

Product Information EL **FOOD**

Pressure Gauge EL

Application

- Hygienic pressure measurement

Application examples

- Local display without power supply

Hygienic design/Process connection

- Direct connection for Tri-Clamp, SMS, DIN 11851 and Varivent
- CIP-/ SIP-cleaning up to 140 °C / maximum 60 minutes
- Sensor materials and actuating fill are FDA conform
- IP 66, housing for optimized cleanability
- Conforming to 3-A Sanitary Standard 74-06 for sensors with Tri-Clamp process connection

Features

- Complete device is certified by 3-A-SSI
- Works up to 120 °C

Options

- Case filling with glycerine for damping
- Hydromechanical damping for strong pressure surges
- Actuating fill with Neobee M20



Table measurement range

PSI	30" Hg	BAR	Range	Dual Scale Range
029	0...30	469	-1...1.5	929 30" Hg / 0...30 PSI / -1...2 BAR
031	0...60	055	-1...2	931 30" Hg / 0...60 PSI / -1...4 BAR
032	0...100	217	-1...3	932 30" Hg / 0...100 PSI / -1...7 BAR
033	0...160	056	-1...4	933 30" Hg / 0...160 PSI / -1...11 BAR
034	0...300	356	-1...5	934 30" Hg / 0...300 PSI / -1...20 BAR
066	0...30	475	-1...6	966 0...30 PSI / 0...2 BAR
069	0...60	497	-1...9	969 0...60 PSI / 0...4 BAR
071	0...100	057	0...2	971 0...100 PSI / 0...7 BAR
074	0...160	058	0...2.5	974 0...160 PSI / 0...11 BAR
077	0...300	192	0...4	977 0...300 PSI / 0...20 BAR
082	0...600	060	0...6	982 0...600 PSI / 0...40 BAR
		309	0...7	
		061	0...10	
		337	0...11	
		064	0...16	
		065	0...20	
		067	0...40	

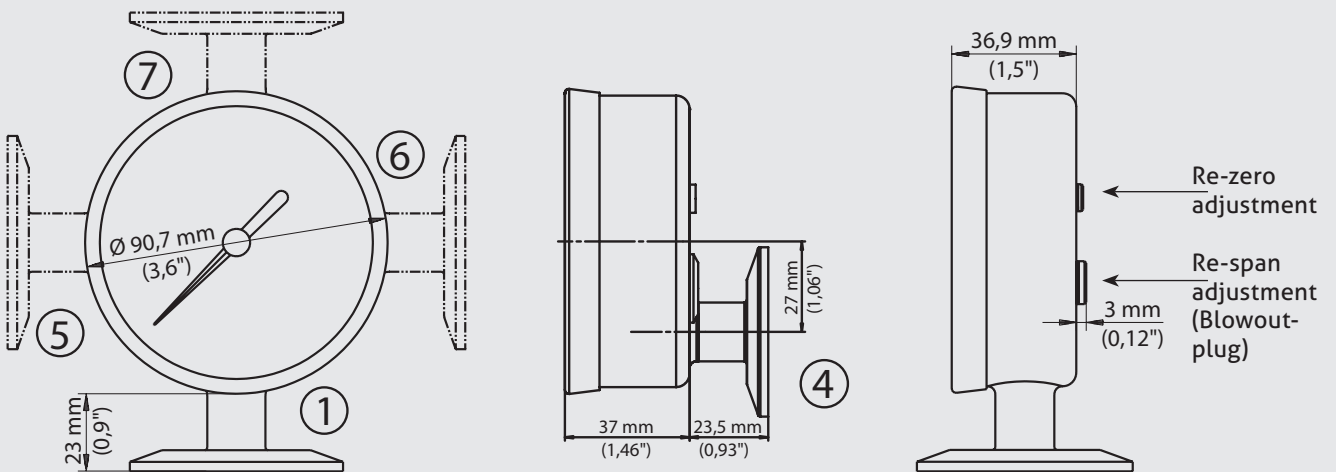
Specification		
Materials	diaphragm	1.4404 (316L)
	fitting	1.4404 (316L)
	bourdon tube	bronze
	movement	brass
	case	1.4301
	inspection window	polysulfone (for temperatures up to 163 °C)
Surface roughness	diaphragm	$R_a \leq 0.8 \mu\text{m}$
Actuating fill	optional	paraffin oil / medical white oil Neobee M20
FDA approval number	paraffin oil	21 CFR 172.878, 21 CFR 178.3620, 21 CFR 573.680, 21 CFR 182.1320
	Neobee M20	21 CFR 172.856, 21 CFR 174.5
Protection class		IP 66
Dampening (option)	case fill hydromechanical	glycerine
Over-range capability		minimum 25 % of full scale
Measurement accuracy	repeatability	± 0.5 % of full scale
	linearity	± 0.5 % of full scale
	hysteresis	± 0.5 % of full scale
Temperature ranges	process	-29...149 °C (-20...300 °F)
	CIP	149 °C (300 °F) continuous
	SIP	149 °C (300 °F) continuous
	ambient	4...49 °C (40...120 °F) slower reaction at deep temperatures
Temperature effect	from 10...90 % of range (process or ambient)	$< \pm 0.01$ %/K of full scale
Zero adjustment		± 5 %
Weight	glycerine case filling	130 g (additional to sensor weight)
	Tri-Clamp TC1	450 g
	Tri-Clamp TC2	520 g
	Varivent V40/50	980 g
	SMS SM38	600 g
	SMS SM51	770 g
	Dairy flange GF40	990 g
	Dairy flange GF50	1080 g

Conditions for a measuring point according to 3-A Sanitary Standard 74-06



- The sensors EL with process connections marked with "3-A" in order code on page 4 conforming to the 3-A Sanitary Standard.
- The sensors are designed for CIP-/ SIP-cleaning. Maximum 149 °C (300 °F) continuous.
- Only with 3-A conforming process connection.
- Mounting position and self draining must be in accordance to current 3-A Sanitary Standard.

Mount options



Overview of further process connections

Type	Figure	Dimensional drawings	Available connections	
Tri-Clamp			Tri-Clamp 1½"	d = 50.5 mm
			Tri-Clamp 2"	d = 63.9 mm
			Tri-Clamp 2½"	d = 77.5 mm
			Tri-Clamp 3"	d = 91.0 mm
Dairy flange DIN11851			DN40 with nut (female)	
			DN50 with nut (female)	
SMS			SMS 38 mm (male)	
			SMS 51 mm (male)	
SMS			SMS 38 mm with nut (female) SMS 51 mm with nut (female)	
Varivent			DN 40/50	

Order Code

EL (diameter housing 90 mm)

Measurement range

XXX see table on page 1

01 Fixed character

Process connection/fitting

004	(Tri-Clamp 1½", 3-A)	109	(SMS 38 mm, female)
162	(Tri-Clamp 1½", with recessed diaphragm)	110	(SMS 51 mm, female)
005	(Tri-Clamp 2", 3-A)	111	(SMS 38 mm, male)
177	(Tri-Clamp 2", with recessed diaphragm)	112	(SMS 51 mm, male)
006	(Tri-Clamp 2½", 3-A)	115	(DIN 11851, DN40, with nut)
007	(Tri-Clamp 3", 3-A)	124	(DIN 11851, DN50, with nut)
059	(1½" NPT)	123	(CPM fitting, 3-A)
099	(Varivent N/DN40/2", 3-A)		

Mount/connection

1	(bottom)
4	(back)
5	(left)
6	(right)
7	(top)

Damping

0	(standard/without)
1	(glycerine filled case OF)
2	(hydro-mechanical damping MD)

Calibration adjustment

1	(standard, with Re-Zero)
3	(with Re-Zero and max pointer stop)

Capillary filling

1	(paraffin oil/medical white oil)
5	(Neobee-M20)

Materials of construction

A	(standard)
B	(C22 (Hastelloy) diaphragm)
L	(standard with custom marking)
M	(C22 diaphragm with custom marking)

Temperature

0	(standard)
1	(high temperature up to 165 °C/330 °F with steam stabilized diaphragm)

Lens

0	(standard)
1	(UV stabilized)

Surface preparation

0	(standard)
1	(clean for oxygen service)

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EL 055 01 004 1 1 4 2 A 0 0 0 0