



## pH or redox potential transmitter, ELEMENT design

- Integrated compact measurement device for direct connection to control level (PLC)
- Parameterisation, calibration and transfer of parameterisation data all possible thanks to a removable display/configuration module
- Fast and easy adaptation of the device between pH and ORP measurement
- Use of 120 mm standard PG 13.5 pH/ORP probes with S8 connection. (Type 8203 recommended)
- Simple one- or two-point calibration can be carried out directly on the unit; simulation of process values and diagnostic functions

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

### Can be combined with

	<b>Type 8203</b> pH- and ORP-probes	▶
	<b>Type 8611</b> eCONTROL - Universal controller	▶
	<b>Type 8619</b> multiCELL - Multi-channel and multi-function transmitter/controller	▶
	<b>Type 8693</b> Digital electro-pneumatic process controller for integrated mounting on process control valves	▶
	<b>Type 8802</b> ELEMENT continuous control valve systems - overview	▶
	<b>Type S022</b> Insertion adaptor/fitting for ELEMENT analytical measurement devices	▶

### Type description

The Type 8202 is a compact measurement device for

- pH values in liquids that are clean, dirty, or contain sulphide or protein or
- redox potential (ORP) value in clean or dirty liquids, liquids with sulphide or protein, and liquids that have a low conductivity.

Thus, due to the measurement device's design, Bürkert has simplified installation and maintenance work.

The Type 8202 device is available in two variants:

- The first one called ELEMENT standard is proposed either with three adjustable outputs (two digital outputs and one analogue output) or with four adjustable outputs (two digital and two analogue) and can be equipped with a display. The display is only required for start-up, configuration (e.g. selection of pH/ORP measurement, measuring range, units, calibration, limit values...) or as a process value display.
- The second called ELEMENT neutrino is a 2-wire device without display and with 4...20 mA current output.

The Type 8202 converts the measuring signal, then displays various values in different measuring units for the ELEMENT standard variant (if display is mounted) and computes the output signals, which are provided for the ELEMENT standard variant via one or two M12 plug-in connections; for the ELEMENT neutrino variant that is done with one M12 plug-in connection or on a terminal strip with a cable gland.

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## 1. General technical data

### 1.1. About the device

The complete measurement device consists of a replaceable standard 120 mm pH or ORP probe, Type 8203, available in several models and the pH or ORP transmitter Type 8202 in the ELEMENT standard or ELEMENT neutrino variant, both available either with PVC or PVDF union nut connection.

See **data sheet Type 8203** ▶ for more information.

### 1.2. All models

#### Note:

- The following data applies to all variants.
- If the device is mounted in a humid environment or outside, then the maximum voltage allowed is **35 V DC** instead of 36 V DC.

#### 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 8.

Detailed information on the materials can be found in chapter **"3.2. Material specifications"** on page 9.

Compatibility	<ul style="list-style-type: none"> <li>• Adaptor: <ul style="list-style-type: none"> <li>– Any pipe which is fitted with Bürkert S022 adaptor, see <b>data sheet Type S022</b> ▶ for more information.</li> </ul> </li> <li>• Probe: <ul style="list-style-type: none"> <li>– 120 mm Bürkert pH or ORP probe with S7/S8 connector, Type 8203 (recommended), see <b>data sheet Type 8203</b> ▶ for more information.</li> <li>– Any combined 120 mm pH or ORP probe, without temperature sensor, with PG13.5 head, S7/S8 connector</li> </ul> </li> </ul>
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Pipe diameter	DN 25...DN 110 (DN 15...DN 20 under specific conditions)
Dimensions	Detailed information can be found in chapter <b>"4. Dimensions"</b> on page 10.
Temperature sensor	Pt1000 integrated within the holder
Temperature compensation	Automatic, reference temperature 25 °C (77 °F)

#### Performance data

4...20 mA output uncertainty	± 1 % of range
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#### Electrical data

Power source (not supplied)	Limited power source according to UL/EN 60950-1 standards or limited energy circuit according to UL/EN 61010-1 §9.4
DC reverse polarity protection	Yes
Overvoltage protection	Yes
Voltage supply cable	Shielded cable

#### Medium data

Fluid temperature <sup>1)</sup>	Device with <ul style="list-style-type: none"> <li>• PVC union nut: 0...+50 °C (+32...+122 °F) restricted by the used probe</li> <li>• PVDF union nut (on request): -20...+130 °C (-4...+266 °F) restricted by the used probe or adaptor</li> </ul> Restriction with adaptor S022 in: <ul style="list-style-type: none"> <li>– PVC: 0...+50 °C (+32...+122 °F)</li> <li>– PP: 0...+80 °C (+32...+176 °F)</li> <li>– Metal: -20...+130 °C (-4...+266 °F)</li> </ul>
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Fluid pressure <sup>1)2)</sup>	Max. PN 16 (232 PSI) Detailed information can be found in chapter <b>"5.1. Pressure temperature diagram"</b> on page 12 (depends on selected probe).
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#### Process/Port connection & communication

Process connection	G 1½" internal thread for use with Type S022 adaptor See <b>data sheet Type S022</b> ▶ for more information.
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**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 <b>"2.3. Pressure equipment directive"</b> on page 8.
Certification	UL-Recognized for US and Canada

**Environment and installation**

Ambient temperature	Operation and storage: -10...+60 °C (+14...+140 °F)
Relative air humidity	≤ 85 %, without condensation
Height above sea level	Max. 2000 m
Operating condition	Continuous
Equipment mobility	Fixed
Application range	Indoor and outdoor (protect the device against electromagnetic interference, ultraviolet rays and against the effects of climatic conditions)
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

- 1.) If the specific temperature limits for the probe used and the temperature limits given in the above technical data chart are different, please use the more restrictive range (see separate data sheet).  
2.) Not evaluated by UL

**1.3. ELEMENT standard variant****Product properties****Material**

Detailed information on the materials can be found in chapter **"3.2. Material specifications"** on page 9.

**Non wetted parts**

Cover	Polycarbonate (PC), transparent (opaque on request)
Housing	Stainless steel 1.4404 (316L), PPS
Screw	Stainless steel 1.4401 (316 (A4))
Grounding terminal and screw	Stainless steel 1.4301 (304 (A2))
Union nut	PVC or PVDF
Display/configuration module	PC
Navigation key	PBT
Seal	EPDM, silicone
Fixed connector holder	PPS CF30
Fixed connector	Nickel-plated brass

**Wetted parts**

Probe holder	PVDF, stainless steel 1.4571 (316Ti)
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**Measuring range**

pH measurement	-2...16 pH or -580...+580 mV
ORP measurement	-2000...+2000 mV
Temperature measurement	-20...+130 °C (-4...266 °F)

**Product accessory**

Display/configuration module	Grey dot matrix 128 x 64 with backlighting
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**Performance data****pH measurement**

Measurement deviation	± 0.02 pH or 0.5 mV
Measuring range resolution	0.001 pH or 0.1 mV
Minimal scale	0.5 pH or 30 mV (i.e. 6.7...7.2 pH or -20...+10 mV corresponding to 4...20 mA)

**ORP measurement**

Measurement deviation	± 3 mV
Measuring range resolution	1 mV
Minimal scale	50 mV (i.e. 1550...600 mV corresponding to 4...20 mA)

**Temperature measurement**

Measurement deviation	± 1 °C
Measuring range resolution	0.1 °C

**Electrical data**

Operating voltage	<ul style="list-style-type: none"> <li>3 outputs transmitter (2-wire) variant: 14...36 V DC, filtered and regulated</li> <li>4 outputs transmitter (3-wire) variant: 12...36 V DC, filtered and regulated</li> </ul> Connection to main supply: permanent (through external SELV (Safety Extra Low Voltage) and LPS (Limited Power Source) power supply)
Current consumption	With sensor <ul style="list-style-type: none"> <li>≤ 1 A (with transistors load)</li> <li>3 outputs transmitter (2-wire) variant: ≤ 25 mA (at 14 V DC without transistors load, with current loop)</li> <li>4 outputs transmitter (3-wire) variant: ≤ 5 mA (at 12 V DC without transistors load, without current loop)</li> </ul>

**Output**

Digital output	Transistor: <ul style="list-style-type: none"> <li>Adjustable as sourcing or sinking (respectively both as PNP or NPN), open collector</li> <li>Max. 700 mA</li> <li>0.5 A max. per transistor if the 2 transistor outputs are wired</li> <li>NPN-output: 0.2...36 V DC</li> <li>PNP-output: Power supply</li> <li>Protected against overvoltage, polarity reversals and short circuit</li> </ul>
Analogue output	Current <ul style="list-style-type: none"> <li>4...20 mA adjustable as sourcing or sinking (in the same mode as transistor)</li> <li>Response time (10 %...90 %): 150 ms (standard)</li> <li>1 current output (3 outputs transmitter (2-wire) variant) Max. loop impedance: 1100 Ω at 36 V DC; 610 Ω at 24 V DC; 180 Ω at 14 V DC</li> <li>2 current outputs (4 outputs transmitter (3-wire) variant) Max. loop impedance: 1100 Ω at 36 V DC; 610 Ω at 24 V DC; 100 Ω at 12 V DC</li> </ul>

Voltage supply cable	For the female M12 connector and/or the male M12 connector (not supplied, to order separately, see chapter "10.5. Ordering chart accessories" on page 17) use a cable <ul style="list-style-type: none"> <li>Ø 3...6.5 mm</li> <li>Cross section of wires: max. 0.75 mm<sup>2</sup></li> </ul>
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**Process/Port connection & communication**

Electrical connection	<ul style="list-style-type: none"> <li>3 outputs transmitter (2-wire) variant: 1 x 5 pin M12 male fixed connector</li> <li>4 outputs transmitter (3-wire) variant: 1 x 5 pin M12 male and 1 x 5 pin M12 female fixed connectors</li> </ul>
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**Approvals and certificates**

Certificate	FDA declaration of conformity
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**Environment and installation**

Degree of protection <sup>1)</sup>	With device wired and M12 cable plug(s) mounted and tightened, cover fully screwed down and probe inserted and tightened: IP65, IP67 (according to IEC/EN 60529),
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1.) Not evaluated by UL



## 1.4. ELEMENT neutrino variant



## Product properties

## Material

Detailed information on the materials can be found in chapter "3.2. Material specifications" on page 9.

## Non wetted parts

Cover	Black PPS
Housing	Stainless steel 1.4404 (316L), PPS
Screw	Stainless steel
Union nut	PVC (PVDF on request)
Seal	EPDM
Fixed connector or cable gland	PA66

## Wetted parts

Probe holder	PVDF, Stainless steel 1.4571 (316Ti)
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## Measuring range

pH measurement	0...14 pH
ORP measurement	-2000...+2000 mV
Temperature measurement	-20...+130 °C (-4...266 °F)

## Performance data

## pH measurement

Measurement deviation	±0.05 pH
Measuring range resolution	0.001 pH or 0.1 mV

## ORP measurement

Measurement deviation	≤0.2 % of the full scale
Measuring range resolution	1 mV

## Temperature measurement

Measurement deviation	±1 °C
Measuring range resolution	0.1 °C

## Electrical data

Operating voltage	12...36 V DC, filtered and regulated Connection to main supply: permanent (through external SELV (Safety Extra Low Voltage) and LPS (Limited Power Source) power supply)
Current consumption	≤25 mA (with sensor)

## Output

Analogue output	Current: <ul style="list-style-type: none"> <li>• 4...20 mA</li> <li>• Response time (10 %...90 %): 5 s (standard)</li> <li>• Max. loop impedance: 1100 Ω at 36 V DC; 610 Ω at 24 V DC; 100 Ω at 12 V DC</li> </ul>
Voltage supply cable	<ul style="list-style-type: none"> <li>• For the female M12 connector and/or the male M12 connector (not supplied, to order separately, see chapter "10.5. Ordering chart accessories" on page 17) use a cable <ul style="list-style-type: none"> <li>– Ø 3...6.5 mm</li> <li>– Cross section of wires: max. 0.75 mm<sup>2</sup></li> </ul> </li> <li>• For terminal strip via a cable gland (measuring data acc. to CEI 664-1/VDE 0110 (4.97 use a cable): <ul style="list-style-type: none"> <li>– Solid H05(07) V-U: 0.25...1.5 mm<sup>2</sup></li> <li>– Flexible H05(07) V-K: 0.25...1.5 mm<sup>2</sup></li> <li>– With wire end ferrule: 0.25...1.5 mm<sup>2</sup></li> <li>– With plastic collar ferrule: 0.25...0.75 mm<sup>2</sup></li> <li>– Diameter: 4...8 mm</li> </ul> </li> </ul>

**Process/Port connection & communication**

- Electrical connection
- 1 x 5 pin free positionable M12 male fixed connector or
  - Terminal strip via 1x cable gland M16x 1.5



**Environment and installation**

- Degree of protection<sup>1.)</sup>
- With device wired and M12 cable plug mounted and tightened or cable gland tightened or obturated, cover properly mounted and secured and probe inserted and tightened:
- IP65, IP67 (according to IEC/EN 60529)
  - NEMA 4X and NEMA 6P (according to NEMA250) (with device installed on the fitting)
  - UL50E

1.) Not evaluated by UL

**2. Approvals****2.1. Certification****Note:**

The certification listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications. Not all available devices can be supplied with the certification below.

Certificate	Description
	<p><b>UL-Recognized for USA and Canada</b></p> <p>Products are UL-certified products and comply also with the following standards:</p> <ul style="list-style-type: none"> <li>• UL 61010-1</li> <li>• CAN/CSA-C22.2 No.61010-1</li> </ul>
	<p><b>UL-Listed for USA and Canada</b></p> <p>Products are UL-listed products and comply also with the following standards:</p> <ul style="list-style-type: none"> <li>• UL 61010-1</li> <li>• CAN/CSA-C22.2 No.61010-1</li> </ul>

**2.2. Certificates****Note:**

The certificate listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications. Not all available devices can be supplied with the certificate below.

Certificate	Description
<b>FDA</b>	The devices comply in their composition with the Code of Federal Regulations published by the FDA (Food and Drug Administration, USA).

### 2.3. 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

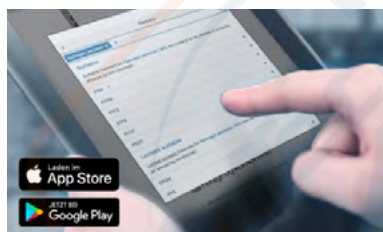
##### Note:

- 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	$V > 1 \text{ L}$ and $PS \cdot V \leq 25 \text{ bar} \cdot \text{L}$ or $PS \leq 200 \text{ bar}$
Fluid group 2, article 4, paragraph 1.a.i	$V > 1 \text{ L}$ and $PS \cdot V \leq 50 \text{ bar} \cdot \text{L}$ or $PS \leq 1000 \text{ bar}$
Fluid group 1, article 4, paragraph 1.a.ii	$V > 1 \text{ L}$ and $PS \cdot V \leq 200 \text{ bar} \cdot \text{L}$ or $PS \leq 500 \text{ bar}$
Fluid group 2, article 4, paragraph 1.a.ii	$PS > 10 \text{ bar}$ and $PS \cdot V \leq 10000 \text{ bar} \cdot \text{L}$ or $PS \leq 1000 \text{ bar}$

## 3. Materials

### 3.1. Chemical Resistance Chart – Bürkert resistApp



#### Bürkert resistApp – Chemical Resistance Chart

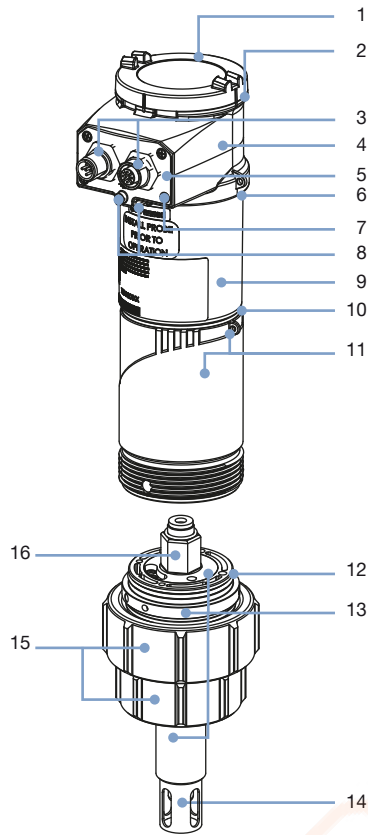
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)



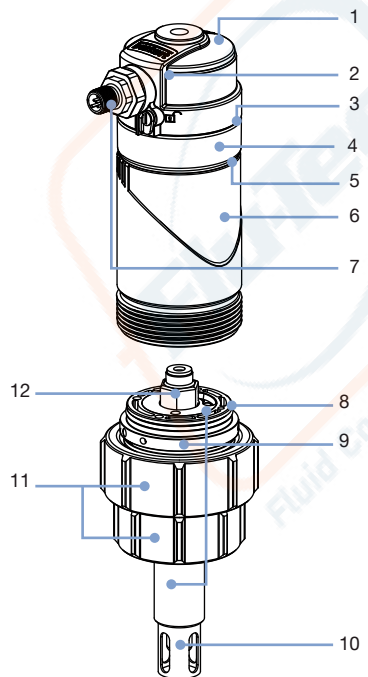
### 3.2. Material specifications

#### ELEMENT standard variant



No.	Element	Material
1	Cover	PC
2	Seal	Silicone
3	Fixed connector (female / male M12)	Nickel-plated brass
4	Housing (top)	PPS
5	Fixed connector holder	PPS CF30
6	Seal	EPDM
7	Screws	Stainless steel 1.4301 (304 (A2))
8	Grounding terminal and screw	Stainless steel 1.4401 (316 (A4))
9	Housing (body)	Stainless steel 1.4404 (316L)
10	Seal	EPDM
11	Housing (base)	PPS
12	Seal	EPDM
13	Probe holder	PVDF
14	Probe holder	Stainless steel 1.4571 (316 Ti)
15	Union nuts	PVC or PVDF
16	Probe	According to the used probe See <b>data sheet Type 8203</b> ▶ or specific data sheet

#### ELEMENT neutrino variant



No.	Element	Material
1	Cover	Black PPS
2	Seal	EPDM
3	Seal	EPDM
4	Housing (top)	Stainless steel 1.4404 (316 L)
5	Seal	EPDM
6	Housing (body)	PPS
7	M12 fixed connector/cable gland	PA66
8	Seal	EPDM
9	Probe holder	PVDF
10	Probe holder	Stainless steel 1.4571 (316 Ti)
11	Union nuts	PVC (or PVDF on request)
12	Probe	According to the used probe See <b>data sheet Type 8203</b> ▶ or specific data sheet

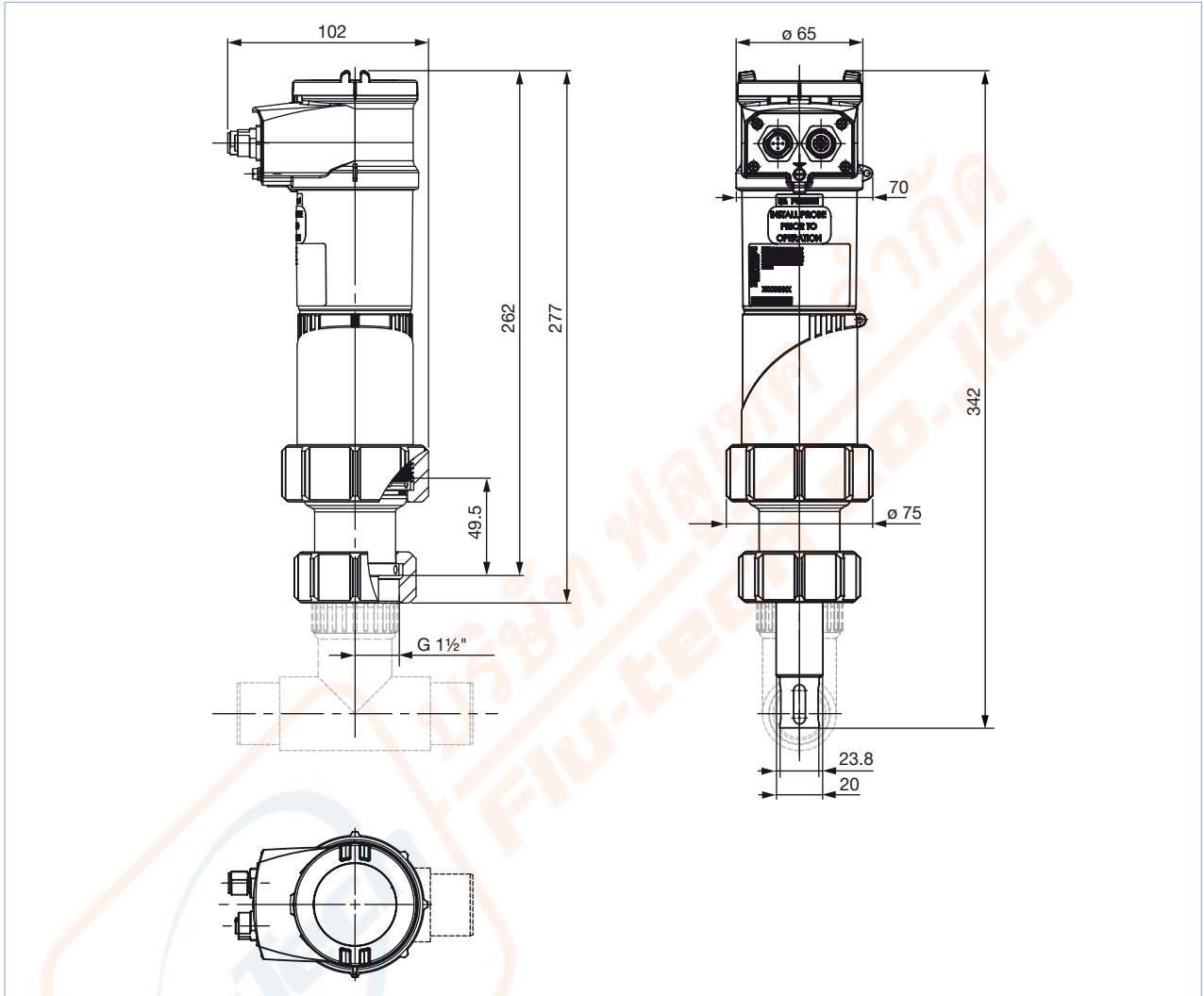
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## 4. Dimensions

### 4.1. ELEMENT standard variant

**Note:**

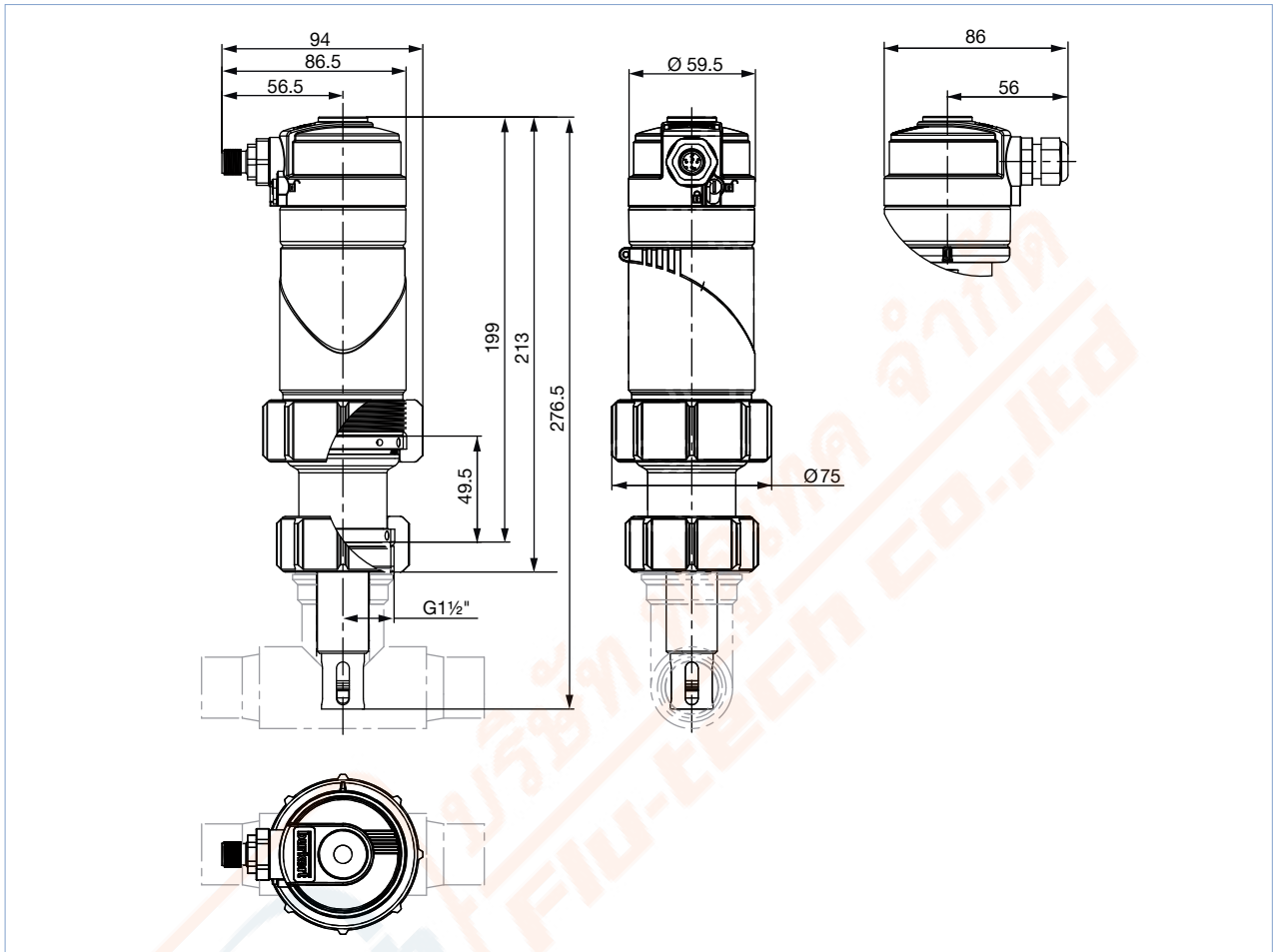
Specifications in mm



DTS 1000114206 EN Version: O Status: RL (released | freigegeben | validé) printed: 10.05.2022

### 4.2. ELEMENT neutrino variant

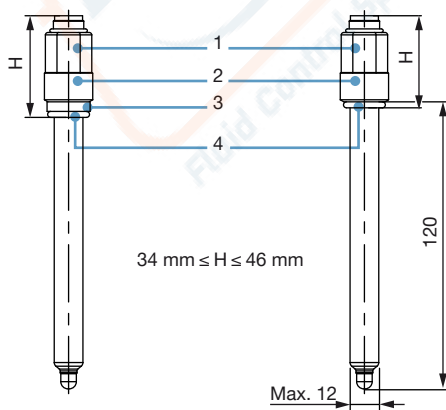
**Note:**  
Specifications in mm



### 4.3. Probe

**Note:**

- Specifications in mm
- It is recommended to use Bürkert pH or ORP probes Type 8203. The following dimensions are given for guidance. Probes are not included in the delivery. See **data sheet Type 8203** ▶ for more information.

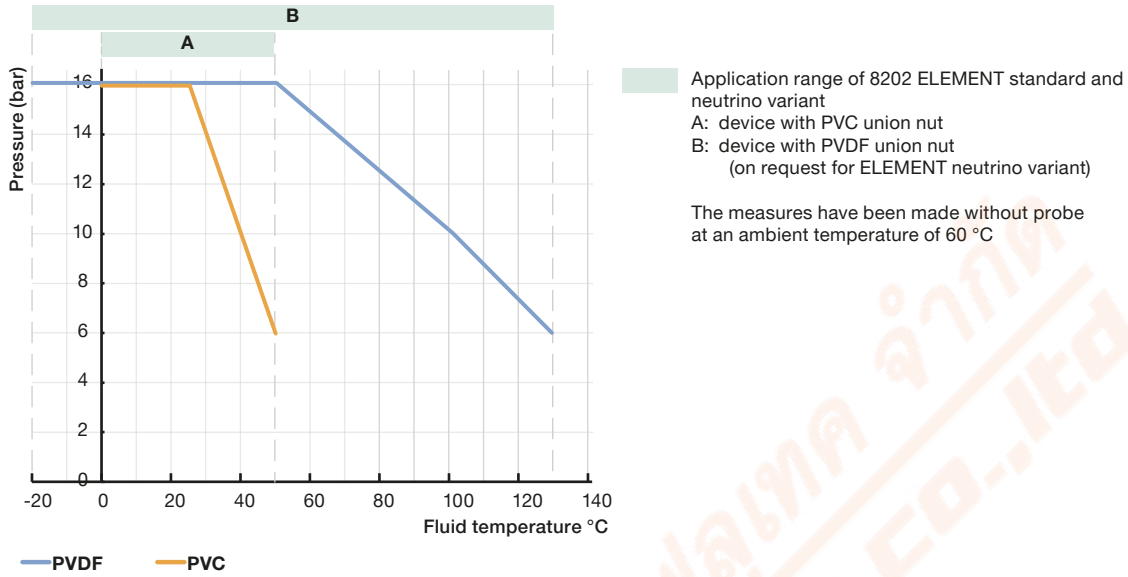


No.	Element
1	Probe head
2	PG 13.5
3	Compression washer (its height has to be adjusted if the H dimension on the probe is not between 34 and 46 mm.)
4	Seal

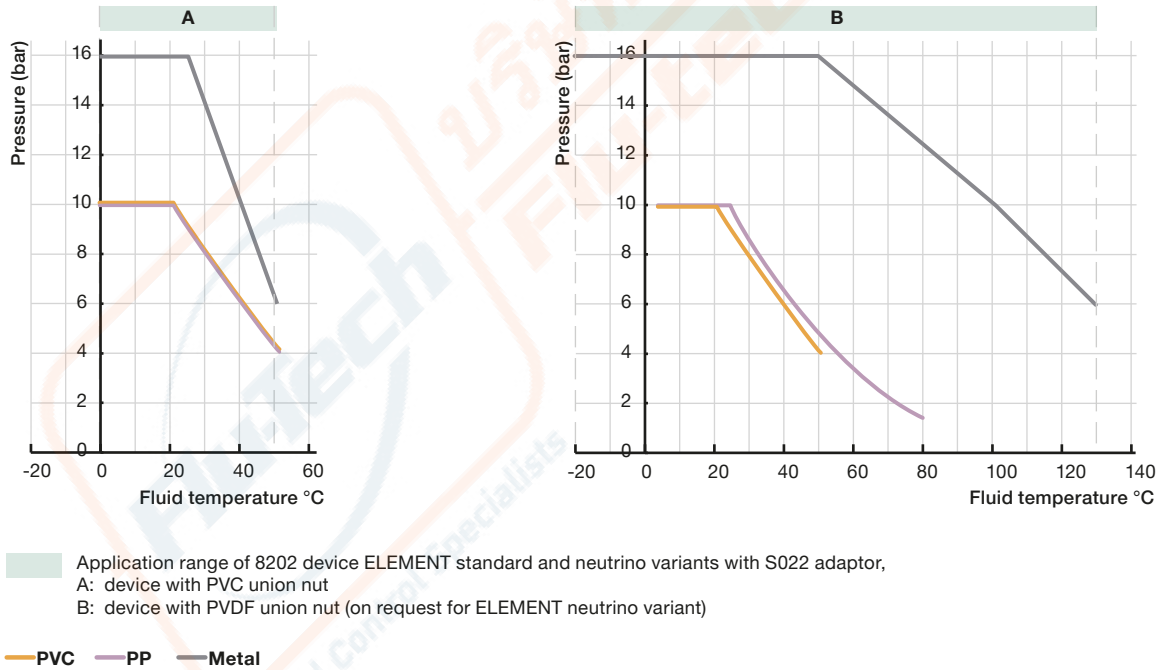
## 5. Performance specifications

### 5.1. Pressure temperature diagram

#### ELEMENT standard and ELEMENT neutrino variants



#### ELEMENT standard and ELEMENT neutrino variants installed with an S022 adaptor



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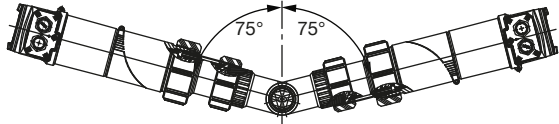
## 6. Product installation

### 6.1. Installation notes

**Note:**

If a suitable 120 mm pH or ORP probe from a supplier other than Bürkert is used, the installation instructions for the specific pipe must be observed.

The 8202 ELEMENT pH/ORP transmitter can be installed into any adaptor with G 1½" external threaded sensor connection by just fixing the main nut. Select the required adaptor, taking in account the specific requirements of the sensor and adapter material (temperature and pressure), and install it in a vertical position or with an angle of  $\pm 75^\circ$  max. relative to the vertical on a horizontal pipe.

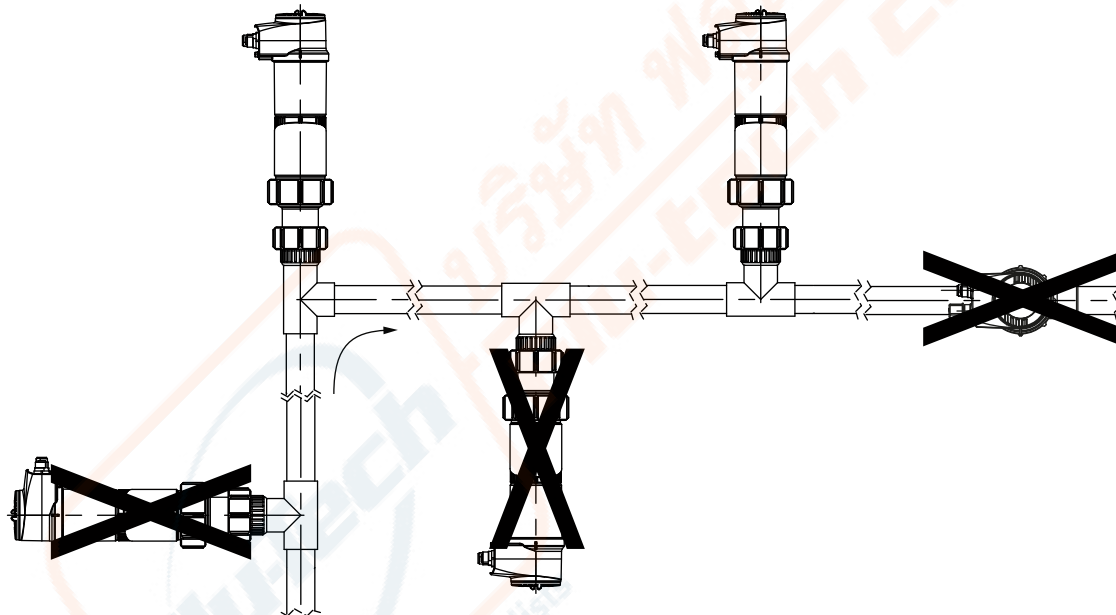


For mounting on a tank or direct mounting on a pipe (DN 100 or DN 110), an adaptor with a G 1½" external threaded sensor connection must be used.

See **data sheet Type S022** ▶ for more information about adaptor.

After having connected the pH or redox probe to the 8202 transmitter and having calibrated the unit, carefully install the complete unit on the fitting. In order to obtain reliable measurements air bubbles must be avoided.

**Please ensure that the mounting location provides a continuous and complete immersion of the probe in the flow stream.**



The probe must be continuously immersed into the measuring fluid in order to protect it from drying out.

The device must be protected from constant heat radiation and other environmental influences, such as direct exposure to sunlight.

## 7. Product operation

### 7.1. Measuring principle

The 8202 ELEMENT device can be used as a pH or an ORP meter according to the 8203 probe variant mounted into the holder. The 8203 pH or redox probe is a glass membrane with variable selectivity according to the pH or the redox, which must be calibrated with a buffer solution before the installation of the device into the pipe.

- When a pH probe is immersed into the solution a difference in potential is formed due to ions (H<sup>+</sup>) between the glass membrane and the solution. This difference in potential measured in relation to a reference electrode is directly proportional to the pH value (59.16 mV per pH unit at 25 °C).  
The pH sensor can be calibrated in 1-point (Offset at pH 7) or in 2-points (Offset at pH 7 and Span at pH 4 or pH 10).
- When a redox probe is immersed in a solution, an exchange of electrons occurs based on the oxidizing and reducing effects of an electrolyte. The resulting voltage is the oxidation reduction potential. The ORP sensor can only be calibrated in 1-point (Offset).

The meter is either a two wire device (3 outputs transmitter ELEMENT standard variant or ELEMENT neutrino variant) or a three wire device (4 outputs transmitter ELEMENT standard variant) which requires a power supply of 14 V DC (3 outputs transmitter ELEMENT standard variant) or 12 V DC (4 outputs transmitter ELEMENT standard variant or ELEMENT neutrino variant) up to 36 V DC and delivers a 4...20 mA standard signal proportional to the pH or to the redox potential as output signal.

The electrical connection is provided via one or two M12 fixed connectors for the ELEMENT standard variant or via one free positionable M12 male fixed connectors or terminal strip through cable gland for the ELEMENT neutrino variant.

## 8. Product design and assembly

### 8.1. Product assembly

**Note:**

The 8202 transmitter can easily be installed into piping systems or vessels by using the S022 adaptor/fitting with G 1½" external threaded sensor connection.

See **data sheet Type S022** ▶ and **data sheet Type 8203** ▶ for more information.

The pH/ORP meter consists of a replaceable 120 mm pH or ORP probe, Type 8203, which is screwed in a probe holder with integrated Pt1000 temperature sensor. This ensemble is plugged-in and screwed with a union nut to an enclosure with a cover containing the electronic module.

A removable display/configuration module complements the ELEMENT standard transmitter variant. The pH/ORP meter can operate independently of this module, but it will be required for configuration of the device (i.e. set parameters, restore default parameters, configure information to be displayed, enter access codes, adjust 4...20 mA output(s) ...) and also for visualizing continuously the measured and processed data.

Removable display/configuration module  
(included or separately available)

pH/ORP transmitter  
ELEMENT standard variant  
Type 8202

pH/ORP probes  
Type 8203

Insertion adaptor Type S022

pH/ORP transmitter  
ELEMENT neutrino variant  
Type 8202

Complete ELEMENT device  
standard variant  
for pH or ORP measurement

Fitting  
(example only)

Complete ELEMENT device  
Neutrino variant  
for pH or ORP measurement

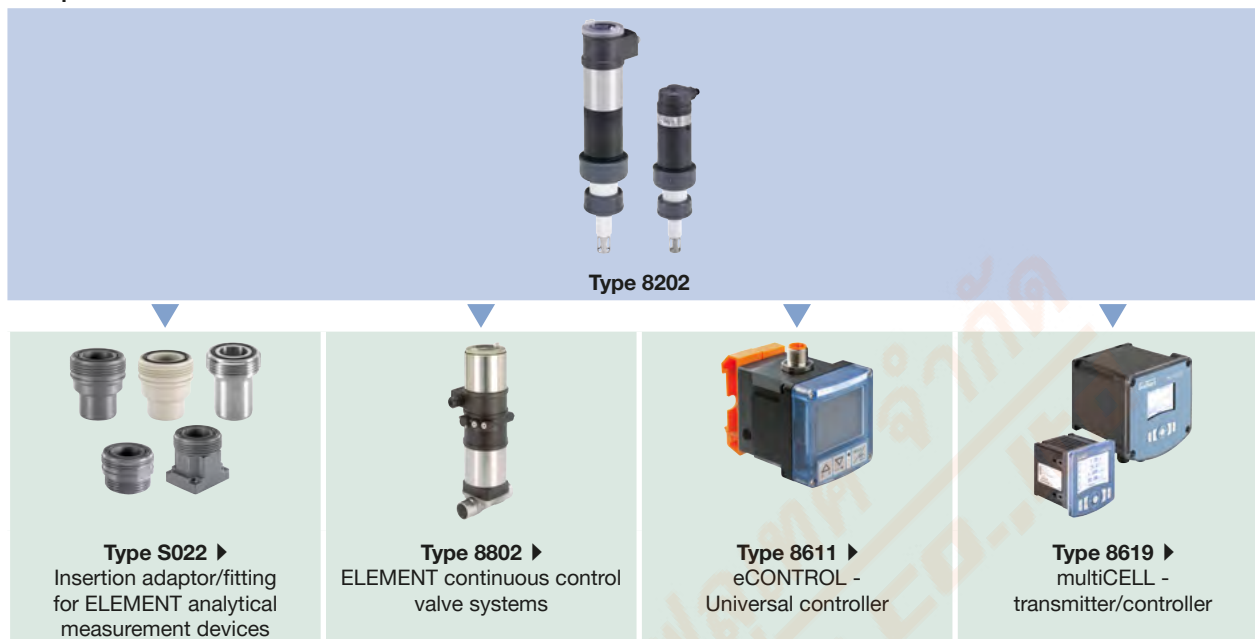
Fitting  
(example only)

DTS 1000114206 EN Version: O Status: RL (released | freigegeben | valide) printed: 10.05.2022




## 9. Networking and combination with other Bürkert products

Example:



## 10. Ordering information

### 10.1. 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](#)

### 10.2. Recommendation regarding product selection

**Note:**

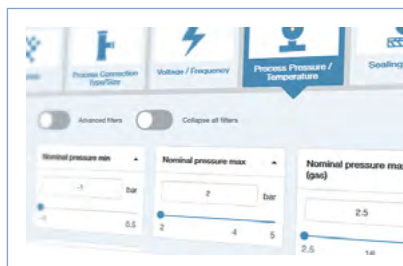
- A complete pH or ORP measurement equipment consists of a pH or ORP transmitter Type 8202 (ELEMENT standard or ELEMENT neutrino variant), a removable display/configuration module (only for ELEMENT standard variant), a 8203 pH or ORP probe and a Bürkert Insertion adaptor Type S022.
- When you order standard variant devices without display/configuration module, please take care that you also order at least one display/configuration module for parametrising the device (see chapter [“10.5. Ordering chart accessories” on page 17](#)).

See [data sheet Type 8203](#) ▶ and [data sheet Type S022](#) ▶ for more information.

Three or four different components must be ordered in order to select a complete device. The following information is required:

- **Article no.** of the desired 8202 ELEMENT pH or ORP transmitter standard without display/configuration module or ELEMENT neutrino variant (see chapter [“10.4. Ordering chart” on page 16](#))
- **Article no.** of the removable display/configuration module, if necessary for the standard variant (see chapter [“10.5. Ordering chart accessories” on page 17](#))
- **Article no.** of the desired 8203 pH or ORP probe (see [data sheet Type 8203](#) ▶)
- **Article no.** of the selected S022 Insertion adaptor with G 1½" external threaded sensor connection (see [data sheet Type S022](#) ▶)

### 10.3. 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](#)

### 10.4. Ordering chart

#### ELEMENT standard variant

##### Note:

- All settings as well as the digital output have to be adjusted with the optional available display/configuration module (to be ordered separately).
- All following Article no.s. have a transparent cover as standard and an integrated Pt1000.

Operating voltage	Output	Probe	Nut material	UL certification	Electrical connection <sup>1.)</sup>	Article no.
14...36 V DC	3 outputs: 2x transistors NPN/PNP + 1 x 4...20 mA (2 wires)	None	PVC	–	5 pin M12 male fixed connector	559630
				UL-Recognized		559634
			PVDF	–	5 pin M12 male and 5 pin M12 female fixed connectors	559632
				UL-Recognized		559636
12...36 V DC	4 outputs: 2x transistors NPN/PNP + 2 x 4...20 mA (3 wires)	None	PVC	–	5 pin M12 male and 5 pin M12 female fixed connectors	559631
				UL-Recognized		559635
			PVDF	–	5 pin M12 male and 5 pin M12 female fixed connectors	559633
				UL-Recognized		559637

1.) Order separately (see chapter "10.5. Ordering chart accessories" on page 17): M12 cable plugs (only female for one 4...20 mA output, 1 male + 1 female for two 4...20 mA outputs flowmeter)

#### ELEMENT neutrino variant

Operating voltage	Output	Probe	Nut material	UL certification	Electrical connection <sup>1.)</sup>	Article no.
12...36 V DC	1 x 4...20 mA (2 wires)	None	PVC	–	5 pin M12 male fixed connector	561685
				UL-Recognized		562557
				–	Cable gland	561686
				UL-Recognized		562558
			PVDF	–	5 pin M12 male fixed connector	562868
				UL-Recognized		568866
				–	Cable gland	563518
				UL-Recognized		On request

1.) Order separately (see chapter "10.5. Ordering chart accessories" on page 17): M12 female cable plug

## 10.5. Ordering chart accessories

Description	Article no.
For all variants	
One Ø 46 x 2 mm EPDM seal for 120 mm probe holder (with instruction sheet)	559169 ๙
Probe holder with PVC union nut	560947 ๙
Probe holder with PVDF union nut	561476 ๙
5 pin M12 female straight cable plug with plastic threaded locking ring, to be wired	917116 ๙
5 pin M12 female straight cable plug moulded on cable (2 m, shielded)	438680 ๙
For ELEMENT standard variant	
Removable display/configuration module (with instruction sheet)	559168 ๙
Opaque cover with seal (1 screw cover with EPDM seal + 1 quarter turn closing cover with silicone seal)	560948 ๙
Transparent cover with seal (1 screw cover with EPDM seal + 1 quarter turn closing cover with silicone seal)	561843 ๙
5 pin M12 male straight cable plug with plastic threaded locking ring, to be wired	560946 ๙
5 pin M12 male straight cable plug moulded on cable (2 m, shielded)	559177 ๙
For ELEMENT neutrino variant	
EPDM seal for cover/housing sealing	561752 ๙