

PP20H

Fully welded pressure sensor with hygienic connection

PP20H-2.#####.A114.##202#.000

Overview

- All market typical hygienic connections available
- Resistant to all common CIP cleaning media
- Condensate-proof measuring cell
- Optionally available with IO-Link (in parallel to 4 ... 20 mA)
- Space-saving installations from DN 25 on
- Absolute pressure, relative pressure and vacuum measurement



Technical data

Performance characteristics

Measuring range	-1 ... 40 bar
Min. measuring span	0.4 bar
Max. measuring span	40 bar
Pressure type	Absolute Relative (gauged)
Standard error of measurement (BFSL)	± 0.2 % FSR ± 0.5 % FSR, 0 ... 0.4 bar Including non-linearity, hysteresis and non-repeatability according BFSL
Max. measuring error	± 0.5 % FSR ± 1.0 % FSR, 0 ... 0.4 bar Including zero-point and span error, non-linearity (by terminal base line), hysteresis and non-repeatability (EN 61298-2)
Temperature coefficient	≤ 0.2 % FSR/10 K, measuring span ≤ 0.2 % FSR/10 K, zero point
Compensated temperature range	-20 ... 125 °C
Long term stability	≤ 0.2 % FSR/a
Rise time (10 ... 90 %)	≤ 20 ms

Process conditions

SIP/CIP compatibility	< 35 min, in general @ medium temperature up to 150 °C < 60 min, in general @ medium temperature up to 135 °C < 60 min, with process connection G 1/2 A hygienic @ medium temperature up to 135 °C
Process pressure	Refer to section "Operating conditions"
Process temperature	-20 ... 125 °C

Process connection

Connection variants	Refer to section "Dimensional drawings"
Wetted parts material	AISI 316L (1.4404)
Wetted parts material, membrane	AISI 316L (1.4435)

Surface roughness (in contact with medium)

Process connection	Ra ≤ 0.8 µm
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Ambient conditions

Bump (EN 60068-2-27)	100 g / 2 ms, 4000 impulses per axis and direction
Cold (EN 60068-2-1)	Ab: -40 °C, 2 h (not in operation)
Damp heat, cyclic (EN 60068-2-30)	Db: 55 °C, Variant 1, 2 cycles (2 · 24 h)
Dry heat (EN 60068-2-2)	Be: 85 °C, 6 h (in operation)
Shock (EN 60068-2-27)	50 g / 11 ms, 100 g / 6 ms, 10 impulses per axis and direction
Vibration (sinusoidal) (EN 60068-2-6)	1.5 mm p-p (10 ... 58 Hz), 10 g (58 Hz ... 2 kHz), 10 cycles (2.5 h) per axis
Vibration, broad-band random (EN 60068-2-64)	0.1 g ² / Hz, > 10 gRMS (20 Hz ... 1 kHz), 30 min. per axis
Degree of protection (EN 60529)	IP 67, without connector M12-A, 4-pin IP 69, with appropriate cable
Insulation resistance	> 100 MΩ, 500 V DC
Operating temperature range	-20 ... 85 °C
Storage temperature range	-40 ... 85 °C

Output signal

Current output	4 ... 20 mA, 2-wire
Short circuit protection	Yes
Shunt resistance	Rs ≤ (Vs - 8 V)/0.02 A

Housing

Overall size	Refer to section "Dimensional drawings"
Style	Compact transmitter
Material	AISI 316L (1.4404)

Electrical connection

Connector	M12-A, 4-pin, stainless steel, 4 ... 20 mA output M12-A, 5-pin, stainless steel, IO-Link output
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Power supply

Reverse polarity protection	Yes
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Power supply

Voltage supply range 11 ... 30 V DC , with 4 ... 20 mA output signal
18 ... 30 V DC , with IO-Link

Compliance and approvals

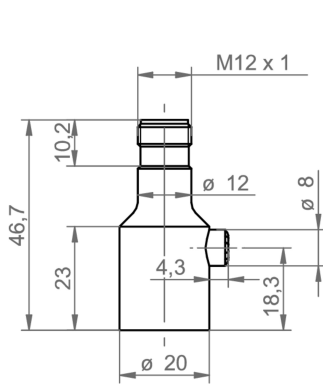
EMC EN 61000-6-2
EN 61000-6-3
EN 61326-2-3

Operating conditions

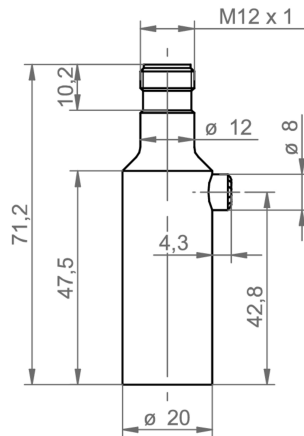
Measuring range (bar)				Proof pressure (bar)	Burst Pressure (bar)
-1 ... 0	-1 ... 1	0 ... 0.4	0 ... 1	5	10
-1 ... 3	-1 ... 5	0 ... 2.5	0 ... 4	10	20
	-1 ... 9	0 ... 6	0 ... 10	20	40
	0 ... 25			50	100
	0 ... 40			80	160

Dimensional drawings

Housing

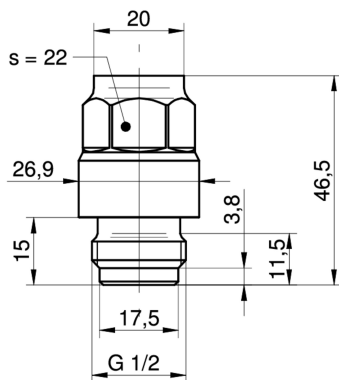


Short housing with connector M12-A

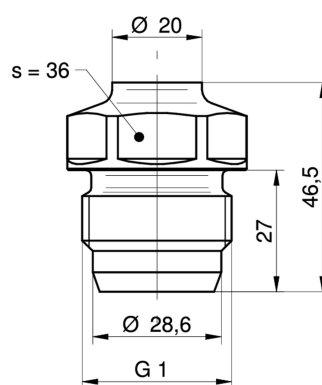


Long Housing with connector M12-A

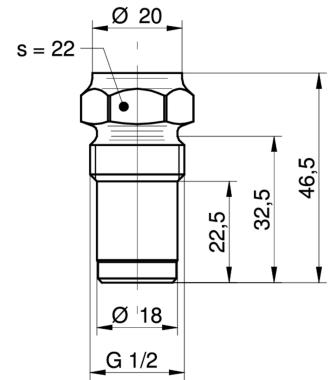
Process connection



G51-41
G 1/2 A DIN 3852-E (BCID: G51)



A04-44
G 1 A hygienic (BCID: A04)



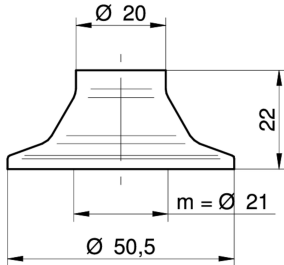
A03-48
G 1/2 A hygienic (BCID: A03)

PP20H

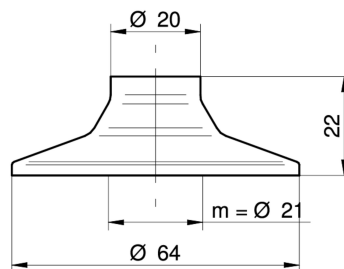
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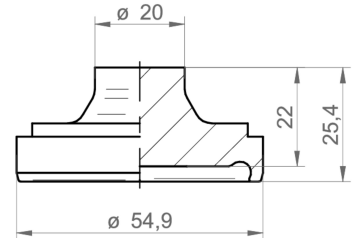
Process connection



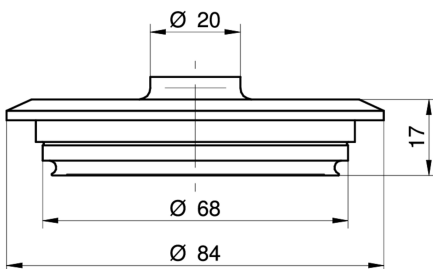
C03-53
Tri-Clamp Ø 50.5 (BCID: C03)



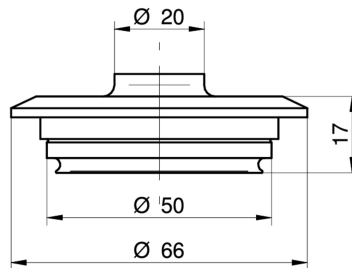
C05-54
Tri-Clamp Ø 64.0 (BCID: C05)



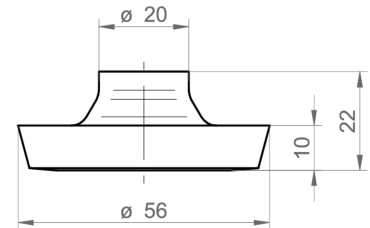
H03-59
DIN 11864-1-A (aseptic screwed union), DN 40
(BCID: H03)



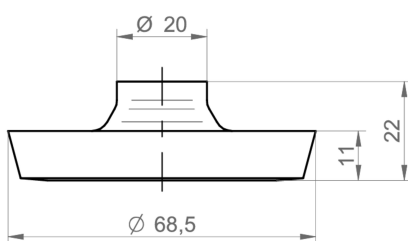
V02-61
Varivent® DN 32 ... 125; 1 1/2" ... 6" (Type N),
Ø 68 (BCID: V02)



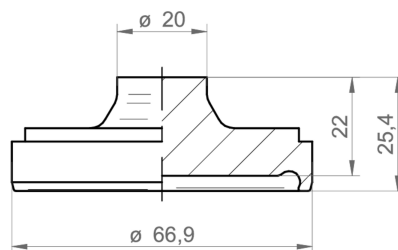
V01-62
Varivent® DN 25; 1" (Type F), Ø 50 (BCID:
V01)



D03-65
DIN 11851 (dairy pipe connection), DN 40
(BCID: D03)



D04-66
DIN 11851 (dairy pipe connection), DN 50
(BCID: D04)



H04-68
DIN 11864-1-A (aseptic screwed union), DN 50
(BCID: H04)

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Electrical connection

Output signal	Equivalent circuit	Electrical connection	Function	Pin assignment
4 ... 20 mA (2-wire)			+Vs Iout Frame Ground n.c.	1 3 Plug thread 2, 4
IO-Link (3-wire)			+Vs GND (0 V) SW1, IO-Link Iout Frame Ground n.c.	1 3 4 2 Plug thread 5

Ordering information

Ordering key - Configuration possibilities see website

	PP20H	-	2	.	#	###	#	.	A1	14	.	##	2	0	2	0	.	0	0	0
Product	PP20H																			
Housing material	Stainless steel 1.4404 AISI 316L						2													
Accuracy	±1.0 % FS						1													
	±0.5 % FS						3													
Measuring range	0...0,4 bar (EN)						B11													
	0...1 bar (EN)						B15													
	0 ... 2.5 bar (EN)						B18													
	0 ... 4 bar (EN)						B19													
	0 ... 6 bar (EN)						B20													
	0 ... 10 bar (EN)						B22													
	0...25 bar (EN)						B26													
	0...40 bar (EN)						B27													
	-1...0 bar (EN)						B59													
	-1...1 bar (EN)						B73													
	-1...3 bar (EN)						B76													
	-1...5 bar (EN)						B77													
	-1...9 bar (EN)						B79													
	0...5 bar (EN)						B98													
Kind of pressure	Relative (gauged)						R													
	Absolute						A													
Output signal	4...20 mA								A1											
Output Connection	M12-A, 4-pin									14										
Process connection	G 1/2 A DIN 3852-E (G51)																			41
	G 1 A hygienic (A04)																			44
	G 1/2 A hygienic (A03)																			48
	ISO 2852 (Tri-Clamp), DN 25, Ø 50.5 (C03)																			53
	ISO 2852 (Tri-Clamp), DN 40; 51, Ø 64.0 (C05)																			54
	Varivent® DN 32 ... 125; 1 1/2 ... 6 (Type N), Ø 68 (V02)																			61

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Ordering key - Configuration possibilities see website

	PP20H	-	2	.	#	###	#	.	A1	14	.	##	2	0	2	0	.	0	0	0
Varivent® DN 25; 1 (Type F), Ø 50 (V01)													62							
DIN 11864-1-A (aseptic screwed union), DN 50 (H04)													68							
DIN 11864-1-A (aseptic screwed union), DN 40 (H03)													59							
DIN 11851 (dairy pipe connection), DN 40 (D03)													65							
DIN 11851 (dairy pipe connection), DN 50 (D04)													66							
Process connection material																				
Stainless steel 1.4404 AISI 316L													2							
Seal																				
None																				0
Oil filling																				
NSF H1 listed (FDA approved)																				2
Display																				
Without display																				0
ATEX																				
Standard safety																				0
Approvals																				
Standard approvals																				0
Turn down PP20H																				
Without Turn-Down																				0