Pressure Calibration

Temperature Calibration

INSTRUMENTS

LeGyro

OUR PRODUCTS

Result of a comprehensive technology development, Leyro Instruments is at the forefront of the solutions in the calibration of pressure and temperature.

This innovation in the measurement of parameters provides business benefits such as:

- High level of accuracy in results
- Guarantee of absolute reproducibility
- Self-diagnostic with individual adjustment option

Instruments Leyro always have the appropriate measurement instrument for each application.

Leyro Instuments is specialized in providing the best solutions for our clients related todiverse business fields.

Our business philosophy is focused on total customer commitment. We believe that our products must be supported by an excellent counseling service, repair, maintenance and training.

The satisfaction of our customers and our staff is our main premise, which we promote severy day.

INNOVATION

Leyro Instruments presents the catalog calibration pressure and temperature, possessing a high precision equipment and easy to use.

Among the full range of equipment include new microbaños temperature calibration, which have a performance very similar to the temperature calibration baths, but with the advantage of being completely portable thanks to its peltier technology.

Within the area of pressure, Leyro Instrumens innovates with two teams, pneumatic calibration pump LMP 60 and precision pressure gauge IKA 300 Calibrator and greater versatility and features in the IKA 500 and 800 LPG.

Through these two teams it is very easy to make a calibration, as the pneumatic pressure generator can generate pressure 60/140 LMP easily through the pressure lever and a steering wheel pressure. In turn, also it has two process connections, which allow you to connect the gauge and tighten without tools.

The precision pressure gauge IKA 300 allows a very precise calibration, as it has an accuracy up to 0.025% FS and 6 digits in the display.

INDEX CALIBRATION DIVISION

1. CALIBRATION EQUIPMENT

2. PRESSURE EQUIPMENT

LCA 30

Advanced calibration bath with temperature range of - 35 °C ... 165 °C.* -31 ºF ... 329 ºF. Which offers an immersion depth of 190 mm / 7.48 inch and a diameter of 60mm, / 2.36 in, allowing a higher range. Leyro Instruments offer the best calibration bath performance for the most demanding accurate calibrations. Thanks to adjustable magnetic stirrer with potentiometer, can homogenize the calibration area, which makes it one of the most reliable equipment thanks to its high stability of 0.01 °C / 0.02 ºF, accuracy of 0,1 ºC and excellent uniformity 0.05 ºC/ 0.09 ºF

APPLICATIONS

Calibration Laboratories
Testing Labs
Universities / R & D
Chemical / Pharmaceutical Industry
Food industry

HIGHLIGHTS

Temperature range -35 … 165ºC*
-31ºF…329ºF*
Temperature control: Internal/ External
Immersion depth: 190 mm /7.48 inch
Stability 0,01ºC / 0,02ºF
Resolution: 0,1/0,01/ 0,001ºC
Accuracy: 0,1ºC / 0,2 ºF
Uniformity 0,05ºC/0,09ºF
Fast response time

General information

PID temperature controller with touch screen 4.3 inch color screen
Recorder functions
Programs and trend graphs
Adjustable speed magnetic stirrer by potentiometer
High temperature stability up to ± 0.01 ° C /± 0.02 ° F
Lower temperature uniformity of ± 0.05ºC / ± 0.09ºC
Integrated Pt100 sensor for reference temperature measurements
Communications Ethernet and two USB ports
Temperature chamber with basket for temperature sensors to be calibrated.

Technical data	
Operating temperature range (ºC)	-35 … 165 ºC / -31…229ºF
Temperature control	Temperature control Ext/ Int
	PT100 (3/4 Wires) Switch
Temperature stability (ºC)	±0.01 ºC /0.02 ºF
Uniformity	±0.05 ºC / 0,09 ºF
Resolution	0.1 / 0,01/ 0,001ºC
Accuracy	0,1ºC / 0,2ºF
Well Diameter	60 mm /2,36 inch
Immersion depth	190 mm / 7,48 inch
Well capacity	0.7 litters
Warm-up time	-5 to 100ºC : 25 Minutes
	23 to 215ºF: 25 Minutes
Cooling time	25 to -25ºC: 45 Minutes
	77 to -13ºF: 45 Minutes
Housing and assembly	Portable
Dimensions An x La x Al (cm)	280 x 370 x 490
Weight (kg)	15.2 kg
Supply	110 … 230 Vac 50/60 Hz
*Minimum Temperature is 52°C / 125.6 ºF Below Ambient, Absolute Minimum -35ºC/-31ºF	

Scope of delivery

Basic instrument LCA 30

Teflon magnetic stirrer, basket, 1,5 m cable and metal lid.

Traceable Certificate 3.1

English manual

Optional

Trolley transport case with wheels and handle.

ENAC / ISO 17025 calibration certificate

Methacrylate lid with 5 inserts.

Temperature control Ext/ Inter (Switch).

LCA 50

Advanced calibration microbath with temperature range of 30 °C ... 225 °C, 86 ºF ...437 ºF. It offers an immersion depth of 190 mm / 7.48 inch and a diameter of 60mm / 2.36 in, allowing a higher range.
Leyro Instruments offer the best calibration bath performance for the most demanding accurate calibrations. Thanks to adjustable magnetic stirrer with potentiometer can homogenize the calibration area, which makes it one of the most reliable equipment due to its high stability of 0.01°C / 0.05 ºF, accuracy of 0,1 ºC and excellent uniformity 0.05 ºC / 0.09 ºF.

APPLICATIONS
Calibration Laboratories
Testing Labs
Universities / R&D
Chemical / Pharmaceutical Industry
Food industry

HIGHLIGHTS
Fast response time
Temperature range 30…225ºC
86ºF…437ºF
Temperature control:
internal/external
Immersion depth: 190mm / 7.48
inch
Stability: 0.01ºC / 0.05ºF
Resolution: 0.1ºC / 0.01 / 0.001ºC
Accuracy: 0.1ºC / 0.2ºF
Uniformity: 0.05ºC /

General Information

PID temperature controller with color touch screen 4.3 inch
Recorder functions
Programs and trend graphs
Adjustable speed magnetic stirrer by potentiometer
High temperature stability up to ± 0.01ºC / ± 0.05ºF
Lower temperature uniformity of ± 0.05ºC / ± 0.09ºF
Integrated Pt100 sensor for reference temperature measurements
Communications Ethernet and two USB ports
Temperature chamber with basket for temperature sensors to be calibrated

Technical Data

Operating temperature range (ºC)	30 … 225 ºC / 86…437ºF
Temperature control	Temperature control Ext/ Int
	PT100 (3/4 Wires) Switch
Temperature stability (ºC)	±0.01 ºC /0.05 ºF
Uniformity	±0.05 ºC / 0,09 ºF
Resolution	0.1 / 0,01/ 0,001ºC
Accuracy	0,1ºC / 0,2ºF
Well Diameter	60 mm /2,36 inch
Immersion depth	190 mm / 7,48 inch
Well capacity	0.7 litters
Warm-up time	25 to 220ºC : 42 Minutes / 77 to 428 ºF: 42 Minutes
Cooling time	220 to 100ºC: 35 Minutes / 428 to 212 ºF: 35 Minutes
Housing and assembly	Portable
Dimensions An x La x Al (cm)	280 x 370 x 490
Weight (kg)	15.2 kg
Supply	110 … 230 Vac 50/60 Hz

Scope of Delivery

Basic instrument LCA 50
Teflon magnetic stirrer, basket, 1.5m. cable and metal lid.
Traceable Certificate 3.1
English Manual

Optional

Trolley transport case with wheels and handle
ENAC / ISO 17025 calibration certificate
Methacrylate lid with 5 inserts
Temperature control Ext/Int (switch)

LCB 30

Portable Calibration bath with temperature range of - 35 °C ... 165 °C. Which offers an immersion depth of 190 mm and a diameter of 60mm, allowing a higher range. Leyro Instruments offer the best calibration bath performance for the most demanding accurate calibrations. Thanks to adjustable magnetic stirrer with potentiometer, can homogenize the calibration area, which makes it one of the most reliable equipment thanks to its high stability of 0.03° C and excellent uniformity 0,05ºC.

APPLICATIONS

Calibration Laboratories
Testing Labs
Universities / R & D
Chemical / Pharmaceutical Industry
Food industry

HIGHLIGHTS

Temperature range -35 ...165ºC*
Immersion depth 190mm
Estability 0,03ºC
Uniformity 0,05ºC
Fast response time

General information

PID temperature controller
Keyboard Selection of setpoint values alert / security and menu
Adjustable speed magnetic stirrer by potentiometer
High temperature stability up to ± 0.03 °C
Lower temperature uniformity of ± 0.05 ºC
Integrated Pt100 sensor for reference temperature measurements
Temperature chamber with basket for temperature sensors to be calibrated.

Technical data

Operating temperature range (ºC)	-35 … 165 ºC *
Temperature stability (ºC)	±0.03 ºC
Uniformity	0.05ºC
Resolution	0.1ºC
Well Diameter	60 mm
Inmersion depht	190 mm
Well capacity	0.7 litros
Warm-up time	-5 to 100ºC: 25 Minutes
Cooling time	25 to -25ºC 45 Minutes
Housing and assembly	Desktop / portable
Dimensions An x La x Al (cm)	280 x 280 x 400
Weight (kg)	12.8 kg
Supply	110 … 230 Vac 50/60 Hz

*Minimum Temperature is 52°C Below Ambient, Absolute Minimum -35°C

Scope of delivery

Basic instrument LBC 30

Teflon magnetic stirrer, basket, 1,5 m cable and metal lid.

Traceable Certificate 3.1

English manual

Optional

Trolley transport case with wheels and handle.

ENAC / ISO 17025 calibration certificate

Methacrylate lid with 5 inserts.

LCB 50

Portable calibration bath with temperature range of 30°C .. 225°C. Which offers an immersion depth of 190 mm and a diameter of 60mm, allowing a higher range. Leyro Instruments offer the best calibration bath performance for the most demanding accurate calibrations. Thanks to adjustable magnetic stirrer with potentiometer, can homogenize the calibration area, which makes it one of the most reliable equipment thanks to its high stability of 0.03ºC and excellent uniformity 0,05ºC.

APPLICATIONS

Calibration Laboratories
Testing Labs
Universities / R & D
Chemical / Pharmaceutical Industry
Food industry

HIGHLIGHTS

Temperature range 30 … 225ºC
Immersion depth 190mm
Stability 0,03ºC
Uniformity 0,05ºC
Fast response time

General information

PID temperature controller
Keyboard Selection of set point values alert / security and menu
Adjustable speed magnetic stirrer by potentiometer
High temperature stability up to ± 0.03°C
Lower temperature uniformity of ± 0.05ºC
Integrated Pt100 sensor for reference temperature measurements
Temperature chamber with basket for temperature sensors to be calibrated.

Technical data

Operating temperature range (ºC)	30 … 225 ºC
Temperature stability (ºC)	±0.05 ºC
Uniformity	0.03ºC
Resolution	0.1ºC
Well Diameter	60 mm
Immersion depth	190 mm
Well capacity	0.7 litters
Warm-up time	25 to 220ºC: 42 Minutes
Cooling time	220 to 100ºC: 35 Minutes
Housing and assembly	Desktop / portable
Dimensions An x La x Al (cm)	280 x 280 x 400
Weight (kg)	11.4 kg
Supply	110 … 230 Vac 50/60 Hz

Scope of delivery

Basic instrument LCB 50 / metal lid.
Teflon magnetic stirrer, basket and 1,5 m cable.
Traceable Certificate 3.1
English manual

Optional

Trolley transport case with wheels and handle.
ENAC / ISO 17025 calibration certificate

LBC 35

Calibration thermostatic bath with temperature range -30 ... 200 °C, it offers an immersion depth of 170 mm.
Leyro's laboratory thermostatic baths offer the best performance for the most demanding precision calibrations.
The thermostatic bath has an overflow system that keeps it in a constant temperature level, which makes it one of the most reliable equipment due to its high stability control 0.005 ºC and greater uniformity than 0.010 °C.

APPLICATIONS

Calibration laboratory
Laboratory test
Universities
Maintenance and service applications

HIGHLIGHTS

Inmersion depth 170 mm
Temperature range -30 … 200 ºC
Stability 0.005 ºC
Uniformity 0.010 ºC
Fluid capacity 14 liters

General information

TFT display + backlit LCD

Keypad for setpoint values / alert security and menu

Optimized temperature control using cascade control

Pt100 External sensor connection for measurement and control (option)

Pump speed adjustable by driver

Early warning for low fluid levels

Adjustable high temperature disconnection, screen visible through

RS232/RS485 interface for communication

Programmer integrated 6 programs in 60 segments

High temperature stability to ± 0.005 ° C (± 0.02 °C at +200 °C)

Temperature uniformity better than ± 0.01 °C

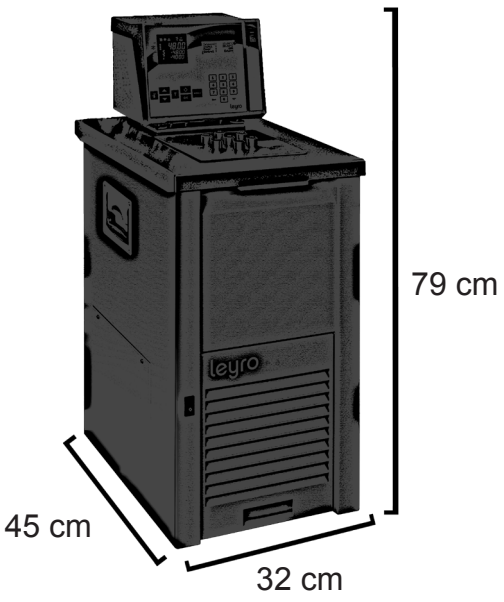
Optional Pt100 sensor for reference temperature measurements

Overflow chamber temperature with the maximum liquid level

CE

Technical data

Operating temperature range (ºC)	-30 … 200 ºC
Temperature stability (ºC)	±0.005 ºC
Set/ Display resolution	0.01
Integrated programmer	6x60 segments
Temperature display	TFT +LCD
Heating capacity	2 kW
Cooling capacity (ethanol) **20 ºC** **0 ºC** **-20 ºC**	 0.46 kW 0.34 kW 0.15 kW
Capacity of pump flow (l/min)	22-26
Flow capacity pump pressure (bar)	0.4 … 0.7
Flow capacity of the pump suction (bar)	0.2 … 0.4
Opening bath/ bath depth (W x L / D cm)	Ø = 12 / 17 cm
Leters fillng volume	14 L
Refrigerant	R134a
Conexion for external Pt100 sensor	Integrated
Digital interface	RS232
Room temperature	5 … 40 ºC
Dimensions W x L x H (cm)	32 x 45 x 79
Weight (kg)	48 kg
Clasification according to DIN 12876-1	III clasification (FL) according to DIN 12876-1
Included in each unit	Includes bath top with 7 openings
Wet deck	Integrated
Compressor cooling power available	Air 230 V / 50 Hz 115 V / 60 Hz



LBC 350

Calibration thermostatic bath with temperature range -30 ... 200 °C, it offers an immersion depth of 300 mm.
Leyro's laboratory thermostatic baths offer the best performance for the most demanding precision calibrations.
The thermostatic bath has an overflow system that keeps it in a constant temperature level, which makes it one of the most reliable equipment due to its high stability control 0.005 ºC and greater uniformity than 0.010 °C.

APPLICATIONS

Calibration laboratory
Laboratory test
Universities
Maintenance and service applications

HIGHLIGHTS

Inmersion depth 300 mm
Temperature range -30 … 200 ºC
Stability 0.005 ºC
Uniformity 0.010 ºC
Fluid capacity 24 liters

General information

TFT display + backlit LCD

Keypad for setpoint values / alert security and menu

Optimized temperature control using cascade control

Pt100 External sensor connection for measurement and control (option)

Pump speed adjustable by driver

Early warning for low fluid levels

Adjustable high temperature disconnection, screen visible through

RS232/RS485 interface for communication

Programmer integrated 6 programs in 60 segments

High temperature stability to ± 0.005 ° C (± 0.02 °C at +200 °C)

Temperature uniformity better than ± 0.01 °C

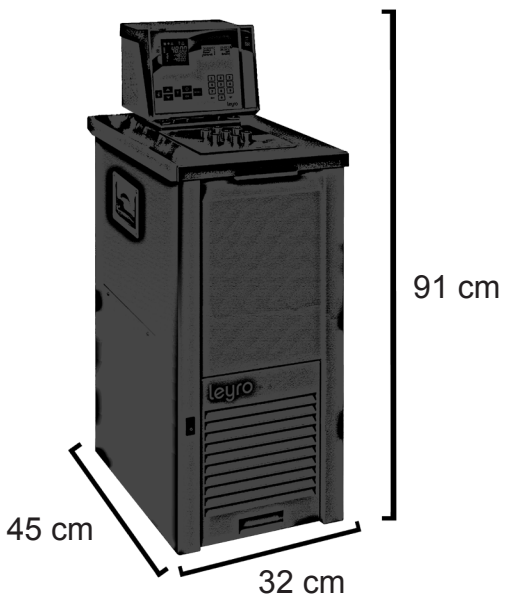
Optional Pt100 sensor for reference temperature measurements

Overflow chamber temperature with the maximum liquid level

CE

Technical data

Operating temperature range (ºC)	-30 … 200 ºC
Temperature stability (ºC)	±0.005 ºC
Set/ Display resolution	0.01
Integrated programmer	6x60 segments
Temperature display	TFT +LCD
Heating capacity	3 kW
Cooling capacity (ethanol) **20 ºC** **0 ºC** **-20 ºC**	 0.46 kW 0.34 kW 0.15 kW
Capacity of pump flow (l/min)	22-26
Flow capacity pump pressure (bar)	0.4 … 0.7
Flow capacity of the pump suction (bar)	0.2 … 0.4
Opening bath/ bath depth (W x L / D cm)	Ø = 12 / 31 cm
Leters fillng volume	24 L
Refrigerant	R134a
Conexion for external Pt100 sensor	Integrated
Digital interface	RS232
Room temperature	5 … 40 ºC
Dimensions W x L x H (cm)	32 x 45 x 91
Weight (kg)	51 kg
Clasification according to DIN 12876-1	III clasification (FL) according to DIN 12876-1
Included in each unit	It includes bath top with 7 openings
Wet deck	Integrated
Compressor cooling power available	Air 230 V / 50 Hz 115 V / 60 Hz



LBC 60

Calibration thermostatic bath with temperature range 40 ... 300 °C, it offers an immersion depth of 170 mm.
Leyro's laboratory thermostatic baths offer the best performance for the most demanding precision calibrations.
The thermostatic bath has an overflow system that keeps it in a constant temperature level, which makes it one of the most reliable equipment due to its high stability control 0.005 ºC and greater uniformity than 0.010 °C.

APPLICATIONS

Calibration laboratory
Laboratory test
Universities
Maintenance and service applications

HIGHLIGHTS

Inmersion depth 170 mm
Temperature range 40 … 300 ºC
Stability 0.005 ºC
Uniformity 0.010 ºC
Fluid capacity 8 liters

General information

TFT display + backlit LCD

Keypad for setpoint values / alert security and menu

Optimized temperature control using cascade control

Pt100 External sensor connection for measurement and control (option)

Pump speed adjustable by driver

Early warning for low fluid levels

Adjustable high temperature disconnection, screen visible through

RS232/RS485 interface for communication

Programmer integrated 6 programs in 60 segments

High temperature stability to ± 0.005 ° C (± 0.02 °C at +200 °C)

Temperature uniformity better than ± 0.01 °C

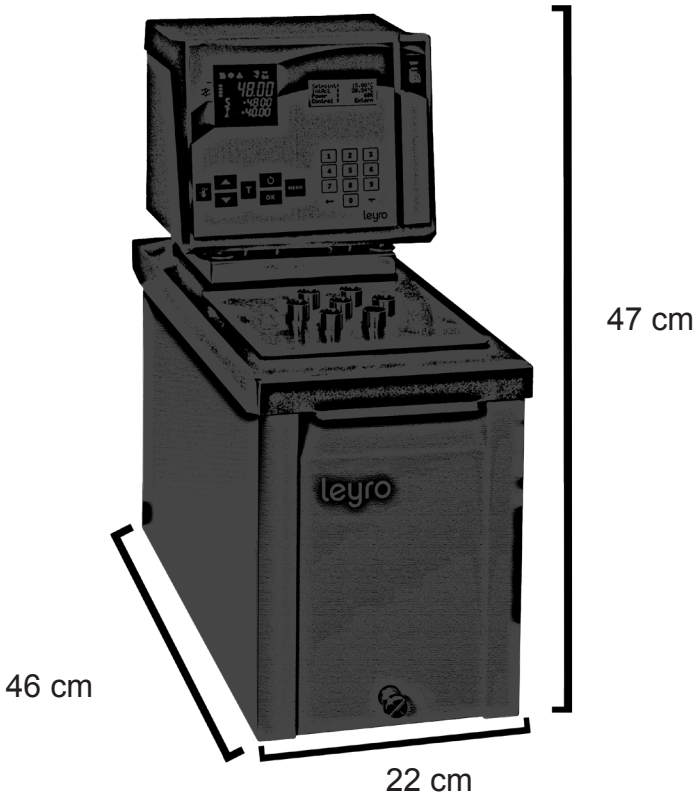
Optional Pt100 sensor for reference temperature measurements

Overflow chamber temperature with the maximum liquid level

CE

Technical data

Operating temperature range (ºC)	40 … 300 ºC
Temperature stability (ºC)	±0.005 ºC
Set/ Display resolution	0.01
Integrated programmer	6x60 segments
Temperature display	TFT +LCD
Heating capacity	3 kW
Capacity of pump flow (l/min)	22-26
Flow capacity pump pressure (bar)	0.4 … 0.7
Flow capacity of the pump suction (bar)	0.2 … 0.4
Opening bath/ bath depth (W x L / D cm)	Ø = 12 / 17 cm
Leters fillng volume	8 L
Conexion for external Pt100 sensor	Integrated
Digital interface	RS232
Room temperature	5 … 40 ºC
Dimensions W x L x H (cm)	22 x 46 x 47
Weight (kg)	16 kg
Clasification according to DIN 12876-1	III clasification (FL) according to DIN 12876-1
Included in each unit	It includes bath top with 7 openings
Wet deck	Integrated



LBC 600

Calibration thermostatic bath with temperature range 40 ... 300 °C, it offers an immersion depth of 300 mm.
Leyro's laboratory thermostatic baths offer the best performance for the most demanding precision calibrations.
The thermostatic bath has an overflow system that keeps it in a constant temperature level, which makes it one of the most reliable equipment due to its high stability control 0.005 ºC and greater uniformity than 0.010 °C.

APPLICATIONS

Calibration laboratory
Laboratory test
Universities
Maintenance and service applications

HIGHLIGHTS

Inmersion depth 300 mm
Temperature range 40 … 300 ºC
Stability 0.005 ºC
Uniformity 0.010 ºC
Fluid capacity 14 liters

General information

TFT display + backlit LCD

Keypad for setpoint values / alert security and menu

Optimized temperature control using cascade control

Pt100 External sensor connection for measurement and control (option)

Pump speed adjustable by driver

Early warning for low fluid levels

Adjustable high temperature disconnection, screen visible through

RS232/RS485 interface for communication

Programmer integrated 6 programs in 60 segments

High temperature stability to ± 0.005 ° C (± 0.02 °C at +200 °C)

Temperature uniformity better than ± 0.01 °C

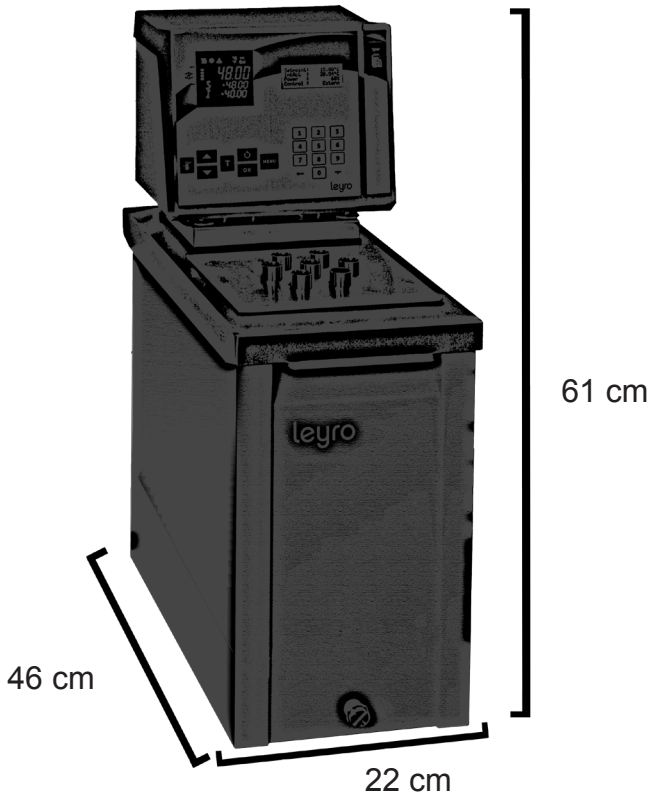
Optional Pt100 sensor for reference temperature measurements

Overflow chamber temperature with the maximum liquid level

CE

Technical data

Operating temperature range (ºC)	40 … 300 ºC
Temperature stability (ºC)	±0.005 ºC
Set/ Display resolution	0.01
Integrated programmer	6x60 segments
Temperature display	TFT +LCD
Heating capacity	3 kW
Capacity of pump flow (l/min)	22-26
Flow capacity pump pressure (bar)	0.4 … 0.7
Flow capacity of the pump suction (bar)	0.2 … 0.4
Opening bath/ bath depth (W x L / D cm)	Ø = 12 / 31 cm
Leters fillng volume	14 L
Conexion for external Pt100 sensor	Integrated
Digital interface	RS232
Room temperature	5 … 40 ºC
Dimensions W x L x H (cm)	22 x 46 x 61
Weight (kg)	20 kg
Clasification according to DIN 12876-1	III clasification (FL) according to DIN 12876-1
Included in each unit	It includes bath top with 7 openings
Wet deck	Integrated



LDT 2000

Accurate thermometer for measuring temperature with two-channel with platinum resistance Pt-100. The measurement range is -273 °C ... 350 °C.
The LDT 200 thermometer has an accuracy of 0.01 °C, optionally 0.007 °C. It also has a high resolution 0.001 ºC.
The LDT 2000 not require regular recalibration by inverting circuits AC, eliminating thermal effects. Drift (Thermal EMF) via a RS232 interface or USB communication. Allows the ability to record using PC.

APPLICATIONS

Calibration laboratories
Testing labs
Climate chambers
Research
Development
Viscometers

HIGHLIGHTS

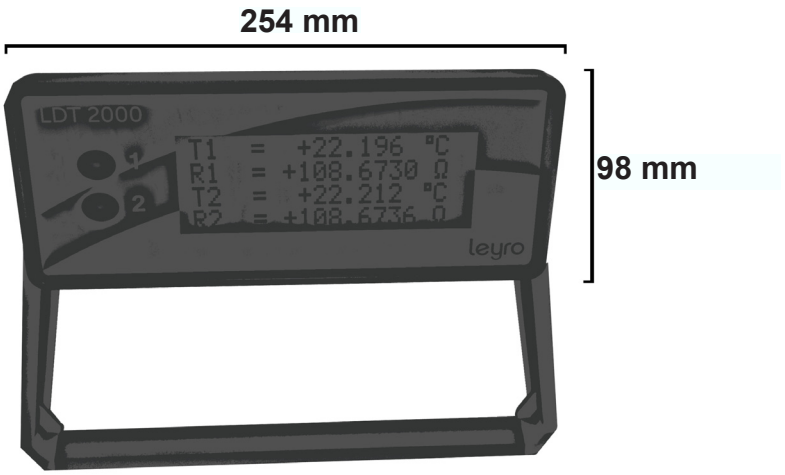
Standard accuracy 0.02 ºC
Optional accuracy 0.007 ºC
Resolution 0.001 ºC (1MK)
Measuring range -273 ... +350 °C
Rank 0 ... 230 Ohm Ω
2 channel
Log (data logger)
Software included

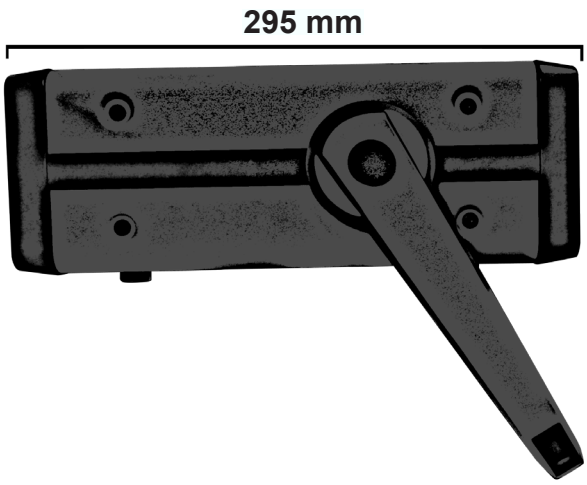
Technical characteristics

Temperature measurement range	-273 ºC … +350 ºC (resistance measuring range: 0 … 230Ω)
Resolution	Optional: -150... +850 ºC
Accuracy	0.001 ºC (1mK), noise ≤ 1mK
Measuring current Pt-100	±0.007 ºC in the range 0 ºC … 100 ºC
Automatic heating power Pt-100	LDT 2000: 0,23mA ±10%
Additional equipment	LDT 2000: 5,8µW to 0ºC
	1 extension cable 1.8 m for the temperature probe
	230 VAC ±10%, 45 … 65 Hz

CE

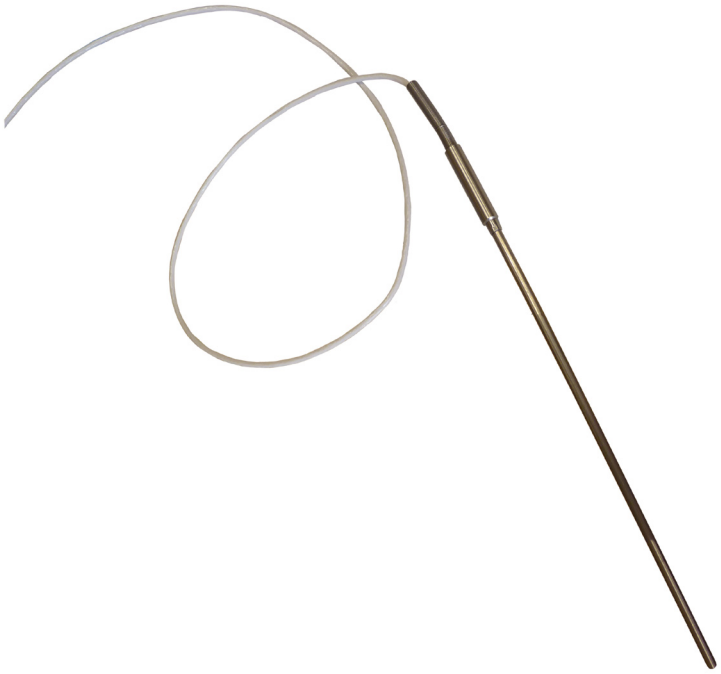
Feeding	4 VA max. 2 VA typical
Power consumption	2 x 50 mA 250 V; 5 x 20 mm
Fuses	Feeding 230V – IEC C14
Connectors	2 x 6-pin connectors FA
	Connecting land takes 4 mm
	B USB connector - USB Interface
	DB9 – RS – 232 interface
	Transmission speed: 9600; data bits: 8;
RS232 parameters	parity: no; stop bits: 1
	USB 1.0
Standard USB	SCPI support
Communication protocol	Storage: -10 ºC … +60 ºC
Temperature range	Usage: 10 ºC … 40 ºC, non-condensing





LSS 670

Secondary standard PRT. It is built on a 99.99% pure platinum wire. Temperature range -250 ... 670 °C.
It is designed without mechanical stress, it is protected with a ceramic capsule.
This platinum pattern probe is specially designed to withstand high thermal shock.
Where required for high accuracy.
These probes are the perfect complement to LDT 2000 to perform the best calibrations.



APPLICATIONS

Reference laboratories
Calibrations compare
Probes pattern for very exact services
Precision work in-situ

HIGHLIGHTS

Temperature range -250 ... 670 °C
Excellent precision and long term stability
99.99% pure platinum wire
Wide temperature range
Low drift
Long life

General data

PT100 sensor accuracy / 4 wire

Probe Inconel metal sheath 600

Element ceramic caps protected

Free design of mechanical stress

Connection cable 2 m Teflon-coated

The LSS 670 is supplied with FA DIN 6-pin plug for accuracy indicator LDT 2000 or bare wires with gold plated

Carrying case included

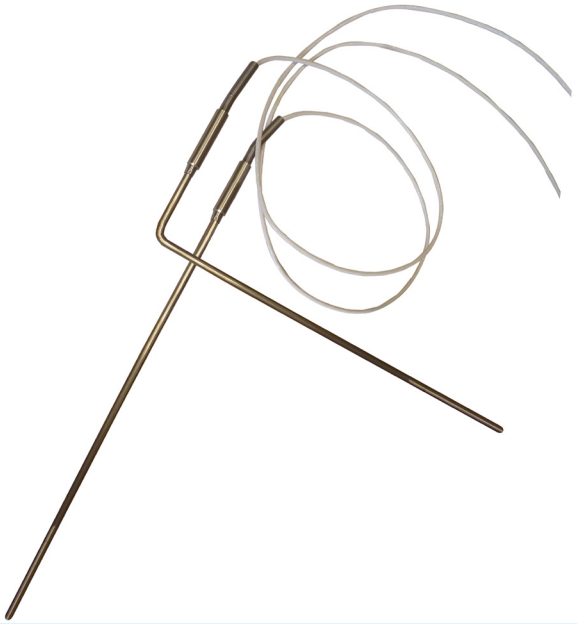
Tecnical data

Temperature range	-250 … 500 ºC
Resistance 0 ºC	25.5 Ω / 100 Ω EN 60751: 2008 class B
Measuring current recommended	1 mA
Temperature coefficient	0.003925 Ω / Ω / ºC
Stability	R0 typical drift <0,01 ºC after 500 hours at 670 ºC
Repeteability	R0 typical drift <0.002 ºC after cycles from -196 to 670 ºC
Dimensions	Sheath diameter 6 mm, length sheath 450 mm or L-shaped (Elbow 90 degrees) option

CE

LTS 300

Working standard PRT, measuring range -200 … 300 ºC.
Platinum resistance thermo PRT 100, 4 wire high quality and excellent stability. It is suitable for any application, from calibration tasks to in-situ measurements.
It is suitable for any application, from calibrations tasks to in-situ measurements. Where required for high accuracy.
These probes are the perfect complement to LDT 2000 to perform the best calibrations.



APPLICATIONS

Reference laboratories
Calibrations compare
Probes pattern for very exact services
Precision work in-situ

HIGHLIGHTS

Temperature range -200 ... 300 °C
Excellent precision and long term stability
Standard model made to meassure
High stability
Low drift
Long life

General data

PT100 sensor accuracy / 4 wire

Probe Inconel metal sheath 600

Protected with a ceramic capsule

Free design of mechanical stress

Options

Carrying case

Other sizes available

ENAC calibration certificate

Connection cable 2 m Teflon-coated

LTS 300 is supplied with FA DIN 6-pin plug for accuracy indicator LDT 2000 or bare wires with gold plated

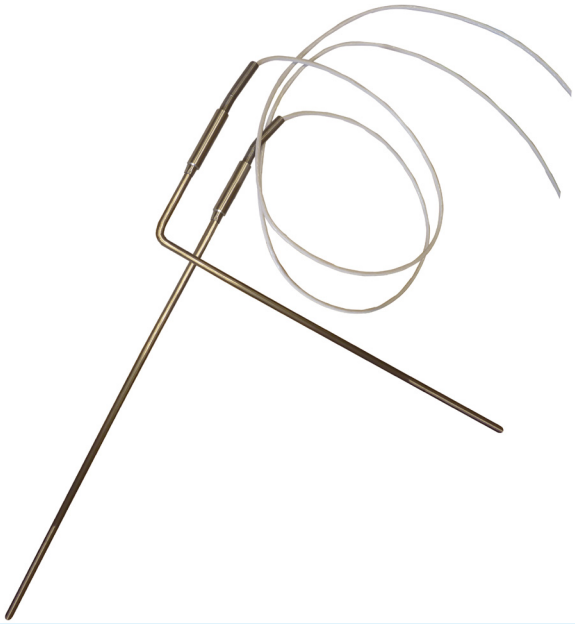
Technical data

Temperature range	-200 … 300 ºC
Resistance 0 ºC	25.5 Ω / 100 Ω EN 60751: 2008 class B
Measuring current recommended	1 mA
Temperature coefficient	0.003850 Ω / Ω / ºC or 0.003925 Ω / Ω / ºC
Stability	R0 typical drift <0.001 ºC after 1000 hours at 300 ºC
Thermal shock	R0 typical drift <0.001 ºC after 100 times from 25 to 300 ºC
Dimensions	Diameter pod 6.34 mm, length pod 400 mm or in the shape of L (elbow 90 ºC) 170 mm + 100 mm

CE

LTS 500

Working standard PRT, measuring range -200 … 500 ºC.
Platinum resistance thermo PRT 100, 4 wire high quality and excellent stability. It is suitable for any application, from calibration tasks to in-situ measurements.
It is suitable for any application, from calibrations tasks to in-situ measurements. Where required for high accuracy.
These probes are the perfect complement to LDT 2000 to perform the best calibrations.



APPLICATIONS

Reference laboratories
Calibrations compare
Probes pattern for very exact services
Precision work in-situ

HIGHLIGHTS

Temperature range -200 ... 500 °C
Excellent precision and long term stability
Standard model made to meassure
High stability
Low drift
Long life

General data

PT100 sensor accuracy / 4 wire

Probe Inconel metal sheath 600

Protected with a ceramic capsule

Free design of mechanical stress

Options

Carrying case

Other sizes available

ENAC calibration certificate

Connection cable 2 m Teflon-coated

LTS 500 is supplied with FA DIN 6-pin plug for accuracy indicator LDT 2000 or bare wires with gold plated

Technical data

Temperature range	-200 … 500 ºC
Resistance 0 ºC	100 Ω EN 60751: 2008 class B
Measuring current recommended	1 mA
Temperature coefficient	0.003850 Ω / Ω / ºC or 0.003925 Ω / Ω / ºC
Stability	R0 typical drift <0.008 ºC after 1000 hours at 500 ºC
Thermal shock	R0 typical drift <0.005 ºC after 100 times from 25 to 500 ºC
Dimensions	Diameter pod 6.34 mm, length pod 400 mm or in the shape of L (elbow 90 ºC) 170 mm + 100 mm

CE

LPC 7000

Hydraulic calibration pump by comparison. Pressure range 0 to 700 bar and 0 to 1000 bar. This equipment is ideal for testing, calibration and adjustment of gauges, pressure transmitters and switches through comparative measurements with the reference standard instument (IKA 200) this equipment is ideal for laboratory and workshop, optionally in-situ.

APPLICATIONS

Quick and easy pressure generation
Range 0... 700/ 1000 bar
Laboratory and workshop use
Calibration, testing and adjustment of pressure equipments

HIGHLIGHTS

Precision screw pump
Rotatable process connections (2 shots)
Low maintenance

Technical data

Range	0... 700/ 1000 bar
Type	Screw pump
Pressure generation	Priming pump for initial pressures & Screw RAM pump for high pressures
Test port connection	1/2“ BSP (F) Swivel
Medium	Oil/ water
Dimensions	350 (L) x 350 (D) x 230 (H)
Weight	14 kg

Standard delivery
Basic instrument
Hydraulic fluid (500 ml)
Set of seals
Conformance certificate
Instruction manual

Optional
Analog/ Digital master gauges
Set of adaptors (BSP / NPT)
Right angled & two gauge adaptors
Water operated model

CE

LPC 8000

Hydraulic calibration pump by comparison. Pressure range 0 to 1000 bar and 0 to 1400 bar. This equipment is ideal for testing, calibration and adjustment of gauges, pressure transmitters and switches through comparative measurements with the reference standard instument (IKA 200) this equipment is ideal for laboratory and workshop, optionally in-situ.

APPLICATIONS

Quick and easy pressure generation
Range 0... 1000/ 1400 bar
Laboratory and workshop use
Calibration, testing and adjustment of pressure equipments

HIGHLIGHTS

Precision screw pump
Rotatable process connections
Two pressure sockets
Low maintenance

Technical data

Range	0... 1000/ 1400 bar
Type	Screw pump
Pressure generation	Priming pump for initial pressures & Screw RAM pump for high pressures
Test port connection	1/2“ BSP (F) Swivel
Medium	Oil/ water
Dimensions	350 (L) x 350 (D) x 230 (H)
Weight	14 kg

Standard delivery
Basic instrument
Hydraulic fluid (500 ml)
Set of seals
Conformance certificate
Instruction manual

Optional
Analog/ Digital master gauges
Set of adaptors (BSP / NPT)
Right angled & two gauge adaptors
Water operated model

CE

LMP 700

Hydraulic calibration handpump LMP 700. Accuracy range: 0... 700 bar. Lets check a precision instrument (Precision digital pressure gauge IKA 200) to compare the instruments can be deduced accurately and thus make an adjustment or testing of the instrument. Thanks to the fine adjustment valve, it allows to reach the value measured accurately.

APPLICATIONS

Calibrations and verification in-situ
Pressure range 700 or 1000 bar
Suitable for all types of high pressure equipmen

HIGHLIGHTS

Ease of use
Compact, lightweight
High precision thanks to the fine adjustment valve

INCLUDES:

Evidence hose connection LMP 700, Minimess® system with female connection ¼" BSP
Pressure relief valve
Threaded closure cap for liquid container
Fine adjustment valve (volume adjustment)
Reference tool connecting female ¼ G, free operation
Fluid reservoir 200 cm^3

CE

Technical data	LMP 700	LMP 1000
Pressure range	0 … 700 bar 0 … 10000 psi	0 … 1000 bar 0 … 14500 psi
Medium	Hydraulic fluid mineral oil / clean water free of calcium carbonate [1]	Hydraulic fluid mineral oil / clean water free of calcium carbonate [1]
Pressure connections		
For measuring instruments reference	Female ¼" NPT. The connection can be disconnected using a wrench. Then the connection is female 3/8" G.	
For evidence	Female ¼ G in the evidence hose connection, large 1,5 m, Minimess® 1620 system	Female ¼ G, free running in the evidence hose connection, large 1,5 m
Fine tuning	Fine adjustment valve / volume adjustment	
Fluid reservoir	200 cm³	
Material	Fine adjustment valve / volume adjustment	
Boards	ABS y NBR (standard) optional EPDM	
Dimensions in mm (L x A x A)	280 x 170 x 120	
Weight	1.9 kg	
Standard accesories	Minimess® evidence hose connection 1,5 m long	

1) other means of transmission of pressure available on request

INCLUDED IN SUPPLY

Handpump LMP 700, average oil / clean water, free calcium carbonate includes Minimess® evidence hose, 1.5 m long, female ¼ G connection

HandpumpLMP 1000, average oil / clean water, free calcium carbonate includes Minimess® evidence hose, 1.5 m long, female ¼ G connection

OPTIONAL

Carrying case includes foam padding with clearances for LMP 700 or LMP 1000

Dimensions in mm: (W/H/D) 440 x 370 x 140

Adapter and sealing "BSP" for the evidence hose, male ¼ G to G 1/8, G 3/8 and female ½ G

Adapter and sealing "metric" for the evidence hose, male ¼ G to M 12 x 1.5, M 20 x 1.5 and Minimess®

Adapter and sealing "NPT" for the evidence hose, male ¼ G to 1/8 NPT, 1/4 NPT, 3/8 NPT and female ½ NPT

Connection adapter, ¼ male G to female ½ G, material: stainless steel

Boards

Replacement hose for LMP 700

Replacement hose for LMP 1000

LMP 40

Manual calibration handpump LMP 40. Range -950 mbar... 40 bar. Allows you to check an instrument simultaneously a precision instrument (Precision digital pressure gauge IKA 200). With comparison of the two measured values can be deduced accurately and thus make an adjustment and / or monitoring instrument. Thanks to a fine adjustment valve, it allows to reach the value measured accurately.

APPLICATIONS

Calibrations and verifications in-situ
Range pressure generation -950 mbar … 40 bar
Suitable for all types of pressure equipment

HIGHLIGHTS

High precision thanks to the fine adjustment valve
Compact, lightweight
Ease of use

INCLUDES:

Crimp connector for reference instrument female ¼" NPT

Fine adjustment valve

Pressure relief valve

Mutation on the pressure / vacuum generation

Adjustable locknut for adjusting the delivery rate of the pump (overpressure protection)

Pressure connection for the test sample, female ¼ "G, freely rotating

Flexible connection pipe test element (length 0.5m)

CE

Technical data

Pressure range	-0.95 … + 35.0 bar
Medium	Air
Pressure connection	Female ¼” NPT, ,tube with female G ¼“, rotates freely to DUT
Fine adjustment of pressure	Fine adjustment valve
Overpressure connection	Adjustable via locknut
Material	Steel, chrome anodized aluminum, durable plastic
Dimensions	220 (L) x 105 (W) x 63 (D) mm
Weight	0.51 kg
Standard accesories	Evidence connection tube, 0.5 m long

INCLUDED IN THE SUPPLY

Handpump LMP 40

Flexible tube with BSP ¼” with free rotation

Reference manometer adapter NPT ¼“ (female)

OPTIONAL

Carrying case bomb test

Dimensions in mm (W/H/D) 395 x 295 x 106

Set of adapters and seal assembly for connecting the test element G ¼” male to G 1/8”, G 3/8” and femaleG ½”

Set of adapters and seal assembly for connecting the test element G ¼” male to M12 x 1.5, M20 x 1.5 Minimess®

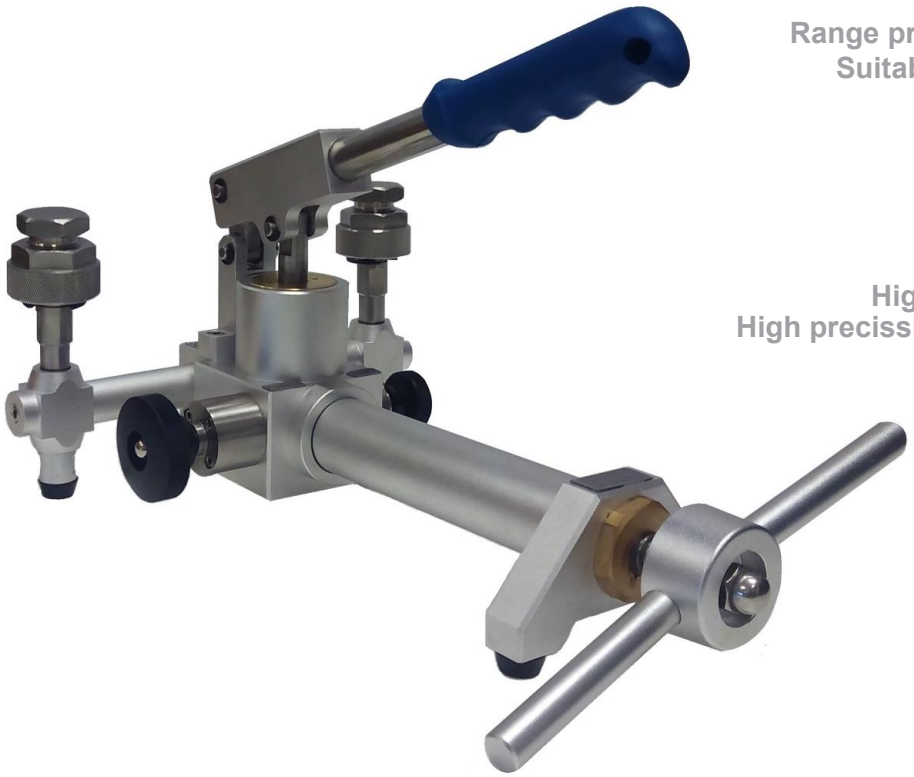
Set of adapters and seal assembly for connecting the test element G ¼” male to 1/8” NPT, ¼” NPT, 3/8” NPT and female ½” NPT

Service kit for hand pump test LMP 40 with several O-rings and seals

Precision digital pressure gauge IKA 200

LMP 60

Pneumatic pressure test pump LMP 60 is a hand pump operated and designed to generate pressure range -950 mbar ... 60 bar. 0,1 mbar pressure resolution. Build-in filters to protect from dirt and moisture to reduce the need for maintenance. Two hand-tight quick connectors installed on the pump, allows easy connecting and disconnecting to the test pump without the need for PTFE tape or wrenches.



APLICATIONS

Calibrations and verifications on-site
Range pressure generation -0,950 bar … 60 bar
Suitable for all types of pressure equipment

HIGHLIGHTS

Easy of use
Compact, lightweight
High pressure thanks to a pressure wheel
High precission thanks to the fine adjustment valve
High resolution 0.1 mbar
Hand-tight quick connectors

INCLUDES:

Output connection 2xM20x1.5 female

Pneumatic hand pump pressure generator

Pressure wheel

Fine adjustment valve

Relieve and reverse valves

CE

Technical data

Pressure range	-0.95 … 60 bar
Medium	Air
Process connection	2x M20 x 1.5 Female
Fine adjustment of pressure	Fine adjustment valve resolution 0,1 mbar
Overpressure connection	Ajustable via locknut
Material	Stainless steel, aluminum Seals: Buna-N
Dimensions	286L x 198W x 140H (mm)
Weight	2.7 kg

INCLUDED IN THE SUPPLY

Handpump LMP 60

Pneumatic handpump pressure generator

Reference manometer adapter NPT 1/4" (female)

OPTIONAL

Carrying case bomb test

Dimensions in mm (W/H/D) 395 x 295 x 106

Service kit for hand pump test LMP 60 with several O-rings and seals

Precision digital pressure gauge IKA 200 / IKA 300

Set of adapters 10 pcs.

LMP 08

Manual calibration handpump LMP 08 . Range -850 mbar... +8 bar. Allows you to check an instrument simultaneously a precision instrument (Precision digital pressure gauge IKA 200). With comparison of the two measured values can be deduced accurately and thus make an adjustment and / or monitoring instrument. Thanks to a fine adjustment valve, it allows to reach the value measured accurately

APPLICATIONS

Calibrations and verifications in-situ
Range pressure generation -850 mbar … +8 bar
Suitable for all types of pressure equipment

HIGHLIGHTS

Ease of use
Compact, lightweight
High precision thanks to the fine adjustment valve

INCLUDES:

T-piece, one side with male thread BSP 1/8 "for direct mounting on the pressure test pump
other sides with quick hose connectors (Push & Pull) for 4 x 2 mm pneumatic hose
Easy mounting thanks to the supplied O-ring. Max . torque 15 Nm
2 pieces Pneumatic hose 4 x 2 mm, each 0.5 m
2 pieces Quick connectors (Push & Pull) with BSP male thread 1/8 ", for 4 x 2 mm hose
Adapter 1/8 "BSP female x 1/2" BSP female, to connect the reference instrument (male BSP 1/2
Integrated o-ring without tools, only by hand
Adapter 1/8 "BSP female x 1/4" BSP female, to connect the unit under test (male BSP 1/4 ")ts
Manual instruction

Technical data	
Pressure range	-850 mbar … 8 ba
Medium	Air
Pressure connection	1/2 "BSP female,, Test Unit 1/2" BSP
	rotate freely for device under test
Fine adjustment of pressure	fine adjustment valve
Overpressure connection	Adjustable by means of a nut (very sensitive)
Material	Steel, chrome anodized aluminum, resistant plastic
Dimensions	180 x 111 x 31 mm (without T-piece)
Weight	approx. 295 g (without T-piece)
Standard accesories	Test element connection tube, length 0.5 m

INCLUDED IN THE SUPPLY

Handpump LMP 08

Flexible tube with BSP ¼” with free rotation

Reference manometer adapter BSP ¼“ (female)

Optional

Carrying case bomb test

Dimensions in mm (W/H/D) 395 x 295 x 106

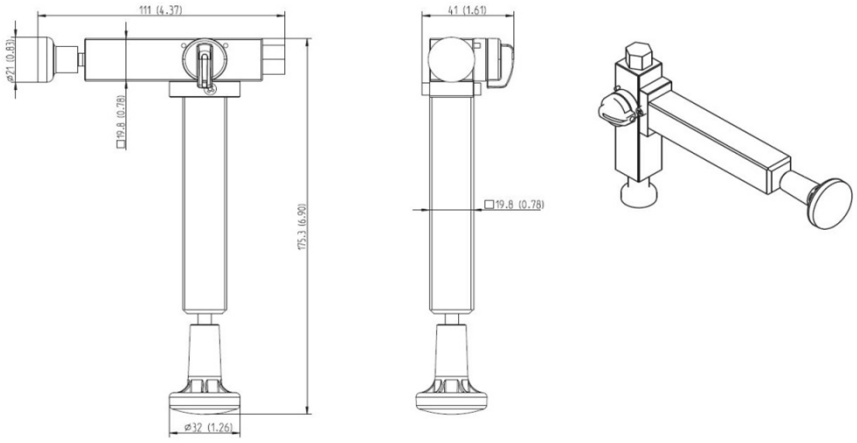
Set of adapters and a set of seals for the test element connection G ¼ "male to G 1/8", G 3/8 "and G ½" female

Set of adapters and a set of seals for the test element connection G ¼ "male to M12 x 1.5, M20 x 1.5 Minimess®

Set of adapters and a set of seals for the connection test element G ¼ "male to 1/8" NPT, ¼ "NPT, 3/8" NPT and ½ "NPT female

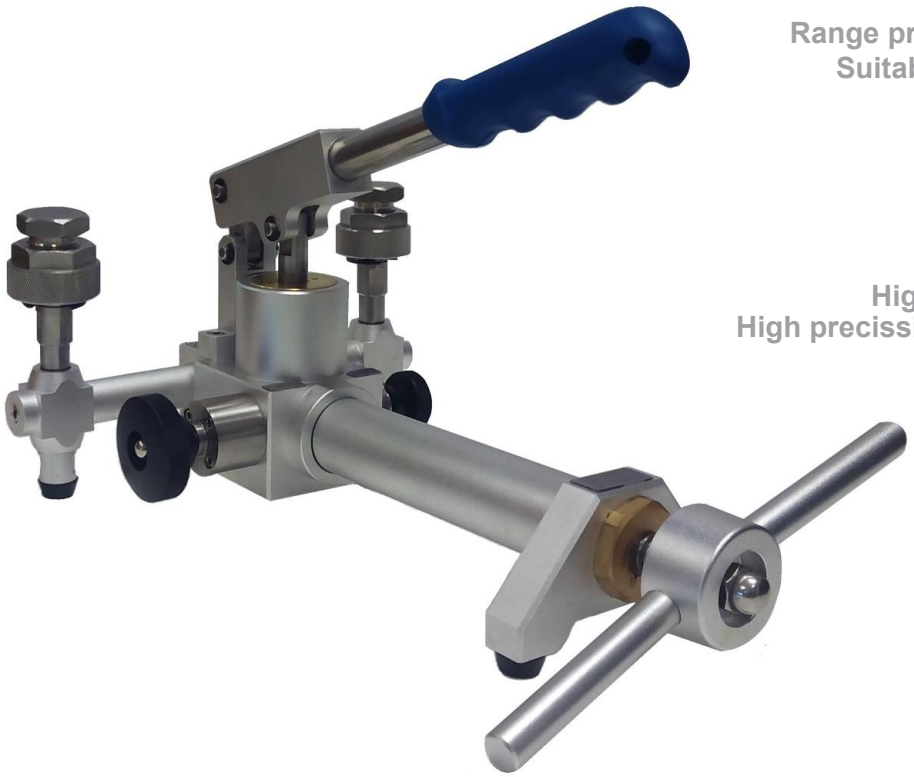
Service kit for the LMP 08 hand test pump with various o-rings and seals

Reference manometer IKA 200



LMP 25

Pneumatic pressure test pump LMP 25 is a hand pump operated and designed to generate pressure range -950 mbar ... 25 bar. 0,1 mbar pressure resolution. Build-in filters to protect from dirt and moisture to reduce the need for maintenance. Two hand-tight quick connectors installed on the pump, allows easy connecting and disconnecting to the test pump without the need for PTFE tape or wrenches.



APLICATIONS

Calibrations and verifications on-site
Range pressure generation -0,950 bar … 25 bar
Suitable for all types of pressure equipment

HIGHLIGHTS

Easy of use
Compact, lightweight
High pressure thanks to a pressure wheel
High precission thanks to the fine adjustment valve
High resolution 0.1 mbar
Hand-tight quick connectors

INCLUDES:

Output connection 2xM20x1.5 female

Pneumatic hand pump pressure generator

Pressure wheel

Fine adjustment valve

Relieve and reverse valves

CE

Technical data

Pressure range	-0.95 … 25 bar
Medium	Air
Process connection	2x M20 x 1.5 Female
Fine adjustment of pressure	Fine adjustment valve resolution 0,1 mbar
Overpressure connection	Ajustable via locknut
Material	Stainless steel, aluminum Seals: Buna-N
Dimensions	286L x 198W x 140H (mm)
Weight	2.7 kg

INCLUDED IN THE SUPPLY

Handpump LMP 25

Pneumatic handpump pressure generator

Reference manometer adapter NPT 1/4" (female)

OPTIONAL

Carrying case bomb test

Dimensions in mm (W/H/D) 395 x 295 x 106

Service kit for hand pump test LMP 25 with several O-rings and seals

Precision digital pressure gauge IKA 200 / IKA 300

Set of adapters 10 pcs.

IKA 200

Gauge reference pressure of low consumption that provides the best performance on measurements, controlled by microprocessor that combines precision and functionality in a robust and easy to use system.It is ideal for calibrating pressure gauges, transducers and pressure transmitters.Reference pressure gauge IKA 200 can be supplied with three precision scales 0.05% / 0.1% / 0.2% (specify when ordering). Range of pressure from - 1... 700 bar.

APPLICATIONS

In-situ calibration
Aeronautic industry
Chemical and oil
Maintenance service

HIGHLIGHTS

Up to 0.05% FS accuracy
Low power consumption
9 units of engineering
5 digits on screen

CE

Technical data

Accuracy	±0.05%FS, ±0.1%FS, ±0.2%FS
Pressure range	-1 … 0 bar, 0 … 700 bar (any rank within these two ranges)
Temperature compensation range	0 … 50 ºC
Units of pressure	kPa, Pa, psi, kgf/cm², bar, mbar, mmH O, mmHg, MPa
Display	5 dígits with 14 mm characters height
Connection	¼" NPT thread male (or custom)
Dimensions (mm)	94 x 40 x 135
Weight	0.5 kg aprox.

General data

Low power consumption, the battery could work 1 year continuously

Calibration function of the full scale and zero function

Stainless steel lower link

Equipped with a tough, lightweight aluminum alloy cover

Large 5-digit backlit LCD indicator

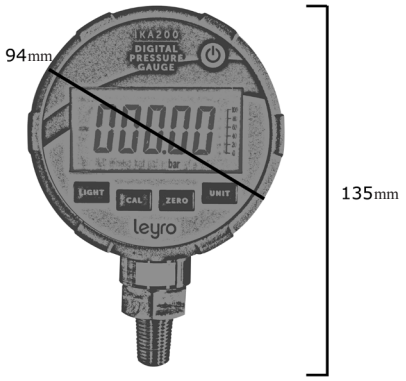
9 selectable pressure units

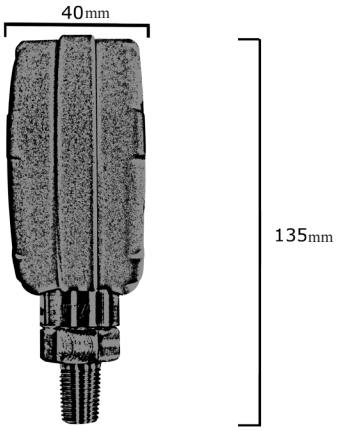
Temperature compensation

Overpressure alarm function

Nº	Pressure range	Accuracy (% FS)		Resolution	Type of pressure
1	-1 … 0 bar	0.05	0.1	0.0001 bar	R
2	0 … 50 mbar	0.05	0.1	0.001 mbar	D, R
3	0 … 100 mbar	0.05	0.1	0.01 mbar	D, R
4	0 … 160 mbar	0.05	0.1	0.01 mbar	R
5	0 … 200 mbar	0.05	0.1	0.01 mbar	R
6	0 … 250 mbar	0.05	0.1	0.01 mbar	R
7	0 … 400 mbar	0.05	0.1	0.01 mbar	R
8	0 … 600 mbar	0.05	0.1	0.01 mbar	R
9	0 … 1 bar	0.05	0.1	0.0001 bar	R, A
10	0 … 1.6 bar	0.05	0.1	0.0001 bar	R
11	0 … 2.5 bar	0.05	0.1	0.0001 bar	R
12	0 … 4 bar	0.05	0.1	0.0001 bar	R
13	0 … 6 bar	0.05	0.1	0.0001 bar	R
14	0 … 10 bar	0.05	0.1	0.001 bar	R
15	0 … 16 bar	0.05	0.1	0.001 bar	R
16	0 … 25 bar	0.05	0.1	0.001 bar	R
17	0 … 40 bar	0.05	0.1	0.001 bar	R
18	0 … 60 bar	0.05	0.1	0.001 bar	R
19	0 … 100 bar	0.05	0.1	0.01 bar	R
20	0 … 160 bar	0.05	0.1	0.01 bar	R
21	0 … 200 bar	0.05	0.1	0.01 bar	R
22	0 … 250 bar	0.05	0.1	0.01 bar	R
23	0 … 300 bar	0.05	0.1	0.01 bar	R
24	0 … 400 bar	0.05	0.1	0.01 bar	R
25	0 … 600 bar	0.05	0.1	0.01 bar	R
26	0 … 700 bar	0.05	0.1	0.01 bar	R

R = Relative; D = Diferential; A = Absolute





SELECTION OF COMBINED PRESSURE SHEET:

Nº	Pressure range	Accuracy (% FS)		Resolution	Type of pressure
1	-50 … 50 mbar	0.05	0.1	0.001 mbar	D, R
2	-100 … 100 mbar	0.05	0.1	0.01 mbar	D, R
3	-200 … 200 mbar	0.05	0.1	0.01 mbar	R
4	-400 … 400 mbar	0.05	0.1	0.01 mbar	R
5	-600 … 600 mbar	0.05	0.1	0.01 mbar	R
6	-1 … 1 bar	0.05	0.1	0.0001 bar	R
7	-1 … 16 bar	0.05	0.1	0.001 bar	R
8	-1 … 25 bar	0.05	0.1	0.001 bar	R

IKA 300

Precision pressure gauge of low consumption that provides the best performance on measurements, controlled by microprocessor that combines precision and functionality in a robust and easy to use system.It is ideal for calibrating pressure gauges, transducers and pressure transmitters. Precision pressure gauge IKA 300 can be supplied with four precision scales 0.025% / 0.05% / 0.1% / 0.2% / 0.5% (specify when ordering). Range of pressure from - 1... 700 bar to 0 ... 2500 bar.

APPLICATIONS

On-site calibration
Aeronautic industry, Metallurgical
Chemical and oil
Maintenance services
Calibration laboratories

HIGHLIGHTS

Up to 0.025% FS accuracy
Range up to 2500 bar
9 units of engineering
6 digits on screen
Temperature measurement

Technical data

Accuracy	±0.025%FS, ±0.05%FS, ±0.1%FS, ±0.2%FS
Pressure range	-1 … 0 bar, 0 … 2500 bar (any rank within these two ranges)
Temperature compensation range	0 … 50 ºC
Units of pressure	bar, mbar, kPa, Pa, PSI, kgf/cm², mmH2O, mmHg, MPa
Display	6 digit display with blacklight
Conectionn	1/4 "NPT INOX o M20x1.5
Dimensions (mm)	95 x 49 x 166
Weight	0.75 kg aprox.

CE

General data

7.4V battery lithium and special charger ,Battery using life: 80 hours

Calibration function of the full scale and zero function

Stainless steel lower link

Equipped with a tough, lightweight ABS plastic

Large 6-digit backlit LCD indicator

9 selectable pressure units

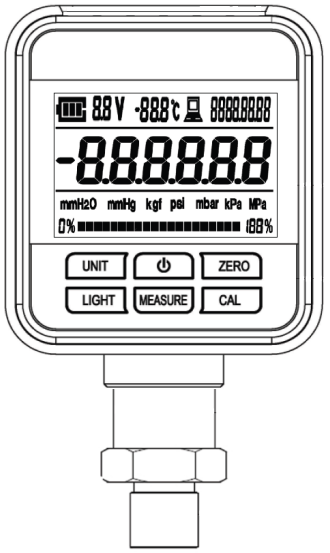
Temperature compensation

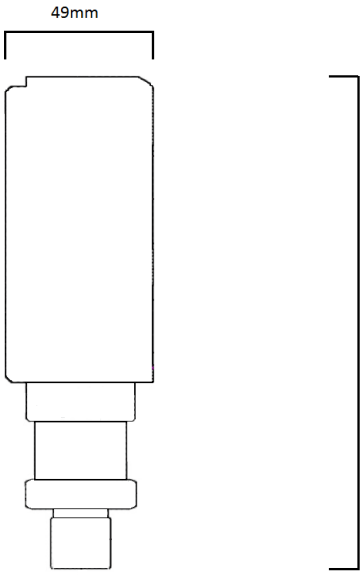
Overpressure alarm function

Version Hart 5

Nº	Pressure range	Accuracy (% FS)	Resolution	Type of pressure
1	-1 … 0 bar	0.025,0.05,0.1,0.2	0.0001 bar	R
2	0 … 40 mbar	0.025,0.05,0.1,0.2	0.001 mbar	R
3	0 … 60 mbar	0.025,0.05,0.1,0.2	0.01 mbar	R
4	0 … 70 mbar	0.025,0.05,0.1,0.2	0.01 mbar	R
5	0 … 1 bar	0.025,0.05,0.1,0.2	0.01 mbar	R A
6	0 … 1.6 bar	0.025,0.05,0.1,0.2	0.01 mbar	R A
7	0 … 2 bar	0.025,0.05,0.1,0.2	0.01 mbar	R A
8	0 … 2.5 bar	0.025,0.05,0.1,0.2	0.01 mbar	R A
9	0 … 3.5 bar	0.025,0.05,0.1,0.2	0.0001 bar	R A
10	0 … 4 bar	0.025,0.05,0.1,0.2	0.0001 bar	R A
11	0 … 6 bar	0.025,0.05,0.1,0.2	0.0001 bar	R A
12	0 … 7 bar	0.025,0.05,0.1,0.2	0.0001 bar	R A
13	0 … 10 bar	0.025,0.05,0.1,0.2	0.0001 bar	R A
14	0 … 16 bar	0.025,0.05,0.1,0.2	0.001 bar	R A
15	0 … 20 bar	0.025,0.05,0.1,0.2	0.001 bar	R A
16	0 … 25 bar	0.025,0.05,0.1,0.2	0.001 bar	R A
17	0 … 35 bar	0.025,0.05,0.1,0.2	0.001 bar	R A
18	0 … 40 bar	0.025,0.05,0.1,0.2	0.001 bar	R
19	0 … 60 bar	0.025,0.05,0.1,0.2	0.01 bar	R
20	0 … 70 bar	0.025,0.05,0.1,0.2	0.01 bar	R
21	0 … 100 bar	0.025,0.05,0.1,0.2	0.01 bar	R
22	0 … 160 bar	0.025,0.05,0.1,0.2	0.01 bar	R
23	0 … 200 bar	0.025,0.05,0.1,0.2	0.01 bar	R
24	0 … 250 bar	0.025,0.05,0.1,0.2	0.01 bar	R
25	0 … 350 bar	0.025,0.05,0.1,0.2	0.01 bar	R
26	0 … 400 bar	0.025,0.05,0.1,0.2	0.01 bar	R
27	0 … 600 bar	0.025,0.05,0.1,0.2	0.01 bar	R
28	0 … 700 bar	0.025,0.05,0.1,0.2	0.01 bar	R
29	0 … 1000 bar	0.025,0.05,0.1,0.2	0.01 bar	R
30	0 … 1600 bar	0.1,0.2	0.01 bar	R
30	0 … 2500 bar	0.1,0.2	0.01 bar	R

R = Relative; A = Absolute





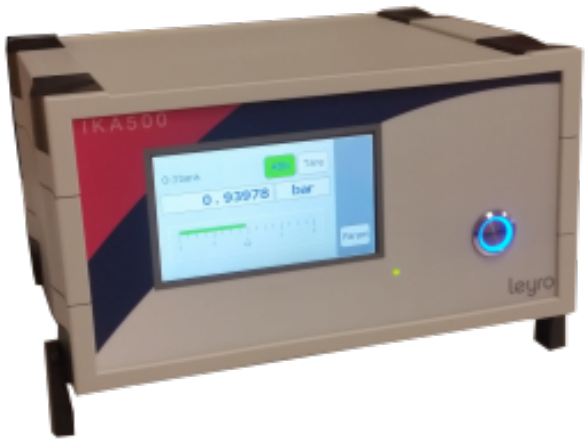
SELECTION OF COMBINED PRESSURE SHEET:

Nº	Pressure range	Accuracy (% FS)	Resolution	Type of pressure
1	-25 … 25 mbar	0.05,0.1,0.2	0.001 mbar	D, R
2	-50 … 50 mbar	0.025,0.05,0.1,0.2	0.01 mbar	D, R
3	-100 … 100 mbar	0.025,0.05,0.1,0.2	0.01 mbar	D, R
4	-250 … 250 mbar	0.025,0.05,0.1,0.2	0.01 mbar	D, R
5	-1 … 1 bar	0.025,0.05,0.1,0.2	0.01 mbar	D, R
6	-1 … 6 bar	0.025,0.05,0.1,0.2	0.0001 bar	R
7	-1 … 10 bar	0.025,0.05,0.1,0.2	0.001 bar	R
8	-1 … 25 bar	0.025,0.05,0.1,0.2	0.001 bar	R

R = Relative; D = Diferential

IKA 500

The precision pressure indicator IKA 500 is equipped with up to two modular precision sensors (in two separate channels) and an optional barometric reference. Due to an optionally certified measurement inaccuracy of 0.01 % FS, differential pressure of ± 0.03 % FS of the entire measuring chain, it is primarily used as transfer / working standard for the testing resp. calibration of diverse pressure measuring instruments.
A colour touch screen and intuitive navigation ensure very easy operation. Especially with manual pressure generation, the very high measuring rate of this fully digital pressure indicator is of advantage, as pressure changes in the measuring system are indicated nearly in real time. Besides the optionally available calibration software DCal, which allows for comfortable calibration of pressure measuring instruments, including automatic creation of test certificates, the user is able to create own software programmes. For integration in existing systems an RS-232, Ethernet or optionally an IEEE-488.2 interface or an analogue output 4 – 20 mA are available.
Completely mobile or stationary test equipment can be manufactured upon request.



APPLICATIONS

Laboratories
Service industries and calibration services
Research and development
Transmitter calibration
Long-term measurement

HIGHLIGHTS

Accuracy up to 0.008 % FS
Internal precision sensors possible
6 digits resolution
Modular design
Approx. 10 ms of response time

Technical data

Gauge pressure	(bar rel.) -1 ... 1 0 ... 2 -1 ... 3 0 ... 5 -1 ... 10 0 ... 20 -1 ... 30 0 ... 60 -1 ... 100 0... 200 0 ... 40 0 ... 1,000
Absolute pressure	(bar abs.) 0 ... 1 0 ... 3 0 ... 10 0 ... 30 0 ... 100 0 ... 300 0 ... 700 0 ... 1,000
Differential pressure	(mbar) ± 30 ± 100 ± 300
Function	barometric reference is required for the change of absolute pressure <=> gauge pressure
Pressure range	800 mbar to 1,200 mbar abs.
Accuracy	0.01% FS (Optional 0.008 % FS (optional)
Pressure units	23 and 1 freely programmable
Instrument version	desktop case optional: 19” rack mounting with side panels incl. mounting kit
Weight	approx. 2.0 kg (4.41 lb)
Display resolution	6 digits
Screen division	1 line per sensor
Keyboard	colour touch screen
Response time	approx. 10 ms
Connections	amount of assimilable sensors 1 (channel A) or optionally 2 (channel B)

CE

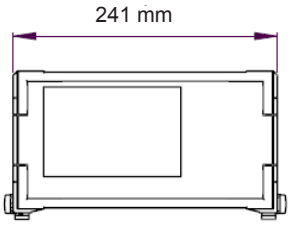
	and / or barometric reference optionally external installation of sensors with 1.5 m cable
Pressure connections	G ⅛" female optional: 6 mm tube fitting or connection adapter
Power supply	auxiliary energy 88 – 264 V AC, 47 – 63 Hz
Medium	clean, dry, non-corrosive, non-combustible and non-oxidising gases
Overage protection	150 % of the largest pressure range optional: external pressure relief valves
Interfaces	RS-232, Ethernet
Compensated temperature range	+15 to +35 °C (+59 to +95 °F)
Operating temperature	+10 to +40 °C (+50 to +104 °F)
Relative humidity	0 to 95 % r. h. (non-condensing)
Storage temperature	0 to +70 °C (32 to +158 °F)
Analogue inputs	4 – 20 mA or 0 – 10 V
Instruction sets	IKA 500, alternative instruction sets possible, alignment to existing HOST software upon request
Approvals and Certificates	EMC-Directive 2004 / 108 / EC, EN 61 326-1 emission (group 1, class A) and stability (industrial sector); calibration certificate 3.1, Optionally calibration certificate ENAC/ ISO 17025

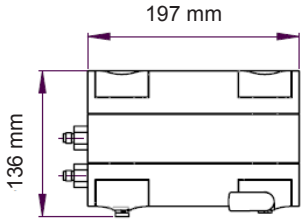
Optional

Interface	IEEE-488.2
Analogue output	0 – 1 V; 0 – 5 V; 0 – 10 V or 4 – 20 mA
Switching outputs	24 V DC PWM or TTL level
Analogue inputs	4 – 20 mA or 0 – 10 V, others upon request

Further options

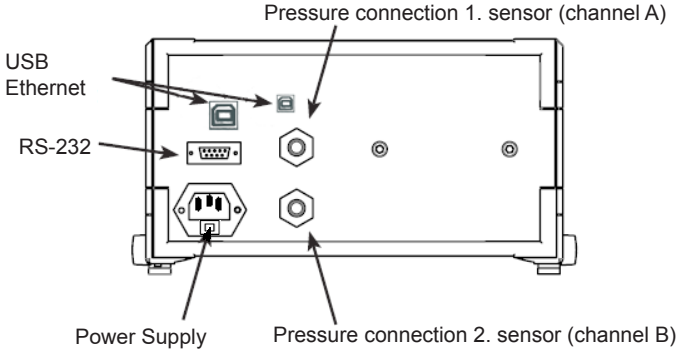
- Second integrated sensor (channel B)
- Barometric reference
- IEEE-488.2 interface
- Analogue output: 0 – 1 V; 0 – 5 V; 0 – 10 V or 4 – 20 mA
- Switching outputs: 24 V DC PWM or TTL level
- Analogue inputs: 4 – 20 mA or 0 – 10 V, others upon request
- Calibration software DCal
- Calibration certificate ENAC/ ISO 17025
- 19" rack mounting
- Portable case
- Pressure connections:
  - 6 mm tube fitting
  - connection adapter
- External pressure relief valves





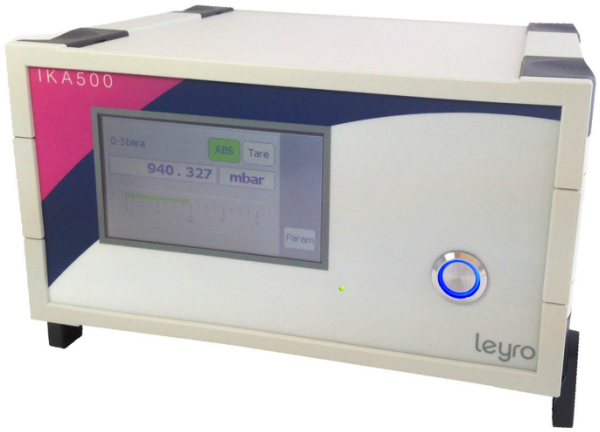
Scope of delivery

Precision pressure controller
Mains cable 1.5 m
Operating instructions
Calibration certificate 3.1



IKA 500 HD

The precision pressure indicator IKA 500 HD is equipped with up to two precision modular sensors (in two separate channels).
Measurement accuracy of 0.04% FS From Bar accuracy of 0,% FS across the range.
It is mainly used as a standard / work transfer for calibration response tests of the various pressure measuring instruments. A color touch screen and intuitive navigation guarantee a very simple operation. Especially with the generation of manual pressure, the very high measurement index of this fully digital pressure indicator is an advantage, since the pressure changes in the measurement system are indicated almost in real time. The user is able to create their own software programs.
For the integration in existing systems of an RS-232 port, Ethernet or optionally an IEEE-488.2 interface or an analog output of 0 - 1/5/10 V or 4 - 20 mA are available as an option.
Fully mobile or stationary test equipment can be manufactured on request.



APPLICATIONS
Laboratories
Industrial and calibration services
Measurement Calibration
Long-term transmission
Research and Investment

HIGHLIGHTS
Accuraty up to 0.04% FS
Possibility of precision internal sensors
6 digits resolution
Modular design
10 ms approx. Response time

Technical Data

Relative Pressure	(Bar rel. 0…1.600 0…2.500 0…4.000 0…5.000 Both sensors can be mounted in internal or external version
Precision	0.04% FS from 2.500 Bar, accuracy of 0.1%
Units of pressure	23 and 1 freely programmable
Equipment version	Desktop | Optional: rack of 19” of mounting with lateral panels, mounting kit included
Weight	Approx. 2 kg. (4.41 lb)
Screen resolution	6 digits
Screen division	1 line per sensor
Keyboard	Colour touch screen
Response time	Approx. 10 ms.
Pressure connections	Number of assimilable sensors 1 (A channel) or 2 (B channel) High pressure female connection M16 x 1.5 Optional: external mounting of 1.5 m.-wire sensors

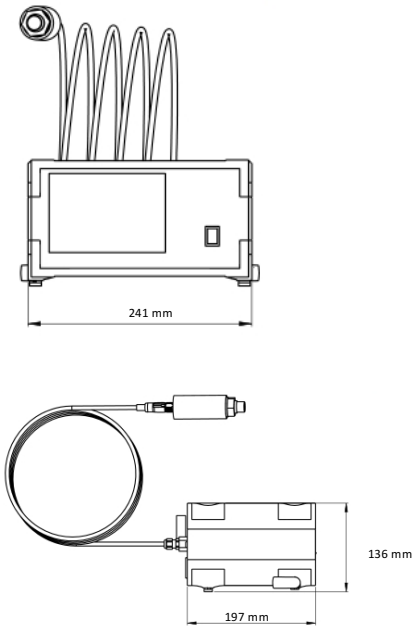
General Data

Power Supply	Plug 88 – 264 V AC, 47 – 83 Hz gases
Medium	Fluid and/or clean, dry and non-corrosive gases, non-flammable and non-oxidants
Overuse Protection	150% of pressure range largest | Optional: external high pressure relief valves
Interface	RS-232, Ethernet (Optional: IEEE – 488.2)
Range of compensation temperature	+15…+35ºC (+59…+95ºF)
Operating Temperature	+10…+40ºC (+50…+104ºF)
Temperature Storage	0…+70ºC (32…+158ºF)
Analog Inputs	4-20 mA ó 0-1 / 5 / 10 V
Instructions	IKA 500HD, alternative sets of instructions Alignment of existing main software on request
Approvals and Certifications	EMC Directive 2004/108/EC, EN 61 326-1 emission Group 1, Class A and stability (industrial sector); calibration certificate 3.1, ENAC calibration certification / ISO 17025 optional

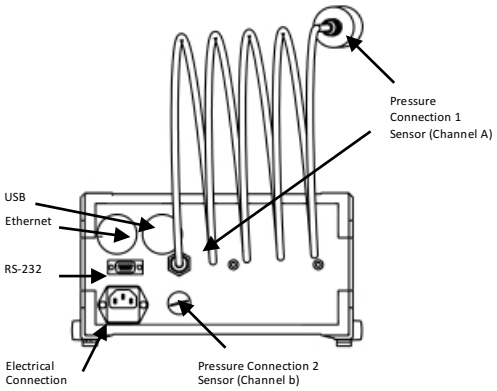
Options

Interface	IEEE-488.2
Analog Output	0-1 V; 0-5 V; 0-10 V or 4-20mA
Output Connection	24 V cc PWM or TTL level
Analog Input	4-20 mA or 0-10 V (others on request)

Dimension



Connections



Other Options

- Second integrated sensor (channel B)
- Barometric Reference
- IEEE-488.2 Interface
- Analog output: 0-1 V; 0-5 V; 0-10 V; 4-20 mA
- Output connection: 24 V DC PWM or TTL level
- Calibration certificate ENAC / ISO 17025
- 19” rack mount
- Relief Valves external pressure

Delivery Supply

Precision pressure controller power
Power supply wire 1.5 m.
Instructions manual
Calibration certificate 3.1

LPG 300

LPG 300 is an automatic controller for low pressures and very low pressures.
It is a self-contained pressure controller thanks to its internal rechargeable Li-ion battery (autonomy approx. 8 h), also can be connected to the mains.
LPG 300 is an ideal equipment for calibration, test and verification of all instruments of low or very low pressure or vacuum.

APPLICATIONS

Use in-situ or in laboratories
Calibration or negative or positive tests or vacuum

HIGHLIGHTS

Pressure ranges 1 … 1000 hPa
Accuracy up to 0.1% FS
Internal batteries (8h of autonomy)
Intuitive handling

Technical data

Pressure range	hPa	1	10	100	1000
Accuracy	%FS	0,3	0,1	0,1	0,1
Linearity	%FS	0,2	0,1	0,1	0,1
Uncertainty	%FS	0,3	0,1	0,1	0,1
Overpressure	5 times				
Pressure units	Mbar, Pa, kPa, hPa, bar, psi, inH_2O, mmHg, Torr				
King of pressure	Through internal electric pump, differential, positive or negative pressure and overpressure				
Measuring principle	Inductive				

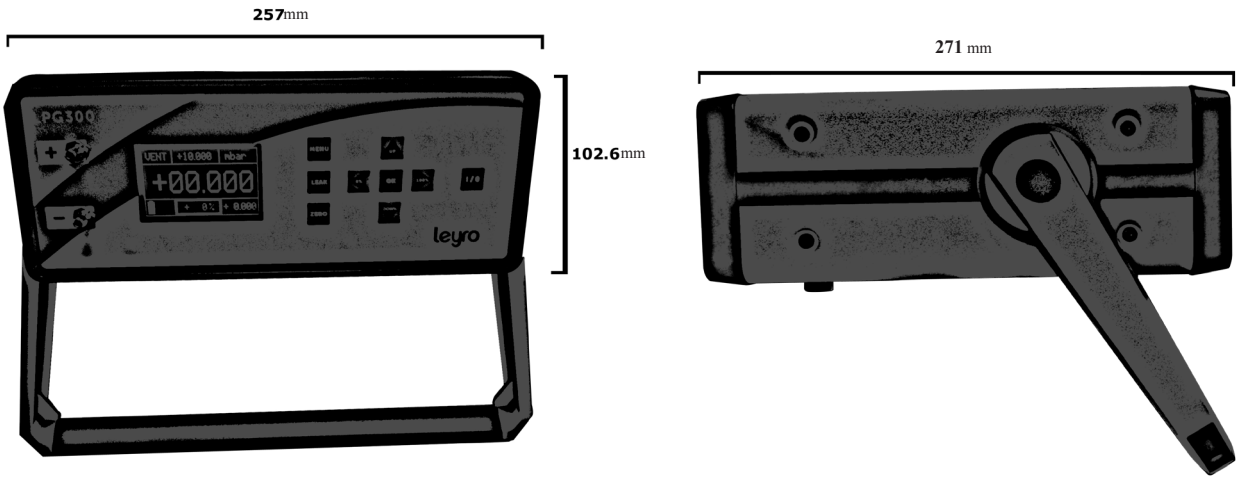
CE

Technical data

Internal reference sensor temperature drift	Ground Zero: 0.03% f.s./k (0% through balance Zero) Time: 0.03% f.s./k
Balance Zero, programmable mode	Automatic (at adjustable intervals) Manual (button Zero)
Stability long time internal sensor reference	0,1% f.s. per year (typical)
Work temperature range	+10 ºC … +40 ºC
Storage temperature range	-10 ºC … 70 ºC
Usable pressure measurement range	-10 … 110%
Tiempo de ajuste	Depending on the volume <5s
Media measurement	Air, not aggressive or corrosive gases
Operating modes	CTRL (pressure controller) MESS (pressure measurement) AUTO (definable pressure profile individually) Operation remote control (via interfaces)
Display	Graphical display (blue / white)
Resolution	10000 points
Interfaces	USB – RS232 (opctonal)
Power supply	24 VDC/ 1ª
Pressure connection	6,6 x 11 mm (for flexible hoses D= 6 mm)
Housing	102,6 x 257 x 271 mm (H x B x T) without handle
Accesories	Device supply, briefcase and hoses

Options

Certified calibration 3.1 points.
Certified calibration ENAC 5 points.
Carrying case.



LPG 800

Pneumatic precision pressure controller LPG 800. This modular instrument (up to 3 sensors) offers the maximum flexibility in terms of configuration to customer's requirements. It stands out due to its pressure sensors, which are based on the MEMS technology, and that combine maximum precision with highest long-term stability.
The LPG 800 achieves a control stability of 0.003 % FS of the currently active pressure range. The instrument is operated intuitively via a touch screen. All extended functions are accessible via submenues. Besides the optionally available calibration software DCal, which allows for comfortable calibration of pressure measuring instruments, including automatic creation of test certificates, the user is able to create own software programmes.
For integration in existing systems an RS-232, Ethernet or optionally IEEE-488. 2 interface or an analogue output 4 – 20 mA are available.
Completely mobile or stationary test equipment can be manufactured upon request.

APPLICATIONS

Laboratories
Service industries and calibration services
Research and development
Transmitter calibration
Long-term measurement

HIGHLIGHTS

Up to 3 precision sensors
Completely mobile/ stationary test equipment
Analogue output 4 - 20 mA
Modular design
Very high measuring rate (up to 250 bar)

CE

Technical data

Gauge pressure	(bar rel.) -1 ... 1 0 ... 2 -1 ... 3 0 ... 5 -1 ... 10 0 ... 20 -1 ... 30 0 ... 60 -1 ... 100 / 250
Absolute pressure	(bar abs.) 0 – 1 0 – 3 0 – 10 0 – 30 0 – 100
Differential pressure	(mbar) ± 30 ± 100 ± 300
Function	barometric reference is required for the change of absolute pressure <=> gauge pressure. A pressure controller with relative reference sensors requires compound ranges for full functionality
Pressure range	800 mbar to 1,200 mbar abs.
Accuracy	0,01 % FS (Optional 0.008 % FS)
Pressure units	23 and 1 freely programmable
Instrument version	desktop case optional: 19" rack mounting with side panels incl. mounting kit
Weight	approx. 7.0 kg (15.43 lb)
Display resolution	6 digits
Screen division	actual value, reference value, steps
Keyboard	colour touch screen
Response time	approx. 10 ms
Pressure ranges	max. 3 pressure ranges and barometric reference

Pressure connections	G ⅛" female optional: 6 mm tube fitting or connection adapter
Power supply	auxiliary energy 88 – 264 V AC, 47 – 63 Hz
Medium	clean, dry, non-corrosive, non-combustible and non-oxidising gases
Overage protection	150 % of the largest pressure range optional: external pressure relief valves
Interfaces	RS-232, Ethernet
Compensated temperature range	+15 to +35 °C (+59 to +95 °F)
Operating temperature	+10 to +40 °C (+50 to +104 °F)
Relative humidity	0 to 95 % r. h. (non-condensing)
Storage temperature	0 to +70 °C (32 to +158 °F)
Analogue inputs	4 – 20 mA or 0 – 10 V
Instruction sets	LPG 800, alternative instruction sets possible, alignment to existing HOST software upon request
Approvals and Certificates	EMC-Directive 2004 / 108 / EC, EN 61 326-1 emission (group 1, class A) and stability (industrial sector); calibration certificate 3.1, Optionally calibration certificate ENAC/ ISO 17025

Optional

Interface	IEEE-488.2
Analogue output	0 – 1 V; 0 – 5 V; 0 – 10 V or 4 – 20 mA (16 bit)
Switching outputs	24 V DC PWM or TTL level
Analogue inputs	4 – 20 mA or 0 – 10 V, others upon request

Scope of delivery

Precision pressure controller
Mains cable 1.5 m
Operating instructions Calibration
Certificate ISO 17025

Further options

The LPG 800 has 4 switching outputs that can be used for options. Furthermore, up to four precision sensors can be actuated

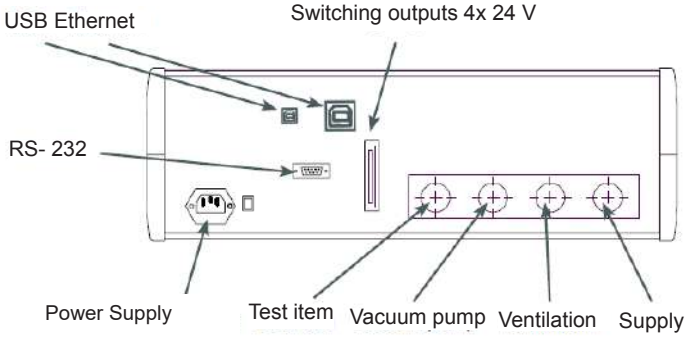
Option M
The following features were integrated:
- On and off switch for a vacuum pump
- Internal separation of regulator and test item
- An additional ventilation valve for the test item side

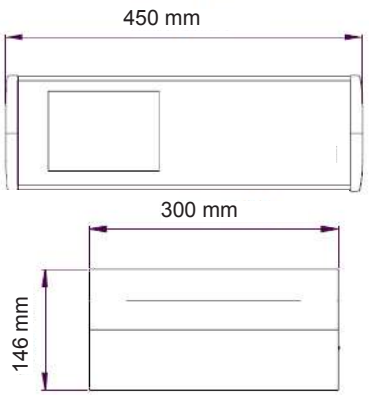
This option is suited, for example, for pressure gauge adjustment

Option StdBy
A valve uncouples the regulator and the precision sensors from the test item connection
This option is required, in order to operate several LPG pressure controllers in parallel

Option Rack (only in combination with Option StdBy)
With this option, several LPG pressure controllers can be combined in one controller unit. Sensors, e.g. barometers, can also be mirrored to connected LPG pressure controllers

Option Vac
With this option, a 24 V signal can be actuated, in order to switch a vacuum pump on or off, for example





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