



**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

**EL Tri-Clamp bottom connection**



**Authorizations**



**EL Tri-Clamp back connection**



**EL Dairy flange 11851**



**Table measurement range**

PSI		BAR		Dual Scale Range	
029	30"Hg/0...30	469	-1...1.5	929	30"Hg/0...30 PSI / -1...2 BAR
031	30"Hg/0...60	055	-1...2	931	30"Hg/0...60 PSI / -1...4 BAR
032	30"Hg/0...100	217	-1...3	932	30"Hg/0...100 PSI / -1...7 BAR
033	30"Hg/0...160	056	-1...4	933	30"Hg/0...160 PSI / -1...11 BAR
034	30"Hg/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		

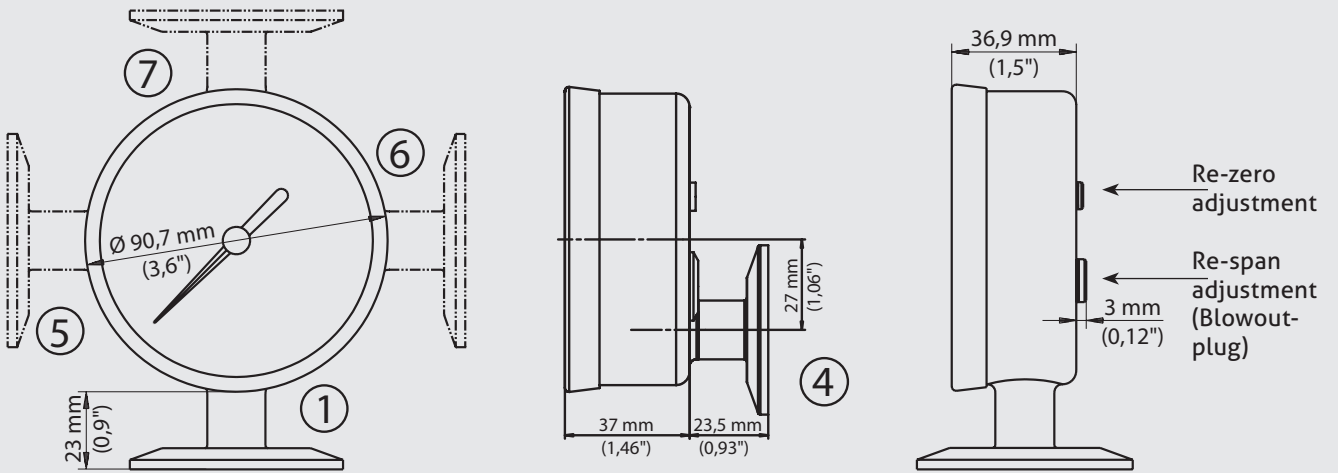
Specification		
<b>Materials</b>	diaphragm fitting bourdon tube movement case inspection window	1.4404 (316L) 1.4404 (316L) bronze brass 1.4301 polysulfone (for temperatures up to 163 °C)
<b>Surface roughness</b>	diaphragm	$R_a \leq 0.8 \mu\text{m}$
<b>Actuating fill</b>		paraffin oil / medical white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

0 Fixed character

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