



Insertion fitting for flow or analytical measurement

- Universal fitting for Insertion measuring device in pure, aggressive or contaminated liquids
- Large range of process connections: DN 06 to DN 400 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.

Table of contents

1. General technical data	4
<hr/>	
2. Approvals	5
2.1. Certificates.....	5
2.2. Pressure equipment directive.....	5
Device used on a pipe.....	5
<hr/>	
3. Materials	5
3.1. Chemical Resistance Chart – Bürkert resistApp.....	5
<hr/>	
4. Dimensions	6
4.1. Metal T-fitting for measuring device with G 2" process connection.....	6
Internal thread connection.....	6
External thread connection.....	6
Weld spigot connection.....	7
Clamp connection.....	8
Flange connection.....	8
4.2. Plastic T-fitting for measuring device with G 2" process connection.....	9
True union connection with nut and solvent/fusion socket.....	9
External thread connection.....	9
Solvent/fusion spigot connection.....	10
4.3. Straight connection for measuring device with G 2" process connection.....	10
Weld spigot connection with radius.....	10
Fusion spigot connection.....	11
Screw-on spigot connection.....	12
4.4. Saddle for flowmeter with G 2" process connection.....	12
4.5. Measuring chamber for analytical measuring device with G 2" process connection.....	12
4.6. T-fitting for flowmeter with clamp process connection.....	13
Weld spigot connection.....	13
4.7. Straight connection for flowmeter with clamp process connection.....	13
Weld spigot connection.....	13
<hr/>	
5. Performance specifications	14
5.1. Pressure temperature diagram.....	14
<hr/>	
6. Product installation	14
6.1. Installation notes.....	14
Flow measurement:.....	14
Analytical measurement.....	15
6.2. Selection of the nominal diameter.....	15
<hr/>	
7. Networking and combination with other Bürkert products	17
7.1. Fitting for measuring device with G 2" process connection.....	17
7.2. Fitting for for flowmeter with clamp process connection.....	18
7.3. Combination of the S020 with a measuring device for flow rate, pH or ORP, conductivity measurement.....	19
<hr/>	
8. Ordering information	19
8.1. Bürkert eShop – Easy ordering and quick delivery.....	19
8.2. Bürkert product filter.....	19
8.3. Ordering chart.....	20
Metal T-fitting DN 06...DN 65 for measuring device with G 2" process connection.....	20

Plastic T-fitting DN 06...DN 65 for measuring device with G 2" process connection	21
Straight connection DN 50...DN 400 for measuring device with G 2" process connection.....	22
Weld/fusion spigot connection	22
Saddle for flowmeter with G 2" process connection.....	22
Measuring chamber for analytical measuring device with G 2" process connection.....	22
T-fitting DN 32...DN 100 for flowmeter Type 8041/8045 with clamp process connection.....	22
Straight connection DN 32...DN 100 for flowmeter Type 8041/8045 with clamp process connection.....	23
8.4. Ordering chart accessories.....	23
Accessories for all variants	23
Accessories for fitting for measuring device with G 2" process connection	23
Accessories for fitting for flowmeter Type 8041/8045 with clamp process connection	24

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.	
Non wetted parts	
Screw	Stainless steel (316L - 1.4404)
Wetted parts	
Fitting body	<ul style="list-style-type: none"> For G 2" flowmeter connection: Body & adapter respectively in brass (CuZn₃₉Pb₂) & stainless steel (316L - 1.4404) or all in stainless steel (316L - 1.4404), PVC, PP, PVDF or PE (depending on S020 variant) For clamp flowmeter connection: Stainless steel 316L
Seal	<ul style="list-style-type: none"> For G 2" flowmeter connection: FKM or EPDM (depending on S020 variant) For clamp flowmeter connection: None
Surface quality	For clamp flowmeter connection: Ra < 0.8 µm (excluding welding seams)
Compatibility	With flowmeters Type 8020, 8025, 8026, 8041, 8045 or analytical measuring devices Type 8200/8203, 8220 or 8228
Pipe diameter	<ul style="list-style-type: none"> For G 2" flowmeter connection: DN 06...DN 400 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: DN 32...DN 100
Dimensions	Detailed information can be found in chapter “4. Dimensions” on page 6.
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"> PN 10 for plastic sensor-fitting PN 16 for metal sensor-fitting Detailed information can be found in chapter “5.1. Pressure temperature diagram” on page 14.
Process/Pipe connection & communication	
Measuring devices connection	G 2" or clamp connection
Pipe 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 directive	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 directive	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.
Certificate	Certificates must be ordered separately. Detailed information can be found in chapter “Accessories for all variants” 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. Certificates

Certificate	Description
FDA	Food contact The variants 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

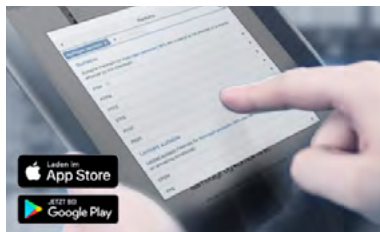
Note:

- 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

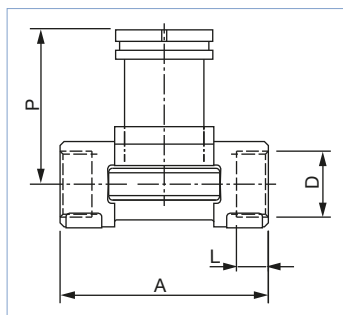
4.1. Metal T-fitting for measuring device with G 2" process connection

Internal thread connection

Note:

- Dimensions in mm, unless otherwise stated
- For use with a flowmeter with short sensor
- Suitable from DN 32 for use with an analytical measuring device

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



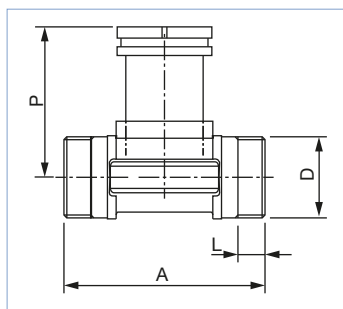
DN	P	A	D		L
			[inch]		
15	80.3	84.0	G ½		16.0
			NPT ½		17.0
			Rc ½		15.0
20	77.8	94.0	G ¾		17.0
			NPT ¾		18.3
			Rc ¾		16.3
25	78.0	104.0	G 1		23.5
			NPT 1		18.0
			Rc 1		18.0
32	81.6	119.0	G 1 ¼		23.5
			NPT 1 ¼		21.0
			Rc 1 ¼		21.0
40	85.4	129.0	G 1 ½		23.5
			NPT 1 ½		20.0
			Rc 1 ½		19.0
50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

External thread connection

Note:

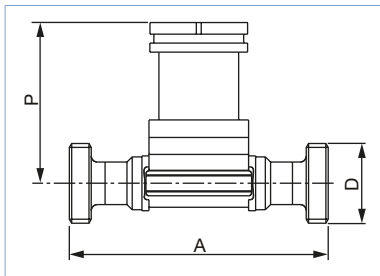
- Dimensions in mm, unless otherwise stated
- For use with a flowmeter with short sensor
- Suitable from DN 32 for use with an analytical measuring device

According to G in stainless steel (316L - 1.4404) and/or brass (CuZn₃₉Pb₂) or PVC (only DN 06 and DN 08)



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)



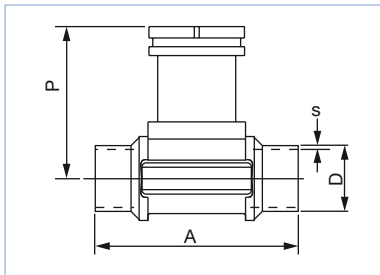
DN	P	A	D
25	77.8	130	Rd 40 x 1/6"
40	81.6	164	Rd 60 x 1/6"
50	85.4	173	Rd 70 x 1/6"

Weld spigot connection

Note:

- Dimensions in mm, unless otherwise stated
- For use with a flowmeter with short sensor
- Suitable from DN 32 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)



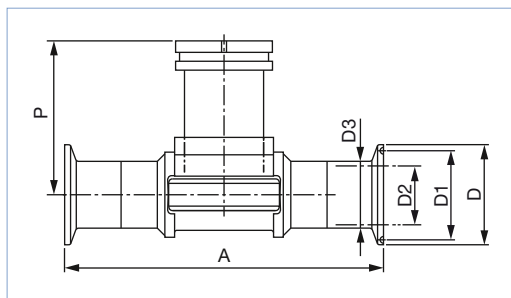
DN	P	A	Standard	D	s
15	80.3	84.0	EN ISO 1127/ISO 4200/DIN 11866 Series B	21.30	1.60
	-	-	SMS 3008	-	-
	-	-	ASME BPE/DIN 11866 Series C	-	-
20	77.8	94.0	EN ISO 1127/ISO 4200/DIN 11866 Series B	26.9	1.60
	-	-	SMS 3008	-	-
	83.3	84.0	ASME BPE/DIN 11866 Series C	19.05	1.65
25	78.0	104.0	EN ISO 1127/ISO 4200/DIN 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

Clamp connection

Note:

- Dimensions in mm, unless otherwise stated
- For use with a flowmeter with short sensor
- Suitable from DN 32 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

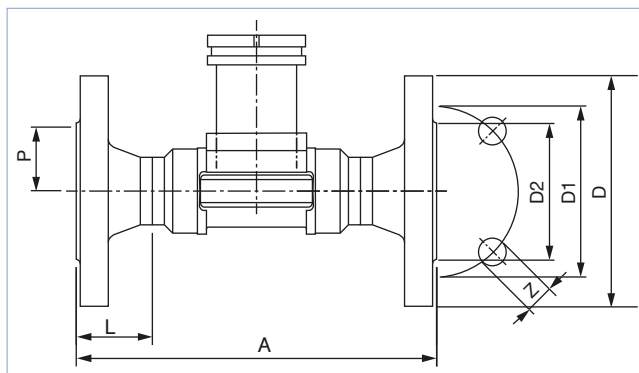
2.) Similar to DIN 32676 series B but with clamp connection 34.0

Flange connection

Note:

- Dimensions in mm, unless otherwise stated
- For use with a flowmeter with short sensor
- Suitable from DN 32 for use with an analytical measuring device

According to EN1092-1/B1/PN 16 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					

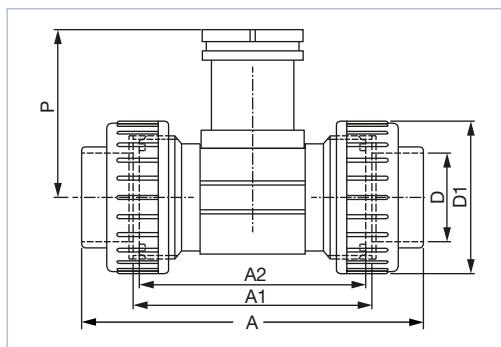
4.2. Plastic T-fitting for measuring device with G 2" process connection

True union connection with nut and solvent/fusion socket

Note:

- Dimensions in mm, unless otherwise stated
- For use with a flowmeter with short sensor
- Suitable for use with an analytical measuring device. Please note that the fittings DN 15...DN 25 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	

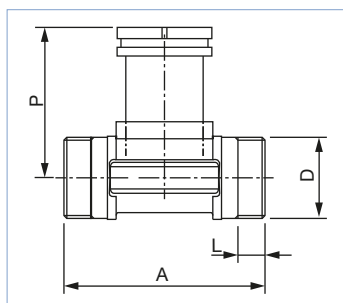
1.) Fitting for analytical measurement

External thread connection

Note:

- Dimensions in mm, unless otherwise stated
- For use with a flowmeter with short sensor
- Not suitable for use with an analytical measuring device

According to G in PVC (only DN 06 and DN 08)



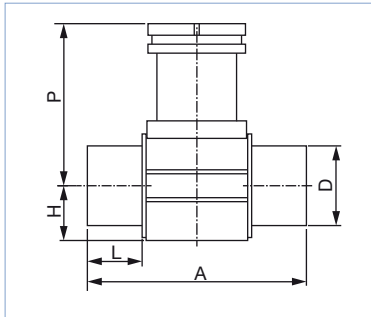
DN	P	A	D		L
			[Inch]	[mm]	
06	75.3	90.0	G ½	–	14.0
08	75.3	90.0	G ½	–	14.0

Solvent/fusion spigot connection

Note:

- Dimensions in mm, unless otherwise stated
- For use with a flowmeter with short sensor
- Suitable from DN 32 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		

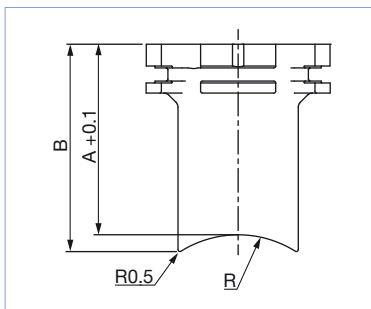
4.3. Straight connection for measuring device with G 2" process connection

Weld spigot connection with radius

Note:

- Dimensions in mm, unless otherwise stated
- For use with a flowmeter with short variants for DN 50...DN 200 and with long sensor for DN 250...DN 350
- Only suitable from DN 50...DN 200 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

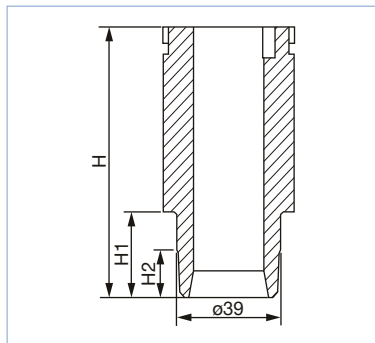
DTS 1000011768 EN Version: AO Status: RL (released | freigegeben | valide) printed: 14.11.2022

Fusion spigot connection

Note:

- Dimensions in mm, unless otherwise stated
- For use with a flowmeter with short sensor for DN 65...DN 100 and with long sensor for DN 125...DN 400
- Only suitable for DN 65...DN 100 for use with an analytical measuring device

In PE, PP or PVDF



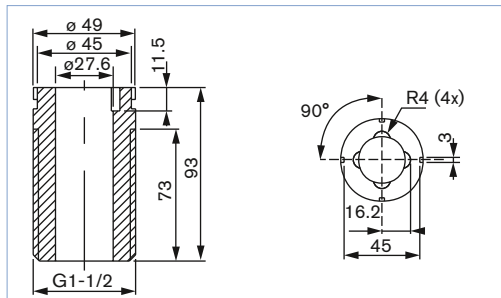
DN	H	Materials	H1	H2
65	72.5	PE	13.0	-
		PP	13.0	-
		PVDF	10.4	-
80	72.5	PE	15.6	-
		PP	15.6	-
		PVDF	12.5	-
100	72.5	PE	19.0	5.0
		PP	19.0	5.0
		PVDF	15.2	6.0
125	102.0	PE	24.2	8.0
		PP	-	-
		PVDF	-	-
150	102.0	PE	27.7	10.0
		PP	27.7	10.0
		PVDF	-	-
200	102.0	PE	38.9	16.0
		PP	38.9	16.0
		PVDF	-	-
250	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 connection

Note:

- Dimensions in mm, unless otherwise stated
- Only for use with a flowmeter with long sensor

In PVC, PP, PE

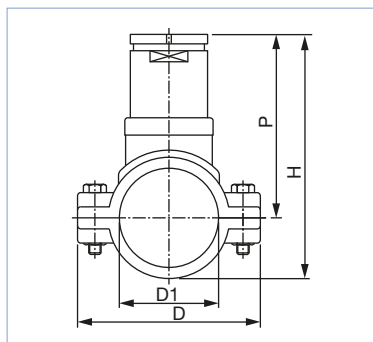


4.4. Saddle for flowmeter with G 2" process connection

Note:

- Dimensions in mm, unless otherwise stated
- Only for use with a flowmeter with long sensor

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



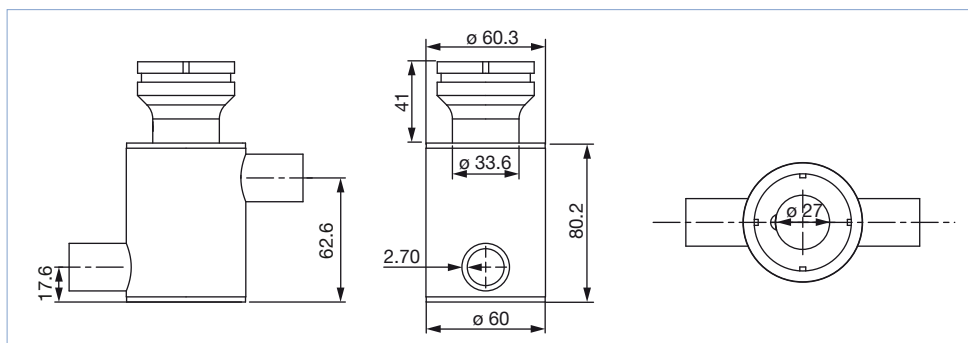
DN	P	H	D	D1
50	116.0	155	116	63
65	115.0	160	129	75
80	119.0	171	144	90
100	124.0	187	166	110
110	120.0	191	181	125
125	127.0	205	196	140
150	137.0	225	216	160
180	161.0	271	266	200
200	173.0	291	290	225

4.5. Measuring chamber for analytical measuring device with G 2" process connection

Note:

Dimensions in mm, unless otherwise stated

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



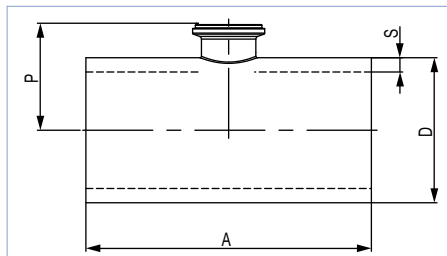
4.6. T-fitting for flowmeter with clamp process connection

Weld spigot connection

Note:

Dimensions in mm, unless otherwise stated

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

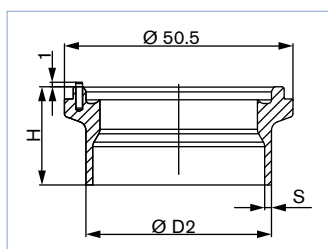
4.7. Straight connection for flowmeter with clamp process connection

Weld spigot connection

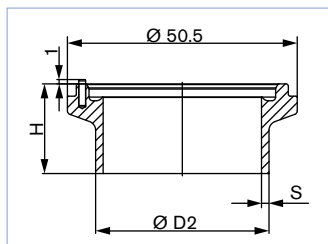
Note:

Dimensions in mm, unless otherwise stated

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



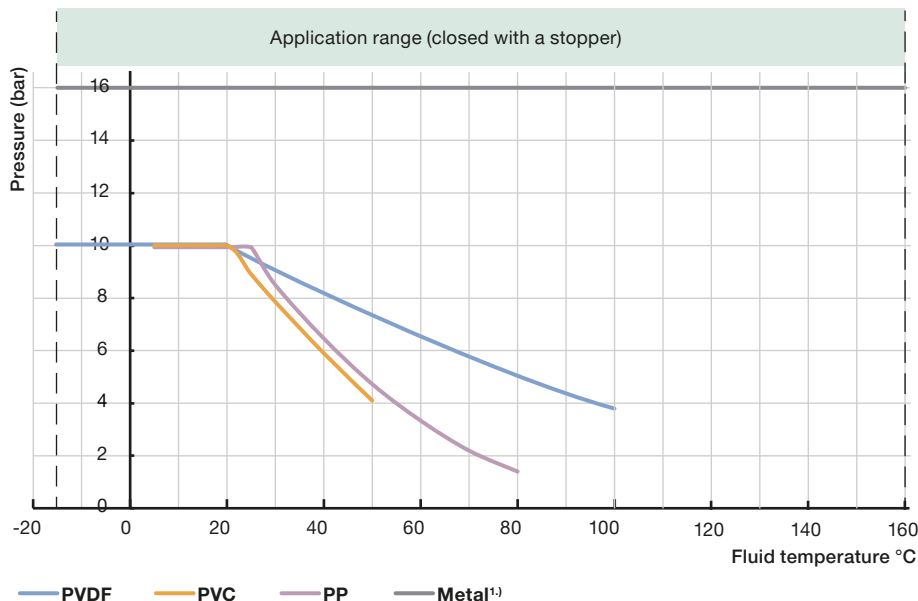
DN	Standard	H	S	D2
40	SMS 3008	21.7	1.2	38
	DIN 11850 Series 2/DIN 11866 Series A/DIN EN 10357 Series A	21.7	1.5	41
50	SMS 3008	21.7	1.2	38
	DIN 11850 Series 2/DIN 11866 Series A/DIN EN 10357 Series A	21.7	1.5	41
65	SMS 3008	19.7	1.2	38
	DIN 11850 Series 2/DIN 11866 Series A/DIN EN 10357 Series A	21.7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

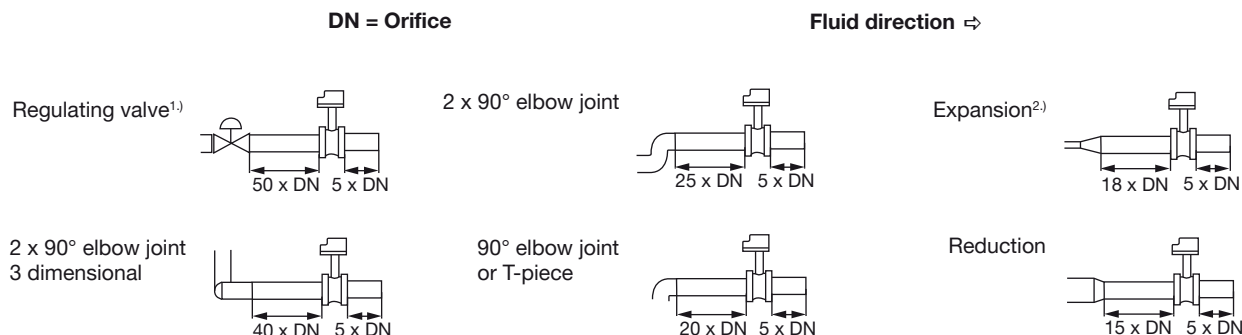
The fitting combined with a measuring device is not suitable for use in gaseous media and steam.

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.

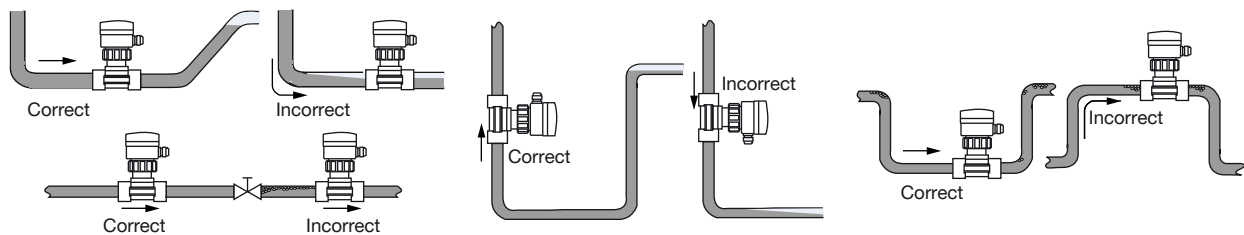
Make sure that the measuring conditions at the point of measurement are calm and problem-free.



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.



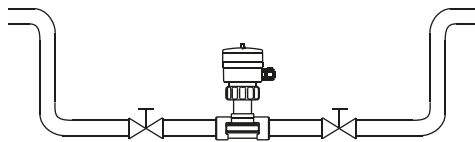
Pressure and temperature ratings must be respected according to the selected fitting material. The suitable pipe size is selected using the diagram for selecting the nominal diameter of the fitting.

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.

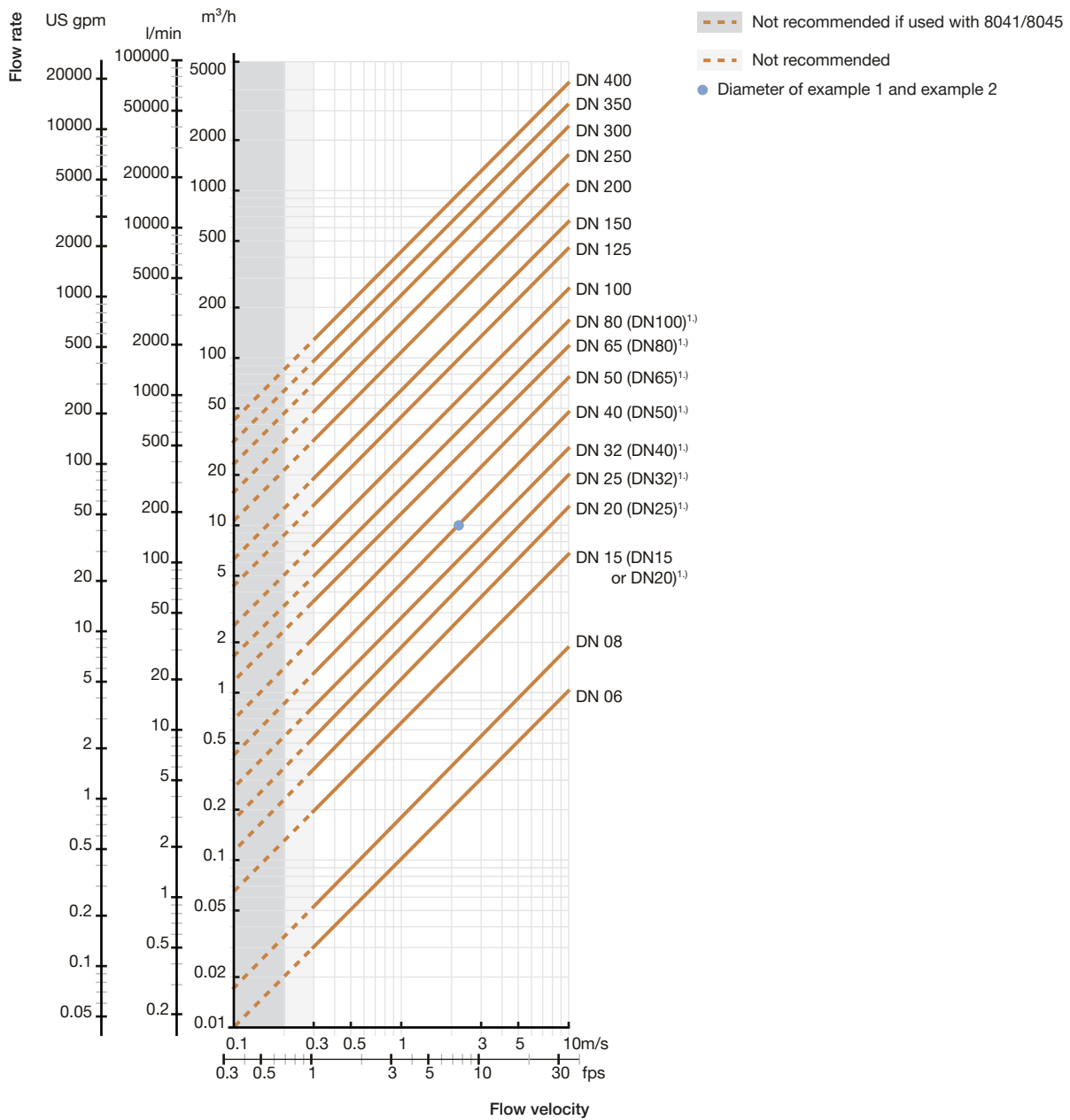
For all other fittings, the corresponding nominal diameter without bracket applies.

Example 1:

- Nominal flow: 10 m³/h
 - Optimal flow rate: 2...3 m/s
- Result: Select a pipe size of DN 40

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 DN 50



1.) See note at the beginning of this chapter.

7. Networking and combination with other Bürkert products

7.1. Fitting for measuring device with G 2" process connection

Example:

Type S020

Flowmeter

<p>Type 8020 ▶ Insertion flowmeter with paddle wheel</p>	<p>Type 8025 ▶ Insertion flowmeter or batch controller with paddle wheel</p>	<p>Type 8026 ▶ Insertion flowmeter with paddle wheel, ELEMENT design</p>	<p>Type 8041 ▶ Insertion magnetic inductive flowmeter</p>	<p>Type 8045 ▶ Insertion magnetic inductive flowmeter</p>
---	---	---	--	--

Analytical measuring device

<p>Type 8200 ▶ + Type 8203 ▶ Armatures and pH- or ORP probes</p>	<p>Type 8220 ▶ Conductivity sensor</p>	<p>Type 8228 ▶ Conductivity sensor, ELEMENT design</p>
--	---	---

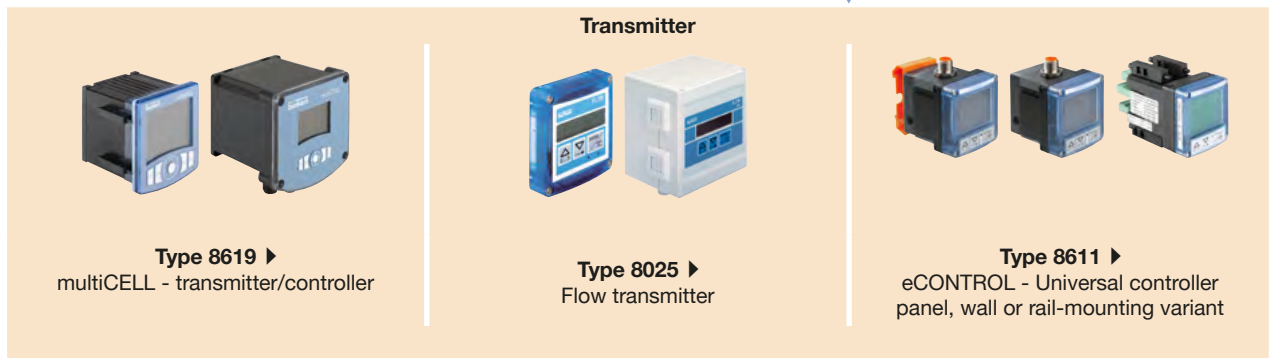
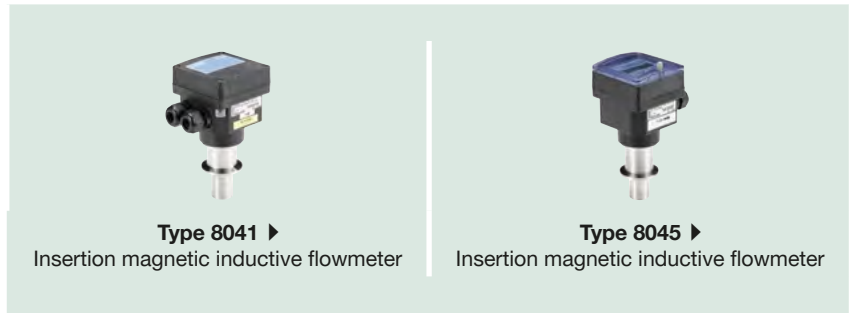
Transmitter

<p>Type 8619 ▶ multiCELL - transmitter/controller</p>	<p>Type 8025 ▶ Flow transmitter</p>	<p>Type 8611 ▶ eCONTROL - Universal controller panel, wall or rail-mounting variant</p>
--	--	--

DTS 1000011768 EN Version: AO Status: RL (released | freigegeben | valide) printed: 14.11.2022

7.2. Fitting for for flowmeter with clamp process connection

Example:



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					For flow measurement			
	Saddle				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]		[Bar chart showing availability from DN32 to DN100]				

- 1.) DN 20 fittings according to the standards listed below cannot be used with flowmeter Type 8020, 8025, 8026.
- DN 32 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 variant 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




Bürkert eShop – Easy ordering and fast delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

[Order online now](#)

8.2. Bürkert product filter



Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

[Try out our product filter](#)

8.3. Ordering chart

Metal T-fitting DN 06...DN 65 for measuring device with G 2" process connection

Standard	Article no.								
	DN 06 - ½"	DN 08 - ½"	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65
Brass body & stainless steel adapter - Fluid temperature max. 160 °C, PN 16									
FKM seal									
Internal thread connection									
G	-	-	428712 ☞	428713 ☞	428714 ☞	428715 ☞	428716 ☞	428717 ☞	-
NPT	-	-	428718 ☞	428719 ☞	428720 ☞	428721 ☞	428722 ☞	428723 ☞	-
Rc	-	-	428724 ☞	428725 ☞	428726 ☞	428727 ☞	428728 ☞	428729 ☞	-
External thread connection									
G	-	-	428730 ☞	428731 ☞	428732 ☞	428733 ☞	428734 ☞	428735 ☞	-
Stainless steel body & stainless steel adapter - Fluid temperature max. 160 °C, PN 16									
FKM seal									
Internal thread connection									
G	-	-	428736 ☞	428737 ☞	428738 ☞	428739 ☞	428740 ☞	428741 ☞	-
NPT	-	-	428742 ☞	428743 ☞	428744 ☞	428745 ☞	428746 ☞	428747 ☞	-
Rc	-	-	428748 ☞	428749 ☞	428750 ☞	428751 ☞	428752 ☞	428753 ☞	-
External thread connection									
G	552434 ☞	552432 ☞	428754 ☞	428755 ☞	428756 ☞	428757 ☞	428758 ☞	428759 ☞	-
Weld spigot connection									
EN ISO 1127/ ISO 4200/ DIN 11866 series B	-	-	428760 ☞	428761 ☞	428762 ☞	428763 ☞	428764 ☞	428765 ☞	-
Clamp connection									
DIN 32676 series B	-	-	428766 ☞ 2.)	428767 ☞	428768 ☞	428769 ☞	428770 ☞	428771 ☞	-
Flange connection									
EN 1092-1/B1/PN 16	-	-	428772 ☞	428773 ☞	428774 ☞	428775 ☞	428776 ☞	428777 ☞	-
ANSI B16-5	-	-	428778 ☞	428779 ☞	428780 ☞	428781 ☞	428782 ☞	428783 ☞	-
EPDM seal									
External thread connection									
SMS 1145	-	-	-	-	443317 ☞	-	443318 ☞	443319 ☞	-
Weld spigot 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 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 connection" on page 8)

3.) DN 20 (¾") only available in ASME BPE

4.) Please refer to ASME BPE





































































Further versions on request



Process connection

- Weld spigot 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 DN 06...DN 65 for measuring device with G 2" process connection

Standard	Article no.								
	DN 06 -1/2"	DN 08 -1/2"	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65
PVC body & PVC adapter - Fluid temperature max. 50 °C, PN 10									
FKM seal									
True union 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 connection									
G	552561 	550062 	-	-	-	-	-	-	-
Solvent spigot connection									
DIN 8063	-	-	428676 	428677 	428678 	428679 	428680 	428681 	-
Analytical variant - True union connection with nut and solvent socket									
DIN 8063	-	-	430837 	430838 	430839 	428673 	428674 	428675 	-
PP body & PP adapter - Fluid temperature max. 80 °C, PN 10									
FKM seal									
True union connection with nut and fusion socket									
DIN 16962	-	-	428688 	428689 	428690 	428691 	428692 	428693 	-
Fusion spigot connection									
DIN 16962	-	-	428694 	428695 	428696 	428697 	428698 	428699 	-
Analytical variant - True union connection with nut and fusion socket									
DIN 16962	-	-	430840 	430841 	430842 	428691 	428692 	428693 	-
PVDF body & PVDF adapter - Fluid temperature max. 100 °C, PN 10									
FKM seal									
True union connection with nut and fusion socket									
ISO 10931	-	-	428700 	428701 	428702 	428703 	428704 	428705 	-
Fusion spigot connection									
ISO 10931	-	-	428706 	428707 	428708 	428709 	428710 	428711 	-
Analytical variant - True union connection with nut and fusion socket									
ISO 10931	-	-	430843 	430844 	430845 	428703 	428704 	428705 	-

Straight connection DN 50...DN 400 for measuring device with G 2" process connection

Article no.										
DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300	DN 350	DN 400
Weld/fusion spigot connection										
Stainless steel - with radius - Fluid temperature max. 160 °C, PN 16										
418111	418112	418113	418114	418115	418116	418117	418756	420070	416637	-
PE - Fluid temperature max. 70 °C, PN 10										
-	418642	418643	418644	418590	418645	418646	418647	418648	418649	418598
Analytical variant - PE - Fluid temperature max. 70 °C, PN 10										
-	418644	418644	418644	-	-	-	-	-	-	-
PP - Fluid temperature max. 80 °C, PN 10										
-	418650	418651	418652	-	418653	418654	418655	418656	418657	-
Analytical variant - PP - Fluid temperature max. 80 °C, PN 10										
-	418652	418652	418652	-	-	-	-	-	-	-
PVDF - Fluid temperature max. 100 °C, PN 10										
-	418658	418659	418660	-	-	-	-	-	-	-
Analytical variant - PVDF - Fluid temperature max. 100 °C, PN 10										
-	418660	418660	418660	-	-	-	-	-	-	-
Screw-on spigot connection										
PVC - Fluid temperature max. 50 °C, PN 10										
-	-	-	418170	418170	418170	418170	-	-	-	-
PE - Fluid temperature max. 70 °C, PN 10										
-	-	-	436489	436489	436489	436489	436489	436489	436489	436489
PP - Fluid temperature max. 50 °C, PN 10										
-	-	-	436488	436488	436488	436488	436488	436488	436488	436488

Saddle for flowmeter with G 2" process connection

Seal	Article no.									
	DN 50	DN 65	DN 80	DN 100	DN 110	DN 125	DN 150	DN 180	DN 200	
PP body and PP adapter - Fluid temperature max. 60 °C, PN 10 (for PVC or PP pipe)										
EPDM	425138	425139	425140	425141	425142	425143	425144	433873	425416	

Measuring chamber for analytical measuring device with G 2" process connection

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

T-fitting DN 32...DN 100 for flowmeter Type 8041/8045 with clamp process connection

Standard	Article no.					
	DN 32 PN 16	DN 40 PN 16	DN 50 PN 16	DN 65 PN 16	DN 80 PN 16	DN 100 PN 10
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

Straight connection DN 32...DN 100 for flowmeter Type 8041/8045 with clamp process connection

Standard	Article no.					
	DN 32 PN 16	DN 40 PN 16	DN 50 PN 16	DN 65 PN 16	DN 80 PN 16	DN 100 PN 10
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 (DN 32...DN 80)

8.4. Ordering chart accessories

Accessories for all variants

Description	Article no.
Approvals/Certificates	
3 points flow calibration certificate ^{1.)}	550676
Inspection certificate 3.1 (according to EN-ISO 10204)	803723
Test report 2.2 (according to EN-ISO 10204)	803722
Certification of Conformity for the surface Quality (DIN4762-DIN4768-ISO/4287/1)	804175
FDA declaration of conformity	803724

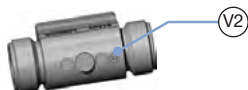
1.) S020 combined with the flow device inserted, only for DN ≤200

Accessories for fitting for measuring device with G 2" process connection

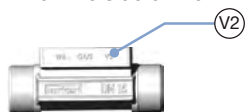
Note:

Since March 2012, sensor-fittings Type S020 in DN 15 and DN 20 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 DN 15 or DN 20 sensor-fitting in plastic








- on the side of the DN 15 or DN 20 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 (DN 06...DN 65)		
	Stainless steel	555484
	PVC	561175
	PP	561176
	PVDF	561177

O-Ring set (DN 06...DN 65)

Between T-fitting body & adapter: flat seal to use for holder with groove (old variant, no more available for order), O-Ring to use for holder with lug (variant "v2")

	FKM - for metal fitting (5 units)	428971 
	EPDM - for metal fitting (5 units)	428972 
	FKM - for plastic fitting (1 flat seal + 1 O-ring)	561043 
	EPDM - for plastic fitting (1 flat seal + 1 O-ring)	561044 

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

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

Bürkert – Close to You

For up-to-date addresses
please visit us at
www.burkert.com

DTS 1000011768 EN Version: AO Status: RL (released | freigegeben | validé) printed: 14.11.2022

