

Diaphragm Pressure Gauge

MN12 - DS 100-150

02.40...45



The sensing element is an elastic diaphragm, with concentric corrugations that drives the amplifying movement through a ball-joint. They are designed to measure pressure or vacuum of viscous, sedimentous, crystallisable or corrosive fluids. Compared to the bourdon tube system they are more robust and are better able to withstand overpressure or aggressive fluids.

Functional and constructive characteristics

02.40 - carbon steel version

Accuracy class: 1,6 as per EN 837-3.
Ambient temperature: -25...+65 °C.
Process temperature: max. +100 °C.
Working pressure: max 75% of the full scale value.
Overpressure limit: 25% of the full scale value.
Thermal drift: $\pm 0,6\%$ every $\pm 10^\circ\text{C}$ of ambient temperature.
Protection: IP 55 as per IEC 529.
Process connection: zinc plated steel.
Elastic element: AISI 316 st.st. diaphragm for pressure ranges - 2,5 bar; carbon steel diaphragm for pressure ranges ≥ 4 bar.
Diaphragm gasket: PTFE.
Case: AISI 304 st.st.
Ring: AISI 304 st.st., bayonet lock.
Window: glass, 4 mm thick.
Movement: stainless steel.
Dial: aluminium, white with black markings.
Pointer: aluminium, micrometric adjustable.
Window gasket: EPDM.
Blow out vent: EPDM.

02.44 - carbon steel PTFE coated version

Process connection: zinc plated steel, PTFE coated.
Elastic element: diaphragm as per 01.40.1, PTFE coated.
Other features as 02.40 type.

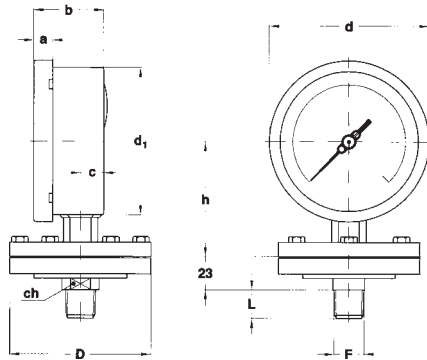
02.42 - AISI 316 st.st. version

Accuracy class: 1,6 as per EN 837-3.
Ambient temperature: -25...+65 °C.
Process temperature: max. +100 °C.
Working pressure: max 75% of the full scale value.
Overpressure limit: 25% of the full scale value.
Internal stops (option F03): 10 time the f.s.v. but not over 2 bar for pressure ranges 25...400 mbar; 5 time the f.s.v. but not over 40 bar, for pressure ranges 0,6...25 bar.
Thermal drift: $\pm 0,6\%$ every $\pm 10^\circ\text{C}$ of ambient temperature.
Protection: IP 55 as per IEC 529.
Process connection: AISI 316 st.st.
Elastic element: AISI 316 st.st. diaphragm.
Diaphragm gasket: PTFE.
Case: AISI 304 st.st.
Ring: AISI 304 st.st., bayonet lock.
Window: glass, 4 mm thick.
Movement: stainless steel.
Dial: aluminium, white with black markings.
Pointer: aluminium, micrometric adjustable.
Window gasket: EPDM.
Blow out vent: EPDM.

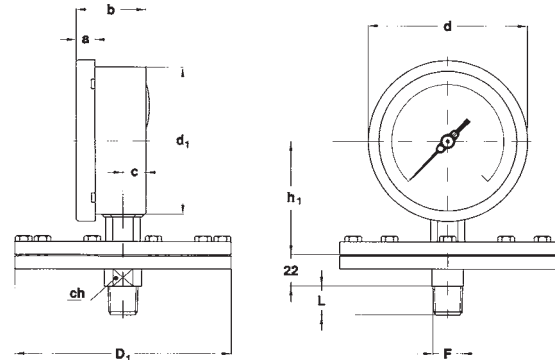
02.45 - AISI 316 st.st. PTFE coated version

Process connection: AISI 316, PTFE coated.
Elastic element: AISI 316 st.st. diaphragm, PTFE coated.
Other features as 02.42 type.

TYPES WITH THREADED CONNECTIONS: DIMENSIONS (mm)



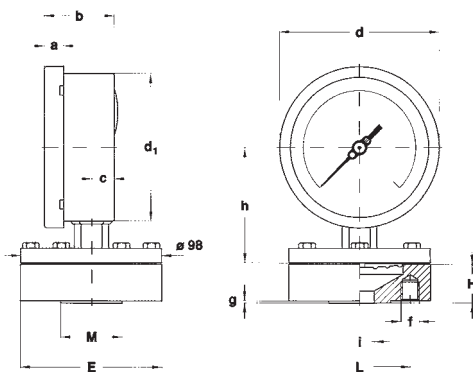
Ranges 0,6...25 bar



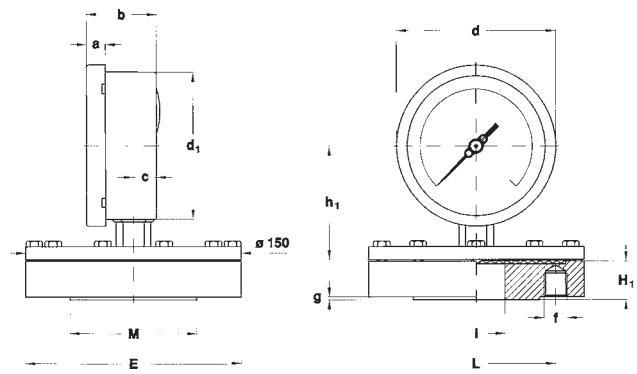
Ranges 25...400 mbar

Range	DS	F	a	b	c	d	d ₁	h	h ₁	D	D ₁	ch	L	Weight
25...400 mbar	100	1/2" BSP or NPT	13	48,5	16,1	110,6	101	-	78,5	-	150	22	20	2,6 Kg.
25...400 mbar	150	1/2" BSP or NPT	15	50,5	16,5	161	149,6	-	110,8	-	150	22	20	2,95 Kg.
0,6...25 bar	100	1/2" BSP or NPT	13	48,5	16,1	110,6	101	79,5	-	98	-	22	20	1,75 Kg.
0,6...25 bar	150	1/2" BSP or NPT	15	50,5	16,5	161	149,6	111,8	-	98	-	22	20	2,1 Kg.

TYPES WITH FLANGED CONNECTIONS: DIMENSIONS (mm)



Ranges 0,6...25 bar



Ranges 25...400 mbar

FLANGED CONNECTION AS PER UNI - DIN

DN	PN	Code	H	H ₁	E	M	I	g	L	f	N (1)
15	6	OOG	34	27	80	40	15	2	55	M10	4
15	10...16	OQG	27	27	95	45	15	2	65	M12	4
15	25...40	OSG	27	27	95	45	15	2	65	M12	4
20	6	POG	34	27	90	50	20	2	65	M10	4
20	10...16	PQG	27	27	105	58	20	2	75	M12	4
20	25...40	PSG	27	27	105	58	20	2	75	M12	4
25	6	QOG	27	27	100	60	25	2	75	M10	4
25	10...16	QQG	27	27	115	68	25	2	85	M12	4
25	25...40	QSG	27	27	115	68	25	2	85	M12	4
40	6	SOG	27	27	130	80	40	3	100	M12	4
40	10...16	SQG	27	27	150	88	40	3	110	M16	4
40	25...40	SSG	27	27	150	88	40	3	110	M16	4
50	6	TOG	27	27	140	90	50	3	110	M12	4
50	10...16	TQG	27	32	165	102	50	3	125	M16	4
50	25...40	TSG	27	32	165	102	50	3	125	M16	4

1) N° threaded holes.

FLANGED CONNECTION AS PER ANSI (mm)

DN	PN	Code	H	H ₁	E	M	I	g	L	f	N (1)
1/2"	150	4AA	34	27	89	34,9	15	1,6	60,3	1/2" 13UNC	4
1/2"	300	4BA	27	27	95	34,9	15	1,6	66,7	1/2" 13UNC	4
1/2"	600	4DA	48,5	27	95	34,9	15	6,3	66,7	1/2" 13UNC	4
3/4"	150	5AA	27	27	98,5	42,9	20	1,6	69,8	1/2" 13UNC	4
3/4"	300	5BA	38	27	117,5	42,9	20	1,6	82,5	5/8" 11UNC	4
3/4"	600	5DA	48,5	27	117,5	42,9	20	6,3	82,5	5/8" 11UNC	4
1"	150	6AA	27	27	108	50,8	25	1,6	79,4	1/2" 13UNC	4
1"	300	6BA	38	28	124	50,8	25	1,6	88,9	5/8" 11UNC	4
1"	600	6DA	48,5	28	124	50,8	25	6,3	88,9	5/8" 11UNC	4
1" 1/2	150	AAA	27	28	127	73	40	1,6	98,4	1/2" 13UNC	4
1" 1/2	300	ABA	27	30	155,5	73	40	1,6	114,3	3/4" 10UNC	4
1" 1/2	600	ADA	48,5	30	155,5	73	40	6,3	114,3	3/4" 10UNC	4
2"	150	BAA	27	32	152,5	92,1	50	1,6	120,6	5/8" 11UNC	4
2"	300	BBA	27	32	165	92,1	50	1,6	127	5/8" 11UNC	8
2"	600	BDA	48,5	32	165	92,1	50	6,3	127	5/8" 11UNC	8

1) N° threaded holes.

RANGES - "E" = DS100; "G" = DS150.

PRESSURE

TAB. 1

Range (1)	mbar	bar
0...0,6		EG
0...1		EG
0...1,6		EG
0...2,5		EG
0...4		EG
0...6		EG
0...10		EG
0...16		EG
0...25	EG (3)	EG
0...40	EG	
0...60	EG	
0...100	EG	
0...160	EG	
0...250	EG	
0...400	EG	
0...600	EG	

VACUUM (2)

TAB. 2

Range (1)	mbar	bar
-0,6...0		EG
-1...0		EG
-25...0	EG	
-40...0	EG	
-60...0	EG	
-100...0	EG	
-160...0	EG	
-250...0	EG	
-400...0	EG	
-600...0	EG	
-1000...0	EG	

COMPOUND (2)

TAB. 3

Range (1)	mbar	bar
-0,6...1		EG
-1...0,6		EG
-1...1,5		EG
-1...3		EG
-1...5		EG
-1...9		EG
-10...15	EG	
-15...10	EG	
-15...25	EG	
-25...15	EG	
-20...40	EG	
-40...20	EG	
-40...60	EG	
-60...40	EG	
-60...100	EG	
-100...60	EG	
-100...150	EG	
-150...100	EG	
-150...250	EG	
-250...150	EG	
-200...400	EG	
-400...200 (4)	EG	
-400...600	EG	
-600...400	EG	

- (1) Others units of measurement upon request.
(2) Special ranges: to be ordered with M35 option.
(3) Overpressure limit: max 15% of the full scale value
(4) Please order with option code 7

diaphragm pressure gauge

MN12 - DN 100-150

02.40...45

OPTIONS - "E" = DN100; "G" = DN150.

DESCRIPTION	Code	02.40	02.42	02.44	02.45
Inductive and mechanical electric contacts (1)	---	EG	EG	EG	EG
AISI316 st.st. case and ring	C40		EG		EG
Protection IP 65 as per IEC 529	E65	EG	EG	EG	EG
Internal stops for high overpressure (2)	F03		EG		EG
Maximum pointer IP 65	L22	EG	EG	EG	EG
Monel 400 protection diaphragm for ranges - 400 mbar	M16		EG		EG
Monel 400 protection diaphragm for ranges ³ 600 mbar	M23		EG		EG
Hastelloy C protection diaphragm for ranges - 400 mbar	M31		EG		EG
Hastelloy C protection diaphragm for ranges ³ 600 mbar	M22		EG		EG
Tantalio protection diaphragm for ranges - 400 mbar	M20		EG		EG
Tantalio protection diaphragm for ranges ³ 600 mbar	M29		EG		EG
AISI 316L st.st. diaphragm for ranges > 2,5 bar	M25	EG	std		
PTFE protection diaphragm	M26	EG	EG	std	std
PTFE+Fiberglass protection diaphragm for vacuum gauges	M28	EG	EG	std	std
Vacuum & compound calibration (2)	M35	EG	EG	EG	EG
Oxygen service	P02	EG	EG	EG	EG
Special dial	Q01	EG	EG	EG	EG
Glycerine filling (3) (4)	R10		EG		EG
Silicone oil filling (3) (4) (5)	R11		EG		EG
Tropicalization	T01		EG		
Stainless steel label	T25	EG	EG	EG	EG
Plexiglas window	T31	EG	EG	EG	EG
Safety glass window	T32	EG	EG	EG	EG

(1) ³ 60 mbar, codes, descriptions and wiring on data-sheet 01S...B22.

(2) Not applicable on instruments with electric contacts.

(3) For pressure ranges ³ 600 mbar only.

(4) Accuracy class: 2,5 as per EN 837-3.

(5) Silicone rubber gasket; VITON blow out vent.

HOW TO ORDER

CODE & DESCRIPTION	
02	02 - low pressure gauges
1	1 - standard version
42	40 - carbon steel 42 - AISI 316 st.st. 44 - carbon steel PTFE coated 45 - AISI 316 st.st. PTFE coated
A	A - lower connection
E	E - DS100 G - DS150
6	7 - up to 400 mbar 6 - over 400 mbar
0/10 bar	see ranges table
41M	41M - 1/2" BSP M 43M - 1/2" NPT M (1)
T25	see options table

(1) not available with PTFE coated version.

ACCESSORIES

Valves: for construction details and for use limits refer to our catalogue 05.

Pigtail and siphons: recommended with temperatures of 65° C (150° F) or over. For further details refer to our catalogue 05.5xx.



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