

PP20H-D1 IO-Link

Fully welded pressure sensor with hygienic connection

PP20H-2.#####.D115.##202#.000

Overview

- All market typical hygienic connections available
- Resistant to all common CIP cleaning media
- Condensate-proof measuring cell
- 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 ... 105 °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 ... 105 °C
Process pressure	Refer to section "Operating conditions"

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 ... 50 °C
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Ambient conditions

Storage temperature range	-40 ... 85 °C
Degree of protection (EN 60529)	IP 67, with connector M12-A. 5-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)
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, 3-wire
Short circuit protection	Yes
Shunt resistance	Rs ≤ (Vs - 8 V)/0.02 A

IO-Link interface

Version	1.1
Device profile	Smart Sensor Profile
Port type	Class A
Transmission rate	38,4 kbaud (COM2)
Process data (cyclic)	Pressure or temperature Switch state Scaling factor state of alert
Diagnostic data (acyclic)	Ambient pressure Device temperature CPU temperature power up time

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PP20H-2.#####.D115.##202#.000

Technical data

IO-Link interface

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

Power supply

Voltage supply range	12 ... 30 V DC , with 4 ... 20 mA output signal 18 ... 30 V DC , with IO-Link
Reverse polarity protection	Yes

Housing

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

Compliance and approvals

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

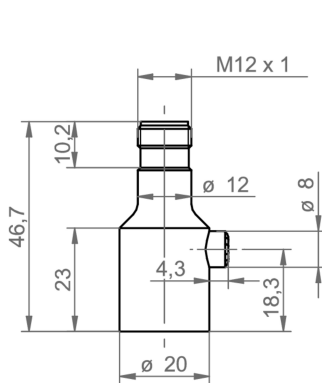
Connector	M12-A, 5-pin, stainless steel, IO-Link output
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Operating conditions

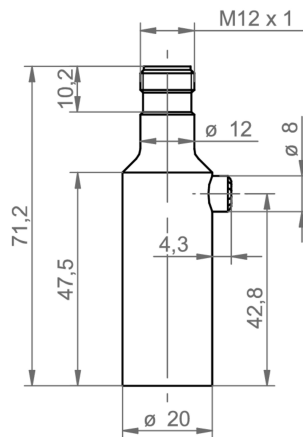
Measuring range (bar)				Proof pressure (bar)	Burst Pressure (bar)
-1 ... 0	-1 ... 1	0 ... 0.4	0 ... 1	5	10
-1 ... 3	-1 ... 5	0 ... 2.5	0 ... 4	10	20
	-1 ... 9	0 ... 6	0 ... 10	20	40
	0 ... 25			50	100
	0 ... 40			80	160

Dimensional drawings

Housing



Short housing with connector M12-A



Long Housing with connector M12-A

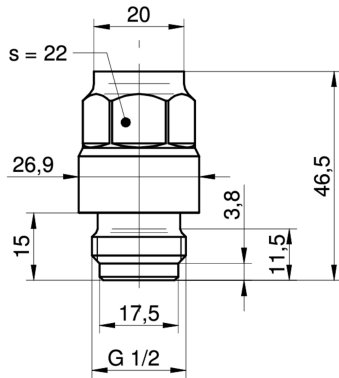
PP20H-D1 IO-Link

Fully welded pressure sensor with hygienic connection

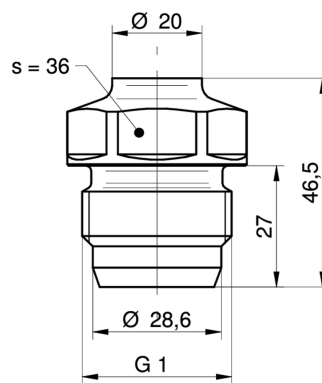
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Dimensional drawings

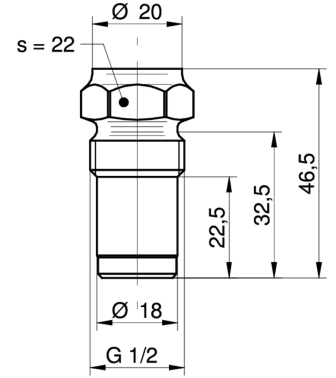
Process connection



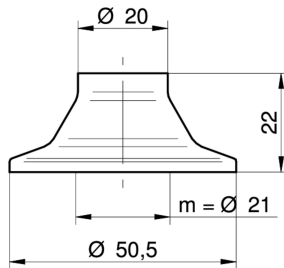
G51-41
G 1/2 A DIN 3852-E (BCID: G51)



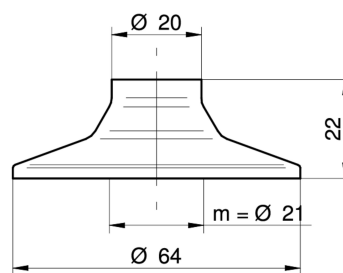
A04-44
G 1 A hygienic (BCID: A04)



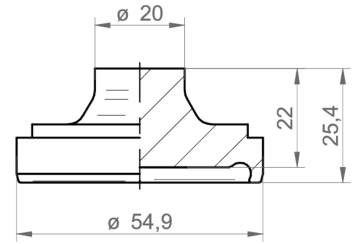
A03-48
G 1/2 A hygienic (BCID: A03)



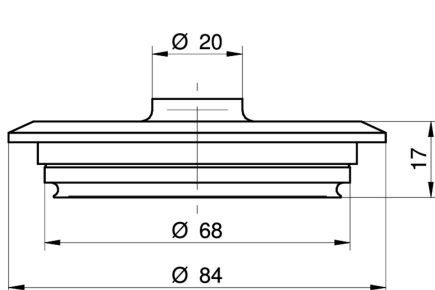
C03-53
Tri-Clamp \varnothing 50.5 (BCID: C03)



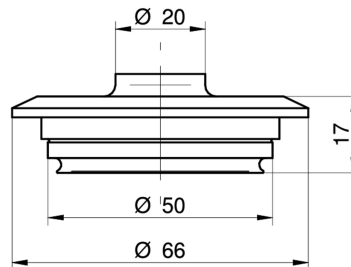
C05-54
Tri-Clamp \varnothing 64.0 (BCID: C05)



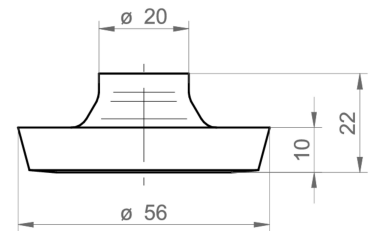
H03-59
DIN 11864-1-A (aseptic screwed union), DN 40
(BCID: H03)



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



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



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

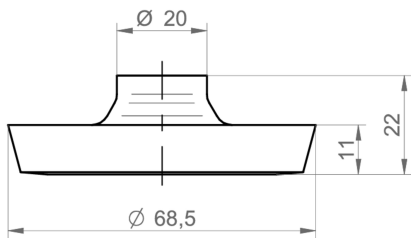
PP20H-D1 IO-Link

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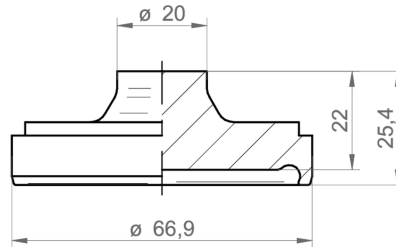
PP20H-2.#####.D115.##202#.000

Dimensional drawings

Process connection



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 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																			
Accuracy	±1.0 % FS																			
	±0.5 % FS																			
Measuring range	0...0,4 bar (EN)																			
	0...1 bar (EN)																			
	0 ... 2.5 bar (EN)																			
	0 ... 4 bar (EN)																			
	0 ... 6 bar (EN)																			
	0 ... 10 bar (EN)																			
	0...25 bar (EN)																			
	0...40 bar (EN)																			
	-1...0 bar (EN)																			
	-1...1 bar (EN)																			

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Ordering information

Ordering key - Configuration possibilities see website

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