



## PCS400 GENERAL SPECIFICATIONS

<b>Pressure Units Available</b>	psi, inHg @ 0°C and 60°F, inH <sub>2</sub> O @ 4°C, 20°C and 60°F, ftH <sub>2</sub> O @ 4°C, 20°C and 60°F, mTorr, inSW @ 0°C, ftSW @ 0°C, mSW @ 0°C, ATM, bars, mbars, mmH <sub>2</sub> O @ 4°C and 20°C, cm H <sub>2</sub> O @ 4°C and 20°C, MH <sub>2</sub> O @ 4°C, mH <sub>2</sub> O @ 20°C, mmHg @ 0°C, cmHg @ 0°C, Torr, hPa, kPa, Pa, D/cmsq, G/cmsq, Kg/cmsq, OSI, PSF, TSF, TSI, μHg @ 0°C, mA, %FS. All seawater units are 3.5% salinity.
<b>Warm-up</b>	15 minutes <u>depending on environment</u>
<b>Reading Rate</b>	Typically 30 readings per second
<b>Response Time</b>	0.25 seconds for FS step typical
<b>Gravity/Orientation</b>	Negligible effect on zero, span, linearity, and repeatability
<b>Shock and Vibration</b>	2 Gs max. for 10 minutes
<b>Communications</b>	IEEE-488-STD-1978 and RS-232 <sup>1</sup> LabVIEW® drivers are available
<b>Display</b>	Vacuum fluorescent, 2 lines 40 characters
<b>Keypad</b>	16 dual function keys
<b>Size</b>	17.05" (43.31 cm) x 6.97" (17.70 cm) x 20" (51 cm)
<b>Weight</b>	43 lbs (19.5 kg) single range 45 lbs (20.4 kg) dual range 47 lbs (21.3 kg) dual range with baro. ref.
<b>Mounting</b>	Table model or optional 19 inch rack mount
<b>Pressure Media</b>	Clean, dry, non-corrosive gases; no oxygen
<b>Fittings</b>	7/16-20 SAE/MS (female) 1/8 female NPT adapters provided
<b>Power</b>	90 to 264 volts AC, 50 to 60 Hz autoswitching, 175 VA max

<sup>1</sup>LabVIEW® is a trademark of National Instruments Corporation

## MEASUREMENT SPECIFICATIONS

<b>Accuracy</b>	FS ranges: 0.010% FS
<b>Precision</b>	FS ranges: 0.003% FS
<b>Calibration Stability</b>	0.010% FS for 180 days after re-zeroing. Optional 0.025% accuracy instruments are 0.025% for 180 days after re-zeroing.
<b>Calibration Adjustments</b>	Zero and Span Zero and Span may be reset without affecting each other or the linearity.
<b>Resolution</b>	up to 1 ppm
<b>Temperature Compensation</b>	15°C to 45°C

## CONTROL SPECIFICATIONS

<b>Pressure Ranges - Standard</b>	
psia:	0-5 to 0-1,500 max.
psig:	0-0.36 to 0-1,500 max.
<b>Pressure Range - Bidirectional, Vacuum</b>	
	-0.36 to +0.36 min, -atm to 1,500 max.
<b>Over Pressure Limit</b>	Protected by relief valves
<b>Source Pressure for ranges &gt; 5 psi</b>	Instrument air or dry nitrogen at pressure equal to FS plus 10 psi or 110% of FS. Accurate external regulation is not required.
<b>Exhaust Pressure</b>	Atmospheric exhaust for gauge pressure control above 0.05 psig and absolute pressure control. A vacuum pump is recommended for gauge control of positive pressures below 0.25 psig. Pump capacity of 21 liters of free air displacement is recommended.
<b>Reference Pressure</b>	Atmospheric for gauge models. Permanent vacuum for absolute models.
<b>Stability of Controlled Pressure</b>	
>2 psi:	± 0.004% FS
<2 psi:	± 0.008% FS
	With pressure stable indication available on display or via IEEE-488 or RS-232
<b>Minimum Controlled Pressure</b>	Exhaust pressure plus 0.05% FS or 0.025 psia, whichever is greater
<b>Control Time</b>	When controlling, for the output pressure to be in the stable window 55 seconds is typical between any two pressure points from 0.5% FS above the exhaust pressure to full scale with a 1/2 liter volume. A larger volume can lengthen this time. The time will also be longer for absolute pressures below 0.5 psia.

**Accuracy** includes the following uncertainties in the pressure reading: repeatability, pressure hysteresis, creep, linearity, and temperature effects over the compensated range.

**Precision** is the closeness of agreement between independent test results obtained under stipulated conditions.

Per ANSI/NC SL Z540-2-1997 (U.S Guide to the Expression of Uncertainty in Measurement) that "*the term precision should not be used for accuracy*".

These models are calibrated with primary standards traceable to NIST. The calibration program at Mensor is compliant to ANSI/NC SL Z540-1-1994.

For more details on calibration of Mensor products see Technical Note entitled "*Accuracy Specifications for Mensor Products*" (available on our web site [www.mensor.com](http://www.mensor.com)).

*Since product improvement is a continuous process at Mensor, we reserve the right to change specifications without notice.*