

Operating manual for the pressure transducer unit CCS 1000



Please read the operating manual before using the device.

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1. General description:

Melt pressure transducers are often used in very tough production conditions. This can cause mechanical damage to the sensor. It does not however necessarily have an adverse effect on measuring accuracy. The pressure transducer testing unit can be used to test transducers to make sure they are fully functional.

2. Technical data:

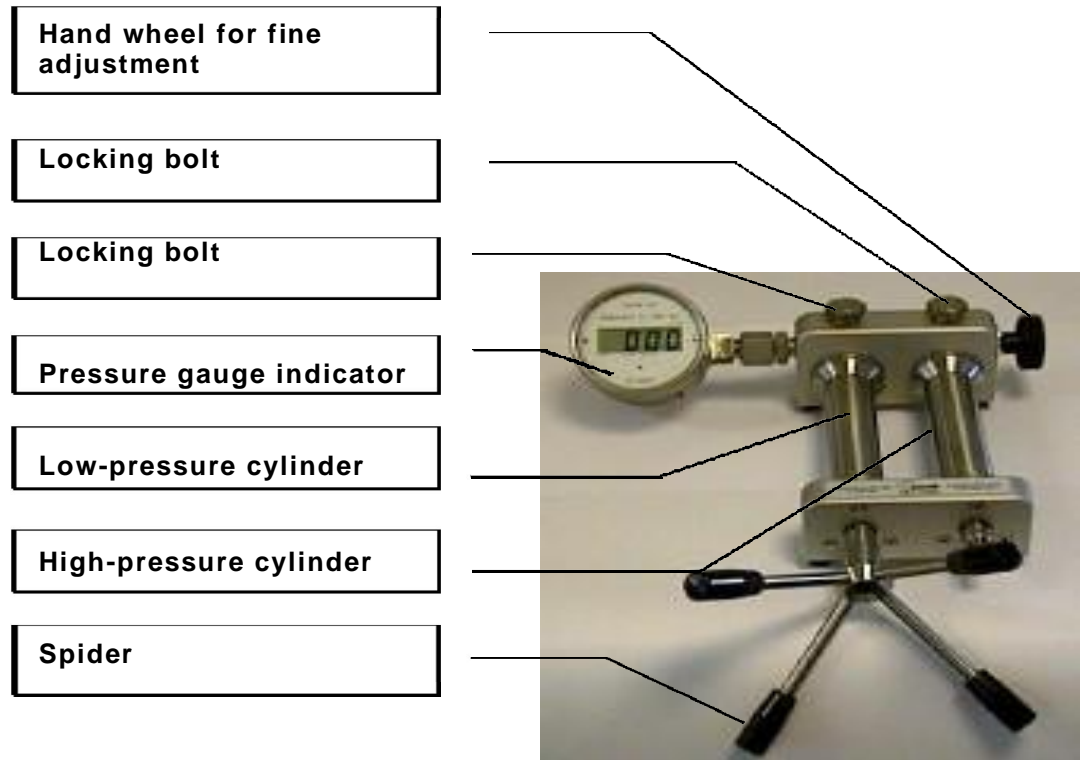
Pump

Pressure 1. Cylinder	250 bar
Pressure 2. Cylinder	1000 bar
Maximum pressure	1300 bar
Filling medium	Univis J13
Pressure creation	Adaptable with spider
Fine adjustment	Side-hand wheel
Connection	3 x 1/2" male thread
	2 x interchangeable adapter 1/2"- 20 UNF 2A and M18 x 1.5
Dimensions (L x H x W)	290 x 190 x 110 mm
Weight	approx. 8 kg

Pressure gauge

Measuring range	0 ... 1000 bar
Overload protection	2 times nominal pressure
Overload indicator	Flashing LCD
Display	3 ½ digit LCD with negative sign
Measurement rate	3 measurements per second
Characteristic curve deviation	< +/- 0.25% of expected value
Hysteresis	< +/- 0.02% of expected value
Reproducibility	< +/- 0.04% of expected value
Ambient temperature	0 ... +40 °C
Compensated range	0 ... +40 °C
Pressure connection	½" male thread
Power supply	9V block battery
	With automatic shut-off after 20 minutes
Battery status indicator	Low batt signal on LCD
Zero point adjustment	Using potentiometer on housing
Maintenance	As per inspection plate

3. Operation:



Remove the pressure transducer testing unit from the carry case and place it on a solid, horizontal surface, and connect the spider to the low-pressure cylinder.
Switch on the pressure gauge indicator (red push switch).
If no pressure is generated within 20 minutes, the pressure gauge switches off automatically.

Remove the locking bolt(s) and screw in the respective adapter(s) in accordance with the thread type.

Caution: Before screwing the pressure transducers into the testing unit, they must be cleaned thoroughly to remove any contamination and melt residue.

Insert the pressure transducer you wish to test in the respective adapter (tighten with approximately 30 Nm). Connect an evaluation unit to display the sensor signal (e.g. Gneuss DMV 4000 pressure measurement amplifier/*not included with delivery*).

Using the low-pressure cylinder, pressure of up to 250 bar can be generated. Using the high-pressure cylinder, pressure of 1000 bar can be generated. Right-hand rotation increases the pressure, left-hand rotation lowers it.

Make sure that the low-pressure cylinder is used **first** to generate pressure of approximately 250 bar, and the high-pressure cylinder is used **afterwards** to achieve the desired value.

When subsequently reducing the pressure, the high-pressure cylinder has to be used **first** to reduce the pressure to approximately 250 bar. The low-pressure cylinder can then be used to reduce the pressure to "zero". The side-hand wheel can be used at any time to make fine adjustments (setting range approximately 20 bar).

Comment: Given that small quantities of air and gas are always compressed at the same time, the generated test pressure initially drops in the high pressure ranges, and has to be readjusted accordingly.

The digital pressure gauge indicator is a test standard with 0.25 % accuracy. The pressure gauge is supplied with power by a commercially available 9V block battery. The service life of the battery is more than 100 operating hours, meaning that replacing the battery once a year is enough when used normally (to replace the battery, the rear plastic cover has to be removed).

The pressure gauge indicator is generally maintenance-free. However, you must make sure that the display reads "000" when depressurised (both pressure cylinders set to "zero stop"). If the zero point shifts, the enclosed screwdriver can be used to set the display to "000" (setting screw on the side at the bottom of the pressure gauge).

Maintaining functionality:

The test pumps operate practically without wear, meaning no special maintenance is required. However, the prerequisite for this is that a pure, low-acid filling medium is used. Furthermore, the pressure cylinders should not be operated beyond the specified pressure limits (low-pressure cylinder = 250 bar/high-pressure cylinder = 1000 bar).

Topping up oil:

In general there should be no significant oil loss. However, you must take into account that a small content of oil is used with each test procedure. After a certain time there is no longer enough oil in the system.

This oil loss has to be offset as follows:

- Use the hand wheel to turn the high-pressure and low-pressure cylinders back to the zero stop.
- Open test port 1 and use the hand wheel to turn the low-pressure cylinder wheel clockwise until filling medium is expelled from the test port.
- Then use the hand wheel to turn back slowly in the anti-clockwise direction, topping up the filling medium at the same time.
- Close test port 1.
- Open test port 2 and follow the exact same procedure for the high-pressure cylinder.

Caution: The cylinders should be filled slowly so that as little air as possible is drawn in.

3. Scope of supply:

1. Carry case with foam insert
2. Hydraulic pressure transducer testing unit with digital pressure gauge for fine measurement 0 ... 1000 with spider
3. 2 x screw plugs 1/2" male thread
4. 2 x adapters 1/2" male thread to 1/2"-20 UNF 2A and 2 x adapters 1/2" male thread to 18 x1.5
5. 1 x screwdriver for calibration of the digital pressure gauge
6. Acceptance test certificate 3.1