

# Mid-West<sup>®</sup> Instrument



## “Diaphragm Type” Model 522 Differential Pressure Gauge & Switch



Range: 0-5 PSID to 0-50 PSID

Available Dial Scales: PSID and Dual Scale PSID/kPa or PSID/bar



Model 522 Diaphragm Type DP Gauge provides outstanding capabilities in a modestly priced differential pressure gauge/switch.

Suited for use on dissimilar fluids, wet gas and process fluids with particulates present.

**Common Applications:** Filter/Strainer Monitoring, Compressed Air, Hydraulic, Refrigerant, Pump Performance Testing, Heat Exchanger Pressure Drop Monitoring, Water Treatment Applications.

### Gauge Features:

- Aluminum, 316 / 316L S.S. or Acetal Gauge Body.
- Wetted Parts: 316 SS, Ceramic, & Acetal components
- Seal & Diaphragm Material: Buna-N or Viton
- ALUM. & S.S. Bodies / Safe Working Pressure: 1000 PSIG
- Acetal Body / Safe Working Pressure: 500 PSIG
- ¼" FNPT Process Connections (End Connected)
- Weather-resistant construction standard.
- 2-1/2" Diam. Black on White Dial (Std)  
(Dial Color Breaks Optional)
- Shatter Resistant Acrylic Lens
- **Optional:** (2)10-32 mounting holes on back of gauge body 1.75" apart x .330" Depth
- Accuracy  $\pm 5\%$  Full Scale (ascending)

### Switch Option:

- Hermetically Sealed Switch
  - One (1) DIN 43650/IP65/NEMA 4X Plug-in Connector Switch\*\*
  - Output: 3 amps SPST, 60W, 240 VAC/VDC, Normally Open
  - Switch Adjustable from 40%-95% of Full Scale Range
  - CE Marked for Compliance with the Low Voltage Directive.
- \*\*Product of the switching voltage & current shall not exceed 60W



Shown with special option color dial

**NOTE:** Reverse pressure should be avoided.



DIN  
Connector Shown

**Operation:** Differential pressure is sensed by flexible elastomer diaphragm and a calibrated spring. A magnetic coupling transmits the sensing element motion to an indicating pointer. This prohibits the possibility of fluid leaking into the gauge case, while assuring total isolation of the process fluid within the pressure capsule. The diaphragm assures total separation between high and low pressure signals.

**Temperature Limits:** -40 °F (-40° C) to 200°F (93°C). These limits are based on the entire instrument being saturated to these temperatures. System (process) temperatures may exceed these limitations with proper installation. Contact our customer service representative for details.

**Standards:** All Model 522 Series differential pressure gauges either conform to and/or are designed to the requirements of the following standards: ASME B1.20.1, ASME B40.100 NEMA Std. 250, EN-61010-1 UL Std. No. 50 & 508, CSA-C22.2 No. 14

Factory Preset of switch available at no charge (Specify switch setting on the order)

The use of diaphragm seals is not recommended.

Attempts to install such seals on this gauge will void the warranty

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## Standard Dial Ranges: Model 522

Switch Set Point		Range	
Min Set Pt.	Max Set Pt.	PSID	DUAL SCALE
2 PSID	4.75 PSID	0-5 PSID	0-5 PSID & 0-0.35 bar
4 PSID	9.50 PSID	0-10 PSID	0-5 PSID & 0-35 kPa
6 PSID	14.25 PSID	0-15 PSID	0-10 PSID & 0-0.7 bar
8 PSID	19.00 PSID	0-20 PSID	0-10 PSID & 0-70 kPa
10 PSID	23.75 PSID	0-25 PSID	0-15 PSID & 0-1 bar
12 PSID	28.50 PSID	0-30 PSID	0-15 PSID & 0-100 kPa
16 PSID	38.00 PSID	0-40 PSID	0-20 PSID & 0-1.4 bar
20 PSID	47.50 PSID	0-50 PSID	0-20 PSID & 0-140 kPa
			0-25 PSID & 0-1.75 bar
			0-25 PSID & 0-175 kPa
			0-30 PSID & 0-2 bar
			0-30 PSID & 0-200 kPa
			0-40 PSID & 0-2.75 bar
			0-40 PSID & 0-275 kPa
			0-50 PSID & 0-3.5 bar
			0-50 PSID & 0-350 kPa

The above mentioned ranges are some of the most popular requested today. Mid-West Instrument can provide special un-cataloged dial range requirements. Multiple scale dials, multiple color dials and special decals are available upon request. Please consult factory for complete information.

Model	Min. ΔP Range	Max. ΔP Range
522	0-5 PSID (0-0.35 bar)	0-50 PSID (0-3.5 bar)

**Working Pressure:** 1000 PSI (69 bar) for Aluminum & Stainless Steel  
500 PSI (34.5 bar) for Acetal

**Proof Pressure:** 2000 PSI (138 bar) for Aluminum & Stainless Steel  
1000 PSI (69 bar) for Acetal

**Max Differential Pressure (Hi to Low)** 200 PSID (13.8 bar)

**Temperature Limits:** -40°F (-40°C) to +200°F (+93°C) - These limits are based on the entire instrument being saturated to these temperatures. System (process) temperatures may exceed these limitations with proper installation. Contact our customer service representative for details.

**Standards:** Model 522 Series gauge either conforms to and/or is designed to the requirements of the following standards:

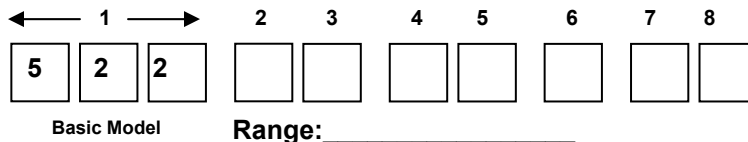
ASME B1.20.1	ASME B40.1
NEMA Std. No. 250	CSA-C22.2 No. 14
EN-61010-1	UL Std. No. 50, 508

### Standard Model Specifications: 522-AA-02-00

1000 PSIG Working Pressure, Aluminum body, 316L Stainless Steel, Ceramic & Acetal Internal Parts  
 Buna-N Diaphragm and Seals, 1/4" FNPT End Connections  
 2-1/2" Round Black on White Dial w/ Engineered Plastic Case & Shatter Resistant Acrylic Lens  
 Accuracy ±5% Full Scale(Ascending)

**Mid-West Instrument**  
 1-800-648-5778

**Range 0-5 PSID to 0-50 PSID (0.35 to 3.5 bar)**



<b>2</b>	<b>Material</b>
<b>A</b>	Aluminum Body / 316 Stainless Steel, Ceramic & Acetal moving components
<b>S</b>	316 S.S. Body / 316 Stainless Steel, Ceramic & Acetal moving components
<b>P</b>	Acetal (Plastic) Body / 316 Stainless Steel, Ceramic & Acetal moving components
<b>3</b>	<b>Dial Size &amp; Type</b>
<b>A</b>	2-1/2" Round, Black on White Dial w/Engrd. Plastic Dial Case. <b>(Standard)</b>
<b>T</b>	Non-Indicating DP Switch Only
<b>4</b>	<b>Seal Materials</b>
<b>0</b>	Buna-N
<b>1</b>	Viton®-A Registered Trademark of Dupont
<b>5</b>	<b>Process Connections</b>
<b>2</b>	1/4" FNPT End Connections
<b>6</b>	<b>Options</b>
<b>O</b>	None
<b>A</b>	(2)10-32 Mounting Holes, Spaced 1.75" apart. x .330" Deep
<b>7</b>	<b>Electrical Configuration</b>
<b>O</b>	None
<b>L</b>	(1) Switch in Std. enclosure with plug-in connector (DIN43650/IP65-PG11) NEMA 4X Available with SPST 60W N.O. Electricals Only! Switch adj. 40 to 95% (F.S. Ascending)
<b>8</b>	<b>Electrical Specifications</b>
<b>E</b>	SPST 60W 3.0 Amp 240 VAC/VDC <b>(Normally Open)</b>

Factory Preset of switch available at no charge

Mid-West understands that in today's demanding environment, flexibility, quick response time and the ability to ship most of our product line in 2 weeks or less is essential to our customers. Standard configurations can be customized and modified to suit our customer's needs for ease of installation or retrofit.

If you are in need of additional information please visit our web site at [www.midwestinstrument.com](http://www.midwestinstrument.com) or contact us toll free at **1-800-648-5778** and one of our knowledgeable sales coordinators will be happy to assist you...