

Comparison Pumps

Plate Version

Pressure Ranges 0 ... 60 bar and 0 ... 600 bar

Models

PS 60-P
PS 600-P

Application

Comparison pumps models PS 60-P and PS 600-P are suitable to test and calibrate pressure gauges with ranges 0 .. 60 bar (**870 psi**) respectively 0 ... 600 bar (**8700 psi**). Also other pressure instruments, e.g. pressure transmitters, can be tested.

The piston spindle is used to build up the pressure inside of the cylinder. Usable measuring medium is either acid free, thin oil or water. The specimen gauge must be compared with a pressure gauge of higher accuracy (test gauge, please note our general information leaflet 2000).

Our "plate version" of comparison pumps is small and light. The handling is simple.

These pumps can easily be mounted on workbenches, or they can be used locally, from place to place.

Structure (compare overleaf)

The pump consists of:

- Piston with spindle, connected to a handwheel, for building up pressure
- Cylinder functioning as a pressure chamber
- Stop valve B and C with union nuts for the specimen gauge (valve C) and the test gauges (valve B)
- Reservoir (VB) for the measuring medium with stop valve (D)
- All parts are installed on a basic plate and connected by tubing.

Standard Configuration

PS 60-P for pressure ranges 0 ... 60 bar (**870 psi**)

PS 600-P for pressure ranges 0 ... 600 bar (**8700 psi**)

Connections

2 connections for pressure gauges, each connection with 2 union nuts (clamping sleeves) M 20x1,5 and ½" BSP

Plate

All components are set up on a grey enameled aluminum casting plate; casting plate with 4 mounting holes Ø 8.5 mm (**0.34"**)

Piston and Spindle

Stainless steel

Cylinder

Brass, grey enameled

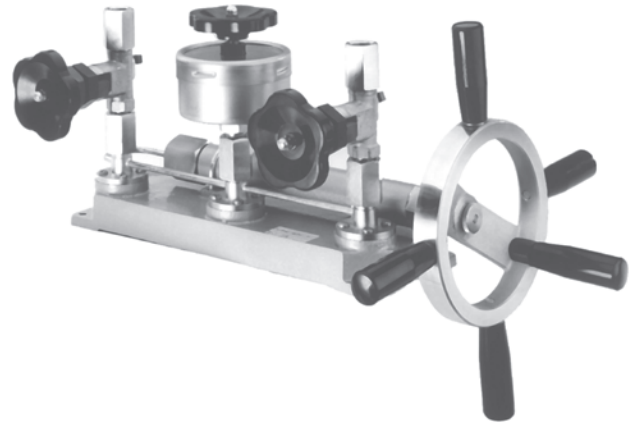
Measuring Medium

Acid free, thin oil or water

Inclosure to Shipment

Beside the comparison pump, the shipment includes:

- 1 instruction manual
- 1l special oil;
version – O₂ for oxygen service: 1l distilled water instead
- 2 special gaskets, each encasing an O-ring; both units ready for use (for sealing the connections)
- 4 O-rings as spare parts
- 2 union nuts M 20x 1,5
(union nuts with ½" BSP are assembled)



Please also take a note of the general informations about our comparison pumps on general information leaflet 10920.

Optional Special Configurations

- Wetted parts free of grease and oil for testing and calibrating gauges for **oxygen service**:

PS 60-P-O₂ for pressure ranges 0 ... 60 bar (**870 psi**) or

PS 600-P-O₂ for pressure ranges 0 ... 600 bar (**8700 psi**), blue painted cylinder, measuring medium: distilled water

- Stop valve B according to DIN 16 271 (with extra test connection for simultaneous testing of a pressure gauge and a transmitter)
- Union nut (valve C) for specimen gauge ½" NPT

How to Order:

Please specify:

Model Code:	PS 60-P	= 0 ... 60 bar
	PS 600-P	= 0 ... 600 bar
	PS 60-P-O₂	= 0 ... 60 bar for oxygen service
	PS 600-P-O₂	= 0 ... 600 bar for oxygen service

Special Configurations: (see above)

Examples for Ordering Information:

- PS 60-P
- PS 600-P-O₂ with 1 x union nut ½" NPT



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User Instructions

Before starting operation, please take care that the piston is screwed completely into the cylinder, and that all valves are closed.

The medium reservoir must be filled. For filling it up, open valve D. Turn the valve-spindle out completely. Take off the lid (bayonet ring, turn gentle to the left for opening) and fill up the reservoir. Close the reservoir.

After filling the medium reservoir, the valve-spindle has to be turned back inside a little bit, but valve D stays open.

Now the comparison pump has to be filled. Turn the handwheel slowly anticlockwise (to the left) for screwing the piston out, to suck measuring medium into the comparison pump.

To use the full piston stroke you must turn the spindle out as far as possible. The filling procedure should be done slowly to avoid sucking in too much air.

When the filling of the comparison pump is done, you should wait 2 or 3 minutes, so that the air particles in the medium can accumulate. To check if the comparison pump is operational, close valve D and turn the handwheel clockwise, but just a little. Open valves B and C and watch the level of the medium inside of the valve connections (valves B and C). If air bubbles rise up, the filling procedure is not completed yet.

Continue turning the handwheel clockwise, until the medium has filled up half of the connections and no air bubbles rise up anymore.

Now the specimen gauge and the test gauge can be screwed into the union nuts of the valves C (specimen gauge) and B (test gauge). Take care of a proper sealing.

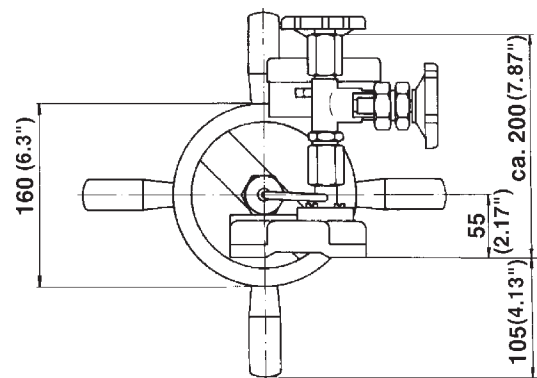
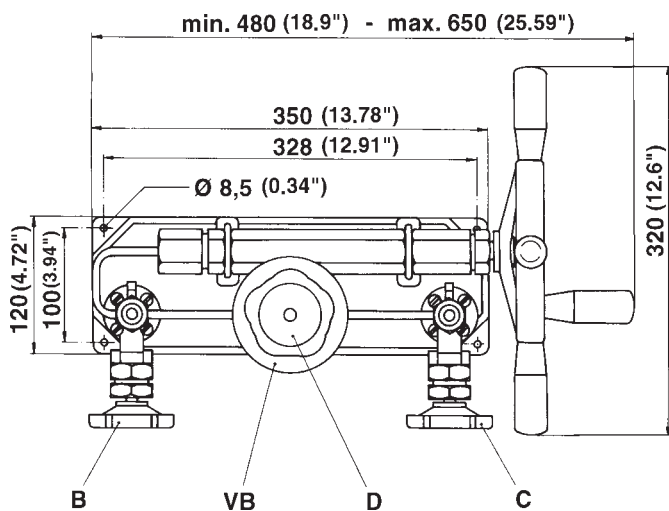
For building up pressure, valve D has to be closed, valves B and C opened, and the handwheel has to be turned slowly clockwise. The produced pressure, will be indicated on the pressure gauges.

When working with low pressure, a precise regulation of the pressure can be managed with the valves.

During a longer period of testing, the pressure might decrease a little, because of accumulating air particles left inside of the system.

Never open the pressure gauge connections when pressure is still inside of the measuring systems. For venting the complete systems, valves D, B and C have to be opened. If required, you may also turn out the piston carefully.

Dimensional Data (mm and inches) and Weight (kg and lb):



Weight: about 7 kg (15.5 lb)

The information in this leaflet is given in good faith, but we reserve the right to make changes without notice.