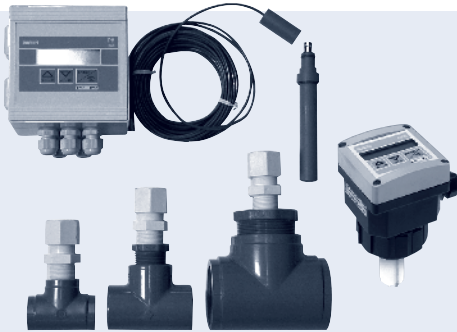# Digital pH–Transmitter

- Flat glass probe featuring self cleaning and abrasion–free operation

- Programmable pH–transmitter functions for easy pH–measuring

- Remote version with seperated transmitter away from the sensor

- Commissioning is easy due to multi–language, menu–guided operation

- For use in both pipes and tanks installed in custom fittings or submersion kits

- $C\epsilon$ Approval

The pH-transmitter compactly combines a pH-sensor and transmitter with display in splash-proof plastic NEMA 4 (IP 65) enclosure.  The sensor component consists of a replaceable combination pH-electrode, screwed into the sensor housing. The measured signal is conveyed to the controller via a coax plug. The Pt1000 for automatic temperature compensation is a standard feature in the sensor housing of the compact version.

The transmitter component converts the measured signal and displays the actual value.

Easily integrated into existing and new process systems, the Type 8205 Transmitter unit features a 4–20 mA output signal of process value, two optional relay outputs and easy calibration.

The transmitter is easy to program and calibrate via three input keys and menu–driven screens that also enable individual calibrations of all measuring ranges. The unique "SIMULATE" function allows the user to temporarily simulate a set pH while conducting maintenance or sensor calibration. This eliminates nuisance alarms and incorrect pH readings in a networked distributed control system while the pH transmitter maintenance or calibration is conducted.

The sensor component can also be remotely panel or wall mounted. It has a Pt1000 temperature sensor (if desired) for automatic temperature compensation.

The Type 8205 Transmitter systems are available in three different remote mounting configurations: in–line, submersion and wet tap.

These kits include all necessary components to use the 8205 series pH transmitter in a tank pH–monitoring configuration. The system item number includes the probe, fittings, 25´ of cable, and a panel or wall mount transmitter that can be mounted in a variety of locations. The only parts not included are PVC pipe and fittings for your custom mounting application.

## Applications

- pH–measurement

- Waste treatment engineering

- Water treatment and process technology

- Cooling water monitoring

- Swimming pool engineering

- Chemical dosing

- Electroplating

**burkert**

Fluid Control Systems

# 8205
# Digital pH–Transmitter

## The pH – control system

**ON / OFF Process Control**

**Description**

Applications:
– Neutralization
– Chemical Dosing
– Waste Water Processing

ON / OFF Valve

8205 pH–Transmitter

Relays

burkert 8205

PH = 5.20

ENTER

Flat Glass
pH–Sensor

ON / OFF Valve

Relays

4 – 20 mA

Printer
Recorder

Continuous Process Control

Description

Applications:
– Water Monitoring
– Continuous Chemical Dosing
– Waste Water Treatment

8205 pH–Transmitter

Continuous Control Valve

4 – 20 mA

burkert 8205

PH = 4.60

ENTER

Flat Glass
pH–Sensor

Easy Connection of Burkert Valve Types Directly with 8205 Transmitter Output

## Principle of operation

The most important part of the pH-transmitter is the pH electrode with its pH selective glass membrane. When the eletrode is immersed into the solution, an electrical charge caused by $H^+$-ions generates a cell voltage between the glass membrane and the solution. This electrical voltage is recorded with reference to a reference electrode, located around the pH glass electrode. The cell voltage of the combination electrode is directly proportional to the pH value.

The transducer, without relay functions, is a 2-wire circuit and requires a power supply of 12 - 30 VDC. A 4 - 20 mA standard signal is available as an output signal, proportional to the pH value. The transducer, with two additional relays functions, is a 3-wire circuit. Limit values are freely adjustable.

## Operation / commissioning

Customized adjustments, such as measuring ranges, engineering units and alarm setpoints can be performed onsite via a multi-lingual display. Please refer to the operating instructions prior to commissioning the devices.

**burkert**

## Technical data – pH electrode

The pH-transmitter is available with flat glass type electrode as standard. This design provides an extra barrier against reference side contaminations. Also, it allows the electrodes to be used in applications where sulfides, mercaptans, heavy metal ions and similar materials are present. In the remote versions, the top of the electrode body has the quarter turn, quick disconnect BNC connector and the leak–tight O–ring seals. All replacement electrodes are supplied complete with O–rings. The service life of the pH-electrode depends on the application. Electrode in the Type 8205 can easily be replaced.

## Operation and display

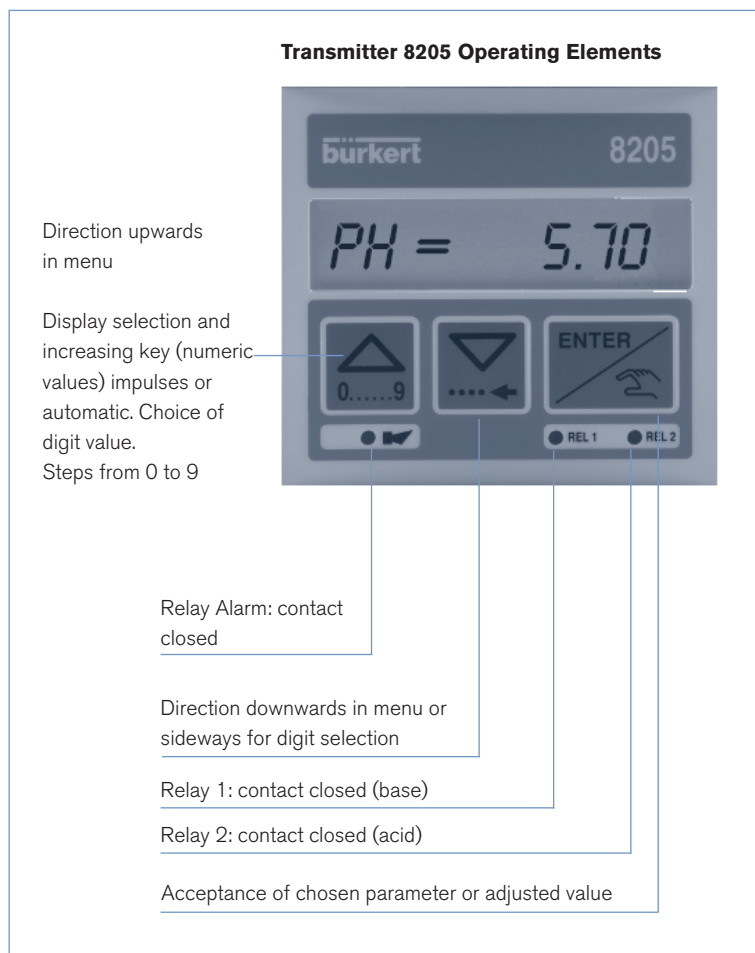The operation of the pH-transmitter is divided into the following 3 different menus:

**Main Menu**
– pH
– Temperature
– Output current
– HOLD function
– pH–electrode calibration

**Calibration Menu**
– Language
– Temperature units
– Measuring range 4 – 20 mA
– Relay parameter definition
– Selection of temperature compensation
    (Pt1000 or manual)
– Display or not of electrode voltage in main menu
– Filter selection

**Test Menu**
– Offset
– Span
– Temperature adjustment
– Simulation of pH or temperature value
– Display of instantaneous electrode voltage

**Transmitter 8205 Operating Elements**

Direction upwards
in menu

Display selection and
increasing key (numeric
values) impulses or
automatic. Choice of
digit value.
Steps from 0 to 9

Relay Alarm: contact
closed

Direction downwards in menu or
sideways for digit selection

Relay 1: contact closed (base)

Relay 2: contact closed (acid)

Acceptance of chosen parameter or adjusted value

**bürkert**

## 8205
## Digital pH–Transmitter

## Technical data

| General data | |
|---|---|
| Measuring range | 0 – 14 pH |
| Measuring error | +/-0.2%, depending on electrode calibration |
| Temperature compensation | Automatic (integrated Pt1000) reference temperature 77°F (25°C) |
| Ambient temperature | 32°F to 140°F (0°C to 60°C) |
| Storage temperature | 32°F to 140°F (0°C to 60°C) |

| Compact version | |
|---|---|
| Pipe diameter | Stainless steel    1/2" to 2"  (DN 15 to DN 50) fitting Type S020<br>    21/2" to 4"  (DN 65 to DN 100) weld–o–let fitting Type 1500<br>Brass    1/2" to 2"  (DN 15 to DN 50) fitting Type S020<br>PVC, PP, PVDF    1/2" to 2"  (DN 15 to DN 50) fitting Type S020<br>PE, PP, PVDF    21/2" to 4"  (DN 65 to DN 100) weld–o–let fitting Type 1501 |
| Enclosure | NEMA 4 (IP 65) Relative humidity max. 80% |
| Electronic housing | Polycarbonate |
| Front plate | Polyester |
| Sensor housing | PVDF; O–rings FKM / EPDM |
| Voltage supply | 12–30 VDC |
| Consumption | 80 mA (with relays), 20 mA (without relays) |
| Display | 0.6 x 2.4 in. LCD 8 digits, alphanumeric 15 segments, 0.35 in. high |
| Analog output signal | 4 – 20 mA programmable, proportional to the pH or to the temperature |
| Load | <700 Ω at 30 V; <400 Ω at 24 V; <100 Ω at 15 V |
| Relay output (alarm) | 2 relays 3 A / 230 V; freely adjustable |
| Temperature Sensor Pt1000 | Stainless Steel 316 Ti |

**Pressure–Temperature–Diagram**
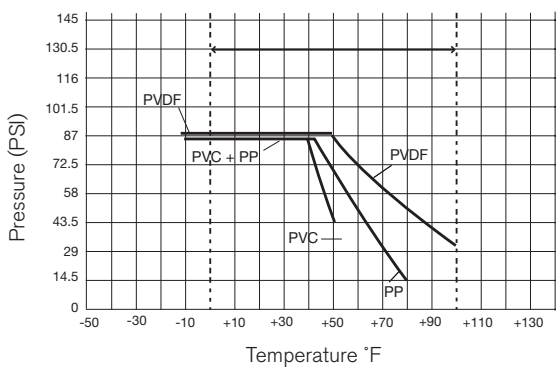


| Electrode for compact version Type 8205 | FLAT |
|---|---|
| Housing | glass shaft |
| Max.pressure at max. temperature | *100 PSI @ 170°F<br>85 PSI @ 180°F<br>50 PSI @ 212°F |
| Diaphragm | polyethylene |
| Reference electrolyte | methyl cellulose |

* For metallic S020 only.

**pH−transmitter Type 8205 compact dimensions [mm]**

Compact Version Standard without Relay
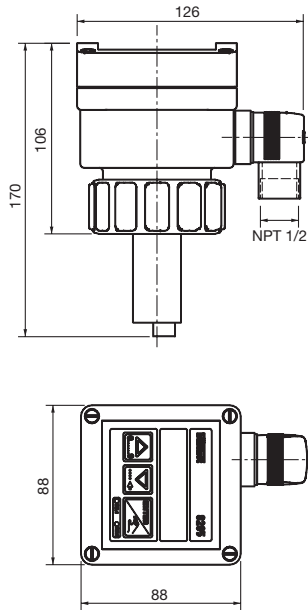


Compact Version Standard with 2 Relays



Dimensions pH−transmitter Type 8205 Panel Version



Dimensions pH−transmitter Type 8205 Wall-Mounted Version

**bürkert**

## Fittings Type S020 1/2" – 2" (DN 15–50) for transmitter 8205



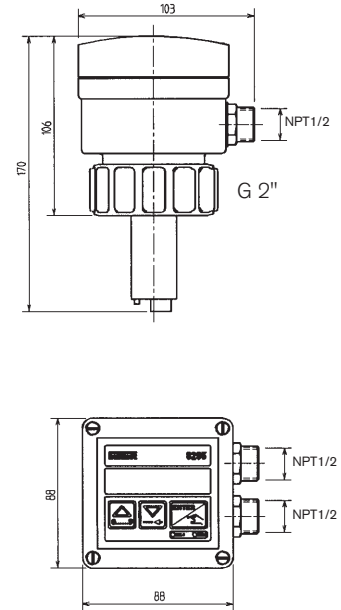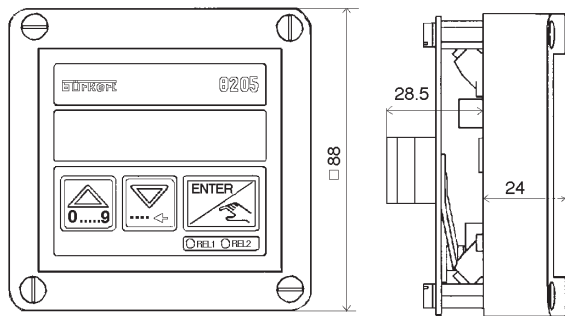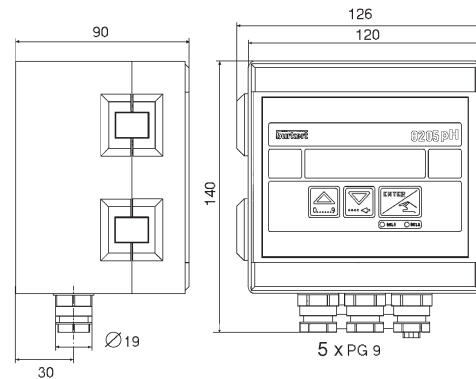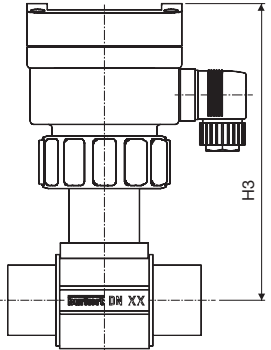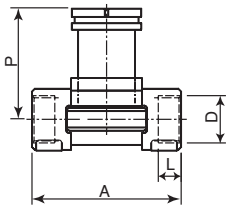| Variable Dimensions [mm] | | | | |
|---|---|---|---|---|
| Port | (DN) | H1 | H2 | H3 |
| 1/2" | (15) | 163 | 177 | 177 |
| 3/4" | (20) | 163 | 177 | 177 |
| 1" | (25) | 163 | 177 | 177 |
| 1 1/4" | (32) | 163 | 177 | 177 |
| 1 1/2" | (40) | 164 | 178 | 178 |
| 2" | (50) | 170 | 184 | 184 |

Applicable for all Fitting Materials
1/2"–2" (DN 15 – 50) Process Connections.

## Insertion fitting dimensions (for 8205 compact)

**Internal thread**  NPT
**Stainless steel (316L - 1.4404)**  G
**or Brass (CuZn39Pb2)**  Rc



| Orifice [DN] | P [mm] | A [mm] | D | | L [mm] |
|---|---|---|---|---|---|
| 1/2" (15) | 80.3 | 85.0 | NPT | 1/2 | 17.0 |
| | | | G | 1/2 | 16.0 |
| | | | Rc | 1/2 | 15.0 |
| 3/4" (20) | 77.8 | 95.0 | NPT | 3/4 | 18.3 |
| | | | G | 3/4 | 17.0 |
| | | | Rc | 3/4 | 16.3 |
| 1" (25) | 78.0 | 105.0 | NPT 1 | | 18.0 |
| | | | G | 1 | 23.5 |
| | | | Rc | 1 | 18.0 |
| 1 1/4" (32) | 81.6 | 120.0 | NPT 1 | 1/4 | 21.0 |
| | | | G | 1 1/4 | 23.5 |
| | | | Rc | 1 1/4 | 21.0 |
| 1 1/2" (40) | 85.4 | 130.0 | NPT 1 | 1/2 | 20.0 |
| | | | G | 1 1/2 | 23.5 |
| | | | Rc | 1 1/2 | 19.0 |
| 2" (50) | 91.5 | 150.0 | NPT 2 | | 24.0 |
| | | | G | 2 | 27.5 |
| | | | Rc | 2 | 24.0 |

**External thread**  G
**Stainless steel (316L - 1.4404)**
**or Brass (CuZn39Pb2)**
**or PVC (only DN 6 and 8)**
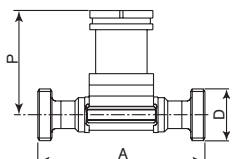


| Orifice [DN] | P [mm] | A [mm] | D | | L [mm] |
|---|---|---|---|---|---|
| 1/4" (6) | 75.3 | 90.0 | G | 1/2 | 14.0 |
| 5/16" (8) | 75.3 | 90.0 | G | 1/2 | 14.0 |
| 1/2" (15) | 80.3 | 84.0 | G | 3/4 | 11.5 |
| 3/4" (20) | 77.8 | 94.0 | G | 1 | 13.5 |
| 1" (25) | 78.0 | 104.0 | G | 1 1/4 | 14.0 |
| 1 1/4" (32) | 81.6 | 119.0 | G | 1 1/2 | 18.0 |
| 1 1/2" (40) | 85.4 | 129.0 | M 55 x 2 | | 19.0 |
| 2" (50) | 91.5 | 149.0 | M 64 x 2 | | 20.0 |

**External thread**  SMS1145
**Stainless steel (316L - 1.4404)**



| Orifice [DN] | P [mm] | A [mm] | D |
|---|---|---|---|
| 1" (25) | 77.8 | 130 | Rd40 x 1/6" |
| 1 1/2" (40) | 81.6 | 164 | Rd60 x 1/6" |
| 2" (50) | 85.4 | 173 | Rd70 x 1/6" |

**bürkert**

## Insertion fitting dimensions (for 8205 compact)

**Welding ends**
**Stainles steel** (316L - 1.4404)

**BS 4825/ASME BPE**
**EN ISO 1127 / ISO 4200**
**SMS 3008**



| Orifice [DN] | P [mm] | A [mm] | Standard | D [mm] | s [mm] |
|---|---|---|---|---|---|
| 1/2" (15) | 80.3 | 84.0 | ASME BPE | - | - |
|  | - | - | ISO 4200 | 21.30 | 1.60 |
|  |  |  | SMS 3008 | - | - |
| 3/4" (20) | 83.3 | 84.0 | ASME BPE | 19.05 | 1.65 |
|  | 77.8 | 94.0 | ISO 4200 | 26.90 | 1.60 |
|  | 83.3 | 84.0 | SMS 3008 | 20.00 | 1.00 |
| 1" (25) | 77.8 | 94.0 | BS4825/ASME BPE | 25.40 | 1.65 |
|  | 78.0 | 104.0 | ISO 4200 | 33.70 | 2.00 |
|  | 77.8 | 94.0 | SMS 3008 | 25.00 | 1.20 |
| 1 1/4" (32) | 78.0 | 104.0 | BS4825/ASME BPE | 32.00 | 1.60 |
|  | 81.6 | 119.0 | ISO 4200 | 42.40 | 2.00 |
|  | 78.0 | 104.0 | SMS 3008 | - | - |
| 1 1/2" (40) | 81.6 | 119.0 | BS 4825 | 38.10 | 1.65 |
|  | 85.4 | 129.0 | ISO 4200 | 48.30 | 2.00 |
|  | 81.6 | 119.0 | SMS 3008 | 38.00 | 1.20 |
| 2" (50) | 85.4 | 128.0 | BS4825/ASME BPE | 50.80 | 1.65 |
|  | 91.5 | 149.0 | ISO 4200 | 60.30 | 2.00 |
|  | 85.4 | 128.0 | SMS 3008 | 51.00 | 1.20 |
| 2 1/2" (65) | 91.5 | 147.0 | BS4825/ASME BPE | 63.50 | 1.65 |
|  | - | - | ISO 4200 | - | - |
|  | 91.5 | 147.0 | SMS 3008 | 63.50 | 1.60 |

**Tri-Clamp®**
**Stainless steel**
(316L - 1.4404)

**BS 4825/ASME BPE***
**ISO** (for pipe EN ISO 1127 / ISO 4200)
**SMS 3017 / ISO 2852***

***Available with internal surface finish Ra=0.8µm**



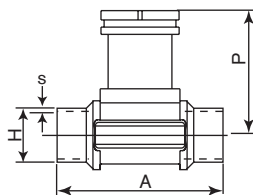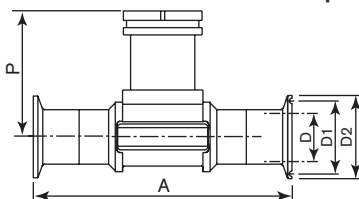| Orifice [DN] | P [mm] | A [mm] | Standard | D2 [mm] | D1 [mm] | D [mm] |
|---|---|---|---|---|---|---|
| 1/2" (15) |  |  | ASME BPE | - | - | - |
|  | 80.3 | 130 | ISO (for pipe ISO 4200) | 18.1 | 27.5 | 34.0 |
|  | - | - | SMS 3017/ISO 2852 | - | - | - |
| 3/4" (20) |  |  | ASME BPE | 15.75 | - | 25.0 |
|  | 77.8 | 150 | ISO (for pipe ISO 4200) | 23.7 | 43.5 | 50.5 |
|  | 80.3 | - | SMS 3017/ISO 2852 | - | - | - |
| 1" (25) |  |  | BS 4825/ASME BPE | 22.1 | 43.5 | 50.5 |
|  | 78.0 | 160 | ISO (for pipe ISO 4200) | 29.7 | 43.5 | 50.5 |
|  | 77.8 | 129.0 | SMS 3017/ISO 2852 | 22.6 | 43.5 | 50.5 |
| 1 1/4" (32) |  |  | BS 4825/ASME BPE | - | - | - |
|  | 81.6 | 180 | ISO (for pipe ISO 4200) | 38.4 | 43.5 | 50.5 |
|  | - | - | SMS 3017/ISO 2852 | - | - | - |
| 1 1/2" (40) |  |  | BS 4825/ASME BPE | 34.8 | 43.5 | 50.5 |
|  | 85.4 | 200 | ISO (for pipe ISO 4200) | 44.3 | 56.5 | 64.0 |
|  | 81.6 | 161.0 | SMS 3017/ISO 2852 | 35.6 | 43.5 | 50.5 |
| 2" (50) |  |  | BS 4825/ASME BPE | 47.5 | 56.5 | 64.0 |
|  | 91.5 | 230 | ISO (for pipe ISO 4200) | 55.1 | 70.5 | 77.5 |
|  | 85.4 | 192.0 | SMS 3017/ISO 2852 | 48.6 | 56.5 | 64.0 |
| 2 1/2" (65) |  |  | BS 4825/ASME BPE | 60.2 | 70.5 | 77.5 |
|  | - | - | ISO (for pipe ISO 4200) | - | - | - |
|  | 91.5 | 216.0 | SMS 3017/ISO 2852 | 60.3 | 70.5 | 77.5 |

DTS 1000082474 EN Version: A Status: RL (released l freigegeben l validé) printed: 16.07.2008

**bürkert**

## Insertion fitting dimensions (for 8205 compact)

### Flange
### Stainless steel (316L - 1.4404)
**DIN 2633**
**ANSI B16-5-1988**
**JIS 10K**
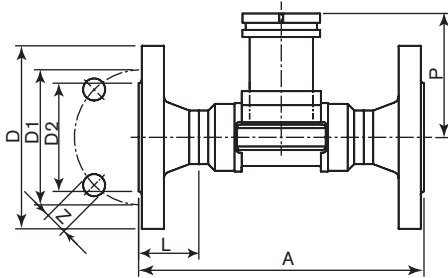


| Orifice [DN] | P [mm] | A DIN/ANSI [mm] | A JIS [mm] | NORM | L [mm] | Z [mm] | D2 [mm] | D1 [mm] | D [mm] |
|---|---|---|---|---|---|---|---|---|---|
| 1/2" (15) | 80.3 | 130.0 | 152.0 | ANSI | 23.5 | 4x15.8 | 34.9 | 60.3 | 89.0 |
|  |  |  |  | DIN |  | 4x14.0 | 45.0 | 65.0 | 95.0 |
|  |  |  |  | JIS |  | 4x15.0 | 51.0 | 70.0 | 95.0 |
| 3/4" (20) | 77.8 | 150.0 | 178.0 | ANSI | 28.5 | 4x15.8 | 42.9 | 69.8 | 99.0 |
|  |  |  |  | DIN |  | 4x14.0 | 58.0 | 75.0 | 105.0 |
|  |  |  |  | JIS |  | 4x15.0 | 56.0 | 75.0 | 100.0 |
| 1" (25) | 78.0 | 160.0 | 216.0 | ANSI | 28.5 | 4x15.8 | 50.8 | 79.4 | 108.0 |
|  |  |  |  | DIN |  | 4x14.0 | 68.0 | 85.0 | 115.0 |
|  |  |  |  | JIS |  | 4x19.0 | 67.0 | 90.0 | 125.0 |
| 1 1/4" (32) | 81.6 | 180.0 | 229.0 | ANSI |  | 4x15.8 | 63.5 | 88.9 | 117.0 |
|  |  |  |  | DIN | 31.0 | 4x18.0 | 78.0 | 100.0 | 140.0 |
|  |  |  |  | JIS |  | 4x19.0 | 76.0 | 100.0 | 135.0 |
| 1 1/2" (40) | 85.4 | 200.0 | 241.0 | ANSI | 36.0 | 4x15.8 | 73.0 | 98.4 | 127.0 |
|  |  |  |  | DIN |  | 4x18.0 | 88.0 | 110.0 | 150.0 |
|  |  |  |  | JIS |  | 4x19.0 | 81.0 | 105.0 | 140.0 |
| 2" (50) | 91.5 | 230.0 | 267.0 | ANSI | 41.0 | 4x19.0 | 92.1 | 120.6 | 152.0 |
|  |  |  |  | DIN |  | 4x18.0 | 102.0 | 125.0 | 165.0 |
|  |  |  |  | JIS |  | 4x19.0 | 96.0 | 120.0 | 155.0 |

### True union nut with solvent or fusion spigot
### PVC, PP, PVDF
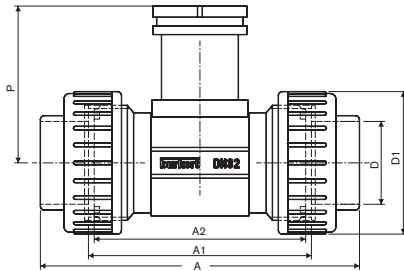


| Orifice [DN] | P [mm] | D1 [mm] | A DIN [mm] | A ANSI [mm] | A JIS [mm] | D (DIN) [mm] | D (ANSI) [mm] | D (JIS) [mm] | A2 [mm] | A1 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1/2" (15) | 80.4 | 43 | 128 | 130.0 | 129 | 20 | 21.3 | 18.40 | 90 | 96 |
| 1/2" (15)* | 81.4 | 74 | 148 | - | - | 20 | - | - | 110 | 116 |
| 3/4" (20) | 77.8 | 53 | 144 | 145.6 | 145 | 25 | 26.7 | 26.45 | 100 | 106 |
| 3/4" (20)* | 81.4 | 74 | 154 | - | - | 25 | - | - | 110 | 116 |
| 1" (25) | 78.0 | 60 | 160 | 161.4 | 161 | 32 | 33.4 | 32.55 | 110 | 116 |
| 1" (25)* | 81.4 | 74 | 160 | - | - | 32 | - | - | 110 | 116 |
| 1 1/4" (32) | 81.4 | 74 | 168 | 170.0 | 169 | 40 | 42.2 | 38.60 | 110 | 116 |
| 1 1/2" (40) | 85.2 | 83 | 188 | 190.2 | 190 | 50 | 48.3 | 48.70 | 120 | 127 |
| 2" (50) | 91.5 | 103 | 212 | 213.6 | 213 | 63 | 60.3 | 60.80 | 130 | 136 |

* Analysis version fitting

### Solvent or fusion spigot
### PVC, PP, PVDF
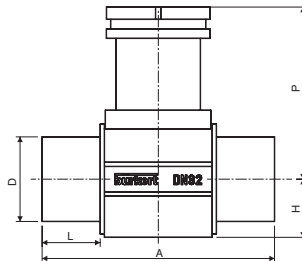


| Orifice [DN] | P [mm] | H [mm] | A PVC [mm] | A PP/PVDF [mm] | D (DIN) [mm] | D (ANSI) [mm] | D (JIS) [mm] | L PVC [mm] | L PP/PVDF [mm] |
|---|---|---|---|---|---|---|---|---|---|
| 1/2" (15) | 80.4 | 17.5 | 90 | 85 | 20 | 21.3 | 18.40 | 16.5 | 14 |
| 3/4" (20) | 77.8 | 17.5 | 100 | 92 | 25 | 26.7 | 26.45 | 20.0 | 16 |
| 1" (25) | 78.0 | 21.5 | 110 | 95 | 32 | 33.4 | 32.55 | 23.0 | 18 |
| 1 1/4" (32) | 81.4 | 27.5 | 110 | 100 | 40 | 42.2 | 38.60 | 27.5 | 20 |
| 1 1/2" (40) | 85.2 | 31.5 | 120 | 106 | 50 | 48.3 | 48.70 | 30.0 | 23 |
| 2" (50) | 91.5 | 39.5 | 130 | 110 | 63 | 60.3 | 60.80 | 37.0 | 27 |

## Dimensions [mm] – fittings 2 1/2" – 4" (DN 65 – 100) (for 8205 compact)

**Fusion spigot
PE, PP, PVDF**
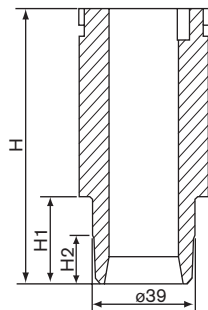
| DIA. | H | PE | | PP | | PVDF | |
|------|------|------|------|------|------|------|------|
| [DN] | [mm] | H1 [mm] | H2 [mm] | H1 [mm] | H2 [mm] | H1 [mm] | H2 [mm] |
| 2 1/2" (65) | 72.5 | 13.0 | --- | 13.0 | --- | 10.4 | --- |
| 3" (80) | 72.5 | 15.6 | --- | 15.6 | --- | 12.5 | --- |
| 4" (100) | 72.5 | 19.0 | 5.0 | 19.0 | 5 | 15.2 | 6 |

**Welding tab with radius
Stainless steel** (316L - 1.4404)
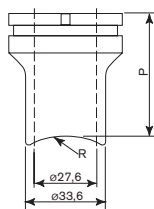
| Orifice (DN) | P [mm] | R [mm] |
|--------------|--------|--------|
| 2" (50) | 56.55 | 30.15 |
| 2 1/2" (65) | 54.52 | 36.65 |
| 3" (80) | 53.07 | 44.45 |
| 4" (100) | 50.71 | 57.15 |

**Saddle– PVC**

Body material: PVC,  Seal material: BUNA

ORING SEAL
WEDGE CLAMP
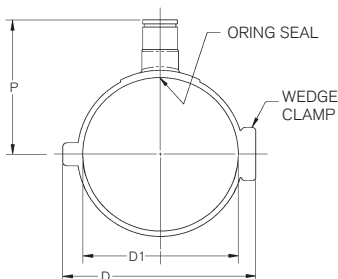
| DIA. | D[mm] | P[mm] | D1[mm] |
|------|-------|-------|--------|
| 2 1/2" (65) | 129 | 115.0 | 75.0 |
| 3" (80) | 144 | 119.0 | 90.0 |
| 4" (100) | 163 | 107.0 | 114.0 |

## Operation and display

A Compact Version of pH–transmitter Type 8205 Consists of Two Basic Units as  Follows:
- Fitting Type S020 1/2" to 2" (DN15 to DN50) or 1500/1501 2–1/2" to 4" (DN 65 to DN 100)
- Compact pH–Transmitter

**pH–Transmitter Compact 4–20 mA Output,  No Relays, Pt 1000 Temp Comp, 12 – 30 VDC;  with 1/2" NPT Conduit DIN Plug**

| Description | Electrode | Gasket | Item no. |
|-------------|-----------|--------|----------|
| Compact pH–transmitter 8205 | Flat Glass | FKM | US05294 |

**pH–Controller Compact 4–20 mA Output,  with 2 Relays, Pt 1000 Temp Comp, 12 – 30 VDC;  2 x 1/2" NPT Conduit Entry**

| Description | Electrode | Gasket | Item no. |
|-------------|-----------|--------|----------|
| Compact pH–transmitter 8205 | Flat Glass | FKM | US05295 |

**bürkert**

## Ordering chart for insertion fitting S020 (for 8205 compact)

### Brass – T-fitting

| Specification | | | Item no. / Orifice | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Port connection | Seal | Standards | 1/2" (DN 15) | 3/4" (DN 20) | 1" (DN 25) | 1 1/4" (DN 32) | 1 1/2" (DN 40) | 2" (DN 50) | 2 1/2" (DN 65) |
| Internal thread | FKM | NPT | 428 718 | 428 719 | 428 720 | 428 721 | 428 722 | 428 723 | --- |
| | | G | 428 712 | 428 713 | 428 714 | 428 715 | 428 716 | 428 717 | --- |
| | | Rc (ISO7) | 428 724 | 428 725 | 428 726 | 428 727 | 428 728 | 428 729 | --- |
| External thread | FKM | G | 428 730 | 428 731 | 428 732 | 428 733 | 428 734 | 428 735 | --- |

### Stainless steel – T-fitting

| Specification | | | Item no. / Orifice | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Port connection | Seal | Standards | 1/2" (DN 15) | 3/4" (DN 20) | 1" (DN 25) | 1 1/4" (DN 32) | 1 1/2" (DN 40) | 2" (DN 50) | 2 1/2" (DN 65) |
| Internal thread | FKM | NPT | 428 742 | 428 743 | 428 744 | 428 745 | 428 746 | 428 747 | --- |
| | | G | 428 736 | 428 737 | 428 738 | 428 739 | 428 740 | 428 741 | --- |
| | | Rc (ISO7) | 428 748 | 428 749 | 428 750 | 428 751 | 428 753 | 428 754 | --- |
| External thread | FKM | G | 428 754 | 428 755 | 428 756 | 428 757 | 428 758 | 428 759 | --- |
| | EPDM | SMS 1145 | --- | --- | 443 317 | --- | 443 318 | 443 319 | --- |
| Weld ends | FKM | EN ISO 1127/ISO 4200 | --- | 428 760 | 428 761 | 428 762 | 428 763 | 428 764 | 428 765 |
| | EPDM | BS4825 / ASME BPE | --- | 443 734 | 443 735 | 443 736 | 443 942 | 443 943 | 443 944 |
| | | SMS 3008 | --- | --- | 443 309 | --- | 443 310 | 443 311 | 443 312 |
| Tri-Clamp® | FKM | EN ISO 1127/ISO 4200 | --- | 428 766 | 428 767 | 428 768 | 428 769 | 428 770 | 428 771 |
| | EPDM | BS4825/ASME BPE | --- | 443 965 | 443 966 | --- | 443 967 | 443 968 | 443 969 |
| | | SMS3017/ISO2852 | --- | --- | 443 313 | --- | 443 314 | 443 315 | 443 316 |
| | | BS4825/ASME BPE* | --- | 443 970 | 443 971 | --- | 443 972 | 443 973 | 443 974 |
| | | SMS3017/ISO2852* | --- | --- | 443 957 | --- | 443 958 | 443 959 | 443 960 |
| Flange | FKM | ANSI B16-5-1988 | 428 778 | 428 779 | 428 780 | 428 781 | 428 782 | 428 783 | --- |
| | | DIN 2633 | 428 772 | 428 773 | 428 774 | 428 775 | 428 776 | 428 777 | --- |
| | | JIS 10K | 431 053 | 431 054 | 431 055 | 431 056 | 431 057 | 431 058 | --- |

**\*** internal surface finish Ra = 0.8 µm

### Stainless steel – welding tab with radius

| Specification | Item no. / Orifice | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2" (DN 50) | 2 1/2" (DN 65) | 3" (DN 80) | 4" (DN 100) | 5" (DN 125) | 6" (DN 150) | 8" (DN 200) | 10" (DN 250) | 12" (DN 300) | 14" (DN 350) |
| Weld tabs | 418 111 | 418 112 | 418 113 | 418 114 | 418 115 | 418 116 | 418 117 | 418 756 | 720 070 | 416 637 |

### Carbon steel saddles – (requires long finger sensor)

| Specification | Item no. / Orifice | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2" (DN 50) | 3" (DN 80) | 4" (DN 100) | 5" (DN 125) | 6" (DN 150) | 8" (DN 200) | 10" (DN 250) | 12" (DN 300) | 14" (DN 350) |
| | US50B49 | US50B32 | US50B33 | US50B34 | US50B35 | US50B36 | US50B37 | US50B38 | TBD |

### Carbon steel weldolet - (requires long finger sensor)

| Specification | Item no. / Orifice | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2" (DN 50) | 2 1/2" (DN 65) | 3" (DN 80) | 4" (DN 100) | 5" (DN 125) | 6" (DN 150) | 8" (DN 200) | 10" (DN 250) | 12" (DN 300) |
| | US50B61 | US50C34 | US50C35 | US50B27 | US50B28 | US50B29 | US50B30 | US50B31 | US50C55 |

### PVC – T-fitting

| Specification | | | Item no. / Orifice | | | | | |
|---|---|---|---|---|---|---|---|---|
| Port connection | Seal | Standards | 1/2" (DN 15) | 3/4" (DN 20) | 1" (DN 25) | 1 1/4" (DN 32) | 1 1/2" (DN 40) | 2" (DN 50) |
| True union - solvent spigot | FKM | ASTM | 428 682 | 428 683 | 428 684 | 428 685 | 428 686 | 428 687 |
| | | ISO | 428 670 | 428 671 | 428 672 | 428 673 | 428 674 | 428 675 |
| | | JIS | 429 078 | 429 079 | 429 080 | 429 081 | 429 082 | 429 083 |
| Solvent ends | FKM | ISO | 428 676 | 428 677 | 428 678 | 428 679 | 428 680 | 428 681 |
| For Analysis: True union- solvent spigot | FKM | ISO | 430 837 | 430 838 | 460 839 | 428 673 | 428 674 | 4428 675 |

**bürkert**

## Ordering chart for insertion fitting S020 (for 8205 compact)

### PVC saddle – (long finger required for 6″ & 8″ saddle)

| Specification | Item no. / Orifice | | | | |
|---|---|---|---|---|---|
| | 2″ (DN 50) | 3″ (DN 80) | 4″ (DN 100) | 6″ (DN 150) | 8″ (DN 200) |
| | 413 469 W | 413 470 T | US50B20 | US50B17 | US50B42 |

### PVC – Screw-on fitting

| Specification | Item no. / Orifice | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 1/2″ (DN 65) | 3″ (DN 80) | 4″ (DN 100) | 5″ (DN 125) | 6″ (DN 150) | 8″ (DN 200) | 10″ (DN 250) | 12″ (DN 300) | 14″ (DN 350) | 16″ (DN 400) |
| | --- | --- | 418 170 | 418 170 | 418 170 | 418 170 | 418 170 | 418 170 | 418 170 | 418 170 |

### PP – T-fitting

| Port connection | Specification | | Item no. / Orifice | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Seal | Standards | 9/16″ (DN 6) | 3/4″ (DN 20) | 1″ (DN 25) | 1 1/4″ (DN 32) | 1 1/2″ (DN 40) | 2″ (DN 50) |
| True union - solvent spigot | FKM | ISO | 428 688 | 428 689 | 428 690 | 428 691 | 428 692 | 428 693 |
| Solvent ends | FKM | ISO | 428 694 | 428 695 | 428 696 | 428 697 | 428 698 | 428 699 |
| For Analysis: True union- solvent spigot | FKM | ISO | 430 840 | 430 841 | 460 842 | 428 691 | 428 692 | 428 693 |

### PP – Fusion spigot or Screw-on fitting

| Specification | Item no. / Orifice | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 1/2″ (DN 65) | 3″ (DN 80) | 4″ (DN 100) | 5″ (DN 125) | 6″ (DN 150) | 8″ (DN 200) | 10″ (DN 250) | 12″ (DN 300) | 14″ (DN 350) | 16″ (DN 400) |
| Fusion spigot | 418 650 | 418 651 | 418 652 | --- | 418 653 | 418 654 | 418 655 | 418 656 | 418 657 | --- |
| Screw-on | --- | --- | 436 488 | 436 488 | 436 488 | 436 488 | 436 488 | 436 488 | 436 488 | 436 488 |

### PVDF – T-fitting

| Port connection | Specification | | Item no. / Orifice | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Seal | Standards | 3/4″ (DN 20) | 1″ (DN 25) | 1 1/4″ (DN 32) | 1 1/2″ (DN 40) | 2″ (DN 50) | 2 1/2″ (DN 65) |
| True union - solvent spigot | FKM | ISO | 428 700 | 428 701 | 428 702 | 428 703 | 428 704 | 428 705 |
| Solvent ends | FKM | ISO | 428 706 | 428 707 | 428 708 | 428 709 | 428 710 | 428 711 |
| For Analysis: True union- solvent spigot | FKM | ISO | 430 843 | 430 844 | 460 845 | 428 703 | 428 704 | 428 705 |

### PVDF – Fusion spigot or Screw-on fitting

| Specification | Item no. / Orifice | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 1/2″ (DN 65) | 3″ (DN 80) | 4″ (DN 100) | 5″ (DN 125) | 6″ (DN 150) | 8″ (DN 200) | 10″ (DN 250) | 12″ (DN 300) | 14″ (DN 350) | 16″ (DN 400) |
| Fusion spigot | 418 658 | 418 659 | 418 660 | --- | --- | --- | --- | --- | --- | --- |

### PE – Fusion spigot or Screw-on fitting

| Specification | Item no. / Orifice | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2 1/2″ (DN 65) | 3″ (DN 80) | 4″ (DN 100) | 5″ (DN 125) | 6″ (DN 150) | 8″ (DN 200) | 10″ (DN 250) | 12″ (DN 300) | 14″ (DN 350) | 16″ (DN 400) |
| Fusion spigot | 418 642 | 418 643 | 418 644 | --- | 418 645 | 418 646 | 418 647 | 418 648 | 418 649 | 418 598 |
| Screw-on | --- | --- | 436 489 | 436 489 | 436 489 | 436 489 | 436 489 | 436 489 | 436 489 | 436 489 |

bürkert

## Ordering data for remote pH systems (includes 25 ft. of cable for pH electrode)

System as shown on first page, includes two 3 Amp Relays for High/Low alarm or ON/OFF control, 25' of cable from pH sensor to transmitter, flat self flushing pH probe designed for longer life expectancy housed in a CPVC body. pH Probe connects to cable via quick BNC connector for easy maintenance and/or replacement. Nema 4 wall mounted or panel mounted transmitter, pH Simulation Mode, easy 2 point calibration with hold function thus locking in existing plant conditions during calibration. All systems shown are 24VDC. 115–230 AC versions available for wall mount electronics only

### Type 8205 In Line pH–Transmitter System with Wall or Panel Mount Electronics

| Description | Item-No |
|---|---|
| **Wall Mount System** | |
| 3/4" NPT CPVC fitting, Temperature Compensated | US50K70 |
| 3/4" NPT CPVC fitting, No Temperature Compensation | US50K71 |
| 1" NPT CPVC fitting, Temperature Compensated | US50K73 |
| 1" NPT CPVC fitting, No Temperature Compensation | US50K74 |
| 2" NPT CPVC fitting, Temperature Compensated | US50K76 |
| 2" NPT CPVC fitting, No Temperature Compensation | US50K77 |
| **Panel Mount System** | |
| 3/4" NPT CPVC fitting, Temperature Compensated | US50K85 |
| 3/4" NPT CPVC fitting, No Temperature Compensation | US50K86 |
| 1" NPT CPVC fitting, Temperature Compensated | US50K88 |
| 1" NPT CPVC fitting, No Temperature Compensation | US50K89 |
| 2" NPT CPVC fitting, Temperature Compensated | US50K91 |
| 2" NPT CPVC fitting, No Temperature Compensation | US50K92 |

### Type 8205 Submersion System with Wall or Panel Mount Electronics

| Description | Item-No |
|---|---|
| **Wall Mount System** | |
| pH Submersion Kit, Temperature Compensated | US50K82 |
| pH Submersion Kit, No Temperature Compensation | US50K83 |
| **Panel Mount System** | |
| pH Submersion Kit, Temperature Compensated | US50K97 |
| pH Submersion Kit, No Temperature Compensation | US50K98 |

### Type 8205 Wet Tap pH System with Wall or Panel Mount Electronics

| Description | Item-No |
|---|---|
| **Wall Mount System** | |
| 12" Insertion Wet Tap pH Wall Transmitter, Temperature Compensated | US50K79 |
| 12" Insertion Wet Tap pH Wall Transmitter, No Temperature Compensation | US50K80 |
| **Panel Mount System** | |
| 12" Insertion Wet Tap pH Wall Transmitter, Temperature Compensated | US50K94 |
| 12" Insertion Wet Tap pH Wall Transmitter, No Temperature Compensation | US50K95 |

### Remote pH electronics only

**pH–Transmitter Panel Mounted Version; 4–20 mA Output**

| Description | Relay output | Cable connection | Power supply | Item–No |
|---|---|---|---|---|
| Panel mounted Transmitter 8205 | no | terminals | 12 – 30 VDC | 427 937 H |
| Panel mounted Transmitter 8205 | 2 x relay | terminals | 12 – 30 VDC | 427 938 J |

**pH–Transmitter Wall Mounted Version; 4–20 mA Output**

| Description | Relay output | Cable connection | Power supply | Item–No |
|---|---|---|---|---|
| Wall mounted Transmitter 8205 | no | 5 x PG 9 | 12 – 30 VDC | 427 944 Q |
| Wall mounted Transmitter 8205 | 2 x relay | 5 x PG 9 | 12 – 30 VDC | 427 945 R |
| Wall mounted Transmitter 8205 | no | 5 x PG 9 | 115 – 230 VDC | 427 949 V |
| Wall mounted Transmitter 8205 | 2 x relay | 5 x PG 9 | 115 – 230 VDC | 427 950 S |

## Ordering chart for pH electrodes

| Replacement pH electrodes | Item no |
|---|---|
| Compact mount | US61245 |
| INLIINE ststem | |
|   3/4" INLINE | US61623 |
|   1" INLINE | US07956 |
|   2" INLINE | US07813 |
| Submersion system | US61628 |
| Wet tap system | US61979 |

DTS 1000082474 EN Version: A Status: RL (released l freigegeben l validé) printed: 16.07.2008

**bürkert**