

# bourdon tube "solid-front" pressure gauges

## HEAVY WORK

### DS 4", 6" (100-150mm)

# MGS21



PED 97/23/CE  
ATEX 94/9/CE

These instruments are designed for use in chemical and petrochemical processing industries, and in conventional power plants. They are built to resist the most severe operating conditions created by the ambient environment and the process medium. The high strength of the sensing element makes these instrument suitable to withstand high overpressure up to 4 times the full scale value and together with the case filling, they are suitable to high dynamic pulsating pressure. An Argonarc welded case/socket strengthens the whole construction. The **solid-front** version of these instruments is built in accordance with safety specifications of **EN 837-1** and **ASME B40.1**. The safety construction consists of a **solid separating wall** in stainless steel, placed between the dial and the elastic element and a **blow out back** which is released from the case whenever an internal pressure, due to leaks, is created or the elastic element is broken.

#### 1.21.1 - Standard Model

**Design:** EN 837-1.

**Safety designation:** S3 as per EN 837-2.

**Campi scala:** from 0...15 to 10000 psi; (from 0...1 to 0...600 bar or other equivalent units)

**Accuracy class:** 1 as per EN 837-1.

**Ambient temperature:**

-40...+149 °F (-40...+65 °C), IP55 housing (EN 60529/IEC 529);

-58...+149 °F (-50...+65 °C), vented IP67 housing

(EN 60529/IEC 529).

**Process fluid temperature:** -40...+302°F (-40...+150 °C).

**Thermal drift:** ±0,4 % / 10 °C of range (starting from 68°F - 20°C).

**Working pressure:**

100% del FSV for static pressure;

90% del FSV for pulsating pressure.

**Overpressure limit:** 400% of FSV (see table at pag. 2)

**Socket material:** AISI 316L st.st.

**Bourdon tube:** AISI 316L st.st. steamless tube

**Case:** stainless steel.

**Ring:** stainless steel, bayonet lock.

**Blow out disc:** stainless steel.

**Window:** safety glass.

**Movement:** stainless steel with internal limit stop.

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

**Pointer:** adjustable, aluminium, black.

#### 1.21.2 - Fillable Model - Lower connection only

**Ambient temperature:** -40...+149 °F (-40...+65 °C), IP 67 housing (EN 60529/IEC 529).

**Other features:** as Standard Model.

#### 1.21.3 - Filled Model - Lower connection only

**Accuracy class:** 1,6 as per EN 837-1.

**Damping liquid:** glycerine 98%, silicon oil or fluorinated fluid.

**Ambient temperature:**

+32...+149°F (0...+65 °C) with glycerine filling;

-40...+149°F (-40...+65 °C) with silicon oil filling or fluorinated fluid filling.

**Process fluid temperature:** max +149°F (+65 °C).

**Protection degree:** IP 67 as per EN 60529/IEC 529.

**Window:** tempered glass.

**Other features:** as Standard Model.

#### OXYGEN INSTRUMENTS

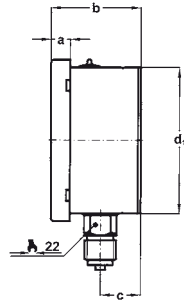
Glycerine and silicon oil should not be used with highly oxidizing agents as oxygen, chlorine, nitric acid or hydrogen peroxide because of danger of spontaneous chemical reaction, inflammability or explosion. The use of fluorinated fluid is recommended in these cases.



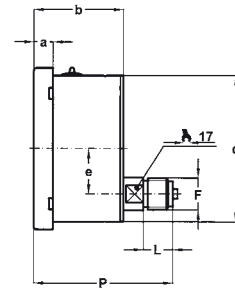
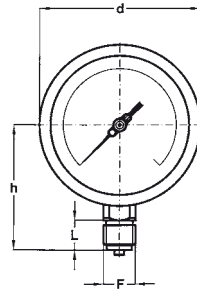
For use in potentially explosive atmospheres, instruments must be designed in conformity to ATEX 94/9/CE. This version is shown on separate data sheet available on request

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**A - LOWER CONNECTION**



**D - BACK CONNECTION**



Mounting	DS	F	a	b	c	d	d <sub>1</sub>	e	h	p	L	Weight
Lower	4" (100)	<b>E</b>	<b>41M</b> - G 1/2 A	0.51"	2.46"	1.16"	4.35"	3.97"	3.38"		0.78"	1.43 lbs
		<b>G</b>	<b>43M</b> - 1/2-14 NPT	(13)	(62,5)	(29,5)	(110,6)	(101)	(86)		(20)	(0,65 kg)
Lower	6" (150)	<b>E</b>	<b>41M</b> - G 1/2 A	0.59"	2.51"	1.18"	6.33"	5.92"	4.60"		0.78"	2.64 lbs
		<b>G</b>	<b>43M</b> - 1/2-14 NPT	(15)	(64)	(30)	(161)	(150,5)	(117)		(20)	(1,2 kg)
Back	4" (100)	<b>E</b>	<b>41M</b> - G 1/2 A	0.51"	2.46"		4.35"	3.97"	1.22"	3.75"	0.78"	1.54 lbs
		<b>G</b>	<b>43M</b> - 1/2-14 NPT	(13)	(62,5)		(110,6)	(101)	(31)	(95,5)	(20)	(0,70 kg)
Back	6" (150)	<b>E</b>	<b>41M</b> - G 1/2 A	0.59"	2.51"		6.33"	5.92"	1.22"	3.77"	0.78"	2.53 lbs
		<b>G</b>	<b>43M</b> - 1/2-14 NPT	(15)	(64)		(161)	(150,5)	(31)	(96)	(20)	(1,15 kg)

dimensions : inches (mm)

(1) add 0.95 lbs (0,43 kg) for DS 4" (100) and 1.76 lbs (0,8 kg) for DS 6" (150), when filled

bar (l)	Ranges	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...400	0...600
	Overpressure		4	6	10	16	25	40	48	75	80	120	200	320	500	800

psi	Ranges	0...15	0...30	0...60	0...100	0...160	0...200	0...300	0...400	0...600	0...1000	0...1500	0...2000	0...3000	0...4000	0...6000	0...10000
	Overpressure		60	120	240	400	480	600	900	1000	1200	2000	3000	4000	6000	8000	10000

bar (l)	Ranges	-1...0	-1...0,6	-1...1,5	-1...3	-1...5	-1...9	-1...15	-1...24
	Overpressure		3	5	9	15	23	39	47

psi	Ranges (2)	-30...0	-30...15	-30...30	-30...150
	Overpressure		45	100	125

(1) Available measurement units kPa, MPa, kg/cm<sup>2</sup>

(2) Vacuum measurement unit: InHg

Model	standard	fillable	filled
<b>C</b> -Back flange, for lower connection pressure gauges	♦	♦	♦
<b>E</b> -Front flange, for back connection pressure gauges	♦		
<b>2G1</b> -ATEX II 2G c version	See the ATEX pressure gauges data-sheet for technical details		
<b>2D1</b> -ATEX II 2GD c version			
<b>C40</b> -AISI 316L st. st. case, ring and blow out disc	♦	♦	♦
<b>P01</b> -Suitable for filling with silicone/fluorinated fluid		♦	
<b>P02</b> -Oxygen service	♦	♦ (1)	♦ (2)
<b>P03</b> -Compensating device, for DS 4" (100 mm) and lower mounting only	♦	♦	♦
<b>S10</b> -Silicone filling			♦
<b>F30</b> -Fluorinated fluid filling			♦
<b>ECV</b> -Vented housing version, Ambient temperature -50...+65 °C (3) (4)	♦		
<b>E67</b> -Protection degree IP67 (5)	♦		
<b>T01</b> -Tropicalization	♦	♦	♦

(1) to be ordered with instruments suitable for fluorinated fluid filling

(2) to be ordered with fluorinated fluid filled instruments

(3) to be ordered with E67 option

(4) lower mounting and not adjustable pointer

(5) to be ordered with ECV option

## "HOW TO ORDER" SEQUENCE

Section / Model / Case / Mounting / Diameter / Range / Process connection / Options

1 21 1 A E 41M C, E  
2 D G 43M 2G1...T01  
3