

Pressure gauges

FT PBXSF 100-150-E-9.02

RUEGER

Safety pressure gauges "solid-front" PBXSF100, PBXSF150 (1.20)



These Solid-Front instruments are built in accordance with safety specifications of **EN 837.1** and **ANSI B40.1**. The safety construction consists of a **solid separating** wall in stainless steel, placed between the scale 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. A **TIG welded** case/socket strengthens the whole construction. A leak tight fit is ensured if the instrument is filled with a dampening fluid to prevent damage due to vibration. These instruments are designed for use in food, beverage, pharmaceutical, cryogenic, chemical and petrochemical processing industries, and in conventional and nuclear power plants. They are built to resist the most severe operating conditions created by the ambient environment and the process medium.

Functional and constructive characteristics

PBXSF100X..., PBXSF150X... Fillable - Vertical type only
(ref. 1.20.2)

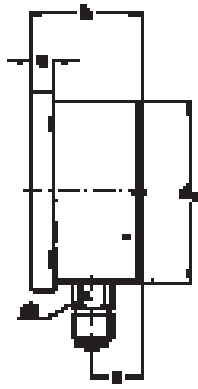
Accuracy class: 1 as per EN 837-1.
Ambient temperature: -25...+65 °C.
Process fluid temperature: -40...+150 °C.
Working pressure (referred to the full scale value): max 90% for pulsating pressure; 100% for static pressure.
Over pressure limit: 30% of full scale value.
Special over pressure limit: 50% of full scale value, for pressure ranges 400 bar (max 1 hour).
Protection: IP 67 as per IEC 529.
Socket material: AISI 316L st.st.
Elastic element: AISI 316L st. st. seamless tube.
Welding: AISI 316 TIG.
Case: AISI 304 st.st.
Ring: AISI 304 st.st., bayonet lock.
Blow out disk: AISI 304 st.st.
Window: safety 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.
Gasket, blow out vent and filling plug: EPDM.
Note: suitable for glycerine filling; other filling fluids available on request (see OPTIONS table).

PBXSF100L..., PBXSF150L... Liquid Filled - Vertical type only
(ref. 1.20.3)

Ambient temperature: max +65°C, (see DAMPING LIQUIDS table on page 4 for further information)
Process fluid temperature: +65 °C.
Protection: IP 67 as per IEC 529.
Damping liquids: glycerine 98%, (see DAMPING LIQUIDS table on page 4 for others filling fluid).

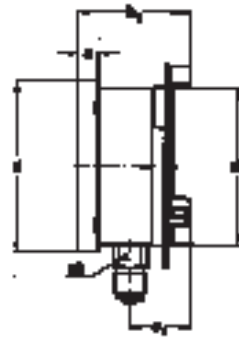
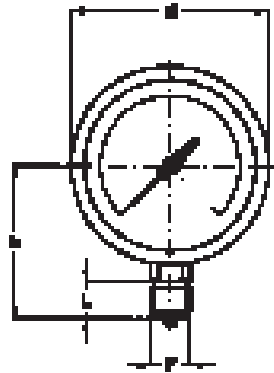
Safety pressure gauges "solid-front" PBXSF100, PBXSF150 (1.20)

TYPE, DIMENSIONS AND WEIGHTS



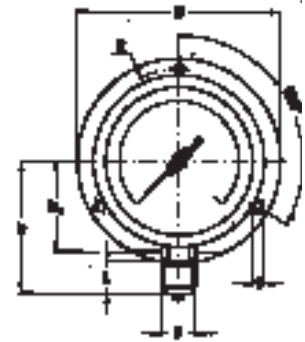
TYPE A

stem mounting; lower connection.



TYPE C

surface mounting, back flange; lower connection.



DS	Type	a	b	b ₁	c	c ₁	d	d ₁	f	h ₁	D	E	ch	Weight 20.1-2	Weight 20.3
100	A-C	13	62.5	74	29.5	41	110.6	101	6	—	132	118	22	0.65 kg	0.98 kg
150	A-C	15	64	75.5	30	41.5	161	149.6	6	85	190	175	22	1.2 kg	2 kg

(dimensions in mm)

PROCESS CONNECTIONS

F	DS 100			DS 150		
	L	h	p	L	h	p
1/4" BSP M	13	79	93.5	13	110	94
1/4" NPT M	15	81	95.5	15	112	96
3/8" BSP M	16	86	95.5	16	117	96
3/8" NPT	16	86	95.5	16	117	96
1/2" BSP M	20	86	95.5	20	117	96
1/2" BSP M tapered M	20	86	95.5	20	117	96
1/2" NPT	20	86	95.5	20	117	96
M20 x 1.5	20	86	95.5	20	117	96

(dimensions in mm)

Safety pressure gauges "solid-front" PBXSF100, PBXSF150 (1.20)

RANGES - "E" = available ranges for PBXSF100; "G" = available ranges for PBXSF150.

PRESSURE

TAB. 1

RANGE	bar	kPa	MPa	bar ext.	bar ext.	bar ext.
				psi int.	kPa int.	MPa int.
0...0.6 (1)	EG			EG	EG	
0...1	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		EG
0...100	EG	EG	EG	EG		EG
0...160	EG	EG	EG	EG		EG
0...250	EG	EG		EG		EG
0...300	E					
0...400	EG	EG		EG		EG
0...600	EG	EG		EG		EG
0...1000	EG	EG		EG		EG
0...1600	EG	EG		EG		EG
0...2500		EG				

(1) not available for PBXSF100-150L_ (filled)

TAB. 2

RANGE	psi	psi int.	psi ext.	psi ext.
		kPa ext.	bar int.	Kg/cm ² 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...5000	EG	EG	EG	EG
0...6000	EG	EG	EG	EG
0...10000	EG	EG	EG	EG
0...15000	EG	EG	EG	EG
0...20000	EG	EG	EG	EG
0...30000 (1)	E	E	E	E

(1) working pressure: max 75% of the full scale value over
pressure limit: 10% of the full scale value

VACUUM & COMPOUND

TAB. 4

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 measurement: "inHg"

TAB. 3 – Receiver

External	Internal	Internal
	0÷100 linear	0÷100 quadratic
0.2...1 bar	EG	EG
0.2...1 Kg/cm ²	EG	EG
3...15 psi	EG	EG
20...100 kPa	EG	EG

TAB. 5

RANGE	psi*	psi int.*	psi ext.*	psi ext.*
		psi int.*	bar int.	Kg/cm ² 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 measurement: "inHg"

TAB. 6 – NH3

bar external	NH3 internal	
-1...5	-70...+9°C	E
-1...9	-70...+25°C	E
-1...15	-70...+40°C	E
-1...24	-70...+56°C	E

Safety pressure gauges "solid-front" PBXSF100, PBXSF150 (1.20)

OPTIONS - "E" = available for PBXSF100; "G" = available for PBXSF150.

Description	fillable	filled
AISI 316 st. st.l case and ring	EG	EG
Monel version (1)	EG	EG
NACE version (2)	EG	EG
"Fluorolube" filling (5)		EG
Accuracy class: 0,6 as per EN 837-1	EG	
Non adjustable pointer	EG	EG
DIN pointer	E	E
St.st. movement with 4mm. reinforced sector	EG	EG
Suitable for filling with silicon and "Fluorolube" (5)	EG	
Oxygen service MO49	EG	EG (3)
Compensating device	E	E
Silicon filling (5)		EG
Overpressure 50% of the scale value	EG	EG
Tropicalization	EG	EG
AISI 316 stainless steel label	EG	EG

(1) best descriptions on pages 6.

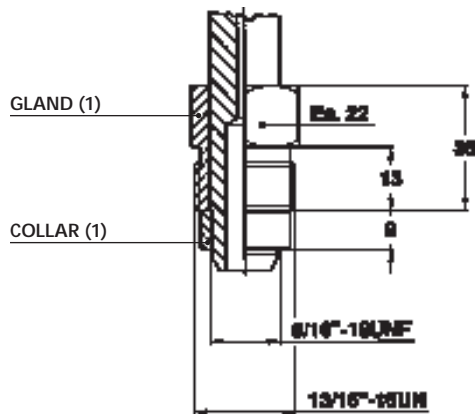
(2) for pressure ranges > 60 bar see Monel version on page 6.

(3) to be ordered only with fluid "Fluorolube" filling.

(5) window gasket: silicone rubber; filling plug & blowout vent: VITON.

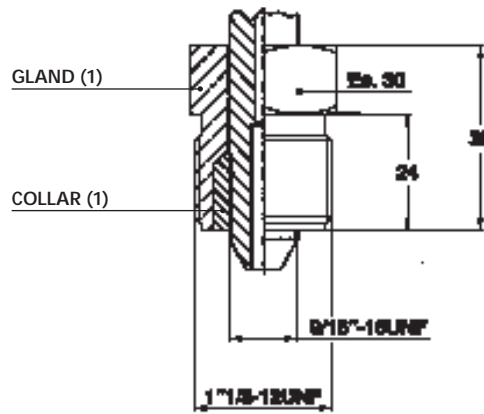
SPECIAL PROCESS CONNECTIONS

For high pressure application are also available 9/16" -18UNF process connections.



9/16" MP - code IUD
for ranges up to 0/1000 bar (0/20000 psi) with lower connection only.

(1) Please order separately



9/16" MP - code IUD
for ranges up to 0/2500 bar (0/30000 psi) with lower connection only.

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DAMPING LIQUIDS

Damping liquids	Ambient temperature
Glycerine 98%	+15...+65 °C (+60...+150 °F)
Silicon oil	-45...+65 °C (-50...+150 °F)
"Fluorolube"	-60...+65 °C (-76...+150 °F)

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



ACCESSORIES

Diaphragm seal: 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 our corresponding 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 our data-sheet MA05.48-MA05.49.

Valves: for construction details and for use limits refer to our corresponding data-sheets.

Pigtail and siphons: recommended with temperatures of 65° C (150° F) or over. For further details refer to our data-sheet MA05.5.

Pressure snubbers: for further details refer to our data-sheet MA05.45-MA05-47.

SPECIAL VERSION PBXSF100, PBXSF150 (1.20)

PBXSF100 MONEL, PBXSF150 MONEL

This version is applicable on PBXSF100 and PBXSF150 (fillable or filled)

Differ from std. version by:

Socket material: MONEL 400.

Elastic element: MONEL 400 seamless tube.

Welding: MONEL 400 TIG.

Ranges: the same of std. version up to 600 bar (excluding 0/5000 psi)

Leak Test: Helium Test Search Test (1×10^{-7} mbar x l x s⁻¹)

Other features: as type stated on page 1

PROCESS CONNECTION

Thread	
1/2" BSP M	
1/2" NPT M	

OPTIONS - "E" = available for PBXSF100; "G" = available for PBXSF150.

Description		fillable	filled
AISI 316 st.st. case and ring		EG	EG
NACE version		EG	EG
"Fluorolube" filling (3)			EG
Non adjustable pointer		EG	EG
Suitable for filling with silicon and "Fluorolube" (3)		EG	
Oxygen service M049		EG	EG (1)
Silicon filling (3)			EG
Tropicalization		EG	EG
AISI 316 stainless steel label		EG	EG

(1) to be ordered only with "Fluorolube".

(3) window gasket: silicone rubber. filling plug & blow out vent: VITON.

Modifications reserved

RUEGER

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