

- Pneumatic hand test pumps
- Hydraulic hand test pumps
- Hydraulic comparison test pumps
- Digital pressure gauges
- Hand-held pressure instruments



Including products with:



TEST PUMPS AND DIGITAL GAUGES



Test pumps

Pressure is one of the most commonly measured quantities in engineering, which is why exact and reliable pressure measurement is especially important.

However, the characteristics of the even best sensor or transducer can be altered by a wide variety of factors. This drift cannot be prevented, and it leads to incorrect readings.

Calibration allows these deviations to be measured and documented in a certificate. All pressure measuring devices that significantly affect processes or activities should be calibrated before being used.

Requirements for pressure sources

The essential requirements for manual pressure generation are:

- Easy connection to test samples
- Simple and easy pressure generation
- Maintenance free operation

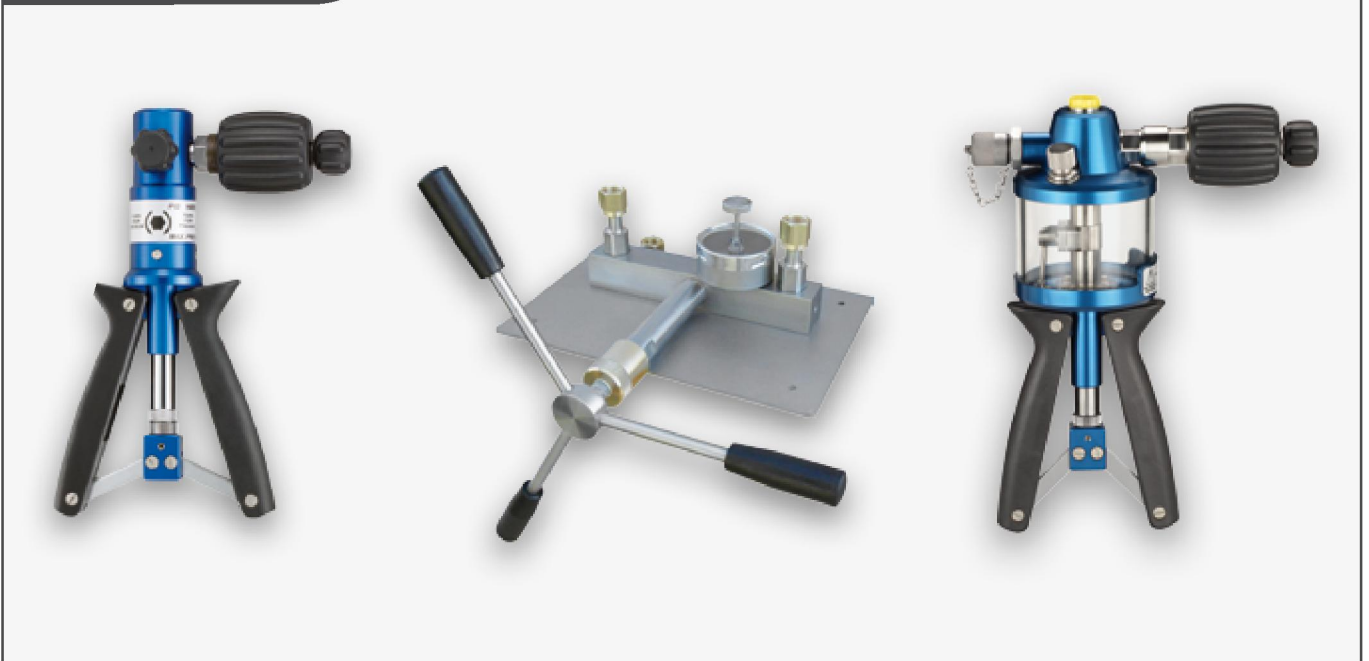
These aspects have been taken into account and implemented in the design of our test pumps.

Good reasons for proper and reliable calibration

- Maintaining consistently high product quality
- Fulfilling industrial requirements
- Fulfilling quality assurance requirements
- Process optimisation
- Increasing productivity
- Avoiding unexpected production downtimes
- Employee and customer safety
- Environmental requirements / ecological aspects
- Profit optimisation / economic aspects

SIKA's mobile test and calibration devices are effective aids for performing the necessary test and calibration tasks quickly.

Pressure sources



OEM version and full version

Depending on the model a matching pressure hose is part of the basic configuration of the OEM version of the test pump. The hydraulic hoses are fitted with a self-sealing quick coupling. Inch, conical or metric adapters for all commonly used connection threads are available in the full version. A matching seal kit is also included with the pump. All of the equipment is held in a carrying case with a foam-rubber insert.



Standard adapter kit

G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	$\frac{1}{8}$ NPT	$\frac{1}{4}$ NPT	$\frac{1}{2}$ NPT	M12 x 1.5	M20 x 1.5	G $\frac{1}{8}$ A	G $\frac{1}{4}$ A

Mobile and independent

Test pumps are ideal for mobile use. Their low weight and compact design make them easy to transport directly to the measurement site. The instruments can be used immediately and do not require an additional power supply. There is no need to take along nitrogen bottles or connect the equipment to a compressed air network. Manual pressure generation is simple and easy, regardless of ambient temperature and orientation.

Possible areas of application

Test pumps can be used everywhere, including on site in workshops, test and measurement rooms as well as laboratories. They cover a broad spectrum of industries with diverse applications.

- Assembly and commissioning
- Manufacturing and production
- Maintenance and service
- Quality assurance and test equipment monitoring
- Repair

They are suitable for testing, adjusting and calibrating pressure sensors, pressure gauges, pressure switches, safety valves and all types of pressure devices. They are optimised in their function and use and assist in the performance of specific tests and inspections.



Hand test pumps

Hydraulic or pneumatic

Air, water and oil are used as pressure media. Especially in application areas in which wetting of the test sample is not allowed or the use of aggressive or ionising substances must be avoided, air is the ideal test medium.

SIKA's pneumatic test pump fulfils requirements that in many cases can only be covered by several pumps from other suppliers.

- ❶ Manual pressure generation in the medium pressure range up to 60 bar using a handle is unique – no other pump can do this.
- ❷ Integrated negative pressure capability enables operating with vacuum down to -950 mbar. A changeover valve enables switching from positive pressure to negative pressure with no need for special tools.
- ❸ A large-volume pressure regulator with ultrafine thread pitch is used for precise pressure adjustment in the low mbar range, enabling accurate settings in the low pressure region.

The easily operated hydraulic test pumps are specifically designed for the medium to high pressure range. They have a built-in reservoir for the hydraulic fluid. Pressures up to 350 bar, 700 bar or 1000 bar can be generated, depending on the model.



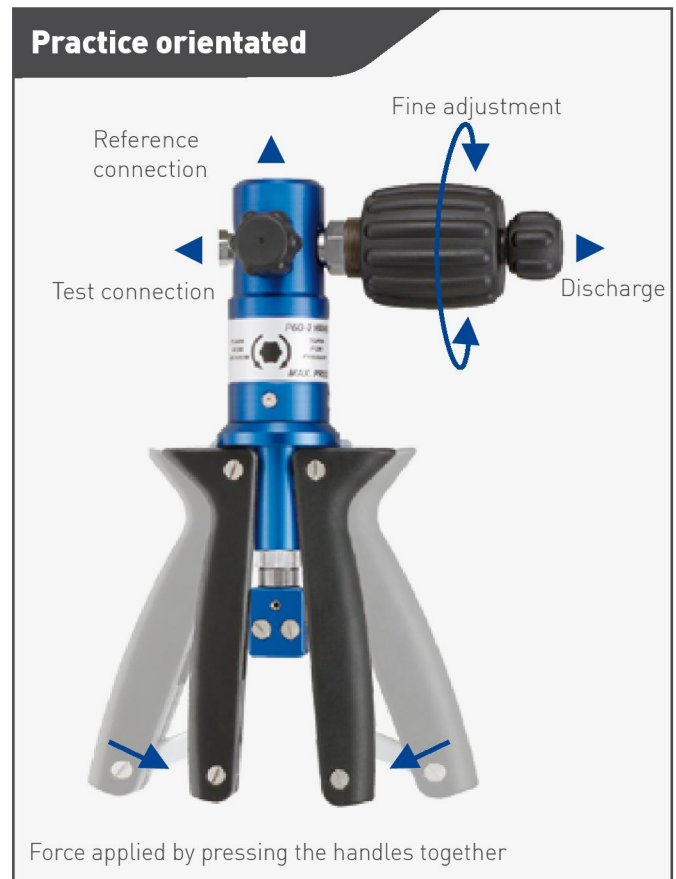
Practical

The test pumps are designed to enable the direct connection of all pressure systems to be tested using adapters. The test sample is easily connected using the rugged industrial hose with integrated quick coupling and supplied adapters. The reference is fitted directly at the top of the pump using a positioning adapter.

The required test pressure is initially generated using the handles and then adjusted precisely with the fine adjustment valve. As a result, the pressure on both instruments is the same.

The pressure relief valve allows continuous pressure reduction and ensures accurate and easy testing, even with decreasing pressure.

In the simplest case, the pressure is indicated by an analogue test gauge. An easy to read digital pressure gauge or hand-held instrument can also be used. The accuracy or adjustment of the pressure measuring device being tested can be checked by comparing the indicated reference value with the measured value for the device under test.



Comparison test pumps

The latest generation of comparison test pumps combines precision - even at high pressures- with a high build quality. All wetted parts are made of stainless steel, whereby a wear-free operation is ensured.

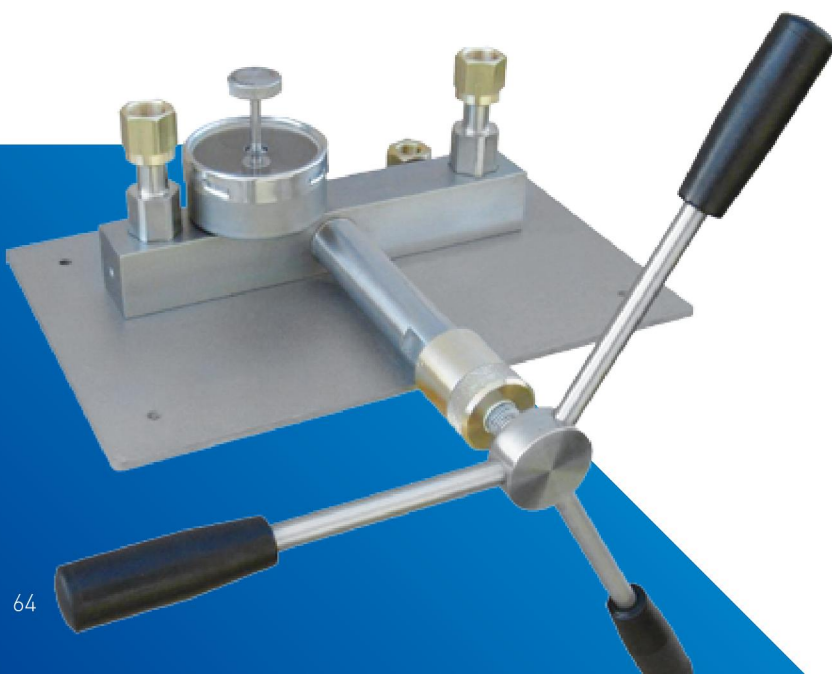
The sophisticated design of these comparison test pumps facilitates the installation of test samples, even with large nominal diameters, without sacrificing the handiness. The built-in adapters on the pressure connections also allow the free alignment of the reference pressure gauge and test sample. In this way, almost any test situation can be taken into account.

Depending on model distilled water and hydraulic oil can be used as test medium. Distilled water is an excellent calibration medium, since it can be removed without problem and without residue. Thereby, sensors can be tested which may not be contaminated by oil, for example. For test pressures above 1000 bar, hydraulic oil is recommended, since it allows an easier test pressure generation because of its higher viscosity.

The filling of the pressure body and test pressure generation are easily done via a rotatable spindle. Large volumes can be easily loaded via the pressure medium reservoir which is built on the test pump. Pressure fluctuations caused by air and gas components in the filling liquid, compensation of thermodynamic effects and precise adjustment of the required test pressure are done via the fine adjustment.

Overview pressure generation

Function	Type	Pressure range		Air	Oil	Water
Hand test pump	P4	-0.3...4 bar	-4.35...58 psi	✓		
	P40.2	-0.95...40 bar	-13.78...580 psi	✓		
	P60	-0.95...60 bar	-13.78...870 psi	✓		
	P350.1	0...350 bar	0...5076 psi		✓	✓
	P700.2	0...700 bar	0...10 152 psi		✓	✓
	P700.2-1000	0...1000 bar	0...14 503 psi		✓	✓
Comparison test pump	P700.G2	0...700 bar	0...10 152 psi		✓	
	P700.GW	0...700 bar	0...10 152 psi			✓
	P1000.GW	0...1000 bar	0...14 503 psi			✓
	P1400.G	0...1400 bar	0...20 305 psi		✓	



Pressure calibrators

Pressure calibration is the comparison between the indicated values of a pressure measuring device with the indicated values of a pressure standard with a known accuracy.

In many cases, the device to be tested cannot be removed from the active process.

Calibration is performed on site to avoid lengthy downtimes. Portable pressure calibrators are especially suitable for this purpose.

In order to perform a specified functional test or accuracy check, the test sample is often connected to the calibration device with a pressure hose. Digital pressure gauges with sufficient precision can be used as compact reference instruments.

Hand test pumps or comparison test pumps are used for simple pressure generation.

SIKA offers a complete range of pressure calibrators for a wide variety of applications to allow specified test and calibration tasks to be performed.

Routine on-site calibrations can be performed very quickly and economically with the right combination of test pump and reference. This ensures that the indicated pressure values are correct and reliable and that all specified requirements are fulfilled.



Pneumatic hand test pumps

Type P 4



Type	P 4	
Pressure ranges		
Negative pressure	-0.3 bar (depending on test sample / reference)	-4.35 psi (depending on test sample / reference)
Positive pressure	4 bar	58 psi
OEM version		
Pressure medium	Air	
Dimensions	Approx. 225 x Ø 55 mm	Approx. 8.86 x Ø 2.17 in.
Weight	Approx. 980 g	Approx. 2.16 lbs.
Connections		
Reference	G $\frac{1}{4}$ with Quick-Snap Y-plug-connection with PA hose (2 x 1 m)	G $\frac{1}{4}$ with Quick-Snap Y-plug-connection with PA hose (2 x 39,37 in.)
Test sample	G $\frac{1}{4}$ with quick coupling and pressure hose (1 m)	G $\frac{1}{4}$ with quick coupling and pressure hose (39,37 in)
Full version		
Adapter kit	Chrome-plated brass	
Gasket kit	Teflon® Seals and O-rings	
Dimensions	Approx. 450 x 370 x 110 mm	Approx. 17.72 x 14.57 x 4.33 in.
Weight	Approx. 4.2 kg	Approx. 9.26 lbs.

Type P 40.2 / P 60


Type	P 40.2		P 60	
Pressure ranges				
Negative pressure	-0.95 bar	-14 psi	-0.95 bar	-14 psi
Positive pressure	40 bar	580 psi	60 bar	870 psi
OEM version				
Pressure medium	Air			
Dimensions	Approx. 240 x 170 x 50 mm / Approx. 9.45 x 6.69 x 1.97 in			
Weight	Approx. 1.1 kg / Approx. 2.43 lbs.			
Connections				
Reference	G $\frac{1}{4}$			
Test sample	G $\frac{1}{4}$ with quick coupling and pressure hose (1 m) / G $\frac{1}{4}$ with quick coupling and pressure hose (39.37 in.)			
Full version				
Adapter kit	Chrome-plated brass			
Gasket kit	Teflon® Seals and O-rings			
Dimensions	Approx. 450 x 370 x 110 mm / Approx. 17.72 x 14.57 x 4.33 in.			
Weight	Approx. 4.2 kg / Approx. 9.26 lbs.			

Type P 700.2


Type	P 700.2	
Pressure ranges		
With distilled water	0...700 bar	0...10 152 psi
With hydraulic fluid	0...700 bar	0...10 152 psi
OEM version		
Pressure medium	Distilled water or hydraulic fluid	
Dimensions	Approx. 255 x 225 x 85 mm	Approx. 10.04 x 8.86 x 3.35 in.
Weight	Approx. 1.7 kg	Approx. 3.75 lbs.
Connections		
Reference	G¼	
Test sample	G¼ with quick coupling and pressure hose (1 m)	G¼ with quick coupling and pressure hose (39.37 in.)
Full version		
Adapter kit	Stainless steel	
Gasket kit	Teflon® Seals and O-rings	
Dimensions	Approx. 450 x 370 x 125 mm	Approx. 17.72 x 14.57 x 4.92 in.
Weight	Approx. 4.8 kg	Approx. 10.58 lbs.

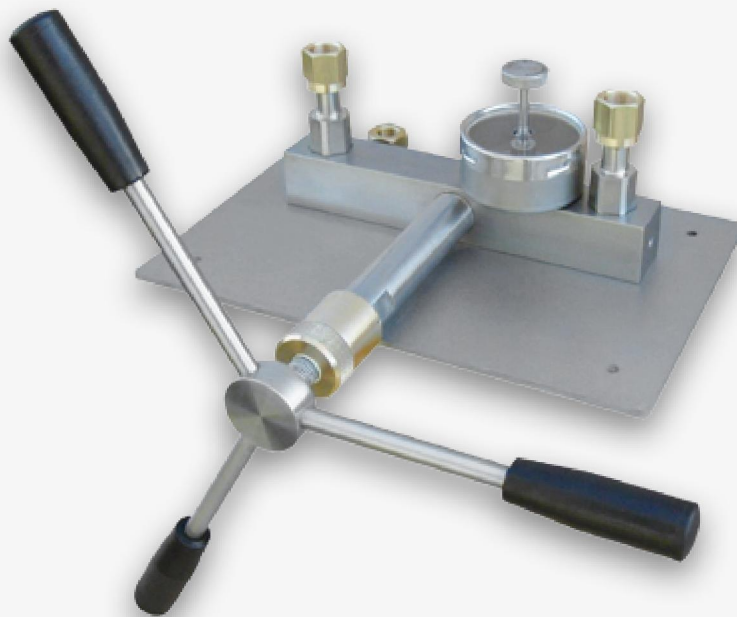
Type P 700.2 - 1000



Type	P 700.2 - 1000	
Pressure ranges		
With distilled water	0...700 bar, test pressure 1000 bar	0...10 152 psi, test pressure 14 503 psi
With hydraulic fluid	0...700 bar, test pressure 1000 bar	0...10 152 psi, test pressure 14 503 psi
OEM version		
Pressure medium	Distilled water or hydraulic fluid	
Dimensions	Approx. 255 x 225 x 85 mm	Approx. 10.04 x 8.86 x 3.35 in.
Weight	Approx. 1.9 kg	Approx. 4.19 lbs.
Connections		
Reference	G $\frac{1}{4}$	
Test sample	G $\frac{1}{4}$ with quick coupling and high pressure hose (1 m), 1000 bar	G $\frac{1}{4}$ with quick coupling and high pressure hose (39.37 in.), 14 503 psi
Full version		
Adapter kit	Stainless steel	
Gasket kit	Teflon® Seals and O-rings	
Dimensions	Approx. 450 x 370 x 125 mm	Approx. 17.72 x 14.57 x 4.92 in.
Weight	Approx. 5 kg	Approx. 11 lbs.

Hydraulic comparison test pump

Type P 1400.G



Type	P 700.G2		P 700. GW		P 1000.GW		P1400.G	
Pressure ranges								
With distilled water			0...700 bar	0...10 000 psi	0...1000 bar	0...15 000 psi		
With hydraulic fluid	0...700 bar	0...10 000 psi					0...1400 bar	0...12 000 psi
OEM version								
Pressure medium	Hydraulic fluid		Distilled water		Distilled water		Hydraulic fluid	
Dimensions	Approx. 340 x 225 x 130 mm / Approx. 13.39 x 8.86 x 5.12 in.							
Weight	Approx. 9.9 kg / Approx. 21.8 lbs.							
Connections								
Reference	G ³ / ₈ A left, G ¹ / ₄ , G ¹ / ₂							
Test sample	G ³ / ₈ A left, G ¹ / ₄ , G ¹ / ₂ , G ¹ / ₈							
Full version								
Adapter kit	Stainless steel							
Gasket kit	Teflon® Seals and O-rings							
Dimensions	Approx. 450 x 370 x 150 mm / Approx. 17.71 x 14.57 x 5.91 in.							
Weight	Approx. 12.6 kg / Approx. 27.7 lbs.							