



Insertion fitting for flow or analytical measurement

- Universal fitting for Insertion measuring device in pure, aggressive or contaminated liquids
- Large range of process connections: DN06 to DN400 in PVC, PP, PVDF, PE, stainless steel, brass
- Transmitter available for:
 - Indication, Monitoring, Transmitting
 - On/Off control, Batch control

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

	Type 8020 ▶ Insertion flowmeter with paddle wheel for continuous flow measurement
	Type 8025 ▶ Insertion flowmeter or batch controller with paddle wheel and flow transmitter or remote batch controller
	Type 8026 ▶ Insertion flowmeter with paddle wheel, ELEMENT design
	Type 8041 ▶ Insertion magnetic inductive flowmeter
	Type 8045 ▶ Insertion magnetic inductive flowmeter
	Type 8228 ▶ Inductive conductivity meter
	Type 8200 / 8203 ▶ Armatures for analytical probes with probe

Type description

The fitting can be used to connect any Insertion device for a measurement in the pipe. e. g. for flow, pH, oxidation reduction potential (ORP) and conductivity measurement.

The fitting is available for paddle wheel and electromagnetic flowmeters and analytical measurement devices having a G 2" or a clamp connection.

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1. General technical data

Product properties	
Material	
Please make sure the device materials are compatible with the fluid you are using. Detailed information can be found in chapter “3.1. Chemical Resistance Chart – Bürkert resistApp” on page 5.	
Wetted parts	
For G 2" flowmeter connection	Body & adapter respectively in brass (CuZn ₃₉ Pb ₂) & stainless steel (316L - 1.4404) or all in stainless steel (316L - 1.4404), PVC, PP, PVDF or PE (depending on S020 version) Seal in FKM or EPDM (depending on S020 version)
For clamp flowmeter connection	Stainless steel 316L
Dimensions	Detailed information can be found in chapter “4. Dimensions” on page 6.
Compatibility	With flowmeters Type 8020, 8025, 8026, 8041, 8045 or analytical measuring devices Type 8200/8203, 8220 or 8228
Pipe diameter	
For G 2" flowmeter connection	DN06...DN400 Combination between fitting and measuring device is sometimes restricted to some DN. Detailed information can be found in chapter “7.3. Combination of the S020 with a measuring device for flow rate, pH or ORP, conductivity measurement” on page 19.
For clamp flowmeter connection	DN32...DN100
Surface quality	
For clamp flowmeter connection	Ra < 0.8 µm (excluding welding seams)
Medium data	
Fluid temperature ^{1.)}	For fitting in: <ul style="list-style-type: none"> • PVC: 0... +50 °C (+32... +122 °F) • PP: 0... +80 °C (+32... +176 °F) • PVDF: -15... +100 °C (+5... +212 °F) • PE: +5... +70 °C (+41... +158 °F) • Stainless steel, brass: -15... +160 °C (+5... +320 °F)
Fluid pressure (max.) ^{1.)}	<ul style="list-style-type: none"> • PN10 for plastic sensor-fitting • PN16 for metal sensor-fitting Detailed information can be found in chapter “5.1. Pressure temperature diagram” on page 14.
Process/Port connection & communication	
Measuring device connection	G 2" or clamp connection
Process connection	<ul style="list-style-type: none"> • Metal fitting: internal or external thread, weld ends, clamp or flange • Plastic fitting: true union with nut and solvent/fusion socket, spigot or external thread, saddle
Approvals and certificates	
Directives	
CE directives	The applied standards, which verify conformity with the EU Directives, can be found on the EU Type Examination Certificate and/or the EU Declaration of conformity (if applicable)
Pressure equipment directives	Complying with Article 4, Paragraph 1 of 2014/68/EU directive. Detailed information on the pressure equipment directive can be found in chapter “2.2. Pressure Equipment Directive” on page 5.
Certificates	Certificates must be ordered separately. Detailed information can be found in chapter “Accessories for all versions” on page 23. <ul style="list-style-type: none"> • Inspection certificate 3.1 (acc. to EN-ISO 10204) • Test report 2.2 (acc. to EN-ISO 10204) • Certification of Conformity for the surface Quality (DIN4762-DIN4768-ISO/4287/1) • 3 points Flow calibration certificate • FDA declaration of conformity (stainless steel fitting only with EPDM seal)
Environment and installation	
Ambient temperature	Operation and storage: Temperature limits may depend on the inserted device. Refer to the relevant data sheet or instruction manual for more details.

1.) Temperature and pressure limits may depend on the inserted device. Refer to the relevant data sheet or instruction manual. If the temperature or pressure ranges given for the adapter and the inserted device are different, use the most restrictive range.

2. Approvals

2.1. FDA-Certificate

Certificates	Description
	FDA The versions with the housing made of stainless steel materials and the seal made of EPDM materials comply in their composition with the Code of Federal Regulations published by the FDA (Food and Drug Administration, USA).

2.2. Pressure Equipment Directive

The device conforms to Article 4, Paragraph 1 of the Pressure Equipment Directive 2014/68/EU under the following conditions:

Device used on a pipe

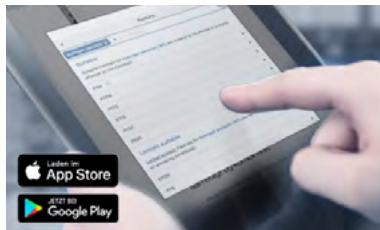
Note:

- The data in the table is independent of the chemical compatibility of the material and the fluid.
- PS = maximum admissible pressure, DN = nominal diameter of the pipe

Type of fluid	Conditions
Fluid group 1, Article 4, Paragraph 1.c.i	$DN \leq 25$
Fluid group 2, Article 4, Paragraph 1.c.i	$DN \leq 32$ or $PS \cdot DN \leq 1000$
Fluid group 1, Article 4, Paragraph 1.c.ii	$DN \leq 25$ or $PS \cdot DN \leq 2000$
Fluid group 2, Article 4, Paragraph 1.c.ii	$DN \leq 200$ or $PS \leq 10$ or $PS \cdot DN \leq 5000$

3. Materials

3.1. Chemical Resistance Chart – Bürkert resistApp



Bürkert resistApp – Chemical Resistance Chart

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)

4. Dimensions

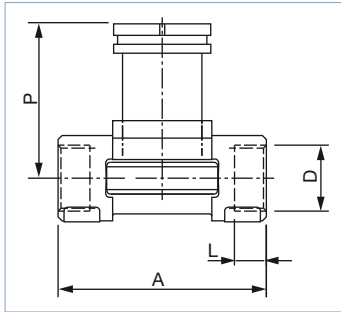
4.1. Metal T-fitting for measuring device with G 2" connection

Internal thread process connection

Note:

- Specifications in mm (except if explicitly mentioned)
- For use with a flowmeter with short sensor
- Suitable from DN32 for use with an analytical measuring device

According to G, NPT or Rc in stainless steel (316L - 1.4404) and/or brass (CuZn₃₉Pb₂)



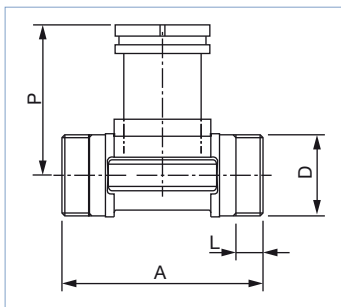
DN	P	A	D		L
			[inch]		
15	80.3	84.0	G ½		16.0
			NPT ½		17.0
			Rc ½		15.0
20	77.8	94.0	G ¾		17.0
			NPT ¾		18.3
			Rc ¾		16.3
25	78.0	104.0	G 1		23.5
			NPT 1		18.0
			Rc 1		18.0
32	81.6	119.0	G 1 ¼		23.5
			NPT 1 ¼		21.0
			Rc 1 ¼		21.0
40	85.4	129.0	G 1 ½		23.5
			NPT 1 ½		20.0
			Rc 1 ½		19.0
50	91.5	148.5	G 2		27.5
			NPT 2		24.0
			Rc 2		24.0

External thread process connection

Note:

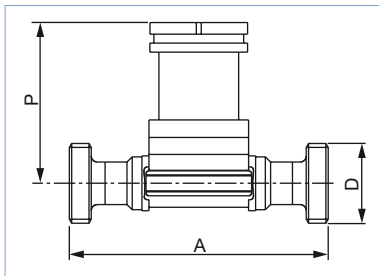
- Specifications in mm (except if explicitly mentioned)
- For use with a flowmeter with short sensor
- Suitable from DN32 for use with an analytical measuring device

According to G in stainless steel (316L - 1.4404) and/or brass (CuZn₃₉Pb₂) or PVC (only DN06 and DN08)



DN	P	A	D		L
			[Inch]	[mm]	
06	75.3	90.0	G ½	–	14.0
08	75.3	90.0	G ½	–	14.0
15	80.3	84.0	G ¾	–	11.5
20	77.8	94.0	G 1	–	13.5
25	78.0	104.0	G 1 ¼	–	14.0
32	81.6	119.0	G 1 ½	–	18.0
40	85.4	129.0	–	M55 x 2	19.0
50	91.5	148.5	–	M64 x 2	20.0

According to SMS 1145 in stainless steel (316L - 1.4404)



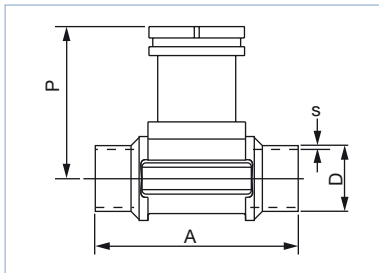
DN	P	A	D
25	77.8	130	Rd 40 x 1/6"
40	81.6	164	Rd 60 x 1/6"
50	85.4	173	Rd 70 x 1/6"

Weld end process connection

Note:

- Specifications in mm
- For use with a flowmeter with short sensor
- Suitable from DN32 for use with an analytical measuring device

According to EN ISO 1127/ISO 4200/DIN 11866 series B, SMS 3008 or BS 4825-1/ASME BPE/DIN 11866 series C in stainless steel (316L - 1.4404)



DN	P	A	Standard	D	s
15	80.3	84.0	EN ISO 1127/ISO 4200/DIN 11866 Series B	21.30	1.60
	-	-	SMS 3008	-	-
	-	-	ASME BPE/DIN 11866 Series C	-	-
20	77.8	94.0	EN ISO 1127/ISO 4200/DIN 11866 Series B	26.9	1.60
	-	-	SMS 3008	-	-
	83.3	84.0	ASME BPE/DIN 11866 Series C	19.05	1.65
25	78.0	104.0	EN ISO 1127/ISO 4200/DIN 11866 Series B	33.70	2.00
	77.8	94.0	SMS 3008	25.00	1.20
	77.8	94.0	BS 4825-1/ASME BPE/DIN 11866 Series C	25.40	1.65
32	81.6	119.0	EN ISO 1127/ISO 4200/DIN 11866 Series B	42.40	2.00
	-	-	SMS 3008	-	-
	78.0	104.0	BS 4825-1/ASME BPE/DIN 11866 Series C	32.00	1.65
40	85.4	129.0	EN ISO 1127/ISO 4200/DIN 11866 Series B	48.30	2.00
	81.6	119.0	SMS 3008	38.00	1.20
	81.6	119.0	BS 4825-1/ASME BPE/DIN 11866 Series C	38.10	1.65
50	91.5	148.5	EN ISO 1127/ISO 4200/DIN 11866 Series B	60.30	2.60
	85.4	128.0	SMS 3008	51.00	1.20
	85.4	128.0	BS 4825-1/ASME BPE/DIN 11866 Series C	50.80	1.65
65	-	-	EN ISO 1127/ISO 4200/DIN 11866 Series B	-	-
	91.5	147.0	SMS 3008	63.50	1.60
	91.5	147.0	BS 4825-1/ASME BPE/DIN 11866 Series C	63.50	1.65

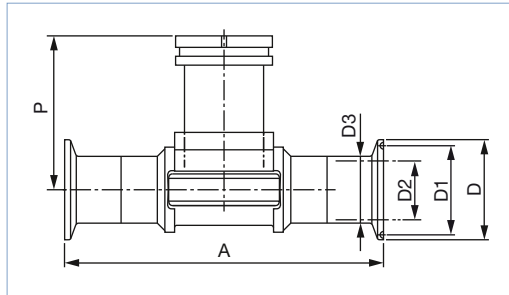
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Clamp process connection

Note:

- Specifications in mm
- For use with a flowmeter with short sensor
- Suitable from DN32 for use with an analytical measuring device

According to DIN 32676 series B, SMS 3017¹⁾ or BS 4825-3/ASME BPE¹⁾ in stainless steel (316L - 1.4404)



DN	P	A	Standard	D	D1	D2	D3
15	80.3	130	DIN 32676 Series B ²⁾	34.0	27.5	18.10	21.30
	-	-	SMS 3017	-	-	-	-
	-	-	ASME BPE	-	-	-	-
20	77.8	150	DIN 32676 Series B	50.5	43.5	23.70	26.90
	-	-	SMS 3017	-	-	-	-
	80.3	119	ASME BPE	25.0	19.6	15.75	19.05
25	78.0	160	DIN 32676 Series B	50.5	43.5	29.70	33.70
	77.8	129	SMS 3017	50.5	43.5	22.60	25.00
	77.8	129	BS 4825-3/ASME BPE	50.5	43.5	22.10	25.40
32	81.6	180	DIN 32676 Series B	50.5	43.5	38.40	42.40
	-	-	SMS 3017	-	-	-	-
	-	-	BS 4825-3/ASME BPE	-	-	-	-
40	85.4	200	DIN 32676 Series B	64.0	56.5	44.30	48.30
	81.6	161	SMS 3017	50.5	43.5	35.60	38.00
	81.6	161	BS 4825-3/ASME BPE	50.5	43.5	34.80	38.10
50	91.5	230	DIN 32676 Series B	77.5	70.5	55.10	60.30
	85.4	192	SMS 3017	64.0	56.5	48.60	51.00
	85.4	192	BS 4825-3/ASME BPE	64.0	56.5	47.50	50.80
65	-	-	DIN 32676 Series B	-	-	-	-
	91.5	216	SMS 3017	77.5	70.5	60.30	63.50
	91.5	216	BS 4825-3/ASME BPE	77.5	70.5	60.20	63.50

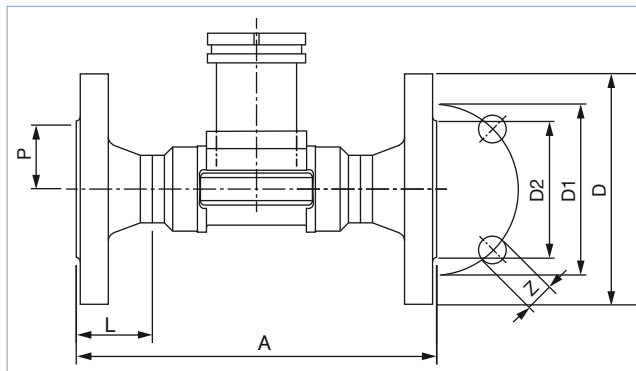
1.) Available with internal surface finish Ra < 0.8 µm
 2.) Similar to DIN 32676 series B but with clamp 34.0

Flange process connection

Note:

- Specifications in mm
- For use with a flowmeter with short sensor
- Suitable from DN32 for use with an analytical measuring device

According to EN1092-1/B1/PN16 or ANSI B16-5 in stainless steel (316L - 1.4404)



DN	P	A	Standard	L	Z	D	D1	D2
15	80.3	130	EN	23.5	4 x 14.0	95.0	65.0	45.0
		130	ANSI					
20	77.8	150	EN	28.5	4 x 14.0	105.0	75.0	58.0
		150	ANSI					
25	78.0	160	EN	28.5	4 x 14.0	115.0	85.0	68.0
		160	ANSI					
32	81.6	180	EN	31.0	4 x 18.0	140.0	100.0	78.0
		180	ANSI					
40	85.4	200	EN	36.0	4 x 18.0	150.0	110.0	88.0
		200	ANSI					
50	91.5	230	EN	41.0	4 x 18.0	165.0	125.0	102.0
		230	ANSI					

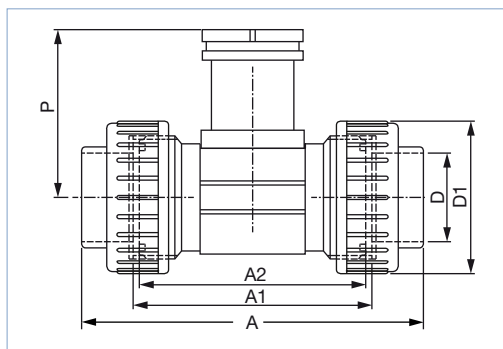
4.2. Plastic T-fitting for measuring device with G 2" connection

True union connection with nut and solvent/fusion socket

Note:

- Specifications in mm
- For use with a flowmeter with short sensor
- Suitable for use with an analytical measuring device. Please note that the fittings DN15...DN25 to be used for the analysis measurement differ from those for the flow measurement.

According to DIN 8063, ASTM D 1785/76 or JIS K in PVC, DIN 16962 in PP or ISO 10931 in PVDF



DN	P	A	Standard	A1	A2	D	D1
15	80.4	128.0	DIN/ISO	96	90	20.00	43
		130.0	ASTM			21.30	
		129.0	JIS			18.40	
15 ^{1.)}	81.4	148.0	DIN/ISO	116	110	20.00	74
20	77.8	144.0	DIN/ISO	106	100	25.00	53
		145.6	ASTM			26.70	
		145.0	JIS			26.45	
20 ^{1.)}	81.4	154.0	DIN/ISO	116	110	25.00	74
25	78.0	160.0	DIN/ISO	116	110	32.00	60
		161.4	ASTM			33.40	
		161.0	JIS			32.55	
25 ^{1.)}	81.4	160.0	DIN/ISO	116	110	32.00	74
32	81.4	168.0	DIN/ISO	116	110	40.00	74
		170.0	ASTM			42.20	
		169.0	JIS			38.60	
40	85.2	188.0	DIN/ISO	127	120	50.00	83
		190.2	ASTM			48.30	
		190.0	JIS			48.70	
50	91.5	212.0	DIN/ISO	136	130	63.00	103
		213.6	ASTM			60.30	
		213.0	JIS			60.80	

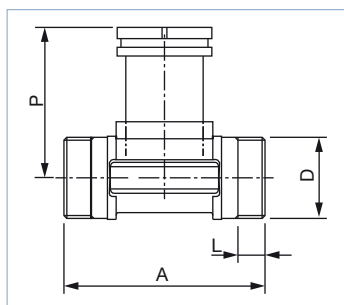
1.) Fitting for analytical measurement

External thread process connection

Note:

- Specifications in mm (except if explicitly mentioned)
- For use with a flowmeter with short sensor
- Not suitable for use with an analytical measuring device

According to G in PVC (only DN06 and DN08)



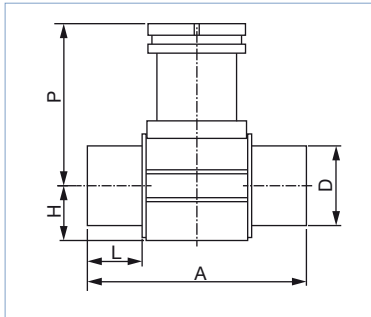
DN	P	A	D		L
			[Inch]	[mm]	
06	75.3	90.0	G ½	–	14.0
08	75.3	90.0	G ½	–	14.0

Solvent/fusion spigot process connection

Note:

- Specifications in mm
- For use with a flowmeter with short sensor
- Suitable from DN32 for use with an analytical measuring device

According to DIN 8063 in PVC, DIN 16962 in PP or ISO 10931 in PVDF



DN	P	A	Standard	L	D	H
15	80.4	90	DIN 8063	16.5	20	17.5
		85	DIN 16962	14.0		
		85	DIN 10931	14.0		
20	77.8	100	DIN 8063	20.0	25	17.5
		92	DIN 16962	16.0		
		92	DIN 10931	16.0		
25	78.0	110	DIN 8063	23.0	32	21.5
		95	DIN 16962	18.0		
		95	DIN 10931	18.0		
32	81.4	110	DIN 8063	27.5	40	27.5
		100	DIN 16962	20.0		
		100	DIN 10931	20.0		
40	85.2	120	DIN 8063	30.0	50	31.5
		106	DIN 16962	23.0		
		106	DIN 10931	23.0		
50	91.5	130	DIN 8063	37.0	63	39.5
		110	DIN 16962	27.0		
		110	DIN 10931	27.0		

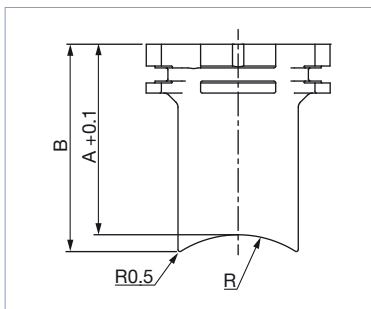
4.3. Welding spigot/socket process connection for measuring device with G 2" connection

Welding socket process connection, with radius

Note:

- Specifications in mm
- For use with a flowmeter with short versions for DN50...DN200 and with long sensor for DN250...DN350
- Only suitable from DN50...DN200 for use with an analytical measuring device

In stainless steel (316L - 1.4404)



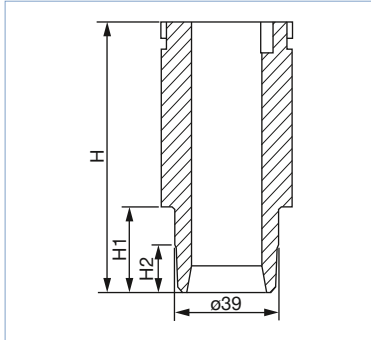
DN	A	B	R
50	56.6	61.6	30.2
65	54.5	58.6	36.7
80	53.1	56.4	44.5
100	50.7	53.2	57.2
125	48.2	50.3	70.7
150	45.7	47.4	84.2
200	41.0	42.3	109.6
250	73.6	74.7	136.6
300	67.8	68.7	162.0
350	63.9	64.7	177.8

Fusion spigot process connection

Note:

- Specifications in mm
- For use with a flowmeter with short sensor for DN65...DN100 and with long sensor for DN125...DN400
- Only suitable for DN65...DN100 for use with an analytical measuring device

In PE, PP or PVDF



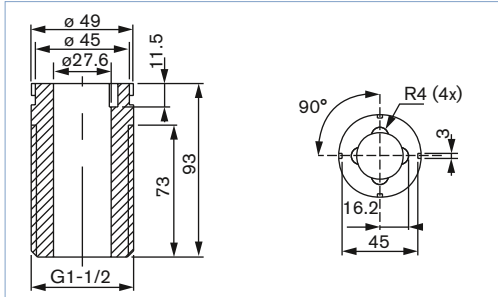
DN	H	Materials	H1	H2
65	72.5	PE	13.0	-
		PP	13.0	-
		PVDF	10.4	-
80	72.5	PE	15.6	-
		PP	15.6	-
		PVDF	12.5	-
100	72.5	PE	19.0	5.0
		PP	19.0	5.0
		PVDF	15.2	6.0
125	102.0	PE	24.2	8.0
		PP	-	-
		PVDF	-	-
150	102.0	PE	27.7	10.0
		PP	27.7	10.0
		PVDF	-	-
200	102.0	PE	38.9	16.0
		PP	38.9	16.0
		PVDF	-	-
250	102.0	PE	48.4	21.0
		PP	48.4	21.0
		PVDF	-	-
300	102.0	PE	54.5	24.0
		PP	54.5	24.0
		PVDF	-	-
350	102.0	PE	61.3	28.0
		PP	61.3	28.0
		PVDF	-	-
400	102.0	PE	69.1	31.5
		PP	-	-
		PVDF	-	-

Screw-on spigot process connection

Note:

- Specifications in mm
- Only for use with a flowmeter with long sensor

In PVC, PP, PE

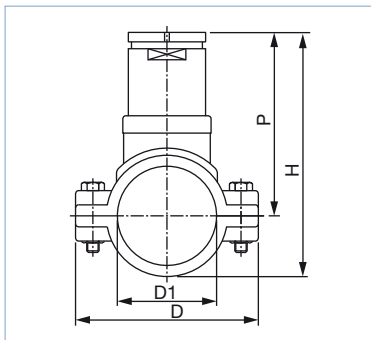


4.4. Saddle for flowmeter with G 2" connection

Note:

- Specifications in mm
- Only for use with a flowmeter with long sensor

Body and adapter in PP, seal in EPDM, reinforcing ring in stainless steel



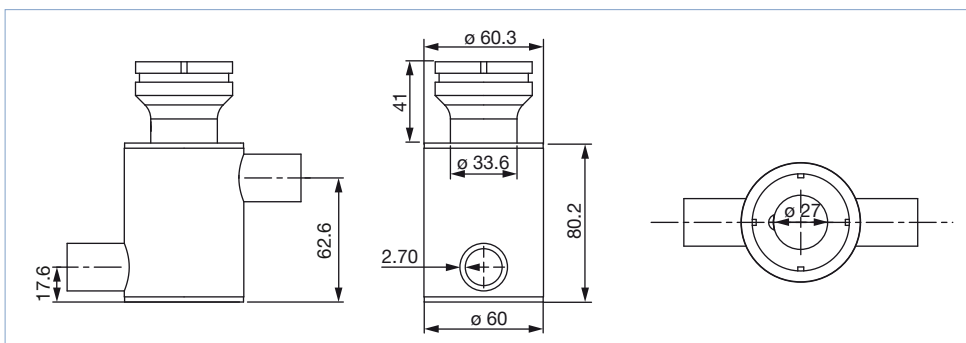
DN	P	H	D	D1
50	116.0	155	116	63
65	115.0	160	129	75
80	119.0	171	144	90
100	124.0	187	166	110
110	120.0	191	181	125
125	127.0	205	196	140
150	137.0	225	216	160
180	161.0	271	266	200
200	173.0	291	290	225

4.5. Measuring chamber for analytical measuring device

Note:

Specifications in mm

In stainless steel 316L - 1.4404, G 1/2" pipe connection



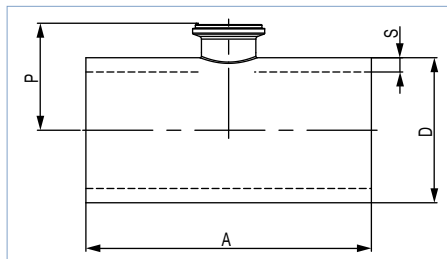
4.6. T-fitting for flowmeter with clamp connection

Weld end process connection

Note:

Specifications in mm

According to SMS 3008, BS 4825-1/ASME BPE/DIN 11866 Series C or DIN 11850 Series 2/DIN 11866 Series A/DIN EN 10357 Series A in stainless steel 316L



DN	P	A	Standard	D	s
40	42.5	140.0	SMS 3008	38.0	1.20
	43.7	120.6	ASME BPE/DIN 11866 Series C	38.1	1.65
	44.3	120.0	DIN 11850 Series 2/DIN 11866 Series A/ DIN EN 10357 Series A	41.0	1.50
50	49.3	164.0	SMS 3008	51.0	1.20
	50.6	146.0	BS 4825-1/ASME BPE/DIN 11866 Series C	50.8	1.65
	50.8	160.0	DIN 11850 Series 2/DIN 11866 Series A/ DIN EN 10357 Series A	53.0	2.00
65	54.4	210.0	SMS 3008	63.5	1.60
	55.4	158.8	BS 4825-1/ASME BPE/DIN 11866 Series C	63.5	1.65
	59.6	210.0	DIN 11850 Series 2/DIN 11866 Series A/ DIN EN 10357 Series A	70.0	2.00
80	60.7	220.0	SMS 3008	76.1	1.60
	62.0	171.5	BS 4825-1/ASME BPE/DIN 11866 Series C	76.2	1.65
	67.3	260.0	DIN 11850 Series 2/DIN 11866 Series A/ DIN EN 10357 Series A	85.0	2.00
100	73.8	209.6	BS 4825-1/ASME BPE/DIN 11866 Series C	101.6	2.11
	77.1	310.0	DIN 11850 Series 2/DIN 11866 Series A/ DIN EN 10357 Series A	104.0	2.00

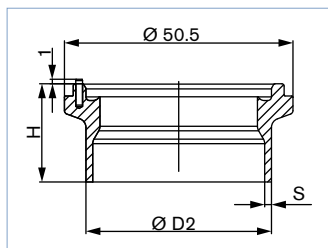
4.7. Welding socket process connection for flowmeter with clamp connection

Welding socket process connection

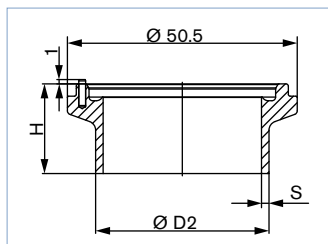
Note:

Specifications in mm

According to SMS 3008, DIN 11850 Series 2/DIN 11866 Series A/DIN EN 10357 Series A or BS 4825-1/ASME BPE/DIN 11866 Series C in stainless steel 316L



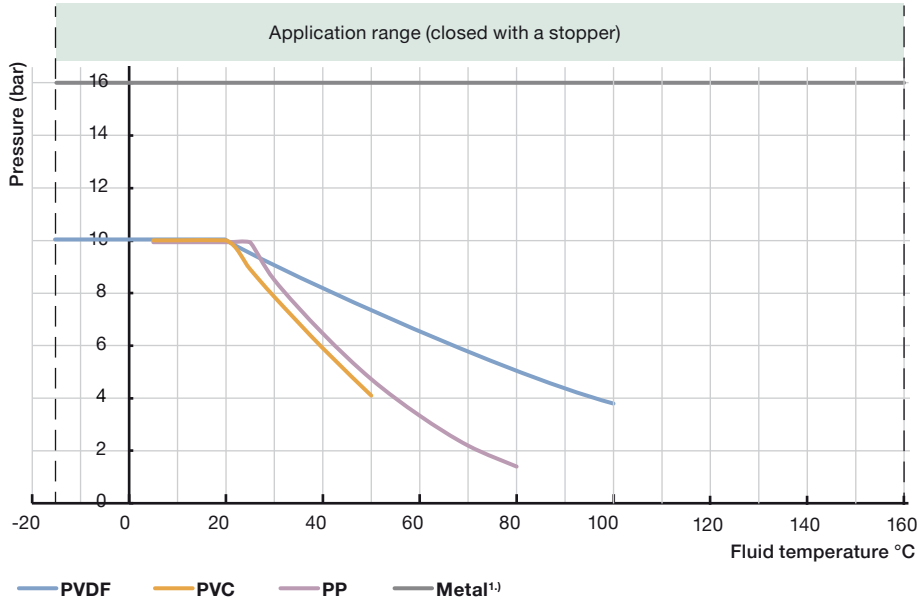
DN	Standard	H	S	D2
40	SMS 3008	21.7	1.2	38
	DIN 11850 Series 2/DIN 11866 Series A/DIN EN 10357 Series A	21.7	1.5	41
50	SMS 3008	21.7	1.2	38
	DIN 11850 Series 2/DIN 11866 Series A/DIN EN 10357 Series A	21.7	1.5	41
65	SMS 3008	19.7	1.2	38
	DIN 11850 Series 2/DIN 11866 Series A/DIN EN 10357 Series A	21.7	1.5	41
80	SMS 3008	19.7	1.2	38
	DIN 11850 Series 2/DIN 11866 Series A/DIN EN 10357 Series A	21.7	1.5	41
100	DIN 11850 Series 2/DIN 11866 Series A/DIN EN 10357 Series A	19.7	1.5	41



DN	Standard	H	S	D2
40	ASME BPE/DIN 11866 Series C	23.7	1.65	38.1
50	BS 4825-1/ASME BPE/DIN 11866 Series C	23.7	1.65	38.1
65	BS 4825-1/ASME BPE/DIN 11866 Series C	19.7	1.65	38.1
80	BS 4825-1/ASME BPE/DIN 11866 Series C	19.7	1.65	38.1
100	BS 4825-1/ASME BPE/DIN 11866 Series C	19.7	1.65	38.1

5. Performance specifications

5.1. Pressure temperature diagram



1.) excepted fitting DN100 (-15...+160 °C, PN10) with clamp measuring device connection

6. Product installation

6.1. Installation notes

Flow measurement:

Note:

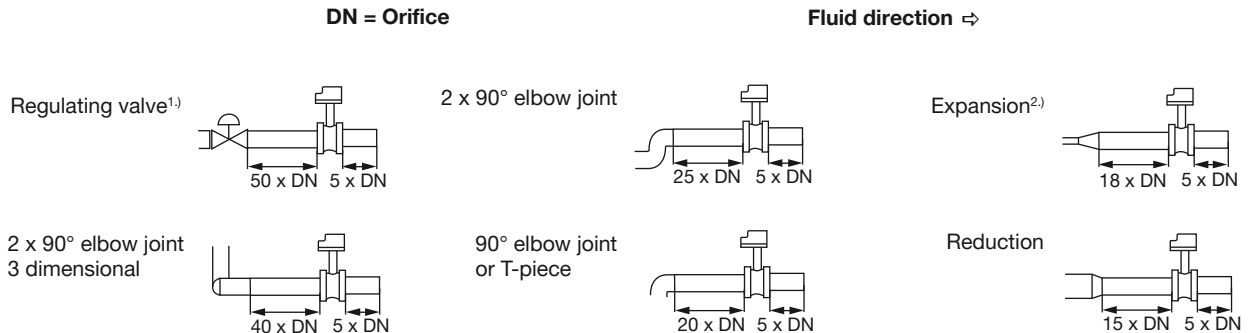
The fitting combined with a flow meter is not designed for gas and steam flow measurement.

Minimum straight upstream and downstream distances must be observed. According to the pipe's design, necessary distances can be bigger or use a flow conditioner to obtain the best accuracy.

For more information, please refer to EN ISO 5167-1.

EN ISO 5167-1 prescribes the straight inlet and outlet distances that must be complied with when installing fittings in pipe lines in order to achieve calm flow conditions. The most important layouts that could lead to turbulence in the flow are shown below, together with the associated prescribed minimum inlet and outlet distances.

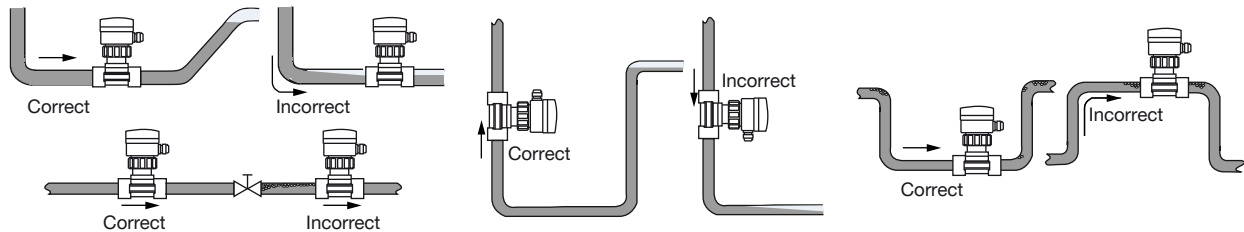
Make sure that the measuring conditions at the point of measurement are calm and problem-free.



1.) If the valve cannot be mounted after the measuring device, the minimal distances have to be respected.

2.) If an expansion cannot be avoided, the minimal distances have to be respected.
Please note minimum flow velocity

The complete measuring device can be installed into either horizontal or vertical pipes. Important criteria for this are; ensure that the measurement pipe is fully filled and that the measurement pipe is air bubble free.



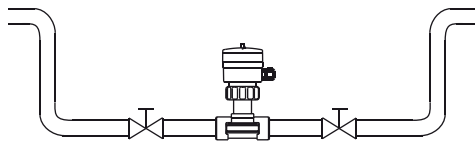
Pressure and temperature ratings must be respected according to the selected fitting material. The suitable pipe size is selected using the diagram for selecting the nominal diameter of the fitting.

See chapter “6.2. Selection of the nominal diameter” on page 15.

Analytical measurement

For pH and ORP measurements, we recommended a “U”- form bypass installation to ensure that the electrode is maintained in a wet condition and enable the customer to calibrate the unit without stopping the whole process or to use the special designed measuring chamber.

The specially designed measuring chamber enables to install all pH, ORP., conductivity meters in all pipe systems, either directly in the main stream or in a by-pass line. Additionally it enables to keep the electrode always wet and isolates it easily from the main stream for calibration purposes.



6.2. Selection of the nominal diameter

The following graph is used to determine the DN of the pipe and the fitting appropriate to the application, according to the fluid velocity and the flow rate. On the chart, the intersection of flow rate and flow velocity gives the appropriate diameter.

Note:

For the fittings listed below, the corresponding nominal size in the bracket must be used:

- External threads acc. to SMS 1145
- Weld ends acc. to SMS 3008, BS4825-1/ASME BPE/DIN 11866 series C or DIN 11850 series 2/DIN 11866 series A/ DIN EN 10357 series A
- Clamp acc. to SMS 3017, BS 4825-3/ASME BPE or DIN 32676 series A

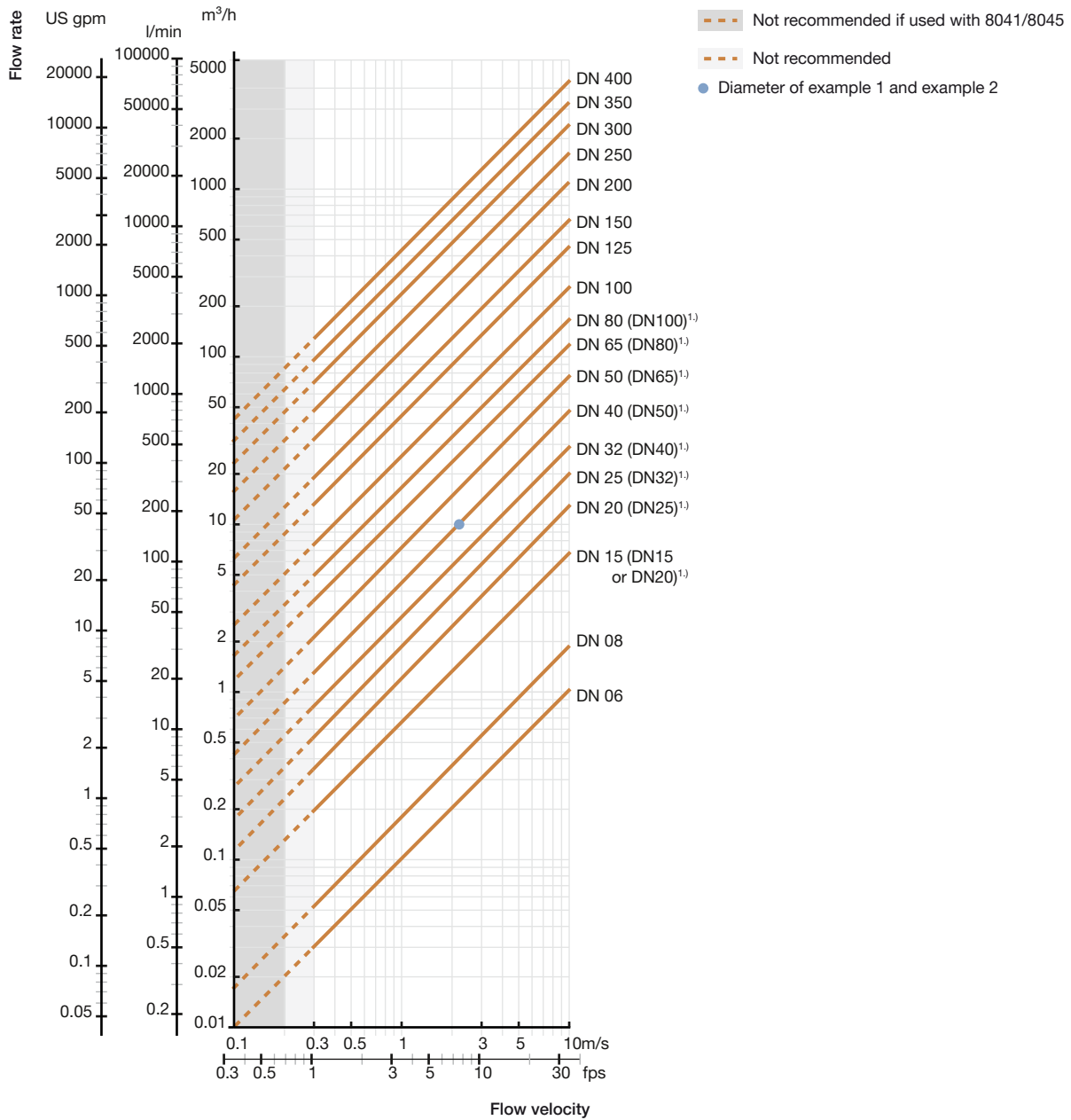
For all other fittings, the corresponding nominal diameter without bracket applies.

Example 1:

- Nominal flow: 10 m³/h
 - Optimal flow rate: 2...3 m/s
- Result: Select a pipe size of DN40

Example 2 with external threads acc. to SMS 1145:

- Nominal flow: 10 m³/h
 - Optimal flow rate: 2...3 m/s
- Result: Select a pipe size of DN50



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7. Networking and combination with other Bürkert products

7.1. Fitting for measuring device with G 2" connection

Example:

Type S020

Type 8020 ▶
Insertion flowmeter with paddle wheel

Type 8025 ▶
Insertion flowmeter or batch controller with paddle wheel

Type 8026 ▶
Insertion flowmeter with paddle wheel, ELEMENT design

Type 8041 ▶
Insertion magnetic inductive flowmeter

Type 8045 ▶
Insertion magnetic inductive flowmeter

Flowmeter

Type 8200 ▶
+
Type 8203 ▶
Armatures and pH- or ORP probes

Type 8220 ▶
Conductivity sensor

Type 8228 ▶
Conductivity sensor, ELEMENT design

Analytical measuring device

Type 8619 ▶
multiCELL - transmitter/controller

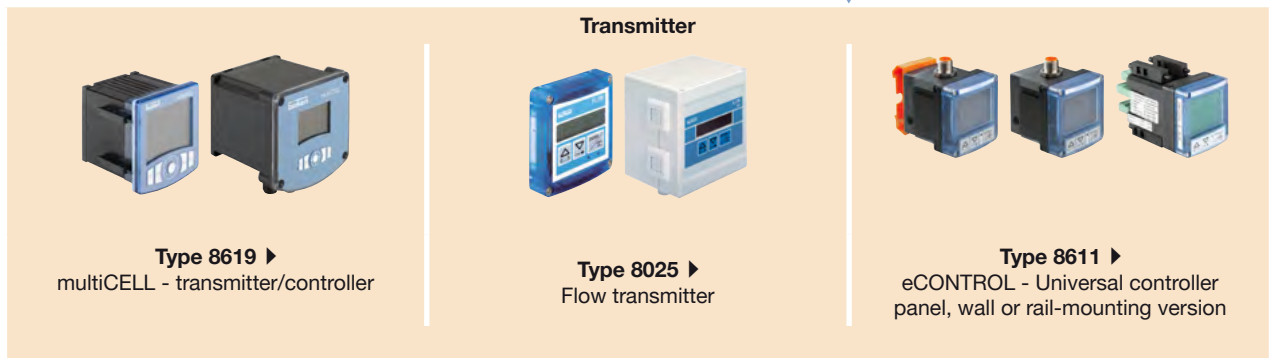
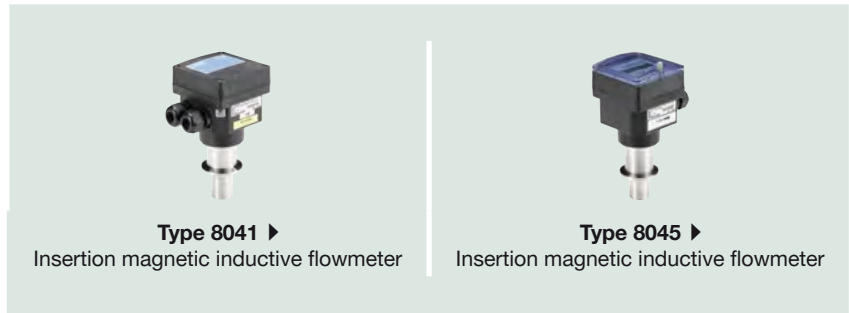
Type 8025 ▶
Flow transmitter

Type 8611 ▶
eCONTROL - Universal controller panel, wall or rail-mounting version

Transmitter

7.2. Fitting for for flowmeter with clamp connection

Example:



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7.3. Combination of the S020 with a measuring device for flow rate, pH or ORP, conductivity measurement


For device with G 2" connection		DN06	DN32	DN50	DN65	DN100	DN200	DN350	DN400
Available S020 fittings DN	T-fitting	[Bar chart showing availability from DN06 to DN65]							
	Welding socket				[Bar chart showing availability from DN65 to DN350]				
	Fusion spigot				[Bar chart showing availability from DN65 to DN400]				
	Screw-on spigot					[Bar chart showing availability from DN100 to DN400, labeled 'For flow measurement']			
	Saddle				[Bar chart showing availability from DN50 to DN200, labeled 'For flow measurement']				
For device with clamp connection									
T-fitting or welding socket				[Bar chart showing availability from DN32 to DN100]					
Device for	Flow rate measurement 8020, 8025, 8026, 8041 and 8045 with G 2" process connection	DN06	DN15	DN20 ^{1.)}	DN32 ^{1.)}	DN50	DN100	DN200	DN400
	8041 and 8045 with clamp process connection				[Bar chart showing availability from DN32 to DN100]				
	Analytical measurement pH or ORP: Type 8200/8203 Conductivity: Type 8220, 8228		[Bar chart showing availability from DN15 to DN32, labeled '3.)']		[Bar chart showing availability from DN32 to DN100]				

- 1.) DN20 fittings according to the standards listed below cannot be used with flowmeter Type 8020, 8025, 8026.
DN32 fittings according to the standards below cannot be used with analytical measuring devices Type 8200/8203, 8220 and 8228.
Standards: Fittings with external threads acc. to SMS 1145, weld ends acc. to SMS 3008, BS 4825-1/ASME BPE/DIN 11866 series C or DIN 11850 series 2/DIN 11866 series A/DIN EN 10357 series A, Clamp acc. to SMS 3017, BS 4825-3/ASME BPE, DIN 32676 series A.
- 2.) See the note for the use of the fitting in chapter "4. Dimensions" on page 6
- 3.) Only use plastic fitting in analytical version with true union connection with nut and solvent/fusion socket according to DIN 8063 (PVC), to DIN 16962 (PP) or to ISO 10931 (PVDF), other materials on request.

For further details about the various combination possibilities (measuring device and fitting), please **consult the measuring device related data sheet**.

8. Ordering information

8.1. Bürkert eShop – Easy ordering and quick delivery




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8.3. Ordering chart

Metal T-fitting DN06...DN65 for measuring device with G 2" connection

Standard	Article no.								
	DN06 - 1/2"	DN08 - 1/2"	DN15	DN20	DN25	DN32	DN40	DN50	DN65
Brass body & stainless steel adapter - Fluid temperature max. 160 °C, PN16									
FKM seal									
Internal thread process connection									
G	-	-	428712	428713	428714	428715	428716	428717	-
NPT	-	-	428718	428719	428720	428721	428722	428723	-
Rc	-	-	428724	428725	428726	428727	428728	428729	-
External thread process connection									
G	-	-	428730	428731	428732	428733	428734	428735	-
Stainless steel body & stainless steel adapter - Fluid temperature max. 160 °C, PN16									
FKM seal									
Internal thread process connection									
G	-	-	428736	428737	428738	428739	428740	428741	-
NPT	-	-	428742	428743	428744	428745	428746	428747	-
Rc	-	-	428748	428749	428750	428751	428752	428753	-
External thread process connection									
G	552434	552432	428754	428755	428756	428757	428758	428759	-
Weld end process connection									
EN ISO 1127/ ISO 4200/ DIN 11866 series B	-	-	428760	428761	428762	428763	428764	428765	-
Clamp process connection									
DIN 32676 series B	-	-	428766 ^{2.)}	428767	428768	428769	428770	428771	-
Flange process connection									
EN 1092-1/B1/PN16	-	-	428772	428773	428774	428775	428776	428777	-
ANSI B16-5	-	-	428778	428779	428780	428781	428782	428783	-
EPDM seal									
External thread process connection									
SMS 1145	-	-	-	-	443317	-	443318	443319	-
Weld end process connection									
SMS 3008	-	-	-	-	443309	-	443310	443311	443944 ^{4.)}
BS 4825-1/ ASME BPE/ DIN 11866 series C	-	-	-	443734 ^{3.)}	443735	443736	443942	443943	443944
Clamp process connection									
SMS 3017	-	-	-	-	443313	-	443314	443315	443969 ^{4.)}
SMS 3017 ^{1.)}	-	-	-	-	443957	-	443958	443959	443974 ^{4.)}
BS 4825-3/ ASME BPE	-	-	-	443965 ^{3.)}	443966	-	443967	443968	443969
BS 4825-3/ ASME BPE ^{1.)}	-	-	-	443970	443971	-	443972	443973	443974

1.) Internal surface finish Ra < 0.8 µm

2.) Refer to Clamp with D dimensions of 34 mm (see chapter "Clamp process connection" on page 8)

3.) DN20 (3/4") only available in ASME BPE

4.) Please refer to ASME BPE

Further versions on request



Process connection

Weld end connection according to DIN 11850 series 2/DIN 11866 series A/ DIN EN 10357 series A
Clamp according to DIN 32676 series A

Plastic T-fitting DN06...DN65 for measuring device with G 2" connection

Standard	Article no.								
	DN06 -1/2"	DN08 -1/2"	DN15	DN20	DN25	DN32	DN40	DN50	DN65
PVC body & PVC adapter - Fluid temperature max. 50 °C, PN10									
FKM seal									
True union process connection with nut and solvent socket									
DIN 8063	-	-	428670	428671	428672	428673	428674	428675	-
ASTM D 1785/76	-	-	428682	428683	428684	428685	428686	428687	-
JIS K	-	-	429078	429079	429080	429081	429082	429083	-
External thread process connection									
G	552561	550062	-	-	-	-	-	-	-
Solvent spigot process connection									
DIN 8063	-	-	428676	428677	428678	428679	428680	428681	-
Analytical version - True union process connection with nut and solvent socket									
DIN 8063	-	-	430837	430838	430839	428673	428674	428675	-
PP body & PP adapter - Fluid temperature max. 80 °C, PN10									
FKM seal									
True union process connection with nut and fusion socket									
DIN 16962	-	-	428688	428689	428690	428691	428692	428693	-
Fusion spigot process connection									
DIN 16962	-	-	428694	428695	428696	428697	428698	428699	-
Analytical version - True union process connection with nut and fusion socket									
DIN 16962	-	-	430840	430841	430842	428691	428692	428693	-
PVDF body & PVDF adapter - Fluid temperature max. 100 °C, PN10									
FKM seal									
True union process connection with nut and fusion socket									
ISO 10931	-	-	428700	428701	428702	428703	428704	428705	-
Fusion spigot process connection									
ISO 10931	-	-	428706	428707	428708	428709	428710	428711	-
Analytical version - True union process connection with nut and fusion socket									
ISO 10931	-	-	430843	430844	430845	428703	428704	428705	-

Welding spigot/socket process connection for measuring device with G 2" connection

Article no.										
DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400
Welding spigot/socket process connection										
Stainless steel - with radius - Fluid temperature max. 160 °C, PN16										
418111	418112	418113	418114	418115	418116	418117	418756	420070	416637	-
PE - Fluid temperature max. 70 °C, PN10										
-	418642	418643	418644	418590	418645	418646	418647	418648	418649	418598
Analytical version - PE - Fluid temperature max. 70 °C, PN10										
-	418644	418644	418644	-	-	-	-	-	-	-
PP - Fluid temperature max. 80 °C, PN10										
-	418650	418651	418652	-	418653	418654	418655	418656	418657	-
Analytical version - PP - Fluid temperature max. 80 °C, PN10										
-	418652	418652	418652	-	-	-	-	-	-	-
PVDF - Fluid temperature max. 100 °C, PN10										
-	418658	418659	418660	-	-	-	-	-	-	-
Analytical version - PVDF - Fluid temperature max. 100 °C, PN10										
-	418660	418660	418660	-	-	-	-	-	-	-

Article no.										
DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400
Screw-on spigot process connection										
PVC - Fluid temperature max. 50 °C, PN10										
-	-	-	418170	418170	418170	418170	-	-	-	-
PE - Fluid temperature max. 70 °C, PN10										
-	-	-	436489	436489	436489	436489	436489	436489	436489	436489
PP - Fluid temperature max. 50 °C, PN10										
-	-	-	436488	436488	436488	436488	436488	436488	436488	436488

Saddle for flowmeter with G 2" connection

Seal	Article no.									
	DN50	DN65	DN80	DN100	DN110	DN125	DN150	DN180	DN200	
PP body and PP adapter - Fluid temperature max. 60 °C, PN10 (for PVC or PP pipe)										
EPDM	425138	425139	425140	425141	425142	425143	425144	433873	425416	

Measuring chamber for analytical measuring device

Description	Article no.
Measuring chamber in stainless steel 316L - 1.4404 (other material on request)	553611

T-fitting DN32...DN100 for flowmeter Type 8041/8045 with clamp connection

Standard	Article no.					
	DN32 PN16	DN40 PN16	DN50 PN16	DN65 PN16	DN80 PN16	DN100 PN10
Stainless steel - Fluid temperature max. 160 °C						
SMS 3008	-	564915	564916	564917	564918	1.)
BS 4825-1/ASME BPE/DIN 11866 series C	-	564920	564921	564922	564923	564924
DIN 11850 series 2/DIN 11866 series A/DIN EN 10357 series A	-	564925	564926	564927	564928	564929

Welding socket process connection for flowmeter Type 8041/8045 with clamp connection

Standard	Article no.					
	DN32 PN16	DN40 PN16	DN50 PN16	DN65 PN16	DN80 PN16	DN100 PN10
Stainless steel - Fluid temperature max. 160 °C						
SMS 3008	-	564696	564696	564697	564697	1.)
BS 4825-1/ASME BPE/DIN 11866 series C	-	564698	564698	564699	564699	564699
DIN 11850 series 2/DIN 11866 series A/DIN EN 10357 series A	-	565069	565069	565069	565069	565390

1.) Please refer to BS 4825-1/ASME BPE/DIN 11866 series C or to DIN 11850 series 2/DIN 11866 series A/DIN EN 10357 series A

Further versions on request

**Process connection**

According to EN ISO 1127/ISO 4200/DIN 11866 series B (DN32...DN80)

8.4. Ordering chart accessories

Accessories for all versions

Description	Article no.
Approvals/Certificates	
Inspection certificate 3.1 (acc. to EN-ISO 10204)	803723
Test report 2.2 (acc. to EN-ISO 10204)	803722
Certification of Conformity for the surface Quality (DIN4762-DIN4768-ISO/4287/1)	804175
3 points Flow calibration certificate (S020 combined with the flow device inserted, only for DN≤200)	550676
FDA approval	803724

Accessories for fitting for measuring device with G 2" connection

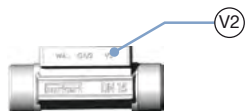
Note:

Since March 2012, sensor-fittings Type S020 in DN15 and DN20 exist in two versions, that have different K factors (Detailed information can be found in the user manual in chapter K-factor, see **Type S020**). The second version is identified by the marking "v2". This "v2" marking can be found:

- on the bottom of the DN15 or DN20 sensor-fitting in plastic



- on the side of the DN15 or DN20 sensor-fitting in metal



Accessory	Description	Article no.
Stopper with ring, union nut and O-ring		
	Stainless steel	438755
	PVC	438754
	PP	627614
Adapter with 4 screws (DN06...DN65)		
	Stainless steel	555484
	PVC	561175
	PP	561176
	PVDF	561177
O-Ring set (DN06...DN65)		
Between T-fitting body & adapter: flat seal to use for holder with groove (old version, no more available for order), O-Ring to use for holder with lug (version "v2")		
	FKM - for metal fitting (5 units)	428971
	EPDM - for metal fitting (5 units)	428972
	FKM - for plastic fitting (1 flat gasket + 1 O-ring)	561043
	EPDM - for plastic fitting (1 flat gasket + 1 O-ring)	561044

Accessories for fitting for flowmeter Type 8041/8045 with clamp connection

Accessory	Description	Article no.
	1 EPDM fitting/flowmeter seal	730837
	1 FEP fitting/flowmeter seal	730839
	Clamp collar	731164
	Stopper for fitting	565200

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