



Type 8226 can be combined with...



**Type S020**  
INSERTION fitting



**Type 6642**  
Solenoid valve



**Type 2731**  
Diaphragm valve for  
continuous control



**Type 2030**  
On/Off Diaphragm  
valve



**Type 8644**  
Valve  
islands



**PLC**

## Digital inductive conductivity transmitter

- Optimal solution for conductivity measurements in difficult fluids (polluted, dirty,...)
- PEEK/PPA version for CIP applications
- Large range of process connections with various fittings
- Multi language, menu-guided operation

The conductivity transmitter Type 8226 combines a conductivity sensor and an electronic module with a display in an IP65 enclosure. The sensor component consists of a pair of magnetic coils in a PP, PVDF or PEEK housing. The cell constant is an average value over the whole measuring range. It can be re-adjusted depending on application.

The integrated temperature sensor for automatic compensation is a standard feature in the conductivity sensor housing.

The transducer component converts the measured signal and displays the actual value. The conductivity transmitter can be installed into pipe by using INSERTION fitting Type S020 available in stainless steel, brass or plastics.

### General data

|                               |   |
|-------------------------------|---|
| <b>Compatibility</b>          | with fittings S020 (see corresp. datasheet)   |
| <b>Materials</b>              | Housing, cover, lid, nut<br>PC glass reinforced fibre (if PVDF sensor)<br>PPA glass reinforced fibre (if PP, PEEK sensor)<br>Front panel foil<br>Polyester<br>Screws<br>Stainless steel<br>Cable plug / gland<br>PA<br>Wetted parts materials<br>Fitting<br>Sensor holder<br>Seal<br>Brass, stainless steel 1.4404/316L, PVC, PP or PVDF<br>PP, PVDF or PEEK<br>FKM or EPDM |
| <b>Display</b>                | 15 x 60 mm, 8-digit LCD, alphanumeric, 15 segments, 9 mm high   |
| <b>Electrical connections</b> | Cable plug EN 175301-803 or cable glands M 20 x 1.5   |
| <b>Connection cable</b>       | shielded cable with 1.5 mm <sup>2</sup> max. cross-section  |

### Complete device data (fitting + Electronics)

|                                 |   |
|---------------------------------|---|
| <b>Pipe diameter</b>            | 1/2" - 4" (DN 15 to 200) (1/2" - 1" for PVC only)   |
| <b>Conductivity measurement</b> | Measurement type<br>inductive conductivity measurement<br>Measuring range<br>100 µS/cm...2 S/cm (cond.) or 0.5...10 kΩ.cm (resis.)<br>Accuracy<br>± 2 % of reading  |
| <b>Temperature measurement</b>  | Measurement type<br>Numeric measurement<br>Measuring range<br>-40°F to 248°F (-40°C to +120°C)<br>0.9°F (0.5°C) from 32°F to 238°F (0°C to 110°C) and<br>± 1.8°F (1°C) from -40°F to 32°F (-40°C to 0°C) and<br>238°F to 248°F (110°C to 120°C) |
| <b>Temperature compensation</b> | automatic (with standardized integrated temperature sensor) - reference temperature 77°F (25°C)   |
| <b>Medium temperature max.</b>  | with fitting in PVC: 122°F (50°C), - PP: 176°F (80°C)<br>PVDF: 212°F (100°C) - stainless steel, brass: 248°F (120°C)  |
| <b>Medium pressure max.</b>     | 85 PSI (PN6) (see pressure / temperature chart)   |

| Electrical data                        |   |
|--|---|
| <b>Power supply</b>                    | 12-30 V DC (regulated and filtered $\pm 5\%$ ) or 115/230 V AC  |
| <b>Current consumption with sensor</b> |   |
| Transmitter with relays                | 12 V DC-supply: 150 mA - 24 V DC-supply: 90 mA<br>115/230 V AC-supply: 150 mA   |
| Transmitter without relay              | 12 V DC-supply: 70 mA - 24 V DC-supply: 60 mA<br>115/230 VAC-supply: 150 mA   |
| <b>Output</b>                          | 4-20 mA programmable, proportional to conductivity or temperature<br>max. load: 1000 $\Omega$ at 30 V DC; 800 $\Omega$ at 24 V DC;<br>450 $\Omega$ at 15 V DC; 330 $\Omega$ at 12 V DC; |
| Relays                                 | 2 relays, freely programmable,<br>3A, 230 V AC  |

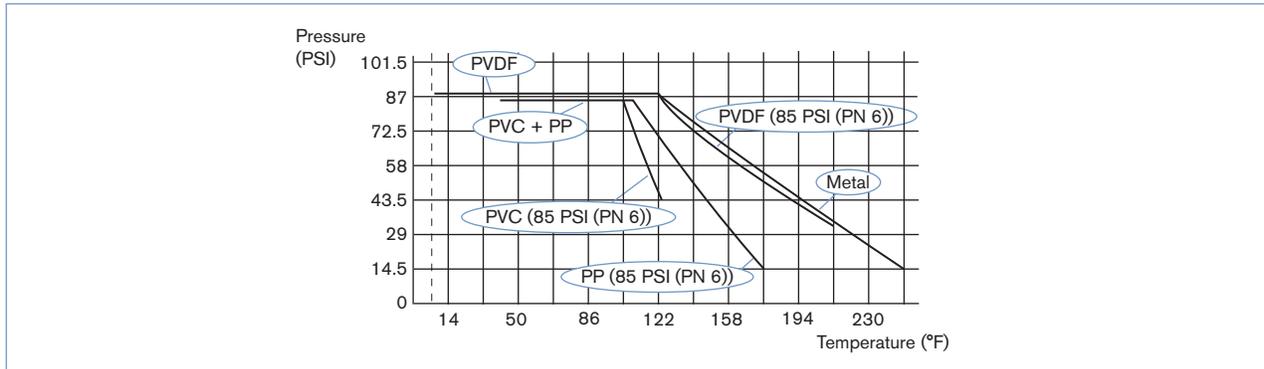
| Environment                |  |
|----------------------------|--|
| <b>Ambient temperature</b> | 32°F to 140°F (0°C to +60°C) (Operation and storage) |
| <b>Relative humidity</b>   | $\leq 80\%$ , non condensated                        |

| Standards, directives and approvals |  |
|-------------------------------------|--|
| <b>Protection class</b>             | IP65 with cable plug or cable gland mounted and tightened, blanked if not used |
| <b>Standard and directives</b>      |  |
| EMC                                 | EN 50081-2 (1993), EN 50082-2 (1995)   |
| Security                            | EN 61010-1 (1995)  |
| Pressure                            | Complying with article 3 of §3 from 97/23/CE directive.*                       |
| Vibration                           | EN 60068-2-6   |
| Shock                               | EN 60068-2-27  |

\* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

| Type of fluid         | Conditions   |
|-----------------------|--------------|
| Fluid group 1, §1.3.a | Forbidden    |
| Fluid group 2, §1.3.a | DN $\leq 4"$ |
| Fluid group 1, §1.3.b | DN $\leq 4"$ |
| Fluid group 2, §1.3.b | DN $\leq 4"$ |

Pressure / temperature chart



## Operation and display

Customized adjustments, such as measuring range, engineering units and alarm setpoints can be carried out menu-supported on site via a multi-lingual display. The operation is classified according to three levels.

### ▶ Main Menu

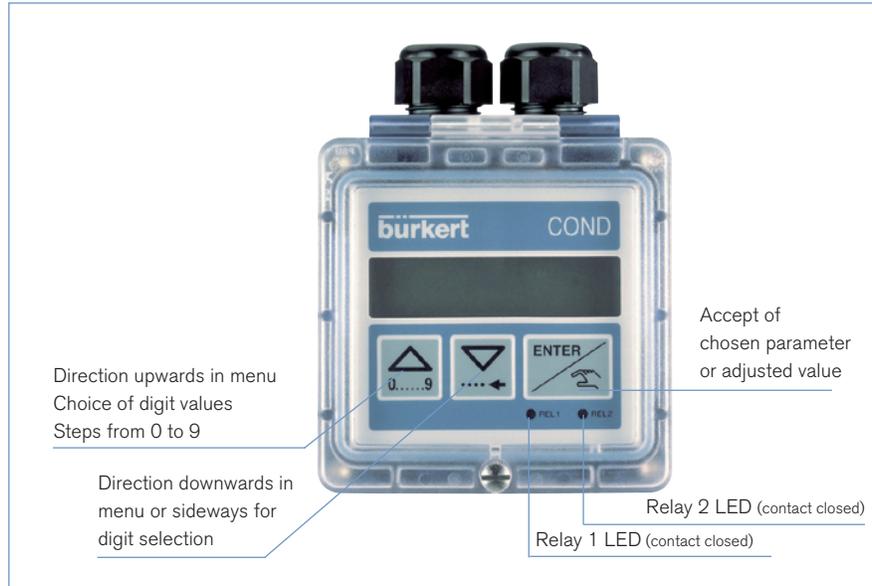
- conductivity
- temperature
- output current
- HOLD function

### ▶ Calibration Menu

- language
- engineering units
- cell constant
- temperature compensation
- measuring range 4-20 mA
- relay function
- filter selection

### ▶ Test Menu

- Offset
- Span
- Temperature correction
- conductivity non compensated
- simulation of conductivity
- calibration of the zero point



## Principle of operation

The conductivity is defined as the ability of a solution to conduct electrical current. The load carriers are ions (E.G. dissolved salt or acids). In order to measure conductivity, an AC voltage source is connected to the primary magnetic coil. The magnetic field induced generates a current in the secondary magnetic coil. The intensity of this induced current is a direct function of the conductivity of the solution.

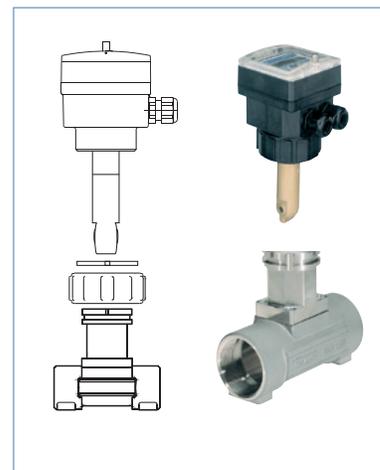
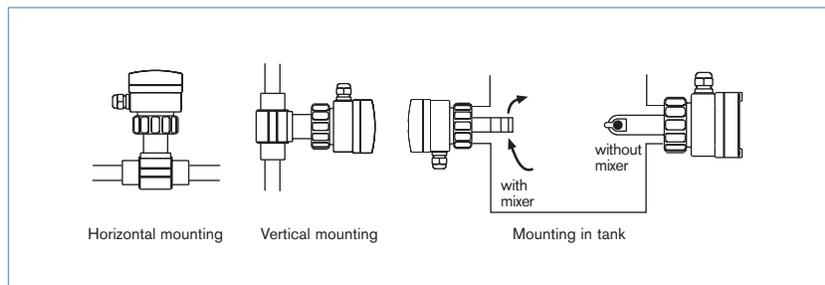
A 4...20 mA standard signal is available as output signal, proportional to the conductivity or the temperature of the fluid. The transmitter is available, in option, with 2 relays.

The transmitter without relay or with 2 additional relays (limits values freely adjustable) functions in a three wire circuit and requires a power supply of 12...30 V DC. The device is available with an integrated power supply of 115/230 V AC.

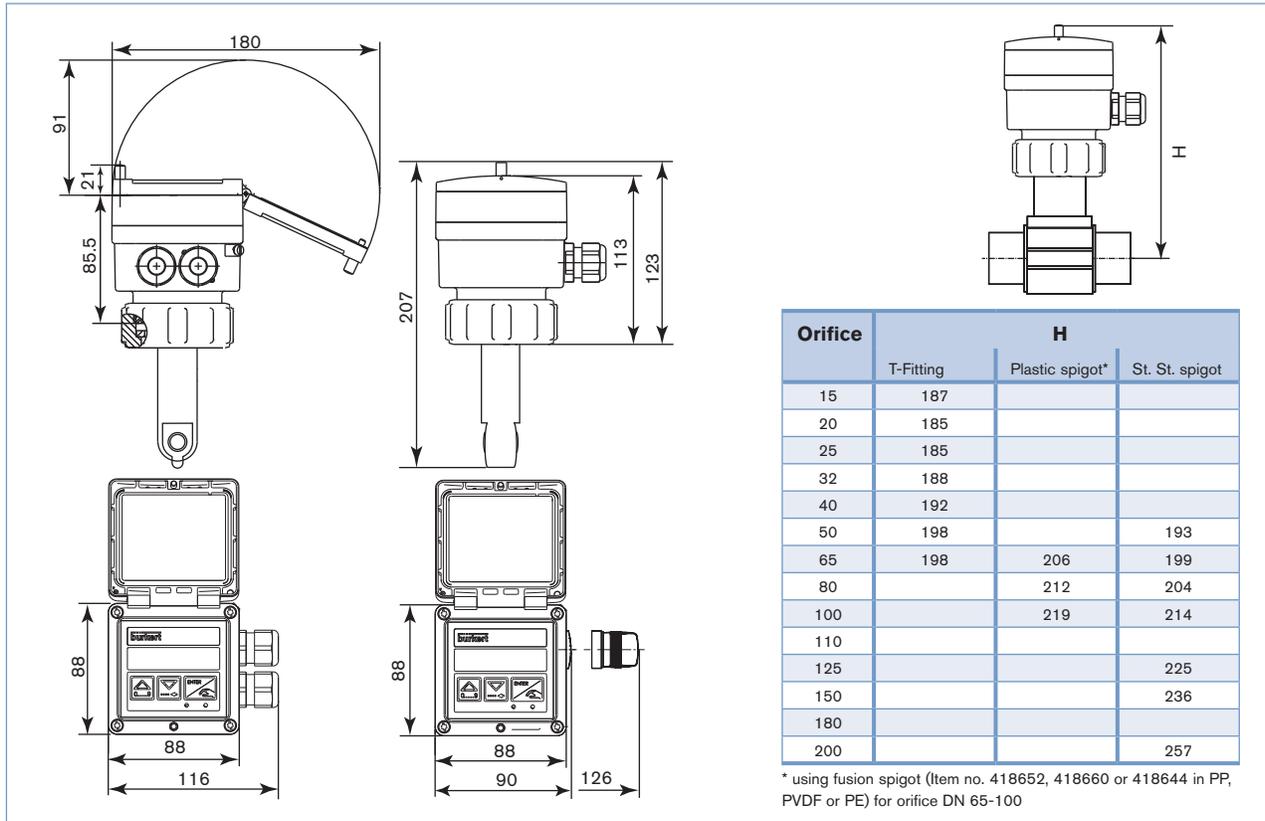
## Installation

The 8226 conductivity transmitter can be installed into any Bürkert INSERTION fitting (S020).

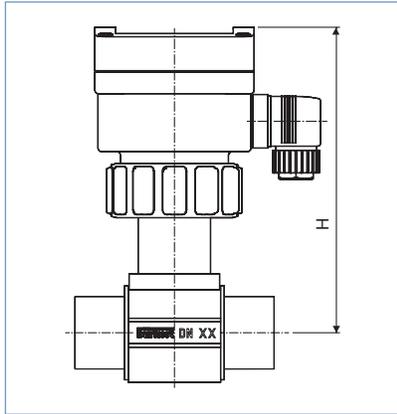
Select and install the required fitting onto the pipe, according to specific requirements of the sensor and fitting material (temperature and pressure). Then, cautiously install the unit on the fitting, and tighten with the nut. The transmitter can be installed in any position. In order to get a reliable measurement, air bubbles must be avoided. The transmitter must be protected from constant heat radiation and other environmental influences, such as direct exposure to sunlight.



## Dimensions [mm]

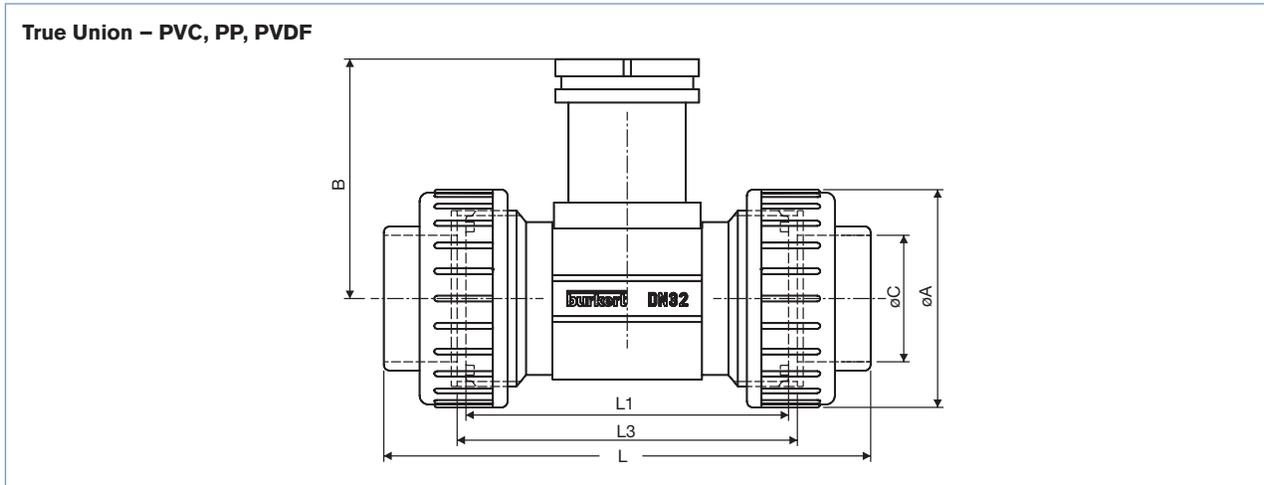


Dimensions [mm] – fitting S020, 1 1/4" – 2" (DN 32 – 50) for transmitter 8226



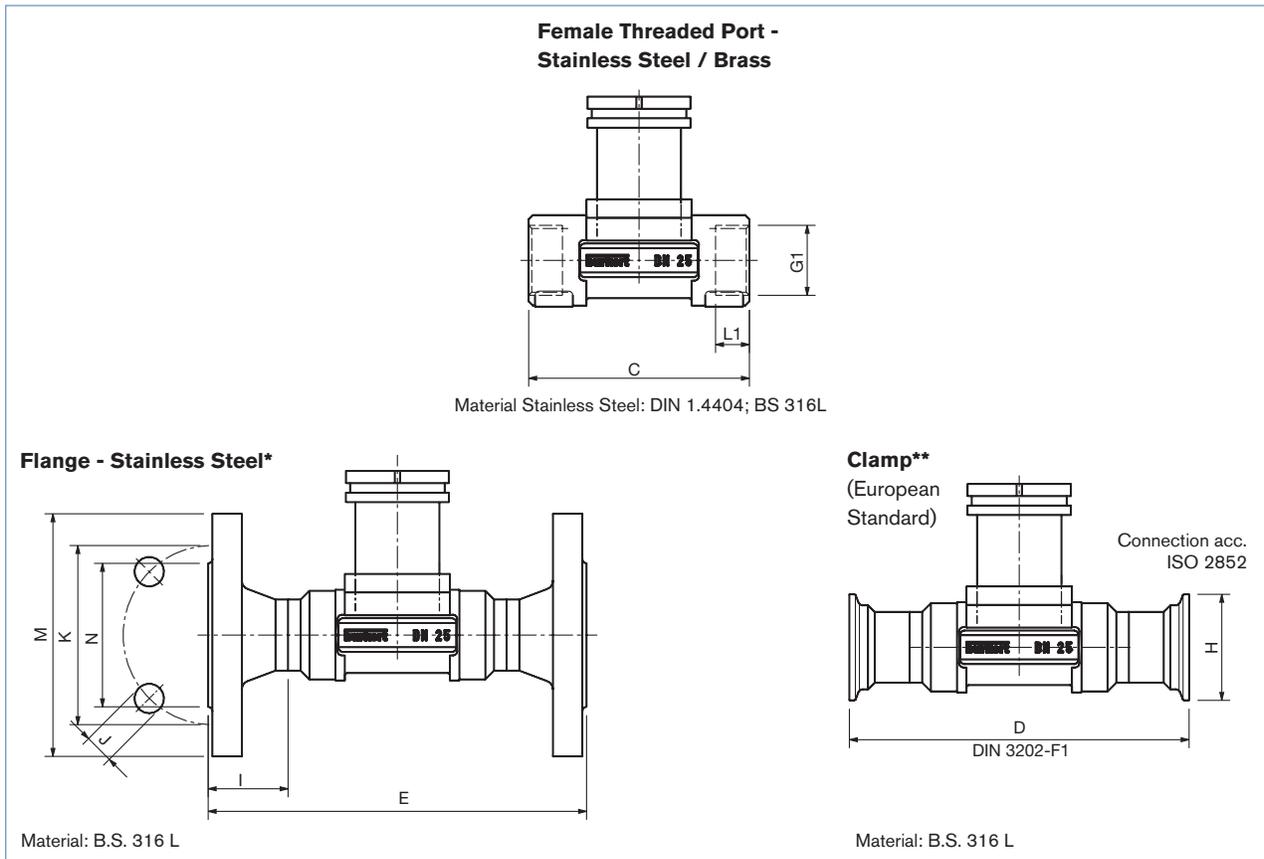
| Variable Dimensions [mm] |    |        |
|--------------------------|----|--------|
| Port                     | DN | H      |
| 1 1/4"                   | 32 | 176.78 |
| 1 1/2"                   | 40 | 177.80 |
| 2"                       | 50 | 183.90 |

Applicable for all fitting materials  
 1 1/4" to 2" (DN 32–50) process connections.



| Compact Version– Dimensions [mm] |    |      |     |     |       |     |      |     |     |  |
|----------------------------------|----|------|-----|-----|-------|-----|------|-----|-----|--|
| True Union                       |    |      |     |     |       |     |      |     |     |  |
| Port                             | DN | B    | A   | L   |       | C   |      | L1  | L3  |  |
|                                  |    |      |     | DIN | ASTM  | DIN | ASTM |     |     |  |
| 1 1/4"                           | 32 | 81.4 | 74  | 168 | 170.0 | 40  | 42.2 | 110 | 116 |  |
| 1 1/2"                           | 40 | 85.2 | 83  | 188 | 190.2 | 50  | 48.3 | 120 | 127 |  |
| 2"                               | 50 | 91.5 | 103 | 212 | 213.6 | 63  | 60.3 | 130 | 136 |  |

Dimensions [mm] – fittings S020, 1 1/4" – 2" (DN 32 – 50)



| Compact Version– Dimensions [mm] |    |                   |     |     |           |      |       |       |                   |          |       |     |      |
|----------------------------------|----|-------------------|-----|-----|-----------|------|-------|-------|-------------------|----------|-------|-----|------|
| Port                             | DN | Length Dimensions |     |     | Thread    |      | Clamp |       | Flange Dimensions |          |       |     |      |
|                                  |    | C                 | D   | E   | G1        | L1   | H     | Norm* | I                 | J        | K     | M   | N    |
| 1/14"                            | 32 | 120               | 180 | 180 | NPT 1 1/4 | 21.0 | 50.5  | ANSI  | 31.0              | 4 X 15.8 | 88.9  | 117 | 63.5 |
| 1 1/2"                           | 40 | 130               | 200 | 200 | NPT 1 1/2 | 20.0 | 64.0  | ANSI  | 36.0              | 4 X 15.8 | 98.4  | 127 | 73.0 |
| 2"                               | 50 | 150               | 230 | 230 | NPT 2     | 24.0 | 77.5  | ANSI  | 41.0              | 4 X 19.0 | 120.6 | 152 | 92.1 |

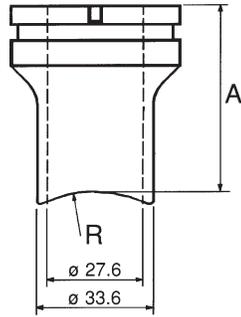
\* Flange: ANSI B16-5-1988, length according to DIN 3201-F1

\*\* U.S. Clamp available upon request

Dimensions [mm] – fitting S020, 2 1/2" – 4" (DN 65 – 100)

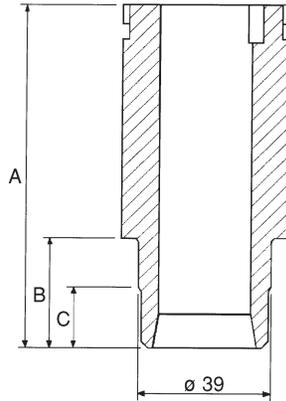
**Weld-o-Let Fittings with Radius – Stainless Steel**

Material: 316L (B.S.)



| Variable Dimensions [mm] |     |      |      |
|--------------------------|-----|------|------|
| Port                     | DN  | A    | R    |
| 2 1/2"                   | 65  | 54.5 | 36.7 |
| 3"                       | 80  | 53.1 | 44.5 |
| 4"                       | 100 | 50.7 | 57.2 |

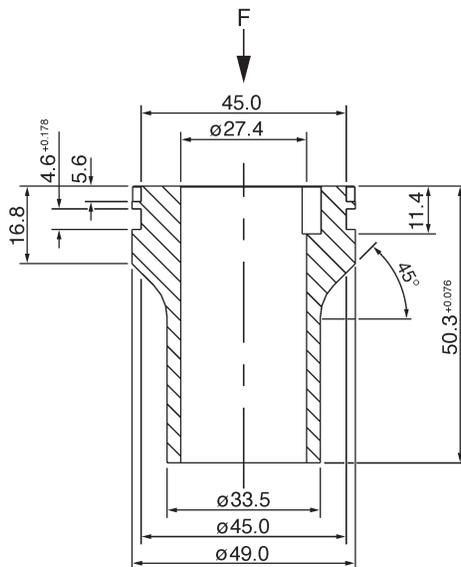
**Weld-o-Let Fittings – PE, PP, PVDF\***



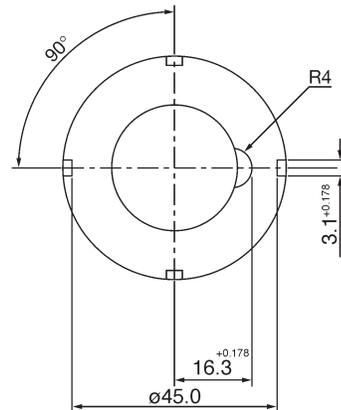
| (DN)     | Variable Dimensions [mm] |    |   |    |   |      |   |
|----------|--------------------------|----|---|----|---|------|---|
|          | A                        | PE |   | PP |   | PVDF |   |
| B        | C                        | B  | C | B  | C | B    | C |
| 65 - 100 | 72.5                     | 13 | - | 13 | - | 10.4 | - |

\*For metric pipe only.

**Weld-o-Let Fittings for Side-Wall Mounting**



View F



## Ordering chart for compact conductivity transmitter Type 8226

A compact conductivity transmitter Type 8226 consists of:

- an INSERTION conductivity transmitter 8226
- an INSERTION fitting Type S020 (DN15 - DN 200) (Refer to corresponding datasheet - has to be ordered separately)

| Specifications        | Voltage supply | Output  | Relays         | Electrode holder version | Seal           | Electrical connection | Item no. |
|-----------------------|----------------|---------|----------------|--------------------------|----------------|-----------------------|----------|
| Compact <sup>1)</sup> | 12-30 V DC     | 4-20 mA | None           | PP                       | FKM            | EN 175301-803         | 558 768  |
|                       |                |         |                |                          |                | 2 cable glands        | 558 769  |
|                       |                |         |                | PVDF                     | FKM            | EN 175301-803         | 431 673  |
|                       |                |         | 2 cable glands |                          |                | 431 674               |          |
|                       |                |         | PEEK           | EPDM                     | EN 175301-803  | 440 321               |          |
|                       |                |         |                |                          | 2 cable glands | 440 322               |          |
|                       |                |         | 2              | PP                       | FKM            | 2 cable glands        | 558 770  |
|                       | PVDF           | 431 679 |                |                          |                |                       |          |
|                       | PEEK           | 440 324 |                |                          |                |                       |          |
|                       | 115/230 V AC   | 4-20 mA | None           | PP                       | FKM            | 2 cable glands        | 558 771  |
|                       |                |         |                |                          |                | PVDF                  | 431 677  |
|                       |                |         |                | PEEK                     | EPDM           | 2 cable glands        | 440 323  |
|                       |                |         | 2              |                          |                | PP                    | FKM      |
|                       |                |         | PVDF           | 431 681                  |                |                       |          |
| PEEK                  |                |         | 440 325        |                          |                |                       |          |

<sup>1)</sup> 1 Kit including a black EPDM gasket for the sensor, an obturator for an M20 x 1.5 cable gland, a 2 x 6 mm multiway seal and a mounting instruction sheet is supplied with each transmitter with cable glands or 1 Kit including a green FKM and a black EPDM gaskets is supplied with each transmitter with connection EN175301-803.

## Ordering data for brass fittings Type S020

| Specifications                    | Diameters      | Materials  | Item no. |
|-----------------------------------|----------------|------------|----------|
| Brass – Female NPT–Threaded Ports | 1 1/4" (DN 32) | Brass, FKM | 428 721  |
|                                   | 1 1/2" (DN 40) | Brass, FKM | 428 722  |
|                                   | 2" (DN 50)     | Brass, FKM | 428 723  |

## Ordering data for plastic fittings Type S020

| Specifications                        | Diameters      | Materials | Item no. |
|---------------------------------------|----------------|-----------|----------|
| PP – True Union with Metric Weld Ends | DN 32          | PP, FKM   | 428 691  |
|                                       | DN 40          | PP, FKM   | 428 692  |
|                                       | DN 50          | PP, FKM   | 428 693  |
| PP – Weld-o-Let                       | DN 65 – 100    | PP        | 418 650  |
| PVDF – True Union with Weld Ends      | DN 15          | PVDF, FKM | 430 843  |
|                                       | DN 40          | PVDF, FKM | 428 704  |
|                                       | DN 50          | PVDF, FKM | 428 705  |
| PVDF – Weld-o-Let                     | DN 65 – 100    | PVDF      | 418 658  |
| PVC – True Union ASTM                 | 1/2" (DN 15)   | PVC, FKM  | 550 154  |
|                                       | 3/4" (DN 20)   | PVC, FKM  | 550 155  |
|                                       | 1" (DN 25)     | PVC, FKM  | 550 156  |
|                                       | 1 1/4" (DN 32) | PVC, FKM  | 428 685  |
|                                       | 1 1/2" (DN 40) | PVC, FKM  | 428 686  |
|                                       | 2" (DN 50)     | PVC, FKM  | 428 687  |
| PE – Weld-o-Let                       | DN 65 – 100    | PE        | 418 642  |
| PVC – Saddles                         | 2 1/2" (DN 65) | PVC, NBR  | 413 469  |
|                                       | 3" (DN 80)     | PVC, NBR  | 413 470  |
|                                       | 4" (DN 100)    | PVC, NBR  | 98146019 |

## Ordering data for stainless steel fittings Type S020

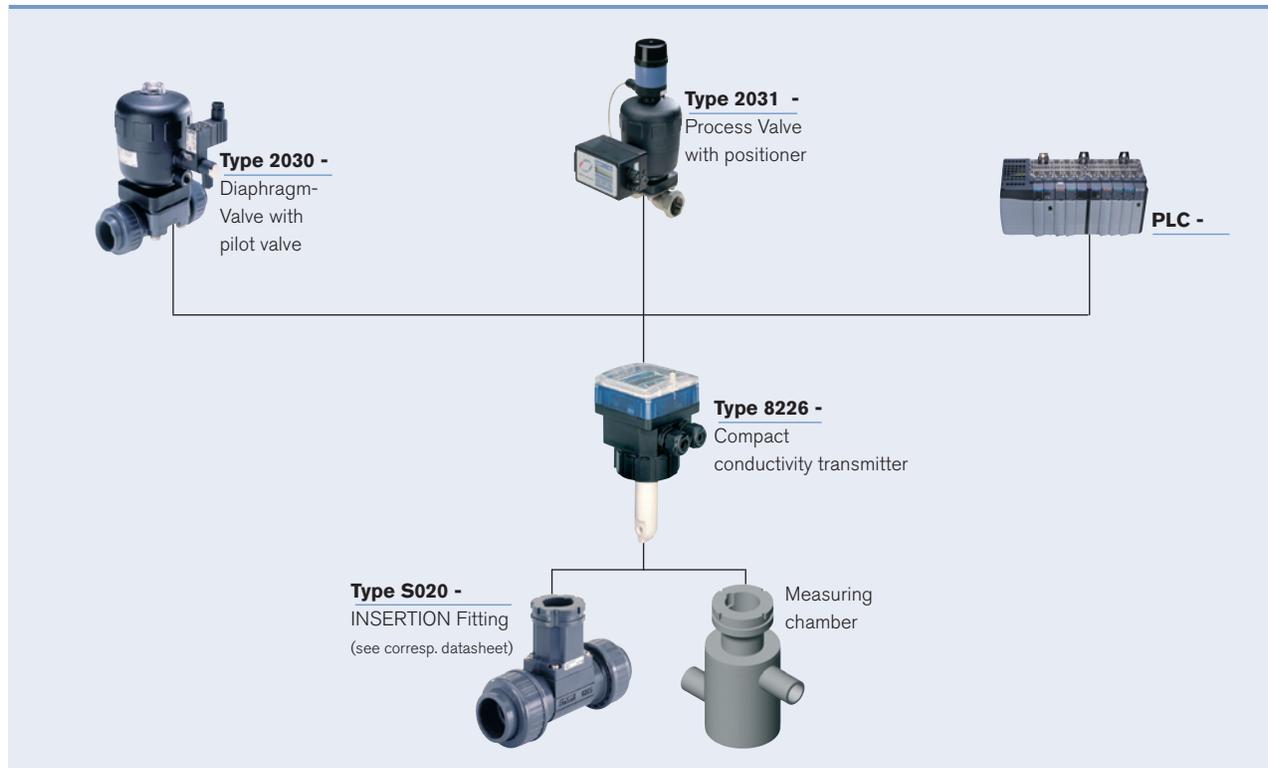
| Specifications                         | Diameters      | Materials | Item no. |
|--|----------------|-----------|----------|
| SS – Female NPT-Threaded Ports         | 1 1/4" (DN 32) | SS, FKM   | 428 745  |
|  | 1 1/2" (DN 40) | SS, FKM   | 428 746  |
|  | 2" (DN 50)     | SS, FKM   | 428 747  |
| SS – European Tri-Clamp (ISO 2852)     | DN 32          | SS, FKM   | 428 769  |
|  | DN 40          | SS, FKM   | 428 770  |
|  | DN 50          | SS, FKM   | 428 771  |
| SS – ANSI Flanges (ANSI B16-5-1988)    | 1 1/4" (DN 32) | SS, FKM   | 428 781  |
|  | 1 1/2" (DN 40) | SS, FKM   | 428 782  |
|  | 2" (DN 50)     | SS, FKM   | 428 783  |
| SS – Weld-o-Let                        | 2 1/2" (DN 65) | SS        | 418 112  |
|  | 3" (DN 80)     | SS        | 418 113  |
|  | 4" (DN 100)    | SS        | 418 114  |
| SS – Weld-o-Let for Side-Wall Mounting | —              | SS        | 415 294  |

## Ordering chart for accessories for conductivity transmitter Type 8226

| Description  | Item no. |
|--|----------|
| Set with 2 cable glands M20 x 1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5 + 2 multiway seals 2 x 6 mm                            | 449 755  |
| Set with 2 reductions M20 x 1.5 / NPT1/2" + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5  | 551 782  |
| Set with 1 stopper for unused cable gland M20 x 1.5 + 1 multiway seal 2 x 6 mm for cable gland + 1 black EPDM gasket for the sensor + 1 mounting instruction sheet | 551 775  |
| Set with 1 green FKM + 1 black EPDM gaskets  | 552 111  |
| Ring   | 619 205  |
| PC - nut   | 619 204  |
| Inductive conductivity sensor in PP  | 558 794  |
| Inductive conductivity sensor in PVDF  | 427 139  |
| Inductive conductivity sensor in PEEK  | 440 230  |
| Cable plug EN 175301-803 with cable gland (Type 2508)  | 438 811  |
| Cable plug EN 175301-803 with NPT1/2" reduction (Type 2509) - UR and UL approval   | 162 673  |
| Factory 2-point conductivity calibration certificate   | 550 675  |
| Measuring chamber stainless steel 316L (1.4404) <sup>1)</sup> with G 1/2" connection thread  | 553 611  |

1) other materials on request

## Interconnection possibilities with other Bürkert devices



Industrial Dynamics Co

1-800-940-0453

In case of special application conditions, please consult for advice.

We reserve the right to make technical changes without notice.  
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