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Product Information ELS

Hygienic Steam Gauge ELS

Application

• High-temperature, hygienic pressure measurement in steam environments where common pressure gauges with siphons often fall short.

Application examples

- Steam-in-Place Sterilizaton (SIP)
- · Ultra High Temperature Pasteurization
- · Culinary Steam
- · Applications with thermal cycling

Hygienic design / Process connection

- · 3-A Standard 74- compliant
- · Hygienic direct connection to 1½" Tri-Clamp
- · Sensor materials and actuating fill are FDA-conforming

Features

- Reliable against extreme process temperatures up to 400 °F (205 °C)
- · High temperature stabilized stainless steel diaphragm
- Extended stem, purpose-built to isolate the gauge from intense process temperature, protecting all internal components from heat damage
- \cdot Self-protection of the device against pressure surges for long service life of the components
- Together with the stainless-steel, all-welded housing for corrosion, shock and vibration resistance this guarantees an extended lifespan and enduring accurate, stable pressure readings.
- \cdot IP 66, housing for optimized cleanability
- · Certifications: 3-A, CE, ASME B040.100

Options

· Case filling with glycerine for damping





FOOD

2

Specification		
Materials	diaphragm fitting bourdon tube movement case inspection window	1.4404 / AISI 316L welded stainless steel, polished, high temperature stabilized diaphragm 1.4404 / AISI 316L bronze brass 1.4301 / AISI 304 polysulfone (for temperatures up to 325 °F / 163 °C)
Surface roughness	diaphragm	$R_a \le 0.8 \ \mu m$
Actuating fill		paraffin oil / medical white oil / mineral oil (standard)
FDA approval number	paraffin oil	21 CFR 172.878, 21 CFR 178.3620
Protection class		IP 66 / NEMA 4X
Dampening (option)	case fill hydromechanical	glycerine, 100 % USP Food Grade
Over-range capability		minimum 25 % of full scale
Measurement accuracy	repeatability linearity hysteresis	±0.5 % of full scale ±0.5 % of full scale ±0.5 % of full scale
Temperature ranges	process / SIP ambient	-20400 °F / -29205 °C 40120 °F / 449 °C slower reaction at deep temperatures
Temperature effect	from 1090 % of range (process or ambient)	< ±0.01 %/K of full scale
Zero adjustment		±5 %, tamper resistant adjustment, non interactive with span
Weight	sensor	450 g

Dimensional drawings



Re-zero procedure

Mount the gauge on a test fixture with a variable pressure source and an accurate pressure reference. Raise the test pressure to the normal operating pressure at which the gauge will be used. Insert a 2.5 mm or 3/32 hex wrench into the head of the re-zero shaft, located in the upper right corner of the back of the gauge. Carefully rotate the shaft to reposition the pointer to agree with the test reference.

Warning: Adjusting more than ±5 % of the span of the gauge may cause damage to the re-zero adjustment mechanism.

Caution: Return the test pressure to zero before removal of the gauge from test fixture.

Note: For offsets greater than ±5 % of the span, return the gauge for factory recalibration or replacement.

If a suitable high pressure standard is not available, a basic re-zero may be accomplished by simply adjusting the shaft as described above so that the pointer is located at the center of the zero band.

Conventional usage

· Not suitable for applications in explosive areas. · Not suitable for applications in security-relevant equipment (SIL).

Reshipment

- · Sensors shall be clean and must not be contaminated with dangerous media! Note the advice for cleaning!
- Use suitable transport packaging only to avoid damage of the equipment!

Standards and guidelines

- You have to comply with applicable regulations and directives.
- Disposal
- Electrical devices should not be disposed of with household trash. They must be recycled in accordance with national laws and regulations.
- · Take the device directly to a specialized recycling company and do not use municipal collection points.

Note on 3-A Sanitary Standard 74-

Information on installation according to 3-A standard is available on our website: www.anderson-negele.com/3A74.pdf

Click on the PDF icon to download the document.

· In case of using pressure washers, dont't point nozzle

Note on CE

- Applicable directives:
- Electromagnetic Compatibility Directive 2014/30/EU · Compliance with the applicable EU directives is identi-
- fied by the CE label on the product. The operating company is responsible for comply-
- ing with the guidelines applicable to the entire installation.







- No outdoor storage
- · Dry and dust free
- · Not exposed to corrosive media
- Protected against solar radiation
- · Avoiding mechanical shock and vibration
- Storage temperature -22...195 °F / -30...91 °C
- · Relative humidity max. 95 %

Cleaning/Maintenance

















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4

Order Code											
ELS	ELS Diameter housing 90 mm / 3.6"										
Measurement range XXX see table below											
01 Fixed character											
	Process connection (@: 3-A conform)004Tri-Clamp 1½" @										
	Mount/connection 1 bottom										
Damping 0 without 1 glycerine filled case Calibration adjustment 1 Re-Zero Capillary filling 1 paraffin oil/medical white oil / mineral oil (standard)								cal white oil / mineral oil (standard)			
Y								A A	erials o 1.44 Temp O	of cons 04 / Al peratu -20 Inspe 0	Struction ISI 316L high temperature stabilized ISI 316L high temperature stabilized ISI 316L high temperature stabilized Section window polysulfone Surface preparation 0 $R_a \le 0.8 \ \mu m$
ELS	055	01	004	1	1	1	1	Α	0	0	0

Table measurement range

psi	si bar			Dual Scale Range		
029	30"Hg/030	055	-12	929	30"Hg/030 psi / -12 bar	
031	30"Hg/060	056	-14	931	30"Hg/060 psi / -14 bar	
032	30"Hg/0100	057	02	932	30"Hg/0100 psi / -17 bar	
033	30"Hg/0160	192	04	933	30"Hg/0160 psi / -111 bar	
034	30"Hg/0300	309	07	934	30"Hg/0300 psi / -120 bar	
066	030	337	011	966	030 psi / 02 bar	
069	060	065	020	969	060 psi / 04 bar	
071	0100	067	040	971	0100 psi / 07 bar	
074	0160			974	0160 psi / 011 bar	
077	0300			977	0300 psi / 020 bar	
082	0600			982	0600 psi / 040 bar	
				245	00.6 MPa / 06 bar	

Accessories

41286A0005

Adaptor Tri-Clamp 11/2" to NPT 3/8"

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