

Pressure Comparison Pump Serie **LR-Cal** LSP

- Pressure source for calibration purposes
- Spindle pump and priming pump

Operating fluid:

to 1,600 bar: Hydraulic fluids based on mineral oil

to 1,000 bar: Water (clean, free of acid)

Pressure comparison pumps are used for generating pressure for the testing, adjusting and calibrating of mechanical and electronic pressure measuring instruments by means of comparison measurements. These pressure tests can be carried out in laboratories, workshops or on site at the set measuring point.

When the device under test and a reference measuring instrument with an adequate accuracy are connected to the pressure comparator, the same pressure will act on both measuring instruments after actuating the pump. A calibration or an adjustment can be carried out by comparing the two measured values at any pressure value.

In order to enable an accurate generation of the measuring points, the pressure comparison pumps series **LR-Cal** LSP are provided with a fine adjustable spindle pump. In addition the series **LR-Cal** LSP feature a threaded spindle which only runs within the pump body. Thus there is no adverse bending moment acting on an outstanding spindle, and particularly for field use this has the advantage that the dimension of these pressure comparison pumps will not change when the spindle is turned during operation. The series **LR-Cal** LSP needs only little force to generate also high pressures. For an easier operating, the **LR-Cal** LSP series pressure comparators are fitted with a priming pump.



Type	Execution	max. Pressure
LSP 1000-EB-VP	 Including priming pump to simplify handling. Large fluid reservoir.	1,000 bar
LSP 1200-DL-VP	 Including priming pump to simplify handling. With rigid aluminium base plate	1,200 bar
LSP 1600-DL-VP	 ditto	1,600 bar

Versions for aggressive media like SKYDROL® or brake fluids available on request (max. 1,000 bar).

Technical Data		LR-Cal LSP 1000-EB-VP	LR-Cal LSP 1200-DL-VP	LR-Cal LSP 1600-DL-VP
Pressure range	[bar]	0...1,000	0...1,200	0...1,600
	[psi]	0...14,500	0...17,400	0...23,200
Medium		Mineral Oil water free of scale	Mineral Oil	Mineral Oil
Pressure ports		2 x 1/2" BSP female rotating incl. O-ring seal		
Fluid reservoir	[cm³]	400		
Piston diameter	[mm]	8		
Spindle stroke	[cm³]	approx. 3.9 (per turnaround: approx. 0.1)		
Needed force	[Nm]	at 250 bar: 2.0 / at 500 bar: 4.0 / at 1,000 bar: 8.0		
Materials		Stainless steel, Aluminium, Brass, Viton, NBR		
Dimensions				
distance of pressure ports	[mm]	200	200	200
length	[mm]	600	600	600
width	[mm]	280	300	300
height	[mm]	220	240	240
Weight	[kg]	8,5	9,9	9,9
Stationary fixing		2 drillings 6.4 mm dia.	(base plate)	(base plate)

Version for aggressive media such like SKYDROL® and brake fluids available on request (max. 1,000 bar):
Order-Code **LSP-1000-EB-VP-S**. This version is not suitable for mineral oil or water.

Optional Accessories

Order-Code	Description
BLINDSTOPFEN-G12-MS	Blind plugs for pressure port (1/2" BSP)
LSP-ADAPTER-SET	Set of stainless steel adapters, PN 1000 bar, 1/4" BSP, M20x1.5, 1/4" NPT, 1/2" NPT, gaskets
LSP-DOV	Spare O-rings for pressure ports (Set with 10 pcs.)
VA-M16X2-G12A	Minimess 1620 coupling to 1/2" BSP male for pressure port
MMS-M16X2-1-0	Minimess 1620 hose 1.0 m
MMS-M16X2-2-0	Minimess 1620 hose 2.0 m
MMS-M16X2-3-2	Minimess 1620 hose 3.2 m
MMS-M16X2-4-0	Minimess 1620 hose 4.0 m
MSV-G12-M16X2	Minimess 1620 adapter to 1/2" BSP female

Recommended reference pressure instruments

Type	Description	Accuracy
LR-Cal LPC 300	Documenting process calibrator	±0.025% FS
LR-Cal LPC 200	Electronic pressure calibrator	±0.025% FS
LR-Cal TLDMM	Precision digital reference gauge	±0.050% FS
LR-Cal TLDMM-A01	Digital test pressure gauge	±0.100% FS
LR-Cal LDM 70-E25	Digital test pressure gauge	±0.125% FS
LR-Cal TLDMM-A02	Digital test pressure gauge	±0.200% FS
LR-Cal LDM 70-K50	Digital test pressure gauge	±0.250% FS

