

liquid filled pressure gauge
heavy duty
MGS10 - DS 100

1.10



Instruments designed for use on power units, pumps, hydro-cleaning machines, presses, engine compressors, turbines, diesel engines, chemical, petrochemical and refrigerating plants and on machines and equipment where pulsating pressures or mechanical vibrations are apparent. They can be used with gaseous or liquid media which do not corrode copper alloy and which do not have high viscosity or do not cristalize.

Functional and constructive characteristics.

1.10.1 Standard

Accuracy class: 1,0 as per EN 837-1.

Ambient temperature: -25...+65 °C.

Process temperature: -25...+65 °C for pressure ranges ≤ 40 bar;
 -25...+120 °C for pressure ranges ≥ 60 bar.

Working pressure (referred to the full scale value): max 90% for fluctuating pressure; 100% for steady pressure.

Short time overpressure (referred to the full scale value): 30%.

Protection degree: IP 55 as per IEC 529.

Socket material: brass, with internal restrictor Ø 0,8 mm.

Elastic element: phosphor bronze for pressure ranges ≤ 40 bar;
 AISI 316L st.st. for pressure ranges > 40 bar.

Welding: tin-copper alloy for pressure ranges ≤ 40 bar;
 silver alloy for pressure ranges > 40 bar.

Case: AISI 304 st.st.

Ring: AISI 304 st.st., bayonet lock.

Window: glass.

Movement: brass.

Dial: aluminium, white with black markings and symbol "▼" at the end of the scale value.

Pointer: black anodized aluminium.

Window gasket, filling plug and blow out vent: EPDM.

1.10.2 Fillable

Protection degree: IP 67 as per IEC 529.

Window: plexiglass, 4 mm thick.

Note: version suitable for glycerine filling only; other fillable version available (see OPTIONS table on page 4).

Other features: as type 1.10.1 (as type 1.10.3 when filled).

1.10.3 Liquid filled

Ambient temperature: max +65 °C, (see DAMPING LIQUIDS table on page 2, for further information)

Process temperature: max +65 °C.

Protection degree: IP 67 as per IEC 529.

Window: Plexiglas, thick 4mm.

Damping liquids: glycerine 98%, (optional silicon oil).

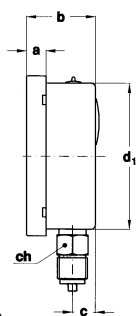
Other features: as type 1.10.1.

liquid filled pressure gauge

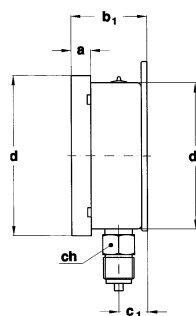
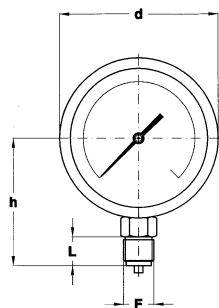
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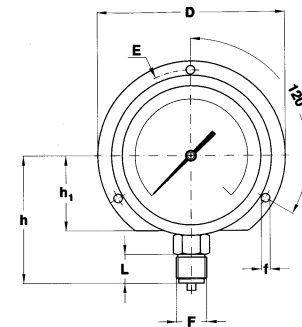
TYPE, DIMENSIONS AND WEIGHTS



TYPE A
stem mounting;
lower connection.

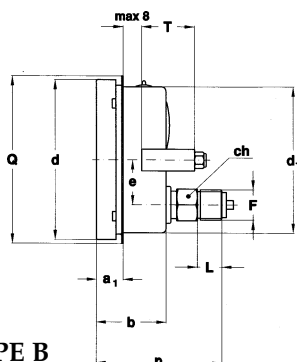


TYPE C
surface mounting, back flange;
lower connection.

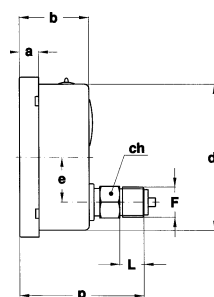
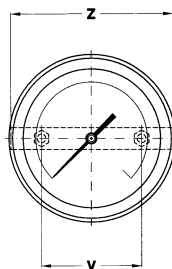


DS	Type	F	a	b	b ₁	c	c ₁	d	d ₁	f	h	h ₁	D	E	ch	L	Weight 10.2	Weight 10.3
100	A-C	1/2" BSP or NPT	13	48,6	52,6	16,1	20,1	110,6	101	6	86	52	130	118	22	20	0,52 kg	0,85 kg

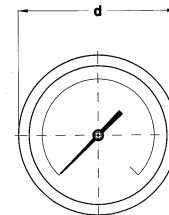
(dimensioni : mm.)



TYPE B
flush mounting, "U" clamp;
back connection.

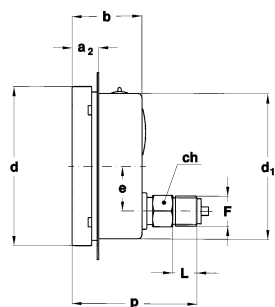


TYPE D
stem mounting;
back connection.

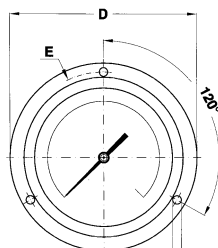


DS	Type	F	a	a ₁	a ₂	b	d	d ₁	e	f	p	D	E	Q	T	V	Z	ch	L	Weight 10.2	Weight 10.3
100	B-D-E	1/2" BSP or NPT	13	20	20	48,6	110,6	101	31	6	86,8	132	118	112	41,5	70	112	22	20	0,57 kg	0,9 kg

(dimensioni : mm.)



TYPE E
flush mounting, front flange;
back connection.



DAMPING LIQUIDS

Damping liquids	Ambient temperature
Glycerine 98%	+15...+65 °C (+60...+150 °F)
Silicone oil	-45...+65 °C (-50...+150 °F)

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RANGES

PRESSURE

TAB. 1

RANGE	bar (1)	kPa	MPa	bar ext. (1)	bar ext. kPa int.	bar ext. MPa int.
0...1	◆		◆	◆	◆	
0...1,6	◆		◆	◆	◆	
0...2,5	◆		◆	◆	◆	
0...4	◆		◆	◆	◆	
0...6	◆		◆	◆	◆	
0...10	◆		◆	◆		◆
0...16	◆		◆	◆		◆
0...25	◆		◆	◆		◆
0...40	◆		◆	◆		◆
0...60	◆		◆	◆		◆
0...100	◆	◆	◆	◆		◆
0...160	◆	◆		◆		◆
0...250	◆	◆		◆		◆
0...300	◆					
0...400	◆	◆		◆		◆
0...600	◆	◆		◆		◆
0...1000	◆	◆		◆		◆
0...1600		◆				
0...2500		◆				

(1) Available also kg/cm²

VACUUM & COMPOUND

TAB. 3

RANGE	bar	kPa	bar ext. psi int.*	bar ext. kPa int.
-1...0	◆		◆	◆
-1...0,6	◆		◆	◆
-1...1,5	◆		◆	◆
-1...3	◆		◆	◆
-1...5	◆		◆	◆
-1...9	◆		◆	◆
-1...15	◆		◆	◆
-1...24	◆		◆	◆
-100...0		◆		
-100...150		◆		
-100...300		◆		
-100...500		◆		
-100...900		◆		
-100...1500		◆		
-100...2400		◆		

* vacuum unit of measurement: "inHg"

TAB. 2

RANGE	psi	psi int. kPa ext.	psi ext. bar int.	psi ext. kg/cm ² int.
0...15	◆	◆	◆	◆
0...30	◆	◆	◆	◆
0...60	◆	◆	◆	◆
0...100	◆	◆	◆	◆
0...160	◆	◆	◆	◆
0...200	◆	◆	◆	◆
0...300	◆	◆	◆	◆
0...400	◆	◆	◆	◆
0...600	◆	◆	◆	◆
0...800	◆	◆	◆	◆
0...1000	◆	◆	◆	◆
0...1500	◆	◆	◆	◆
0...2000	◆	◆	◆	◆
0...3000	◆	◆	◆	◆
0...4000	◆	◆	◆	◆
0...5000	◆	◆	◆	◆
0...6000	◆	◆	◆	◆
0...10000	◆	◆	◆	◆
0...15000	◆	◆	◆	◆

TAB. 4

RANGE	psi*	psi int.* kPa ext.	psi ext.* bar int.	psi ext.* kg/cm ² int.
-30...0	◆	◆	◆	◆
-30...15	◆	◆	◆	◆
-30...30	◆	◆	◆	◆
-30...150	◆			

* vacuum unit of measurement: "inHg"

TAB. 5 - FREON Triple scale ranges

bar	R12 - °C	R22 - °C	R502 - °C
-1...+9	-70...+40	-80...+20	-70...+20
-1...+15	-60...+60	-60...+40	-60...+35
-1...+24	-50...+80	-60...+60	-60...+55
-1...+39	-60...+110	-70...+80	-60...+80

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OPTIONS

DESCRIPTIONS	Code	1.10.1	1.10.2	1.10.3
Inductive and mechanical electric contacts (1)	---	◆		
Individual testing	C06	◆	◆	◆
S1 version - (Tin-silver alloy welding for ranges ≤ 40 bar - P.T. ≤ 120 °C) (3)	E03	◆	◆	◆
Fluorolube filling (2)	F30			◆
Adjustable pointer	L02	◆	◆	◆
Maximum pointer IP 44	L21	◆		
Maximum pointer, IP 65	L22	◆	◆	◆
Reference pointer MN7	L30	◆		
Suitable for filling with silicon (2)	P01		◆	
Restrictor ø 0,4 mm.	S06	◆	◆	◆
Silicone filling (2)	S10			◆
Glass window	T30	std	◆	◆
Plexiglas window	T31	◆	std	std
Safety glass window	T32	◆	◆	◆

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

(2) Window gasket: silicone rubber; filling plug & blow out vent: VITON.

(3) Min. quantity 50 pcs.

HOW TO ORDER

1	1- bourdon tube pressure gauges
10	10 - liquide filled pressure gauge, heavy duty MGS10
2	1 - standard version 2 - fillable version 3 - filled version
C	A - lower connection - stem mounting B - back connection, flush mounting; "U" clamp C - lower connection - surface mounting, back flange D - back connection - stem mounting; E - back connection, flush mounting; front flange
E	E - DS 100
2	1 - up to 2,5 bar 2 - from 4 to 40 bar 3 - over 40 bar
0/10 bar	see range tables
41M	21M - 1/4" BSP M 22M - 1/4" BSP TAPER M 23M - 1/4" NPT M 24M - 1/4" SAE M 31M - 3/8" BSP M 41M - 1/2" BSP M 43M - 1/2" NPT M 97M - M20 x 1,5 M
P01	see options table

ACCESSORIES

Adjustable over-load protector: this is useful for installations which may generate high overpressures; the pressure gauges is automatically excluded at the pre-set pressure and cut in again automatically when the operating pressure returns to normal. For further details refer to relevant data sheet.

Valves: for construction details and for use limits refer to relevant data sheet.

Pigtail and siphons: recommended with temperatures of 65° C (150° F) or over. For further details refer to relevant data sheet.

Pressure snubbers: for further details refer to relevant data sheet.