

1188 Low Pressure Bellows Gauge

FEATURES

- Inches of water ranges
- Bellows-actuated mechanism
- Easy adjustable micrometer pointer
- Available with diaphragm seals

TYPICAL USES

- Oil & gas
- Chemical and petrochemical plants
- Water and wastewater pressure control
- Equipment skids
- Process and industrial applications

SPECIFICATIONS	
Accuracy:	+/-2%-1%-2% (ASME B40.100 Grade A)
Size:	41/2"
Range:	10IW Vacuum to 10 psi
Process Connection Location:	Lower, Back
Process Connection Size:	1/4 NPT Male, 1/2 NPT Male
Case Style:	Solid Front (STD.)
Movement:	416 Stainless steel
Window Material:	Glass (STD.), Shatter Proof Glass (OPT.)
Pointer:	Micrometer Adjustable
Dampening Options:	Throttle screw, dampeners, capillary, diaphragm seals and snubbers
Mounting:	Stem, Surface, Flush

WETTED COMPONENTS									
Bellows	Process Connection	Joints							
Brass 316 SS Monel®	Brass 316 SS Monel®	Soldered: Brass Welded: 316 SS Monel®							
NON-WETTED COMPONENTS									

NON-WETTED COMPONENTS									
Case	Ring	Back Cover							
Phenolic	Polycarbonate	Polypropylene							



KEY BENEFITS

- Highly sensitive system providing a safe means for measuring process media
- Ideal product solution for many installations
- Rugged design

MIN/MAX TEMPERATURE LIMITS								
Version	Ambient	Process	Storage					
Dry	-20°F to 150°F (-29°C to 66°C)	-20°F to 150°F (-29°C to 66°C)	-40°F to 150°F (-40°C to 66°C)					

Note: Other than discoloration of the dial and hardening of the gasketing that may occur as ambient or process temperatures exceeds 150°F, non-liquid-filled gauges with standard glass windows, can withstand continuous operating temperatures up to 250°F (121°C).

Accuracy at temperatures above or below the reference ambient temperature of 68°F (20°C) will be affected by approximately 0.4% per 25°F. Gauges with welded joints will withstand 750°F (400°C), 450°F (232°C) with silver brazed joints for short times without rupture, although other parts of the gauge will be destroyed and calibration will be lost. For continuous use and for process or ambient temperatures above 250°F (121°C), a diaphragm seal or capillary or siphon is recommended.



1188 Low Pressure Bellows Gauge

451188 - 4½ phenolic case, solid front 451188 System (tube and process connection) A - Brass bellows, brass process connection S - 316 SS bellows, stainless steel process connection S - 7 K-Monel® 500 bellows, Monel® 400 process connection S - 8 Solid front, Dry S S Process Connection Sizes 02 - ½ N PT Male 02 04 - ½ NPT Male 02 04 - ½ NPT Male 05 - ½ NPT Male 06 - 1 MPT Male 07 - 1 MPT Male 08 - 1 MPT Male 09 - 2 MPT Male 09 - 2 MPT Male 09 - 2 MPT Male 09 - 3 MPT Male 09 - 3 MPT Male 09 - 3 MPT Male 09 - 4 MPT Male 09	ORDERING CODE	Example:	451188	s	S	02	В	XC4	10IW
System (tube and process connection) A - Brass bellows, brass process connection S - 316 SS bellows, stainless steel process connection S - K-Mondel* 500 bellows, Monel* 400 process connection Case Design S - Solid front, Dry S - WhPT Male Drocess Connection Sizes 02 - ¼ NPT Male Drocess Connection Location L - Lower B - Back B - Back Dotions (if choosing an option(s) must include an "X") C - Individual calibration chart (in accordance with ASME B40.100:2013. Accuracy traceable to N.I.S.T) C - D3 - DuraVis TM Retroreflective Dial 6B - Cleaned for gaseous oxygen service F8 - Gauge, flexible line assembly and diaphragm seal PD - Acrylic window SG - Safety glass NG - Non-glare glass DA - Marking on dial NH - Stainless Steel tag wired to case NN - Paper tag bonded to case 56 - Flush mounting ring Range (coding examples only, see range table on page 3 for all standard ranges) Single Scales	Dial Size/Model Code								
A - Brass bellows, brass process connection S - 316 SS bellows, stainless steel process connection S - 316 SS bellows, stainless steel process connection Case Design S - Solid front, Dry S - Process Connection Sizes 02 - ¼ NPT Male Process Connection Location L - Lower B - Back Options (If choosing an option(s) must include an "X") C4 - Individual calibration chart (in accordance with ASME B40.100.2013. Accuracy traceable to N.I.S.T) C4 - Individual calibration chart (in accordance with ASME B40.100.2013. Accuracy traceable to N.I.S.T) C5 - Cleaned for gaseous oxygen service F8 - Gauge, flexible line assembly and diaphragm seal PD - Acrylic window SG - Safety glass NG - Non-glare glass DA - Marking on dial NH - Stainless Steel tag wired to case NN - Paper tag bonded to case S6 - Flush mounting ring Range (coding examples only, see range table on page 3 for all standard ranges) Single Scales	451188 - 4½" phenolic case, solid front		451188						
S - 316 SS bellows, stainless steel process connection Case Design S - Solid front, Dry S Process Connection Sizes 02 - ½ NPT Male 02 04 - ½ NPT Male 02 04 - ½ NPT Male B - Back B - Back B - Solid irration chart (in accordance with ASME B40.100.2013. Accuracy traceable to N.I.S.T) C4 - Individual calibration chart (in accordance with ASME B40.100.2013. Accuracy traceable to N.I.S.T) C4 - Individual calibration chart (in accordance with ASME B40.100.2013. Accuracy traceable to N.I.S.T) C5 - Gauge, flexible line assembly and diaphragm seal C6 - Safety glass C7 - Safety glass C8 - Safety glass C9 - Safety glass C9 - Marking on dial C8 - Hushing on dial C8 - Hushing on dial C8 - Flush mounting ring C8 - Flush mounting ring C8 - Flush mounting ring C8 - Safety scales C8 - Flush mounting ring C8 - Safety scales C8 - Flush mounting ring C8 - Safety scales C8 - Flush mounting ring C8 - Safety scales C8 - Flush mounting ring C8 - Flush r	System (tube and process connection)								
P - K-Monel® 500 bellows, Monel® 400 process connection Case Design S - Solid front, Dry S Process Connection Sizes 02 - ½ NPT Male 02 04 - ½ NPT Male 02 05 - Sale Back Bellows, Monel® Bellows (in accordance with ASME B40.100:2013. Accuracy traceable to N.I.S.T) C4 D3 - DuraVis™ Retroreflective Dial 6B - Cleaned for gaseous oxygen service F6 - Gauge, flexible line assembly and diaphragm seal PD - Acrylic window SG - Safety glass DA - Marking on dial NH - Stainless Steel tag wired to case NN - Paper tag bonded to case Single Scales Single Scales	A - Brass bellows, brass process connection								
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NG - Non-glare glass DA - Marking on dial NH - Stainless Steel tag wired to case NN - Paper tag bonded to case 56 - Flush mounting ring Range (coding examples only, see range table on page 3 for all standard ranges) Single Scales	PD - Acrylic window								
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NH - Stainless Steel tag wired to case NN - Paper tag bonded to case 56 - Flush mounting ring Range (coding examples only, see range table on page 3 for all standard ranges) Single Scales	NG - Non-glare glass								
NN - Paper tag bonded to case 56 - Flush mounting ring Range (coding examples only, see range table on page 3 for all standard ranges) Single Scales	DA - Marking on dial								
56 - Flush mounting ring Range (coding examples only, see range table on page 3 for all standard ranges) Single Scales	NH - Stainless Steel tag wired to case								
Range (coding examples only, see range table on page 3 for all standard ranges) Single Scales	NN - Paper tag bonded to case								
Single Scales	56 - Flush mounting ring								
	Range (coding examples only, see range table of	on page 3 for all standard range	es)						
10IW - 10" H ₂ O 10IW	Single Scales								
	10IW - 10" H ₂ O								10IW



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STA	NDARD PRE	SSURE P	ANGE				
JIA	in. H ₂ 0			mmH₂0	noi	mbar	l/Do
	-	mmHg	in. Hg	mmn ₂ U	psi	mpar	kPa
	N10IW	N18MM	-	-	-	-	-
	N15IW	N28MM	-	-	-	-	-
	N20IW	N37MM	-	-	-	-	-
	N30IW	N56MM	-	-	-	-	-
를	N40IW	N75MM	-	-	-	-	-
Vacuum	N60IW	N110MM	-	-	-	-	-
>	N80IW	N150MM	-	-	-	-	-
	N100IW	N180MM	-	-	-	-	-
	N150IW	N270MM	-	-	-	-	-
	-	-	N10IM	-	-	-	-
	-	-	N15IM	-	-	-	-
	-	-	N20IM	-	-	-	-
	-	-	-	N125/125MW	-	N12.5/12.5MB	N1.25/1.25KP
	N5/5IW	-	-	-	-	-	-
	-	-	-	N200/200MW	-	N20/20MB	N2/2KP
	N10/10IW	-	-	-	-	-	-
	-	-	-	N300/300MW	-	N30/30MB	N3/3KP
	-	-	-	N500/500MW	-	N50/50MB	N5/5KP
pur	N30/10IW	-	-	-	-	-	-
Compound	N20/20IW	-	-	-	-	-	-
S	N10/30IW	-	-	-	-	-	-
	N30/30IW	-	-	-	-	-	-
	N40/20IW	-	-	N800/800MW	-	N80/80MB	N8/8KP
	-	-	-	N1250/1250MW	-	N125/125MB	N12.5/12.5KP
	N70/30IW	-	-	-	-	-	-
	-	-	-	N2000/2000MW	-	N200/200MB	N20/20KP
	-	-	-	N3000/3000MW	-	N300/300MB	N30/30KP
	5IW	-	-	-	-	-	-
	10IW		-	250MW		25MB	2.5KG
	15IW	-	-	-	-	-	-
	-	-	-	400MW	-	-	-
	-	-	-	-	-	40MB	4KG
	20IW	-	-	-	-	-	-
			-	600MW	-	-	-
	-	-	-	-	-	60MB	6KG
	30IW	-	-	-	-	-	-
	-	-	-	1000MW	-	-	-
	40IW	-	-	-	-	100MB	10KG
Positive Pressure		-	-	-	-		
res	60IW	-	-	-	-	-	-
Ş.	-	-	-	1600MW	-	-	-
ositi	-	-	-	-	-	160MB	16KG
₹	80IW	-	-	-	-	-	-
	-	-	-	2500MW	-	-	-
	100IW	-	-	-	-	250MB	25KG
	-	-	-	-	5#	-	-
	150IW	-	-	-	-	-	-
	-	-	-	4000MW	-	-	-
	-	-	-	-	-	400MB	40KG
	-	-	-	-	8#	-	-
	-	-	-	6000MW	-	-	-
	-	_	_	-	-	600MB	60KG
	-	-	-	-	10#	-	-
					1011		



1188 Low Pressure Bellows Gauge

DIMENSIONS in [] are millimeters

For reference only, consult Ashcroft for specific dimensional drawings

Dial Size Inches	Α	В	С	D	E	F	G	н	1	J	L	Weight (lbs)
41/2	5 ¹³ / ₁₆	3 ⁷ / ₁₆	5½	1 ¹¹ / ₁₆	5%	1%	13 ¹⁵ /16	1½	%	1½	⅓₂	2.5
	[148]	[87]	[129]	[43]	[137]	[41]	[100]	[38]	[16]	[29]	[5.5]	1.1 kg

