50121 / 1.2 / 2021-04-10 / BK / EU

Product Information P42 **FOOD**

Pressure Transmitter P42

CLEANadapt

Application/Specified usage

- Pressure measurement in pipes and tanks
- For process temperatures up to 300 °C (572 °F) with optional cooling section

Application examples

- Sanitary pressure monitoring for breweries, dairies and food and beverage production

Hygienic design/Process connection

- Hygienic process connection with CLEANadapt
- Versions compliant to 3-A Standard 74- available
- All wetted materials are FDA-conform
- Sensor completely made of stainless steel
- Complete overview of process connections: see order code
- The Anderson-Negele CLEANadapt system offers a flow-optimized, hygienic and easily sterilizable installation solution for sensors.

Features

- CIP/SIP cleaning up to 150 °C (302 °F) for max. 60 minutes
- Rapid response time of < 5 ms
- Vacuum-proof
- Easy to operate
- Electrical connection with M12 plug connection
- Available with relative or absolute measurement cell
- IO-Link output communication or digital switch output

Options/Accessories

- 3.1 Material certificate

Measuring principle of the pressure sensor

This unit utilizes an internal piezoelectric transducer to convert the process measurement into a corresponding mV signal. The mV signal then passes through custom linearization and conditioning circuitry. The resulting signal is an industry standard IO-Link digital communication.
With relative (gauge) pressure sensor the back of the transducer is vented to atmospheric pressure, i.e. this sensor measures the gauge pressure and/or vacuum relative to the atmospheric pressure.
With absolute pressure sensor the back of the transducer is subject to full vacuum and then permanently sealed, i.e. this sensor measures pressure relative to an absolute vacuum.

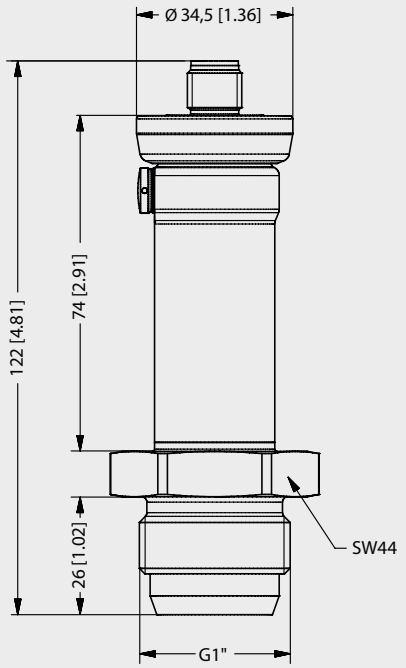
Communication

IO-Link 0/1

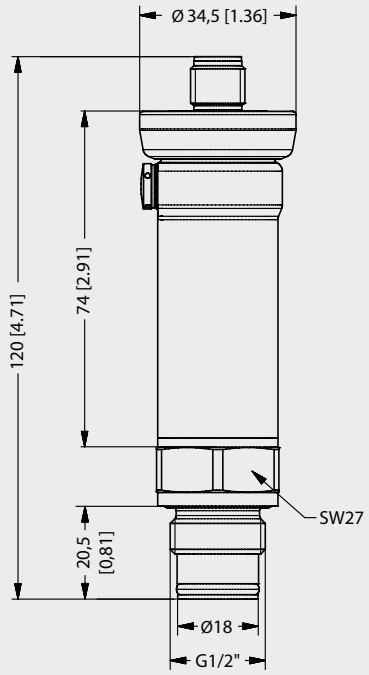
P42

Specification		
Pressure cells	Relative, absolute [bar] Relative, absolute [psi]	0.2 / 0.4 / 1.0 / 2.0 / 4.0 / 7.0 / 10.0 / 20.0 / 40.0 3 / 6 / 15 / 30 / 60 / 100 / 145 / 290 / 580
Electrical connection	Plug connection Supply voltage	M12 connector 18...30 V DC
Output		IO-Link Communication or digital switch output (SIO) Max. 200 mA
Process connection	3-A compliant Not 3-A compliant	1" / 1½" Tri-Clamp® 2" Tri-Clamp® G1/2" DIN 3852 (front flush mounting) CLEANadapt G1" Varivent type F, DN25 Varivent type N, DN40/50
Materials	Diaphragm Housing Connector Oil filling	Stainless steel 1.4435 (AISI 316L) Stainless steel 1.4404 (AISI 316L) Stainless steel 1.4301 (AISI 304) FDA-approved oil, approval number 21CFR178.3570
Protection class		IP67 / IP69
Accuracy		±0.25 % of upper range limit
Stability		±0.1 %/year
Temperature ranges	Ambient Process CIP/SIP cleaning Storage	-20...85 °C (-4...185 °F) -10...125 °C (14...257 °F) -10...300 °C (14...572 °F) as high-temperature version 150 °C (302 °F) / max. 60 min, at $t_{ambient}$ 50 °C (122 °F) -10...85 °C (14...185 °F)
Temperature drift		±0,1 % of upper range limit/10 K
Overpressure resistance	Pressure cell 0.2 bar (3 psi) 0.4 bar (6 psi) 1.0 bar (15 psi) 2.0 bar (30 psi) 4.0 bar (60 psi) 7.0 bar (100 psi) 10.0 bar (145 psi) 20.0 bar (290 psi) 40.0 bar (580 psi)	Max. pressure 2 bar (30 psi) 2 bar (30 psi) 5 bar (72 psi) 10 bar (145 psi) 20 bar (290 psi) 40 bar (580 psi) 40 bar (580 psi) 80 bar (1160 psi) 105 bar (1522 psi)
Response time		< 5 ms
Weight	CLEANadapt G1" Tri-Clamp 1½"	450 g 250 g

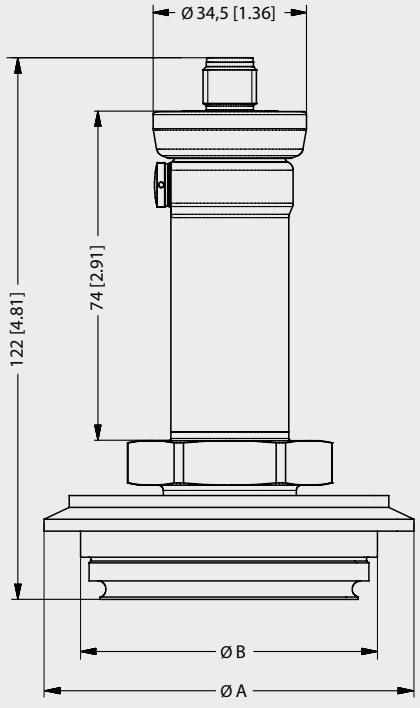
P42 | CLEANadapt G1" hygienic



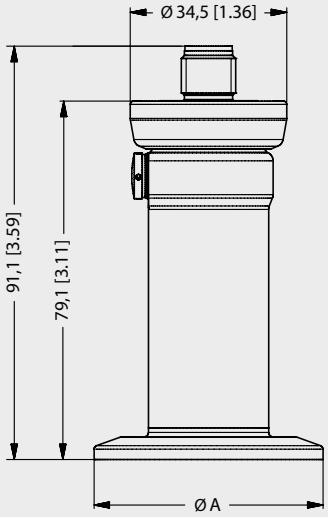
P42 | G1/2" DIN 3852



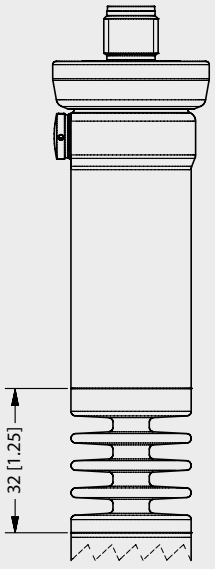
P42 | CLEANadapt Varivent



P42 | Tri-Clamp



P42 | High-temperature version with cooling section



The cooling section extends the overall sensor length about 32 mm (1.25 inch).

Dimension table Varivent®

Type	Varivent® Type	ø A [mm / inch]	ø B [mm / inch]
V25	F	66.0 / 2.60	50.0 / 1.97
V40	N	84.0 / 3.31	68.0 / 2.68

Dimension table Tri-Clamp®

Type	Tri-Clamp® Type	ø A [mm / inch]	ø Diaphragm [mm / inch]
003	1" / 1½"	50.5 / 1.99	23.0 / 0.91
005	2"	64.0 / 2.52	45.0 / 1.77

Startup

· Connect the sensor with the supply voltage (18...30 V DC) -> see "Electrical connection" section.

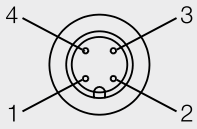
· It is recommended to check the zero point every six months.

· Further maintenance work is not required.

Electrical connection

Configuration M12 plug

1: + power supply
2: not Connected
3: - power supply
4: IO-Link / SIO



Mechanical connection/Installation

For G1" CLEANadapt only
· Attention: The maximum torque for mounting is 20 Nm!
· Use Negele CLEANadapt system for safe operation of measuring point.
· Use a welding mandril for correct installation of CLEANadapt weld-in-fittings. Please pay attention to the weld-in and installation details in the CLEANadapt product information.

Conventional usage

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

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.

PDF

Click or Scan

Cleaning and maintenance

- Don't use sharp items or aggressive detergents for cleaning.
- In case of using pressure washers, don't point nozzle directly to electrical connection!

Reshipment

- Sensors and process connection must be clean and must not be contaminated with hazardous media and/or heatconductive paste. Note the cleaning information!
- To avoid damage of the equipment, use suitable transport packaging only.

Transport/Storage

- No outdoor storage
- Store in an area that is dry and dust-free
- Do not expose to corrosive media
- Protect against solar radiation
- Avoiding mechanical shock and vibration
- Storage temperature -10...85 °C (14...185 °F)
- Relaltive humidity max. 80 %

Standards and guidelines

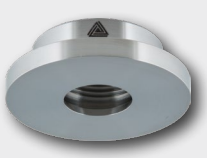
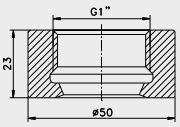
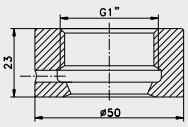
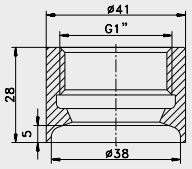
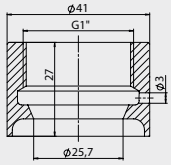
- Compliance with the applicable regulations and directives is mandatory.

Disposal

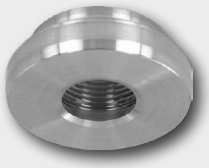
- Electrical devices should not be disposed of with household trash. They must be recycled in accordance with national laws and regulations.
- Take the device directly to a specialized recycling company and do not use municipal collection points.

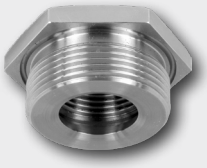
Note on CE

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

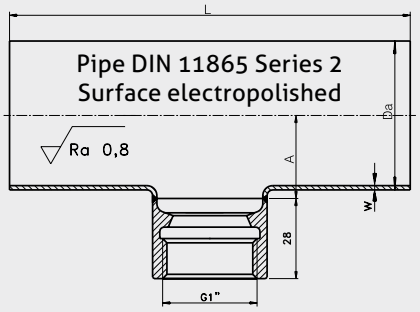
Weld-in sleeves						
CLEANadapt G1"						
						
	Cylindrical sleeve	**Cylindrical sleeve with leakage hole**	**Cylindrical sleeve with welded collar**	**Cylindrical sleeve with welded collar and leakage hole**	**Collar sleeve**	
	EMZ-352 * (for thick/thin containers)	EMZ-351 * (for container with leak monitor)	EMS-352 * (for installation on pulled-out pipes)	EMS-351 * (for installation on pulled-out pipes)	EMK-352 * (for thick-walled tanks)	

* Deliverable with 1.4435 (AISI 316L) material and 3.1 inspection certificate on request.

Adapters for prevalent process connections						
CLEANadapt G1"						
Nominal size		**Dairy flange** (DIN 11851)	**DRD** (optionally deliverable pressure ring)	**Tri-Clamp with leakage hole**	**APV-Inline**	**BioControl**
DN25	**1"**	AMK-352/DN25	AMK-352/50 (only one size)	AMC-351/DN25	-	-
DN32		AMK-352/DN32		AMC-351/DN25	-	-
DN40	**1½"**	AMK-352/DN40		AMC-351/DN25	AMA-352 From DN40 to DN100	AMB-50/1" and AMB-65/1" From DN40 to DN100
DN50	**2"**	AMK-352/DN50		AMC-351/DN50		
	2½"	AMK-352/DN65		AMC-351/2½"		
DN65		AMK-352/DN65		AMC-351/DN65		
	3"	-		AMC-351/DN65		
DN80		AMK-352/DN80		AMC-351/DN80		
DN100		AMK-352/DN100		AMC-351/DN100		

Adapter sleeves G1" to other thread sizes and accessories					
CLEANadapt G1"					
	Adapter	**Adapter**	**Adapter**	**Blind plug**	
	AMG-352 G1,5" (Standard thread G1½" to CLEAN-adapt G1")	AMG-352 G1,75" (Standard thread G1¾" to CLEAN-adapt G1")	AMG-352 G2" (Standard thread G2" to CLEAN-adapt G1")	BST-350 (For closing a CLEANadapt G1" measuring point)	

Dimensions EHG-DIN2-... / 1"



EHG-DIN2-... / 1"

Dimensions table EHG-DIN2-... / 1"

Type	DN	L [mm / inch]	A [mm / inch]	Da x W [mm / inch]
EHG-DIN2-40 / 1"	40	120 / 4.72	22.0 / 0.87	41 x 1.5 / 1.61 x 0.06
EHG-DIN2-50 / 1"	50	140 / 5.51	29.0 / 1.14	53 x 1.5 / 2.09 x 0.06
EHG-DIN2-65 / 1"	65	160 / 6.30	38.0 / 1.50	70 x 2.0 / 2.76 x 0.08
EHG-DIN2-80 / 1"	80	180 / 7.09	46.0 / 1.81	85 x 2.0 / 3.35 x 0.08
EHG-DIN2-100 / 1"	100	200 / 7.87	55.0 / 2.17	104 x 2.0 / 4.09 x 0.08
EHG-DIN2-125 / 1"	125	375 / 14.76	69.5 / 2.74	129 x 2.0 / 5.08 x 0.08
EHG-DIN2-150 / 1"	150	450 / 17.72	82.0 / 3.23	154 x 2.0 / 6.06 x 0.08

Order Code

P42 Pressure sensor

Measuring range of pressure cell

1	0.2 bar (3 psi)
2	0.4 bar (6 psi)
3	1.0 bar (15 psi)
4	2.0 bar (30 psi)
5	4.0 bar (60 psi)
6	7.0 bar (100 psi)
7	10 bar (145 psi)
8	20 bar (290 psi)
9	40 bar (580 psi)

Pressure measurement

A	Absolute (absolute measurement, min. 0.4 bar (6 psi))
G	Gauge (relative measurement without vacuum)
C	Compound (relative measurement including vacuum)

Process connection (Ⓐ: 3-A compliant)

195	G1/2" DIN3852 (front flush with O-ring), only for measurement range ≥ 1 bar (15 psi)
182	CLEANadapt G1" hygienic
003	Tri-Clamp 1" / 1½" Ⓐ
005	Tri-Clamp 2" Ⓐ
V25	Varivent type F, DN25 (adaption by means of CLEANadapt)
V40	Varivent type N, DN40/50 Ⓐ

Sealing material (only selectable for process connections 195)

X	No seal
A	EPDM (< 125 °C (257 °F))
B	FKM (< 200 °C (392 °F))
C	FFKM (> 200 °C (392 °F))

Capillary fill

6	FDA approved oil

Sensor version process temperature

X	Standard temperature (max. 125 °C (257 °F))
H	High temperature version (max. 300 °C (572 °F))

Physical unit

B	bar
P	psi

Material certificate

X	No certificate
Z	3.1 Material certificate

Configuration

0	Fixed value

P42	1	A	182	X	6	X	B	X	0

Accessories

CERT / 2.2 / P42	Factory certificate 2.2 acc. to EN10204 (only product contacting surface)
CAL / P42	Factory calibration certificate with 3 calibration points (0 %, 50 %, 100 %)
CAL / P42 / MP	Factory calibration certificate with 5 calibration points (0 %, 25 %, 50 %, 75 %, 100 %)

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