



## Insertion adaptor/fitting for ELEMENT analytical measurement devices

- Universal adaptor/fitting for Type 8202 and 8222 ELEMENT measuring devices in pure, aggressive or contaminated liquids
- Adaptation into standard piping systems or conversion of Bürkert S020 fittings into S022 fittings
- Pipe diameters from DN 06 (with reduction) up to DN 110 (plastic) or bigger (stainless steel)

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

### Can be combined with



**Type 8222** ▶  
Conductivity meter



**Type 8202** ▶  
pH or redox potential measurement device

### Type description

The adaptor/fitting or measuring chamber is used to connect the compact analytical ELEMENT measuring device into piping systems or vessels.

Different versions of adaptors/fitings are available:

#### Adaptors:

- PVC-U adaptor to stick into equal or reduced standard metric or ASTM T-fitting
- PP adaptor to weld into equal d32 standard metric T-fitting
- Stainless steel adaptor for welding
- PVC threaded adaptor to screw on vessel or pipe
- PVC, PP, stainless steel adaptor for conversion of S020 Bürkert fitting into S022 fitting.

#### Fittings in PVC:

- Metric or ASTM T-fitting
  - True union connection
  - Solvent end connection
- Saddle.

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## 1. General Technical Data

Product properties	
<b>Material</b>	
Adaptor	<ul style="list-style-type: none"> <li>• PVC</li> <li>• PP</li> <li>• Stainless steel</li> </ul> Delivered with 2 seals, 1 FKM and EPDM
Fitting	<ul style="list-style-type: none"> <li>• Seal in FKM or EPDM</li> <li>• Body &amp; adaptor in PVC &amp; PVC or PP &amp; PP</li> </ul>
Dimensions	Detailed information can be found in chapter <a href="#">“3. Dimensions” on page 5.</a>
Compatibility	With pH or redox potential measurement device Type 8202 or conductivity meter Type 8222. See <a href="#">data sheet Type 8202 ▶</a> or <a href="#">Type 8222 ▶</a> .
Pipe diameter	DN 06 (with reduction) to DN 110 (plastic) or bigger (stainless steel)
<b>Product accessories</b>	
Further accessories	Detailed information can be found in chapter <a href="#">“6.4. Ordering chart accessories” on page 15.</a>
Medium data	
Fluid temperature	Temperature limits may depend on inserted measuring device <sup>1.)</sup> . Detailed information can be found in chapter <a href="#">“4.1. Pressure temperature diagram” on page 10.</a>
Fluid pressure	Pressure limits may depend on inserted measuring device <sup>1.)</sup> . <ul style="list-style-type: none"> <li>• PN 10 (plastic)</li> <li>• PN 16 (metal)</li> </ul> Detailed information can be found in chapter <a href="#">“4.1. Pressure temperature diagram” on page 10.</a>
Process/Port connection & communication	
<b>Process connection</b>	
Adaptor	<ul style="list-style-type: none"> <li>• Solvent</li> <li>• Fusion welding</li> <li>• Welding</li> <li>• Threaded</li> <li>• To connect with screws to Type S020 fitting body. Detailed information can be found in chapter <a href="#">“5.2. Mounting options” on page 12</a> or see <a href="#">data sheet Type S020 ▶</a>.</li> </ul>
Fitting	<ul style="list-style-type: none"> <li>• Metric or ASTM true union</li> <li>• Solvent ends</li> <li>• Saddle</li> </ul>
Approvals and certificates	
<b>Directives</b>	
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 can be found in chapter <a href="#">“2.1. Pressure Equipment Directive” on page 4.</a>
Environment and installation	
Ambient temperature	Temperature limits may depend on inserted measuring device <sup>1.)</sup> .

1.) Please refer to appropriate instruction manual or data sheet for more details.

## 2. Approvals

### 2.1. 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 $PS \cdot DN \leq 5000$

#### Device used on a vessel

**Note:**

- The data in the table is independent of the chemical compatibility of the material and the fluid.
- PS = maximum admissible pressure, V = vessel volume

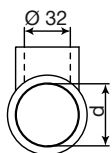
Type of fluid	Conditions
Fluid group 1, Article 4, Paragraph 1.a.i	$V > 1$ L and $PS \cdot V \leq 25$ bar.L or $PS \leq 200$ bar
Fluid group 2, Article 4, Paragraph 1.a.i	$V > 1$ L and $PS \cdot V \leq 50$ bar.L or $PS \leq 1000$ bar
Fluid group 1, Article 4, Paragraph 1.a.ii	$V > 1$ L and $PS \cdot V \leq 200$ bar.L or $PS \leq 500$ bar
Fluid group 2, Article 4, Paragraph 1.a.ii	$PS > 10$ bar and $PS \cdot V \leq 10000$ bar.L or $PS \leq 1000$ bar

### 3. Dimensions

#### 3.1. Insertion adaptor for connection into T-fitting or pipe

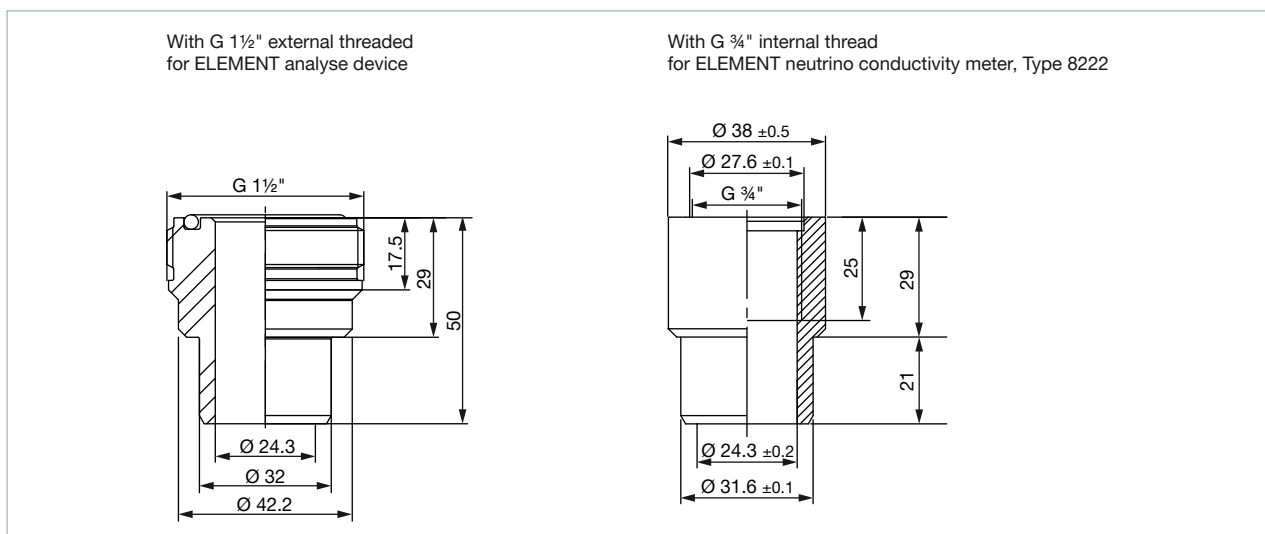
**Note:**

- Dimensions in mm (unless otherwise stated)
- T-fitting to use for mounting the S022, shown in the after-drawing

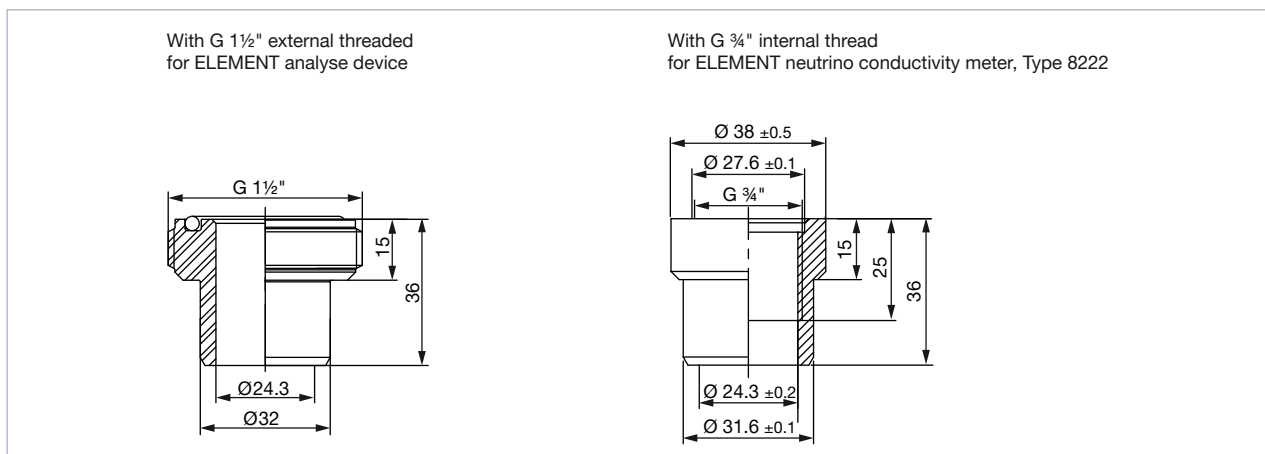


#### Metric solvent adaptor

In PVC-U / FKM, EPDM, to stick on T-fitting d32 × 32 or d40 × 32 with solvent socket (variable d: see note at the beginning of the chapter)



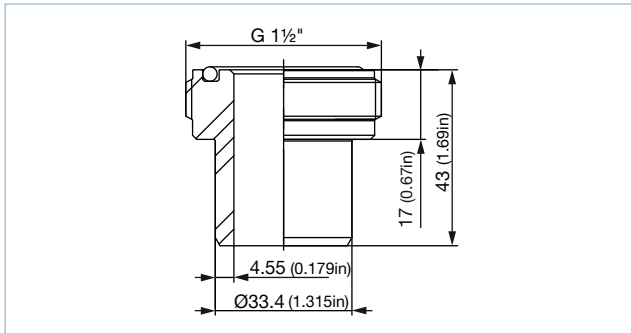
In PVC-U / FKM, EPDM, to stick on T-fitting d50 × 32 to d110 × 32 with solvent socket (variable d: see note at the beginning of the chapter)



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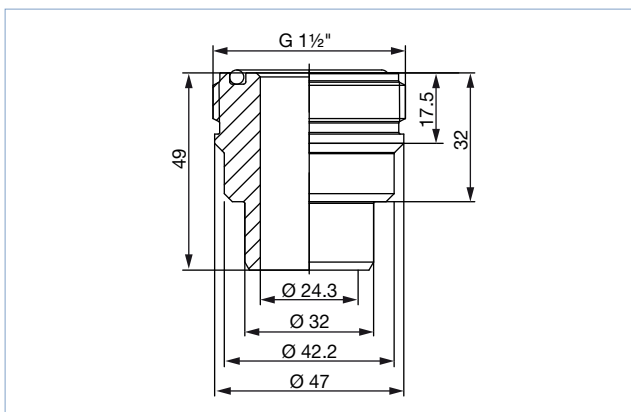
**ASTM solvent adaptor**

In PVC-U / FKM, EPDM, to stick on T-fitting 1"x1" to 3"x1" with solvent socket



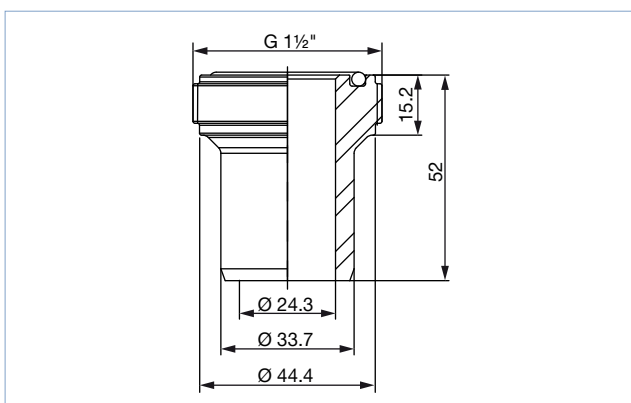
**Metric fusion adaptor**

In PP / FKM, EPDM, to weld on T-fitting  $d32 \times 32$  with fusion socket (variable d: see note at the beginning of the chapter)



**Metric welding**

In stainless steel / FKM, EPDM, to weld directly on pipe

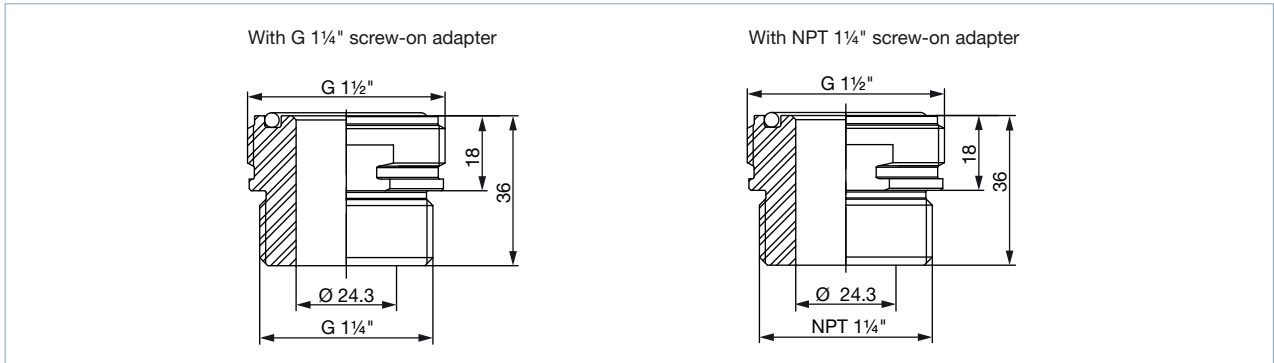


### 3.2. Insertion adaptor for connection on tank or pipe

**Note:**

Dimensions in mm (unless otherwise stated)

In PVC-U / FKM, EPDM, to screw on tank or pipe



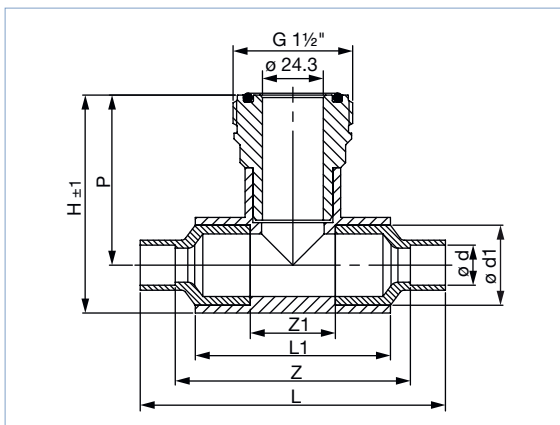
### 3.3. Insertion fitting

**Note:**

Dimensions in mm (unless otherwise stated)

**Fitting with metric solvent ends connection**

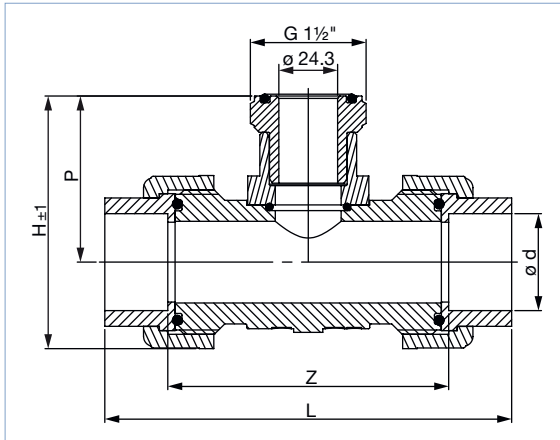
In PVC



DN	P	H	L	L1	Z	Z1	Ø d	Ø d1
10	68	87	122	78	94	34	16	32
15	68	87	126	78	94	34	20	32
20	68	87	132	78	94	34	25	32
25	68	87	-	78	-	34	-	32
32	70	99	-	98	-	46	-	40
40	65	96	-	118	-	56	-	50
50	71	110	-	146	-	70	-	63
65	78	124	-	168	-	80	-	75
80	92	147	-	194	-	92	-	90
100	104	171	-	234	-	112	-	110

**Fitting with metric or ASTM true union connection**

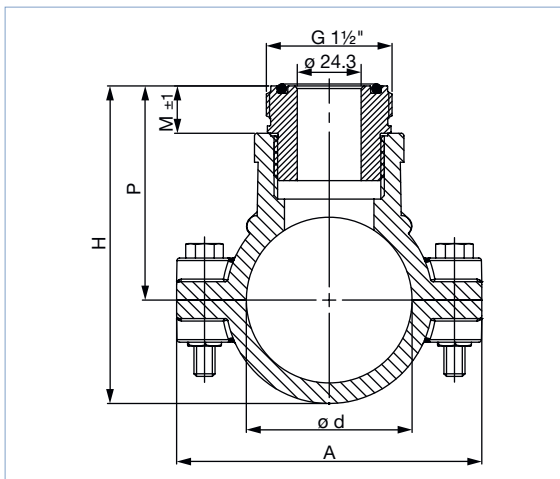
Spigot and nut in PVC



DN	P	H	Standard	L	Z	Ø d
15	69	104	Metric	148	116	20
			ASTM	162	116	1/2"
20	69	104	Metric	154	116	25
			ASTM	168	116	3/4"
25	69	104	Metric	160	116	32
			ASTM	174	116	1"
32	69	104	Metric	168	116	40
			ASTM	170	116	1 1/4"
40	72	113	Metric	188	126	50
			ASTM	190	126	1 1/2"
50	79	129	Metric	212	136	63
			ASTM	214	136	2"

**Fitting with saddle**

- PP body material & PP adaptor
- EPDM seal material



DN	M	P	H	A	Ø d
50	18	82	121	116	63
65	18	89	134	129	75
80	18	96	148	144	90
100	18	107	170	166	110
110	18	113	184	181	125

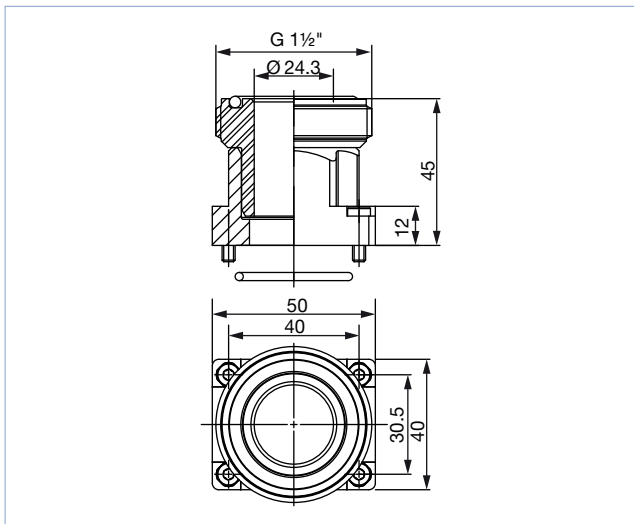


### 3.4. Adaptor to convert S020 T-fitting to S022

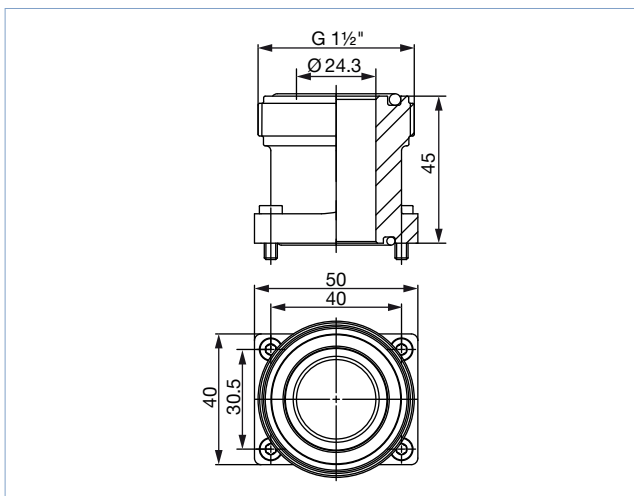
**Note:**

- Dimensions in mm (unless otherwise stated)
- Adaptor for Bürkert fitting body DN 32 or bigger

In PVC-U or PP / FKM, EPDM



In stainless steel / FKM, EPDM



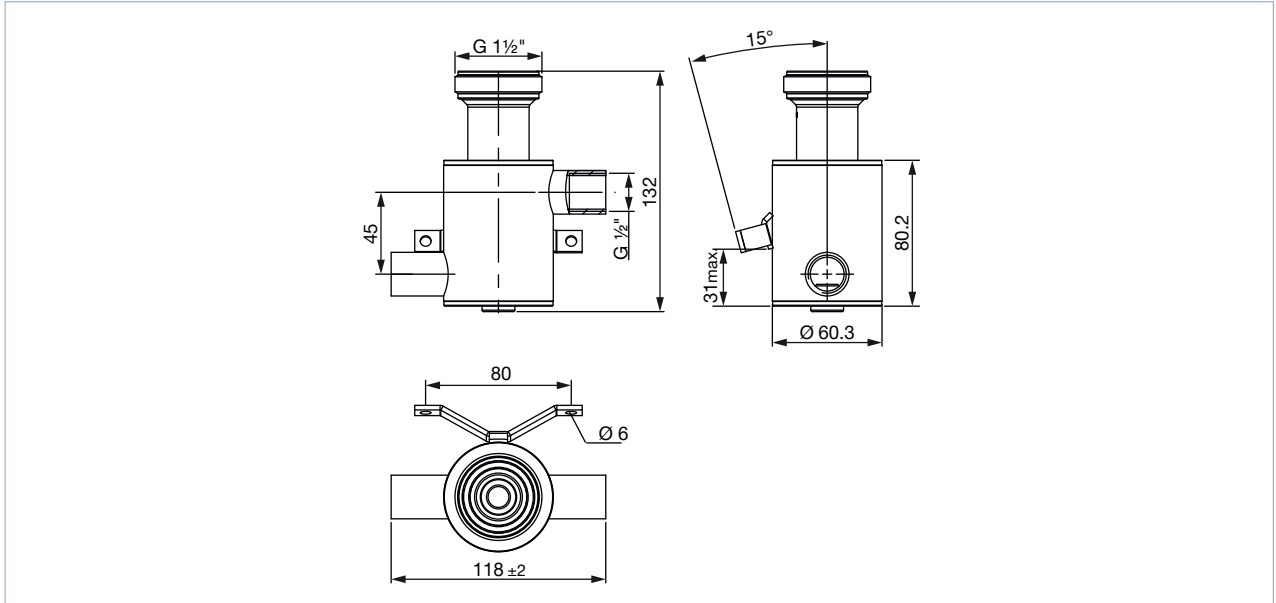
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### 3.5. Measuring chamber

**Note:**

Dimensions in mm (unless otherwise stated)

In stainless steel 316L – 1.4404

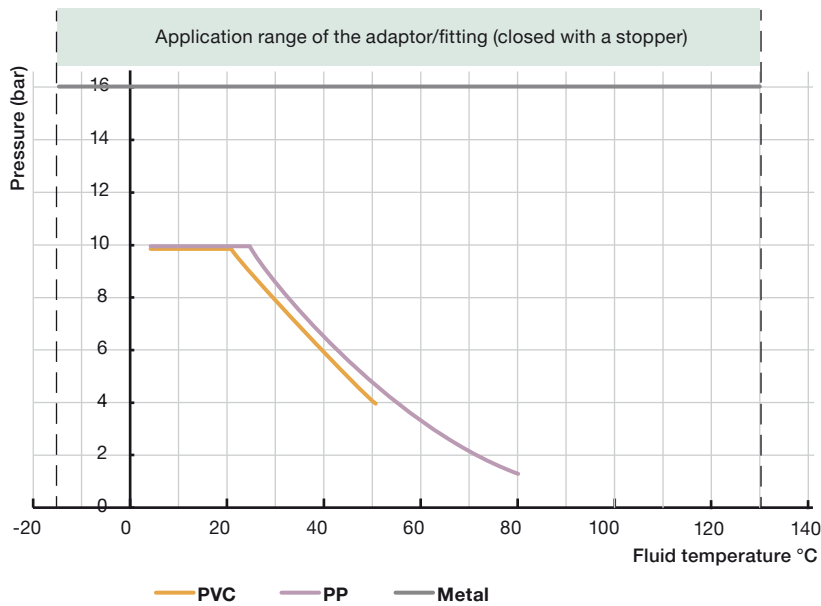


## 4. Performance specifications

### 4.1. Pressure temperature diagram

**Note:**

The pressure and temperature limits also depend on the measuring instrument inserted (further details are contained in the corresponding operating manual or data sheet)..

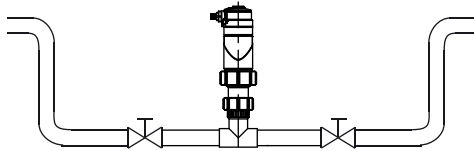


## 5. Product installation

### 5.1. Installation notes

#### Analytical measurement

For pH and ORP measurements, we recommend 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.

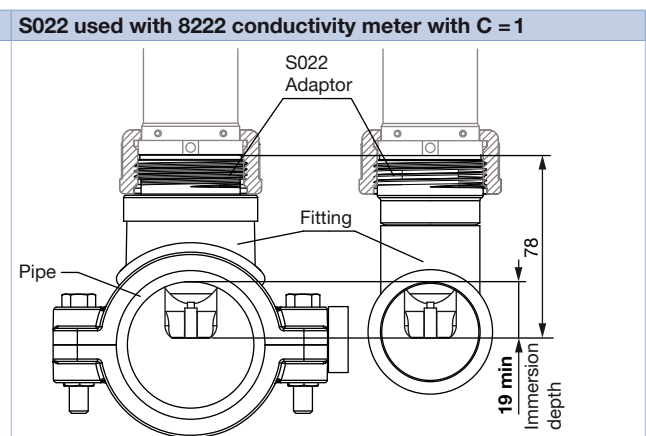
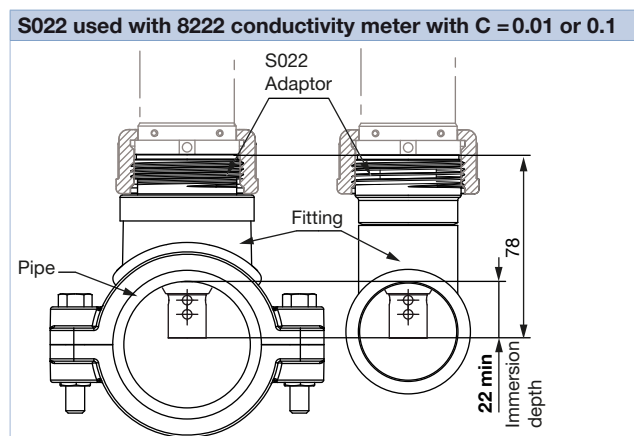
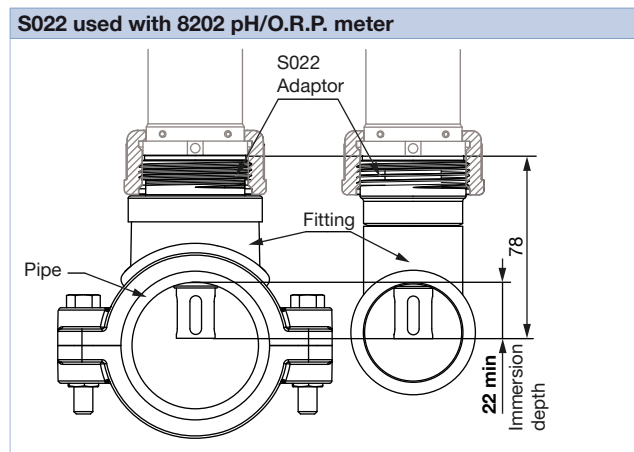


The specially designed measuring chamber enables the installation of the measuring device Type 8202 or Type 8222 in all pipe systems, either directly in the main stream or in a by-pass line. Additionally it keeps the electrode always wet and isolates it easily from the main stream for calibration purposes.

Pressure and temperature ratings must be respected according to the selected adaptor material (see chapter “4.1. Pressure temperature diagram” on page 10). Be sure that the sensor element is completely covered with liquid. Avoid dead legs which interfere with the local fluid exchange.

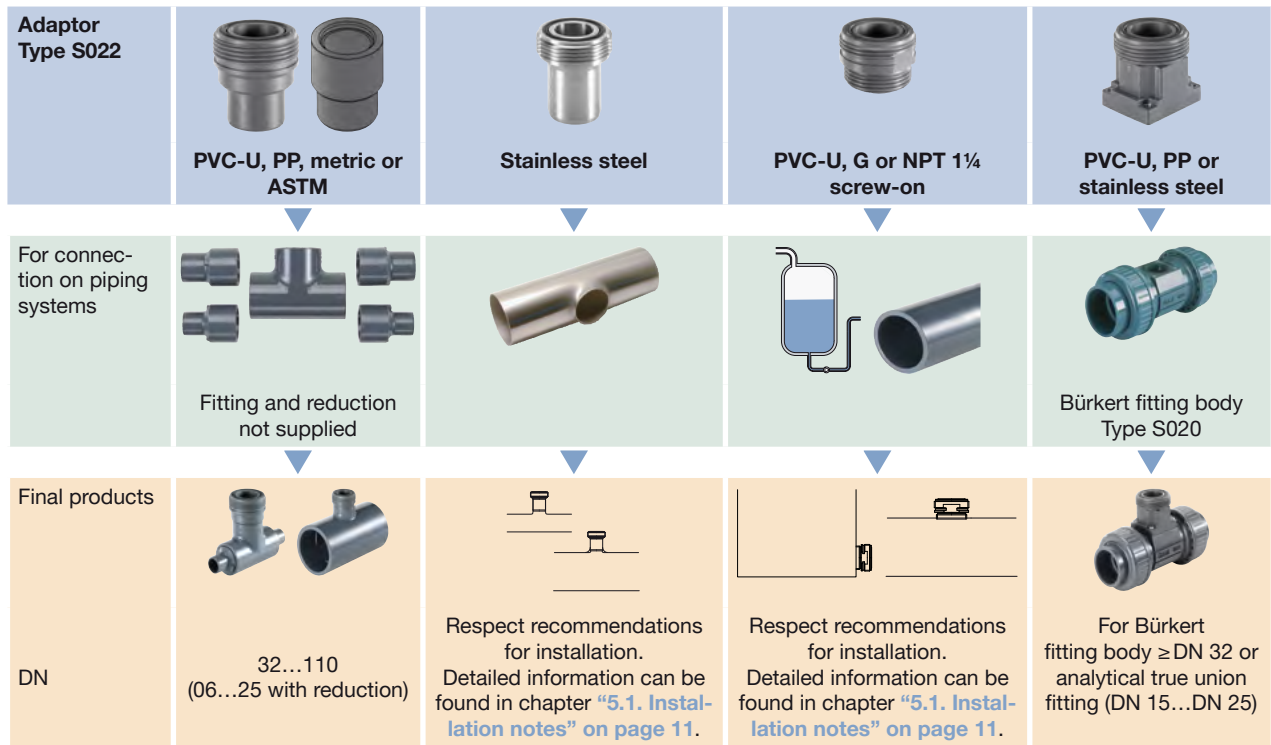
#### Note:

When mounting the adaptor into a T-fitting, a tank or directly into a pipe, please ensure that the minimum immersion depth of the electrode is respected (refer to the following drawing).

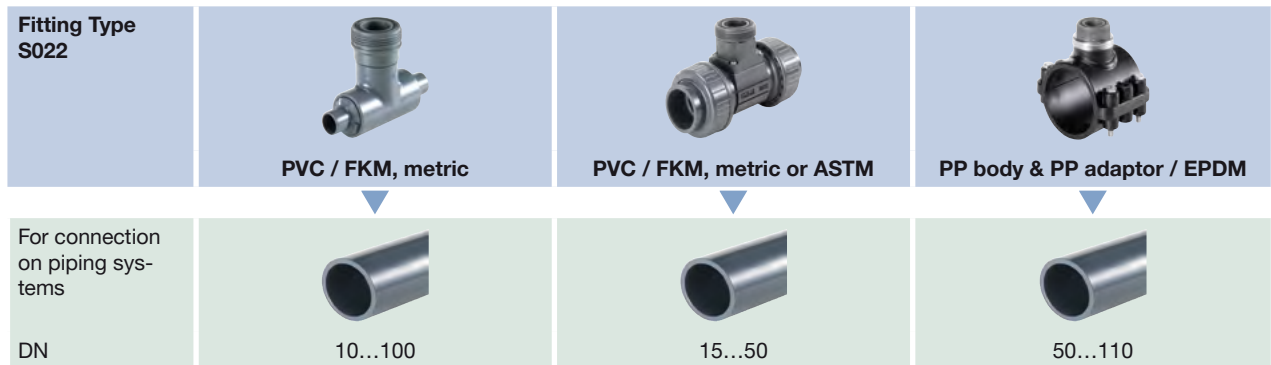


## 5.2. Mounting options

### Adaptors mounting overview



### Fittings mounting overview



## 6. Ordering information

### 6.1. Bürkert eShop – Easy ordering and quick delivery




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### 6.2. Bürkert product filter










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### 6.3. Ordering chart

#### Insertion adaptor for connection into T-fitting or pipe

Insertion adaptor	Description	Materials Body / Seal <sup>1.)</sup>	Type of installation	Article no.
	Metric solvent adaptor with G 1 1/2" external thread for ELEMENT measuring device connection	PVC-U / FKM, EPDM	To stick on T-fitting d32 x 32 or d40 x 32 with solvent socket	560705
	Metric solvent adaptor with G 3/4" internal thread for ELEMENT neutrino conductivity meter, Type 8222, connection	PVC-U / FKM, EPDM	To stick on T-fitting d32 x 32 or d40 x 32 with solvent socket	568931
	Metric solvent adaptor with G 1 1/2" external thread for ELEMENT measuring device connection	PVC-U / FKM, EPDM	To stick on T-fitting d50 x 32 to d50...110 x 32 with solvent socket	560706
	Metric solvent adaptor with G 3/4" internal thread for ELEMENT neutrino conductivity meter, Type 8222, connection	PVC-U / FKM, EPDM	To stick on T-fitting d50 x 32 to d50...110 x 32 with solvent socket	568932
	ASTM solvent adaptor with G 1 1/2" external thread for ELEMENT measuring device connection	PVC-U / FKM, EPDM	To stick on T-fitting 1" x 1" to 3" x 1" with solvent socket	561227
	Metric fusion adaptor with G 1 1/2" external thread for ELEMENT measuring device connection	PP / FKM, EPDM	To weld on T-fitting d32 x 32 with fusion socket	561229
	Metric welding adaptor Ø 33.7 with G 1 1/2" external thread for ELEMENT measuring device connection	Stainless steel / FKM, EPDM	To weld directly on pipe	561232

1.) 1 FKM and 1 EPDM seals for the measuring device connection are supplied with each adaptor.






























#### Insertion adaptor for connection on tank or pipe

Insertion adaptor	Description	Materials Body / Seal <sup>1.)</sup>	Type of installation	Article no.
	G 1 1/4" screw-on adaptor with G 1 1/2" external thread for ELEMENT measuring device connection	PVC-U / FKM, EPDM	To screw on tank or pipe	560707
	NPT 1 1/4" screw-on adaptor with G 1 1/2" external thread for ELEMENT measuring device connection	PVC-U / FKM, EPDM	To screw on tank or pipe	561228







1.) 1 FKM and 1 EPDM seals for the measuring device connection are supplied with each adaptor.

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## Insertion fitting for connection on pipe

Insertion fitting	Description	Materials Body / Seal	DN	Article no.
	Fitting with metric solvent ends connection with G 1½" external thread for ELEMENT measuring device connection	PVC / FKM	10	559640 
			15	559641 
			20	559642 
			25	559643 
			32	559644 
			40	559645 
			50	559646 
			65	559647 
			80	559648 
	100	559649 		
	Fitting with metric true union connection with spigot and nut for pipe connection and with G 1½" external thread for ELEMENT measuring device connection	PVC / FKM	15	560671 
			20	560672 
			25	560673 
			32	560674 
			40	560675 
	Fitting with ASTM true union connection with spigot and nut for pipe connection and with G 1½" external thread for ELEMENT measuring device connection	PVC / FKM	15	560691 
			20	560692 
			25	560693 
			32	560694 
			40	560695 
	Fitting with saddle with G 1½" external thread for ELEMENT measuring device connection	PP body & PP adaptor / EPDM	50	560700 
			65	560701 
			80	560702 
			100	560703 
	110	560704 		



## Adaptor to convert S020 T-fitting to S022

Adaptor	Description	Materials Body / Seal <sup>1.)</sup>	Type of installation	Article no.
	Adaptor with G 1½" external thread for ELEMENT measuring device connection	PVC-U / FKM, EPDM	For Bürkert fitting body ≥ DN 32 <sup>2.)</sup>	560854 
	Adaptor with G 1½" external thread for ELEMENT measuring device connection	PP / FKM, EPDM	For Bürkert fitting body ≥ DN 32 <sup>2.)</sup>	561230 
	Adaptor with G 1½" external thread for ELEMENT measuring device connection	Stainless steel / FKM, EPDM	For Bürkert fitting body ≥ DN 32 <sup>2.)</sup>	561233 

1.) 1 FKM and 1 EPDM seals for the measuring device connection are supplied with each adaptor.

2.) Or analytical true union fitting (DN 15...DN 25)

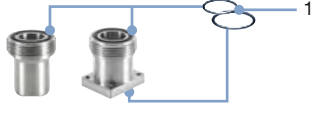
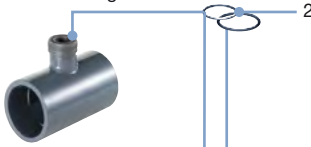
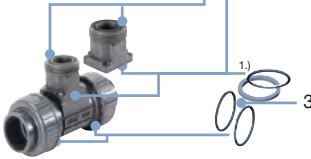
## Measuring chamber

Measuring chamber	Description	Materials Body / Seal	Type of installation	Article no.
	Measuring chamber with G 1½" external thread for ELEMENT measuring device connection	Stainless steel 316L – 1.4404	Pipe connection: G ½"	563552 

Further versions on request

	<b>Material</b> PVC-C, PVDF with FKM or EPDM seal
--	--

6.4. Ordering chart accessories

Accessories	No.	Description	Article no.
<p>Metal adaptor</p> 	-	Stopper in stainless steel with union nut and O-ring (EPDM and FKM)	562625
	-	Stopper in PVC with union nut and O-ring (EPDM and FKM)	562541
<p>Plastic adaptor, Solvent end fittings and saddle</p> 	1	FKM O-ring set for metal adaptor	561654
	1	EPDM O-ring set for metal adaptor	561653
	2	FKM O-ring set for plastic adaptor, solvent end fittings and saddle	561399
	2	EPDM O-ring set for plastic adaptor, solvent end fittings and saddle	561398
	3	FKM O-ring set for plastic adaptor or true union fitting DN 15 up DN 32	431558
	3	FKM O-ring set for plastic adaptor or true union fitting DN 40	431559
	3	FKM O-ring set for plastic adaptor or true union fitting DN 50	431560
	3	EPDM O-ring set for plastic adaptor or true union fitting DN 15...DN 32	431564
	3	EPDM O-ring set for plastic adaptor or true union fitting DN 40	431565
	3	EPDM O-ring set for plastic adaptor or true union fitting DN 50	431566
<p>Plastic adaptor for conversion or true union fitting</p> 	1.)	O-ring to use for holder with lug, flat seal to use for holder with groove (old version)	

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