

1. Installation

Operating of the BFS-10 N flow monitors is based on the movement of a spring-loaded piston within a cylindrical tube. The instrument can be mounted in any position in a system. Flow direction is from the lowest to the highest value, indicated on the scale.

The flow media must be free of particle contamination, otherwise the instruments will not function properly. Also magnetic particles may cause faults. We recommend the use of dirt filters or magnetic filters. All non standard applications should be discussed with our technical engineers.

The flow monitors must not be positioned in inductive or magnetic fields. Minimum distance from iron parts: 10 mm.

All connection sizes comply with the R-standard (DIN 2999, part 1). Only suitable thread and sealing material should be used for installation, otherwise the correct function of the equipment may be affected.

To avoid the risk of measure faults, the upstream line should be 10 x D and the downstream line 5 x D (where D = internal diameter of the tube).

The highest accuracy will be reached by mounting the flow monitors vertically, with flow direction from bottom to the top.

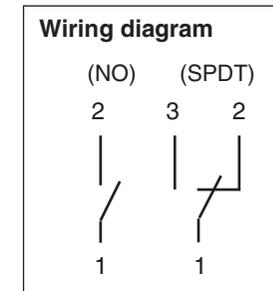
**When screwing the fittings, take care of the max. length of the threads.
Too long threads may cause damage of the flow monitor.**

**(BFS-10-O:
When screwing the fittings, the flowmeter threads must be fixed with a spanner. Never rotate the flowmeter connections inside the aluminum sleeve. This may cause leakage or breaking of the glass.)**

All model provided with a switch should be protected from electrical overload. Never exceed the given maximum switch capacity, not even for short periods. The embedded reedswitch is very sensitive for specifically inductive loads, which may occur at closing or opening and which can up to 10 times the given nominal value of the coil. Use protecting relays or other precautions in such cases.

Our reedswitches are gold-rhodium-plated, which allow direct connecting to SPS-systems.

2. Standard wiring diagram for switches, provided with connector:



3. Adjusting the switching points

The switchpoint should be adjusted on the scale of the flowswitch. Please notice that the switch point is always the shutdown point. That means, the contact will open when the flow rate is decreasing to the adjusted switchpoint. So the NO opens in case of an alarm.

4. Maintenance

The flowmeters are free of maintenance because of the few mechanical parts. For security reason we advice to check the flowmeters from time to time.

5. Switch versions for hazardous locations

As option there is an intrinsically safe approved version for G and D environments according to ATEX regulations. These switches, marked with EEx ia label, must be operated with a certified switch amplifier according to the applicable regulations. Design conditions, approval data and instructions must be observed carefully. Installation and operation must be performed by trained personnel only.

Approval data:

Approved for:  II 1 GD EEx ia IIB T6, IP6X, T 100 °C
Certificate-No.: ISSeP03ATEX119X

Electrical data for intrinsically safe application:

U_i = 28 V
 I_i = 50 mA
 C_i = 40 pF
 L_i = 4 μ H

Barksdale

CONTROL PRODUCTS

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Specifications are subject to
changes without notice.

6. Technical data:

Operating data	BFS-10-N 1"		BFS-10-N 1/2"		BFS-10-N 1/4"	
Pressure MS	PN 250 bar		PN 300 bar		PN 300 bar	
Pressure VA	300 bar		350 bar		350 bar	
Pressure drop	0,02 - 0,4 bar		0,02 - 0,3 bar		0,02 - 0,2 bar	
Temperature max.	100 °C		100 °C		100 °C	
Electrical data*						
Normally open	250 V - 3 A - 100 VA		230 V - 3 A - 60 VA		200 V - 1 A - 20 VA	
Change over**	250 V - 1,5 A - 50 VA		250 V - 1,5 A - 50 VA		200 V - 1 A - 20 VA	
Protection	IP65		IP65		IP65	
Materials	brass	1.4571	brass	1.4571	brass	1.4571
Housing	brass	1.4571	brass	1.4571	brass	1.4571
Float	brass	1.4571	brass	1.4571	brass	1.4571
Spring	1.4571	1.4571	1.4571	1.4571	1.4571	1.4571
Seals	none	none	none	none	none	none
Accuracy	±10% of FS		±10% of FS		±10% of FS	

Electrical connection acc. to DIN 43650 or with 1 m cable

Operating data	BFS-10-O 1"		BFS-10-O 1/2"		BFS-10-O 1/4"	
Pressure MS	PN 10 bar		PN 16 bar		PN 16 bar	
Pressure VA	300 bar		350 bar		350 bar	
Pressure drop	0,02 - 0,4 bar		0,02 - 0,3 bar		0,02 - 0,2 bar	
Temperature max.	120 °C		120 °C		120 °C	
Electrical data*						
Normally open	250 V - 3 A - 100 VA		230 V - 1 A - 100 VA		200 V - 1 A - 20 VA	
Change over**	250 V - 1,5 A - 50 VA		250 V - 1,5 A - 50 VA		200 V - 1 A - 20 VA	
Protection	IP65		IP65		IP65	
Materials	brass	1.4571	brass	1.4571	brass	1.4571
Housing	Aluminum anodized		Aluminum anodized		Aluminum anodized	
Float	brass	1.4571	brass	1.4571	brass	1.4571
Spring	1.4310	1.4571	1.4310	1.4571	1.4310	1.4571
Seals	Perbunan, Viton or EPDM					
Glass	Duran 50	Duran 50	Duran 50	Duran 50	Duran 50	Duran 50
Accuracy	±10% of FS		±10% of FS		±10% of FS	

Electrical connection acc. to DIN 43650 or with 1 m cable

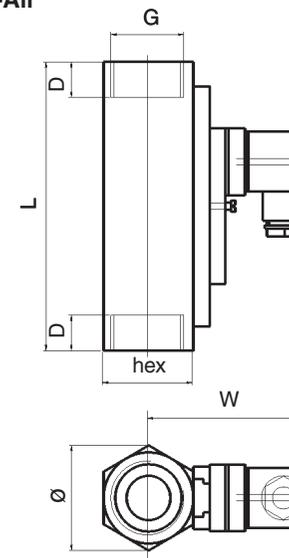
* Data only for application in non explosive atmosphere

** Minimum load: 3 VA

Contact rating for SPS-applications: 200 V, 1 A, 20 VA (Please request)

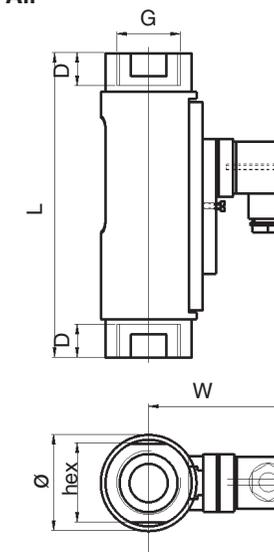
Dimensions (in mm)

BFS-10-N / N-Air



(G)	G 1/4	G 1/2	G 1
(hex)	17	27	41
(Ø)	17	31	47
(W)	47	52	76
(D)	10	14	17
(L)	65	90	130
Weight (g)	140	350	1050

BFS-10-O / O-Air



(G)	G 1/4	G 1/2	G 1
(hex)	17	27	41
(Ø)	20	32	50
(W)	49	53	77
(D)	10	14	17
(L)	90	114	158
Weight (g)	140	300	900