2	5609513	78 70 55	8

Shoe soles coater “ZA-1”

AUTOMATIC.
DIGITAL TEMPERATURE CONTROL OF AIR.

NEW

FEATURES

Shoe soles coated with a PVC film.
It cuts the film by thermal contraction providing hot air with temperature control.
Different sizes shoes coated in seconds.
It saves on consumables. A roll of film can be coated up to 1000 shoes.
According with CE and ROHS regulations. Consumables 100% recyclable.

MODEL

Part No.	Dimensions cm Height / Width / Depth	Voltage	Power W	Weight Kg
5000051	33 45 80	220V-50Hz	1300	27

SPARE PARTS

PVC coil for 1000 coatings.
Part No. 5000052

Rotary Viscometers

Rotary viscosimeters “ST-2020”

INTRODUCTION

Rheology is the study of the effects experimented in a substance when a mechanical force is applied on a it (flow and deformation) under different external conditions. It is used to describe the consistency of different products and is normally defined by the components: **viscosity and elasticity.**
Measuring viscosity is determined by the tangible force required to displace the materials particles with a specific deformation-flow i.e. velocity. The relationship between the tangible force and the deformation flow obtains the viscosity result. Ambient conditions such as temperature and pressure also have an effect on viscosity.
The measurement of viscosity is not just limited to the research laboratory, it has progressively entered the field of industrial quality control.

PRINCIPLES OF VISCOSITY

These instruments operate by means of a cylinder or disk (spindle) that is submerged into the material to be analysed and by measuring the resistance of the substance at a selected known speed. This resistance results is the measurement of the viscosity according to the flow characteristics of the reference spindle; the instrument calculates the result and directly displays the viscosity that is reported in **cP** (**CGS**) or **mPa-s** (**SI**).
A wide range of viscosity can be measured using viscometers that are equipped with different types of spindles and speed ranges. The design of the spindles and the principals of measurement principles are regulated by **ISO 2555** and **ISO 1652** standards. All spindles are made of AISI 316 stainless steel. Each spindle can be identified by a letter and a number.

SELECTION TABLE

Standard measuring range of the viscometers, without additional accessories		
Part no	1001616	1001617
Model	ST-2020 L	ST-2020 R
Units	centiPoise (cP)	centiPoise (cP)
Standard spindle	L1 to L4	R2 to R7
Speed range r.p.m.	1 to 60	0,1 to 100
Measuring range	20 to 600.000 cP	20 to 40.000.000 cP
Temperature range °C	0,0 a 100,0	0,0 a 100,0
Power requirement	115/230V to 12VDC 1.2A	115/230V to 12VDC 1.2A
Power	15 W	15 W
Weight	5 Kg	5 Kg

Model ST2020L

FEATURES

L.C.D. display of parameters and results:
- Selected speed ..... .r.p.m.
- Selected spindle. ..... .S.P.
- Viscosity result ..... cP (mPa-s) or cSt.
- Base scale percentage ..... .%.
- Sample temperature: ..... .°C or ° F.

Auto alarm in the case of any fault being detected.
Off scale detection and indication by an audible and visual signal.
Step controlled speed to prevent spindle vibrations.
Velocity from 0,1 to 100 r.p.m.
Mains power surge protection.
RS 232 unidirectional interface, download to a computer.

TECHNICAL DATA

Precision: ±1% base scale.
Repeatability: 0.2%.
Supplied complete with:
- Anti shock carry case.
- Main unit.
- Support base.
- Spindle protector.
- Spindle support.
- Set of spindles (model dependant)
- Temperature prove

DIGITAL THERMOMETER

Temp range:- from 0.0 °C to + 100.0 °C (+ 32.0 °F to + 212.0 °F).
- Resolution: 0.1 °C (0.1722 °F).
- Precision: ± 0.1 °C.

ACCESSORIES

Standard **spindles** for L model.
L1 Part No. 1000998
L2 Part No. 1000999
L3 Part No. 1001000
L4 Part No. 1001001

Standard **spindles** for R model.
R1 Part No. 1000995 (for low viscosity samples)
R2 Part No. 1001030
R3 Part No. 1001031
R4 Part No. 1001032
R5 Part No. 1001033
R6 Part No. 1001034
R7 Part No. 1001035

Rack of standard spindles L1, L2, L3,L4 : Suitable for models L.

Rack of standard spindles R2, R3, R4, R5, R6 and R7: Suitable for model R.

Spindle R1

Wide range rotary viscosimeters “STS-2011”

MODEL WITH TEMPERATURE READOUT AND SHEAR RATE MEASUREMENT.

FEATURES

10 different options of language.
L.C.D. display of parameters and results.
Parameters display:
- Selected speed . . . . . .r.p.m.
- Selected spindle
- Viscosity result . . . . . cP (mPa-s) or cSt.
- Base scale percentage . . . . . .%.
- Sample temperature: . . . . . .°C or ° F.
- Deformation ratio (with special spindle)
- Torsion force (with special spindles)
- Density

(input by the user) . . . . . .g/cm^3.
This instrument determines both relative and absolute viscosity.
Data can be changed between S.I. and C.G.S.
Automatically checks for correct operation point by scanning at different speeds.
Auto alarm in the case of any fault being detected.
Off scale detection and indication by an audible and visual signal.
Step controlled speed to prevent spindle vibrations.
Calibration by the user himself.
18 preselected speeds from 0.3 a 100 r.p.m.
The operator can select any speed within this range.
USB port.
Mains power surge protection.
10 memoirs of working programs.

TECHNICAL DATA

Temperature range:- from 0.0 °C to + 100.0 °C
(+ 32.0 °F to + 212.0 °F).
- Resolution °C: 0.1 °C (0.1722 °F).
- Precision °C: ± 0.1 °C.
- Probe type: Pt 100.

Direct results in cP(mPa-s) or cSt.: models STS-2011 L & R.
Direct results in Poise (Pa-s) or St.: model STS-2011 H.
Precision: ±1% base scale.
Supplied complete with:
- Anti shock carry case.
- Main unit.
- Support base.
- Spindle protector.
- Spindle support.
- Set of spindles (model dependant) (see table).

MODELS	Part No.	Measuring range	Standard spindles	Power requirement	Power W	Weight Kg
STS-2011 L	1001611	20 to 2.000.000 cP	L1, L2, L3, L4	100-240 V 50/60 Hz	15	5
STS-2011 R	1001612	100 to 13.000.000 cP	R2, R3, R4, R5, R6, R7	100-240 V 50/60 Hz	15	5
STS-2011 H	1001613	200 to 106.000.000 cP	R2, R3, R4, R5, R6, R7	100-240 V 50/60 Hz	15	5

ACCESSORIES

Standard **spindles** for L model.
L1 Part No. 1001036
L2 Part No. 1001037
L3 Part No. 1001038
L4 Part No. 1001039

Standard **spindles** for R and H model.
R1 Part No. 1000990 (for low viscosity samples)
R2 Part No. 1001070
R3 Part No. 1001071
R4 Part No. 1001072
R5 Part No. 1001073
R6 Part No. 1001074
R7 Part No. 1001075

Small sample volume adapters (APM).
Suitable for sample volumes from 8 to 13 ml.
Requires the “TL” or “TR” set of spindles.
Unit suitable for temperatures from 0 °C to +100 °C.
Part No. 1000986 Small sample adapter APM with water jacket.
Part No. 1001623 Temperature sensor suitable for APM.

Special Spindles
Part No. 1001224 set of spindles TL5 – TL6- TL7 for models L.
Part No. 1001225 set of spindles TR8 - TR9 - TR10 - TR11 for models R and H.

Low viscosity adapters. (LCP).
Required if low viscosity measurements are necessary.
Reproducible results and measurements of viscosity from 1 cP.
Suitable for models L and R.
Sample volume: 16 to 18 ml.
Includes special spindle LCP.
Part No. 1000985. Adapter LCP with water jacket.
Part No. 1001624 Temperature sensor suitable for LCP.

Displacement spiral helix adapter.
Required for low fluidity samples.
Part No. 1000988

Spindle R1

Part No. 1000985

Part No. 1000986

Part No. 1000988

Temperature control equipment for viscosity measurements for viscometers “ST-2020” and “STS-2011”

The influence of temperature while measuring viscosity is considerable, lower temperatures increase viscosity. Therefore it is indispensable to control temperature when precise viscosity measurements are required. The control of temperature by using a thermostatically controlled bath is the most efficient, because of the re-circulation of liquid produces a rapid and stable temperature.
We recommend our range of immersion thermostats for this application.

TEMPERATURE CONTROL AND CONFIGURATION FOR VISCOSITY MEASUREMENTS:
FRIGITERM-TFT-10 Part No. **3000546**, **FRIGTERM-TFT-30** Part No. **3000547**
Suitable for below ambient working environments (see page 103 for specifications).

For temperatures above ambient see the **DIGITERM-S-150** Part No. **3000543**, or **DIGITEM-TFT-200** Part No. **3000544** complete with 12 litre tank Part No **6000391**, (see pages 101 and 102 for specifications).

An adapter kit for the thermostat bath is required:
Part No. **1001625** for STS-2011
Part No. **1001626** for ST-2020
Adapter for thermostat bath comprising of an extension spindle and 4 leg adjusters for the bath. (Kit can be fitted by the user.)
This kit adjusts the bath measuring height to enable samples to be placed inside.

Part No. **1001627**. Support for 2 500 ml beakers, to be placed inside the bath.

Part No. **1001628** Support base for the **DIGITERM** immersion thermostats. This accessory is recommended to close the bath and maintain a constant temperature.

CONSTANT TEMPERATURE CONTROL ACCESSORY FOR SMALL SAMPLE VOLUME ADAPTERS. USE WITH THE RE-CIRCULATING JACKET ACCESSORIES. PART NO. 1000996
To work below ambient temperatures, we recommend the use of the **FRIGITERM-TFT-10** Part No. **3000546**, or **FRIGTERM-TFT-30** Part No. **3000547** (see page 103 for specifications.)

For temperatures above ambient see the **DIGITERM-S-150** Part No. **3000543**, or **DIGITEM-TFT-200** Part No. **3000544** complete with 12 litre tank Part No. **6000391**, (see pages 101 and 102 for specifications).

It is necessary to configure the immersion thermostats for “external re-circulation.” The Bath adapter kit is not required.

Frigiterm thermostat bath with adapter kit Part No. 1001625, fitted with a rotary viscometer.

Support for 2 beakers 1001627

Digiterm thermostat bath with support base Part No. 1001628. 12 litre bath Part No. 6000391 and adapter kit Part No. 1001625 or 1001626 To be used with a rotary viscometer and beaker support Part No. 1001627.

Immersion thermostat Digiterm controlling temperature of viscometer.

Rotary Viscometer “NDJ-1”

APPLICATIONS

The instrument operates by rotating a disk or cylinder, (spindle), that is submerged in the liquid or fluid to be analysed. A pre-selected speed is set, the unit measures the absolute resistance from viscosity of the fluid being analysed. Suitable for samples such as: foods, cosmetics, fats and oils, pharmaceutical products, paints and plastics, etc.

FEATURES

The asynchronous motor is connected to a graduated disk with 4 different speeds that propel the spindle via a spiral and die.
Supplied complete with a set of 4 spindles in a box, numbered 1 to 4 with spindle stand.
The viscometer includes a level and adjustable screw feet support base and protective case.

MODEL	Part No.	Measuring range	Tolerance	Spindle Speed r.p.m. for 1 to 4	Power W	Weight Kg
NDJ-1	5120230	10-100.000 mPaS	±5% Liquid Newtons	6 - 12 - 30 - 60	15	6

Flow cups for measuring liquid viscosity

CUP Nº 4 STANDARD DIN 53211.
CUPS STANDARD ISO 2431.
CUP FORD STANDARD ASTM D-1200.
CAPACITY: 100ML.

FEATURES

Suitable for measuring kinematic viscosities from 5 to 700 cSt, model dependent.
Metallic cups, chrome finished and calibrated.

Flow cups with handle. Models DIN 53211 Nº 4 and Ford ASTM D-1200.

Flow cups. Standard models.

ACCESSORY
Support stand with adjustable level. Part No. 7001021

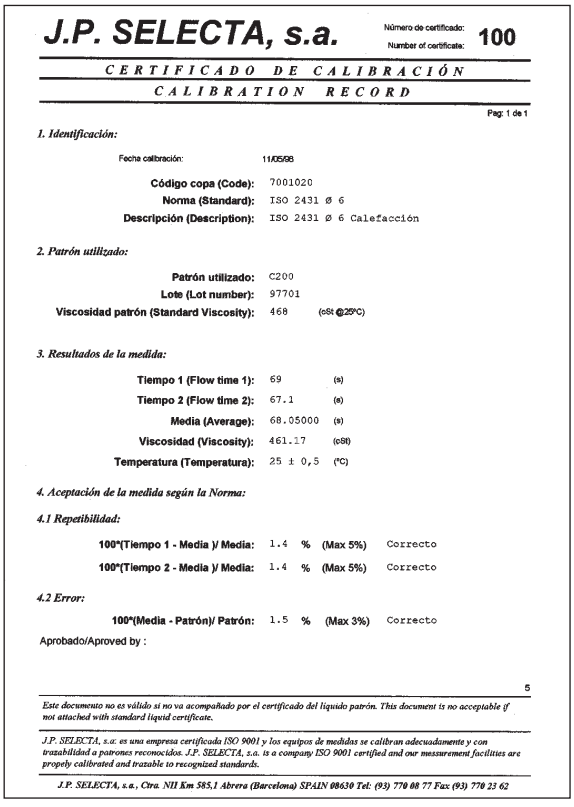
Heated cups with threaded base, can be connected to a water bath or to a temperature regulator Electemp.

ACCESSORIES
Water bath with heater and screw on disk, with level. Part No. 7001022
Temperature controller Electemp-TFT. Part No. 3000897
Pt 100 sensor probe for the Electemp-TFT and water bath. Part No. 7001496
(See page 293).

MODELS

Part No.	Standard	Bore Ø mm	Format	Range cSt	Admisable fall times
1000123	DIN 53211	4	Standard	90 to 700	25” to 100”
7001239	DIN 53211	4	Heated	90 to 700	25” to 100”
1000347	DIN 53211	4	With handle	90 to 700	25” to 100”
1001013	ISO 2431	3	Standard	5 to 42	30” to 100”
7001017	ISO 2431	3	Heated	5 to 42	30” to 100”
1001014	ISO 2431	4	Standard	35 to 135	30” to 100”
7001018	ISO 2431	4	Heated	35 to 135	30” to 100”
1001015	ISO 2431	5	Standard	100 to 350	30” to 100”
7001019	ISO 2431	5	Heated	100 to 350	30” to 100”
1001016	ISO 2431	6	Standard	190 to 680	30” to 100”
7001020	ISO 2431	6	Heated	190 to 680	30” to 100”
1000705	ASTM D-1200	2.53	Standard	25 to 120	20” to 100”
		3.40		40 to 220	20” to 100”
		4.12		70 to 370	20” to 100”
7000706	ASTM D-1200	2.53	Heated	25 to 120	20” to 100”
		3.40		40 to 220	20” to 100”
		4.12		70 to 370	20” to 100”
1000707	ASTM D-1200	2.53	With handle	25 to 120	20” to 100”
		3.40		40 to 220	20” to 100”
		4.12		70 to 370	20” to 100”

Comes with a calibration certificate with results traceable to know standards and equipment



J.P. SELECTA, s.a.

Número de certificado: 100
Number of certificate:

CERTIFICADO DE CALIBRACIÓN
CALIBRATION RECORD

Pag: 1 de 1

1. Identificación:

Fecha calibración: 11/05/98

Código copa (Code): 7001020
Norma (Standard): ISO 2431 Ø 6
Descripción (Description): ISO 2431 Ø 6 Calefacción

2. Patrón utilizado:

Patrón utilizado: C200
Lote (Lot number): 97701
Viscosidad patrón (Standard Viscosity): 468 (cSt @25ºC)

3. Resultados de la medida:

Tiempo 1 (Flow time 1): 69 (s)
Tiempo 2 (Flow time 2): 67.1 (s)
Media (Average): 68.05000 (s)
Viscosidad (Viscosity): 461.17 (cSt)
Temperatura (Temperatura): 25 ± 0,5 (ºC)

4. Aceptación de la medida según la Norma:

4.1 Repetibilidad:

100*(Tiempo 1 - Media)/ Media: 1.4 % (Max 5%) Correcto
100*(Tiempo 2 - Media)/ Media: 1.4 % (Max 5%) Correcto

4.2 Error:

100*(Media - Patrón)/ Patrón: 1.5 % (Max 3%) Correcto

Aprobado/Aproved by :

5

Este documento no es válido si no va acompañado por el certificado del líquido patrón. This document is no acceptable if not attached with standard liquid certificate.

J.P. SELECTA, s.a. es una empresa certificada ISO 9001 y los equipos de medidas se calibran adecuadamente y con trazabilidad a patrones reconocidos. J.P. SELECTA, s.a. is a company ISO 9001 certified and our measurement facilities are propely calibrated and trazable to recognized standards.

J.P. SELECTA, s.a., Ctra. NII Km 585,1 Abrera (Barcelona) SPAIN 08630 Tel: (93) 770 08 77 Fax (93) 770 23 62

Ford cup thermostat for viscosity measurement “TV-1452”

CUP MODELS THAT CONFORM TO THE FOLLOWING STANDARDS: DIN 53211, ISO 2431 AND ASTM 1200.
ELECTRONIC DIGITAL CONTROL FROM 10ºC TO 60ºC.

Heating and cooling by Peltier effect

APPLICATIONS

Thermostat Ford cups for viscosity measurement need to be maintained at a precise temperature of 10 and 60 °C.

FEATURES

Made up of an independent Peltier thermostat control system that heats and cools. Made from AISI 304 stainless steel , with adjustable levelling feet supports, and central orifice for locating the cup.

CONTROL PANEL

Illuminate ON/OFF switch
Digital temperature display
Key pad to select readout and temperature.

MODEL

Part No.	Temperature °C	Stability °C	Homogeneity °C	Read error	Resolution	Height / Width / Depth cm			Power W	Weight Kg
3001452	10 to 60 °C	±0.1	±0.2	±0.5	0.1	23	34	30	130	5

See the different standards, models and cups (see page 289.)

Viscometer Precision Bath “VB-1423”

FOR CONTROLLABLE TEMPERATURES FROM AMB.+5 °C TO 100 °C.
STABILITY ±0.05 °C. HOMOGENEITY ±0.05 °C. READING ERROR ±0.09 °C. RESOLUTION 0.1 °C.

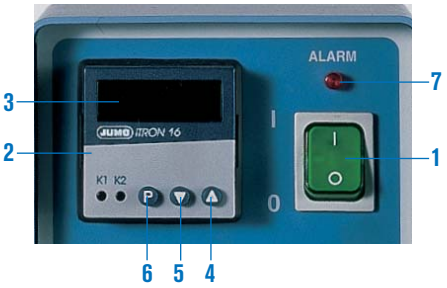
SAFETY:
STANDARD DIN 12879.2 CONTROLLABLE SAFETY THERMOSTAT WITH MANUAL RESET.

Used for measurements with glass viscometers

Made for the calibration of viscometers according to the following standards UNE 400313, ISO 3105, ASTMD 445 and 2515

FEATURES

Temperature sensor Pt100 thermo-resistor, stainless steel AISI 304 lid with three viscometer locations ports, three independent lids and an additional location port for the control thermometer. The main body of the bath is made of a 20 litre borosilicate glass tank. A white plate is located at the back to help optimise and read the viscometers.



CONTROL PANEL

1. Mains power iluminated switch.
2. Temperature regulator:
   3. Real time temperature display.
   4. Push button to increase value.
   5. Push button to decrease value.
   6. Push button to configure operation.
7. Safety thermostat safety lamp.

MODEL

Part No.	Control range °C	Capacity litres	Height / Ø (tank) cm		Height / Ø (total) cm		Power W	Weight Kg
3001423	amb.+5 up to 100	20	32	30	47	30	1000	8

ACCESSORIES

Universal viscometer support made from PTFE with stainless steel AISI 304 support. Suitable for the following viscometers :

- Cannon-Fenske for transparent liquids.
- Cannon-Fenske for opaque liquids.
- Ubbelohde.
- Ostwald.
- BS U Tube.
-Cannon-Manning semi-micro.
- Ubbelohde type BS/IP/SL, BS/IP/SL(S) & type BS/IP/MSL.
- DIN Ubbelohde.

Part No. 1001453

Calibration Chronometers (see page 295).

Thermometers for viscometer baths.
Part No.
1001454 Thermometer ASTM 120C at 38.6 to 41.4°C divisions 0.05 °C.
1001455 Thermometer ASTM 121C at 98.6 to 101.4 °C divisions 0.05 °C.
1001456 Thermometer ASTM 91C at 20.0 to 50.0 °C divisions 0.1 °C.
1001457 Thermometer ASTM 92C at 40.0 to 70.0 °C divisions 0.1 °C.
1001458 Thermometer ASTM 93C at 60.0 to 90.0 °C divisions 0.1 °C.
1001459 Thermometer ASTM 94C at 80.0 to 110.0 °C divisions 0.1 °C.

Glass Viscometers

VISCOMETER "UBBELOHDE"

ASTM D445 - ASTM D446 - ISO 3104 - ISO 3105.
Suitable for transparent liquids.
Complete with calibration certificate.
Total length 283 mm.
Permanent amber markings.

ACCESSORY

Viscometers support rack.
Part No. 1025812
Capacity:
6 viscometers.

Ubbelohde

Part No.	Size	Nominal constant	Viscosity range in cSt
5600001	0	0.001	0.3 to 1
5600002	0C	0.003	0.6 to 3
5600003	0B	0.005	1 to 5
5600004	1	0.01	2 to 10
5600005	1C	0.03	6 to 30
5600006	1B	0.05	10 to 50
5600007	2	0.1	20 to 100
5600008	2C	0.3	60 to 300
5600009	2B	0.5	100 to 500
5600010	3	1.0	200 to 1000
5600011	3C	3.0	600 to 3000
5600012	3B	5.0	1000 to 5000
5600013	4	10.0	2000 to 10000
5600014	4C	30.0	6000 to 30000

VISCOMETERS "CANNON-FENSKE" TRANSPARENT

ASTM D445 - ASTM D446 - ISO 3104 - ISO 3105 - IP 71.
Suitable for transparent liquids.
Complete with calibration certificate.
Constant at 40 °C to 100 °C.
Total length 250 mm.
Permanent amber markings.

Transparent

Part No.	Size	Nominal constant	Viscosity range in cSt
5600050	25	0,002	0,4 a 1,6
5600051	50	0,004	0,8 a 3,2
5600052	75	0,008	1,6 a 6,4
5600053	100	0,015	3 a 15
5600054	150	0,035	7 a 35
5600055	200	0,1	20 a 100
5600056	300	0,25	50 a 200
5600057	350	0,5	100 a 500
5600058	400	1,2	240 a 1200
5600059	450	2,5	500 a 2500
5600060	500	8	1600 a 8000
5600061	600	20	4000 a 20000

VISCOMETERS "CANNON-FENSKE" OPAQUE

ASTM D445 - ASTM D446 - ISO 3104 - ISO 3105.
Suitable for opaque and transparent liquids.
Complete with calibration certificate.
Constant at 40 °C and 100 °C.
Total length 295 mm.
Permanent amber markings.

Opaque

Part No.	Size	Nominal constant	Viscosity range in cSt
5600065	25	0,002	0,4 a 1,6
5600066	50	0,004	0,8 a 3,2
5600067	75	0,008	1,6 a 6,4
5600068	100	0,015	3 a 15
5600069	150	0,035	7 a 35
5600070	200	0,1	20 a 100
5600071	300	0,25	50 a 200
5600072	350	0,5	100 a 500
5600073	400	1,2	240 a 1200
5600074	450	2,5	500 a 2500
5600075	500	8	1600 a 8000
5600076	600	20	4000 a 20000

Glass Viscometers

MICRO-UBBELOHDE VISCOMETER 3 ml

Suitable for transparent liquids.
Calibration certificate.
Nominal overall length 290 mm.
Permanent ring marks in amber.
Sample filling volume: 3 ml.

Micro-Ubbelohde

Code	Size	Nominal constant	Viscosity range in cSt
5600020	I	0,01	0,4 to 6
5600021	Ic	0,03	1,2 to 18
5600022	II	0,1	4 to 60
5600023	IIc	0,3	12 to 180
5600024	III	1,0	40 to 800

"U-TUBE REVERSE FLOW" VISCOMETER BS/IP/RF

Suitable for opaque liquids.
Calibration certificate.
Nominal overall length 275 mm.
Permanent ring marks in amber.

U-TUbe reverse flow

Code	Size	Nominal constant	Viscosity range in cSt
5600025	1	0,003	0,6 to 3
5600026	2	0,01	2 to 10
5600027	3	0,03	6 to 30
5600028	4	0,1	20 to 100
5600029	5	0,3	60 to 300
5600030	6	1,0	200 to 1000
5600031	7	3,0	600 to 3000
5600032	8	10	2000 to 10000
5600033	9	30	6000 to 30000
5600034	10	100	20000 to 100000
5600035	11	300	60000 to 300000

BS/U TUBE VISCOMETER

Suitable for transparent liquids.
Calibration certificate.
Nominal overall length 300 mm.
Permanent ring marks in amber.

BS/U Tube

Code	Size	Nominal constant	Viscosity range in cSt
5600036	A	0,003	0,9 to 3
5600037	B	0,01	2 to 10
5600038	C	0,03	6 to 30
5600039	D	0,1	20 to 100
5600040	E	0,3	60 to 300
5600041	F	1,0	200 to 1000
5600042	G	3,0	600 to 3000
5600043	H	10,0	2000 to 10000

OSTWALD PATTERN VISCOMETER

Suitable for transparent liquids.
Calibration certificate at 20°C.
Nominal overall length 250 mm.
Permanent ring marks in amber.
Sample filling volume 10 ml.

Ostwald

Code	Size	Nominal constant	Efflux time between ring marks Water at 20 °C. (seconds)
5600044	45	0,022	45
5600045	85	0,011	85
5600046	100	0,01	100
5600047	125	0,008	125

Monitor and Control Apparatus

Electronic controller “Electemp-TFT”

NEW DESIGN

FEATURES

Temperature range: -150 °C to 1300 °C
Stability: ±0.1 °C.
Resolution: ±0.1 °C Pt 100 /±1 °C K Type probe.
Touch screen
- Main On/Off switch.
- Acoustic and visual alarm.
- Clock calendar.
- Up to 10 work programs.
- Up to 6 segments per program.
- Stability time in each segment (from 1 min to 99h).
- Ramps between segments.
- Alarms and events storage.
- Probe error detection.
- Self Diagnostics .
- Network failure detection and saving.
- Over temperature and low temperature alarms and memorization (date, start time, end time and temperature).
- Safety thermostat (TS) by software .
- RS-232 and USB output.
- Software for PC.
- Temperature control auto-tuning.
- Manual user on screen.
- Configurable parameters: Date / time, temperature correction , data collection interval, language (English, Spanish and French) , °C / °F selection , over temperature and low temperature limit.

CONTROL PANEL

Setpoint temperature and time indicator.
Temperature limit indicator.
Timer virtual pushbutton.
Reverse virtual pushbutton.
Start virtual pushbutton.
Stop virtual pushbutton.
Programming virtual pushbutton.

BACK PANEL

Power output (SCHUKO plug) 3100 W at 230 V.
Protection fuse.
Pt100 probe connection.
K type probe connection.
Data output.

APPLICATIONS

Digital thermometer.
To control and display temperature in any equipment with temperature control system, that uses a contact thermometer, such as: Baths, Immersion thermostats, Hotplates and Hotplate stirrers, Mantles, etc.
Can also be used by a immersion thermostat controlling a heater element. (maximum power 3100 W).
As a regulator or temperature reader in equipment that are labelled with .

MODEL

Part No.	Height / Width / Depth cm (exterior)			Max. power W (at 230 V)	Weight Kg
3000897	10.5	13.5	21	3100	1.250

ACCESSORIES

Pt 100 probe. Immersion dimensions: 4 mm Ø, 130 mm length. Cable: 150 cm length.
Part No. 1000893
Type K probe. Immersion dimensions: 2 mm Ø, 150 mm length. Cable: 150 cm length.
Part No. 1000895

Electronic contact thermometer “Sensoterm II”

DIGITAL DISPLAY, PT 1000 PROBE, AISI 304 STAINLESS STEEL.
STABILITY ±1 °C, ±1 DIGIT. RESOLUTION ±1 °C.

ONLY SUITABLE FOR INSTRUMENTS THAT CAN USE AN ELECTRICAL CONTACT THERMOMETER.

FEATURES

Advantages include a separate temperature probe that maintain the main body away from steam and other vapours. Safer than a glass contact thermometer, eliminating the risk of broken it and a mercury spillage.
Main body made of ABS plastic.

TECHNICAL DATA

Temperature range: from -50 °C to 300 °C.
Temperature probe: 3.5 mm Ø x 250 mm immersion.
Temperature Display: 8 mm high LCD display.
Ambient working range: 0 to 60 °C and a relative humidity of 80 %.

MODEL

Part No.	Height / Width / Depth cm (exterior)			Weight Kg
1001009	13	7	2.4	0.250

Instruments labelled with that can use the electronic controller “Electemp-TFT” and the electronic contact thermometer “Sensoterm”.

Sand Bath
“Combiplac-Sand”
Parts No. 6000708 and 6000709.

Hotplate - Rectangular
“Combiplac”
Parts No. 3000156 and 3000718.

Hotplate - Circular
“Combiplac”
Parts No. 3002301 and 3002302.

Magnetic Stirrers “Agimatic”
Parts No. 7000243, 7002431, 7000446, 7001511, 7001609, 7000837 and 7000838.

NOTE: Any equipment that can be connected to an electrical contact thermometer can also be used with an “Electemp-TFT” or “Sensoterm” unit.

Electronic energy controller “Enertron”

FEATURES
Regulates the power to the heating element by pulsing electronic circuit, free of noise and interferences

CONTROL PANEL
Main ON/OFF switch.
Mains “ON” indicator lamp.
“ON” indicator power out.
Controllable from 4% to 100 %.

BACK OF CONTROLLER
Output of power (Schuko plug system).
Protection fuse.
Connection for a contact thermometer.

APPLICATIONS
Regulates the power of a heating element in ovens baths, radiators, hotplates, etc.

MODEL

Part No.	Height / Width / Depth cm (exterior)			Max. power W (at 230 V)	Weight Kg
3000886	10.5	13.5	21	2500	1.2

“Enertron” application to a hotplate, showing the unit connected with an electronic contact thermometer.

Digital thermometer “TC-9226-A”

FEATURES
Main body made of PVC with anti-slide for better stability.
Temperature range from -200 °C to 1370 °C (-328 to 2498 °F).
Reads °C or °F, reading within 1 second.
Memorizes the last 10 temperature readings. Displays the reading for 3 seconds. It is posibles to hold the reading on the screen.
Switches off automatically after 1 hour (if it is in a continuous mode).
LCD with back light illumination.
Low battery power indicator.
Powered by 3 x 1.5V "AAA" batteries”.
Compatible with most Type K sensors.
Operating conditions: from –10 to 50 °C.
Dimensions: (height x width x depth): 17 x 7 x 3 cm. Weight 150g.

MODEL	Part No.	Temp. range °C	Resolution °C	Precision °C
CT-9226-A	5903030	-200 to 1370	0.1	from -200 to -50: ±2 from -50 to 740: ±1 from 740 to 1370: ±2

The precision figures supplied are based on a measurement range from 18 to 28 °C (does not include the sensor error).

Supplied complete with a Type K sensor and cable of 1.40 mm Ø x 100 cm long.

ACCESSORY
Sensor type K of 8 mm Ø x 30 cm length. Part No. 5903025

Digital Humidity meter with Thermometer “HT-305E”

NEW DESIGN

FEATURES
Temperature range from 0 °C to 60 °C.
Humidity range from 10% to 95% RH.
Digital Display °C or in °F Fast response: 0.4”.
Power: battery 9 V.
Dimensions: (height x width x depth): 3.2 x 7 x 15.5 cm.
Weight: 370 g.

Part No. 5903023
Supplied complete with humidity / temperature sensor, protective cover and carry case.

MODEL	Part No.	Temp. range °C	Resolution °C	Precision °C	Humidity range %	Humidity resolution %	Humidity precision %
HT-305E	5903023	from 0 to 60	0.1	±0.8	from 10 to 95	0.1	> 70%: ±3% +1% < 70%: ±3%

Ink Printer “Microprinter”

APPLICATIONS

Small ribbon printer (not thermal) with paper roll 2 1/4" (56 mm) wide.
Interface connection: RS232.
Applications: Measuring equipment, pH meters, conductivity meters, spectrophotometers, etc.
Includes interface cable and power transformer 5V - 3A and cable.

MODEL

Part No.	Height / Width / Depth cm			Power supply	Weight Kg
4120113	4	16	10	DC 5V 3A	1

Automatic programmer “Promat” 24 H

Connects and disconnects electrical power by a pre-programmed timer switch.
Adjustable timer: Cycles up to 24 hours, with controllable connection disconnection up to every 15 minutes.
Manual interrupt setting to disconnect the program, luminous indicator shows when power is being applied.
Maximum current: 16 Amp.
Part No. 1000500

Timer alarm “Relavis”

Audible sound when the program time has lapsed.
Time setting from 0 to 60 minutes in 1 minute intervals.
Part No. 5900499

Digital alarm timer “Count Down-Up”

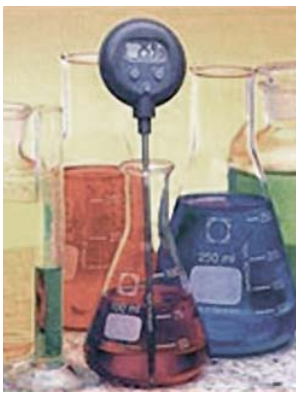
Maximum count time 99 min. 59 sec. Timer: count-down and count-up.
Portable: table top with magnetic holder or clip if used on a pocket or overall.
Audible alarm fitted.
Part No. 5900500

Digital Chronometer “Diamond”

Maximum timer: 23 hr 59 min 59 sec. Division 1/100 seconds. Control: LAP/SPLIT (timer: split time and accumulative time).
Date incorporated.
Audible Alarm (duration 60 seconds).
Audible Alarm "snooze" function (once pressed the stop alarm goes off every 5 minutes until it is completely shut off).
Part No. 5900501

Thermometer reader “Micro-Temp”

SUITABLE FOR MEASURING TEMPERATURE FROM -50 °C TO +300 °C OR FROM -58 °F TO +527 °F.



Applications: process control, laboratories, pharmacies, food processes and agriculture in general.
Digital screen readout in °C or °F.
Stainless steel penetration probe of 3.5 mm Ø x 120 mm long.
Retention memory of minimum and maximum data readout.
Disconnects automatically after 1 hour.
Powered by a 5V - 3A battery.

MODEL

Part No.	Precision	Resolution
5903029	±1 °C / 1 °F	0.1 °C / 0.1 °F

Comes complete with protective cover and support clip.

GLASS THERMOMETERS

COMMON FEATURES

All thermometers are made of glass rod or with an opal scale, with a reinforced bulb.
A wide selection of scales and temperature ranges is available.
Scales etched in acid and graduated with indelible ink.
Resistant to most chemical agents.
All thermometers are supplied with a protective plastic cover.

Solid stem Themometers

Yellow backed, mercury filled.

Part No.	Range °C	Division scale °C	Total length cm
1090100	-10 +100	1/1	30
1090150	-10 +150	1/1	30
1090250	-10 +250	1/1	30
1090360	-10 +360	1/1	30
1093100	-10 +100	0.5	30
1092050*	0 +50	0.1	45

* White back.

White back, with red liquid content.
Suitable for measuring samples where mercury is not permitted.
E.g. food products, drinks, etc.

Part No.	Range °C	Division scale °C	Total length cm
1001257	-10 +100	1/1	30

Yellow backed with suspension ring, mercury filled.

Part No.	Range °C	Division scale °C	Immersion length cm	Total length cm
1001299	0 +200	1/1	5	25
3009100	-20 +100	0.5	15	34
3009200	0 +200	1/1	15	34
1009100	0 +60	0.5	15	30

Enclosed scale thermometers

With prismatic capillary, with easy to read scale. Contains mercury.

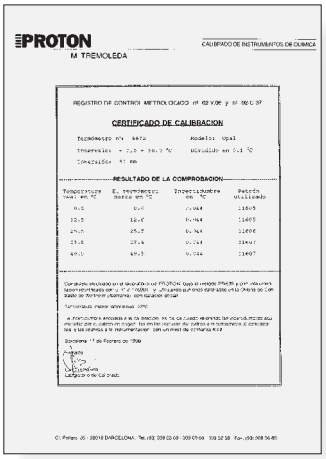
Part No.	Range °C	Division scale °C	Immersion length cm	Total length cm
1095060	-10 +50	1/1	3	30
1095100	-10 +100	1/1	3	30
1095150	-10 +150	1/1	3	30
1095250	-10 +250	1/1	3	30
1095360	-10 +360	1/1	3	30
1096050	-10 +50	0.5	3	30
1096100	-10 +100	0.5	3	30
1097050	-10 +50	0.1	3	45
1000120	-10 +120	1/1	10	25
1000100	-10 +100	1/1	13	25
1000872	-10 +120	1/1	15	33
1000873	0 +220	1/1	15	33

Precision thermometers

Mercury thermometers.

Complete with **calibration certificate** PROTON registration control no. 02-C.37 and 02-V.06 (Meteorological control).

Traceable certificate indicating the proof of continued quality of workmanship against different temperatures, with method and conditions of measurement against known traceable standards.


PROTON
M. TREMOLEDA
CALIBRADO DE INSTRUMENTOS DE QUIMICA
CERTIFICADO DE CALIBRACION
RESULTADO DE LA COMPROBACION

Part No.	Range °C	Division scale °C	Type	Total length cm
1001258	-10 +100	1/1	solid stem	30
1001259	-10 +250	1/1	solid stem	30
1001260	-10 +50	0.5	solid stem	30
1001261	-10 +100	0.5	solid stem	30
1001262	0 +50	0.1	solid stem	45
1001263	-10 +100	1/1	enclosed scale	30
1001264	-10 +250	1/1	enclosed scale	30
1001265	-10 +50	0.5	enclosed scale	30
1001266	-10 +100	0.5	enclosed scale	30
1001267	-10 +50	0.1	enclosed scale	45

Case with 7 glass rod mercury thermometers, white back, scale in 0.1 °C.

Range °C*	Total length
-30 +20	45 cm
0 +50	45 cm
+50 +100	45 cm
+100 +150	45 cm
+150 +200	45 cm
+200 +250	45 cm
+250 +300	45 cm

*One thermometer per range.

Part No.

1001268 with **calibration certificate** PROTON.

1001298 without **calibration certificate**.

Electric contact thermometers

Adjustable temperature setting with the use of a dial on the top of the thermometer. To provide better mercury flow, the capillary interior is filled with an inert gas. Supplied complete with a 100 cm cable with the appropriate connection on the end.

Part No.	Range °C	Division scale °C	Immersion length cm	Total length cm
3521015	0 +100	1/1	15	39
3522015	0 +200	2/1	15	39
3523015	0 +300	5/1	15	39
3352604	0 +60	1/1	4	28
3352104	0 +100	1/1	4	28
3352204	0 +200	2/1	4	28

Universal reactor for laboratory “RV-12”

ADAPTABLE TO ALL THE STANDARDIZED GLASS ELEMENTS WITH A MOUTH OF 100 MM Ø.
REACTOR CAPACITY: 12 LITRES.

APPLICATIONS

Universal reactor suitable for all laboratory and pilot plant’s operations.

FEATURES

Standard mouth for connection to DN100 glass reactor’s covers.
Reactor in stainless steel AISI 316, with a capacity of 12 litres and with a drain tap.

STANDARD EQUIPMENT

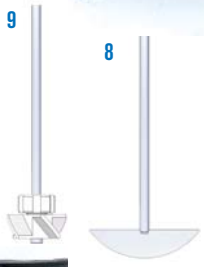
1. **Standard support.** Part No. 1001748
2. **Clamp with support ring** for the reactor. Part No. 1001747
3. **Reactor** in stainless steel AISI 316, capacity 12 litres with drain tap. External sizes: Height 38 cm. x 25 cm. Ø. Weight: 4,5 Kg Part No. 1001746

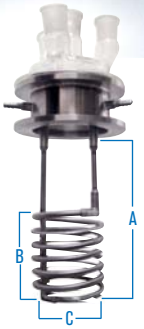
COMPLEMENTS

4. **Clasp** for fastening normalized flat gaskets for reactor “RV-12” or any glass reactor with normalized mouth of 100 mm. Ø. Part No. 1001758
5. **Stirrer RZR-1** with adjustable speed. Part No. 5050111
6. **Double bosshead** MAXIM. Part No. 7000408 or **Clamp** Part No. 1001765
7. **Flexible shaft holder** for 8 mm. Ø stirring shaft. Part No. 5050903
8. **Half-moon shape stirring shaft**, 8 mm. Ø stainless steel AISI 304 (length 90 x shovel width 12 cm). Part No. 1001754
9. **Helix shape stirring shaft,** 8 mm. Ø stainless steel AISI 304 and PTFE shovel (length 90 x shovel width 4 cm). Part No. 1001757
10. **Electronic controller ELECTEMP-TFT.** Part No. 3000897 with connector for inner temperature control, if the heating mantle is used.
11. **Support plate** with bosshead for Electemp-TFT regulator. Part No. 1001750
12. **Pt100 probe** Part No. 1001749 200 mm length x 4 mm. Ø, with connection cable to Electemp-TFT regulator.
13. **Ring holder** with double bosshead for heating mantle. Part No. 1001751
14. **Heating mantle** with doble heating elements for temperatures up to 400 °C. Power consumption 1400W. Part No. 3001752

OPTIONAL

Aisi 316 stainless steel device, with standard double mouth and coll for liquid heating or refrigeration inside the reactor.
This device can be connected to the universal reactor part no. 1001746 or to glass reactors with a 10 l. capacity and with DN-100 standard mouth.
Coil measurement: A: 21 cm. B: 15 cm. C: 10 cm. Part No. 1001755
For reactors higher than 40 cm., it must be manufactured according to drawing.





Note: Several tests have been made in the laboratory with the silicone oil “47V50”and with the **Ultraterm-TFT-300 thermostat**. Part No. 3000545 (See page 103), reaching temperatures up to 170 °C in 35’ inside the reactor properly isolated with “durablanket120”. With methanol fluid transmitter liquid and with **Frigiterm-TFT-30 thermostat.** Part No. 3000547 (see page 103), reaching temperatures up to -21 °C in 57’ inside the reactor properly isolated with “durablanket120”.

Customizable reactors on demand

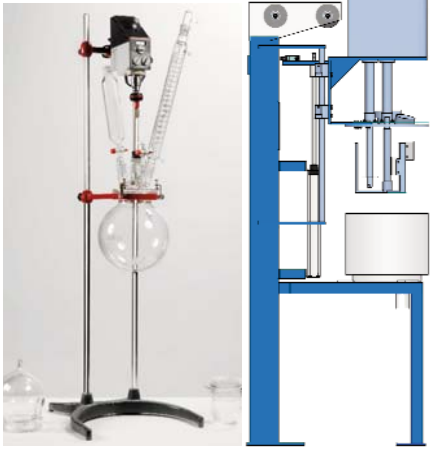
FOR LABORATORY AND PILOT PLANT WITH HEATING ANS COOLING SYSTEMS
BOROSILICATE GLASS 3.3. CAPACITY: FROM 0,5 UP TO 20 LITRES.
AISI 304 - 316 – 316L STAINLESS STEEL LITRES CAPACITY: FROM 20 UP TO 100 LITRES.

Borosilicate glass 3.3: Spherical, cylindrical and thermostatic with or without PTFE release valve with temperature control accessories, PH, oxygen, turbidity, etc. Heidolph stirring systems and variable PTFE blades.

Aisi 304 - 306 - 306 stainless steel: Cylindrical and thermostatic with or without release valve. With temperature control accessories, PH, oxygen, turbidity, etc.

Fixed and variable stirring systems of different powers according to viscosity and density, combined with stirring elements, dispersers and emulsifiers micronizers and helical.

REQUEST INFORMATION.



Reactor for pilot plant "R-605" and "R-620"

CAPACITY UP TO 20 LITRES

APPLICATIONS

This equipment is designed for reflux and distillation operations with a stirring element, for all laboratory's pilot plant operations and small productions.

FEATURES

Reactor module built-in, made of glazed steel in epoxy, composed of an engine group stirring and a reaction borosilicate glass 3.3 with graduation and dual Camera to temper, for a volume of 4-20 liters in "R-620" model and 1-5 liters in "R-605" model.
Stirring anchor blade and elements in contact with the liquid or reaction steam, composed of borosilicate glass and PTFE.
R-605 model addition and reflux. Distillation system on demand.
Reactor for multiple reactions: add PTFE tap Part No. 1001752, support Part No. 1001744 and digital thermometer Part No. 5903030 or pH analyser/Redox and temperature Part No. 4120800.

CONTROL PANEL

Main switch ON / OFF.
Regulator knob for stirring speed from 0 to 800 rpm, and with digital reading.

MODELS

Part No.	Total dimensions Height / Width / Depth			Reactor capacity	Operating temperature	Power W	Weight Kg
1001705	130	70	35	5	-30 ºC to 200 ºC	90	10
1001745	180	62	50	20	-30 ºC to 200 ºC	250	68

"R-605" model 5 litres.

"R-620" model 20 litres.

Model "R-620" 20 litres.

ACCESORIES

pH analyser/Redox and temperature from -10ºC up to 130ºC. Backlit graphic display. For pH/ ORP measurement, temperature by probe measurement, temperature automatic compensation. 1 relay output for alarm or temperature, 1 relay output for electrode wash or temperature. pH measurement: 00.00÷14.00Ph.
Redox ±1500Mv± 1Mv. Part number 4120800
HT glass sensor pH 0-14 +Temp -10 to 100ºC. Part number 4120801
Glass sensor adapter for R-605. Part number 4120802
Glass sensor adapter for R-620. Part number 4120803

Digital thermometer "TC-9226-A"
Temperature range: -200 ºC. to 1370 ºC.
Part No. 5903030

Universal drain tap in PTFE and bellow for disposal of different density and viscosity liquid / liquid and liquid / solid suspensions.
Part No. 1001753 for model RV-605.
Part No. 1001752 for model RV-620.

Over elevation support base.
Part No. 1001773 for model RV-605. Height 38 cm.
Part No. 1001744 for model RV-620. Height 65 cm.

COMPLEMENTS

Peristaltic dosing pump "Peristaltic PR-2003."
For PH stabilisation (acid-base).
Also applicable to dosages in process.
Features: See page 49. Part No. 4129050

FOR REACTOR R-605:

Recirculation thermostat "Ultraterm-TFT-200".
For adjustable temperatures from ambient +5 ºC. to 200 ºC.
Part No. 3000545 (See page: 103).
Recirculation cryothermostat "Frigiterm-TFT-30".
For adjustable temperatures from -30 ºC. to 100 ºC.
Part No. 3000547 (See page: 103).

FOR REACTOR R-620:

High power recirculation thermostat "Interheater"
For adjustable temperatures from ambient +5 ºC. up to 90 ºC.
Part No. 6001491 (See page: 107).
Water refrigerador and recirculator "Unichiller 015"
For temperatures from -20°C to +40 ºC.
Part No. 5910027

Unichiller 015 *Interheater*

FILTRATION. FILTER PAPER FOR LABORATORY

NEW

Quantitative filter papers

ASH CONTENT LESS THAN 0.01%. CRITICAL GRAVIMETRÍES AND ANALYSIS

Whatman-Xinhua® Part of GE Healthcare

Filtration	Basis weight g/m²	Thickness mm	Ashes %	Type	Units box
Fast	97	0,200	< 0,01	Flat	100
Medium	97	0,200	< 0,01	Flat	100
Slow	97	0,170	< 0,01	Flat	100

Fast: Ø 70: 5301070. Ø 90: 5301090. Ø 110: 5301110. Ø 125: 5301125. Ø 150: 5301150. Ø 180: 5301180.

Medium: Ø 70: 5302070. Ø 90: 5302090. Ø 110: 5302110. Ø 125: 5302125. Ø 150: 5302150. Ø 180: 5302180.

Slow: Ø 70: 5303070. Ø 90: 5303090. Ø 110: 5303110. Ø 125: 5303125. Ø 150: 5303150. Ø 180: 5303180.

General use qualitative filter papers

FILTRATIONS FOR ROUTINE ANALYSIS IN ALL KINDS OF LABORATORIES

Whatman-Xinhua® Part of GE Healthcare

Filtration	Basis weight g/m²	Thickness mm	Ashes %	Type	Units box
Fast	80	0,300	< 0,11	Plano	100
Medium	80	0,150	< 0,11	Plano	100
Slow	80	0,200	< 0,11	Plano	100

Fast: Ø 70: 5304070. Ø 90: 5304090. Ø 110: 5304110. Ø 125: 5304125. Ø 150: 5304150. Ø 180: 5304180.

Medium: Ø 70: 5305070. Ø 90: 5305090. Ø 110: 5305110. Ø 125: 5305125. Ø 150: 5305150. Ø 180: 5305180.

Slow: Ø 70: 5306070. Ø 90: 5306090. Ø 110: 5306110. Ø 125: 5306125. Ø 150: 5306150. Ø 180: 5306180.

Filter paper reams

PROTECTION AND ABSORPTION IN WORKBENCHES IN ALL KIND OF LABORATORIES

Grade	Basis weight g/m2	Thickness mm	Absorption speed* mm/10 min	Moisture resistance kN/m	Units box
1305	73	0.170	75/70	0.290/0.260	500
1510	60	0.130	60/55	0.280/0.230	500

1305: 42 x 52 (cm): 5130502. 32 x 42: 5130501.

1510: 42 x 52(cm): 5151002. 32 x 42: 5151001.

Absorbent paper with polyethylene

PROTECTION AND ABSORPTION THANKS TO ITS DOUBLE LAYER: ONE OF ABSORBENT PAPER AND THE OTHER OF WATERPROOF POLYETHYLENE

Grade	Basis weight g/m²	Thickness mm	Area absorption g water/m²
1505	125	0.250	240

1505: 42 x 52 (cm): 5150502. 32 x 42: 5150501. 50 (cm) Width x 50 (meters): 5150503

Glass microfiber filters without binders

RECOMMENDED IN AIR AND WATER ANALYSIS ACCORDING TO INTERNATIONAL STANDARDS

Grade	Retention µm	Basis weight g/m²	Thickness mm	Retention DOP %	Binders	Units Box
MFV1	1.6	52	0,26	99.998	No	100
MFV3	1.2	52	0,26	99.998	No	100

MFV1: mm Ø 47: 5291047. Ø 70: 5291070. Ø90: 5291090. Ø 110: 5291110. Ø 125: 5291125. Ø 150: 5291150.

MFV3: mm Ø 47: 5293047. Ø 70: 5293070. Ø90: 5293090. Ø 110: 5293110. Ø 125: 5293125. Ø 150: 5293150.

Cellulose extraction cartridges

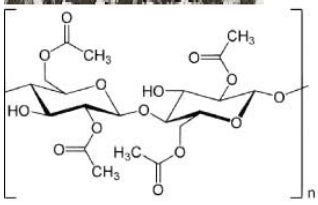
NOBLE CELLULOSES AND COTTON LINERS TOTALLY FREE FROM IMPURITIES.
FOR REMOVING PAINTINGS, ANIMAL FAT, COSMETICS, VARNISHES, LACQUERS, OIL SEEDS, RESINS AND WOOD FATS, ETC... WALL THICKNESS: BETWEEN 1 AND 2 MM. UNITS PER BOX: 25

Part No.	Interior Dimensions mm Ø/ L	Part No.	Interior Dimensions mm Ø/ L	Part No.	Interior Dimensions mm Ø/ L
5297001	19 x 90	5297005	28 x 100	5297009	33 x 94
5297002	22 x 80	5297006	30 x 80	5297010	33 x 100
5297003	22 x 100	5297007	30 x 100	5297011	35 x 100
5297004	25 x 100	5297008	33 x 80	5297012	43 x 123

Cellulose Acetate Membrane Filters

LOW PROTEIN ABSORPTION FOR FILTERING DIFFERENT SAMPLES: BIOLOGICAL, AQUEOUS, ALCOHOLS, OILS AND HIDROCARBONS.
AVAILABLE IN PORES FROM 0.22 UP TO 5 µM AND IN DIAMETERS FROM 13 UP TO 293 MM.
AVAILABLE ON DEMAND IN Ø 13 - 25 - 142 Y 293 MM.
PH COMPATIBILITY: 4-8.

Part No.	Membrane Material	Diameter mm	Pore µm	Colour	Surface	Format	Units x box
5297013	Cellulose acetate	47	0.22	White	Flat	Non-Sterile	100
5297014	Cellulose acetate	47	0.45	White	Flat	Non-Sterile	100
5297015	Cellulose acetate	47	0.8	White	Flat	Non-Sterile	100
5297016	Cellulose acetate	47	3.0	White	Flat	Non-Sterile	100
5297017	Cellulose acetate	47	5.0	White	Flat	Non-Sterile	100
5297018	Cellulose acetate	90	0.22	White	Flat	Non-Sterile	100
5297019	Cellulose acetate	90	0.45	White	Flat	Non-Sterile	100
5297020	Cellulose acetate	90	0.8	White	Flat	Non-Sterile	100
5297021	Cellulose acetate	90	3.0	White	Flat	Non-Sterile	100
5297022	Cellulose acetate	90	5.0	White	Flat	Non-Sterile	100



Glass filtration equipment

TECHNICAL SPECIFICATIONS

Materials:
100% borosilicate glass 3.3 except aluminium clamps.
Capacities:
Funnel 300 ml. Filtration flasks 1000 ml.
Plate porosity: Grade 2/3
Sterilization: Autoclave (max. 134ºC), dry heat (max. 180ºC).
Diameter filters: 47 mm
Output connections to vacuum: Tube 8 - 10 mm. diameter.
Complete equipment. **Part No.** 5297023

Vacuum pumps. See page 50 and 51.

AQUISEL®

MEDICAL DEVICES
PRODUCTOS SANITARIOS

MEDICAL DEVICES MANUFACTURER FOR DISPOSABLE IN VITRO DIAGNOSTIC.
FABRICANTE DE PRODUCTOS SANITARIOS PARA DIAGNÓSTICO IN VITRO. UN SOLO USO.

SELECTA GROUP

Eliminate unnecessary risks with the AQUISEL Valve-Stopper system.
Evite riesgos innecesarios con el sistema Tapón-Válvula AQUISEL.

Container with AQUISEL Valve-Stopper.
Contenedor con Tapón-Válvula AQUISEL.

Fixation and concentration of faecal parasites “Aquisfek”
Fijación y concentración de parásitos fecales “Aquisfek”

Pipettes for E.S.R. with zero levelling and automatic closure system for conventional tubes or AQUISEL Valve-Stopper.
Pipetas VSG de enrase a cero. Con émbolo de presión para tubos convencionales o con Tapón-Válvula AQUISEL.

ICO-0011-0/02-2009

EN-ISO-9001 QUALITY MANAGEMENT SYSTEMS / EN-ISO-13485 MEDICAL DEVICES
EN-ISO-9001 SISTEMAS DE GESTIÓN DE LA CALIDAD / EN-ISO-13485 PRODUCTOS SANITARIOS

IVD CE

AQUISEL® VALVE-STOPPER

System available for sample manipulation without the need of uncorking the tube, maintaining it hermetically sealed and avoiding the risk of contamination.

TAPÓN- VÁLVULA AQUISEL

Sistema que permite su manipulación sin necesidad de destaponar, permaneciendo hermético y evitando el riesgo de contaminación.

The AQUISEL system consist of a tube, valve-stopper and an appropriate reagent for specific use.
The AQUISEL tube is made of a high resistance transparent polypropylene. The valve-stopper is a very elastic material and **has a special cross-cut design which allows an automatic recover to its initial closed position, after insertion or extraction of the sample.**
The tube's reagent contents is offered through different possibilities identified by colours in accordance with International Standards.
It can be used by most of the current analytical procedures, even if they are manual, semi-automatic or automatic procedures.
It allows inter-hospital road and postal transport thanks to its hermetic seal and high resistance to uncorking due to vibrations, hits, cold, heat, etc.

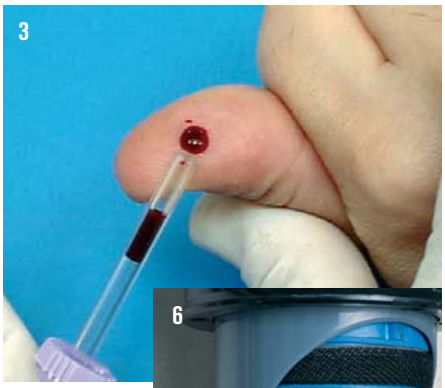
El sistema AQUISEL se compone de tubo, tapón-válvula y del reactivo apropiado para su uso específico.
El tubo del sistema AQUISEL está fabricado en polipropileno de alta resistencia y de gran transparencia. El tapón-válvula es de material muy elástico y **posee unos cortes que por su diseño especial recuperan automáticamente su hermeticidad, después de la introducción o extracción de la muestra.**
Su contenido en reactivo ofrece diferentes posibilidades que se distinguen por su color según Normas Internacionales.
Puede ser utilizado con la mayoría de los procedimientos analíticos actuales, ya sean manuales, semiautomáticos o automáticos.
Permite el transporte neumático intrahospitalario e incluso por correo por su hermeticidad y gran resistencia a destaponarse con movimientos, golpes, frío, calor, etc

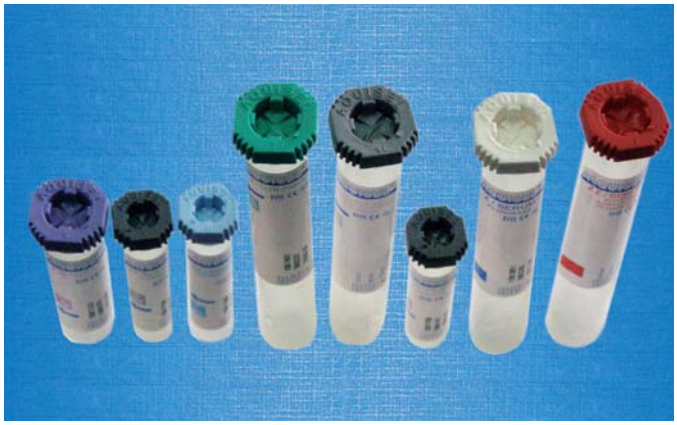
USE AND APPLICATIONS

1. Inserting (blood) samples with syringe (without needle).
2. Extraction and dosage with semi-automatic pipette.
3. Capillary blood extraction.
4. Capillary filling for microhematocrite.
5. Automatic sampling for haematology in primary tubes.
6. Sample road transport.
7. Centrifuge heads adaptable.

USO Y APLICACIONES

1. Introducción de muestra con jeringuilla (sin aguja).
2. Extracción y dosificación con pipeta semiautomática.
3. Recogida de sangre capilar.
4. Llenado de capilar para microhematocrito.
5. Toma de muestras automática para hematología en tubos primarios.
6. Transporte neumático de muestras.
7. Adaptable a cabezales de centrífuga.





Tubes with AQUISEL Valve-Stopper
Tubos con Tapón-Válvula AQUISEL

There are different size and volume tubes with additives:
anticoagulant, antiglicolytics, clotting accelerators or empty tubes.

Diferentes formatos y volúmenes de tubos con aditivos:
anticoagulantes, antiglicólicos, aceleradores de la coagulación o vacíos.

Tubes for small blood volume, size 55x12
Tubos para pequeños volúmenes de sangre de 55x12.

Suitable for paediatrics or small sample volumes.

Indicados para pediatría, o para pequeños volúmenes de muestra.

Product presentation
Presentación del producto

The tubes are presented in polystyrene racks of 100 units.
Every 50 units are covered with a transparent lid for protection.

Los tubos van colocados en gradillas de poliestireno de 100 unidades.
Cada 50 unidades se cubren con una tapa transparente de protección.

Accesory: CAP-GALET
Accesorio: CAP-GALET

Funnel adapter which can be used together with the primary AQUISEL tubes and allows sample blood transfer to secondary tubes, useful for capillary blood extractions in paediatrics, for low blood volumes, can be used in all auto-analysers for primary tube sampling, etc. All these procedures could be completed without uncorking the primary AQUISEL tubes. Once the CAP-GALET is removed, the tube remains sealed again for conservation or disposal.

Adaptador en forma de embudo que juntamente con los tubos primarios AQUISEL permite trasvasar las muestras a tubos secundarios, realizar extracciones de sangre capilar en pediatría, útil para bajos volúmenes de sangre, ser utilizado en todos los autoanalizadores con toma-muestra de tubo primario, etc.Todos los procesos se realizan sin necesidad de destaponar los tubos primarios AQUISEL. Una vez extraído el CAP-GALET, el tubo permanece de nuevo cerrado para su conservación o desecho.

AQUISEL TUBES WITH VALVE-STOPPERS - TUBOS AQUISEL CON TAPÓN-VÁLVULA

TUBES QUANTITY IN THE SHIPPING BOX (100 UNITS RACKS) Nº DE TUBOS EN LAS CAJAS DE EXPEDICIÓN (GRADILLAS DE 100 UNIDADES)				600		800		1.000		800		800		1.000	
Nominal size of the tube: length x diameter in mm. Tamaño nominal del tubo: long x diámetro en mm.				100 x16		75 x16		55 x16 FLAT BOTTOM CON FALDON		80 x13		70 x12		55 x12 CAP	
CONTENT / REAGENTS CONTENIDO / REACTIVO		DOSAGE TYPE TIPO DE DOSIFICACION	STOPPER COLOUR COLOR DEL TAPON	Code Código	ml blood sangre	Code Código	ml blood sangre	Code Código	ml blood sangre	Code Código	ml blood sangre	Code Código	ml blood sangre	Code Código	ml blood sangre
K3E	EDTA 3K	LIQUID LIQUIDO	MAUVE MALVA					1501103	4	1581104	4	1581105	3	1501106	2
								1501113	2	1581114	2,5			1501116	1
K3E	EDTA 3K	LIQUID LIQUIDO	MAUVE MALVA					1501123	4*	1581124	4*			1501126	0,5
								1501133	2*	1581134	2,5*			1501136	0,25
4 NC	CITRATE 3 Na - CITRATO 3 Na 0,106 M ~ 3,8% 1:4 VSG / ESR	LIQUID LIQUIDO	BLACK NEGRO					1501223	2	1581204 ➤	1,6	1581205	1,2	1501206	1
										1581209 ▲	1			1501226 ●	0,32
9 NC	CITRATE 3 Na - CITRATO 3 Na 0,106 M ~ 3,8% 1:9 CLOTTING FACTORS FACTORES DE COAGULACION	LIQUID LIQUIDO	LIGHT BLUE AZUL CLARO							1581304	4	1581305	2	1501306	1
														1501326	0,5
LH	Li HEPARIN - HEPARINA Li	LIQUID LIQUIDO	GREEN VERDE	1561401	10					1581404	4	1581405	2	1501406	1
LH	LI HEPARIN WITH SEPARATOR GEL HEPARINA Li CON GEL SEPARADOR	LIQUID AND GEL LIQUIDO Y GEL	GREEN VERDE											1501416	1
LH	Li HEPARIN + MONOIODO ACETATE Li HEPARINA Li + MONOIODO ACETATO Li	LIQUID LIQUIDO	GREEN VERDE							1581604	4			1501606	1
	MONOIODO ACETATE Li + CLOTTING GRANULES MONOIODO ACETATO Li + GRANULOS ACTIVADOR	GRANULES GRANULOS	LIGHT GREY GRIS CLARO	1561521	8					1581524	4	1581525	2		
FX	FLUORIDE Na + OXALATE K FLUORURO Na + OXALATO K	LIQUID LIQUIDO	DARK GREY GRIS OSCURO							1581704	4	1581705	2	1501706	1
Z	EMPTY AND UNLABELLED VACIO SIN ETIQUETA		WHITE BLANCO	1561961	10	1581962	7	1501963	5	1581964	5	1581965	3	1501966	2
Z	EMPTY WITH BLANKLABEL FOR SERUM VACIOS CON ETIQUETA EN BLANCO PARA SUERO	POWDER PULVERIZADO	WHITE BLANCO	1561971	10					1581974	5	1581975	3	1501976	2
Z	SEPARATOR GEL FOR SERUM GEL SEPARADOR PARA SUERO	GEL	WHITE BLANCO	1561981	9					1581984	4			1501986	1,5
Z	PS GRANULES FOR SERUM GRANULOS PS PARA SUERO	GRANULES GRANULOS	WHITE BLANCO	1561951	9	1581952	6			1581954	4			1501956	1,5
Z	CLOTTING ACCELERATOR ACTIVADOR DE LA COAGULACION	LIQUID LIQUIDO	RED ROJO											1501806	2
Z	CLOTTING ACCELERATOR SEPARATOR GEL ACTIVADOR DE LA COAGULACION Y GEL SEPARADOR	LIQUID AND GEL LIQUIDO Y GEL	RED ROJO	1561811	9					1581814	4			1501816	1,5
Z	CLOTTING ACCELERATOR PS GRANULES FOR SERUM ACTIVADOR DE LA COAGULACION Y GRANULOS PS PARA SUERO	GRANULES GRANULOS	RED ROJO	1561941	9	1581942	6			1581944	4	1581945	3	1501946	1,5

Shipping boxe size / Medidas Caja Expedición	Long Largo (cm)	47	47	47	39	36	36
	Width Ancho (cm)	23	23	23	22	21	21
	High Alto (cm)	34	34	34	36	34	34
	Weight Peso (Kg)	4,3	4,3	4,0	3,5	3	3,5

*Special for Haematology automatic machines (special cut 5 mm)
*Especial para máquinas automáticas de hematología (corte especial del tapón 5 mm)

➤ 75x13 size tube for AQUISEL P-2 pipette. Tubo 75x13 para pipeta AQUISEL P-2.

▲ Special tube for AQUISEL P-3 pipette. Tubo especial para pipeta AQUISEL P-3.

● Special tube for AQUISEL P-4 MICRO pipette. Tubo especial para pipeta AQUISEL P-4 MICRO.

ACCESORY: CAP-GALET - ACCESORIO: CAP-GALET
Code **1650000**. Supplied in bags of 500 units.
Código **1650000**. Se suministra en bolsas de 500 unidades.

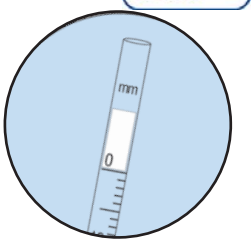
AQUISEL TUBES WITH NON-CUT STOPPER - TUBOS AQUISEL CON TAPÓN SIN CORTES

CONTENT/REAGENTS CONTENIDO/REACTIVO		DOSAGE TYPE TIPO DOSIFICACION	STOPPER COLOUR COLOR TAPON	Nº TUBES PER BOX Nº TUBOS POR CAJA	Code Código	ml blood ml sangre	LENGTH x Ø Tube mm LONG. x Ø Tube mm.	Width / Depth / Height Box cm Ancho / Fondo / Alto Caja cm	Weight Peso Kg
K3E	EDTA 3K	LIQUID LIQUIDO	MAUVE MALVA	800	1681154	3	80 x 13	39 22 36	3

AQUISEL PIPETTE

PIPETTES FOR ERYTHROCYTE SEDIMENTATION READ E.S.R. WESTERGREN METHOD.

Pipettes made in polystyrene with similar properties as glass ones.
The ZERO-CLOSURE system allows the pipette filling, preventing that the blood exceeds the zero point and also avoiding total or partial loss. Automatic sealing makes it a disposable product.



PIPETA AQUISEL

PIPETAS PARA LA DETERMINACIÓN DE LA VELOCIDAD DE SEDIMENTACIÓN GLOBULAR V.S.G. MÉTODO WESTERGREN.

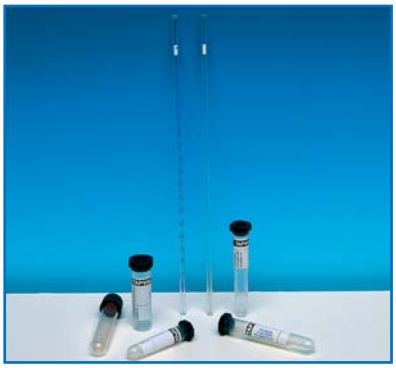
Pipetas fabricadas en poliestireno con un comportamiento equivalente al vidrio.
El sistema de CIERRE-CERO permite el llenado de la pipeta impidiendo que la sangre supere el punto cero y evitando el vaciado total o parcial. Al quedar automáticamente sellado se convierte en un artículo de un solo uso.

AQUISEL Pipette A-2 without rubber.

For any kind of tube use, even with AQUISEL or with a conventional stopper.
Suitable for mechanical or manual aspiration.

Pipeta AQUISEL A-2 sin émbolo.

Para cualquier tipo de tubo, con tapon AQUISEL o convencional.
Llenado por aspiración mecánica o manual.



AQUISEL Pipette P-2 with rubber.

For 75x13 tubes with AQUISEL or with a conventional stopper.
Pipette filling by pressure till the bottom of the tube.

Pipeta AQUISEL P-2 con émbolo.

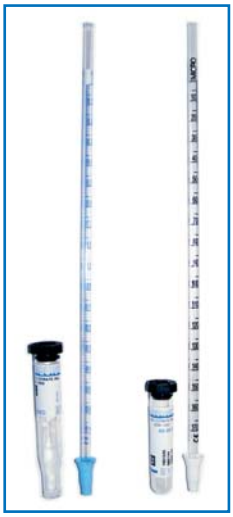
Para tubos de 75x13 con tapon AQUISEL o convencional.
Llenado de la pipeta por presión hasta el fondo del tubo.

AQUISEL Pipette P-3 and P-4 MICRO systems

Set of AQUISEL pipettes and tubes. Tubes come with the valve-stopper which allows the pipette insertion without the need of uncorking.
Pipette filling by pressure.

Sistemas Pipeta AQUISEL P-3 y P-4 MICRO

Conjuntos formados por pipetas y tubos AQUISEL. Los tubos llevan incorporado el TAPÓN-VALVULA lo que permite la introducción de la pipeta sin necesidad de destaponar.
Llenado por presión.



PRODUCT PRESENTATION - PRESENTACIÓN DEL PRODUCTO

AQUISEL Pipettes A-2

Expanded polystyrene packaging of 500 units.

Pipetas AQUISEL A-2

Envase de P.S. expandido.
De 500 pipetas de capacidad.

AQUISEL Pipettes P-2

**200 units cardboard package.
Supplied in 800 units boxes.**

Pipetas AQUISEL P-2

Envase de cartón de 200 unidades.
Se suministran en cajas de 800 unidades.

Set P-3. AQUISEL Pipette and tube

200 units cardboard package and 100 tubes rack made of expanded polystyrene, supplied in 600 sets boxes.

Conjunto P-3. Pipeta con tubo AQUISEL

Envase de cartón de 200 pipetas y de P.S. expandido de 100 tubos. Se suministra en cajas de 600 conjuntos.

Set P-4 Micro. AQUISEL Pipette and tube

100 pipettes cardboard package and 100 tubes rack made of expanded polystyrene, supplied in 400 sets box.

Conjunto P-4 Micro. Pipeta con tubo AQUISEL

Envase de cartón de 100 pipetas y de P.S. expandido de 100 tubos. Se suministra en cajas de 400 conjuntos.

MODEL MODELO	CODE CÓDIGO	UNITS / BOX Nº UNIDADES CAJA	BOX WEIGHT Kg PESO CAJA Kg	BOX DIMENSIONS cm - MEDIDAS CAJA cm Width Ancho	Depth Fondo	Height Alto
A-2	1750224	500	1,5	27	14	11
P-2	1780225	800	4	55	27	26
Set P-3 Conjunto P-3	1760200	600 pipettes + 600 tubes 600 pipetas + 600 tubos	6	47	43	26
Set P-4 Micro Conjunto P-4 Micro	1740100	400 pipettes + 400 tubes 400 pipetas + 400 tubos	3,6	20	40	37

COMPLEMENTS - COMPLEMENTOS

Methacrylate rack

**10 place rack. For P-3 / P-4 set.
Code
1770003 For tube Ø 13 mm - set P-3
1770004 For tube Ø 12 mm - set P-4 Micro**

Gradilla en metacrilato

10 plazas numeradas. Para conjunto P-3 / P-4.
Código
1770003 Para tubo Ø 13 mm - conjunto P-3
1770004 Para tubo Ø 12 mm - conjunto P-4 Micro

Metallic Westergren stand

**10 place autoclavable stand.
For any kind of AQUISEL pipettes with Ø 13 mm tubes and A-2 pipettes with Ø 16 mm tubes.
Easy and functional system that allows the total set disposal.
Code
1770001 For Ø 13 mm tubes
1770002 For Ø 16 mm tubes
Loose tubes for pipettes:
1581209 for AQUISEL P-3 (800 units/box)
1501226 for AQUISEL P-4 Micro (1000 units/box)**

Soporte Westergren metálico

10 plazas numeradas. Autoclavable.
Para todo tipo de pipetas AQUISEL con tubos de Ø 13 mm y para pipetas A-2 con tubos de Ø 16 mm.
Sistema simple y funcional que permite el vertido total del conjunto.
Código
1770001 Para tubo Ø 13 mm
1770002 Para tubo Ø 16 mm
Tubos sueltos para pipetas:
1581209 para AQUISEL P-3 (800 uds/caja)
1501226 para AQUISEL P-4 Micro (1000 uds/caja)

AQUISEL URINE CONTAINER

CONTAINER FOR URINE SAMPLES COLLECTION WITH AQUISEL VALVE-STOPPER.

The AQUISEL VALVE-STOPPER allows the urine manipulation without uncorking, eliminating the contamination risks, samples loss, spillage, odours, etc.
All the AQUISEL urine container presentations will be supplied with the GALLET accessory, which makes easy the sample dosage to a tube for sedimentation analysis, or the urine test strip insertion.

CONTENEDOR PARA ORINA AQUISEL

CONTENEDOR PARA LA RECOGIDA DE MUESTRAS DE ORINA CON TAPÓN-VÁLVULA AQUISEL.

El TAPÓN-VÁLVULA AQUISEL permite la manipulación de la orina sin destaponar. Evita los riesgos de contaminación, pérdidas de muestra, derrames, malos olores, etc. Todas las presentaciones del contenedor de orina AQUISEL incorporan el accesorio GALET que facilita la dosificación de la muestra a un tubo para el análisis de sedimentación, o la introducción de la tira reactiva.

Insertion of the GALET in the AQUISEL VALVE-STOPPER.

Introducción del GALET en el TAPÓN-VÁLVULA AQUISEL.

Urine sample extraction through the GALET.

Extracción de la muestra de orina a través del GALET.

Urine test strip insertion.

Introducción de la tira reactiva.

Dosage through automatic or conventional pipette.

Dosificación por medio de pipeta automática o convencional.

CODE CÓDIGO	BAG BOLSA	ASSAMBLED MONTADO	UNITS BOX UDS. CAJA	WEIGHT Kg PESO Kg	DIMENSIONS cm - MEDIDAS cm Width Ancho	Depth Fondo	Height Alto
1660223	NO NO	NO NO	600	12	60	40	43
1640234	NO NO	YES SI	400	8	60	45	43
1630233	YES SI	YES SI	300	7	60	45	43

Code 1600230 GALET CONTAINER (1000 units package).

Código 1600230 GALET CONTENEDOR (paquetes de 1000 unidades).

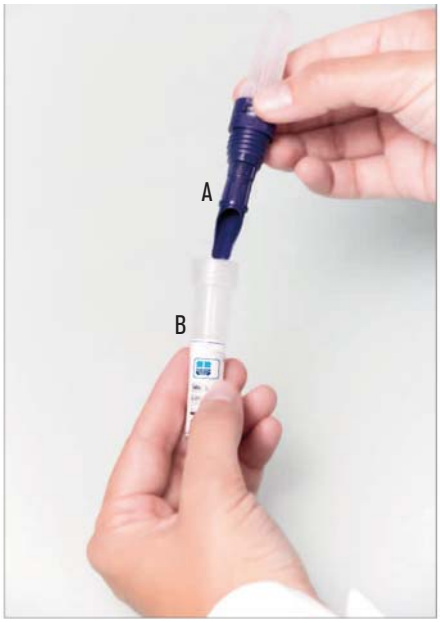
FIXATION AND CONCENTRATION OF FAECAL PARASITES "AQUISFEK"

NEW

New compact design of Aquisfek device, which allows an easy and convenient sample collection, a safe transportation with an easier handling system and a more effective filtration.

FIJACIÓN Y CONCENTRACIÓN DE PARÁSITOS FECALES "AQUISFEK"

Nuevo diseño compacto del dispositivo Aquisfek, el cual permite una recogida de la muestra fácil y cómoda, un transporte seguro con un sistema de manipulación más sencillo y una filtración más eficaz.



Procedure

SAMPLE COLLECTION.
EASY TO HANDLE BY THE PATIENT.
Separate the two parts (A and B) of the device and with the aid of the spoon built-in at the end of the filter, collect the sample.
Introduce the spoon with the sample back into the liquid and screw to close.
PROCESSING THE SAMPLES IN THE LABORATORY.
FAST AND EASY.
Once the sample has been homogenized, the whole device is centrifuged.
After centrifugation, discard the part A (spoon) and with the aid of a pipette, remove the supernatant in the tube (Part B).
The concentrated sample residue is transfered to a slide for a further microscopic observation.

TWO DIFFERENT FORMATS.
KIT 1. WITH FORMALIN / ACETATE. PARASITE COMMONL FIXER.
KIT 2. WITHOUT FORMALIN TO MINIMIZE THE RISK OF ENVIRONMENTAL CONTAMINATION.

KIT 1.
Part number
1800402 **72 units supplied (24 units with 3 units in each bag) .**
1800404 **100 individual units supplied.**
KIT 2. Without formalin.
Part number
1800400 **72 units supplied (24 units with 3 units in each bag) .**
1800401 **100 individual units supplied.**

Metódo de utilización

RECOGIDA DE LA MUESTRA.
GRAN SENCILLEZ DE MANIPULACIÓN POR EL PACIENTE.
Separar las dos partes (A y B) del dispositivo y con ayuda de la cucharilla incorporada al filtro coger la muestra.
Introducir y cerrar el sistema.
PROCESO DE LAS MUESTRAS EN EL LABORATORIO.
FÁCIL Y RÁPIDO.
Después de homogenizar la muestra, sin extraerla del tubo de recogida, se centrifuga el dispositivo.
Desechar la parte de la cuchara del dispositivo (Parte A) y separar, con una pipeta, el sobrenadante del tubo (Parte B).
El residuo centrifugado se transifere a un porta para la observación de los parásitos al microscopio.

DOS FORMATOS DIFERENTES.
KIT 1. Con Formol / Acetato. Fijador habitual de parásitos.
KIT 2. Sin formol para minimizar el riesgo de contaminación ambiental.

KIT 1.
Código
1800402 Se suministran 72 unidades (24 bolsas con 3 unidades en cada bolsa)
1800404 Se suministran 100 unidades individuales.
KIT 2. Sin formol.
Código
1800400 Se suministran 72 unidades (24 bolsas con 3 unidades en cada bolsa)
1800401 Se suministran 100 unidades individuales.

Note: For centrifugation, Cencom 2 is recommended. Part number 7002240. See page 114
Nota: Para su centrifugación se recomienda la centrifuga Cencom 2. Código 7002240. Ver pág 142

Tubes with screw cap

NEW

1. 10 ml round bottom tubes Ø16 x 100mm.
Polystyrene, screenprinted and with screw cap.
Packed 50 units.
Part No. 5004000 Non-sterile.
Part No. 5004001 Sterile.

2. 10 ml round bottom tubes Ø16 x 100mm.
Polystyrene and with screw cap.
Part No. 5004002 Non-sterile. Packed 1000 units.
Part No. 5004003 Sterile. Packed 200 units.

3. 13.5 ml conical bottom tubes. Ø16 x 110mm.
Polystyrene and with screw cap.
Rcf: 8,000 g.
Part No. 5004004 Non-sterile. Packed 1000 units.
Part No. 5004005 Sterile. Packed 200 units.

4. 15 ml round bottom tubes Ø16 x 120mm.
Polystyrene and with screw cap.
Part No. 5004006 Non-sterile. Packed 750 units.
Part No. 5004007 Sterile. Packed 150 units.

5. 15 ml conical bottom tubes. Ø17 x 120mm.
Polystyrene, screenprinted and with screw cap.
Rcf: 3,500 g.
Packed 150 units.
Part No. 5004008 Non-sterile.
Part No. 5004009 Sterile.

6. 15 ml conical bottom tubes. Ø17 x 120mm.
Polystyrene, screenprinted and with screw cap.
Rcf: 5,000g, Autoclavables.
Packed 150 units.
Part No. 5004010 Non-sterile..
Part No. 5004011 Sterile.

7. 50 ml flat bottom conical tubes. Ø30 x 115mm.
Polystyrene, screenprinted and with screw cap.
Autoclavables.
Packed 100 units.
Part no. 5004012 Non-sterile.
Part no. 5004013 Sterile.

8. 50 ml conical bottom tubes. Ø30 x 115mm.
Polystyrene, screenprinted and with screw cap.
Rcf: 5,000g, Autoclavables.
Packed 100 units.
Part no. 5004014 Non-sterile.
Part no. 5004015 Sterile.

9. 50 ml conical bottom tubes. Ø30 x 115mm. For photosensitive materials.
Polystyrene, screenprinted and with screw cap.
Rcf: 5,000g, Autoclavables at 121 °c.
Resistant to temperatures -80ºC.
Packed 25 units.
Part no. 5004016 Sterile..

10. Racks for cylindrical and conical tubes

Part no.	Made of	Tubes number	For tubes up to Ø
1001715	inox. AISI 304	15 (5 x 3)	17 mm
1025524	inox. AISI 304	24 (8 x 3)	17 mm
1001716	inox. AISI 304	8 (4 x 2)	30 mm

Petri dishes In polystyrene.

1. Plates without compartments. Ø 90 mm. 3 winds
Part No. 5004017 Aseptic. Packed 20 units.
Part No. 5004018 Sterile. Packed 20 units.

2. Two compartment plates. Ø 90 mm. 3 winds.
Part No. 5004019 Aseptic. Packed 20 units.
Part No. 5004020 Sterile. Packed 20 units.

3. Three compartment plates. Ø 90 mm. 3 winds.
Part No. 5004021 Aseptic. Packed 20 units.
Part No. 5004022 Sterile. Packed 20 units.

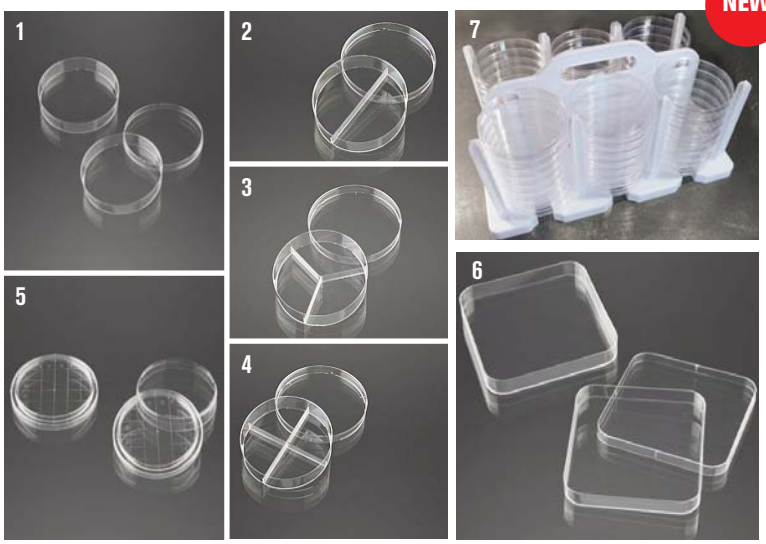
4. Four compartments plates. Ø 90 mm. 3 winds.
Part No. 5004023 Aseptic. Packed 20 units.
Part No. 5004024 Sterile. Packed 20 units.

5. Contact Petri dishes crosslinked for counting.
Part No. 5004025 Sterile. Ø 55 mm. Packed 10 units.
Part No. 5004026 Sterile. Ø 90 mm. Packed 20 units.

6. Square Petri dishes. 120x120 mm. 3 winds.
Part No. 5004027 Sterile. Packed 10 units.

7. Transport and storage support for Petri dishes of Ø 90 mm.
Capacity: 48 plates.
Part No. 5004028

NEW



NEW

Swab in tube, sterile

CE CLASS LLA (MDD)

Sterile swab in polypropylene round bottom tube with sticker-sealed, sterility assurance.
Dimensions: Ø13 X 165MM.
Sterilized by ethylene oxide.

Part No.	Features	Quantity box units	Weight Box kg
1001660	Wood + cotton	4x500	14
1001661	Snappable PS +cotton	4x500	14,20
1001662	Snappable PS +viscose	4x500	14,20

Amies. Sterile.

SWAB: CE CLASS LLA (MDD). TUBE WITH MEDIA: CE (IVD)

AMIES media is a modification of Cary Blair media, which is at the same time a modification of Stuart media. Basically the glycerophosphate is replaced by an inorganic phosphate, and the methylene blue by pharmacological charcoal. Calcium and magnesium are also added, thus maintaining the permeability of the bacterial cell. This media assures the viability of organisms such as: Neisseria sp., Haemophilus sp., Corynebacterium sp., Trichomonas vaginalis Streptococcus pyogenes, Streptococcus pneumoniae, Shigella flexneri, Salmonella typhi, Brucella abortus, Enterobacterias, etc. Some microorganisms can resist on the media for up to 3 days, although the recovery of microorganisms is better if cultured in the first 24 hours. Amies transport swabs are available with or without charcoal.
Swabs are sterilised by radiation.
Expiry date: 30 months after sterilisation date
Peel-pack dimensions: 38 x 210 mm.

Part No.	Features	Quantity box units	Weight box kg
1001663	Snappable polystyrene + viscose	6x100	8,5
1001664	Snappable polystyrene + viscose (with charcoal)	6x100	8,5

Stuart. Sterile

SWAB: CE CLASS LLA (MDD). TUBE WITH MEDIA: CE (IVD)

The modified Stuart media allows the conservation and transportation of a large number of pathological microorganisms, such as: Neisseria gonorrhoeae, Heamophilus influenzae, Neisseria meningiditis, Bordetella pertusis, Corynebacterium diphteriae, Trichomonas vaginalis, Staphylococcus aeureus, Streptococcus sp., Salmonella sp., Shigellas sp., etc. Once used, it can be for up to 24 hours. It is very reduced due to the presence of thioglycolate, which difficults the enzymatic reactions of the bacteria. The multiplication of the bacteria is prevented due to the lack of nitrogen in the media. Swabs are sterilised by radiation.
Expiry date: 30 months from sterilisation date.
Dimensions of the peel-pack: 38 x 210 mm.

Part No.	Features	Quantity box units	Wight box kg
1001665	Wood + cotton	6x100	8,5

Media for virus. Sterile

SWAB: CE CLASS LLA (MDD). TUBE WITH MEDIA: CE (IVD)

Specially formulated for the transport of virus, very useful for the preservation of the sample during transportation to the laboratory. The media maintains the sample viable for up to 72 hours and in some cases for longer time. The addition of antimicrobial substances inhibit the growth of bacteria and fungi. Ideal for nasal, pharyngeal samples and also ocular, skin and mucus samples.
Swabs are sterilized by radiation.
Expiry date: 18 months from sterilisation date.

Part No.	Features	Quantity box units	Wight box kg
1001666	Snappable polystyrene + dacon	6x100	7,8