

# Diaphragm Pressure Gauge for absolute pressures

## 02.43 DS100-150



The measurement element composed by a concentric waving diaphragm, separates an upper housing called "of reference" which is empty, from a lower housing where the fluid pressure gets in. The upper housing is isolated by a bellows from the atmospheric pressure and it allows to transmit the bending diaphragm movement, under the fluid pressure action, to the pointer through a joint and a linkage. In order to be a suitable support for the diaphragm and to ensure a high instrument resistance to overpressure, the upper part of the reference housing is as rippled as the diaphragm. The instrument case is exposed to the atmospheric pressure therefore it is possible to install optional accessories inside or outside it.

### Functional and constructive characteristics

#### 02.43.1

**Accuracy :** (20-Cor a value of specify temperature in order): 1,6 as per EN 837.

**Ambient temperature:** -25 / +65 ·C.

**Process fluid temperature:** (+100 ·C).

**Working pressure:** max 75% of the full scale value .

**Overpressure:** max 3,5 bar abs for ranges  $\leq 400$  m bar abs; max 6 bar abs for ranges 0,6...1,6 bar abs.

**Thermal drift:**  $\pm 0,6\%$  every  $\pm 10$  ·C of ambient temperature.

**Protection:** IP55 as per IEC529.

**Process connection:** AISI316 st.st.

**Elastic element:** AISI316 st.st. diaphragm.

**Diaphragm gasket:** O-Ring in Viton.

**Seal bellows:** AISI321 st.st.

**Case:** AISI304 st.st.

**Ring:** AISI304 st.st. bayonet lock.

**Window:** glass, 4 mm thick.

**Movement:** stainless steel with sector stiffened.

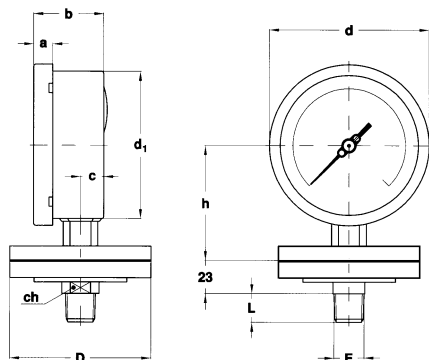
**Dial:** aluminium, white with black markings.

**Pointer:** aluminium, micrometric adjustable.

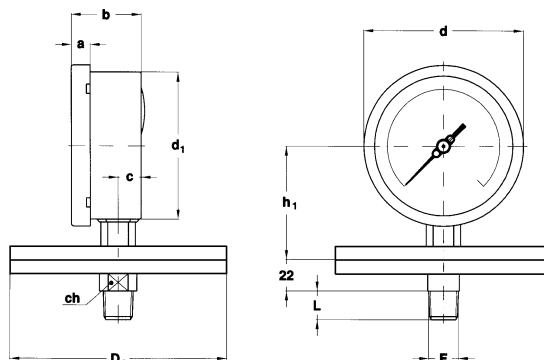
**Window gasket:** EPDM.

**Blow out vent:** EPDM.

## TYPE, DIMENSIONS AND WEIGHTS (threaded connection)



Ranges 0...0,6\0...1,6 bar



Ranges 0...25/0...400 mbar

### THREADED CONNECTION: dimensions in mm.

RANGE	DS	F	a	b	c	d	d <sub>1</sub>	h	h <sub>1</sub>	D	D <sub>1</sub>	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.
0,6/1,6 bar	100	1/2" BSP or NPT	13	48,5	16,1	110,6	101	79,5	-	98	-	22	20	1,75 Kg.
0,6/1,6 bar	150	1/2" BSP or NPT	15	50,5	16,5	161	149,6	111,8	-	98	-	22	20	2,1 Kg.

## RANGES

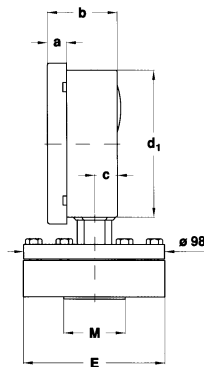
mbar abs	mmH <sub>2</sub> O abs	bar abs	Overpressure: bar abs
0/25 (1)	0/250 (1)	/	3,5
0/40	0/400	/	3,5
0/60	0/600	/	3,5
0/100	0/1000	/	3,5
0/160	0/1600	/	3,5
0/250	0/2500	/	3,5
0/400	0/4000	/	3,5
0/600	0/6000	0/0,6	6
0/1000	0/10000	0/1	6
0/1600	0/16000	0/1,6	6

(1) dial on 180°

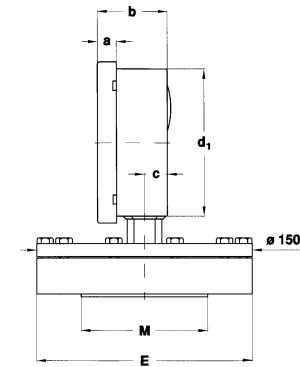
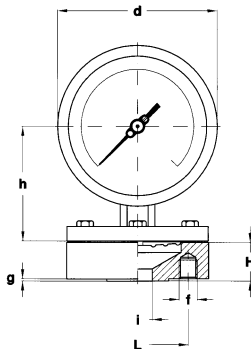
Torr	Overpressure: bar abs
0/16 (1)	3,5
0/25	3,5
0/40	3,5
0/60	3,5
0/100	3,5
0/160	3,5
0/250	3,5
0/400	3,5
0/600	6
0/1000	6

(1) dial on 180°

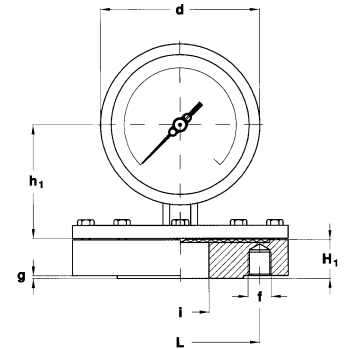
## TYPE AND DIMENSIONS (flanged connection)



Ranges 0...0,6 / 0...1,6 bar



Ranges 0...25 / 0...400 mbar



### FLANGED CONNECTION AS PER ANSI B16.5 : dimensions in mm.

DS	PN-psi (1)	Code	H	H <sub>1</sub>	E	M	I	g	L	f	N (2)
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

### FLANGED CONNECTION AS PER UNI-DIN : dimensions in mm.

DS	PN-bar (1)	Code	H	H <sub>1</sub>	E	M	I	g	L	f	N (2)
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) suitable for 150% of flange rating.

2) N · threaded holes.

## OPTIONS

DESCRIPTION	CODE	02.43.1
Inductive and mechanical electric contacts (60mbar)(1)	---	EG
AISI316st.st. case and ring	C40	G
Protection IP 65	E65	EG
Suitable for oxygen	P02	EG
Special dial	Q01	EG
Tropicalization	T01	EG
AISI316st.st. label	T25	EG
Plexiglas window	T31	EG
Safety glass window	T32	EG

(1) Codes, descriptions and wiring on data-sheet MN14.

## HOW TO ORDER

	DESCRIPTION & CODES
<b>02</b>	02 - section
<b>43</b>	43 - diaphragm pressure gauges for absolute pressures
<b>1</b>	1 - standard version
<b>A</b>	A - lower connection - stem mounting
<b>E</b>	E - DS100 G - DS150
<b>0</b>	
<b>0/25 mbar</b>	see ranges table
<b>41M</b>	41M - 1/2" BSPM 43M - 1/2" NPTM
<b>T25</b>	see options table

## ACCESSORIES

**Adjustable over-load protector:** this is useful for installations which may generate high overpressures, the pressure gauges are automatically excluded at the pre-set pressure returns to normal. For further details refer to our datasheet for pressure gauge accessories.

**Valves:** for construction details and for use limits refer to our datasheet for pressure gauge accessories.

**Pigtails and siphons:** recommended with temperature of 65° (150° F) or over. For further details refer to our datasheets for pressure gauge accessories.



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