



JOFRA pump overview and specifications

- because calibration is a matter of confidence

**Ready-to-use pressure systems
for the HPC400, HPC500, HPC502, HPC550Ex, HPC552Ex,
DPC-500 and IPI**

AMETEK offers several solutions for pressure generation. This line spans from a small pneumatic “bicycle” type pump to a hydraulic pump that generates up to 1,000 bar/15,000 psi. These are durable pumps with features such as vernier valves, manifold connections, swivel fittings, and optional O-ring materials and fittings making the pumps flexible to meet your calibration and testing applications.

For all pressure systems, the pump and the indicator are separate systems. Therefore, a replacement of the pump does not mean that you have to send a complete system for repair. Maintenance of the instrument is also made easy. Recalibration of the unit can be performed locally with an accurate pressure reference: No need to send the unit back to us for recalibration. If you require a factory calibration, the pump and indicator are independent and only the indicator needs to be returned.

JOFRA pressure calibrators are as standard delivered as individual calibrators or as complete calibration systems ready to use in a carrying case, including pump, hose, set of fittings, batteries, test leads, user manual, and a traceable calibration certificate.

All pumps are also available separately.



Our systems are delivered in carrying cases with cut-outs for fittings, hose and the complete assembled calibration unit - no time required to assemble the unit before use!

Pump System A



- Compatible with: DPC-500, HPC400, HPC500, HPC502, HPC550Ex, HPC552Ex and IPI
- 0 to 2 / 40 bar (T-960)
- 0 to 30 / 580 psi (T-970)

Model T-960 (system AXX) pneumatic pressure pump features an extended range vernier adjustment for precisely controlling pump pressure and comfortable pistol grip handle.

Model T-970 (system AHX) pneumatic pressure pump is similar to the T-960, but generates pressure up to 40 bar (580 psi).



Pump System B



- Compatible with: DPC-500, HPC400, HPC500, HPC502, HPC550Ex, HPC552Ex and IPI
- -0.65 to 2 bar/-9.4 to 30 psi (T-965)
- -0.91 to 40 bar/-13.1 to 580 psi (T-975)

Model T-965 (system BXX) / T-975 (system BHX) pneumatic pressure pump features both vacuum and pressure generation. A button (valve) makes it easy to switch from vacuum to pressure measurements. Built-in release valve, vernier valve for fine adjustment and dual pressure output enable safe and simple operation. The unit offers both metric and imperial threads on the reference connection and the hose.



Pump System C



- Compatible with: DPC-500, HPC500, HPC502, HPC550Ex, HPC552Ex and IPI
- 0 to 200 / 350 bar (T-620)
- 0 to 3,000 5,000 psi (T-620H)

Model T-620 (system CXX) / 620H (system CHX) hydraulic pressure pump is small, lightweight and portable. It features a transparent reservoir to easy view of the test fluid. It is compatible with petroleum-based oils or hydraulic fluids. The reference gauge is mounted on the body manifold with a swivel fitting for easy viewing. A vernier adjustment allows precisely control pressure. A vent valve is provided for quick and positive shut-off and pressure release. The pump is equipped with a 0.6 m (24 in) pressurer hose with 1/4 in NPT connector and 1/4 in BSP adapter for connecting to the instrument-under-test.



Pump System D



- Compatible with: DPC-500, HPC500, HPC502, HPC550Ex, HPC552Ex and IPI
- 0 to 350 bar
- 0 to 5,000 psi

Model DOX/oil and DWX/water screw pump are designed for easy and controlled generation of high pressure. The screw-pump has a 4-output manifold, fine adjustment, vernier valve, liquid reservoir, and fittings are optional. The screw-pump may be delivered for hydraulic oil or water. Standard thread connections are 1/4 in BSP and adapters are available.



Pump System E



- Compatible with: DPC-500, HPC500, HPC502, HPC550Ex, HPC552Ex and IPI
- 0 to 700 bar
- 0 to 10,000 psi

Model P014 hydraulic pump is designed for high pressure oil applications. The small size and light weight make it a sensible, rugged, and portable solution. The pump has a 4 pressure output manifold similar to the JOFRA screw-pump. Fine adjustment vernier valve and fittings are optional. Standard thread connections are 1/4 in BSP and adapters are available.



Pump System F



- Compatible with: DPC-500, HPC500, HPC502, HPC550Ex, HPC552Ex and IPI
- 0 to 1,000 bar
- 0 to 15,000 psi

Model type T pump may be ordered with either oil or a water/alcohol mixture as the pressure medium. There are three available seal packages for the system: Buna-N, Viton®, and EPT. It features a dual pressure output manifold, fine adjustment vernier valve, relief valve, and dual volume control for rapid pressure increase at lower pressures and easier pumping at higher pressures.



Accuracy

JOFRA pressure calibrators accuracies are as follows:

HPC400	±0.05% F.S.
HPC500	±0.025% of reading + 0.01% F.S.
HPC502	±0.025% of reading + 0.01% F.S.
HPC550Ex	±0.025% of reading + 0.01% F.S.
HPC552Ex	±0.025% of reading + 0.01% F.S.
HPC600	±0.020% of reading + 0.015% F.S.
DPC-500	from ±0.02% F.S.
IPI	±0.05% of F.S.
APM	up to ±0.01% F.S. depending on module

JOFRACAL calibration software

JOFRACAL calibration software ensures easy calibration of RTD's, thermocouples, transmitters, thermoswitches, pressure gauges and pressure switches. JOFRACAL can be used with DPC-500, HPC600, HPC500, HPC502 and IPI pressure calibrators, all JOFRA temperature calibrators, as well as ASC300 and ASC301 multi signal calibrators and ASM800 signal multi scanner. When used with ASM800 signal multi scanner, JOFRACAL can perform a simultaneous semiautomatic calibration of up to 24 pressure and/or temperature devices under test in any combination.

JOFRACAL software controls the complete calibration procedure, stores the results and provides a calibration audit trail through hard-copy certificates. All calibration data are stored for each sensor to monitor drift and optimize recalibration intervals. A scheduler feature allows planning of future calibrations.

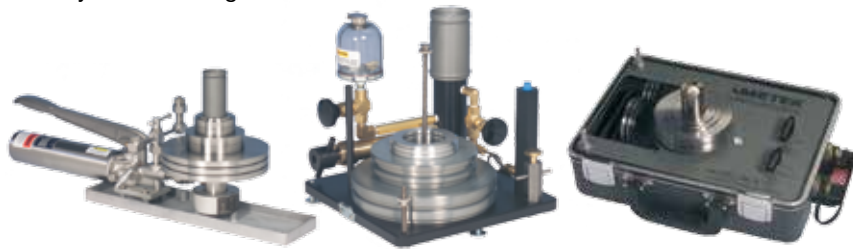
JOFRACAL calibration software can be downloaded from www.jofra.com

M&G deadweight testers (primary standards)

The Mansfield & Green deadweight tester is an extremely easy-to-use, reliable and accurate primary standard and these instruments fully live up to their reputation as the "standard of standards". The deadweight testers are available, up to 1,000 bar/15,000 psi.

Typical deadweight tester applications are:

- hazardous locations, as the testers do not incorporate electronics and are 100% mechanical
- critical process control loops extending the time between calibrations due to superior accuracy and uncertainty
- calibrating instruments on custody transfer stations thereby reducing the uncertainty of the measurement
- calibrating portable digital calibrators to achieve the highest possible accuracy and reducing maintenance costs



AMETEK Test & Calibration Instruments

A business unit of AMETEK Measurement & Calibration Technologies Division offering the following industry leading brands for test and calibration instrumentation.

JOFRA Calibration Instruments

Temperature Calibrators

Portable dry-block calibrators, precision thermometers and liquid baths. Temperature ranges from -90°C(-130°F) to 1205°C(2200°F). Temperature sensors for industrial and marine use.

Pressure Calibrators

Convenient electronic systems ranging from -25 mbar to 1000 bar - fully temperature-compensated for problem-free and accurate field use.

Signal Instruments

Process signal measurement and simulation for easy control loop calibration and measurement tasks.

M&G Pressure Testers & Pumps

Pneumatic floating-ball or hydraulic piston dead weight testers with accuracies to 0.015% of reading. Pressure generators delivering up to 1,000 bar.

Lloyd Instruments

Materials testing machines and software from Lloyd Instruments guarantees expert materials testing solutions. The comprehensive program also covers Texture Analysers to perform rapid, general food testing and detailed texture analysis on a diverse range of foods and cosmetics.

Davenport Polymer Test Equipment

Allows measurement and characterization of moisture-sensitive PET polymers and polymer density.

Chatillon Force Measurement

The hand held force gauges and motorized testers have earned their reputation for quality, reliability and accuracy and they represent the de facto standard for force measurement.

Newage Testing Instruments

Hardness testers, durometers, optical systems and software for data acquisition and analysis.

AMETEK[®]
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