

Pressure Test Pump LR-Cal LPP 08, pneumatic operated

Generating pressure up to +8 bar (116 psi), switchable to generating vacuum down to -0,85 bar (-25 inHg)

The pressure test pump **LR-Cal LPP 08** is used to generate pressure and vacuum for checking, adjusting and calibrating mechanical and electronic pressure measuring instruments by comparative measurements in the low-pressure and vacuum range. These pressure tests may be carried out in laboratories, workshops or on site at the measuring point.

If the instrument to be tested and a sufficiently accurate reference measuring instrument are connected up to the pressure test pump, the same pressure is applied to the two measuring instruments when the pump is operated. By comparing the two measure values at random pressure values, the accuracy can be verified or the unit under test can be adjusted.

The **LR-Cal LPP 08** is a pneumatic pressure test pump for low-pressure ranges up to 8 bar with change-over switch to vacuum down to -850 mbar. Despite its compact dimensions, the pressure test pump is easy to operate and allows for exact generation of the required test pressures. The maximum pressure or vacuum achievable depends on the attached test volume. The smooth-running pressure generation and the integrated fine adjustment valve allow a safe and precise setting of very small positive resp. negative pressure values in the range of mbar.

The unit under test and the reference instrument can be easily connected with the supplied accessories.



Specification:

Pressure:	0 to 8 bar = 0 to 116 psi, switchable to
Vacuum:	0 to -0,85 bar = 0 to -25 inHg
Pressure ports:	T-piece to be mounted to the pump, with 1 x hose 0.5 m with pluggable port 1/2" BSP female for reference instrument and 1 x hose 0.5 m with pluggable port 1/4" BSP female for test item. Optional sets of threaded adapters „LPP-ADAPTER-...“ available.
Medium:	Ambient air
Pressure fine adjustm.:	Pressure adjustment valve (very sensitive volume variator)
Dimensions:	approx. 180 mm length x 111 mm width x 31 mm height (without T-piece)
Weight:	approx. 295 g (without T-piece)

Included in scope of standard delivery:

- Pressure test pump **LR-Cal LPP 08**
- T-piece for direct mounting to the pump, with 2 „Push&Pull“ hose connectors
- 1 x pneum. hose 0.5 m. One side to be plugged to the T-piece, other side with thread 1/2" BSP female, to connect reference pressure instrument/calibrator
- 1 x pneum. hose 0.5 m. One side to be plugged to the T-piece, other side with thread 1/4" BSP female, to connect item under test (optional sets of threaded adapters available)
- Operating manual

Optional accessories:

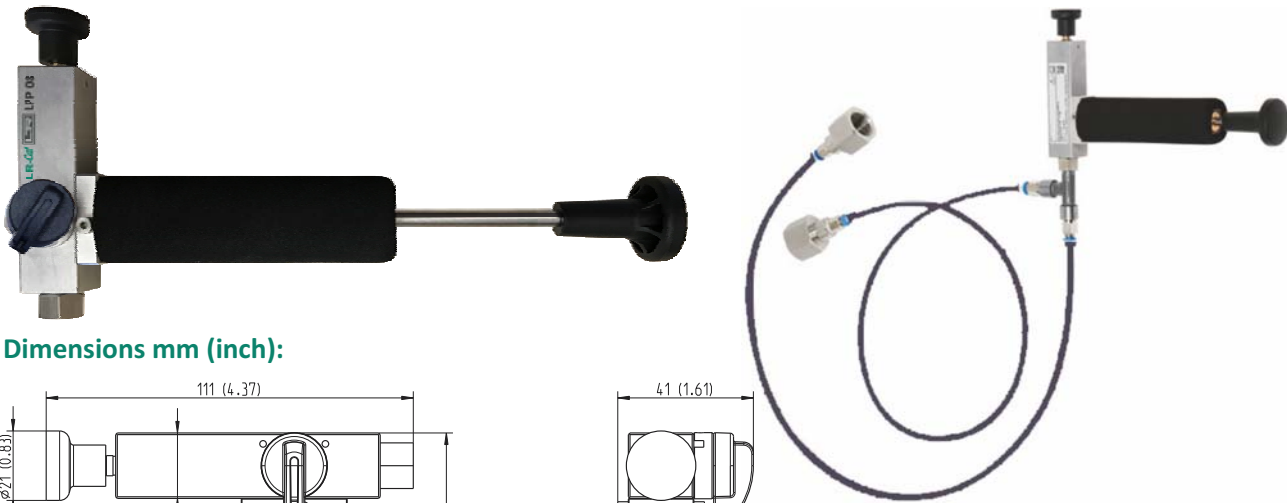
- Several sets of threaded adapters for connecting items under test
- Carrying- and storage case
- Reference pressure instruments, digital gauges, pressure calibrators, with different functionalities and pressure ranges.

LPP 08 Pressure Test Pump LPP 08 (pneumatic) Pressure +8 bar (116 psi) / Vacuum -0.85 bar

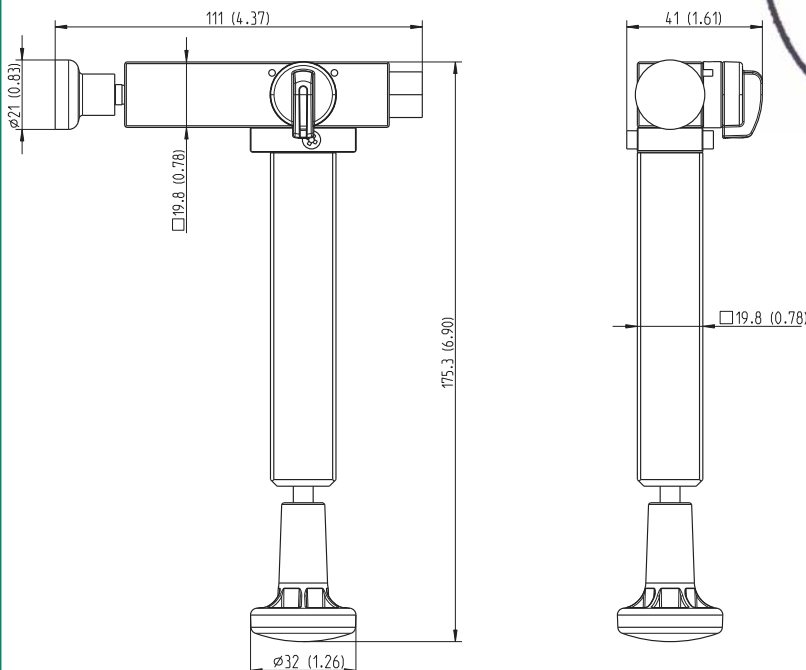
LR-Cal



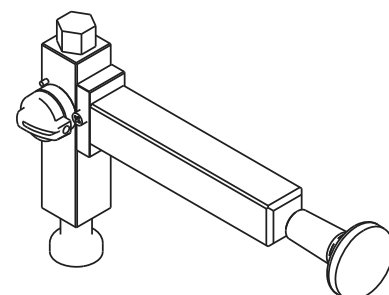
Order-Code	Description / Included in standard delivery
LPP-08	Pressure Test Pump LR-Cal LPP 08 (-0,85...+8 bar) incl. T-piece, 2 hoses 4 x 2 mm, length each 0.5 m 1 Adapter (brass, chromium plated) to 1/2" BSP female and 1 Adapter (brass, chromium plated) to 1/4" BSP female, as well as necessary connectors and operating manual.
LPP-08-PUMPE	Pressure Test Pump LR-Cal LPP 08 (-0,85...+8 bar): OEM version WITHOUT any accessories, just the pump.
Accessories and Spare parts	
LPP-08-KOFFER	Transport and storage case for LR-Cal LPP 08 with foams, with space for accessories and up to two reference pressure instruments (e.g. LR-Cal LDM 80 or LR-Cal LHM or LR-Cal Serie 2000)
LPP-08-T-STUECK	SPARE PART: T-piece for mounting on LR-Cal LPP 08 , with 2 hose connectors (Push&Pull) for hose 4 x 2 mm
LPP-08-PN-STECK	SPARE PART: Hose connector (Push & Pull) for hose 4 x 2 mm, 1/8" BSP male
LPP-08-ADAPT-G12	SPARE PART: Adapter (brass, chromium plated) 1/8" BSP female x 1/2" BSP female (for reference)
LPP-08-ADAPT-G14	SPARE PART: Adapter (brass, chromium plated) 1/8" BSP female x 1/4" BSP female (for test item)
LPP-08-SCHLAUCH-0050	SPARE PART: pneumatic hose 4 x 2 mm, length 0.5 m
SCHLAUCH-02ID-04AD	Pneumatic hose 4 x 2 mm, per meter
LPP-ADAPTER-BSP	Set of BSP adapters and set of spare o-rings, for test item port: 1/4" BSP male x 1/8" BSP female + 3/8" BSP female + 1/2" BSP female + 1/2" BSP male
LPP-ADAPTER-NPT	Set of NPT adapters, for test item port: 1/4" BSP x 1/8" NPT female + 1/4" NPT female + 3/8" NPT female + 1/2" NPT female
LPP-ADAPTER-M	Set of metric adapters and set of spare o-rings, for test item port: 1/4" BSP male x M12x1.5 female + M20x1.5 female + MINIMESS1620
Reference pressure instruments / Pressure calibrators	
LR-Cal LDM 80	Ranges 0...100 mbar, 0...250 mbar, 0...500 mbar, 0...1 bar, 0...2.5 bar, 0...5 bar, 0...10 bar, -1...+1 bar, -1...+2,5 bar or -1...+5 bar, as well as 0...500 mbar abs., 0...1 bar abs., 0...2.5 bar abs. or 0...5 bar abs. Accuracy $\pm 0.2\%$ FS or (with option LDM80-KL01:) $\pm 0.1\%$ FS
LR-Cal LHM	Ranges 0...100 mbar, 0...500 mbar, 0...1 bar, 0...2.5 bar, 0...5 bar, -100...+100 mbar, -500...+500 mbar, -1...+1 bar, -1...+2.5 bar or -1...+5 bar, as well as differential pressure Accuracy $\pm 0.1\%$ FS or $\pm 0.05\%$ FS
LR-Cal Serie 2000	Ranges 25 mbar, 130 mbar, 1 bar, 2 bar, 7 bar, or 10 bar pressure, vacuum and differential pressure Accuracy $\pm 0.15\%$ FS $\pm 0,15\%$ of measured value ± 1 Digit



Dimensions mm (inch):



Isometric view



Pressure Test Pump LR-Cal LPP 40, operated with ambient air to generate pressure up to +40 bar (580 psi), switchable to generate vacuum up to -0,95 bar (-28 inHg)

The Pressure Test Pump **LR-Cal LPP 40** is used to generate pressures and vacuum for checking, adjusting and calibrating mechanical and electronic pressure measuring instruments by comparative measurements. These pressure tests may be carried out in laboratories, workshop or on site at the measuring point. If the instrument under test and a sufficiently accurate reference measuring instrument are connected to the **LR-Cal LPP 40** Pressure Test Pump, the same pressure / vacuum is applied to the two instruments when the pump is operated.



Despite to its compact dimensions, the Pressure Test Pump **LR-Cal LPP 40** is easy to operate and allows for exact generation of the required test pressures. A change-over switch enables the generation of vacuum as well. The **LR-Cal LPP 40** is fitted with a fine adjustment valve for the precise adjustment of pressures. The reference instrument is screwed directly on to the top of the pump and the unit under test is connected by means of a connection tube incorporating an adapter 1/4" BSP rotating female port (Optional: 1/4" NPT female).

Specification:

Making pressure:	0 to 40 bar = 0 to 580 psi, switchable to
making vacuum:	0 to -0,95 bar = 0 to -28 inHg
Pressure ports:	1/2" BSP female (rotating swivel nut with o-ring) for reference instrument on the top of the pump (Optional: 1/4" BSP female rotating or 3/8" BSP female) 1/4" BSP female (rotating swivel nut with o-ring) at test hose 0.5 m for test item (Optional: 1/4" NPT female)
Materials:	Anodised aluminium, brass, ABS
Volume per stroke:	approx. 11 cm ³
Pressure adjustment:	Fine adjustment valve (volume variator)
Dimension:	approx. 220 x 105 x 63 mm
Weight:	approx. 510 g

Standard scope of delivery:



- Pressure Test Pump **LR-Cal LPP 40**
- Test hose 0.5 m with 1/4" BSP female port (rotating, with o-ring)
- Operating manual

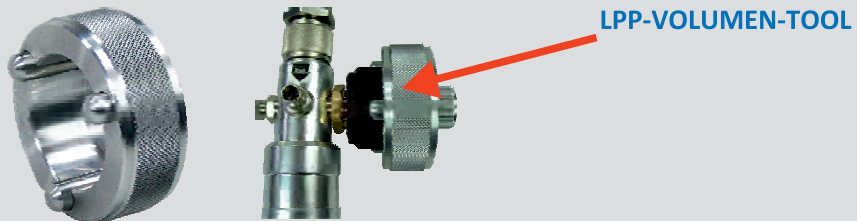
Optional Accessories:

- Tool to simplify the operation of the fine adjustment valve
- Several sets of threaded adapters for the test item pressure port
- Transit case
- Reference pressure reading instruments, Pressure Calibrators, analogue pressure gauges, in different accuracies and functionality.

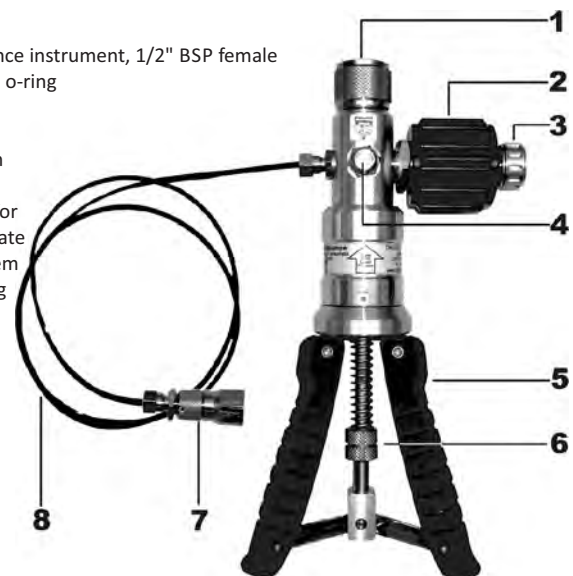


Order-Codes:

Description	Order-Code
LR-Cal LPP 40 Pressure Test Pump -0,95...+40 bar Reference port 1/2" BSP female rotating (3/8" BSP female if dismantled)	LPP-40
ditto, but reference port 1/4" BSP female rotating	LPP-40-G14
ditto, but reference port 1/4" NPT female and test port 1/4" NPT female	LPP-40-N14
Set of BSP adapters 1/8" BSP F + 3/8" BSP F + 1/2" BSP F + 1/2" BSP M	LPP-ADAPTER-BSP
Set of NPT adapters 1/8" NPT F + 1/4" NPT F + 3/8" NPT F + 1/2" NPT F	LPP-ADAPTER-NPT
Set of metric adapters M12 x 1,5 + M20 x 1,5 + Minimes 1620	LPP-ADAPTER-M
Tool to simplify the operation of the fine adjustment valve	LPP-VOLUMEN-TOOL
Transit case with custom foams	LPP-KOFFER
LPP-MANO-K06 Analogue reference pressure gauges DN 100 ±0.6% FS incl. Certificate of Calibration, fine graduation dial Available pressure ranges: 0...4 bar/psi; 0...25 bar/psi; 0...40 bar/psi; -1...0 bar/inHg; -1...+39 bar/psi	 LPP-MANO-K06-...
LPP-MANO Analogue reference pressure gauges DN 63 ±1.0% FS, fine graduation dial Available pressure ranges: 0...2 bar/psi; 0...11 bar/psi; 0...25 bar/psi; 0...40 bar/psi; -1...0 bar/inHg; -1...+39 bar/psi	 LPP-MANO-...
SPARE PART: Test hose 0.5 m with 1/4" BSP F rotating port	LPP-SCHLAUCH
SPARE PART: Fine adjustment valve with relief valve	LPP-VENTIL
Service Kit for LR-Cal LPP 40	LPP-WARTUNG



- (1) Pressure port for reference instrument, 1/2" BSP female rotating swivel nut, with o-ring
- (2) Fine adjustment valve
- (3) Relief valve
- (4) Switch pressure/vacuum
- (5) Pump handles
- (6) Adjustable knurled nut for adjustment of delivery rate
- (7) Pressure port for test item 1/4" BSP female rotating swivel nut, with o-ring
- (8) Test hose



Pressure Test Pumpe LR-Cal LPP 60, pneumatic operated to generate pressure up to +60 bar (870 psi), switchable to generate vacuum up to -0,95 bar (-28 inHg)

The Pressure Test Pump **LR-Cal LPP 60** is used to generate pressure and vacuum for checking, adjusting and calibrating mechanical and electronic pressure measuring instruments by comparative measurements. These pressure tests may be carried out in laboratories, workshop or on site at the measuring point. If the instrument under test and a sufficiently accurate reference measuring instrument are connected to the **LR-Cal LPP 60**, the same pressure / vacuum is applied to the two instruments when the pump is operated.



Despite its compact dimensions, the pressure test pump **LR-Cal LPP 60** is easy to operate and allows for exact generation of the required test pressures. A change-over switch enables the generation of vacuum as well.

The **LR-Cal LPP 60** is fitted with a fine adjustment valve for the precise adjustment of pressures. The reference instrument is screwed directly on the top of the pump and the unit under test is connected by means of a connection tube incorporating an adapter 1/4" BSP rotating female port with integr. sealing gasket. Sets of BSP-, NPT- and metric adapters are available as accessories. See next page.

Specification:

Pressure generation:	0 to 60 bar = 0 to 870 psi, switchable to
Vacuum generation:	0 to -0,95 bar = 0 to -28 inHg
Pressure ports: (standard version)	1/2" BSP female, rotating, with integr. sealing gasket, on the top of the pump for the reference instrument; 1/4" BSP female, rotating, with integr. sealing gasket, at the pressure hose for the test specimen (unit under test)
Materials:	aluminium, brass, ABS, NBR
Priming pressure:	handles
High pressure:	volume variator
Pressure adjustment:	volume variator (fine adjustment control with large volume)
Dimension:	approx. 290 x 185 x 65 mm
Weight:	approx. 960 g

Included in standard supply:

- Pressure Test Pump **LR-Cal LPP 60**
- Test hose, length 0.5 m
- Operating manual



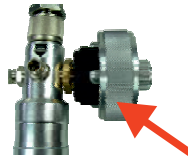
Recommended Reference Instruments:

± 0.025% v.E.:	LR-Cal LPC 300 documenting process and pressure calibrator
± 0.025% v.E.:	LR-Cal LPC 200 electronic pressure calibrator
±0.05% v.E.:	LR-Cal TLDMM digital reference pressure gauge
±0.1% v.E.:	LR-Cal TLDMM-A01 digital test pressure gauge
±0.125% v.E.:	LR-Cal LDM 70-E25 digital test pressure gauge
±0.2% v.E.:	LR-Cal TLDMM-A02 digital test pressure gauge
±0.25% v.E.:	LR-Cal LDM 70-K50 digital test pressure gauge
±0.6% v.E.:	LR-Cal LPP-MANO-K06 analogue reference pressure gauge
±1.0% v.E.:	LR-Cal LPP-MANO analogue reference pressure gauge

datasheet: „LPC 300“
 datasheet: „LPC 200“
 datasheet: „TLDMM“
 datasheet „TLDMM-A“
 datasheet: „LDM 70“
 datasheet: „TLDMM-A“
 datasheet: „LDM 70“
 see next page
 see next page

Order-Codes:

LPP-60	LR-Cal LPP 60 Pressure Test Pump -0,95...+60 bar Pressure port for reference: 1/2" BSP female rotating, with integr. sealing gasket Pressure port for test specimen: 1/4" BSP female rotating, with integr. sealing gasket
LPP-60-G14	Ditto, but reference pressure port 1/4" BSP female rotating, with integr. sealing gasket
LPP-60-G38I	Ditto, but reference pressure port 3/8" BSP female (without swivel nut)
LPP-60-N14	Ditto, but reference pressure port 1/4" NPT female and test specimen port 1/4" NPT female (via adapters)
LPP-VOLUMEN-TOOL	Tool (to be stuck on the volume variator) to simplify the operation of the volume variator (fine adjustment valve)



LPP-60-KOFFER	Transit case with custom foams (space for LR-Cal LPP 60 , sets of adapters and a reference instrument up to DS 100 resp. 85 x 85 mm)
---------------	---------------------------------------------------------------------------------------------------------------------------------------------

LPP-ADAPTER-BSP	Set of adapters and sealing gaskets „BSP“ for pressure port for test specimen: 1/8", 3/8", 1/2" and 1/2" male, stainless steel, with integr. sealing gaskets
-----------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------

LPP-ADAPTER-NPT	Set of adapters „NPT“ for pressure port for test specimen: 1/8", 1/4", 3/8" and 1/2" NPT, stainless steel
-----------------	--------------------------------------------------------------------------------------------------------------



LPP-ADAPTER-M	Set of adapters and sealing gaskets „metric“ for pressure port for test specimen: M12x1.5, M20x1.5 in stainless steel with integr. sealing gaskets, and MINIMESS 1620,
---------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------

LPP-60-WARTUNG	Service- and Maintenance Kit for Pressure Test Pump LR-Cal LPP 60 (seals, gaskets, etc.)
----------------	-------------------------------------------------------------------------------------------------

LPP-SCHLAUCH	SPARE PART: Test hose with fittings, length 0.5 m
--------------	---------------------------------------------------

LPP-MANO-K06	Analogue reference pressure gauges DS 100 Accuracy class 0.6 incl. certificate of calibration Dial with fine graduation, dual scale „bar/psi“ Available ranges: 0...4 bar/psi, 0...25 bar/psi, 0...40 bar/psi -1...0 bar/inHg und -1...+39 bar/psi
--------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



LPP-MANO	Analogue reference pressure gauges DS 63, accuracy class 1.0 Dial with fine graduation, dual scale „bar/psi“ Available ranges: 0...2 bar/psi, 0...11 bar/psi, 0...25 bar/psi 0...40 bar/psi, 0...60 bar/psi, -1...0 bar/inHg, -1...+39 bar/psi
----------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



Note:

You do not need any threaded adapter to connect reference devices with 1/2" BSP male pressure port to the pressure test pump order-code **LPP-60**.

Calibration Handpump, pneumatic operated

Type **2911**:
generating pressure
up to 100 psi (7 bar)

Type **2941**:
generating vacuum
up to -28 in Hg (-0,9 bar)



The calibration handpumps **2911** and **2941** have been designed for easy to use pressure calibration equipment „in the field“, for testing pressure gauges, pressure transmitters, pressure switches etc.

With volume adjuster, enabling fine pressure control, and bleeder valve.

Thanks to their sensitivity, the calibration handpumps **2911** and **2941** are very suitable for “in Hg”, “mm Hg” or “mbar”-ranges.

Standard Accessories:

- 300 mm tube
- T-coupling
- Operating manual

Optional Accessories:

- Carrying case with foams
- Suitable tube
- Additional t-couplings

Specification:

Type **2911** - Pressure generating: 0 to 100 psi (0 to 7 bar)

Type **2941** - Vacuum generating: 0 to -28 in Hg (0 to -0.9 bar)

Pressure connection: for tube 4 / 6 mm
T-coupling: Quick-coupling t-junction, for tube 4 x 6 mm
For connection of a reference and a unit under test you need additional two pcs. tube

Volume Handpump: appr. 20 cm³

Volume Volume adjuster: appr. 20 cm³, Revolution thread 1 mm

Weight: appr. 400 g

Dimensions: appr. 200 mm length, body appr. 35 mm diameter



DRUCK & TEMPERATUR Leitenberger GmbH

Bahnhofstr. 33 • D-72138 Kirchentellinsfurt • Germany

Tel.: +49 - 71 21 - 9 09 20 - 0 • Fax: +49 - 0 71 21 - 9 09 20 - 99

E-Mail: DT-Export@Leitenberger.de • <http://www.druck-temperatur.de>



Available Types:

Type	Generating pressure up to	Order-Code
2911	to 100 psi with pressure release knob	500.9.000.0005.0
	to 100 psi (7 bar) with fine adjustable pressure release valve	500.9.000.1005.0
2941	to -28 in Hg (-0.9 bar) Vacuum	500.9.000.9800.0

Accessories:

Type	Description	Order-Code
2950	Carrying case with foams, with cutout for 2 pcs. hand test pumps 2911 and/or 2941, 1 pc. digital manometer series 2000, tubes etc. Dimensions: appr. 350 x 260 x 90 mm	500.9.000.0000.4
Tube	PVC-Tube 4 x 6 mm, (per meter) Special construction with very small volumetric expansion.	500.0.000.9999.9
T-piece	SPARE PART: Quick-coupling T-junction part no. 6832, for tube 4 x 6 mm	500.9.000.0002.0

Options:

Electronic Pressure Calibrator PC4

Portable handheld digital manometer C300, C310, C320

Portable handheld digital manometer 1000 series, HMG 1

We keep you informed at www.druck-temperatur.de • www.LR-Cal.com**DRUCK & TEMPERATUR Leitenberger GmbH**

Bahnhofstr. 33 • D-72138 Kirchentellinsfurt • Germany

Tel.: +49 - 71 21 - 9 09 20 - 0 • Fax: +49 - 0 71 21 - 9 09 20 - 99

E-Mail: DT-Export@Leitenberger.de • <http://www.druck-temperatur.de>

Pressure Test Pump LR-Cal LPP 700

- hydraulic operated (suitable for mineral oil based hydraulic fluids or clean distilled water, free of calcium-carbonate / scale)
- generating test pressure up to 10 000 PSI (700 bar)
- test hose MINIMESS® included

The portable Calibration Test Pump LR-Cal LPP 700 has been designed for easy to use pressure calibration equipment "in the field", for testing pressure gauges, pressure switches and pressure transmitters. 10 000 PSI (700 bar) can be reached in a simple way, using the "prime/high pressure" selector.

Reference instruments such as electronic pressure calibrators LR-Cal LPC 300, LR-Cal LPC 200 and LR-Cal TLDMM as well as precision digital reference pressure gauges as LR-Cal LDM 80 and LR-Cal LDM 70 can be mounted directly on the top of the LR-Cal LPP 700 pressure test pump. High quality construction, no leakage.

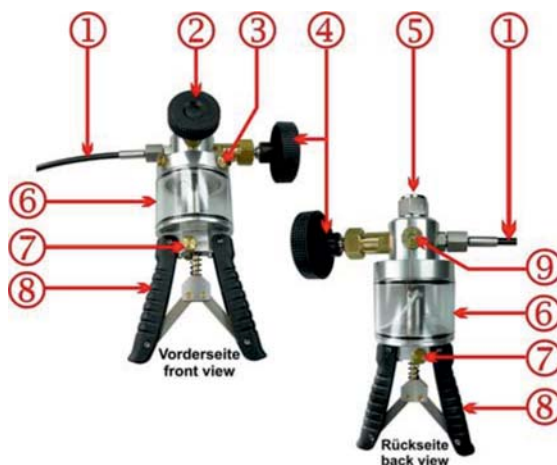


The Calibration Test Pump LR-Cal LPP 700 is supplied including a test hose (MINIMESS® 1620), length 1 m, with 1/4" BSP F port.

Specification:

Pressure ports:	for reference instrument: 1/2" BSP female, rotating, at the top of the pump. After dismounting of the 1/2" BSP swivel, you have a 3/8" BSP female thread, suitable for a lot of special reference instruments for test item: MINIMESS® hose (length 1 m), with coupling to 1/4" BSP female thread
Liquid reservoir:	200 cm ³ (re-filling during pressure generation possible)
Construction:	High quality, no leakage, robust, portable, easy to handle
Pressure adjustment:	Pressure fine control and pressure release valve.
Dimensions / weight:	appr. 270 x 160 x 120 mm (without hose) / appr. 1.3 kg (without hose)

Control elements LR-Cal LPP 700:



- (1) = flexible hose MINIMESS® 1620
- (2) = Pressure release valve, fine adjustable
- (3) = Liquid reservoir filling plug
- (4) = Fine control (volume adjustment)
- (5) = 1/2" BSP female rotating reference port
- (6) = Liquid reservoir
- (7) = Priming / high pressure switching knob
- (8) = Pump handles
- (9) = Blind plug, if existing, never open!

LPP 700

Pressure Test Pump 700 bar, hydraulic
Portable pressure source up to 10,000 psi


LR-Cal



Available Types:

Type	Generating pressure up to	Order-Code
LPP 700	10 000 PSI (700 bar), suitable for mineral oil based hydraulic fluids or clean distilled water, free of calcium-carbonate / scale. Not suitable for water based hydraulic fluids.	LPP-700

Accessories:

Type	Description	Order-Code
Case	Plastic case with foams, for LR-Cal LPP 700 , hose, adapters and reference instrument	LPP-H-KOFFER
Adapter BSP	st.st. Adapter set (BSP) incl. spare O-rings, for test specimen port: 1/8" BSP, 3/8" BSP, 1/2" BSP M & F	LPP-ADAPTER-BSP
Adapter NPT	st.st. Adapter set (NPT), for test specimen port: 1/8" NPT, 1/4" NPT, 3/8" NPT, 1/2" NPT	LPP-ADAPTER-NPT
Adapter metric	st.st. Adapter set (metric) incl. spare O-rings, for test specimen port: M 12 x 1.5 and M 20 x 1.5	LPP-ADAPTER-M
Service	Service kit (seals, gaskets, ...) for LR-Cal LPP 700	LPP-H-WARTUNG
Fluid	Special operating oil for LR-Cal LPP 700 (1 l bottle)	CPB5000-FLUID
Analogue referenz-pressure gauge LPP-MANO 	Analogue reference pressure gauge DS 100 mm (4") Dial with fine graduation, knife pointer, pressure port 1/2" BSP male, range 0 - 60 bar / 0 - 800 PSI Accuracy ±0.6% f.s.	LPP-MANO-0060
	Ditto, 0 - 100 bar / 0 - 1400 PSI, accuracy ±0.6% f.s.	LPP-MANO-0100
	Ditto, 0 - 160 bar / 0 - 2000 PSI, accuracy ±0.6% f.s.	LPP-MANO-0160
	Ditto, 0 - 250 bar / 0 - 3000 PSI, accuracy ±0.6% f.s.	LPP-MANO-0250
	Ditto, 0 - 400 bar / 0 - 5000 PSI, accuracy ±0.6% f.s.	LPP-MANO-0400
	Ditto, 0 - 600 bar / 0 - 8000 PSI, accuracy ±1.0% f.s.	LPP-MANO-0600
	Ditto, 0 - 1000 bar / 0 - 14500 PSI, accuracy ±1.0% f.s.	LPP-MANO-1000
MINIMESS hose in other lengths	MINIMESS ° 1620 hose, length 2.0 m	MMS-M16X2-2-0
	MINIMESS ° 1620 hose, length 3.2 m	MMS-M16X2-3-2
	MINIMESS ° 1620 hose, length 4.0 m	MMS-M16X2-4-0

Recommended precision reference pressure instruments:		Accuracy:
• Electronic process calibrator	LR-Cal LPC 300	±0.025% f.s.
• Electronic pressure calibrator	LR-Cal LPC 200	±0.025% f.s. / ±0.1% m.v.
• Electronic pressure calibrator	LR-Cal TLDMM	±0.05% f.s.
• Digital precision reference pressure gauge	LR-Cal LDM 80+KL01	±0.1% f.s.
• Digital precision reference pressure gauge	LR-Cal LDM 80	±0.2% f.s.
• Digital test pressure gauge	LR-Cal LDM 70-E25	±0.125% f.s.
• Digital test pressure gauge	LR-Cal LDM 70-K50	±0.25% f.s.

Pressure Test Pump LR-Cal LPP 1000

- hydraulic operated (suitable for mineral oil based hydraulic fluids or clean distilled water, free of calcium-carbonate / scale)
- generating test pressure up to 14 500 PSI (1000 bar)
- flexible high pressure test hose included

The portable Calibration Test Pump LR-Cal LPP 1000 has been designed for easy to use pressure calibration equipment "in the field", for testing pressure gauges, pressure switches and pressure transmitters. 14 500 PSI (1000 bar) can be reached in a simple way, using the "prime/high pressure" selector.

Reference instruments such as electronic pressure calibrators LR-Cal LPC 300, LR-Cal LPC 200 and LR-Cal TLDMM as well as precision digital reference pressure gauges as LR-Cal LDM 80 and LR-Cal LDM 70 can be mounted directly on the top of the LR-Cal LPP 1000 pressure test pump. High quality construction, no leakage.

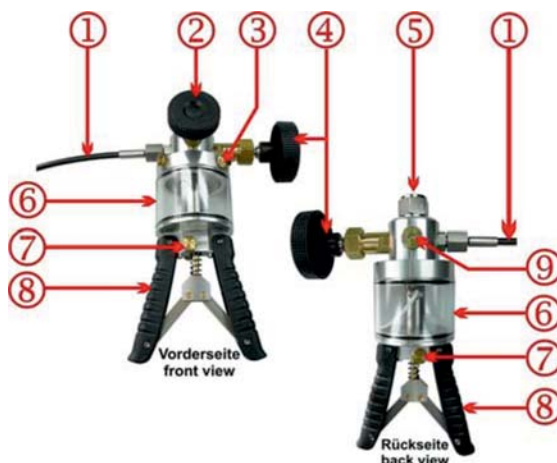


The Calibration Test Pump LR-Cal LPP 1000 is supplied including a flexible high pressure test hose, length 1 m, with 1/4" BSP F port.

Specification:

Pressure ports:	for reference instrument: 1/2" BSP female, rotating, at the top of the pump. After dismounting of the 1/2" BSP swivel, you have a 3/8" BSP female thread, suitable for a lot of special reference instruments for test item: high pressure test hose (length 1 m), with coupling to 1/4" BSP female thread
Liquid reservoir:	200 cm ³ (re-filling during pressure generation possible)
Construction:	High quality, no leakage, robust, portable, easy to handle
Pressure adjustment:	Pressure fine control and pressure release valve.
Dimensions / weight:	appr. 270 x 160 x 120 mm (without hose) / appr. 1.3 kg (without hose)
Option:	special version LR-Cal LPP 1000-S, suitable for brake fluid / SKYDROL.

Control elements LR-Cal LPP 1000:



- (1) = flexible high pressure test hose PN 14,500 psi
- (2) = Pressure release valve, fine adjustable
- (3) = Liquid reservoir filling plug
- (4) = Fine control (volume adjustment)
- (5) = 1/2" BSP female rotating reference port
- (6) = Liquid reservoir
- (7) = Priming / high pressure switching knob
- (8) = Pump handles
- (9) = Blind plug, if existing, never open!

LPP 1000 Pressure Test Pump 1000 bar, hydraulic Portable pressure source up to 14,500 psi


LR-Cal



Available Types:

Type	Generating pressure up to	Order-Code
LPP 1000	14 500 PSI (1000 bar), suitable for mineral oil based hydraulic fluids or clean distilled water, free of calcium-carbonate / scale. Not suitable for water based hydraulic fluids.	LPP-1000

Accessories:

Type	Description	Order-Code
Case	Plastic case with foams, for LR-Cal LPP 1000 , hose, adapters and reference instrument	LPP-H-KOFFER
Adapter BSP	st.st. Adapter set (BSP) incl. spare O-rings, for test specimen port: 1/8" BSP, 3/8" BSP, 1/2" BSP M & F	LPP-ADAPTER-BSP
Adapter NPT	st.st. Adapter set (NPT), for test specimen port: 1/8" NPT, 1/4" NPT, 3/8" NPT, 1/2" NPT	LPP-ADAPTER-NPT
Adapter metric	st.st. Adapter set (metric) incl. spare O-rings, for test specimen port: M 12 x 1.5 and M 20 x 1.5	LPP-ADAPTER-M
Service	Service kit (seals, gaskets, ...) for LR-Cal LPP 1000	LPP-H-WARTUNG
Fluid	Special operating oil for LR-Cal LPP 1000 (1 l bottle)	CPB5000-FLUID
Analogue referenz-pressure gauge LPP-MANO 	Analogue reference pressure gauge DS 100 mm (4") Dial with fine graduation, knife pointer, pressure port 1/2" BSP male, range 0 - 60 bar / 0 - 800 PSI Accuracy $\pm 0.6\%$ f.s.	LPP-MANO-0060
	Ditto, 0 - 100 bar / 0 - 1400 PSI, accuracy $\pm 0.6\%$ f.s.	LPP-MANO-0100
	Ditto, 0 - 160 bar / 0 - 2000 PSI, accuracy $\pm 0.6\%$ f.s.	LPP-MANO-0160
	Ditto, 0 - 250 bar / 0 - 3000 PSI, accuracy $\pm 0.6\%$ f.s.	LPP-MANO-0250
	Ditto, 0 - 400 bar / 0 - 5000 PSI, accuracy $\pm 0.6\%$ f.s.	LPP-MANO-0400
	Ditto, 0 - 600 bar / 0 - 8000 PSI, accuracy $\pm 1.0\%$ f.s.	LPP-MANO-0600
	Ditto, 0 - 1000 bar / 0 - 14500 PSI, accuracy $\pm 1.0\%$ f.s.	LPP-MANO-1000
MINIMESS hose in other lengths	MINIMESS ° 1620 hose, length 2.0 m	MMS-M16X2-2-0
	MINIMESS ° 1620 hose, length 3.2 m	MMS-M16X2-3-2
	MINIMESS ° 1620 hose, length 4.0 m	MMS-M16X2-4-0

Recommended precision reference pressure instruments:

		Accuracy:
• Electronic process calibrator	LR-Cal LPC 300	$\pm 0.025\%$ f.s.
• Electronic pressure calibrator	LR-Cal LPC 200	$\pm 0.025\%$ f.s. / $\pm 0.1\%$ m.v.
• Electronic pressure calibrator	LR-Cal TLDMM	$\pm 0.05\%$ f.s.
• Digital precision reference pressure gauge	LR-Cal LDM 80+KL01	$\pm 0.1\%$ f.s.
• Digital precision reference pressure gauge	LR-Cal LDM 80	$\pm 0.2\%$ f.s.
• Digital test pressure gauge	LR-Cal LDM 70-E25	$\pm 0.125\%$ f.s.
• Digital test pressure gauge	LR-Cal LDM 70-K50	$\pm 0.25\%$ f.s.