

1E Piezo Diaphragm Vacuum Gauge

Part Numbers: **2-2106-001, 2-2107-0XX, 6-2107-001**



Operating Specifications

Operating Range	1 Torr to 1000 Torr
Analog Output	Controller-dependent
Mounting Orientation	Any
Calibration Medium	Dry air or nitrogen
Overpressure	30 PSI
Analog Output Resolution	Controller-dependent
Operating Temperature	0 °C to 50 °C
Storage Temperature	-40 °C to 85 °C
Maximum Bakeout Temperature	120 °C
Response Time	≤ 100 ms
Accuracy	
1 to 10 Torr	±1 Torr
10 to 100 Torr	±10% of reading
100 Torr to 1000 Torr	±5% of reading
Analog Output	±10 mV

Physical Characteristics

Electrical Connections	Octal male
Weight	126 g (0.28 lbs) (NW25)
Dimensions	See dimensional drawings

Key Features and Benefits

- Gas independent measurement
- Competitively priced
- Compact, robust design
- Excellent resolution and repeatability
- Minimal sensor to sensor output variation
- Excellent customer support

Applications and Industries

- E-beam welding
- Liquefied Natural Gas (LNG), industrial gas, cryogenics
- National labs, research and development
- Thin film deposition
- Vacuum furnace, heat treat

Ordering Information

Part Number	Description
2-2106-001	1/8" NPT Nickel-plated Brass
6-2107-001	1/8" NPT Stainless Steel
2-2107-030	NW16/KF16 Stainless Steel
2-2107-031	NW25/KF25 Stainless Steel
2-2107-032	NW40/KF40 Stainless Steel
2-2107-050	CF16/1.33" CF-F Stainless Steel
2-2107-052	CF40/2.75" CF-F Stainless Steel

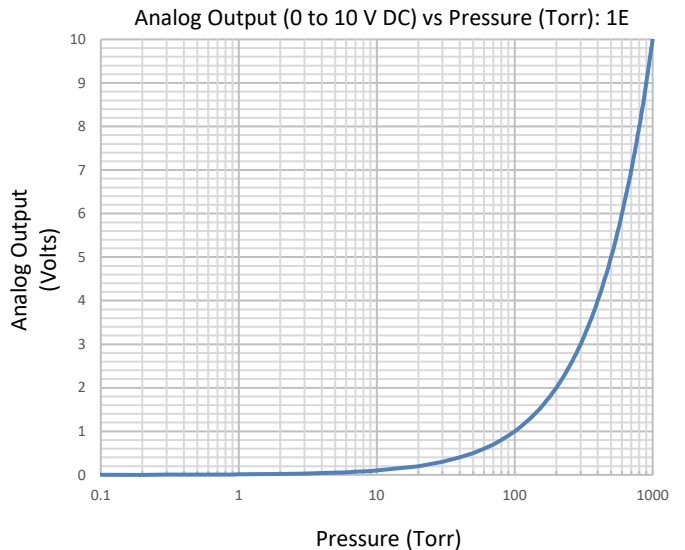
Compatible Vacuum Controllers

Part Number	Description
2-7900-034	MX200 Vacuum Controller RS-232/RS-485/USB
2-7900-037	MX200 Vacuum Controller Ethernet/IP/USB

Description

The **1E Piezo diaphragm vacuum gauge** has a measurement range from 1 Torr up to 1000 Torr. It directly measures absolute pressure by detecting the deflection of a diaphragm. This sensor is available in nickel-plated brass and stainless steel with a variety of fittings to fit your system's requirements.

Analog Output Behavior



Materials Exposed to Vacuum

Gold
Glass
304L/316L Stainless Steel
Tophet
Cupron

Ratings and Compliance

- RoHS compliant

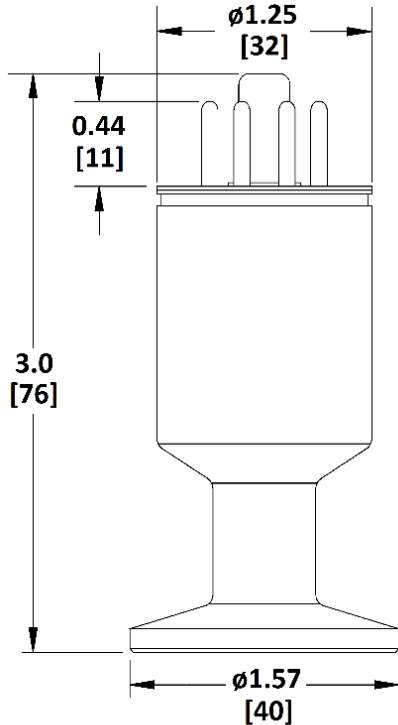
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Dimensional Drawing



*NW25 SS Fitting

Additional Documentation

AN3010	Torr Scientific/Torr Decimal/mTorr/Micron Conversions
AN3015	Recommended Practices for Vacuum Calibration
AN3020	Vacuum Terminology Reference
Resource	Televac® Tolerances

Company Information

Specialty manufacturing services that promise precision -

For more than 85 years, Fredericks has specialized exclusively in tilt and vacuum measurement products. Today, our precise manufacturing processes produce the most accurate and advanced products on the market, ensuring perfection every time. A true specialty service provider, we are willing and eager to put our experience and capabilities to good use, helping OEMs achieve even the most complex designs.

High performance products designed and manufactured with pride -

Fredericks is a global provider and U.S. manufacturer and designer of high-performance tilt and vacuum measurement products. Built to last, our products are made with state-of-the-art sensing technology, proven processes, and an intrinsic passion for the trade. Offering simple integration and quality and safety benchmarks, our customers benefit not just from standard-setting reliability, but from our commitment to competitive pricing and performance.

A partnership that prioritizes uptime, lead time, and service -

Fredericks guarantees customer satisfaction and our 'not too big, not too small' operation is what enables us to offer a true partnership experience. Our dedicated representatives and engineers offer exceptionally responsive service and some of the fastest lead times in the industry, knowing that uptime is the key to your success. With anytime-access to our leadership team and solutions that enhance your products, you will feel the Fredericks difference.

Vacuum measurement tools built for the toughest jobs -

Fredericks' world-class vacuum sensors, gauges, and control instrumentation are engineered for the most demanding applications and environments. Our patented Televac® and ETI vacuum brands feature cold-cathode technology, thermocouple and convection gauges, and precision-manufactured hot ionization gauges. Dedicated solely to vacuum gauging and calibration services, we provide industrial heating, national laboratories, cryogenics, and industrial gas applications, among many others, with fast lead times and industry-leading performance. Covering the entire practical vacuum range, our products deliver rapid response vacuum readings and superior sensitivity.

Contact Us

The Fredericks Company
2400 Philmont Avenue
Huntingdon Valley, PA 19006
tel: +1 215 947 2500
fax: +1 215 947 7464
email: sales@frederickscompany.com
web: www.frederickscompany.com

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