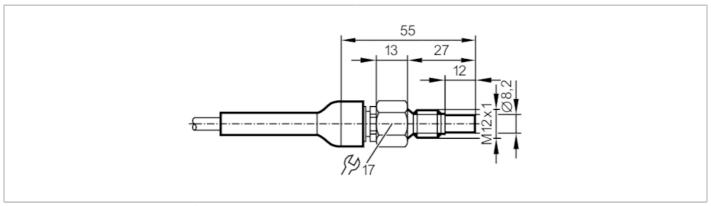
# **SF111A**

















Duadunt abayastayistis			
Product characteristics Probe length L	s [mm]		12
Process connection	[,,,,,]		threaded connection M12 x 1 external thread
			threaded connection M12 x 1 external thread
Application			
Media	[00]		Liquids; Gases
Medium temperature	[°C]	000 h - ::	-2060
Pressure rating		300 bar	30 MPa
Liquids	F0.01		
Medium temperature	[°C]		-2060
Gases			
Medium temperature	[°C]		-2060
Electrical data			
Connection to control me	onitor		VS2000 Exi (PTB 01 ATEX 2075)
Measuring/setting rang	ge		
Probe length L	[mm]		12
Liquids			
Setting range	[cm/s]		3300
Greatest sensitivity	[cm/s]		360
Gases			
Setting range	[cm/s]		2002000
Greatest sensitivity	[cm/s]		200800
Accuracy / deviations			
Max. temperature gradie	ent of[K/min]		15
medium			15
Reaction times			
Response time	[s]		110
Liquids			
Response time	[s]		110
Gases			
Response time	[s]		110

# **SF111A**

## Flow sensor for connection to an evaluation unit

Core colors:

brown

blue

black

white

grey

BN =

BU =

BK =

WH =

GY =



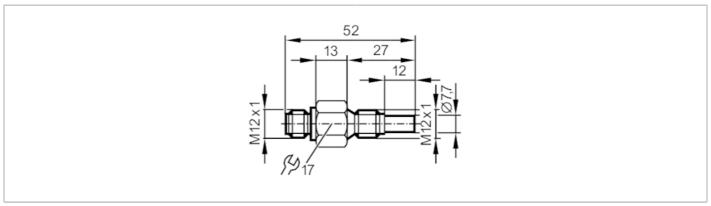


Operating conditions				
Ambient temperature	[°C]	-2060		
Protection		IP 67		
Tests / approvals				
Approval		DMT 03 ATEX E 090 X; TIIS TC17434; IECEx BVS 11.0017 X		
ATEX marking		ξ <sub>χ</sub> II 1/2G Ex ia IIC T4 Ga/Gb		
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)		
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)		
MTTF	[years]	8648		
Mechanical data				
Weight	[g]	354.5		
Housing		tubular		
Dimensions	[mm]	Ø 19.6 / L = 105		
Material		stainless steel (1.4404 / 316L)		
Materials (wetted parts)		stainless steel (1.4404 / 316L)		
Process connection		threaded connection M12 x 1 external thread		
Probe diameter	[mm]	8.2		
Installation length EL	[mm]	27		
Remarks				
Remarks		In principle, the type test according to 94/9/EC (ATEX) only		
		takes atmospheric conditions into account (0.81.1 bar).  For pressures outside this range use must be assessed and approved by the user.		
		Adhere to the operating instructions and the type test certificate.		
Pack quantity		1 pcs.		
Electrical connection				
Cable: 6 m, TPE-S; Maxim	num cable le	ength: 100 m; 5 x 0.34 mm <sup>2</sup>		
Connection				
		DNI		
		BN 1		
		/BK 2		
		GY $3$		
		VS2000 Exi		
		WH 7		
		\BU 8		
		9		

# **SF120A**









Product characteristics		
Probe length L	[mm]	12
Process connection		threaded connection M12 x 1 external thread
Application		
Media		Liquids; Gases
Medium temperature	[°C]	-2070
Pressure rating		30 bar 3 MPa
Liquids		
Medium temperature	[°C]	-2070
Gases		
Medium temperature	[°C]	-2070
Electrical data		
Connection to control mo	onitor	VS2000 Exi (PTB 01 ATEX 2075)
Measuring/setting rang	e	
Probe length L	[mm]	12
Liquids		
Setting range	[cm/s]	3300
Greatest sensitivity	[cm/s]	360
Gases		
Setting range	[cm/s]	2002000
Greatest sensitivity	[cm/s]	200800
Accuracy / deviations		
Max. temperature gradie	nt of[K/min]	15
medium		
Reaction times Response time	[6]	1 10
·	[s]	110
Liquids  Despense time	r <sub>o</sub> 1	1 12
Response time	[s]	110
Gases		
Response time	[s]	110

# **SF120A**

## Flow sensor for connection to an evaluation unit



SFM12ABB/US/2G

Operating conditions		
Ambient temperature	[°C]	-2070
Protection		IP 67
Tests / approvals		
Approval		DMT 03 ATEX E091; IECEX BVS 06.0007
ATEX marking		⟨Ex⟩ II 2G Ex ia IIC T4 Gb
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)
MTTF	[years]	8648
Safety classification		
Max. internal capacitance	[nF]	0.4
Max. internal inductance	[μH]	2
Temperature class		T4
Mechanical data		
Weight	[g]	111.5
Housing		tubular
Material		stainless steel (1.4404 / 316L)
Materials (wetted parts)		stainless steel (1.4404 / 316L)
Process connection		threaded connection M12 x 1 external thread
Probe diameter	[mm]	7.7
Installation length EL	[mm]	27
Remarks		
Remarks		In principle, the type test according to 94/9/EC (ATEX) only takes atmospheric conditions into account (0.81.1 bar).
		For pressures outside this range use must be assessed and approved by the user.
		Adhere to the operating instructions and the type test certificate.
Pack quantity		1 pcs.

## **Electrical connection**

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



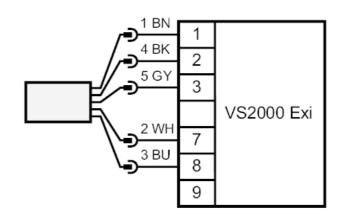
# **SF120A**

## Flow sensor for connection to an evaluation unit





#### Connection

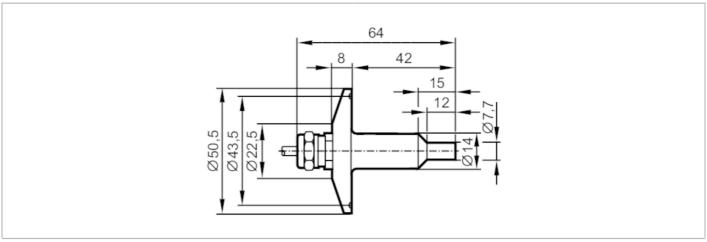


Core colors:

BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	arev









Product characteristics	S	
Probe length L	[mm]	42
Process connection		Clamp DN25DN40 (11,5") DIN 32676 (ISO 2852)
Application		
Application		high temperature; hygienic applications
Pressure rating		30 bar 3 MPa
Liquids		
Application		high temperature; hygienic applications
Medium temperature	[°C]	0120
Gases		
Medium temperature	[°C]	0100
Electrical data		
Connection to control mo	onitor	VS3000
Measuring/setting rang	je	
Probe length L	[mm]	42
Liquids		
Setting range	[cm/s]	3300
Greatest sensitivity	[cm/s]	360
Gases		
Setting range	[cm/s]	2002000
Greatest sensitivity	[cm/s]	200800
Accuracy / deviations		
Max. temperature gradie medium	ent of[K/min]	15
Reaction times		
Response time	[s]	110
Liquids		
Response time	[s]	110

## Flow sensor for connection to an evaluation unit

Core colors:

brown

blue

black

white

grey

BN =

BU =

BK =

WH =

GY =



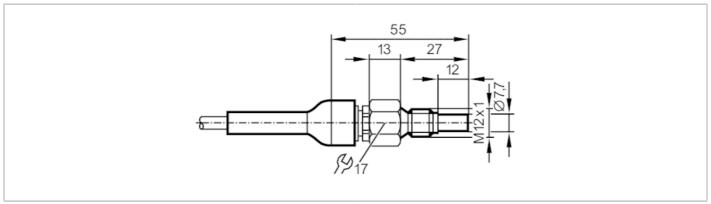
SFG14ZBB/6M

Gases				
Response time	[s]	1	.10	
Operating conditions				
Protection		IP	67	
Tests / approvals				
Shock resistance		DIN IEC 68-2-27	40 g (11 ms)	
Vibration resistance		DIN IEC 68-2-6	10 g (552000 Hz)	
MTTF	[years]	86	548	
Mechanical data				
Weight	[g]	4	85	
Housing		tub	ular	
Dimensions	[mm]	Ø 14 /	L = 64	
Material		stainless steel	(1.4571/316Ti )	
Materials (wetted parts)		stainless steel (1.4571/316Ti )		
Process connection		Clamp DN25DN40 (11	,5") DIN 32676 (ISO 2852)	
Probe diameter	[mm]	7.7		
Installation length EL	[mm]		2	
Remarks				
Remarks		The 3-A qualification is only valid if adapters	with 3-A qualification are used for installation.	
Pack quantity		1 pcs.		
Electrical connection				
Cable: 6 m, silicone; Maxi	mum cable l	ength: 100 m; 5 x 0.34 mm²		
Connection				
BN BK GY				

# **SF121A**









Product characteristics		
Probe length L	[mm]	12
Process connection		threaded connection M12 x 1 external thread
Application		
Media		Liquids; Gases
Medium temperature	[°C]	-2070
Pressure rating		30 bar 3 MPa
Liquids		
Medium temperature	[°C]	-2070
Gases		
Medium temperature	[°C]	-2070
Electrical data		
Connection to control mo	onitor	VS2000 Exi (PTB 01 ATEX 2075)
Measuring/setting rang	e	
Probe length L	[mm]	12
Liquids		
Setting range	[cm/s]	3300
Greatest sensitivity	[cm/s]	360
Gases		
Setting range	[cm/s]	2002000
Greatest sensitivity	[cm/s]	200800
Accuracy / deviations		
Max. temperature gradie	nt of[K/min]	15
medium		
Reaction times Response time	[6]	1 10
·	[s]	110
Liquids  Despense time	r <sub>o</sub> 1	1 12
Response time	[s]	110
Gases		
Response time	[s]	110

# **SF121A**

## Flow sensor for connection to an evaluation unit



SFM12ABB/2G /6M

Operating conditions		
Ambient temperature	[°C]	-2070
Protection		IP 67
Tests / approvals		
Approval		DMT 03 ATEX E091; IECEX BVS 06.0007
ATEX marking		$\langle \xi_{\rm X} \rangle$ II 2G Ex ia IIC T4 Gb
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)
MTTF	[years]	8648
Safety classification		
Max. internal capacitance	[nF]	1.2
Max. internal inductance	[μH]	6
Temperature class		T4
Mechanical data		
Weight	[g]	346
Housing		tubular
Material		stainless steel (1.4404 / 316L)
Materials (wetted parts)		stainless steel (1.4404 / 316L)
Process connection		threaded connection M12 x 1 external thread
Probe diameter	[mm]	7.7
Installation length EL	[mm]	27
Remarks		
Remarks		In principle, the type test according to 94/9/EC (ATEX) only takes atmospheric conditions into account (0.81.1 bar).
		For pressures outside this range use must be assessed and approved by the user.
		Adhere to the operating instructions and the type test certificate.
Pack quantity		1 pcs.

# **SF121A**

#### Flow sensor for connection to an evaluation unit

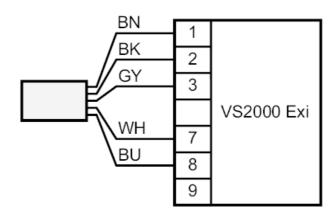


SFM12ABB/2G /6M

## **Electrical connection**

Cable: 6 m, TPE-S; Maximum cable length: 100 m; 5 x 0.34 mm<sup>2</sup>

#### Connection



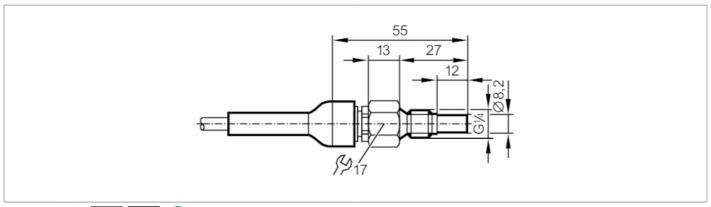
Core colors:

 $\begin{array}{lll} BN = & brown \\ BU = & blue \\ BK = & black \\ WH = & white \\ GY = & grey \end{array}$ 

# **SF211A**

















Product characteristic	s		
Probe length L	[mm]		12
Process connection			threaded connection G 1/4 external thread
Application			
Media			Liquids; Gases
Medium temperature	[°C]		-2060
Pressure rating		300 bar	30 MPa
Liquids			
Medium temperature	[°C]		-2060
Gases			
Medium temperature	[°C]		-2060
Electrical data			
Connection to control me	onitor		VS2000 Exi (PTB 01 ATEX 2075)
Measuring/setting rang	ge		
Probe length L	[mm]		12
Liquids			
Setting range	[cm/s]		3300
Greatest sensitivity	[cm/s]		360
Gases			
Setting range	[cm/s]		2002000
Greatest sensitivity	[cm/s]		200800
Accuracy / deviations			
Max. temperature gradie medium	ent of[K/min]		15
Reaction times			
Response time	[s]		110
Liquids			
Response time	[s]		110
Gases			
Response time	[s]		110

# **SF211A**

## Flow sensor for connection to an evaluation unit



SFR14ADB/1/2G /6M

Operating conditions		
Ambient temperature	[°C]	-2060
Storage temperature	[°C]	-2085
Protection		IP 67
Tests / approvals		
Approval		DMT 03 ATEX E 090 X; TIIS TC17434; IECEx BVS 11.0017 X
ATEX marking		Ex II 1/2G Ex ia IIC T4 Ga/Gb
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)
MTTF	[years]	8648
Safety classification		
Max. internal capacitance	[nF]	1.2
Max. internal inductance	[μH]	6
Temperature class		T4
Mechanical data		
Weight	[g]	356.5
Housing		tubular
Material		stainless steel (1.4404 / 316L)
Materials (wetted parts)		stainless steel (1.4404 / 316L)
Process connection		threaded connection G 1/4 external thread
Probe diameter	[mm]	8.2
Installation length EL	[mm]	27
Remarks		
Remarks		In principle, the type test according to 94/9/EC (ATEX) only takes atmospheric conditions into account (0.81.1 bar).
		For pressures outside this range use must be assessed and approved by the user.
Pack quantity		Adhere to the operating instructions and the type test certificate.

# **SF211A**

#### Flow sensor for connection to an evaluation unit

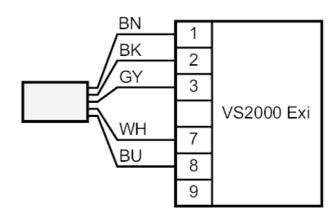




## **Electrical connection**

Cable: 6 m, TPE-S; Maximum cable length: 100 m; 5 x 0.34 mm<sup>2</sup>

#### Connection



Core colors:

 BN =
 brown

 BU =
 blue

 BK =
 black

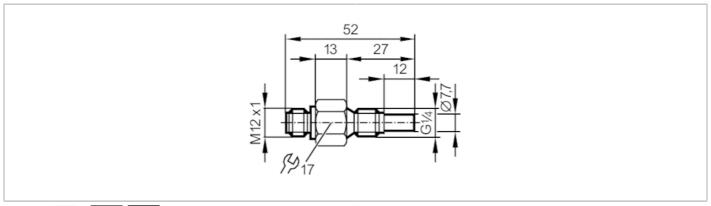
 WH =
 white

 GY =
 grey

# **SF220A**









Product characteristics		
Probe length L	[mm]	12
Process connection	[,,,,,]	threaded connection G 1/4 external thread
		- Inteduction of 1/4 external tillead
Application Media		Liquidos Conso
Medium temperature	[°C]	Liquids; Gases -2070
Pressure rating	[ 0]	30 bar 3 MPa
Liquids		30 bai
Medium temperature	[°C]	-2070
·	[ 0]	-2010
Gases Medium temperature	[°C]	-2070
	[ 0]	-2070
Electrical data	anitar .	\(\( \( \text{PTP 04 ATEV 0075} \)
Connection to control mo		VS2000 Exi (PTB 01 ATEX 2075)
Measuring/setting rang		
Probe length L	[mm]	12
Liquids		
Setting range	[cm/s]	3300
Greatest sensitivity	[cm/s]	360
Gases		
Setting range	[cm/s]	2002000
Greatest sensitivity	[cm/s]	200800
Accuracy / deviations		
Max. temperature gradie medium	nt of[K/min]	15
Reaction times		
Reaction times Response time	[s]	110
·	[5]	110
Liquids Response time	[c]	1 10
·	[s]	110
Gases	F 3	
Response time	[s]	110

# **SF220A**

## Flow sensor for connection to an evaluation unit



SFR14ABB/US/2G

Operating conditions		
Ambient temperature	[°C]	-2070
Protection		IP 67
Tests / approvals		
Approval		DMT 03 ATEX E091; IECEX BVS 06.0007
ATEX marking		⟨Ex⟩ II 2G Ex ia IIC T4 Gb
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)
MTTF	[years]	8648
Safety classification		
Max. internal capacitance	[nF]	0.4
Max. internal inductance	[μH]	2
Temperature class		T4
Mechanical data		
Weight	[g]	113
Housing		tubular
Material		stainless steel (1.4404 / 316L)
Materials (wetted parts)		stainless steel (1.4404 / 316L)
Process connection		threaded connection G 1/4 external thread
Probe diameter	[mm]	7.7
Installation length EL	[mm]	27
Remarks		
Remarks		In principle, the type test according to 94/9/EC (ATEX) only takes atmospheric conditions into account (0.81.1 bar).
		For pressures outside this range use must be assessed and approved by the user.
		Adhere to the operating instructions and the type test certificate.
Pack quantity		1 pcs.

## **Electrical connection**

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



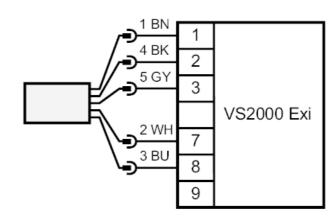
# **SF220A**

## Flow sensor for connection to an evaluation unit



SFR14ABB/US/2G

## Connection



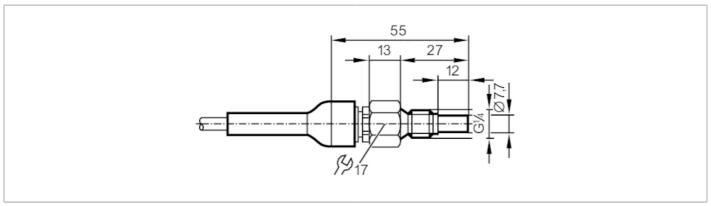
Core colors:

BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	arev

# **SF221A**









Product characteristic	cs	
Probe length L	[mm]	12
Process connection		threaded connection G 1/4 external thread
Application		
Media		Liquids; Gases
Medium temperature	[°C]	-2070
Pressure rating		30 bar 3 MPa
Liquids		
Medium temperature	[°C]	-2070
Gases		
Medium temperature	[°C]	-2070
Electrical data		
Connection to control m	nonitor	VS2000 Exi (PTB 01 ATEX 2075)
Measuring/setting ran	ge	
Probe length L	[mm]	12
Liquids		
Setting range	[cm/s]	3300
Greatest sensitivity	[cm/s]	360
Gases		
Setting range	[cm/s]	2002000
Greatest sensitivity	[cm/s]	200800
Accuracy / deviations		
Max. temperature gradi medium	ent of[K/min]	15
Reaction times		
Response time	[S]	110
Liquids		
Response time	[s]	110
Gases		
Response time	[s]	110

# **SF221A**

## Flow sensor for connection to an evaluation unit



SFR14ABB/2G /6M

Operating conditions				
Ambient temperature	[°C]	-2070		
Protection		IP 67		
Tests / approvals				
Approval		DMT 03 ATEX E091; IECEX BVS 06.0007		
ATEX marking		⟨Ex⟩ II 2G Ex ia IIC T4 Gb		
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)		
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)		
MTTF	[years]	8648		
Safety classification				
Max. internal capacitance	[nF]	1.2		
Max. internal inductance	[μH]	6		
Temperature class		T4		
Mechanical data				
Weight	[g]	350		
Housing		tubular		
Material		stainless steel (1.4404 / 316L)		
Materials (wetted parts)		stainless steel (1.4404 / 316L)		
Process connection		threaded connection G 1/4 external thread		
Probe diameter	[mm]	7.7		
Installation length EL	[mm]	27		
Remarks				
Remarks		In principle, the type test according to 94/9/EC (ATEX) only takes atmospheric conditions into account (0.81.1 bar).		
		For pressures outside this range use must be assessed and approved by the user.		
		Adhere to the operating instructions and the type test certificate.		
Pack quantity		1 pcs.		

## **SF221A**

#### Flow sensor for connection to an evaluation unit

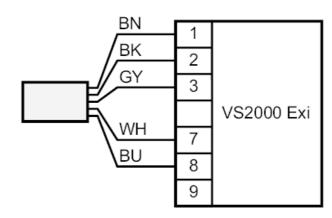


SFR14ABB/2G /6M

## **Electrical connection**

Cable: 6 m, TPE-S; Maximum cable length: 100 m; 5 x 0.34 mm<sup>2</sup>

#### Connection

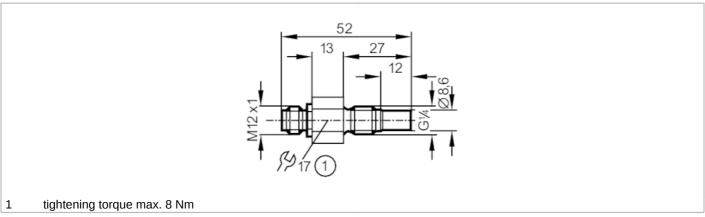


Core colors:

BN = brown BU = blue BK = black WH = white GY = grey









Product characteristics		
Probe length L	[mm]	12
Process connection		threaded connection G 1/4 external thread
Application		
Media		Liquids; aggressive media
Medium temperature	[°C]	570
Pressure rating		30 bar 3 MPa
Liquids		
Medium temperature	[°C]	570
Electrical data		
Connection to control mon	itor	VS3000
Measuring/setting range		
Probe length L	[mm]	12
Liquids		
Setting range	[cm/s]	360
Greatest sensitivity	[cm/s]	340
Accuracy / deviations		
Max. temperature gradient medium	t of[K/min]	7
Reaction times		
Response time	[s]	220
Liquids		
Response time	[s]	220
Operating conditions		
Protection		IP 67
Tests / approvals		
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)
MTTF	[years]	8648

#### Flow sensor for connection to an evaluation unit



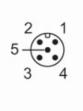


Mechanical data			
Weight	[g]	41.5	
Housing		tubular	
Material		ceramics (99.7 % Al2O3)	
Materials (wetted parts)		ceramics (99.7 % Al2O3)	
Process connection		threaded connection G 1/4 external thread	
Probe diameter	[mm]	8.6	
Installation length EL	[mm]	27	

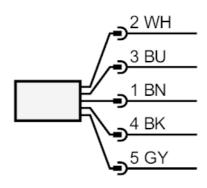
	 <del>- ·</del>
Accessories	
Items supplied	sealings: 1, PTFE
Remarks	
Remarks	For sealing use the supplied PTFE packing washer.
Pack quantity	1 pcs.

## Electrical connection

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



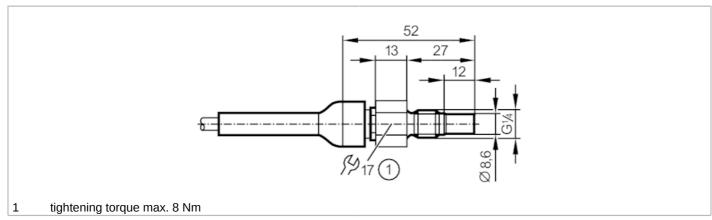
#### Connection



	Core colors :
BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	grey









Product characteristics		
Probe length L	[mm]	12
Process connection		threaded connection G 1/4 external thread
Application		
Media		Liquids; aggressive media
Medium temperature	[°C]	570
Pressure rating		30 bar 3 MPa
Liquids		
Medium temperature	[°C]	570
Electrical data		
Connection to control mor	nitor	VS3000
Measuring/setting range	:	
Probe length L	[mm]	12
Liquids		
Setting range	[cm/s]	360
Greatest sensitivity	[cm/s]	340
Accuracy / deviations		
Max. temperature gradien medium	t of[K/min]	7
Reaction times		
Response time	[s]	220
Liquids		
Response time	[s]	220
Operating conditions		
Protection		IP 67
Tests / approvals		
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)
MTTF	[years]	8648

#### Flow sensor for connection to an evaluation unit



SFR14XBK/6M

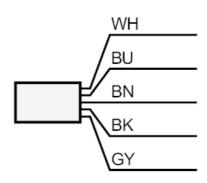
Mechanical data			
Weight	[g]	379	
Housing		tubular	
Material		ceramics (99.7 % Al2O3)	
Materials (wetted parts)		ceramics (99.7 % Al2O3)	
Process connection		threaded connection G 1/4 external thread	
Probe diameter	[mm]	8.6	
Installation length EL	[mm]	27	

Accessories	
Items supplied	sealings: 1, PTFE
Remarks	
Remarks	For sealing use the supplied PTFE packing washer.
Pack quantity	1 ncs.

## Electrical connection

Cable: 6 m, PUR; Maximum cable length: 100 m; 5 x 0.34 mm², PVC

#### Connection



Core colors :

BN = brown

BU = blue

BK = black

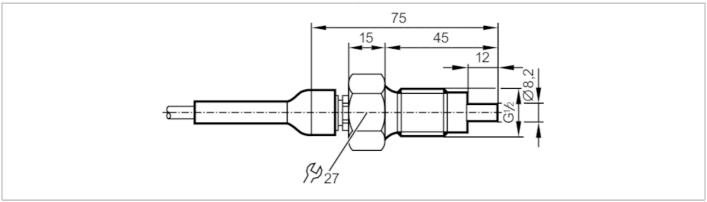
WH = white

GY = grey

# **SF311A**



















Product characteristic	:S			
Probe length L	[mm]		12	
Process connection			threaded connection G 1/2 external thread	
Application				
Media			Liquids; Gases	
Medium temperature	[°C]		-2060	
Pressure rating		300 bar	30 MPa	
Liquids				
Medium temperature	[°C]		-2060	
Gases				
Medium temperature	[°C]		-2060	
Electrical data				
Connection to control m	onitor		VS2000 Exi (PTB 01 ATEX 2075)	
Measuring/setting range	ge			
Probe length L	[mm]		12	
Liquids				
Setting range	[cm/s]		3300	
Greatest sensitivity	[cm/s]		360	
Gases				
Setting range	[cm/s]		2002000	
Greatest sensitivity	[cm/s]		200800	
Accuracy / deviations				
Max. temperature gradio medium	ent of[K/min]		15	
Reaction times				
Response time	[s]		110	
Liquids				
Response time	[s]		110	
Gases				
Response time	[s]		110	

# **SF311A**

## Flow sensor for connection to an evaluation unit



SFR12ADB/1/2G /6M

Operating conditions		
Ambient temperature	[°C]	-2060
Storage temperature	[°C]	-2085
Protection		IP 67
Tests / approvals		
Approval		DMT 03 ATEX E 090 X; TIIS TC17434; IECEx BVS 11.0017 X
ATEX marking		$\langle \widehat{\xi_{x}} \rangle$ II 1/2G Ex ia IIC T4 Ga/Gb
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)
MTTF	[years]	8648
Safety classification		
Max. internal capacitance	[nF]	1.2
Max. internal inductance	[μH]	6
Temperature class		T4
Mechanical data		
Weight	[g]	467
Housing		tubular
Material		stainless steel (1.4404 / 316L)
Materials (wetted parts)		stainless steel (1.4404 / 316L)
Process connection		threaded connection G 1/2 external thread
Probe diameter	[mm]	8.2
Installation length EL	[mm]	45
Remarks		
Remarks		In principle, the type test according to 94/9/EC (ATEX) only takes atmospheric conditions into account (0.81.1 bar).
		For pressures outside this range use must be assessed and approved by the user.
		Adhere to the operating instructions and the type test certificate.
Pack quantity		1 pcs.

# **SF311A**

#### Flow sensor for connection to an evaluation unit

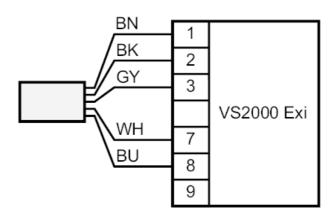




## Electrical connection

Cable: 6 m, TPE-S; Maximum cable length: 100 m; 5 x 0.34 mm<sup>2</sup>

#### Connection



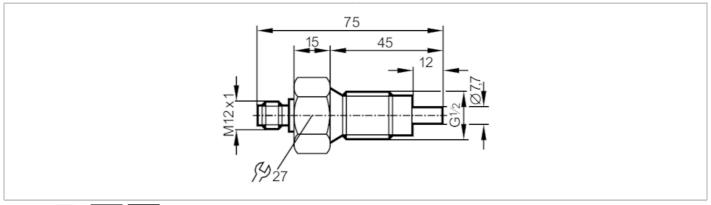
Core colors:

BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	grev

# **SF320A**









[mm]	12
[,,,,,,]	threaded connection G 1/2 external thread
	tilleaded connection G 1/2 external tillead
[00]	Liquids; Gases
[ C]	-2070 30 bar 3 MPa
	SO DAI
[00]	-2070
[ C]	-2070
F0.03	
[°C]	-2070
nitor	VS2000 Exi (PTB 01 ATEX 2075)
•	
[mm]	12
[cm/s]	3300
[cm/s]	360
[cm/s]	2002000
[cm/s]	200800
t of[K/min]	15
[s]	110
[s]	110
[s]	110
	[cm/s] [cm/s] [cm/s] t of[K/min]

# **SF320A**

## Flow sensor for connection to an evaluation unit



SFR12ABB/US/2G

Operating conditions			
Ambient temperature	[°C]	-2070	
Protection		IP 67	
Tests / approvals			
Approval		DMT 03 ATEX E091; IECEX BVS 06.0007	
ATEX marking		⟨Ex⟩ II 2G Ex ia IIC T4 Gb	
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)	
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)	
MTTF	[years]	8648	
Safety classification			
Max. internal capacitance	[nF]	0.4	
Max. internal inductance	[μH]	2	
Temperature class		T4	
Mechanical data			
Weight	[g]	218.5	
Housing		tubular	
Material		stainless steel (1.4404 / 316L)	
Materials (wetted parts)		stainless steel (1.4404 / 316L)	
Process connection		threaded connection G 1/2 external thread	
Probe diameter	[mm]	7.7	
Installation length EL	[mm]	45	
Remarks			
Remarks		In principle, the type test according to 94/9/EC (ATEX) only takes atmospheric conditions into account (0.81.1 bar).	
		For pressures outside this range use must be assessed and approved by the user.	
		Adhere to the operating instructions and the type test certificate.	
Pack quantity		1 pcs.	

## **Electrical connection**

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



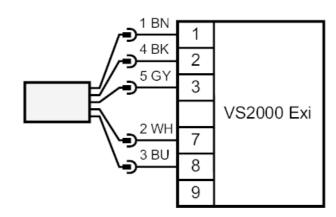
# **SF320A**

## Flow sensor for connection to an evaluation unit





#### Connection



Core colors:

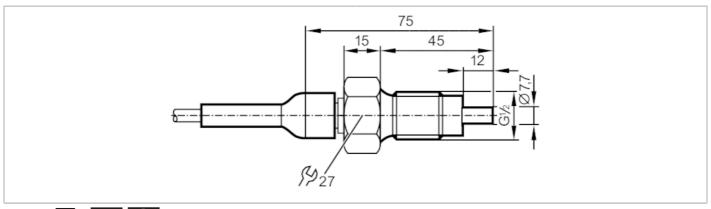
BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	arev

# **SF321A**

## Flow sensor for connection to an evaluation unit



SFR12ABB/2G





[mm]	12
[,,,,,,]	threaded connection G 1/2 external thread
	tilleaded connection G 1/2 external tillead
[00]	Liquids; Gases
[ C]	-2070 30 bar 3 MPa
	SO DAI
[00]	-2070
[ C]	-2070
F0.03	
[°C]	-2070
nitor	VS2000 Exi (PTB 01 ATEX 2075)
•	
[mm]	12
[cm/s]	3300
[cm/s]	360
[cm/s]	2002000
[cm/s]	200800
t of[K/min]	15
[s]	110
[s]	110
[s]	110
	[cm/s] [cm/s] [cm/s] t of[K/min]

# **SF321A**

## Flow sensor for connection to an evaluation unit



SFR12ABB/2G

Operating conditions			
Ambient temperature	[°C]	-2070	
Protection		IP 67	
Tests / approvals			
Approval		DMT 03 ATEX E091; IECEX BVS 06.0007	
ATEX marking		$\langle \xi_{\rm X} \rangle$ II 2G Ex ia IIC T4 Gb	
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)	
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)	
MTTF	[years]	8648	
Safety classification			
Max. internal capacitance	[nF]	1.2	
Max. internal inductance	[µH]	6	
Temperature class		T4	
Mechanical data			
Weight	[g]	456	
Housing		tubular	
Material		stainless steel (1.4404 / 316L)	
Materials (wetted parts)		stainless steel (1.4404 / 316L)	
Process connection		threaded connection G 1/2 external thread	
Probe diameter	[mm]	7.7	
Installation length EL	[mm]	45	
Remarks			
Remarks		In principle, the type test according to 94/9/EC (ATEX) only takes atmospheric conditions into account (0.81.1 bar).	
		For pressures outside this range use must be assessed and approved by the user.	
		Adhere to the operating instructions and the type test certificate.	
Pack quantity		1 pcs.	

# **SF321A**

#### Flow sensor for connection to an evaluation unit

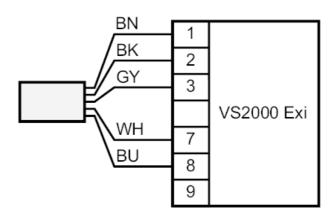




## Electrical connection

Cable: 6 m, TPE-S; Maximum cable length: 100 m; 5 x 0.34 mm<sup>2</sup>

#### Connection



Core colors:

 BN =
 brown

 BU =
 blue

 BK =
 black

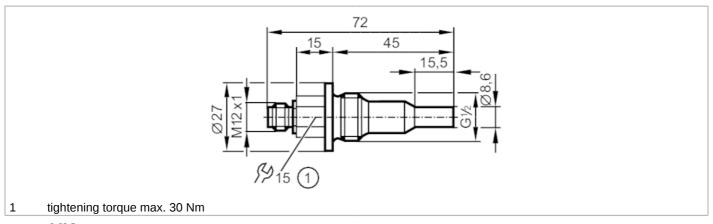
 WH =
 white

 GY =
 grey

## Flow sensor for connection to an evaluation unit







# CE CA

Product characteristics		
Probe length L	[mm]	30
Process connection		threaded connection G 1/2 external thread
Application		
Media		Liquids; aggressive media
Medium temperature	[°C]	570
Pressure rating		30 bar 3 MPa
Liquids		
Medium temperature	[°C]	570
Electrical data		
Connection to control monit	or	VS3000
Measuring/setting range		
Probe length L	[mm]	30
Liquids		
Setting range	[cm/s]	360
Greatest sensitivity	[cm/s]	340
Accuracy / deviations		
Max. temperature gradient of medium	of[K/min]	7
Reaction times		
Response time	[s]	220
Liquids		
Response time	[s]	220
Operating conditions		
Protection		IP 67
Tests / approvals		
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)
MTTF	[years]	8213

#### Flow sensor for connection to an evaluation unit



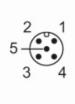


Mechanical data		
Weight	[g]	55
Housing		tubular
Material		ceramics (99.7 % Al2O3)
Materials (wetted parts)		ceramics (99.7 % Al2O3)
Process connection		threaded connection G 1/2 external thread
Probe diameter	[mm]	8.6
Installation length EL	[mm]	45

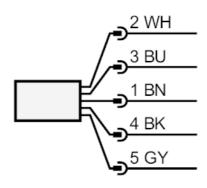
Accessories	
Items supplied	sealings: 1, PTFE
Remarks	
Remarks	For sealing use the supplied PTFE packing washer.
Pack quantity	1 pcs.

## Electrical connection

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



#### Connection



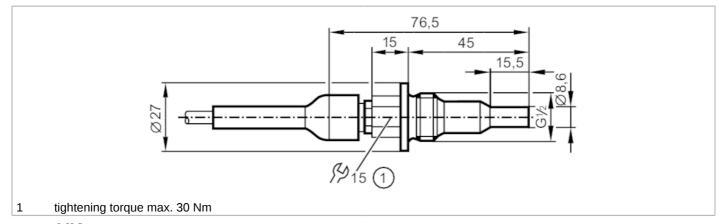
	Core colors :	
BN =	brown	
BU =	blue	
BK =	black	
WH =	white	
GY =	grey	

SFR12XBK/6M

## Flow sensor for connection to an evaluation unit







# CE CA

	_		
Product characteristics Probe length L	[mm]	30	
Process connection	[IIIIII]		
		threaded connection G 1/2 external thread	
Application			
Media		Liquids; aggressive media	
Medium temperature	[°C]	570	
Pressure rating		30 bar 3 MPa	
Liquids			
Medium temperature	[°C]	570	
Electrical data			
Connection to control mor	nitor	VS3000	
Measuring/setting range	;		
Probe length L	[mm]	30	
Liquids			
Setting range	[cm/s]	360	
Greatest sensitivity	[cm/s]	340	
Accuracy / deviations			
Max. temperature gradien medium	t of[K/min]	7	
Reaction times			
Response time	[s]	220	
Liquids			
Response time	[s]	220	
Operating conditions	Operating conditions		
Protection		IP 67	
Tests / approvals			
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)	
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)	
MTTF	[years]	8213	

#### Flow sensor for connection to an evaluation unit



SFR12XBK/6M

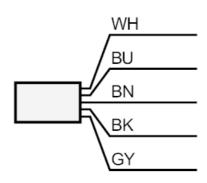
Mechanical data			
Weight	[g]	389.5	
Housing		tubular	
Material		ceramics (99.7 % Al2O3)	
Materials (wetted parts)		ceramics (99.7 % Al2O3)	
Process connection		threaded connection G 1/2 external thread	
Probe diameter	[mm]	8.6	
Installation length EL	[mm]	45	

Accessories	
Items supplied	sealings: 1, PTFE
Remarks	
Remarks	For sealing use the supplied PTFE packing washer.
Pack quantity	1 pcs.

## Electrical connection

Cable: 6 m, PUR; Maximum cable length: 100 m; 5 x 0.34 mm², PVC

#### Connection



Core colors :

BN = brown

BU = blue

BK = black

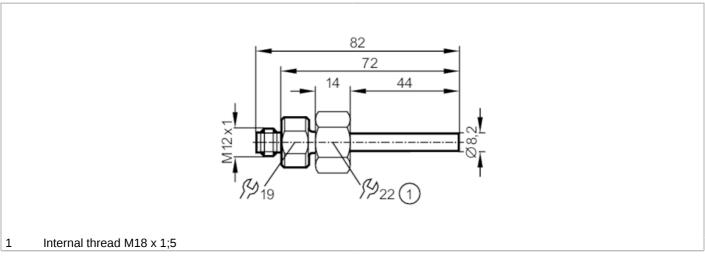
WH = white

GY = grey

## Flow sensor for connection to an evaluation unit

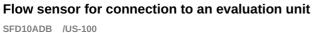
SFD10ADB /US-100







Product characteristic	S			
Process connection			threaded connection M	118 x 1,5 Internal thread
Application				
Application			high tem	nperature
Media			Liquids	; Gases
Medium temperature	[°C]		-25.	80
Pressure rating		300 bar		30 MPa
Electrical data				
Connection to control me	onitor		VS3	3000
Measuring/setting rang	ge			
Liquids				
Setting range	[cm/s]		3	300
Greatest sensitivity	[cm/s]		3	.60
Gases				
Setting range	[cm/s]		200	.3000
Greatest sensitivity	[cm/s]	200800		800
Accuracy / deviations				
Max. temperature gradie medium	ent of[K/min]		30	00
Reaction times				
Response time	[s]		1	.10
Operating conditions				
Protection			IP	67
Tests / approvals				
Shock resistance		DIN IEC 68-2-27		40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6		10 g (552000 Hz)
MTTF	[years]		82	213
Mechanical data				
Weight	[g]		88	3.5





Housing		tubular
Dimensions	[mm]	M18 x 1.5 / L = 82
Thread designation		M18 x 1.5
Material		stainless steel (1.4404 / 316L)
Materials (wetted parts)		stainless steel (1.4404 / 316L); O-ring: FKM 80 Shore A
Process connection		threaded connection M18 x 1,5 Internal thread
Probe diameter	[mm]	8.2
Installation length EL	[mm]	44

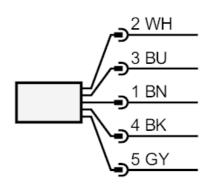
Remarks	
Pack quantity	1 pcs.

## **Electrical connection**

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



## Connection

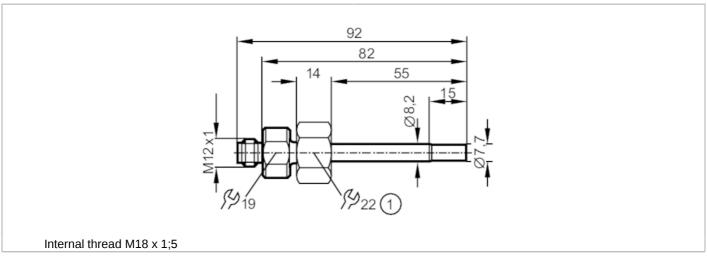


	Core colors :
BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	grey

## Flow sensor for connection to an evaluation unit

SFD10ABB /US-100







Product characteristic			
Probe length L	[mm]		55
Process connection		thre	eaded connection M18 x 1,5 Internal thread
Application			
Application			high temperature
Media			Liquids; Gases
Medium temperature	[°C]		-2580
Pressure rating		30 bar	3 MPa
Electrical data			
Connection to control m	onitor		VS3000
Measuring/setting rang	ge		
Probe length L	[mm]		55
Liquids			
Setting range	[cm/s]		3300
Greatest sensitivity	[cm/s]		360
Gases			
Setting range	[cm/s]		2003000
Greatest sensitivity	[cm/s]		200800
Accuracy / deviations			
Max. temperature gradie	ent of[K/min]		300
medium			
Reaction times			
Response time	[s]		110
Operating conditions			
Protection			IP 67
Tests / approvals			
Shock resistance		DIN IEC 68-2-27	40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6	10 g (552000 Hz)
MTTF	[years]		8213

## Flow sensor for connection to an evaluation unit





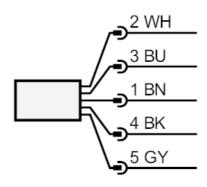
Mechanical data		
Weight	[g]	88
Housing		tubular
Dimensions	[mm]	Ø 8.2 / L = 92
Material		stainless steel (1.4404 / 316L)
Materials (wetted parts)		stainless steel (1.4404 / 316L); O-ring: FKM 80 Shore A
Process connection		threaded connection M18 x 1,5 Internal thread
Probe diameter	[mm]	7.7
Installation length EL	[mm]	55
Remarks		
Pack quantity		1 pcs.

## **Electrical connection**

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



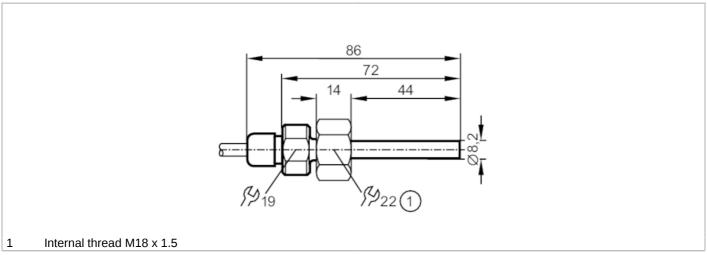
### Connection



	Core colors :
BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	grey









Probe length L         [mm]         45           Process connection         threaded connection M18 x 1,5 Internal thread           Application         high temperature           Media         Liquids; Gases           Pressure rating         300 bar         30 MPa           Liquids         Medium temperature         [*C]         0120           Gases         Medium temperature         [*C]         0100           Electrical data         V\$3000         Measuring/setting range           Probe length L         [mm]         45           Liquids         3300         Greatest sensitivity         360           Gases         Setting range         [cm/s]         360           Gases         Setting range         [cm/s]         2003000           Greatest sensitivity         [cm/s]         200800           Accuracy / deviations         Accuracy / deviations         300           Reaction times         [s]         110           Operating conditions         In 10	Product characteristics			
Application         high temperature           Media         Liquids; Gases           Pressure rating         300 bar         30 MPa           Liquids         Medium temperature         [°C]         0120           Gases         Medium temperature         [°C]         0100           Electrical data         VS3000           Connection to control monitor         VS3000           Measuring/setting range         Probe length L         [mm]         45           Liquids         3300           Setting range         [cm/s]         3300           Greatest sensitivity         [cm/s]         360           Gases         Setting range         [cm/s]         2003000           Greatest sensitivity         [cm/s]         2003000           Greatest sensitivity         [cm/s]         300300           Max. temperature gradient of[K/min] medium         300           Reaction times         [s]         110           Operating conditions	Probe length L	[mm]		45
Application high temperature  Media Liquids; Gases  Pressure rating 300 bar 30 MPa  Liquids  Medium temperature [°C] 0120  Gases  Medium temperature [°C] 0100  Electrical data  Connection to control monitor VS3000  Measuring/setting range  Probe length L [mm] 45  Liquids  Setting range [cm/s] 3300  Greatest sensitivity [cm/s] 360  Gases  Setting range [cm/s] 2003000  Greatest sensitivity [cm/s] 2003000  Greatest sensitivity [cm/s] 3300  Accuracy / deviations  Max. temperature gradient of [K/min] 3.00  Reaction times  Response time [s] 110  Operating conditions	Process connection			threaded connection M18 x 1,5 Internal thread
Media         Liquids; Gases           Pressure rating         300 bar         30 MPa           Liquids	Application			
Pressure rating         300 bar         30 MPa           Liquids         Medium temperature         [°C]         0120           Gases         Medium temperature         [°C]         0100           Electrical data         Connection to control monitor         VS3000           Measuring/setting range         Probe length L [mm]         45           Liquids         Setting range [cm/s]         3300           Greatest sensitivity [cm/s]         360           Gases         Setting range [cm/s]         2003000           Greatest sensitivity [cm/s]         200800           Accuracy / deviations         Max. temperature gradient of[K/min] medium           Max. temperature gradient of[K/min] medium         300           Reaction times         Response time [s]         110           Operating conditions	Application			high temperature
Liquids         Medium temperature         [°C]         0120           Gases         Medium temperature         [°C]         0100           Electrical data         VS3000           Measuring/setting range         Probe length L [mm]         45           Liquids         Setting range [cm/s]         3300           Greatest sensitivity [cm/s]         360           Gases         Setting range [cm/s]         2003000           Greatest sensitivity [cm/s]         2003000           Accuracy / deviations         Max. temperature gradient of[K/min] medium           Reaction times         Response time [s]         110           Operating conditions	Media			Liquids; Gases
Medium temperature         [°C]         0120           Gases         Medium temperature         [°C]         0100           Electrical data         V\$3000           Measuring/setting range           Probe length L         [mm]         45           Liquids         Setting range         [cm/s]         3300           Greatest sensitivity         [cm/s]         360           Gases         Setting range         [cm/s]         2003000           Greatest sensitivity         [cm/s]         2003000           Accuracy / deviations         Max. temperature gradient of[K/min] medium           medium temperature gradient of[K/min] medium         300           Reaction times         Response time         [s]         110           Operating conditions	Pressure rating		300 bar	30 MPa
Gases         0100           Electrical data         V\$3000           Connection to control monitor         V\$3000           Measuring/setting range         V\$3000           Probe length L         [mm]         45           Liquids         Setting range         [cm/s]         3300           Greatest sensitivity         [cm/s]         360           Gases         Setting range         [cm/s]         2003000           Greatest sensitivity         [cm/s]         200800           Accuracy / deviations         Max. temperature gradient of[K/min] medium         300           Reaction times         Response time         [s]         110           Operating conditions	Liquids			
Medium temperature   [°C]   0100	Medium temperature	[°C]		0120
Connection to control monitor   VS3000	Gases			
Measuring/setting range           Probe length L         [mm]         45           Liquids         3300           Greatest sensitivity         [cm/s]         3300           Greatest sensitivity         [cm/s]         2003000           Gases         2003000         200800           Accuracy / deviations         Accuracy / deviations         300           Max. temperature gradient of [K/min] medium         300         300           Reaction times         [s]         110           Operating conditions         110         110	Medium temperature	[°C]		0100
Measuring/setting range Probe length L [mm] 45  Liquids Setting range [cm/s] 3300 Greatest sensitivity [cm/s] 360  Gases Setting range [cm/s] 2003000 Greatest sensitivity [cm/s] 200800  Accuracy / deviations  Max. temperature gradient of[K/min] 300  Reaction times  Response time [s] 110  Operating conditions	Electrical data			
Probe length L       [mm]       45         Liquids       3300         Setting range       [cm/s]       3300         Greatest sensitivity       [cm/s]       360         Gases       Setting range       [cm/s]       2003000         Greatest sensitivity       [cm/s]       200800         Accuracy / deviations         Max. temperature gradient of[K/min] medium       300         Reaction times         Response time       [s]       110         Operating conditions	Connection to control mor	nitor		VS3000
Liquids  Setting range [cm/s] 3300  Greatest sensitivity [cm/s] 360  Gases  Setting range [cm/s] 2003000  Greatest sensitivity [cm/s] 200800  Accuracy / deviations  Max. temperature gradient of [K/min] 300  Reaction times  Response time [s] 110  Operating conditions	Measuring/setting range	;		
Setting range         [cm/s]         3300           Greatest sensitivity         [cm/s]         360           Gases         2003000           Greatest sensitivity         [cm/s]         200800           Accuracy / deviations           Max. temperature gradient of[K/min] medium         300           Reaction times           Response time         [s]         110           Operating conditions	Probe length L	[mm]		45
Greatest sensitivity [cm/s] 360  Gases  Setting range [cm/s] 2003000  Greatest sensitivity [cm/s] 200800  Accuracy / deviations  Max. temperature gradient of [K/min] 300  Reaction times  Response time [s] 110  Operating conditions	Liquids			
Gases Setting range [cm/s] 2003000 Greatest sensitivity [cm/s] 200800  Accuracy / deviations Max. temperature gradient of [K/min] 300  Reaction times Response time [s] 110  Operating conditions	Setting range	[cm/s]		3300
Setting range [cm/s] 2003000  Greatest sensitivity [cm/s] 200800  Accuracy / deviations  Max. temperature gradient of[K/min] 300  Reaction times  Response time [s] 110  Operating conditions	Greatest sensitivity	[cm/s]		360
Greatest sensitivity [cm/s] 200800  Accuracy / deviations  Max. temperature gradient of[K/min] 300  Reaction times  Response time [s] 110  Operating conditions	Gases			
Accuracy / deviations  Max. temperature gradient of [K/min] medium  Reaction times  Response time [s] 110  Operating conditions	Setting range	[cm/s]		2003000
Max. temperature gradient of[K/min] medium  Reaction times Response time [s] 110  Operating conditions	Greatest sensitivity	[cm/s]		200800
Reaction times  Response time [s] 110  Operating conditions	Accuracy / deviations			
Response time [5] 110  Operating conditions		t of[K/min]		300
Operating conditions	Reaction times			
	Response time	[s]		110
Protection ID 67	Operating conditions			
IF 07	Protection			IP 67

## Flow sensor for connection to an evaluation unit

Core colors :

brown

blue

black

white

grey

BN =

BU =

BK =

WH =

GY =



Tests / approvals

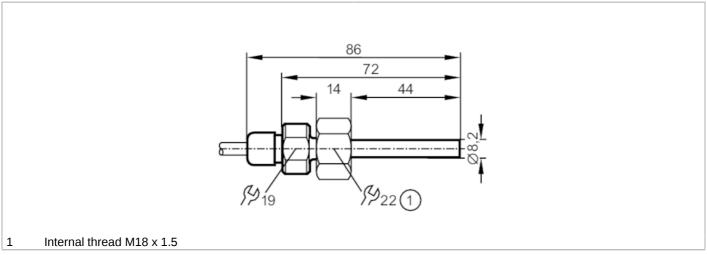


Shock resistance		DIN IEC 68-2-27	40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6	10 g (552000 Hz)
MTTF	[years]	8096	
Mechanical data			
Weight	[g]	45	4.5
Housing		tub	ular
Material			able gland: FKM; nut for cable Sleeve: brass nickel-plated
Materials (wetted parts)		stainless steel (1.4404 / 316	6L); O-ring: FKM 80 Shore A
Process connection		threaded connection M	118 x 1,5 Internal thread
Probe diameter	[mm]	8	.2
Installation length EL	[mm]		14
Remarks			
Pack quantity		1 r	ocs.
Electrical connection			
Cable: 6 m, silicone; Maxi	mum cable	length: 100 m; 5 x 0.34 mm²	
Connection			
		BN BK	

## Flow sensor for connection to an evaluation unit

SFD10ADB /6M







Product characteristics	2		
Probe length L	[mm]	45	
Process connection		threaded connection M18 x 1,5	Internal thread
Application			
Application		high temperature	9
Media		Liquids; Gases	
Medium temperature	[°C]	-2580	
Pressure rating		300 bar 30 MPa	L
Electrical data			
Connection to control mo	onitor	VS3000	
Measuring/setting rang	je		
Probe length L	[mm]	45	
Liquids			
Setting range	[cm/s]	3300	
Greatest sensitivity	[cm/s]	360	
Gases			
Setting range	[cm/s]	2003000	
Greatest sensitivity	[cm/s]	200800	
Accuracy / deviations			
Max. temperature gradie medium	ent of[K/min]	300	
Reaction times			
Response time	[s]	110	
Operating conditions			
Protection		IP 67	
Tests / approvals			
Shock resistance		DIN IEC 68-2-27 40 g (1.	L ms)
Vibration resistance		DIN IEC 68-2-6 10 g (5	52000 Hz)
MTTF	[years]	8213	

## Flow sensor for connection to an evaluation unit



SFD10ADB /6M

Mechanical data		
Weight	[g]	413.5
Housing		tubular
Material		stainless steel (1.4404 / 316L)
Materials (wetted parts)		stainless steel (1.4404 / 316L); O-ring: FKM 80 Shore A
Process connection		threaded connection M18 x 1,5 Internal thread
Probe diameter	[mm]	8.2
Installation length EL	[mm]	44
Remarks		

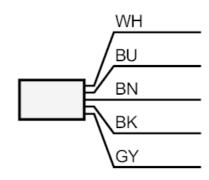
# Pack quantity

1 pcs.

# **Electrical connection**

Cable: 6 m, PUR; Maximum cable length: 100 m; 5 x 0.34 mm<sup>2</sup>

## Connection



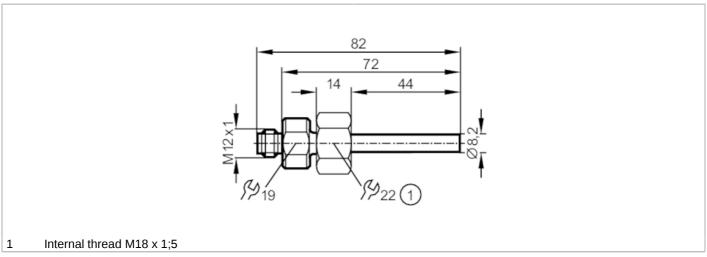
Co	rΔ	$\sim$	n	rc	

BN = brown BU = blue BK = black WH = white GY = grey

## Flow sensor for connection to an evaluation unit

SFD10ADT /US-100







Product characteristics				
Probe length L	[mm]		45	
Process connection		threa	aded connection M18 x 1,5 Internal thread	
Application				
Media			Liquids; Gases; aggressive media	
Medium temperature	[°C]		-2580	
Pressure rating		100 bar	10 MPa	
Electrical data				
Connection to control mo	nitor		VS3000	
Measuring/setting rang	е			
Probe length L	[mm]		45	
Liquids				
Setting range	[cm/s]		3300	
Greatest sensitivity	[cm/s]		360	
Gases				
Setting range	[cm/s]	2003000		
Greatest sensitivity	[cm/s]		200800	
Accuracy / deviations				
Max. temperature gradie	nt of[K/min]		300	
medium				
Reaction times				
Response time	[s]		110	
Operating conditions				
Storage temperature	[°C]	-2580		
Protection			IP 67	
Tests / approvals				
Shock resistance		DIN IEC 68-2-27	40 g (11 ms)	
Vibration resistance		DIN IEC 68-2-6	10 g (552000 Hz)	
MTTF	[years]	8213		

## Flow sensor for connection to an evaluation unit





Mechanical data			
Weight	[g]	91	
Housing		tubular	
Dimensions	[mm]	M18 x 1.5 / L = 82	
Thread designation		M18 x 1.5	
Material		stainless steel (1.4404 / 316L); EPDM	
Materials (wetted parts)		titanium (3.7035); O-ring: FKM 80 Shore A	
Process connection		threaded connection M18 x 1,5 Internal thread	
Probe diameter	[mm]	8.2	
Installation length EL	[mm]	44	

Remarks

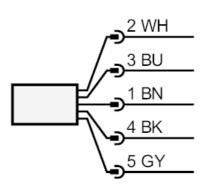
Pack quantity 1 pcs.

## **Electrical connection**

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



## Connection

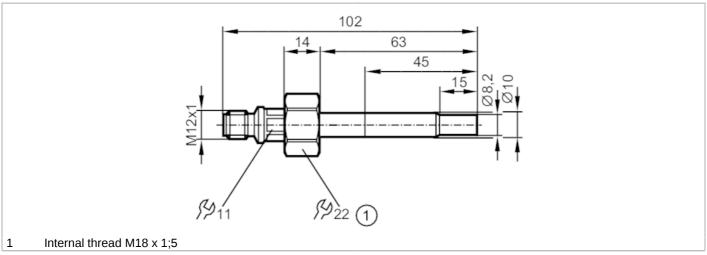


Core colors :

 $BN = brown \ BU = blue \ BK = black \ WH = white \ GY = grey$ 









Product characteristics				
Probe length L	[mm]		63	
Process connection	[]	threaded connection M18 x 1,5 Internal thread		
		lineado	d connection wito x 1,5 internal tilicad	
Application Media			imide. Conservation modific	
	[00]		iquids; Gases; aggressive media	
Medium temperature	[°C]	400 h	-2580	
Pressure rating		100 bar	10 MPa	
Electrical data				
Connection to control mo	onitor		VS3000	
Measuring/setting rang	je			
Probe length L	[mm]		63	
Liquids				
Setting range	[cm/s]		3300	
Greatest sensitivity	[cm/s]	360		
Gases				
Setting range	[cm/s]	2003000		
Greatest sensitivity	[cm/s]		200800	
Accuracy / deviations				
Max. temperature gradie	nt of[K/min]		300	
medium			300	
Reaction times				
Response time	[s]		110	
Operating conditions				
Storage temperature	[°C]		-2580	
Protection		IP 67		
Tests / approvals				
Shock resistance		DIN IEC 68-2-27 50 g (11 ms)		
Vibration resistance		DIN IEC 68-2-6	10 g (552000 Hz)	
MTTF	[years]		8393.77	

## Flow sensor for connection to an evaluation unit





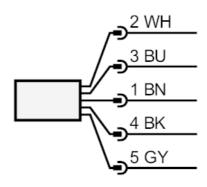
Mechanical data		
Weight	[g]	64
Housing		tubular
Dimensions	[mm]	Ø 8.2 / L = 102
Material		titanium (3.7035); EPDM; ULTEM
Materials (wetted parts)		titanium (3.7035); O-ring: FKM 80 Shore A
Process connection		threaded connection M18 x 1,5 Internal thread
Probe diameter	[mm]	8.2
Installation length EL	[mm]	63
Remarks		
Pack quantity		1 pcs.

## **Electrical connection**

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



### Connection



 Core colors :

 BN =
 brown

 BU =
 blue

 BK =
 black

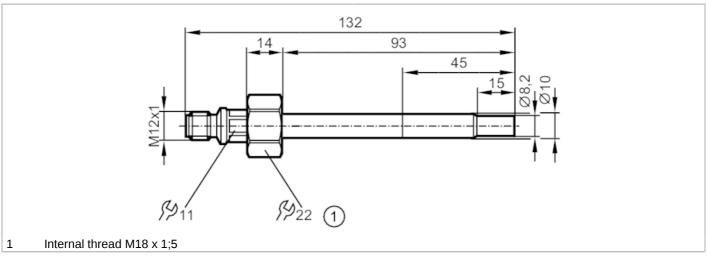
 WH =
 white

 GY =
 grey

## Flow sensor for connection to an evaluation unit

SFD10ADT /US-100







Product characteristics				
Probe length L	[mm]		93	
Process connection		threaded connection M18 x 1,5 Internal thread		
Application		tiricado	a connection in to x 1,0 internal tiread	
Media		1	iquids; Gases; aggressive media	
Medium temperature	[°C]		-2580	
Pressure rating	[ 0]	100 bar	-25ou	
Electrical data		100 bai	10 WII C	
Connection to control mo	onitor		VS3000	
			V33000	
Measuring/setting rang				
Probe length L	[mm]		93	
Liquids				
Setting range	[cm/s]		3300	
Greatest sensitivity	[cm/s]		360	
Gases				
Setting range	[cm/s]	2003000		
Greatest sensitivity	[cm/s]		200800	
Accuracy / deviations				
Max. temperature gradient of[K/min]			300	
medium				
Reaction times				
Response time	[s]		110	
Operating conditions				
Storage temperature	[°C]		-2580	
Protection		IP 67		
Tests / approvals				
Shock resistance		DIN IEC 68-2-27 50 g (11 ms)		
Vibration resistance		DIN IEC 68-2-6	10 g (552000 Hz)	
MTTF	[years]	8393.77		

## Flow sensor for connection to an evaluation unit





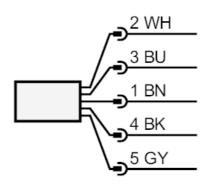
Mechanical data		
Weight	[g]	68
Housing		tubular
Dimensions	[mm]	Ø 8.2 / L = 132
Material		titanium (3.7035); EPDM; ULTEM
Materials (wetted parts)		titanium (3.7035); O-ring: FKM 80 Shore A
Process connection		threaded connection M18 x 1,5 Internal thread
Probe diameter	[mm]	8.2
Installation length EL	[mm]	93
Remarks		
Pack quantity		1 pcs.

## **Electrical connection**

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



## Connection

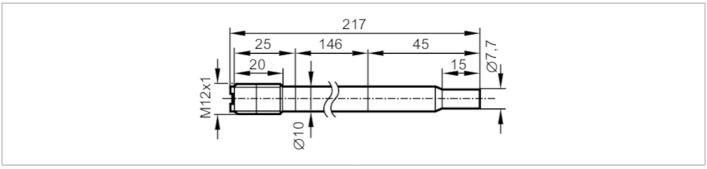


	Core colors :
BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	grey

# **SF620A**









Product characteristic	S	
Probe length L	[mm]	15156
Process connection		Clamp fitting Ø 10 mm
Application		
System		gold-plated contacts
Installation		Sensor suitable for clamp fitting
Media		Liquids; Gases
Medium temperature	[°C]	-2070
Pressure rating		30 bar 3 MPa
Liquids		
Installation		Sensor suitable for clamp fitting
Medium temperature	[°C]	-2070
Gases		
Medium temperature	[°C]	-2070
Electrical data		
Connection to control m	onitor	VS2000 Exi (PTB 01 ATEX 2075)
Measuring/setting range	ge	
Probe length L	[mm]	15156
Liquids		
Setting range	[cm/s]	3300
Greatest sensitivity	[cm/s]	360
Gases		
Setting range	[cm/s]	2003000
Greatest sensitivity	[cm/s]	200800
Accuracy / deviations		
Max. temperature gradie	ent of[K/min]	15
medium		
Reaction times		
Response time	[s]	110
1.1. 1.1.		
Liquids	[s]	

# **SF620A**

## Flow sensor for connection to an evaluation unit



SFG10ABB/2G /US-100

Gases		
Response time	[s]	110
Operating conditions		
Ambient temperature	[°C]	-2070
Protection		IP 67
Tests / approvals		
Approval		DMT 03 ATEX E091; IECEX BVS 06.0007
ATEX marking		$\langle \mathcal{E}_{x} \rangle$ II 2G Ex ia IIC T4 Gb
Shock resistance		DIN IEC 68-2-27 40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6 10 g (552000 Hz)
MTTF	[years]	8272
Safety classification		
Max. internal capacitance	[nF]	0.4
Max. internal inductance	[μH]	2
Temperature class		T4
Mechanical data		
Weight	[g]	123
Housing		tubular
Dimensions	[mm]	Ø 10 / L = 217
Material		stainless steel (1.4404 / 316L) several parts, welded
Materials (wetted parts)		stainless steel (1.4404 / 316L) several parts, welded
Process connection		Clamp fitting Ø 10 mm
Probe diameter	[mm]	7.7
Accessories		
Accessories (optional)		Clamp adapter: R 1/2, E40160
		Clamp adapter: 1/2" NPT, E40174
Remarks		
Remarks		In principle, the type test according to 94/9/EC (ATEX) only takes atmospheric conditions into account (0.81.1 bar).
		For pressures outside this range use must be assessed and approved by the user.
		Adhere to the operating instructions and the type test certificate.
Pack quantity		1 pcs.
Electrical connection		

Connector: 1 x M12; coding: A; Contacts: gold-plated; Maximum cable length: 100 m



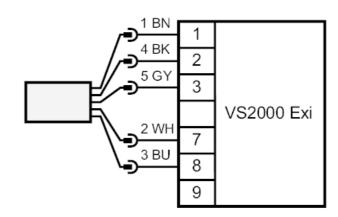
# **SF620A**

## Flow sensor for connection to an evaluation unit



SFG10ABB/2G /US-100

## Connection



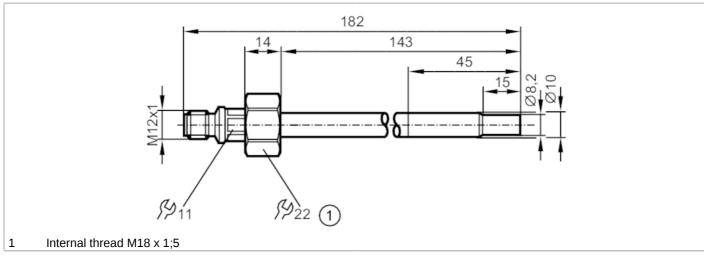
Core colors:

BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	arev

## Flow sensor for connection to an evaluation unit

SFD10ADT /US-100







Product characteristics				
Probe length L	[mm]	143		
Process connection		thread	ded connection M18 x 1,5 Internal thread	
Application				
Media			Liquids; Gases; aggressive media	
Medium temperature	[°C]		-2580	
Pressure rating		100 bar	10 MPa	
Electrical data				
Connection to control mo	onitor		VS3000	
Measuring/setting rang	je			
Probe length L	[mm]		143	
Liquids				
Setting range	[cm/s]		3300	
Greatest sensitivity	[cm/s]		360	
Gases				
Setting range	[cm/s]	2003000		
Greatest sensitivity	[cm/s]		200800	
Accuracy / deviations				
Max. temperature gradient of[K/min]			300	
medium				
Reaction times	1			
Response time	[s]		110	
Operating conditions				
Storage temperature	[°C]		-2580	
Protection			IP 67	
Tests / approvals				
Shock resistance		DIN IEC 68-2-27	50 g (11 ms)	
Vibration resistance		DIN IEC 68-2-6	10 g (552000 Hz)	
MTTF	[years]	8393.77		

## Flow sensor for connection to an evaluation unit





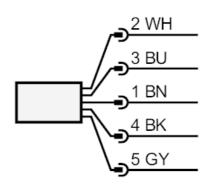
Mechanical data			
Weight	[g]	75	
Housing		tubular	
Dimensions	[mm]	Ø 8.2 / L = 182	
Material		titanium (3.7035); EPDM; ULTEM	
Materials (wetted parts)		titanium (3.7035); O-ring: FKM 80 Shore A	
Process connection		threaded connection M18 x 1,5 Internal thread	
Probe diameter	[mm]	8.2	
Installation length EL	[mm]	143	
Remarks			
Pack quantity		1 pcs.	

## **Electrical connection**

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



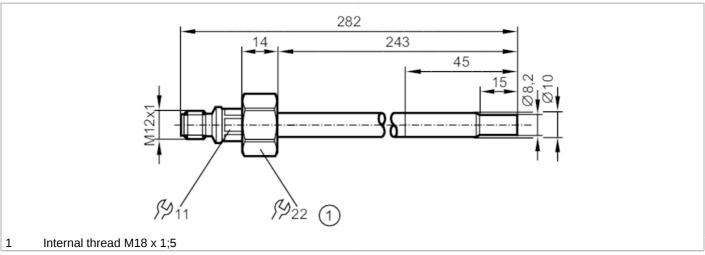
## Connection



	Core colors :
BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	grey









Product characteristics				
Probe length L	[mm]		243	
Process connection	[,,,,,]	throade	ed connection M18 x 1,5 Internal thread	
		lilleaue	ed Connection M16 x 1,5 internal tirread	
Application				
Media			iquids; Gases; aggressive media	
Medium temperature	[°C]		-2580	
Pressure rating		100 bar	10 MPa	
Electrical data				
Connection to control mo	onitor		VS3000	
Measuring/setting rang	je			
Probe length L	[mm]		243	
Liquids				
Setting range	[cm/s]		3300	
Greatest sensitivity	[cm/s]	360		
Gases				
Setting range	[cm/s]	2003000		
Greatest sensitivity	[cm/s]	200800		
Accuracy / deviations				
Max. temperature gradie	nt of[K/min]		300	
medium			300	
Reaction times				
Response time	[s]	110		
Operating conditions				
Storage temperature	[°C]	-2580		
Protection		IP 67		
Tests / approvals				
Shock resistance		DIN IEC 68-2-27	50 g (11 ms)	
Vibration resistance		DIN IEC 68-2-6	10 g (552000 Hz)	
MTTF	[years]	8393.77		

## Flow sensor for connection to an evaluation unit





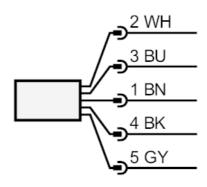
Mechanical data		
Weight	[g]	95
Housing		tubular
Dimensions	[mm]	Ø 8.2 / L = 282
Material		titanium (3.7035); EPDM; ULTEM
Materials (wetted parts)		titanium (3.7035); O-ring: FKM 80 Shore A
Process connection		threaded connection M18 x 1,5 Internal thread
Probe diameter	[mm]	8.2
Installation length EL	[mm]	243
Remarks		
Pack quantity		1 pcs.

## **Electrical connection**

Connector: 1 x M12; coding: A; Maximum cable length: 100 m



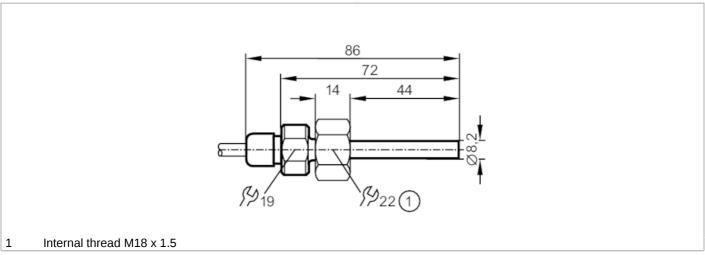
### Connection



	Core colors :
BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	grey









Product characteristics				
Probe length L	[mm]	45		
Process connection		threaded connection M18 x 1,5 Internal thread		
Application				
Application		high temperature		
Media		Liquids; Gases; aggressive media		
Pressure rating		100 bar 10 MPa		
Liquids				
Medium temperature	[°C]	0120		
Gases				
Medium temperature	[°C]	0100		
Electrical data				
Connection to control monitor		VS3000		
Measuring/setting range				
Probe length L	[mm]	45		
Liquids				
Setting range	[cm/s]	3300		
Greatest sensitivity	[cm/s]	360		
Gases				
Setting range	[cm/s]	2003000		
Greatest sensitivity	[cm/s]	200800		
Accuracy / deviations				
Max. temperature gradient	of[K/min]	300		
medium				
Reaction times	F. 2			
Response time	[s]	110		
Operating conditions				
Storage temperature	[°C]	-2580		

## Flow sensor for connection to an evaluation unit

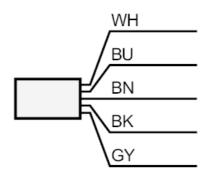


SFD10ZDT /6M

Protection		IP 67		
Tests / approvals				
Shock resistance		DIN IEC 68-2-27	40 g (11 ms)	
Vibration resistance		DIN IEC 68-2-6	10 g (552000 Hz)	
MTTF	[years]	8096		
Mechanical data				
Weight	[g]	449.5		
Housing			tubular	
Material		titanium (3.7035)		
Materials (wetted parts)		titan	ium (3.7035); O-ring: FKM 80 Shore A	
Process connection		thread	ed connection M18 x 1,5 Internal thread	
Probe diameter	[mm]	8.2		
Installation length EL	[mm]	44		
Remarks				
Pack quantity			1 pcs.	
Electrical connection				

Cable: 6 m, silicone; Maximum cable length: 100 m; 5 x 0.34 mm²

### Connection



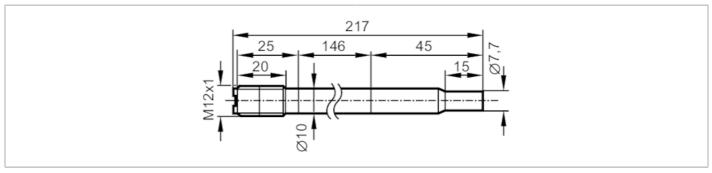
Core colors:

BN = brown BU = blue BK = black WH = white GY = grey

## Flow sensor for connection to an evaluation unit

SFG10ABB /US-100







Product characteristic	:S	
Probe length L	[mm]	15156
Process connection		Clamp fitting Ø 10 mm
Application		
System		gold-plated contacts
Application		high temperature
Installation		Sensor suitable for clamp fitting
Media		Liquids; Gases
Medium temperature	[°C]	-2580
Pressure rating		30 bar 3 MPa
Liquids		
Application		high temperature
Installation		Sensor suitable for clamp fitting
Medium temperature	[°C]	-2580
Gases		
Medium temperature	[°C]	-2580
Electrical data		
Connection to control m	onitor	VS3000
Measuring/setting ran	ge	
Probe length L	[mm]	15156
Liquids		
Setting range	[cm/s]	3300
Greatest sensitivity	[cm/s]	360
Gases		
Setting range	[cm/s]	2003000
Greatest sensitivity	[cm/s]	200800
Accuracy / deviations		
Max. temperature gradio	ent of[K/min]	30
Reaction times		
Response time	[s]	110

## Flow sensor for connection to an evaluation unit



SFG10ABB /US-100

Liquids				
Response time	[s]		1	10
Gases				
Response time	[s]		1	10
Operating conditions				
Protection			IP	67
Tests / approvals				
Shock resistance		DIN IEC 68-2-27		40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6		10 g (552000 Hz)
MTTF	[years]		85	583
Mechanical data				
Weight	[g]		3	39
Housing			tub	pular
Dimensions	[mm]		Ø 10 /	L = 217
Material			stainless steel (1.4404 / 3	16L) several parts, welded
Materials (wetted parts)			stainless steel (1.4404 / 3	16L) several parts, welded
Process connection			Clamp fittir	ng Ø 10 mm
Probe diameter	[mm]		7	7.7
Accessories				
Accessories (optional)			Clamp adapter	TR 1/2, E40160
			Clamp adapter:	1/2" NPT, E40174
Remarks				
Pack quantity			1;	ocs.
Electrical connection				

Connector: 1 x M12; coding: A; Contacts: gold-plated; Maximum cable length: 100 m

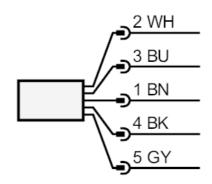


## Flow sensor for connection to an evaluation unit





## Connection

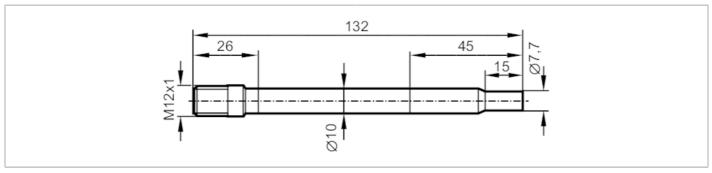


Core colors:

BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	grey









Product characteristic	s	
Probe length L	[mm]	15107
Process connection		Clamp fitting Ø 10 mm
Application		
System		gold-plated contacts
Application		high temperature
Installation		Sensor suitable for clamp fitting
Media		Liquids; Gases
Medium temperature	[°C]	-2580
Pressure rating		30 bar 3 MPa
Liquids		
Application		high temperature
Installation		Sensor suitable for clamp fitting
Medium temperature	[°C]	-2580
Gases		
Medium temperature	[°C]	-2580
Electrical data		
Connection to control monitor		VS3000
Measuring/setting ran	ge	
Probe length L	[mm]	15107
Liquids		
Setting range	[cm/s]	3300
Greatest sensitivity	[cm/s]	360
Gases		
Setting range	[cm/s]	2003000
Greatest sensitivity	[cm/s]	200800
Accuracy / deviations		
Max. temperature gradi medium	ent of[K/min]	30
Reaction times		
Response time	[s]	110

## Flow sensor for connection to an evaluation unit



SFG10ABB /US-100

Liquids			
Response time	[s]		110
Gases			
Response time	[s]		110
Operating conditions			
Storage temperature	[°C]		-2580
Protection			IP 67
Tests / approvals			
Shock resistance		DIN IEC 68-2-27	40 g (11 ms)
Vibration resistance		DIN IEC 68-2-6	10 g (552000 Hz)
MTTF	[years]		8393.77
Mechanical data			
Weight	[g]		62.5
Housing			tubular
Dimensions	[mm]		Ø 10 / L = 132
Material		stainless	s steel (1.4404 / 316L) several parts, welded
Materials (wetted parts)		stainless	s steel (1.4404 / 316L) several parts, welded
Process connection			Clamp fitting Ø 10 mm
Probe diameter	[mm]		7.7
Accessories			
Accessories (optional)			Clamp adapter: R 1/2, E40160
			Clamp adapter: 1/2" NPT, E40174
Remarks			
Pack quantity			1 pcs.
Electrical connection			

Connector: 1 x M12; coding: A; Contacts: gold-plated; Maximum cable length: 100 m

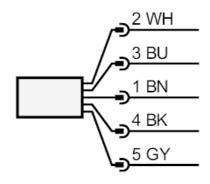


## Flow sensor for connection to an evaluation unit





## Connection



Core colors:

BN =	brown
BU =	blue
BK =	black
WH =	white
GY =	grey