

820 Series – Absolute

- ▶ Standard Torr, kPa and mbar Vacuum Ranges
- ▶ Wide Compensated Operating Temperature
- ▶ Protected Against Miswiring

The 820 Series sensor is an accurate, low-cost absolute sensor for even the most demanding vacuum applications. An all-welded construction eliminates stability issues inherent in other designs caused by frictional contact between dissimilar metals. 820 Series manometers are offered with a variety of vacuum pressure fittings, and a rugged design provides a high overpressure capability over a wide temperature range.

Common Specifications

Input	
Pressure Range	0 to 1000 Torr or 0 to 100 kPa
Proof Pressure	See ordering chart
Burst Pressure	See ordering chart
Fatigue Life	>1 million cycles
Performance	
Output	0-5 VDC or 0-10 VDC @ 6mA (3 wire)
Supply Voltage (Vs)	9-30 VDC (14-30 VDC for 10 VDC output)
Long Term Drift	±0.5% FS/year
Accuracy	±0.5% RDG
Thermal Error Zero	±0.01% FS/°F (±0.018% FS/°C)
Thermal Error Span	±0.015% RDG/°F (±0.027% RDG/°C)
Compensated Temperatures	32°F to +122°F (0°C to 50°C)
Operating Temperatures	-4°F to +176°F (-20°C to +80°C)
Storage Temperatures	-40°F to +257°F (-40°C to +125°C)
Zero Tolerance	.5% FS
Span Tolerance	.5% FS
Minimum Load Resistance	5000 ohms
Response Time	20 ms
Mechanical Configuration	
Pressure Port	See ordering chart
Wetted Parts	Inconel® with Stainless Steel (4T fitting—All Inconel)
Electrical Connection	9-Pin D-Sub
Enclosure	All-Welded Stainless Steel
Shock	50g
Approvals	CE – 89/336/EEC for Heavy Industrial
Weight	5 oz



Applications

- Semiconductor Manufacturing
- Absorption Chillers
- Lasers
- Autoclaves
- Freeze Drying
- Vacuum Distillation

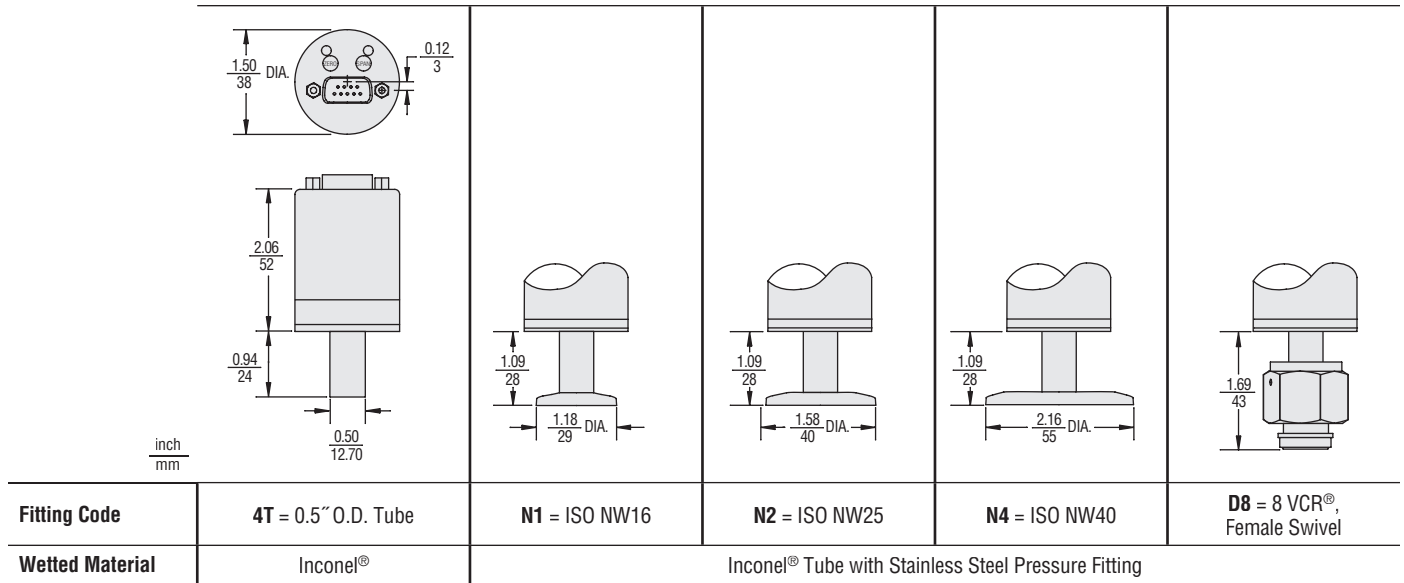
How They Operate

820 Series manometers feature an Inconel® diaphragm and insulated electrode, which forms a variable capacitor. As pressure (vacuum) increases or decreases, the capacitance changes. This capacitance is detected and converted to a fully-conditioned linear voltage output signal.

Conversion Chart

Torr	x	1.333	=	mbar
Torr	x	0.1333	=	kPa
Torr	x	0.0193	=	psi
kPa	x	10.0	=	mbar
kPa	x	7.501	=	Torr
kPa	x	0.145	=	psi
mbar	x	0.10	=	kPa
mbar	x	0.7501	=	Torr
mbar	x	0.0145	=	psi

Dimensions



How to Order

Use the **bold** characters from the chart below to construct a product code.

8201 - 020T - A - 4T - 2B - D9 - K

Series **8201** - 820 Series

Pressure Range Code

Torr			kPa			Millibar		
Code	Range (Torr)	Proof (psia)	Code	Range (kPa)	Proof (kPa)	Code	Range (mbar)	Proof (mbar)
010T	0-10	45	001K	0-1	300	010M	0-10	3000
020T	0-20	45	002K	0-2	300	020M	0-20	3000
100T	0-100	45	010K	0-10	300	100M	0-100	3000
10CT	0-1000	45	100K	0-100	300	10CM	0-1000	3000

Datum **A** - Absolute

Pressure Port **4T** - 0.5" O.D. Tube
N1 - ISO NW16
N2 - ISO NW25
N4 - ISO NW40
D8 - 8 VCR®, Female Swivel

Accuracy
K - ±0.5% of Reading (Standard)
A - ±0.25% of Reading (Optional)

Electrical Connection
D9 - 9 Pin D-Sub
T1 - 5 Pin Terminal Strip

Output
2B - 0-5 VDC
2C - 0-10 VDC

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