

# Hydraulic comparison test pump To 1,600 bar [23,200 psi] Model CPP1600-X

WIKA data sheet CT 91.12



For further approvals,  
see page 3

## Applications

- Calibration service companies and service industry
- Maintenance and service facilities
- For the testing, adjustment and calibration of all types of pressure measuring instruments
- Hydraulic pressure generation up to 1,600 bar [23,200 psi]

## Special features

- Ergonomic handling through the smooth-running, internally operating, precision spindle
- Integrated oil reservoir
- Removable star handle
- Freely rotating test connections (i.e. measuring instruments can be aligned)
- Integrated priming pump for large test volumes



Comparison test pump, model CPP1000-X

## Description

### Application areas

Comparison test pumps serve as pressure generators for the testing, adjustment and calibration of mechanical and electronic pressure measuring instruments through comparative measurements. These pressure tests may be carried out in the laboratory, workshop, or on site at the measuring point.

### Easy handling

For a precise approach to the measuring points, the comparison test pumps are fitted with a spindle for fine control. In particular, the smooth running of the hand spindle enables this, even at very high pressures. Furthermore, the spindles for this model range only run within the pump body. This eliminates an unfavourable bending moment on a spindle that has been unscrewed. Especially for field

operation there is the advantage that dimensions of these pumps do not alter during operation through the rotation of the spindle.

With the integrated priming pump, large test volumes can be easily filled and primed for both comparison test pumps.

### Easy operation

If one connects the test item and a sufficiently accurate reference measuring instrument to the test pump, on actuating the pump, the same pressure will act on both instruments. By comparison of the two measured values at any given pressure value, a check of the accuracy and/or adjustment of the pressure measuring instrument under test can be carried out.

The model CPP1600-X has been designed around a solid base with high durability and, with the proven technology of the CPB5800 pressure balance, offer exceptional ease-of-use.

With the integrated priming pump and the 250 ml tank, large test volumes can also be easily filled and primed.

Both test connections on both pump models are fitted with quick-release connectors with knurled nuts and exchangeable threaded inserts (as standard G ½, female thread). Corresponding threaded inserts are available for the calibration of instruments with different connection threads.

## Specifications

| Comparison test pump               |                                                                                                                                                                                          |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pressure range                     | 0 ... 1,600 bar<br>[0 ... 23,200 psi]                                                                                                                                                    |
| Pressure transmission medium       | <ul style="list-style-type: none"> <li>■ Clean water, free of calcium-carbonate</li> <li>■ Hydraulic fluids from mineral oil</li> </ul> → Further pressure transmission media on request |
| Fluid reservoir                    | 250 cm <sup>3</sup>                                                                                                                                                                      |
| Displacement                       |                                                                                                                                                                                          |
| Per revolution                     | Approx. 0.1 cm <sup>3</sup>                                                                                                                                                              |
| Overall                            | Approx. 3.9 cm <sup>3</sup>                                                                                                                                                              |
| Piston of the comparison test pump |                                                                                                                                                                                          |
| Piston diameter                    | 8 mm (0.3 in)                                                                                                                                                                            |
| Material                           |                                                                                                                                                                                          |
| Cylinder                           | Brass                                                                                                                                                                                    |
| Piston                             | Stainless steel                                                                                                                                                                          |
| Piping                             | 1.4404 stainless steel<br>6 x 2 mm [0.2 x 0.1 in]                                                                                                                                        |
| Rear flange                        | Aluminium                                                                                                                                                                                |
| Instrument base                    |                                                                                                                                                                                          |
| Stationary mounting                | Stable base                                                                                                                                                                              |
| Weight                             | 20 kg [44.1 lb]                                                                                                                                                                          |

| Connection                        |                                                                                                                          |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Test connection                   | 2 x quick-release connector M28 x 1.5, female thread, incl. changeable threaded inserts (as standard G ½, female thread) |
| Distance between test connections | 300 mm [11.8 in]                                                                                                         |
| Seal                              | <ul style="list-style-type: none"> <li>■ FKM</li> <li>■ NBR</li> <li>■ EPDM <sup>1)</sup></li> </ul>                     |

1) Using the EPDM variant (for aggressive media), Skydrol® or brake fluid is permissible as pressure transmission medium.

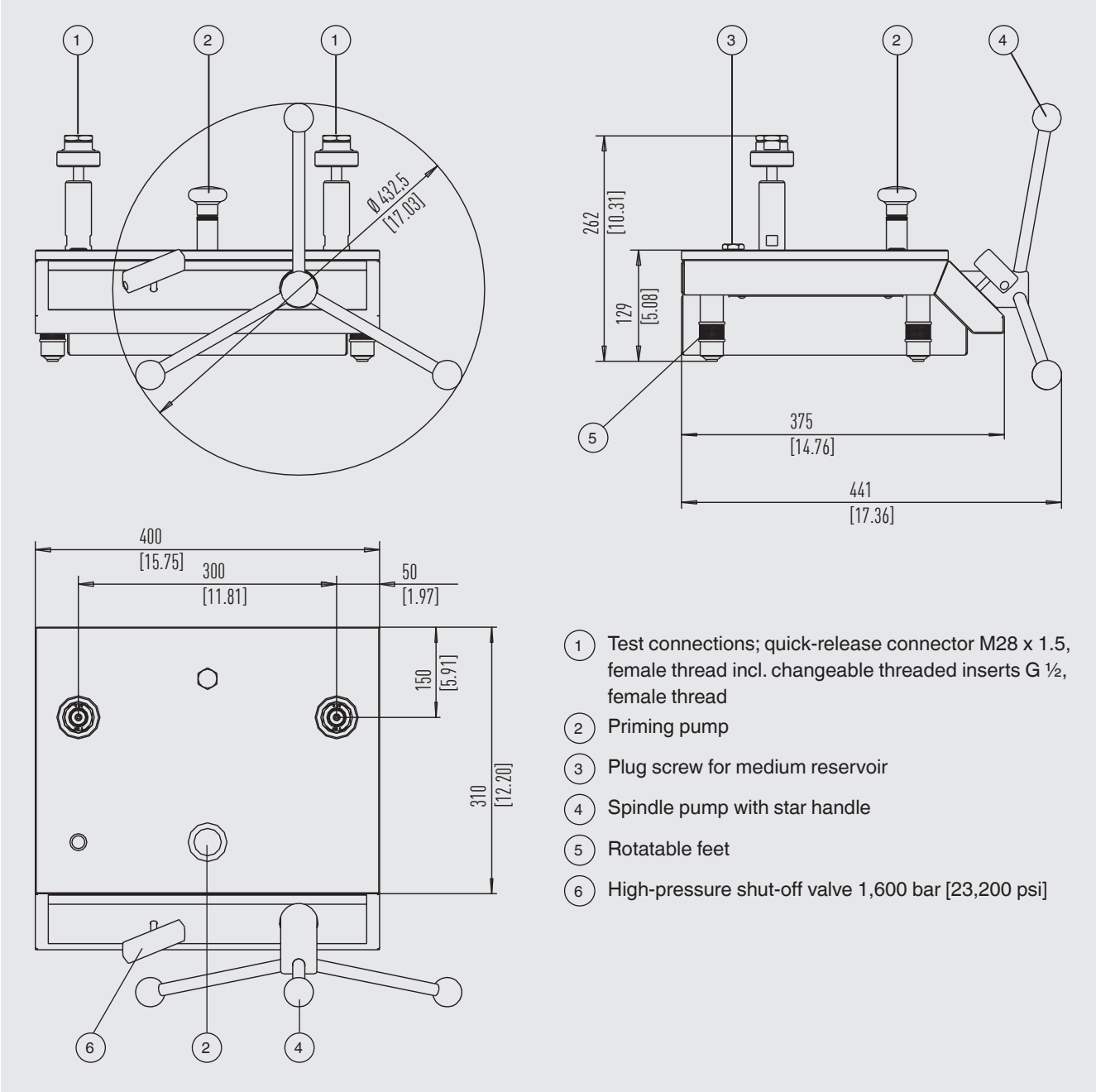
| Operating conditions  |                                                                                    |
|-----------------------|------------------------------------------------------------------------------------|
| Place of use          | <ul style="list-style-type: none"> <li>■ Laboratory</li> <li>■ Workshop</li> </ul> |
| Operating temperature | 18 ... 28 °C [64 ... 82 °F]                                                        |

# Approvals

| Logo                                                                              | Description                                   | Region                      |
|-----------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------|
|  | <b>EAC</b><br>Machinery Directive             | Eurasian Economic Community |
| -                                                                                 | <b>MTSCHS</b><br>Permission for commissioning | Kazakhstan                  |

→ For approvals and certificates, see website

## Dimensions in mm [in]



## Recommended reference pressure measuring instruments



### Precision digital pressure gauge model CPG1500

Measuring ranges: 0 ... 10,000 bar [0 ... 150,000 psi]

Accuracy: down to 0.025 % FS

→ For further specifications, see data sheet CT 10.51.



### Digital pressure gauge model CPG1200

Measuring ranges: 0 ... 1,000 bar [0 ... 15,000 psi]

Accuracy: down to 0.25 % FS

→ For further specifications, see data sheet CT 10.20.

## Calibration software



### WIKI-Cal calibration software

For creating calibration certificates or logger protocols

Only in combination with a reference pressure measuring instrument

→ For further specifications, see data sheet CT 95.10.

## Similar products

### Hand spindle pump models CPP1000-M and CPP1000-L

#### Pressure range

|           |                                        |
|-----------|----------------------------------------|
| Hydraulic | 0 ... 1.000 bar<br>[0 ... 14.5000 psi] |
|-----------|----------------------------------------|

#### Pressure transmission medium:

- Oil
- Water

→ For specifications, see data sheet CT 91.05



Hydraulic hand spindle pump, model CPP1000-M

### Comparison test pump model CPP1200-X

#### Pressure range

|           |                                       |
|-----------|---------------------------------------|
| Hydraulic | 0 ... 1.200 bar<br>[0 ... 23.200 psi] |
|-----------|---------------------------------------|

#### Pressure transmission medium:

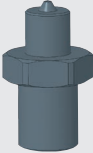
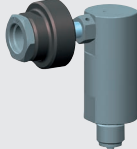
- Oil
- Water

→ For specifications, see data sheet CT 91.08



Hydraulic comparison test pump, model CPP1200-X

## Accessories and spare parts

| Description <sup>1)</sup>                                                           |                                                                                                                                                                                                                                                                                                             | Order code |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|                                                                                     |                                                                                                                                                                                                                                                                                                             | CPP-A-A    |
|    | <b>Hydraulic fluid</b><br>Based on VG22 mineral oil in plastic bottle<br>Content 1 litre                                                                                                                                                                                                                    | -A1-       |
|    | <b>O-ring set</b><br>Consisting of 10 replacement seals (8 x 2) for the test connections<br>Material: NBR                                                                                                                                                                                                   | -A2-       |
|    | <b>Maintenance set</b><br>For hydraulic volume adjuster                                                                                                                                                                                                                                                     | -A3-       |
|    | <b>Sealing and maintenance set</b><br>For instrument base (without volume adjuster)                                                                                                                                                                                                                         | -A4-       |
|   | <b>Adapter set for quick-release connector in case</b><br>Consisting of: <ul style="list-style-type: none"> <li>■ G ¼, female thread</li> <li>■ G ⅜, female thread</li> <li>■ ½ NPT, female thread</li> <li>■ ¾ NPT, female thread</li> <li>■ M20 x 1.5, female thread</li> </ul> Material: stainless steel | -A5-       |
|                                                                                     | <b>“NPT” adapter set for quick-release connector in case</b><br>Consisting of: <ul style="list-style-type: none"> <li>■ ⅛ NPT, female thread</li> <li>■ ¼ NPT, female thread</li> <li>■ ⅜ NPT, female thread</li> <li>■ ½ NPT, female thread</li> </ul> Material: stainless steel                           | -A6-       |
|  | <b>Adapter for connection column</b><br>G ½, male thread to M16 x 1.5 male thread with sealing cone<br>Material: stainless steel                                                                                                                                                                            | -A7-       |
|                                                                                     | <b>Adapter for connection column</b><br>G ½, male thread to 9/16-18 UNF male thread with sealing cone<br>Material: stainless steel                                                                                                                                                                          | -A9-       |
|  | <b>Angle connection 90°</b><br>For test items with back mounting connection                                                                                                                                                                                                                                 | -A8-       |
| <b>Ordering information for your enquiry:</b>                                       |                                                                                                                                                                                                                                                                                                             |            |
| 1. Order code: CPP-A-A<br>2. Option:                                                |                                                                                                                                                                                                                                                                                                             | ↓<br>[   ] |

1) The figures are an example and may change depending on the state of the art in design, material composition and representation

## Scope of delivery

- Comparison test pump, model CPP1600-X with priming pump for filling, spindle pump for pressure generation and fine pressure adjustment
- Two test connections with quick-release connector M28 x 1.5, female thread incl. changeable threaded inserts G ½, female thread
- Operating instructions

## Ordering information

Model / Medium / Threaded insert for connection column / Adapter set / Angle connection / Additional ordering information

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