

DPG-700 Precision Digital Pressure Gauge



DPG-700 digital pressure gauges are hand-held calibrators that simultaneously display and measure pressure, vacuum and DC milliamp industrial process signals. They are battery powered and housed in rugged cases with membrane keypads to resist harsh industrial environments.

The DPG-700 has a large, easy to read, 5 digit LCD display for pressure and current measurement. The sealed membrane switches allow easy selection of multiple engineering units and process reference zero. The DPG-700 is powered by five C cell batteries which allow for more than 8 of hours continuous operation. Pressure connections are made via a 1/4" quick connect fitting on the bottom of the unit.

Units Key:

The units key is used to select the desired engineering units for pressure and vacuum. The corresponding DC mA reading is displayed directly below the pressure value.

Zero Key:

The Zero Key allows the selection of your reference pressure. If a suppressed or elevated zero reference is required, the pressure on the system should be brought to the required level, then the zero keypad depressed. This will reset the display to 0, and is the reference point for further measurements.

Optional Pump Use:

The DPG-720A pump is capable of pressure or vacuum operation (both in one unit). It can be connected to the DPG via the pressure port. The pump is supplied complete with tubing and fittings for calibration of most pressure instrumentation. See the following pages.

Calibration:

The DPG can be calibrated using a precision pressure source and a special keypad sequence. No potentiometer adjustments are required.

DPG-700 Specifications

Pressure Ranges and Accuracies

Model	Range	Accuracy	Resolution
DPG-700-015 15 PSIG max.	-10 to +15 PSIG -10 to 0 PSIG 0 to +15 PSIG	$\pm 0.1\%$ FS, ± 1 count $\pm 0.05\%$ FS, ± 1 count	0.001 PSIG 0.001 PSIG
DPG-700-030 30 PSIG max.	-10 to +30 PSIG -10 to 0 PSIG 0 to +30 PSIG	$\pm 0.1\%$ FS, ± 1 count $\pm 0.05\%$ FS, ± 1 count	0.002 PSIG 0.002 PSIG
DPG-700-100 100 PSIG max.	-10 to +100 PSIG -10 to 0 PSIG 0 to +100 PSIG	$\pm 0.1\%$ FS, ± 1 count $\pm 0.05\%$ FS, ± 1 count	0.01 PSIG 0.01 PSIG

Pressure Medium:

Non-corrosive gas, dry or moist air

LCD Display:

Simultaneous readout of pressure and current; pressure and current engineering units; low battery indicator; warm-up indicator; updated three times per second.

Instrument Power:

Alkaline batteries (5 C cells); more than 8 hours of operation at room temperature on a set of batteries or AC line adapter for 117/230 VAC, $\pm 10\%$ @ 50/60 Hz.

Overrange Protection:

3X full range pressure without damage or need to recalibrate.

Temperature Range:

Operation: 0° to $+50^{\circ}$ C
Storage: -20° to $+60^{\circ}$ C

Temperature Effect:

$\pm 0.01\%/^{\circ}$ C span

Pressure Port:

Quick connect style fitting for 1/4" i.d. tubing with mating adapter.

Size:

63.5 x 144.8 x 208.3mm
(2.5 x 5.7 x 8.2 inches)

Weight: 1 lb. 14 oz. (0.85 kg)

Millimeter:

Range: -50.00 to +50.00 mADC
Accuracy: $\pm 0.05\%$ of full scale
 ± 1 count
Resolution: 0.005 mA
Impedance: <100 ohms

Agency Approvals:

DPG-700 is CSA and FM Division 2, Class I, II, and III, Groups A, B, C, and D approved.

Pressure Display Units:

DPG-700-015 and DPG-700-030:
PSI, in Hg, in H₂O, ft H₂O, Atm, Bar, mBar, mm H₂O, cm H₂O, m H₂O, mm Hg, cm Hg, Torr, kPa, gm/cm², kg/cm², lb/ft², tn/ft²

DPG-700-100:

PSI, in Hg, in H₂O, ft H₂O, Atm, Bar, mBar, cm H₂O, m H₂O, mm Hg, cm Hg, Torr, kPa, gm/cm², kg/cm², lb/ft², tn/ft²

DPG-700 Ordering

Standard items included are:

- Digital Pressure Gauge DPG-700
- Certificate of calibration and NIST traceability
- Carrying case (DPG-712)
- 1 set of test leads (DPG-713)
- Instruction manual

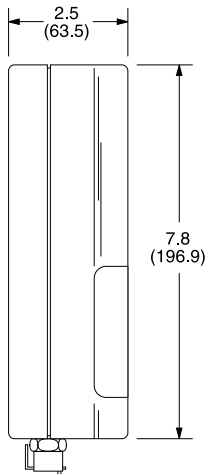
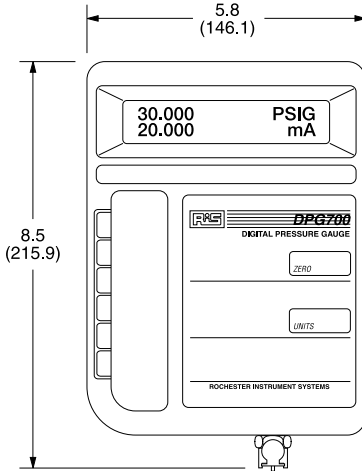
Options:

DPG-710: 117 VAC adapter
DPG-711: 230 VAC adapter
DPG-720A: Pressure/Vacuum Pump Precision hand pump with multiturn vernier adjustment for calibration. Pressure and vacuum source that generates >100 PSIG to -2psi vacuum based on mode selected.

ROCHESTER

AccuPro Calibrators

DPG-700 Dimensions

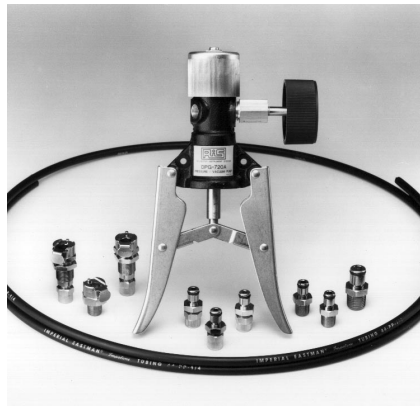


DPG-720A Precision Pressure Pump

The Rochester DPG-720A Precision Pressure Pump is a hand-operated mechanical pump. It is designed to generate precise pressures to 200 psi for use in pneumatic testing and calibration.

The DPG-720A combines simplicity of design with quality construction for long service life with virtually no maintenance. The compound-leverage, squeeze-action design and light weight permit easy, one-handed operation at any angle. Dual 1/8"-27 FNPT output ports located in the machined brass pump body permit the application of pressure to two devices simultaneously. An accessory Quick Connect Kit (P/N 1074-746), consisting of chrome-plated brass fittings and two 3-foot sections of polypropylene tubing rated to 250 psi, provides easy connection to most pneumatic transmitters.

Precise output to 0.001 psig resolution is possible through the manipulation of the Coarse and Fine Pressure Adjustments. The DPG-720A can also generate negative pressures to -2 psi through the use of the Fine Pressure Adjustment.



DPG-720A Specifications

Output Range: -2 to 200 psi

Resolution: 0.001 psig

Compatible Media: Non-conductive, non-corrosive instrument grade clean air or inert gas

Pump Body Construction: Machined brass casting

Pressure Connections: Dual 1/8"-27 FNPT output ports

Weight: 1.9 pounds (0.87 kg)

Operating Information

Temperature Considerations

The pressure of a contained volume of gas is directly proportional to absolute temperature. Therefore, temperature control is critical when using high-resolution measuring devices such as the DPG-700. Tubing should be kept away from heat sources such as lamps & operating electronic equipment as well as heat dissipating elements such as open windows, air conditioning vents, and ventilation ducts).

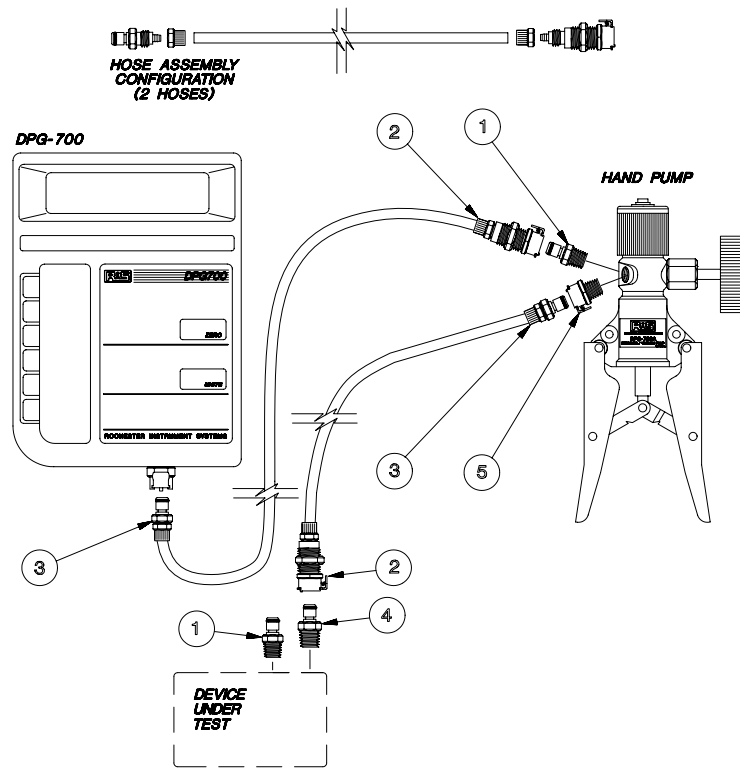
Air is compressed when the DPG-720A's actuating levers are squeezed. The compression heats the air. A noticeable decrease in pressure may occur immediately after pumping because the compressed air cools slightly.

DPG-700 Quick Connect Kit

The Rochester DPG-700 Quick-Connect Kit (P/N 1074-746) connects a DPG-720A Precision Pressure Pump to a DPG-700 Digital Pressure Gauge and a pneumatic transmitter. The kit consists of:

Item	Qty.	Description
1.	2	Coupling Insert, 1/8"-27 MNPT
2.	2	Coupling Body, 1/8" I.D. Tubing
3.	2	Coupling Insert, 1/8" I.D. Tubing
4.	1	Coupling Body, 1/8"-27 MNPT
5.	1	Coupling Insert, 1/4"-18 MNPT
6.	1	Coupling Body with Shut-off, 1/8"-27 MNPT

Typical Connection Configuration



Ordering Information

Model	Description
DPG-700	Precision Digital Pressure Gauge
	Code Pressure Range
	15 -10 to +15 PSIG
	30 -10 to + 30 PSIG
	100 -10 to + 100 PSIG
	Code AC Power Adaptor
	117 117 V AC adapter
	230 230 V AC adapter
	NA Not required
	Code Pressure Vacuum Pump
	P Precision pressure / vacuum hand pump
	NP Not required
	Code Quick Connect Kit
	C Quick connect tubing and fittings kit
	NC Not required
DPG-700	30 230 P NC Ordering Example

DPG-700 precision digital pressure gauge, measuring pressures in the range -10 to +30 PSIG, with 230 VAC power adaptor and precision hand pump.