



1120 Series Indicators

Indicator models 1123, 1124 and 1126 have 3", 4½" and 6" dials respectively. A variety of scales for differential pressure, flow and level can be supplied. The 1120 Series is widely used in industrial process plants, power plants, pollution control facilities and in the cryogenic gas industry.



1220 Series Indicating Switches

The Series 1220 Differential Pressure Indicating Switches are used for on-off control or alarm. They also indicate flow, liquid level or other process variables. These units are furnished with one or two SPDT type switches with actuation set points easily adjustable over most of the range of the instrument. The calibrated travel of the pointer is 270° which gives good differential pressure indication and switch resolution. Dials can be supplied with linear scales for differential pressure, square root scales for flow, or custom scales for level. The Series 1220 Switches are used extensively in power plants, compressor stations and cryogenic applications.



1226X Explosion-Proof Switch

Meriam's 1226X Explosion-Proof Indicating Switch is CSA and U.L. listed, meeting N.E.C. requirements for Class I, Division I, Group D hazardous environments. Class I, Group D atmospheres include gasoline, hexane, naphtha, benzene, butane, propane, alcohol, acetone, benzol, lacquer, solvent vapors, and natural gas.

The explosion-proof housing is made from a strong, light-weight aluminum alloy that is both non-rusting and non-sparking. A large glass window provides full viewing of the 6" indicator. Front of board, panel or pipe mounting can be supplied.



1126P-2 Portable Indicator

The 1126P-2 is designed for portable applications. Typical examples are periodic measurements of the pressure drop across filters, balancing of flow rates in heating and cooling systems and checking of back flow prevention devices. Meriam's 1126P-2 consists of an 1126 D/P Indicator with 3-valve manifold and piping, 2 hoses and quick disconnects. Each instrument system is assembled as a complete package with all the accessories mounted in a rugged, light weight case. When used as a flow measuring device, the instrument normally comes with a 0-100% square root scale. With all flow elements designed for the same differential, multiplying the scale reading by the primary element's full flow design value gives readings directly in flow units. Scales in flow units, inches of H₂O, PSI and metric units are also available.



Bellows Gauges

for Differential Pressure, Flow and Level

The Meriam Model 1120 Differential Pressure Unit is a proven and reliable sensing element used in all Meriam Bellows Gauges. It is available in ranges as low as 0-30" w.c. or as high as 0-500 PSI. The light weight and compact differential pressure unit incorporates a rupture-proof and leak-proof bellows plus other features that ensure ruggedness and reliability. This basic unit is suitable for activating indicators, recorders, transmitters, switches, and controllers and is available as a separate assembly for that purpose.

The 1120 consists of a high and a low pressure bellows connected to each side of a center plate. The bellows are enclosed in end housings which in turn are bolted to the center plate. The interior of the bellows and center plate is completely filled with a clean, low freezing point, non-corrosive fill fluid. As differential pressure is applied, this fill fluid moves between the bellows through a field adjustable dampening valve in the center plate. Other external dampening devices are not required for measurements of pulsating differential pressure. Also, the Meriam 1120 incorporates a special design which completely isolates the process fluid from the center plate.

When differential pressure is applied to the high and low pressure connections, the high pressure bellows contracts, forcing fluid through the center plate into the low pressure bellows which expands. The resulting linear motion of the low pressure bellows is converted to a 6° rotary motion of the output shaft through temperature compensating linkage. Over-range protection up to the pressure rating of the housing is provided by two fluid shut off valves located on this linkage. The output shaft is part of a low friction, "O" ring sealed shaft and bearing assembly which carries the rotary motion to the external area of the bellows unit and into the instrument case.

Bellows Gauges

for Differential Pressure, Flow and Level

Features

1020 & 1120 Accuracy

30" w.c. range	1.50% FS
50" w.c. thru 500 PSID range	0.75% FS
Option: 100" w.c. thru 50 PSID range	0.50% FS

1220 Accuracy

Before switch activation	0.75% FS
At switch activation point	2.00% FS
After switch activation	1.50% FS

Zero Elevation

100% of range (150 PSID maximum)

Suppression

15% of range with 270° pointer travel

Operating Temperature

-60°F to +200°F

Full Scale Displacement

30" w.c. thru 130" w.c. range	.19 Cu. In.
135" w.c. thru 60 PSID range	.12 Cu. In.
75 PSID thru 500 PSID range	.06 Cu. In.

1220 Switch Type

Snap action SPDT

1220 Switch Setting Accuracy

1.00% FS

1220 Dead Band

1 switch (nominal)	7% FS
2 switch (nominal)	10% FS

1220 Switch Setting

Increasing -10 to 100% of differential or 10" of water whichever is greater

Decreasing - 5% or 5" of water whichever is greater
Between set points -15% of FS minimum

1220 Switch Rating

5 amps at 125V or 250V AC
3 amps inductive or 5 amps resistive at 30VDC

Mounting Dimensions

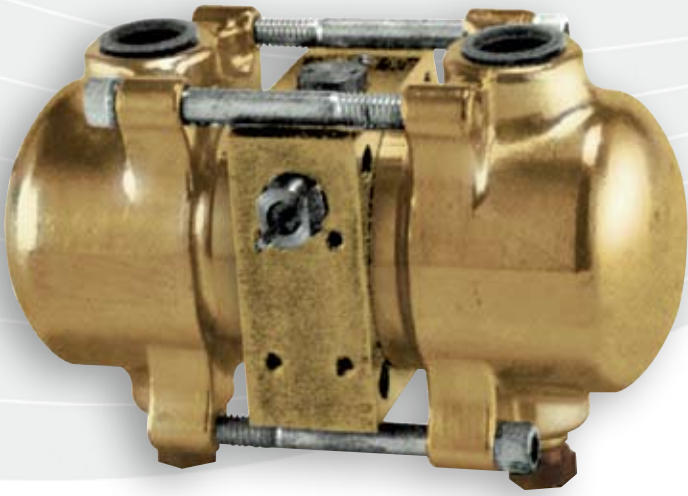
Model 1020	Request File No. 1020:420
Model 1123	Request File No. 1123:420
Model 1124	Request File No. 1124:420
Model 1126	Request File No. 1126:420
Model 1224	Request File No. 1224:420
Model 1226	Request File No. 1226:420
Model 1226X-1	Request File No. 1226X-1:420
Model 1226X-2	Request File No. 1226X-2:420

Ordering Information

To order any one of Meriam's Bellows Gauges, custom-made to your specifications, please contact your Meriam sales representatives with the following information:

- Model Number
- Housing Material
- Safe Working Pressure
- Bellows Material
- Differential Range
- Type of Scale (Linear or Sq. Rt.)
- Type of Mounting

Specifications								
Model	1020	1123	1124	1126	1224	1226	1226X	1126P-2
Dial Size	No Dial	3"	4½"	6"	4½"	6"	6"	6"
Housing	End Housing	Center Plate		Static Working Pressure		Process Connections		
	Brass	Brass		500 or 1000 PSI		¼" NPT		
	316 SS	316 SS or Brass (500 SWP Only)		1500, 3000 or 6000PSI		¼" & ½" NPT		
	Monel	316 SS		1500, 3000 or 6000PSI		¼" & ½" NPT		
Bellows	Beryllium Copper (30" w.c. Minimum—60 PSID Maximum)							
	316 Stainless Steel (50" w.c. Minimum—500 PSID Maximum)							
	Monel (50" w.c. Minimum—60 PSID Maximum)							
Mounting (Except 1126P)	Flush Panel using indicator case for mounting							
	Wall or ¾" NPT using universal mounting bracket							
	Pipe Saddle or Wall using "H" mounting Bracket and 2" U-Bolts							
Features	Special scales and ranges available				Optional bellows fill fluid			
	Simple zero, span and linearity adjustment				Additional relay options available for 1220 Series			
	Temperature compensation for varying ambients				270" pointer travel; red set pointer			
	Break-resistant acrylic viewing window				Valves and Piping			
	NEMA 4, Die-cast aluminum case with gasketed cover				Special cleaning for oxygen service			
	Low friction "O" ring sealed shaft output				Option for meeting NACE MR-01-75 requirements			
	Optional anti-parallax mirror dial				Terminal Strip			
	CE approval for 1120 and 1220 Series (option)				Built-in pulsation dampening (field adjustable)			
	CSA approved 1226 Models							



Model 1020

Differential Pressure Unit

The Meriam Model 1020 Differential Pressure Unit is a proven and reliable sensing element. Available in ranges from as low as 0-30" H₂O to 0-500 PSI. It is especially adaptable where size and weight are critical factors. The light weight and compact differential pressure unit incorporates a rupture-proof and leak-proof bellows plus other construction features that make it second to none. This unit is suitable for activating indicators, recorders, transmitters, switches and controllers and is available as a separate assembly for that purpose.

The basic D/P unit consists of a high and a low pressure bellows, both liquid filled and connected to a center plate. The bellows are enclosed in the high and low pressure end housings which in turn are bolted to the center plate. When differential pressures are applied to the high and low pressure connections, the high pressure bellows contracts forcing the fill fluid through the center plate into the low pressure bellows causing it to expand.

The resulting linear motion of the low pressure bellows is converted to a 6° rotary motion of the output shaft through a temperature compensated linkage. Over-range protection is provided by two opposed valves located on this linkage allowing the unit to withstand over-ranging up to the full static pressure rating of the housing without damage. The interior of the bellows and center plate are completely filled with a clean, non-corrosive, low freezing point liquid. This output shaft is part of a low friction, "O" ring sealed shaft and bearing assembly which carries the rotary motion to the external area of the bellows unit and into the instrument case.

In the Meriam bellows unit all of the fill fluid must pass through the Meriam Pulsation Dampening valve in the center plate. This valve is field adjustable so that the desired dampening effect can be obtained. Because of this Meriam design, other types of external dampening devices are not required on services involving measurement of fluctuating differential pressures. The Meriam bellows D/P unit incorporates a special design which completely isolates the process fluid from the center plate.

Model 1020 Features

- Range variations
- Material variations, housing, bellows and center plate
- Rugged construction for long life
- 6° output shaft rotation
- Temperature compensation for varying ambient conditions
- Integral field adjustable pulsation dampening
- Low friction "O" ring sealed output shaft
- Over-range protection - high and low pressure
- Seamless leak-free bellows
- Process isolation rings

Model 1020

Differential Pressure Unit

Standard Ranges (1)

In. of H ₂ O	Cm. of H ₂ O	PSI	Kg. per Sq. Cm.
0-30" (2)			
0-50" 0-200"	0-125 0-500	0-10 0-150	0-0.7 0-10.5
0-60" 0-250"	0-150 0-635	0-15 0-200	0-1.05 0-14.0
0-80" 0-300"	0-200 0-760	0-20 0-250	0-1.4 0-17.0
0-100" 0-350"	0-250 0-890	0-25 0-300	0-1.75 0-21.0
0-150"	0-380	0-50 0-350	0-3.5 0-25.0
		0-100 0-400	0-7.0 0-28.0
		0-500	0-35.0

(1) Split range and center zero available

(2) Available only with Beryllium Copper Bellows

Performance Specifications

Independent

0 to 30" W.C. range $\pm 1.50\%$ FS

Linearity

0 to 50" W.C. thru 0 to 500 PSID range $\pm 0.75\%$ FS

Temperature Limits

-60°F to +200°F

Full Scale Displacement

0 to 30" thru 0 to 130" W.C. range .19 Cu. In.

0 to 130" W.C. thru 0 to 60 PSID range .12 Cu. In.

0 to 75 PSID thru 0 to 500 PSID range .06 Cu. In.

Ordering Information

To order Meriam's Model 1020 Differential Pressure Unit, custom-made to your specifications, please contact your Meriam sales representatives with the following information:

- Model Number
- Housing Material
- Safe Working Pressure
- Bellows Material
- Differential Range

Construction Specifications

Housing Material	Process Connections	Pr. Rating PSIG	Wt.
Brass	1 pr. ¼" NPT and 1 pr. ½" NPT	500	6¼ lbs.
Stainless Steel Type 316	1 pr. ¼" NPT and 1 pr. ½" NPT	1500	6¼ lbs. 15Lb.
		3000 6000	
Monel-400	1 pr. ¼" NPT and 1 pr. ½" NPT	1500 3000 6000	6¼ lbs. 15Lb.
Bellows Material	Beryllium Copper Stainless Steel Type 316L, Monel-400		

(1) Available with Brass Centerplate @ 500 SWP.

Notes:

- 1) Process connections available
Brass ¼" NPT
SS & Monel ½" NPT
top, ¼" NPT bottom
- 2) 6000 PSIG SWP housing dimensions not shown

