Baumer
Passion for Sensors

Flow sensor/FlexFlow

PF20H

PF20H-11.010.####.20.#.0000.0

Overview

- SIP- capable without restrictions up to 150 °C / 24h
- Broad portfolio of process connections
- Flow and temperature measurement in a single sensor
- Compact and robust
- Available with IO-Link interface



Picture similar

Technical data

Performance characteristics	
Down time at temperature step	< 10 s
Max. measuring error	± 2 % FSR , flow measurement ± 8 cm/s , flow measurement ± 1 °C , temperature measurement @ flow > 0 cm/s
Measuring range, flow	10 … 400 cm/s
Measuring range, temperature	-25 … 150 °C
Step response time	< 5 s
Process conditions	
Process temperature	-25 … 125 °C , flow measurement -25 … 150 °C , temperature measurement @ flow > 0 cm/s
Process pressure	Refer to section "Operating conditions"
Process connection	
Connection variants	Refer to section "Dimensional drawings"
Mounting position	Any, top, bottom, side
Wetted parts material	AISI 316L (1.4404)
Surface roughness wetted parts	Ra ≤ 0.8 µm
Ambient conditions	
Operating temperature range	-25 … 80 °C
Storage temperature range	-25 … 80 °C
Degree of protection (EN 60529)	IP67 IP68 , 30 min. @ 1 mH2O IP69K , with appropriate cable
Humidity	≤ 100 % RH , condensing
Shock (EN 60068-2-27)	30 g / 11 ms, 6 impulses per axis and direction

Ambient conditions	
Vibration (sinusoidal) (EN 60068-2-6)	5 g (10 ... 2000 Hz)
Output signal	
Current output	4 … 20 mA
Voltage output	0 … 10 V
Output type	Digital (push-pull) NPN PNP
Switching logic	Active high Active low Normally closed (NC) Normally open (NO)
Voltage drop	< 2 V, switching output
Current rating	100 mA , max.
Residual current	< 250 µA
Short circuit protection	Yes
Interface	IO-Link 1.1
Housing	
Style	Compact transmitter
Overall size	Refer to section "Dimensional drawings"
Material	Stainless steel
Electrical connection	
Connector	M12-A, 4-pin
Power supply	
Voltage supply range	12 … 32 V DC , with 2 x 4 … 20 mA 18 … 30 V DC , with IO-Link
Power-up time	10 s , max.
Reverse polarity protection	Yes
Compliance and approvals	
Hygiene	FDA compliant EHEDG EL Class I

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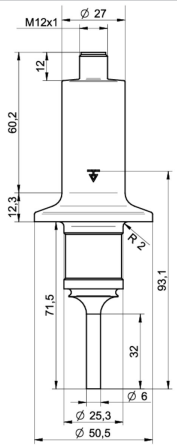
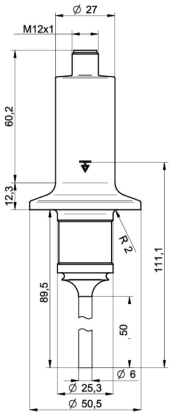
Operating conditions

Process connection	BCID	Process pressure (bar)
G 1/2 A hygienic	A03	-1 ... 100
G 1/2 A hygienic sealing	B03	-1 ... 10
BHC 3A DN 38	B01	-1 ... 68
Tri-Clamp Ø 34.0	C02	-1 ... 68
Tri-Clamp Ø 50.5	C04	-1 ... 68
Tri-Clamp Ø 64.0	C05	-1 ... 68
DIN 11851 (dairy pipe connection), DN 25	D01	-1 ... 40
DIN 11851 (dairy pipe connection), DN 40	D03	-1 ... 40
DIN 11851 (dairy pipe connection), DN 50	D04	-1 ... 25
Varivent® DN 25; 1" (Type F), Ø 50	V01	-1 ... 16
Varivent® DN 32 ... 125; 1 1/2" ... 6" (Type N), Ø 68	V02	-1 ... 16

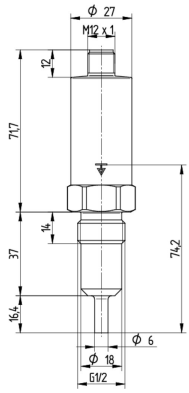
Dimensional drawings (mm)



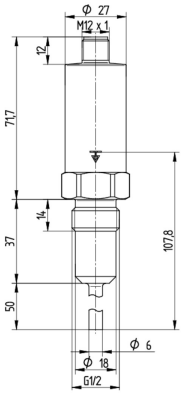
B01-B013
BHC 3A DN 38
Sensor length 32 mm (BCID: B01)



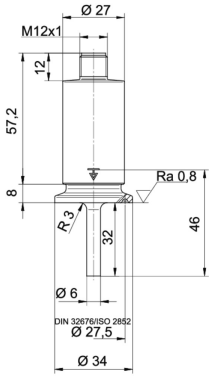
B01-B015
BHC 3A DN 38
Sensor length 50 mm (BCID: B01)



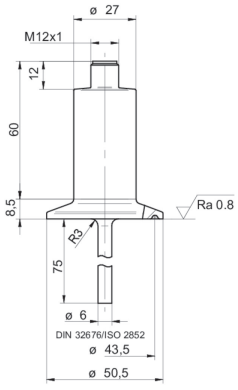
A03-A031 1/2 A hygienic Sensor length 16.4 mm (BCID: A03)



A03-A035
G 1/2 A hygienic
Sensor length 50 mm (BCID: A03)



C02-C023
Tri-Clamp Ø 34.0
Sensor length 32 mm (BCID: C02)



C04-C042
Tri-Clamp Ø 50.5
Sensor length 75 mm (BCID: C04)

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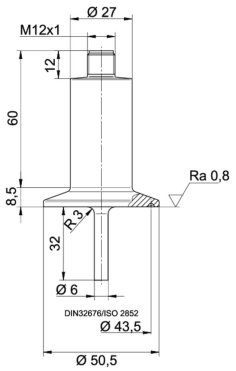
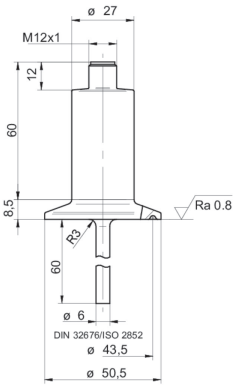
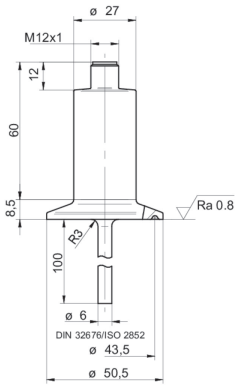
Dimensional drawings (mm)



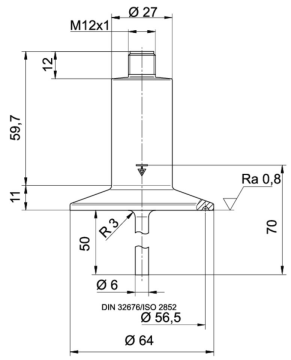
C04-C043
Tri-Clamp Ø 50.5
Sensor length 32 mm (BCID: C04)



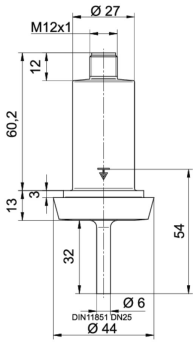
C04-C046
Tri-Clamp Ø 50.5
Sensor length 60 mm (BCID: C04)



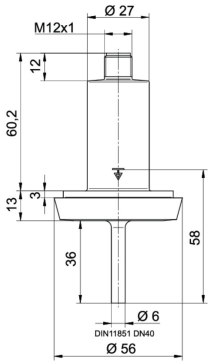
C04-C047
Tri-Clamp Ø 50.5
Sensor length 100 mm (BCID: C04)



C05-C055
Tri-Clamp Ø 64.0
Sensor length 50 mm (BCID: C05)



D01-D013
DIN 11851 (dairy pipe connection)
DN 25
Sensor length 32 mm (BCID: D01)



D03-D034
DIN 11851 (dairy pipe connection)
DN 40
Sensor length 36 mm (BCID: D03)

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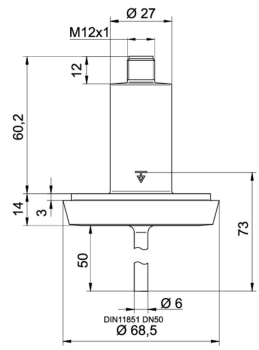
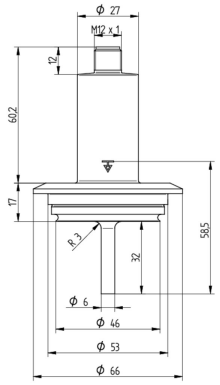
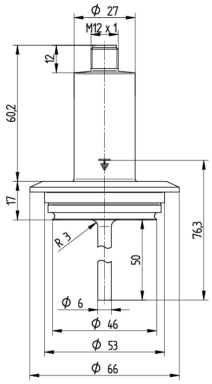
Dimensional drawings (mm)



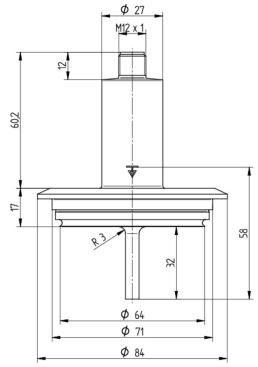
D04-D045
DIN 11851 (dairy pipe connection)
DN 50
Sensor length 50 mm (BCID: D04)



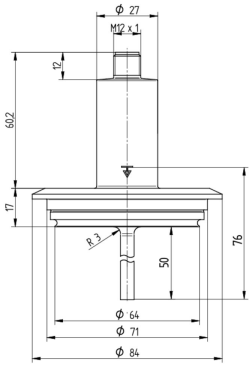
V01-V013
Varivent® DN 25; 1" (Type F)
Ø 50
Sensor length 32 mm (BCID: V01)



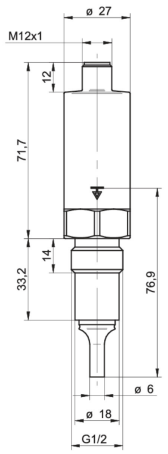
V01-V015
Varivent® DN 25; 1" (Type F)
Ø 50
Sensor length 50 mm (BCID: V01)



V02-V023
Varivent® DN 32 … 125; 1 1/2" … 6" (Type N)
Ø 68
Sensor length 32 mm (BCID: V02)



V02-V025
Varivent® DN 32 … 125; 1 1/2" … 6" (Type N)
Ø 68
Sensor length 50 mm (BCID: V02)



B03-B031
G 1/2 A hygienic sealing
Sensor length 16.4 mm (BCID: B03)

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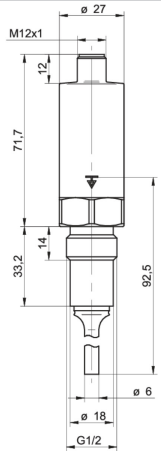
Dimensional drawings (mm)



B03-B039
G 1/2 A hygienic sealing
Sensor length 30 mm (BCID: B03)

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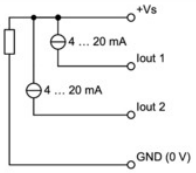
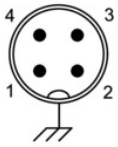
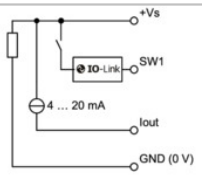
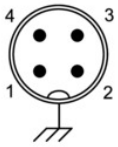
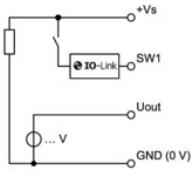
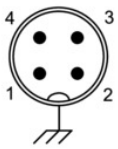
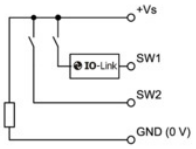
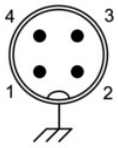
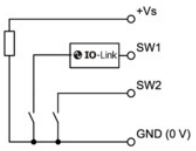
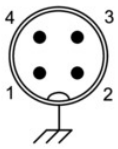
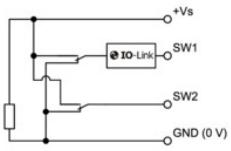
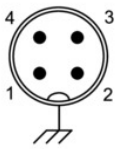
Electrical connection

Output signal	Equivalent circuit	Electrical connection	Function	Pin assignment
Multi-parameter output 4 … 20 mA, 3-wire (flow) 4 … 20 mA, 3-wire (temperature)			+Vs Iout (flow) Iout (temperature) GND (0 V) Frame ground	1 2 4 3 Plug thread
Programmable output Factory setting with IO-Link IO-Link 4 … 20 mA, 3-wire			+Vs SW1 (IO-Link) Iout GND (0 V) Frame ground	1 4 2 3 Plug thread
Programmable output Configuration programmable by customer IO-Link 0 … 10 V (3-wire)			+Vs SW1 (IO-Link) Uout GND (0 V) Frame ground	1 4 2 3 Plug thread
Programmable output Configuration programmable by customer IO-Link PNP			+Vs SW1 (IO-Link) SW2 GND (0 V) Frame ground	1 4 2 3 Plug thread
Programmable output Configuration programmable by customer IO-Link NPN			+Vs SW1 (IO-Link) SW2 GND (0 V) Frame ground	1 4 2 3 Plug thread
Programmable output Configuration programmable by customer IO-Link Digital (push-pull)			+Vs SW1 (IO-Link) SW2 GND (0 V) Frame ground	1 4 2 3 Plug thread

Ordering information

Ordering key - Configuration possibilities see website

	PF20H	-	1	1	.	010	.	####	.	2	0	.	#	.	0	00	0	.	0
Product																			
PF20H																			
Version																			
Version for Water			1																
Housing																			
Stainless steel, AISI 316L (1.4404)				1															
Electrical connection																			
M12-A, 4-pin, stainless steel						010													

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Ordering information

Ordering key - Configuration possibilities see website

	PF20H	-	1	1	.	010	.	####	.	2	0	.	#	.	0	00	0	.	0
Process conection																			
G 1/2 A hygienic (A03), Sensor length: 16.4 mm(2)								A031											
G 1/2 A hygienic (A03), Sensor length: 50 mm(2)								A035											
ISO 2852 (Tri-Clamp), DN 21.3, Ø 34.0 DIN 32676-A (Tri-Clamp), DN 20, Ø 34.0 (C02), Sensor length: 32 mm(2)								C023											
ISO 2852 (Tri-Clamp), DN 33.7; 38, Ø 50.5 DIN 32676-A (Tri-Clamp), DN 25; 32; 40, Ø 50.5 DIN 32676-B (Tri-Clamp), DN33.7, Ø 50.5 DIN 32676-C (Tri-Clamp), DN 1 1/2, Ø 50.5 (C04), Sensor length: 75 mm(1)								C042											
ISO 2852 (Tri-Clamp), DN 33.7; 38, Ø 50.5 DIN 32676-A (Tri-Clamp), DN 25; 32; 40, Ø 50.5 DIN 32676-B (Tri-Clamp), DN33.7, Ø 50.5 DIN 32676-C (Tri-Clamp), DN 1 1/2, Ø 50.5 (C04), Sensor length: 32 mm(1)								C043											
ISO 2852 (Tri-Clamp), DN 33.7; 38, Ø 50.5 DIN 32676-A (Tri-Clamp), DN 25; 32; 40, Ø 50.5 DIN 32676-B (Tri-Clamp), DN33.7, Ø 50.5 DIN 32676-C (Tri-Clamp), DN 1 1/2, Ø 50.5 (C04), Sensor length: 60 mm(1)								C046											
ISO 2852 (Tri-Clamp), DN 33.7; 38, Ø 50.5 DIN 32676-A (Tri-Clamp), DN 25; 32; 40, Ø 50.5 DIN 32676-B (Tri-Clamp), DN33.7, Ø 50.5 DIN 32676-C (Tri-Clamp), DN 1 1/2, Ø 50.5 (C04), Sensor length: 100 mm(1)								C047											
ISO 2852 (Tri-Clamp), DN 40; 51, Ø 64.0 DIN 32676-A (Tri-Clamp), DN 50, Ø 64.0 DIN 32676-B (Tri-Clamp), DN 42.4; 48.3, Ø 64.0 DIN 32676-C (Tri-Clamp), DN 2, Ø 64.0 (C05), Sensor length: 50 mm(1)								C055											
DIN 11851 (dairy pipe connection), DN 25 (D01), Sensor length: 32 mm(1)								D013											
DIN 11851 (dairy pipe connection), DN 40 (D03), Sensor length: 36 mm(1)								D034											
DIN 11851 (dairy pipe connection), DN 50 (D04), Sensor length: 50 mm(1)								D045											
Varivent® DN 32...125; 1 1/2...6 (Type N), Ø 68 (V02), Sensor length: 32 mm(3)								V023											
Varivent® DN 32...125; 1 1/2...6 (Type N), Ø 68 (V02), Sensor length: 50 mm(3)								V025											
Varivent® DN 25; 1 (Type F), Ø 50 (V01), Sensor length: 32 mm(4)								V013											
Varivent® DN 25; 1 (Type F), Ø 50 (V01), Sensor length: 50 mm(4)								V015											
BHC 3A DN 38 (B01), Sensor length: 32 mm(3)								B013											
BHC 3A DN 38 (B01), Sensor length: 50 mm(3)								B015											
G 1/2 A hygienic sealing, Sensor length: 16.4 mm(5)								B031											
G 1/2 A hygienic sealing, Sensor length: 30 mm(5)								B039											
Process connection material																			
AISI 316L (1.4404)										2									

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Ordering information

Ordering key - Configuration possibilities see website

	PF20H	-	1	1	.	010	.	####	.	2	0	.	#	.	0	00	0	.	0
Seal																			
None											0								
Output signal																			
Multi-parameter output, 2 x 4 - 20 mA (3-wire)													0						
Programmable output, IO-Link													1						
Explosion protection																			
Without															0				
Industrial approvals																			
Standard																00			
Special approvals																			
Standard																	0		
Configuration																			
Factory settings																			0

(1) EHEDG only with special gasket
(2) EHEDG not included
(3) EHEDG included
(4) EHEDG not included, only for tank installation
(5) EHEDG only with suitable weld-in sleeves or adapters from Baumer

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