DMT
Druck Mess Technik GmbH

Quartz Pressure Calibrator Typ 8100

Features

- Quartz Resonator Transducer
- Interchangeable Transducers
- Custom Pressure Ranges
- Full scale ranges from 15 to 1500 psi
- High Resolution (up to 1 ppm)
- 0.003% FS control stability
- Four pressure rates
- Color Touch Screen
- CE Compliant

Options

- Two Quartz Transducers
- Multiple Ranges for each Transducer
- Gauge Emulation with barometric pressure display

Description

For three decades, Mensor has been dedicated to the design and manufacture of the finest pressure controllers/ calibrators that incorporate the latest technological advances to provide the best value to our customers. The Model 8100 utilizes quartz resonator transducers to provide high accuracy with excellent long term stability.

Our new, color, touch-screen is an innovation designed to improve user interface. All functions are clearly displayed on a selection of screens. Operation is amazingly simple and intuitive.

A new feature of this class of pressure test equipment is the "quick change" transducer in the pneumatic module, which allows fast removal and installation for re-calibration. Open the hinged front panel to remove or replace the transducer module in seconds, minimizing downtime.

Pressure control is a proven proprietary Mensor design. This design provides a very precise "control stability" from zero to full span for both low and very high pressures.

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8100 Specifications

Accuracy	0.007% FS + 0.003% R
Precision	0.003% FS
Calibration Stability	0.007% FS + 0.003% R for 360 days typical (after zeroing)
Pressure Ranges	(PSI ranges are listed in the tables below)

Gauge Emulation - Using Barometric Reference				
Bi-Directional Range-MAX	**Bi-Directional Range-MIN**	**Zero Based Range-MAX**	**Zero Based Range-MIN**	**MIN Span**
-15 to 1500	-15 to 485	0 to 1500	0 to 500	500
-15 to 1085	-15 to 318	0 to 1085	0 to 333	333
-15 to 535	-15 to 152	0 to 535	0 to 167	167
-15 to 315	-15 to 85	0 to 315	0 to 100	100
-15 to 205	-15 to 52	0 to 205	0 to 67	67
-15 to 95	-15 to 18	0 to 95	0 to 33	33
-15 to 40	-15 to 2	0 to 40	0 to 17	17
-15 to 18	-15 to -5	0 to 18	0 to 10	10
-15 to 13	-15 to -7	0 to 13	0 to 8	8
-15 to 2	-15 to -10			5

Absolute		
MAX Range	**MIN Range**	**MIN Span**
0 to 1515	0 to 500	500
0 to 1100	0 to 333	333
0 to 550	0 to 167	167
0 to 330	0 to 100	100
0 to 220	0 to 67	67
0 to 110	0 to 33	33
0 to 55	0 to 17	17
0 to 33	0 to 10	10
0 to 27.6	0 to 8	8
0 to 17	0 to 5	5

Each row represents one transducer. Three turndowns can be configured for each transducer as long as the min and max range and the span fall within the limitations given.

Pressure Units Available	psi, inHg@0C, inH2O@4C, inH2O@20C, Bar, mBar, mmHg@0C, cmHg@0C, Pascal, hPa, kPa, Mpa, cmH2O@4C, cmH2O@20C, user1, user2
Resolution	up to 1 ppm depending on range
Over Pressure Limit	protected by relief valves
Temperature Compensation	15°C to 35°C
Warm-up	<15 minutes depending on environment
Reading rate	typically 32 readings per second
Response Time	0.33 seconds for FS step
Orientation	negligible; can be removed with re-zeroing
Communications	IEEE-488.1 and RS-232. LabVIEW®[1] drivers are available.
Supported Languages	English (USA), French (France), German (Germany), Italian (Italy), English (Canada), French (Canada), Spanish (Mexico), English (GB), Spanish (Spain), Korean (Korea), Chinese (China), and Japanese (Japan).

(Continued from General Specifications)

Size	17.75" wide x 7" high x 17.50" deep (45.085 cm x 17.78 cm x 44.45 cm); Standard rack ears add 1.25" width x 1.75" depth (3.175 cm x 4.445 cm).
Weight	36 lbs. (16.33 kg)
Media Compatibility	Non-corrosive gases compatible with aluminum, brass, 316 SS, teflon, urethane, Silicone RTV®, silicone grease, PVC and ceramics
Fittings	7/16-20 SAE/MS (female). 1/8 female NPT adapters provided
Power	90-230 VAC, 50-60 Hz, 90 VA max.
Options	Carrying Case
Warranty	One Year

1LabVIEW® is a trademark of National Instruments Corporation

Control Spcifications

Source Pressure	Instrument air or dry nitrogen at pressure equal to 10% over range of highest pressure transducer or 50 psi over highest pressure transducer in instrument, whichever is less.
Exhaust Pressure	Atmospheric exhaust for gauge pressure control above 0.05 psig. Vacuum pump required for sub-atmospheric pressure control.
Stability of Controlled Pressure	Better than ±0.003% FS with pressure stable indication available on display or via IEEE-488 or RS-232.
Minimum Controlled Pressure	0.05% FS or 0.025 psia, whichever is greater.
Slewing Time	25 seconds typical between points above atmospheric pressure. External volume will lengthen stated time.

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