

**Hydraulic pressure comparison test pump**  
Serie **LR-Cal** LSP-H

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

Model **LR-Cal** LSP 1000-H: 1000 bar/14500 psi  
Model **LR-Cal** LSP 1200-H: 1200 bar/17400 psi  
Model **LR-Cal** LSP 1600-H: 1600 bar/23200 psi

**Operating fluid: mineral oil based hydraulic fluid or distilled water**

Pressure comparison test 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 test pumps series **LR-Cal** LSP-H are provided with a fine adjustable spindle pump.



In addition the series **LR-Cal** LSP-H 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-H needs only little force to generate also high pressures.

For an easier operating, the **LR-Cal** LSP-H series pressure comparators are fitted with a priming pump.

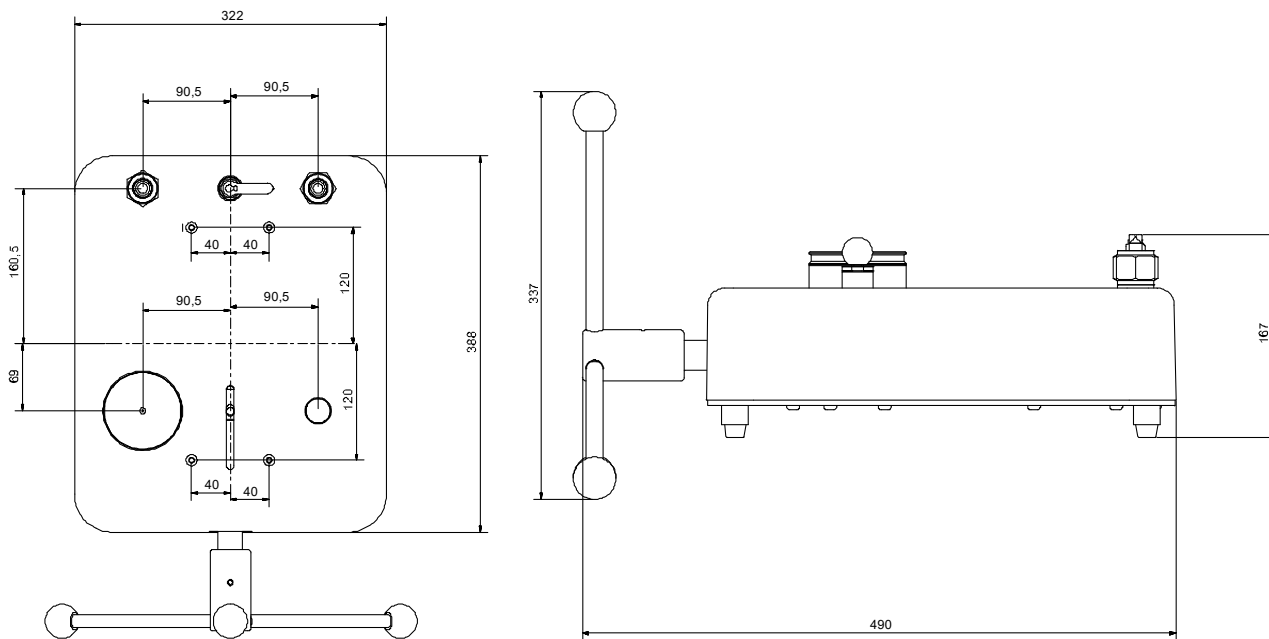
Versions for aggressive media like SKYDROL® or brake fluids available on request (max. 1,000 bar / 1,200 bar).



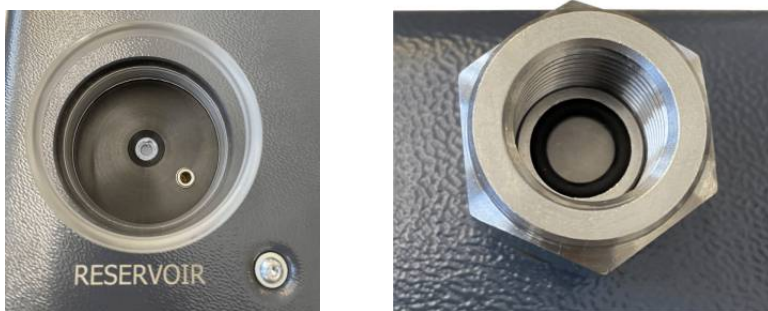
**LSP** Hydraulic pressure comparison test pump  
1000 / 1200 / 1600 bar - 14500 / 17400 / 23200 psi



**Dimension**



**Protection against material pollution**



The pressure comparison test pumps models **LR-Cal LSP-H** are equipped with strainer dirt collectors in the pressure ports as well as in the bottom of the operation fluid reservoir. This reduces considerably the risk of material pollution of the operation fluid.

(Note: if operated with hydraulic oil, the dirt collector in the reservoir has to be removed.)

**Recommended pressure reference instruments**

Type	Description	Accuracy
<b>LR-Cal LPC 300</b>	Documenting process calibrator	±0.025% FS
<b>LR-Cal LPC 200</b>	Electronic pressure calibrator	±0.025% FS
<b>LR-Cal TLDMM 2.0</b>	Precision digital reference gauge	±0.050% FS
<b>LR-Cal LDM 80+KL01</b>	Digital test pressure gauge	±0.100% FS
<b>LR-Cal LDM 70-E25</b>	Digital test pressure gauge	±0.125% FS
<b>LR-Cal LDM 80</b>	Digital test pressure gauge	±0.200% FS
<b>LR-Cal LDM 70-K50</b>	Digital test pressure gauge	±0.250% FS








### Technical Data

Technical Data		LR-Cal LSP 1000-H	LR-Cal LSP 1200-H	LR-Cal LSP 1600-H
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 or Distilled Water		
Pressure ports		2 x 1/2" BSP female rotating, incl. stainer and gasket		
Fluid reservoir	[cm <sup>3</sup> ]	200		
Piston diameter	[mm]	8		
Spindle stroke	[cm <sup>3</sup> ]	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, Viton, NBR, Plastics		
Dimensions				
distance of pressure ports	[mm]	181		
	Depth [mm]	388 without star-handle; 490 incl. star-handle		
	Width [mm]	322		
	Height [mm]	167 without star-handle; 337 incl. star-handle		
Weight	[kg]	10.5		
Design		Base plate with feet and rigid housing		

Version for aggressive media such like SKYDROL® and brake fluids available on request: max. 1,000 bar = Order-Code: [LSP-1000-H-S](#); max. 1,200 bar = Order-Code: [LSP-1200-H-S](#). This versions are not suitable for mineral oil or water.

### Optional Accessories

Order-Code	Description	
<a href="#">HAP-02</a>	Hand suction pump for easy emptying (and filling) of the reservoir. Capacity: 125 ml per stroke. Simultaneous suction and squeezing. 2 hoses, each 500 mm length, suction hose with rotating 3/8" BSP female swivel nut.	
<a href="#">LSP-H-WARTUNG</a>	Maintenance kit, with following content: 10 O-rings for pressure ports (top), 10 O-rings for pressure ports (bottom), 2 sinter filter for reservoir, 4 strainer dirt collectors for pressure ports, 2 O-rings for priming pump (piston).	
<a href="#">BLINDSTOPFEN-G12-VA</a>	Blind plugs for pressure port (1/2" BSP) st.st., PN 3600 bar	
<a href="#">LSP-ADAPTER-SET</a>	Set of stainless steel adapters, PN 1000 bar, 1/4" BSP, M20x1.5, 1/4" NPT, 1/2" NPT, gaskets	
<a href="#">VA-M16X2-G12A</a>	Minimes 1620 coupling to 1/2" BSP male for pressure port	
<a href="#">MMS-M16X2-1-0</a>	Minimes 1620 hose 1.0 m	
<a href="#">MMS-M16X2-2-0</a>	Minimes 1620 hose 2.0 m	
<a href="#">MMS-M16X2-3-2</a>	Minimes 1620 hose 3.2 m	
<a href="#">MMS-M16X2-4-0</a>	Minimes 1620 hose 4.0 m	
<a href="#">MSV-G12-M16X2</a>	Minimes 1620 adapter to 1/2" BSP female	