Rel. 20220729

Electric calibration pressure test pump LR-*Cal* LAP-P

Generation of test pressure up to +25 bar (363 psi), switchable to generation of vacuum down to -0,9 bar (-26.6 inHg)

The **LR-*Cal* LAP-P** electric calibration test pressure pump is used for simple pressure generation (without manual effort) for checking, adjusting and calibration of mechanical and electronic pressure reading instruments by means of comparative measurements.

When the measuring instrument to be checked and a sufficiently accurate reference instrument are connected to the **LR-*Cal* LAP-P** electric calibration pressure test pump, the same pressure acts on both measuring instruments when the pump is actuated. By comparing the two measured values at any pressure values, the accuracy of the unit under test can be checked or adjusted.

Due to the integrated electric pump, the **LR-*Cal* LAP-P** allows an automatic and exact pressure generation with the possibility to switch to vacuum generation. For precise adjustment of the test pressure the **LR-*Cal* LAP-P** electric calibration pressure test pump is equipped with a fine adjustment valve. Both, the test specimen and the reference instrument are mounted on top of the electric calibration pressure test pump, if necessary using suitable thread adapters (see Accessories / Adapter sets on page 3). No tools are required for connecting the unit under test and reference instrument, hand-tightening of the instruments is sufficient.

Specification:

Generation of pressure:	0 to 25 bar (363 psi), switchable to
Generation of vacuum:	0 to -0,9 bar (-26.6 inHg)
Pressure medium:	Ambient air
Pressure ports:	2 connections with free-running union nut and with dirt separator strainer and sealing ring Pressure port P1 left for test item and P2 right for reference device

Order-Code:	P1 (test item):	P2 (reference):
LAP-P-G14-G12	1/4" BSP F	1/2" BSP F
LAP-P-G14-G14	1/4" BSP F	1/4" BSP F
LAP-P-G12-G14	1/2" BSP F	1/4" BSP F
LAP-P-G12-G12	1/2" BSP F	1/2" BSP F

Material wetted parts:	Stainless steel, nickel-plated brass, brass, FKM
Test pressure setting:	Fine adjustment valve (large volume variator, sensitivity better than ±1 mbar)
Temperatures:	Operation 0...50°C (+32...+122°F); Storage -20...+60°C (-4...+140°F)
Power supply:	110...230 VAC (incl. power supply unit to 24 VDC / 1.5 ADC)
Motor specification:	24 VDC, 220 Ncm, 0.88 A
Dimensions:	approx. 271 x 228 x 116 mm (without power supply unit)
Material housing:	ABS
Weight:	approx. 2.9 kg (without power supply unit)

Very easy test pressure generation with the **LR-*Cal* LAP-P** electric calibration test pressure pump

Standard scope of delivery:

- Electric calibration test pressure pump **LR-*Cal* LAP-P**
- Power supply unit 110...230 VAC

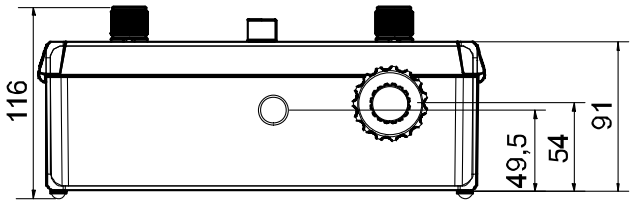
- Operating manual

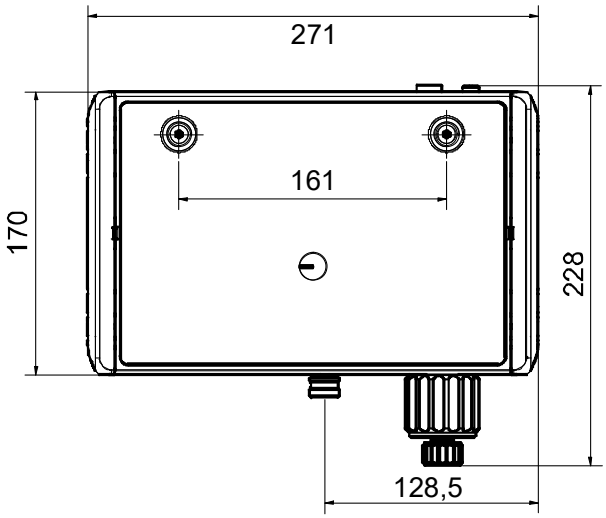
LAP-P

Electric calibration pressure test pump pneumatic, -0,9...+25 bar (bis 363 psi)

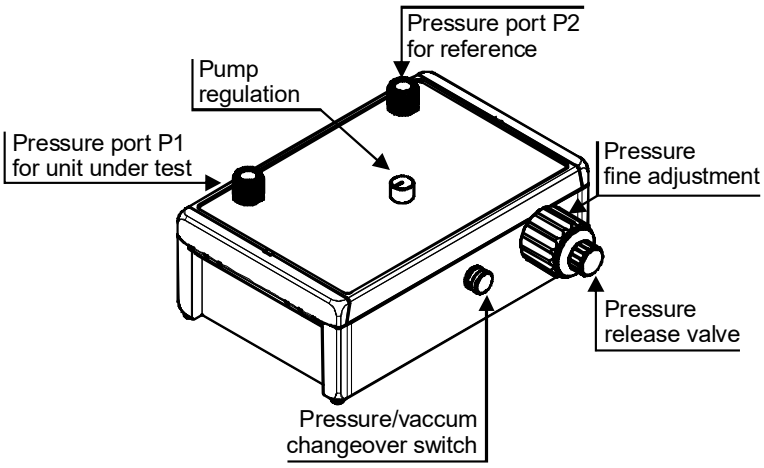
LR-Cal

Dimensions (in mm):





Controls and connections:



Order-Codes:

Electric calibration pressure test pump **LR-Cal LAP-P variants**

Order-Code	Pressure port **P1** for test item	Pressure port **P2** for reference
LAP-P-G14-G12	1/4" BSP F	1/2" BSP F
LAP-P-G14-G14	1/4" BSP F	1/4" BSP F
LAP-P-G12-G14	1/2" BSP F	1/4" BSP F
LAP-P-G12-G12	1/2" BSP F	1/2" BSP F

Spare parts

Order-Code	Description	
LAP-P-NT	Power supply unit (input 110...230 VAC / output 24 VDC - 1.5 A) (spare part, as already included in standard supply of the basic device)	
LPP30-ASS-G12	Pressure connector 1/2" BSP F free running union-nut (assembly) (without dirt separator slieve)	
LPP30-ASS-G14	Pressure connector 1/4" BSP F free running union-nut (assembly) (without dirt separator slieve)	
LAP-P-SIEB-G12	5 pcs. dirt separator slieves for pressure connector 1/2" BSP F	
LAP-P-SIEB-G14	5 pcs. dirt separator slieves for pressure connector 1/4" BSP F	
LPP-VENTIL	Fine adjustment and pressure release valve (assembly)	
LPP-SICH	Glass fuse 5 x 20 mm, medium order, 1 A / 250 V	

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Accessories

Order-Code	Content	
LPP-ADAPTER-BSP	BSP thread adapters for pressure port **1/4"** BSP free running union-nut: 1 piece 1/4" BSP male x 1/8" BSP female 1 piece 1/4" BSP male x 3/8" BSP female 1 piece 1/4" BSP male x 1/2" BSP female 1 piece 1/4" BSP male x 1/2" BSP male	
LPP-ADAPTER-NPT	NPT thread adapters for pressure port **1/4**" BSP free running union-nut: 1 piece 1/4" BSP male x 1/8" NPT female 1 piece 1/4" BSP male x 1/4" NPT female 1 piece 1/4" BSP male x 3/8" NPT female 1 piece 1/4" BSP male x 1/2" NPT female	
LPP-ADAPTER-M	Metric thread adapters for pressure port **1/4**" BSP free running union-nut: 1 piece 1/4" BSP male x M12x1.5 female 1 piece 1/4" BSP male x M20x1.5 female 1 piece 1/4" BSP male x Minimess 1620	
LSP-ADAPTER-SET	Thread adapters for pressure port **1/2**" BSP free running union-nut: 1 piece 1/2" BSP male x 1/4" BSP female 1 piece 1/2" BSP male x M20x1.5 female 1 piece 1/2" BSP male x 1/4" NPT female 1 piece 1/2" BSP male x 1/2" NPT female	
VRS-G12	Volume reducer for LR-*Cal* **TLDMM 2.0** and LR-*Cal* **LDM 80**	
LPP-VOLUMEN-TOOL	Tool for the fine adjustment valve, to increase the diameter, thus even easier fine adjustment of the test pressure. Material: aluminum. Simply plug it on the pressure fine adjustment valve.	

Please note that the performance of the LR-*Cal* **LAP-P** electric calibration pressure test pump depends on the volume of the calibration circuit. The smaller the volume, the better the performance. You can keep the volume of the calibration circuit small or minimize it by dispensing with hose lines or pressure hoses and using a reference device with the smallest possible volume in the pressure connection.
For the LR-*Cal* **TLDMM 2.0** and LR-*Cal* **LDM 80** reference instruments listed on page 4, for example, we recommend using the optional volume reducer, order-code **VRS-G12**.

Typical performance of the electric pump LR-*Cal* **LAP-P**:

Pressure: 0 to 20 bar: <85 seconds
(The final value of 25 bar is most easily achieved if you first turn the fine adjustment valve quite far out (anti-clockwise), electrically generate pressure up to approx. 20 bar and then screw the find adjustment valve in clockwise.)
Vacuum: 0 to -0,9 bar: <8 seconds

As a reference pressure instrument (pressure calibrator) we recommend:

Documenting process and pressure calibrator
LR-*Cal* LPC 300
Accuracy ±0.025% FS

Pressure calibrators
LR-*Cal* LPC 200-T and **LR-*Cal* LPC 200**
Accuracy ±0.025% FS

Pressure calibrator
LR-*Cal* TLDMM 2.0
Accuracy ±0.05% FS

Precision reference pressure handheld
LR-*Cal* LHM
Accuracy ±0.05% FS or ±0.1% FS

Reference digital pressure gauge
LR-*Cal* LDM 80
Accuracy ±0.1% FS or ±0.2% FS

Digital pressure gauge
LR-*Cal* LDM 70
Accuracy ±0.125% BFSL or ±0.25% BFSL

Digital pressure gauge
DM 80 and **DM 80-UMS**
Accuracy ±0.25% BFSL