

# All st.st. bourdon tube Pressure Gauges

## NACE MR 01.03 - version

### Type 01.36 - DS 100+150

# 01.36



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

These instruments are designed for petrochemical industry. They are built to resist to the most severe conditions created by H<sub>2</sub>S, by the environment and for those fluids, which have high viscosity and do not crystallize. The quality of the materials used to build the sensible element allows their use with high frequency pulsating pressures. The TIG welding between the case and the process socket, strengthens the instrument and assures a better tight in case of dampening fluid. The advantages of filling the case of the instrument with a dampening fluid are: reduced pointer fluctuation, reduced wear of rotating parts of the movement when pulsant vibrations and pulsations occur. Moreover condensation and corrosive atmospheres which could damage the internal

## Functional and constructive characteristics

### 01.36.1 - Standard

**Accuracy class:** 1 as per EN 837-1.  
**Ambient temperature** -25...+65 °C.  
**Process fluid temperature:** -40...+150 °C.  
**Working pressure** (referred to the full scale value): max 90% for pulsating pressure; 100% for static pressure.  
**Over pressure limit:** 30% of full scale value.  
**Protection:** IP 55 as per IEC 529.  
**Socket material:** AISI 316L st.st., MONEL 400 available on request (code E07).  
**Elastic element:** MONEL 400 seamless tube.  
**Leak Test:** Helium Test leak Search (max 1x10<sup>-7</sup> mbar x l x s<sup>-1</sup>).  
**Case:** AISI 304 st.st.  
**Ring:** AISI 304 st.st. , bayonet lock.  
**Window:** tempered glass.  
**Movement:** stainless steel with internal limit stops for minimum and maximum pressure.  
**Dial:** aluminium, white with black markings and "▼" symbol at the edges of the scale value.  
**Special dial:** ranges different from standard, custom artworks available on request.  
**Pointer:** aluminium, micrometric adjustable, black painted.  
**Gasket, blow out vent and filling plug:** EPDM

### 01.36.2 - Fillable

**Protection:** IP 67 as per IEC 529.  
**Note:** suitable for glycerine filling, silicone oil filling available on request (code P01).  
**Other features:** as type 01.36.1 (as type 01.36.3, when filled).

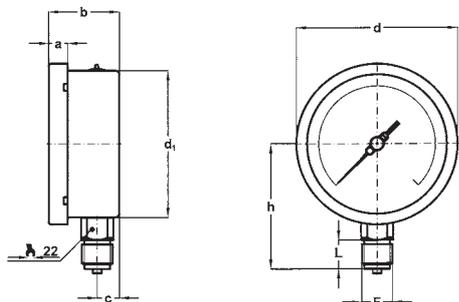
### 01.36.3 - Liquid filled

**Ambient temperature:** max +65 °C, (see DAMPING LIQUIDS table on page 4 for further information)  
**Process fluid temperature:** max +65 °C.  
**Protection:** IP 67 as per IEC 529.  
**Damping liquids:** glycerine 98%, silicone oil on request (code S10).  
**Other features:** as type 01.36.1 Standard.

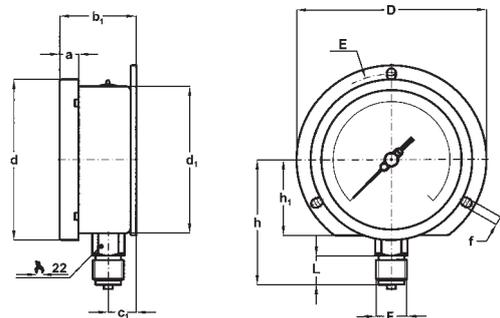


For use in potentially explosive atmospheres, instruments must be designed in conformity to ATEX 94/9/CE. This version is identified by code 2G1 and 2D1 and is shown on separate data sheet available on request.

TYPE, DIMENSIONS AND WEIGHTS



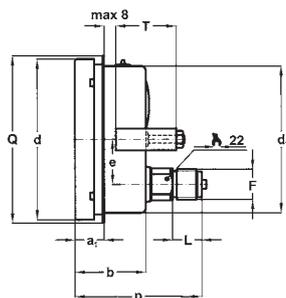
**TYPE A**  
stem mounting;  
lower connection.



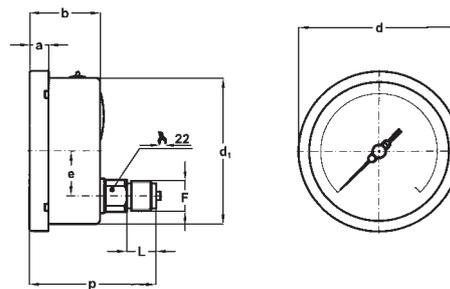
**TYPE C**  
surface mounting, back flange;  
lower connection.

DS	Type	a	b	b <sub>1</sub>	c	c <sub>1</sub>	d	d <sub>1</sub>	f	h <sub>1</sub>	D	E	ch	Weight 01.36.1-2	Weight 01.36.3
100	A-C	13	48,5	52,5	15	19	110,6	101	6	52	130	116...120	22	0,53 kg.	0,86 kg.
150	A-C	15	50,5	54	15,5	19	161	149,6	6	85	190	168...178	22	1,02 kg.	1,80 kg.

(dimensions in mm.)



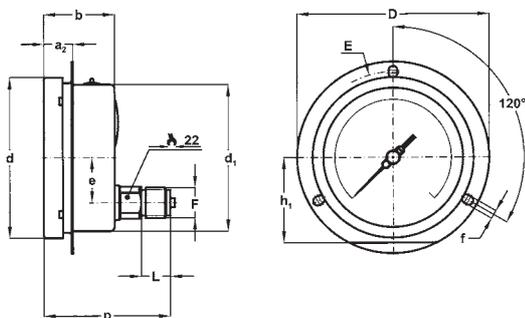
**TYPE B**  
flush mounting, "U"-Clamp;  
back connection.



**TYPE D**  
stem mounting;  
back connection.

DS	Type	a	a <sub>1</sub>	a <sub>2</sub>	b	d	d <sub>1</sub>	e	f	h <sub>1</sub>	D	E	Q	T	V	Z	ch	Weight 01.36.1-2	Weight 01.36.3
100	B-D-E	13	20	20	48,5	110,6	101	31	6	/	132	116...120	112	41,5	70	112	22	0,52 kg	0,85 kg
150	B-D-E	15	20,5	25,5	50,5	161	149,6	48	6	85	190	168...178	164	41,5	106	155	22	0,95 kg	1,73 kg

(dimensions in mm.)



**TYPE E**  
flush mounting, front flange;  
back connection.

PROCESS CONNECTIONS

F	Code	DS 100			DS 150		
		L	h	p	L	h	p
1/2" BSP	41M	20	86	87	20	117	85,5
1/2-14 NPT	43M	20	86	87	20	117	85,5

(dimensions in mm.)

Type 01.36 - DS 100+150

RANGES - "E" = DS 100; "G" = DS 150.

PRESSURE

TAB. 1

RANGE	bar	kPa	MPa	bar ext.	bar ext.	bar ext.
				psi int.	kPa int.	MPa int.
0...1	EG		EG	EG	EG	
0...1,6	EG		EG	EG	EG	
0...2,5	EG		EG	EG	EG	
0...4	EG		EG	EG	EG	
0...6	EG		EG	EG	EG	
0...10	EG		EG	EG		EG
0...16	EG		EG	EG		EG
0...25	EG		EG	EG		EG
0...40	EG		EG	EG		EG
0...60	EG		EG	EG		EG
0...100	EG	EG		EG		EG
0...160	EG	EG		EG		EG
0...250	EG	EG		EG		EG
0...300	EG					
0...400	EG	EG		EG		EG
0...600	EG	EG		EG		EG

TAB. 2

RANGE	psi	psi int.	psi ext.	psi ext.
		kPa ext.	bar int.	kg/cm <sup>2</sup> int.
0...15	EG	EG	EG	EG
0...30	EG	EG	EG	EG
0...60	EG	EG	EG	EG
0...100	EG	EG	EG	EG
0...160	EG	EG	EG	EG
0...200	EG	EG	EG	EG
0...300	EG	EG	EG	EG
0...400	EG	EG	EG	EG
0...600	EG	EG	EG	EG
0...1000	EG	EG	EG	EG
0...1500	EG	EG	EG	EG
0...2000	EG	EG	EG	EG
0...3000	EG	EG	EG	EG
0...4000	EG	EG	EG	EG
0...6000	EG	EG	EG	EG
0...10000	EG	EG	EG	EG

VACUUM & COMPOUND

TAB. 3

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

\* vacuum unit of measuremen: "inHg"

TAB. 4

RANGE	psi*	psi int.*	psi ext.*	psi ext.*
		kPa ext.	bar int.	kg/cm <sup>2</sup> int.
-30...0	EG	EG	EG	EG
-30...15	EG	EG	EG	EG
-30...30	EG	EG	EG	EG
-30...150	EG	/	EG	/

\* vacuum unit of measuremen: "inHg"

DAMPING LIQUIDS

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

INSTRUMENTS FOR OXYGEN

To suit safety criteria of standard EN837.1-2, the pressure gauges for oxigen service must be solid-front type (with baffle wall and safety bursting back).

Pressure gauges suitable for this service are detailed on Type 01.40 - DS 100+150 sheet.



**OPTIONS** - "E" = DS 100; "G" = DS 150.

DESCRIPTION	CODE	01.36.1 (standard)	01.36.2 (fillable)	01.36.3 (filled)
ATEX version II 2G c	<b>2G1</b>	<i>Constructive characteristics and ordering guide please refer to the relevant ATEX version data sheet.</i>		
ATEX version II 2GD c	<b>2D1</b>			
AISI 316 st.st. case and ring	<b>C40</b>	E G	E G	E G
Monel 400 socket	<b>E07</b>	E G	E G	E G
NACE MR 01.03 version	<b>E30</b>	E G	E G	E G
Non-adjustable pointer	<b>L01</b>	E G	E G	E G
Suitable for filling with silicone (1)	<b>P01</b>		E G	
Without restrictor	<b>S03</b>	E G (4)	E G	E G
Silicone filling (1)	<b>S10</b>			E G
Tropicalisation	<b>T01</b>	E G	E G	E G
Stainless steel label	<b>T25</b>	E G	E G	E G
Plexiglas window	<b>T31</b>	E G	E G	E G
Safety glass window	<b>T32</b>	E G	E G	E G
Restrictor 0,7 mm (2)	<b>V11</b>	E G (3)	STD	STD

(1) window gasket: silicone rubber; blow out vent &amp; filling plug: VITON

(2) not available with E07 option

(3) std for pressure ranges  $\geq$  60 bar

(4) std for pressure ranges &lt; 60 bar

**ORDER-CODE:**

<b>01</b>	1 - bourdon tube pressure gauges
<b>36</b>	36 - all st.st. pressure gauge (NACE MR 01.03)
<b>2</b>	1 - standard version 2 - fillable version 3 - liquid filled
<b>C</b>	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
<b>E</b>	E - DS 100 G - DS 150
<b>0/10 bar</b>	see ranges table
<b>41M</b>	see process connection table
<b>E30</b>	see options table

**ACCESSORIES**

**Diaphragm seals:** a complete range of diaphragm seals are available with a choice of materials of construction. Specifically for corrosive and difficult process fluids plus hygienic applications. For further details refer to relevant data sheets.

**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.



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