

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

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

Process conditions

Process temperature	-20 ... 125 °C
Process pressure	Refer to section "Operating 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 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

Operating temperature range	-20 ... 85 °C
Storage temperature range	-40 ... 85 °C
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
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

Output signal

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

IO-Link interface

IO-Link version	1.1
Device profile	Smart Sensor Profile
IO-Link port type	Class A
Baud rate	38,4 kbaud (COM2)
SIO-mode	Yes
Process data (cyclic)	Pressure or temperature Switch state State of alert Scaling factor
Diagnostic data (acyclic)	Ambient pressure CPU temperature Unit temperature Operation time (since power-on)

PP20H

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

Technical data

IO-Link interface

Adjustable data (acyclic)	Offset settings Switch parameters Measuring mode
Dual Channel	IO-Link / Analogue Analogue / SIO Mode

Housing

Style	Compact transmitter
Overall size	Refer to section "Dimensional drawings"
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

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

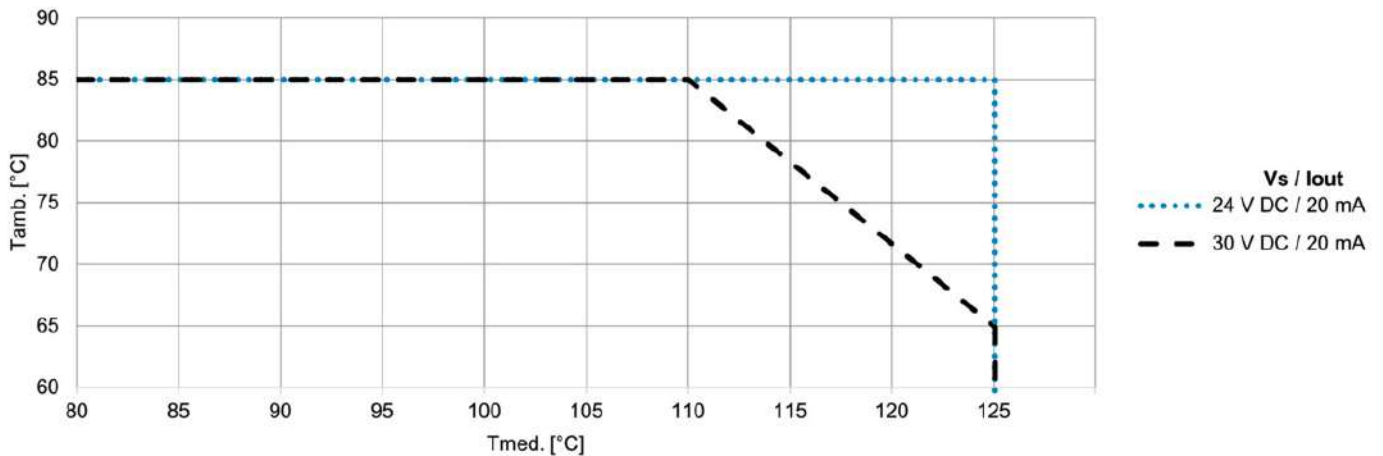
Compliance and approvals

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

Maximum operating conditions in subject to temperature



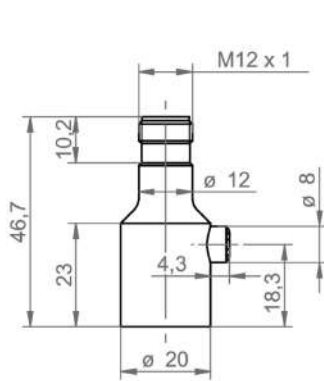
PP20H

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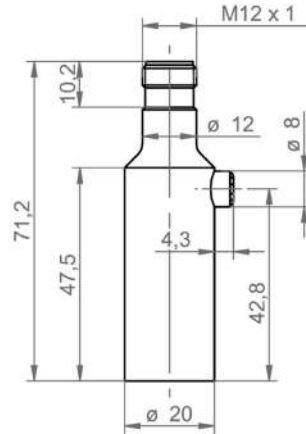
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Dimensional drawings (mm)

Housing

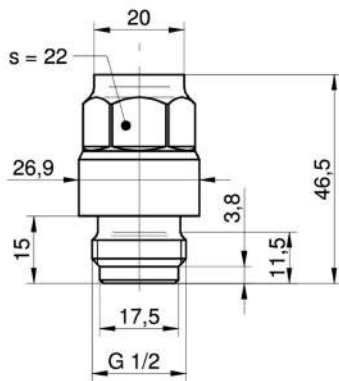


Short housing with connector M12-A

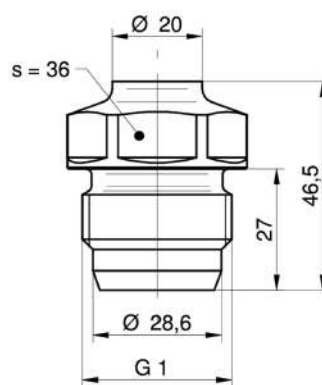


Long Housing with connector M12-A

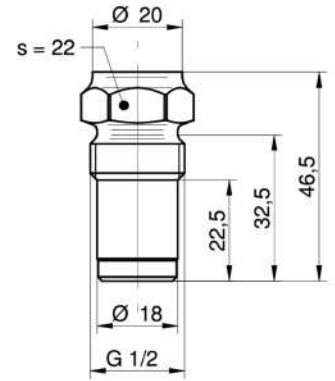
Process connection



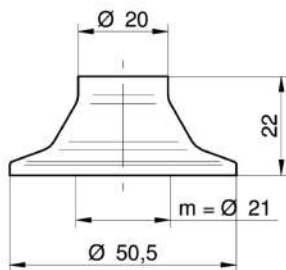
G51-41
G 1/2 A DIN 3852-E (BCID: G51)



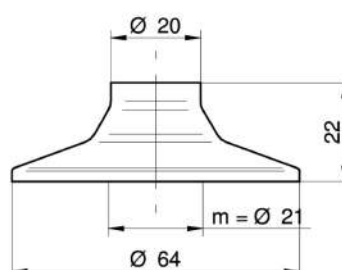
A04-44
G 1 A hygienic (BCID: A04)



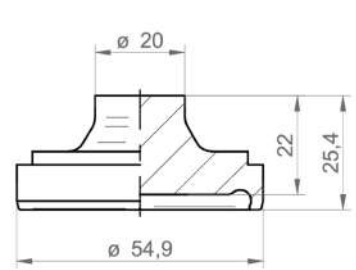
A03-48
G 1/2 A hygienic (BCID: A03)



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)

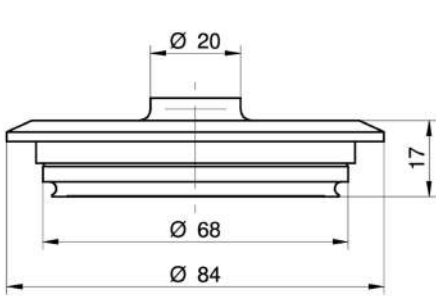
PP20H

Fully welded pressure sensor with hygienic connection

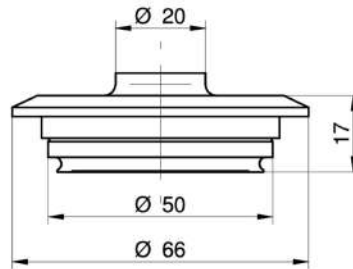
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Dimensional drawings (mm)

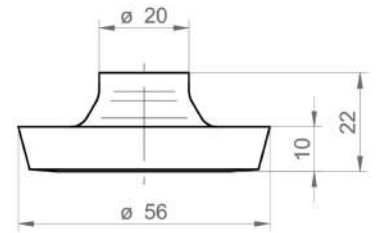
Process connection



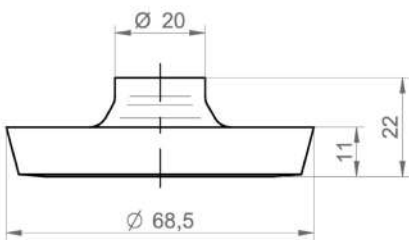
V02-61
Varivent® DN 32 ... 125; 1 1/2" ... 6" (Type N),
Ø 68 (BCID: V02)



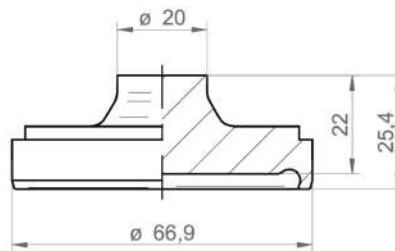
V01-62
Varivent® DN 25; 1" (Type F), Ø 50 (BCID:
V01)



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)

Electrical connection

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

Ordering information

Ordering key - Configuration possibilities see website

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

Ordering information

Ordering key - Configuration possibilities see website

	PP20H	-	2	.	#	###	#	.	A1	14	.	##	#	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 ... 16 bar (EN)						B24													
	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) ⁽²⁾																			41
	G 1 A hygienic (A04) ⁽²⁾																			44
	G 1/2 A hygienic (A03) ⁽²⁾																			48
	ISO 2852 (Tri-Clamp), DN 25, Ø 50.5 (C03) ⁽¹⁾																			53
	ISO 2852 (Tri-Clamp), DN 40; 51, Ø 64.0 (C05) ⁽¹⁾																			54
	Varivent® DN 32 ... 125; 1 1/2 ... 6 (Type N), Ø 68 (V02) ⁽³⁾																			61
	Varivent® DN 25; 1 (Type F), Ø 50 (V01) ⁽⁴⁾																			62
	DIN 11864-1-A (aseptic screwed union), DN 50 (H04) ⁽¹⁾																			68
	DIN 11864-1-A (aseptic screwed union), DN 40 (H03) ⁽³⁾																			59
	DIN 11851 (dairy pipe connection), DN 40 (D03) ⁽¹⁾																			65
	DIN 11851 (dairy pipe connection), DN 50 (D04) ⁽¹⁾																			66
Process connection material	Stainless steel 1.4404 AISI 316L																			2
	Stainless steel 1.4404 Ra0.4																			3
Seal	None																			0
Oil filling	NSF H1 listed (FDA approved)																			2

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

Ordering information

Ordering key - Configuration possibilities see website

PP20H - 2 . # ### # . A1 14 . ## # 0 2 0 . 0 0 0

Display

Without display

0

ATEX

Standard safety

0

Approvals

Standard approvals

0

Technology

Silicon

0

- (1) EHEDG only with special gasket
- (2) EHEDG not included
- (3) EHEDG included
- (4) EHEDG not included, only for tank installation