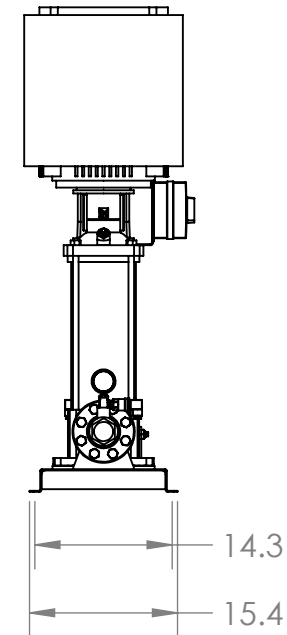
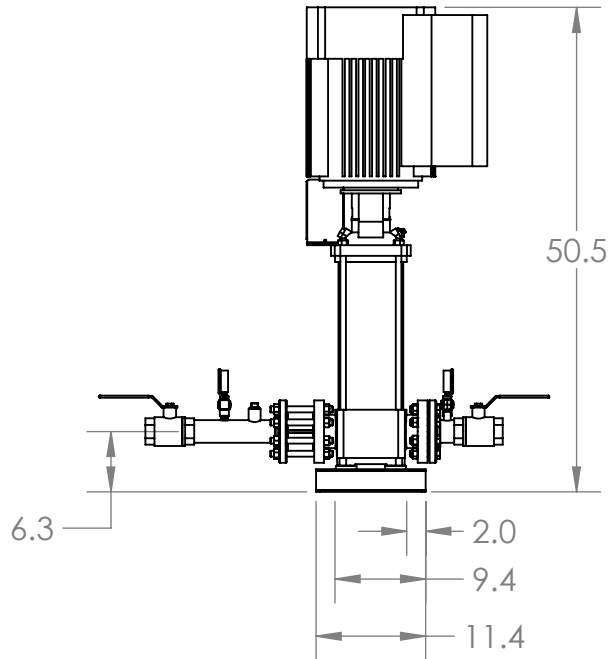
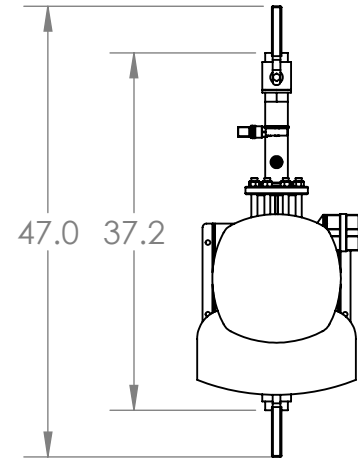
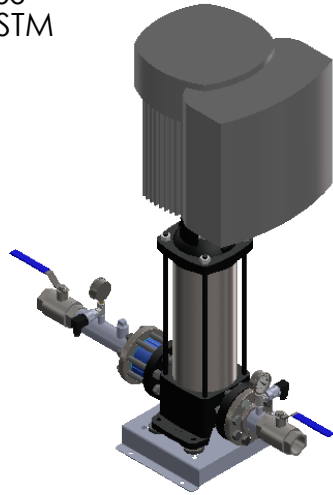


1. Manifolds connections 2" NPT
2. Base/Frame AISI 304SS
3. Full port ball valve ASTM



GRUNDFOS 
 FRESNO, CALIFORNIA 93727 USA

Note:
 All dimensions are $\pm 0.5"$
 Not for Construction
 All dimensions subject to
 changewithout notice.

Model:		CRE-PLUS CRE15-7	
Power:		3x460	60HZ 1x15HP
Job:			
Dwg No:	Rev:	Date:	Drawer:
91146101	0	11/26/2019	71999
Scale:			1:20
Page:			1 of 1

Ball Valves

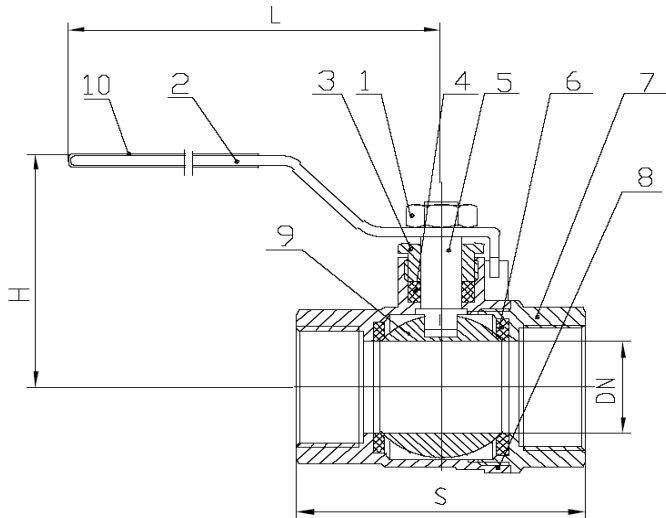


General

- Threaded Ends
- Blow Out Proof Stem
- 600 WOG
- 2-Piece Body
- Teflon Seats
- Teflon Packing

Dimensions & Weights

Size	DN (in)	S (in)	H (in)	L (in)	WT. (lb)
1/4"	0.39	1.76	1.75	3.54	0.35
3/4"	0.75	2.50	2.18	3.94	0.79
1-1/4"	1.26	3.42	2.87	4.80	1.75
1-1/2"	1.57	3.76	3.48	5.91	2.47
2"	1.97	4.25	3.82	5.91	3.46

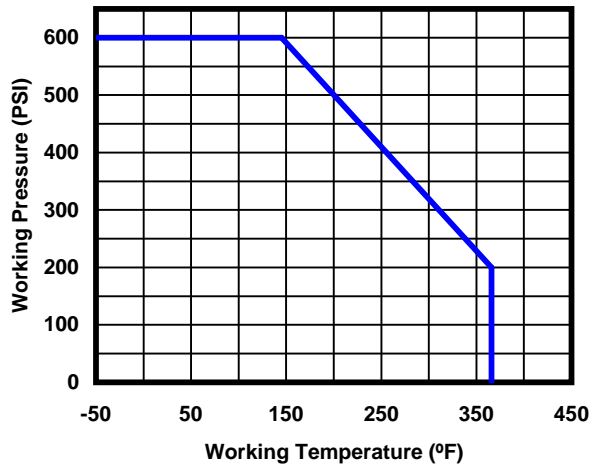


MATERIAL SPECIFICATIONS

NO.	PART	MATERIAL (ASTM)
1	NUT	ZINC PLATED STEEL
2	HANDLE	ZINC PLATED STEEL
3	BONNET	BRASS (C37000)
4	PACKING	TEFLON
5	STEM	BRASS (C37000)
6	BALL SEAT	TEFLON
7	END PIECE	LOW LEAD BRASS (LTN60-6)
8	BODY	LOW LEAD BRASS (LTN60-6)
9	BALL	LOW LEAD BRASS (LTN60-6)
10	SLEEVE	PVC

APPROVALS

- NSF 61, IAPMO - N4359
- AB1953, IAPMO - 5653



Wafer Check Valve Silent Check Model 888

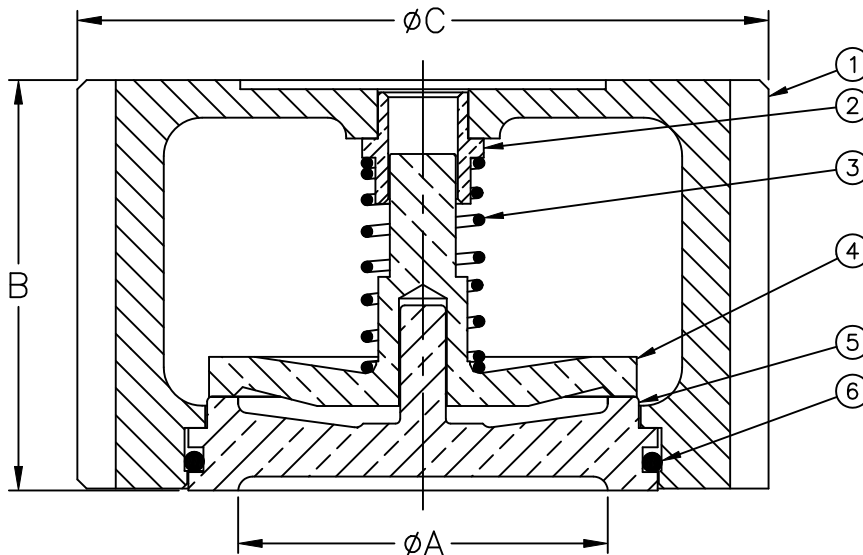
Sizes 2" Thru 6" / 50 mm & 150 mm



Flomatic Corporation



Materials



Item #	Qty	Description	Material	ASTM
1	1	Body (Epoxy Coated)	Cast Iron	A126, Class B
2	1	Bushing	Bronze	C95400
3	1	Spring	Stainless Steel	302
4	1	Poppet	Silicon Brass	C87800
5	1	Seat Ring*	Silicon Brass	C87800
6	1	O'Ring	Buna-n	-----

*OPTIONAL RESILIENT SEAT AVAILABLE, ADD "R" TO THE PART NUMBER 5" AND THE RESILIENT SEATED VALVES ARE NOT NSF61 APPROVED

Max Temp 180°F (82°C)

Max Inlet Pressure (125#) 200 psi (14bar)

Max Inlet Pressure (250#) 400 psi (27bar)

PATENT # 6,024,121

Dimensions

Size		Part #	A		B		C		Weight		# of Bolts		Bolt Size by Flange	
inch	mm		inch	mm	inch	mm	inch	mm	lbs	kg	125#	250#	125#	250#
2	50	2434	2-13/32	61	2-5/8	67	4-1/4	108	5	2.5	4	8	5/8 x 5-1/4	5/8 x 5-1/2
2-1/2	65	2432	2-9/16	65	2-7/8	73	5	127	7	3	4	8	5/8 x 5-1/4	3/4 x 6-1/2
3	80	2435	3-1/4	83	3-1/8	79	5-3/4	146	11	5	4	8	5/8 x 6-1/4	3/4 x 7
4	100	2436	4-3/8	111	4	102	7	178	18	8	8	8	5/8 x 7	3/4 x 8
5	125	2433	5-1/4	133	4-3/4	121	8-3/8	213	25	11.5	8	8	3/4 x 7-3/4	3/4 x 9
6	150	2437	5-29/32	150	5-1/2	140	9-3/4	248	36	16.5	8	12	3/4 x 8-3/4	3/4 x 10

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April 4, 1995
Dwg No: S888-1 Rev S (3/15)

FLOMATIC CORPORATION
GLENS FALLS, N.Y. 12801
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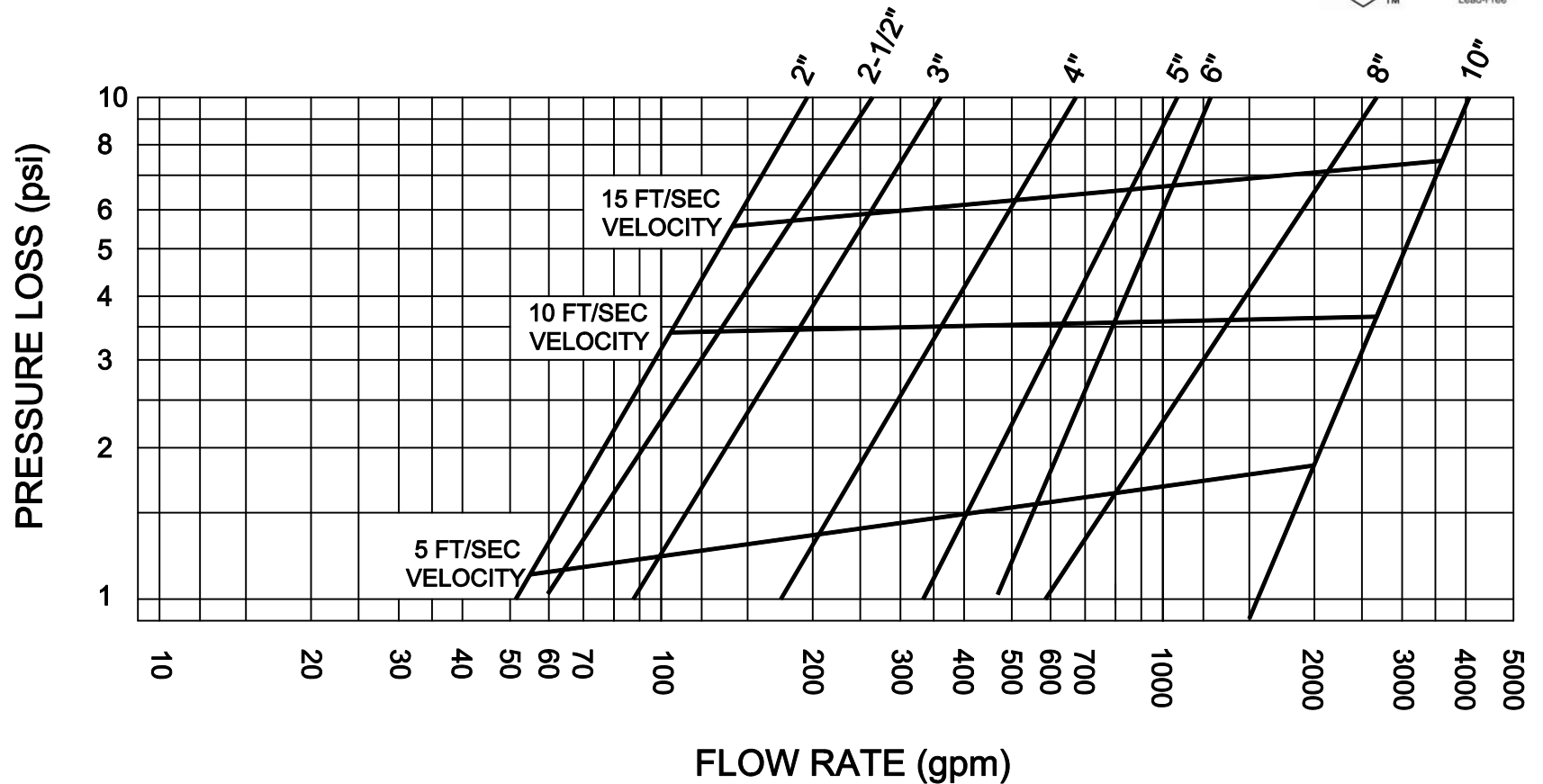
Wafer Check Valve

Headloss Chart

Model 888/888R



Sizes 2" thru 10"/ 50 mm thru 250 mm



PATENT # 6,024,121

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December 28, 1994
Dwg No: S888HL Rev: E (6/13)

FLOMATIC CORPORATION
GLENS FALLS, N.Y. 12801
PHONE (518) 761-9797
FAX (518) 761-9798

D80 Series

Dry or Liquid Filled • Stainless Steel Case

UTILITY GAUGES



D82LFB shown



- ▶ 1 1/2", 2", 2 1/2", 4" Dial Sizes
- ▶ ±1.6% Accuracy (1% Optional)
- ▶ Stainless Steel Case
- ▶ Glycerine Fill Standard

The Trerice **D80 Series** Industrial Gauge is designed for rugged performance requirements at an economical cost. This liquid filled gauge is furnished with a stainless steel case and crimped ring. Wetted parts are either bronze tube with Lead-Free (PBF) brass socket or stainless steel.

- Optional features and case style variations available: Please consult the Options & Accessories Section for details.
- For correct use and application of all pressure gauges, please refer to: Pressure Gauge Standard ASME B40.100.

Specifications

Models	Wetted Parts	
D82B	(dry)	Bronze tube, brass socket
D82LFB	(liquid filled)	Lead-Free (PBF) Meets NSF/ANSI Standards 372 and 61
D83SS	(dry)	316 Stainless steel tube & socket
D83LFSS	(liquid filled)	
Dial Sizes	1 1/2", 2", 2 1/2", 4"	
Fill	Glycerine, other fills available See Optional Features Section	
Movement	D82: Brass D83: 316 Stainless steel	
Connection	Lower male or center back male, (Lower back male 4" Dial only)	
Case	304 stainless steel, stem-mounted flangeless	
Ring	Crimped 304 stainless steel	
Window	Acrylic	
Pointer	Plain, black finished	
Dial Face	Aluminum, white background with black graduations and markings	
Accuracy	±1.6% Full Scale (1% available as an option)	
Maximum Temperature	150°F (65°C)	

Approximate Shipping Weight

- 1 1/2" Dial Size: 0.4 lbs [0.18 kg]
- 2" Dial Size: 0.4 lbs [0.18 kg]
- 2 1/2" Dial Size: 0.5 lbs [0.23 kg]
- 4" Dial Size: 1.0 lbs [0.45 kg]

HOW TO ORDER

Sample Order Number: **D82LFB 25 02 L A 110**

Model	Dial Size	Connection Size	Connection Location	Units of Measure	Range Code
D82LFB	15 1 1/2"	01 1/8 NPT*	L Lower	A psi	See Standard Ranges
D83LFSS	20 2"	02 1/4 NPT**	B Back	D psi/kPa	
D82B	25 2 1/2"	04 1/2 NPT***			
D83SS	40 4"				

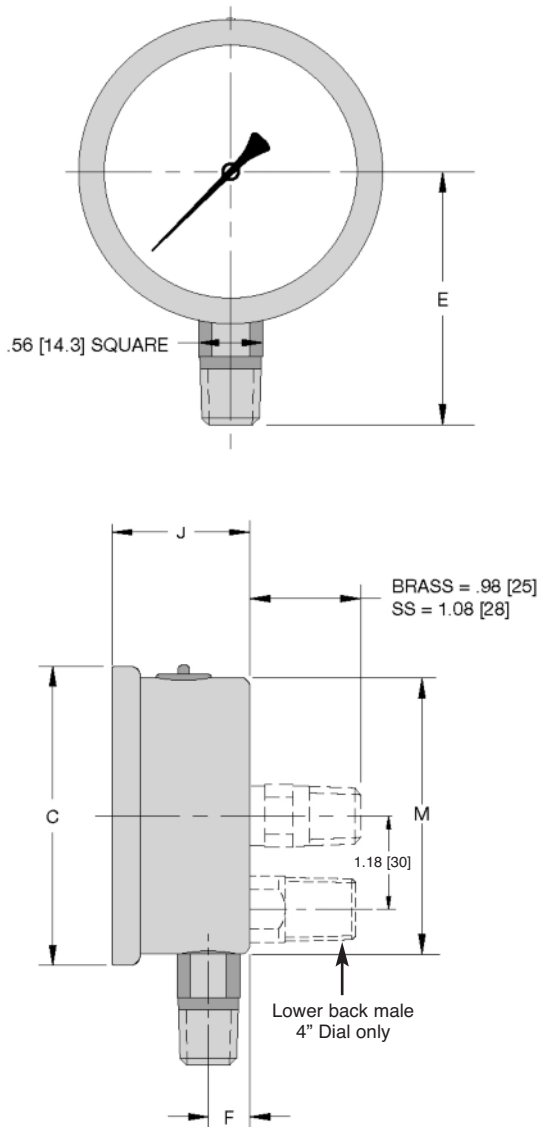
- * 1/8 NPT connection size not available with 4" dial size.
- ** 1/4 NPT connection size not available with 1 1/2" dial size.
- *** 1/2 NPT connection size only available with 4" dial size.

D80 Series

Dry or Liquid Filled • Stainless Steel Case

All dimensions are nominal. Dimensions in [] are in millimeters.

UTILITY GAUGES



Standard Ranges

psi Ranges (A)		D82		D83	
Range Code	Specific Range (psi)	Figure Intervals	Minor Divisions	Figure Intervals	Minor Divisions
010	30" Hg to 0	5	0.5	5	0.5
020	30" Hg to 15 psi	10/5	1/0.5	10/5	1/0.5
030	30" Hg to 30 psi	10/5	1/1	10/5	1/1
040	30" Hg to 60 psi	10/10	2/1	10/10	2/1
050	30" Hg to 100 psi	30/20	2/2	30/20	2/2
060	30" Hg to 150 psi	30/30	5/2	30/30	5/2
070	30" Hg to 300 psi	30/50	5/5	30/50	5/5
080	0 to 15 psi	3	0.2	3	0.2
090	0 to 30 psi	5	0.5	5	0.5
100	0 to 60 psi	10	1	10	1
110	0 to 100 psi	10	1	10	1
120	0 to 160 psi	20	2	20	2
130	0 to 200 psi	20	2	20	2
140	0 to 300 psi	50	5	50	5
150	0 to 400 psi	50	5	50	5
160	0 to 600 psi	100	10	100	10
180	0 to 1000 psi	100	20	100	20
190	0 to 1500 psi	300	20	300	20
200	0 to 2000 psi	200	20	200	20
210	0 to 3000 psi	500	50	500	50
220	0 to 5000 psi	1000	100	1000	100

Ranges over 5000 PSI are not available on D82LFB.

230	0 to 10000 psi	N/A	N/A	2000	200
240	0 to 15000 psi	N/A	N/A	3000	200

For dual scale ranges specify the appropriate **Units of Measure: D** (psi/kPa) followed by the corresponding **A** (psi) **Range Code**

Dial Size	C	E	F	J	M
1 1/2" D82	1.85 [47]	1.50 [38]	0.32 [8]	1.06 [27]	1.61 [41]
1 1/2" D83	1.85 [47]	1.50 [38]	0.32 [8]	1.06 [27]	1.61 [41]
2" D82	2.28 [58]	1.89 [48]	0.39 [10]	1.14 [29]	2.05 [52]
2" D83	2.28 [58]	2.05 [52]	0.35 [9]	1.18 [30]	2.05 [52]
2 1/2" D82	2.68 [68]	2.24 [57]	0.39 [10]	1.18 [30]	2.44 [62]
2 1/2" D83	2.68 [68]	2.32 [59]	0.51 [13]	1.38 [35]	2.44 [62]
4" D82	4.29 [109]	3.07 [78]	0.47 [12]	1.42 [36]	3.90 [99]
4" D83	4.29 [109]	3.94 [100]	0.75 [19]	1.93 [49]	3.94 [100]

Data sheet

MBS 3000 pressure transmitter for industrial applications

Introduction

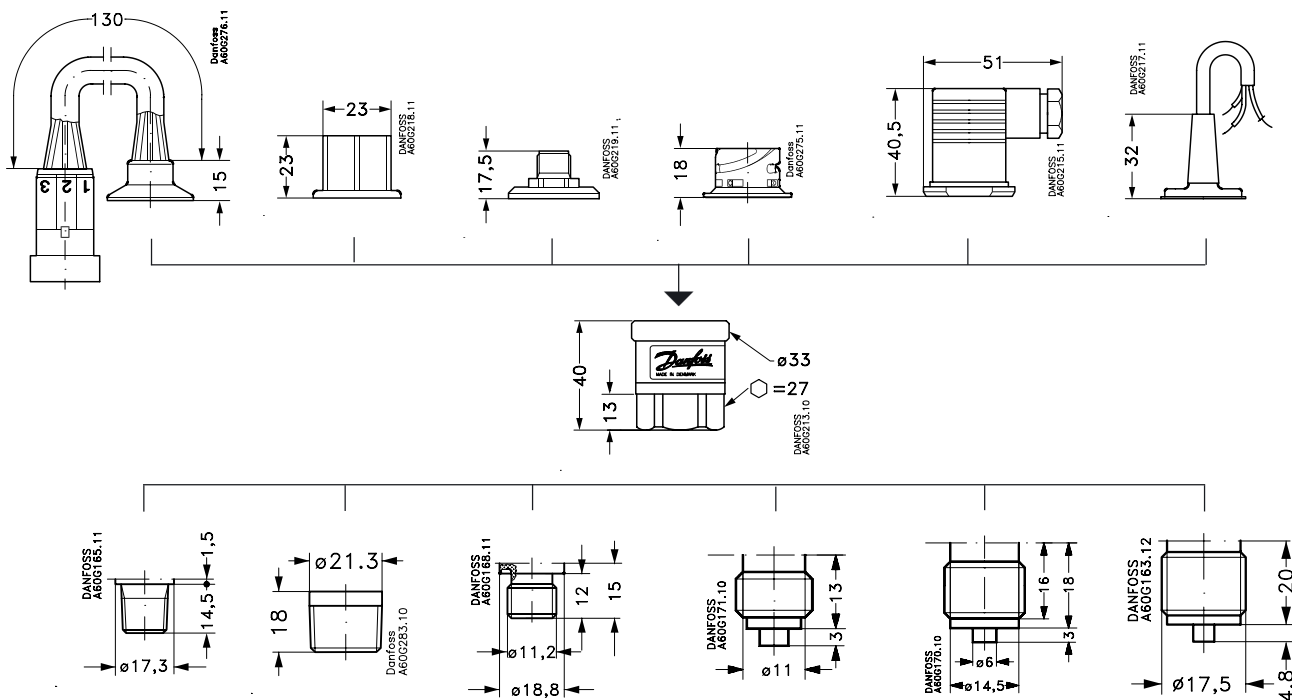


- Designed for use in severe industrial environments
- Enclosure and wetted parts of acid-resistant stainless steel (AISI 316L)
- All standard output signals: 4-20 mA, 0-5 V, 1-5 V, 1-6 V, 0-10 V
- A wide range of pressure and electrical connections
- Temperature compensated and laser calibrated
- Typical applications:
 - Pumps
 - Compressors
 - Pneumatics
 - Water treatment

Dimensions

Ordering

Type code Page 4	8	2	5	7	1	3
	AMP Superseal 1.5 series (male)	AMP Econoseal J series (male)	IEC 947-5-2 M12x1, 4-pin	ISO 15170-A1-3.2-Sn (Bayonet plug)	DIN 43650, Pg 9	2 m screened cable



Ordering

	1/4 - 18 NPT	1/2 - 14 NPT	DIN 3852-E-G1/4 Gasket: DIN 3869-14	G 1/4 A (EN 837)	G 3/8 A (EN 837)	G 1/2 A (EN 837)
Type code page 4	AC04	AC08	GB04	AB04	AB06	AB08

Technical data
Main specifications

Pressure connections	see page 1							
Measuring ranges [bar]	0-1 0-25	0-1.6 0-40	0-2.5 0-60	0-4 0-100	0-6 0-160	0-10 0-250	0-16 0-400	0-600
Output signals	4-20 mA	0-5 V	1-5 V	1-6 V	0-10 V			
Electrical connections	see page 3							

Performance (IEC 770)

Accuracy	±0.5% FS (typ.) ±1% FS (max.)
Non-linearity (best fit straight line)	≤ ±0.5% FS
Hysteresis and repeatability	≤ ±0.1% FS
Thermal zero point shift	≤ ±0.1% FS/10K (typ.) ≤ ±0.2% FS/10K (max.)
Thermal sensitivity (span) shift	≤ ±0.1% FS/10K (typ.) ≤ ±0.2% FS/10K (max.)
Response time	< 4 ms
Overload pressure	6 × FS (max. 1500 bar)
Burst pressure	6 × FS (max. 2000 bar)
Durability, P: 10-90% FS	>10×10 ⁶ cycles

Electrical specifications

	Nom. output signal (short-circuit protected)		
	4 – 20 mA	0-5, 1-5, 1-6 V d.c.	0-10 V d.c.
Supply voltage [U _B], polarity protected	9 → 32 V d.c.	9 → 30 V d.c.	15 → 30 V d.c.
Supply - current consumption	-	≤ 5 mA	≤ 8 mA
Supply voltage dependency	≤ ±0.05% FS/10 V		
Current limitation (linear output up to 1.5x nom. range)	34 mA (typ.)	-	
Output impedance	-	≤ 25Ω	
Load [R _L] (load connected to 0V)	R _L ≤ (U _B -9V)/0.02	R _L ≥ 10 kΩ	R _L ≥ 15 kΩ

Environmental conditions

Medium temperature range	-40 → +85°C			
Ambient temperature range (depending on electrical connection)	see page 3			
Compensated temperature range	0 → +80°C			
Transport temperature range	-50 → +85°C			
EMC - Emission	EN 61000-6-3			
EMC - Immunity	Electrostatic discharge	Air mode	8 kV	EN 61000-6-2
		Contact mode	4 kV	EN 61000-6-2
	RF field	conducted	10 V/m, 26 MHz - 1 GHz	EN 61000-6-2
		radiated	10 V _{rms} , 150 kHz - 30 MHz	EN 61000-6-2
	Transient	burst	4 kV (CM), Clamp	EN 61000-6-2
surge		1 kV (CM,DM), Rg = 42Ω	EN 61000-6-2	
Insulation resistance	> 100 MΩ at 100 V d.c.			
Mains frequency test	500 V, 50 Hz		SEN 361503	
Vibration stability	Sinusoidal	15.9 mm-pp, 5Hz-25Hz	IEC 60068-2-6	
		20 g, 25 Hz - 2 kHz		
Shock resistance	Random	7.5 g _{rms} , 5 Hz - 1 kHz	IEC 60068-2-34, IEC 60068-2-36	
	Shock	500 g / 1 ms	IEC 60068-2-27	
Enclosure (depending on electrical connection)	Free fall		IEC 60068-2-32	
	see page 3			

Mechanical characteristics

Materials	Wetted parts	DIN 17440-1.4404 (AISI 316 L)
	Enclosure	DIN 17440-1.4404 (AISI 316 L)
	Electrical connections	see page 3
Weight (depending on pressure connection and electrical connection)	0.2-0.3 kg	

Electrical connections

Type code, page 4					
1	2	5	7	8	3
DIN 43650, Pg 9 	AMP Econoseal J series (male) 	IEC 947-5-2 M12x1 	ISO 15170-A1-3.2-Sn (Bayonet plug) 	AMP Superseal 1.5 series (male) 	2 m screened cable
<i>Ambient temperature</i>					
-40 → + 85 °C	-40 → + 85 °C	-25 → +85 °C	-40 → +85 °C	-40 → +85 °C	-30 → +85 °C
<i>Enclosure</i>					
IP 65	IP 67	IP 67	IP 67 / IP 69K	IP 67	IP67
<i>Materials</i>					
Glass filled polyamid, PA 6.6	Glass filled polyamid, PA 6.6 ¹⁾	Nickel plated brass, CuZn/Ni	Glass filled polyester, PBT	Glass filled polyamid, PA 6.6 ²⁾	Polyolifin cable with PE shrinkage tubing
<i>Electrical connection, 4-20 mA output (2 wire)</i>					
Pin 1: +supply Pin 2: ÷supply Pin 3: Not used Earth: Connected to MBS housing	Pin 1: +supply Pin 2: ÷supply Pin 3: Not used	Pin 1: +supply Pin 2: Not used Pin 3: Not used Pin 4: ÷supply	Pin 1: +supply Pin 2: ÷supply Pin 3: Ventilation Pin 4: Not used	Pin 1: +supply Pin 2: ÷supply Pin 3: Not used	Brown wire: +supply Black wire: ÷supply Red wire: Not used Orange: Not used Screen: Not connected to MBS housing
<i>Electrical connection, 0-5V, 1-5V, 1-6V, 0-10V output</i>					
Pin 1: +supply Pin 2: ÷supply Pin 3: Output Earth: Connected to MBS housing	Pin 1: +supply Pin 2: ÷supply Pin 3: Output	Pin 1: +supply Pin 2: not used Pin 3: Output Pin 4: ÷supply	Pin 1: +supply Pin 2: Output Pin 3: Ventilation Pin 4: ÷supply	Pin 1: +supply Pin 2: ÷supply Pin 3: Output	Brown wire: Output Black wire: ÷supply Red wire: + supply Orange: Not used Screen: Not connected to MBS housing

¹⁾ Female plug: Glass filled polyester, PBT

²⁾ Wire: PETFE (teflon)
Protection sleeve: PBT mesh (polyester)

Ordering of standard MBS 3000 with DIN 43650 plug Pg 9

Pressure connection	Pressure range Pe	Type	Code no.
G 1/4 A (EN 837)	0 - 1 bar	MBS 3000 1011-1 AB04	060G1113
	0 - 1.6 bar	MBS 3000 1211-1 AB04	060G1429
	0 - 2.5 bar	MBS 3000 1411-1 AB04	060G1122
	0 - 4 bar	MBS 3000 1611-1 AB04	060G1123
	0 - 6 bar	MBS 3000 1811-1 AB04	060G1124
	0 - 10 bar	MBS 3000 2011-1 AB04	060G1125
	0 - 16 bar	MBS 3000 2211-1 AB04	060G1133
	0 - 25 bar	MBS 3000 2411-1 AB04	060G1430
	0 - 40 bar	MBS 3000 2611-1 AB04	060G1105
	0 - 60 bar	MBS 3000 2811-1 AB04	060G1106
	0 - 100 bar	MBS 3000 3011-1 AB04	060G1107
	0 - 160 bar	MBS 3000 3211-1 AB04	060G1112
	0 - 250 bar	MBS 3000 3411-1 AB04	060G1111
	0 - 400 bar	MBS 3000 3611-1 AB04	060G1109
0 - 600 bar	MBS 3000 3811-1 AB04	060G1110	

Ordering of special versions



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