



## Design

### Compact pH-Controller Type 8205

The pH-controller compactly combines a pH-sensor and a PID-controller with display in a splash-proof plastic NEMA 4 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.

The controller component converts the measured signal and displays the actual value and computes the command signals.

Compact version for fitting Types S020 and 1500 / 1501.

### Remote pH-Controller Type 8205

The pH-transmission system combines a pH-sensor Type 8200 and a remote pH-controller Type 8205 with display.

The 8205 remote PID-controller is available in a panel-mounted version and in a wall-mounted plastic NEMA 4 enclosure.

### pH-Sensor Type 8200

A wide range of pH-sensors with different characterized electrodes and process connections offers a large range of mounting and pH-measurements.

The Pt1000 for automatic temperature compensation is available as an optional feature in the pH-sensor housing.

Remote indication with a separated controller module for wall or panel mounting is connected over coaxial cable with pH-sensor Type 8200 for distances up to 15 feet (longer distances up to 1500 feet on request).

Sensor Type 8200 is used for mounting on different fitting types like S020, 1500 / 1501, TriClamp® or sanitary versions.

## Advantages / Benefits

- ▶ Easy system integration by Easy LINK provides low cost of ownership
- ▶ Freely programmable PID controller functions for easy pH-control system solutions
- ▶ Compact version with integrated pH-electrodes
- ▶ Remote version with separated controller away from the sensor up to 15 feet
- ▶ Large range of process connections with different fittings like threads, Triclamp® or sanitary versions
- ▶ Easy commissioning due to multi-language, menu-guided operation
- ▶ Easy processing with 4 – 20mA output signal, two pulse outputs and one alarm output
- ▶ Individual adjustment of all measuring ranges
- ▶ For use in both pipes and tanks using custom fittings or submersion kits

## Application

### pH-measurements

Waste treatment engineering

Water treatment and process technology

Cooling water monitoring

Swimming pool engineering

Chemical dosing

Electroplating

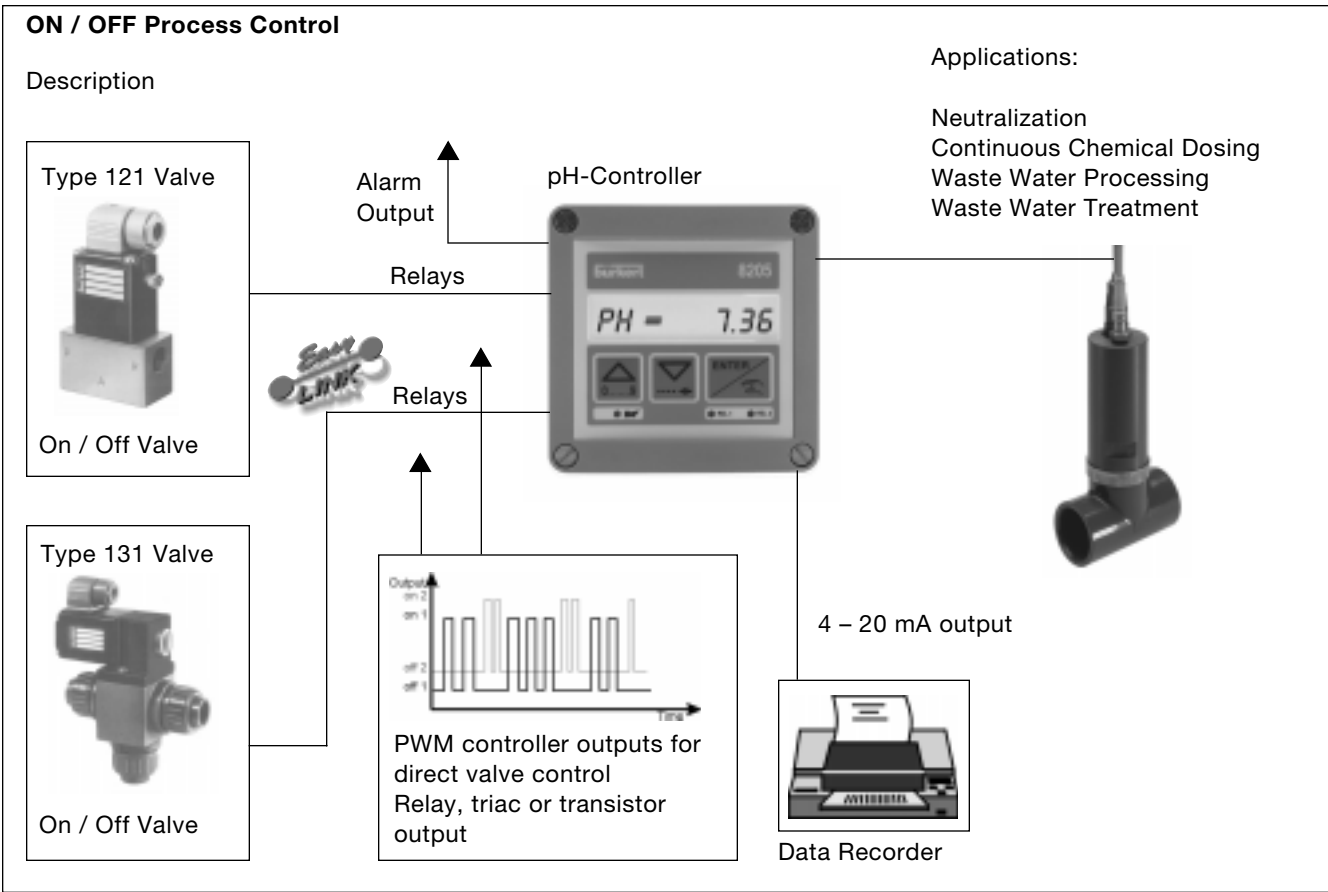
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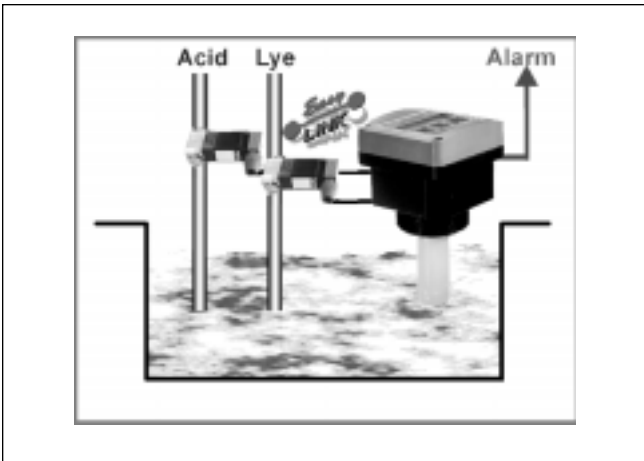
**The Easy pH - Control System**



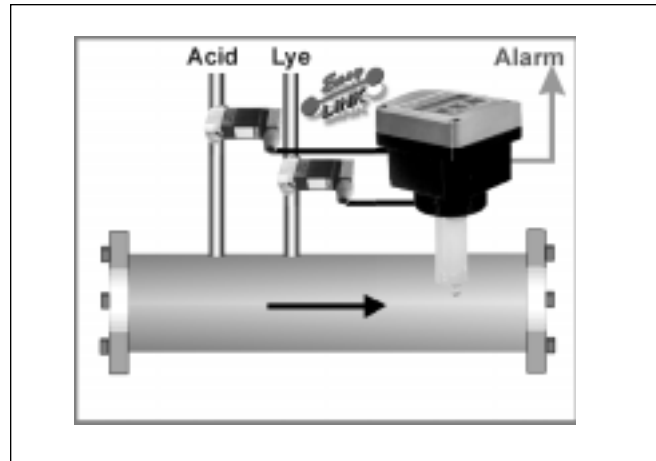
**Controlling Principle**

The pH-controller Type 8205 is designed for use in static or dynamic process pH-control. The output signals control a valve or a pump by means of impulses which vary in time duration or frequency and are computed according to the users' parameters and the set pH-value of the fluid.

Static Process Control



Dynamic Process Control




## Principle of Operation

The most important part of a pH-electrode is the glass membrane of the pH-selective glass. When the electrode is immersed into the solution, an electrical charge caused by H-ions (H+) generates a cell voltage between the glass membrane and the solution. This electric 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 controller functions in a 3-wire circuit and requires a power supply of 12 – 30 VDC. The wall-mounted version is also available with a 115 – 230 VAC power supply. A relay alarm contact, and a 4 – 20 mA standard signal proportional to the pH-signal or to the temperature (°F), are available output signals. The pulse output signals are provided by relays (standard), triacs, or transistors.

## Installation

The compact pH-controller can easily be installed into any Bürkert insertion fitting system, S020 or 1500 / 1501, by connecting the main nut. For the separated controller version, a wide range of pH configurations offers a large variety of mounting and pH-measurements. The pH-transmission system combines a pH-sensor with fitting Type 8200 and a separate pH-controller Type 8205 with display. The controller Type 8205 is available in a panel-mounted version or in a wall-mounted plastic NEMA 4 enclosure.

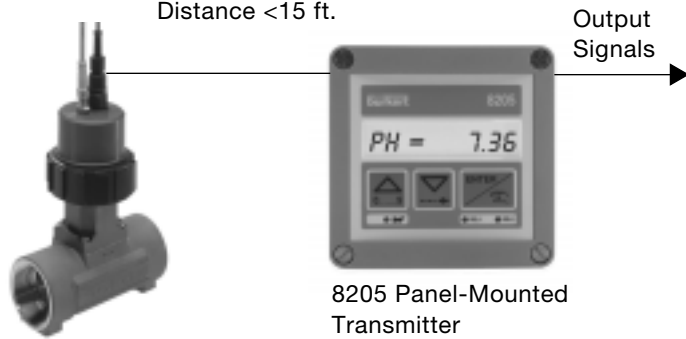
### Compact Version 8205



### Separate Version 8205

pH-Sensor 8200    pH-Controller 8205

Distance < 15 ft.

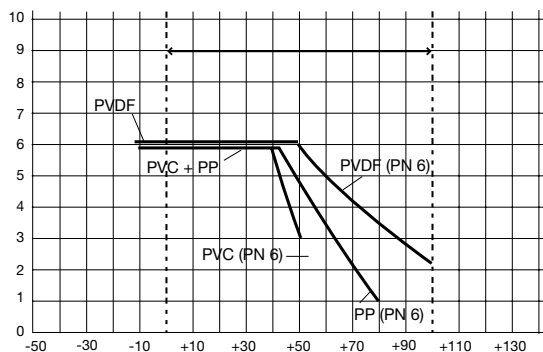


8205 Panel-Mounted Transmitter

Output Signals →

G2" in PVC, PP, PVDF or SS  
G1" PVC, TriClamp® or Sanitary  
Process Connection

## Pressure-Temperature-Diagram



## Industrial Submersion Fitting

Allows installation into tanks and containers. The following standard lengths are available: 20, 40, 60, and 80 inches. Special lengths on request.



## Operation / Commissioning

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

## pH-electrode

The pH-controller is available with five different types of standard electrodes. The adjacent chart indicates the appropriate electrode for the respective application. The service life of the pH-electrode depends on the application. Electrodes in the Type 8205 / 8200 can easily be replaced.

### How to select the most suitable pH-electrode<sup>1)</sup>

Applications	Compact Type 8205					Sensor Type 8200			
	GLS	STE	LEI	SCH	HOL	Easy control	Metro code	Polylyte Std	Polylyte HP
Waste water samples	●	●		●	●	●		●	●
General aqueous solution	●	●	○	●	●	●	○	●	●
Aquariums	●		●		●	●	●		
Beer, juices, wine	○	●		●	●	○		●	●
Butter, compact yogurt, cheese	○	○		●	●	○		●	●
Protein-containing solutions				●	●			●	●
Aqueous emulsions		●		●	●			●	●
Partly aqueous emulsions		○		○	○			○	○
Soil, earth suspensions		●		●	●			●	●
Extreme pH-values (pH<1, pH>13)	○	●	○			○	○		
Hydrofluoric acid containing solutions			○				○		
Galvanic waste water		●		●	●			●	●
Hot lyes	○	○				○			
Highly viscous solutions		●		●	●			●	●
Infusion solutions	●	●	●	●	●	●	●	●	●
Solutions with low ion content			●	○	○		●	○	○
Jam		●							
Cosmetic products		●		●	●			●	●
Varnish, colours		●		●	●			●	●
Milk	○	○		●	●	○		●	●
Non-aqueous solutions		○	●	○	○		●	○	○
Oil		○	●	○	○		●	○	○
Ultra pure and rain water			●	○	○		●	○	○
Cream, yogurt	○	○		●	●	○		●	●
Brines	●	●				●			
Swimming pools	●	●	●			●	●		
Soaps, detergents		●		●	●			●	●
Aqueous suspensions		●		●	●			●	●
Partly aqueous suspensions		●	○	●	●		○	●	●
Partly aqueous solutions >10% H2O	○	○	○	○	○	○	○	○	○
Partly aqueous solutions <10% H2O		○	○	○	○		○	○	○
TRIS buffer solutions	○	●	○	●	●	○	○	●	●

- most suitable electrode
- depending on the application

<sup>1)</sup> Technical data see: Ordering Data Accessories

## Operation and Display

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

### Main Menu

- pH; setpoints; working rates
- Temperature
- Output current
- HOLD function
- pH-electrode calibration

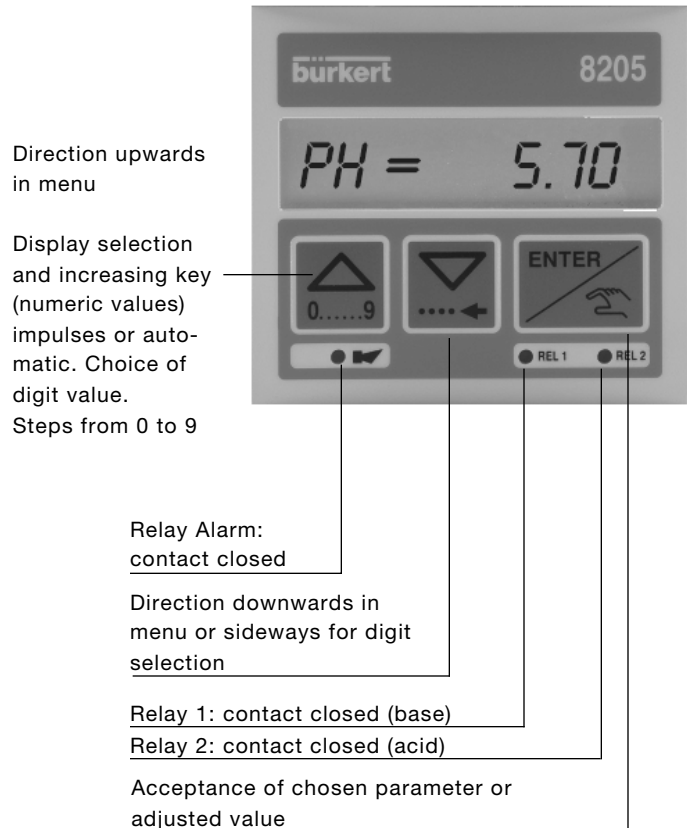
### Calibration Menu

- Language
- Temperature units
- Measuring range 4 – 20 mA
- Pulse output
- Impulse duration
- pH-setpoint adjustment
- Regulation principle (P; PI; PID)
- Alarm threshold
- Manual display selection
- Temperature selection mode
- Filter selection

### Test Menu

- Offset
- Span
- Temperature adjustment
- Simulation of pH or temperature value
- Display of instantaneous electrode voltage

Transmitter 8205 Operating Elements



## Technical Data

### General Data

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

### Compact Version

Pipe diameter	Stainless steel	DN 15 to DN 50 (1/2" to 2") fitting Type S020 DN 65 to DN 100 (2 1/2" to 4") weld-o-let fitting Type 1500
	Brass	DN 15 to DN 50 (1/2" to 2") fitting Type S020
	PVC, PP, PVDF	DN 15 to DN 50 (1/2" to 2") fitting Type S020
	PE, PP, PVDF	DN 65 to DN 100 (2 1/2" to 4") weld-o-let fitting Type 1501
Enclosure	IP 65 (NEMA 4) Relative humidity max. 80%	
Electronic housing	Polycarbonate	
Front plate	Polyester	
Sensor housing	PVDF; O-rings FPM / EPDM	
Voltage supply	12-30 VDC	
Consumption	80 mA (with relays), 20 mA (with triac or transistor)	
Display	.6 x 2.4 in. LCD 8 digits, alphanumeric 15 segments, .35 in. high	
Analog output signal	4 – 20 mA programmable, proportional to the pH or to the temperature	
Load	<1300 Ω at 30 V; <1000 Ω at 24 V; <550 Ω at 15 V	
Relay output (alarm)	1 relays 3 A / 230 V; freely adjustable	
Temperature Sensor Pt1000	SS 1.4571 (316 Ti)	
Pulse outputs	Relay	3A / 250 V max.; F <1 Hz
	Transistor	300 mA / 30 V max.; F <17 Hz
	Triac	1 A / 250 V max.; F <17 Hz
Control mode	P; PI; PID programmable	

### Remote version short distance (<15 ft)

Pipe diameter	Stainless steel	DN 32 to DN 50 (1 1/4" to 2"); fitting Type S020 DN 65 to 1200 weld-in; weld-o-let fitting Type 1500
	Brass	DN 32 to DN 50; fitting Type S020
	PVC, PP, PVDF	DN 15 to DN 50; fitting Type S020 (true union ISO) DN 32 to DN 50; fitting Type S020 (all other versions)
		DN 65 to DN 100 PE/PP/PVDF-weld-o-let fitting Type 1501
Enclosure	Wall-mounted version IP65 (NEMA4). Rel. humidity max. 80%; ABS Panel version IP 20 (rear plate); IP 65 (front plate); PC	
Voltage supply	12 – 30 VDC; (115/230 VAC option wall-mounted version)	
Consumption	80 mA (with relays), 20 mA (with triac or transistor)	
Display	.6 x 2.4 in. LCD 8 digits, alphanumeric 15 segments; .35 in. high	
Analog output signal	4 – 20 mA programmable, proportional to the pH or to the temperature	
Load	<1300 Ω at 30 V; <1000 Ω at 24 V; <550 Ω at 15 V	
Relay output (alarm)	1 relays 3 A / 230 V; freely adjustable	
Temperature Sensor Pt1000	SS 1.4571 (316 Ti)	
Pulse outputs	Relay	3A / 250 V max.; F <1 Hz
	Transistor	300 mA / 30 V max.; F <17 Hz
	Triac	1 A / 250 V max.; F <17 Hz
Control mode	P; PI; PID programmable	
Temperature sensor	Pt1000, SS 1.4571 (316 Ti)	
Signal input/connection to sensor 8200	Short distance version (<15 ft.):	Analog signal input for coaxial cables from pH-electrode and Pt1000

## Technical Data

## Electrodes for Compact Version Type 8205

	GLS	STE	LEI	SCH	HOL	FLAT
Housing	glass shaft	glass shaft	glass shaft	glass shaft	glass shaft	glass shaft
Fluid pressure	0 – 6 bar (0 – 87 psi)	0 – 3 bar (0 – 44 psi)	0 – 2 bar (0 – 29 psi)	0 – 2 bar (0 – 29 psi)	0 – 6 bar (0 – 87 psi)	0 – 7 bar (0 – 100 psi)
Fluid temperature	0 – +90°C (32 – 194°F)	0 – +130°C (32 – 266°F)	0 – +60°C (32 – 140°F)	0 – +40°C (32 – 104°F)	0 – +90°C (32 – 194°F)	10 to 80°C (50 to 176°F)
Max. pressure at max. temperature	4 bar (58 psi)	2 bar (29 psi)	2 bar (29 psi)	2 bar (29 psi)	4 bar (58 psi)	7 bar (100 psi)
Diaphragm	zircon dioxide	zircon dioxide	3x zircon dioxide	single pore	single pore	polyethylene
Reference electrolyte	gel	gel	KCl 3-Molar	polymerized	polymerized	methyl cellulose

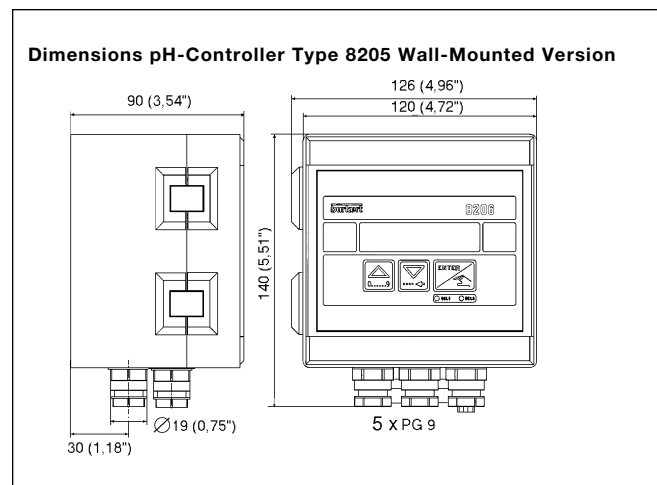
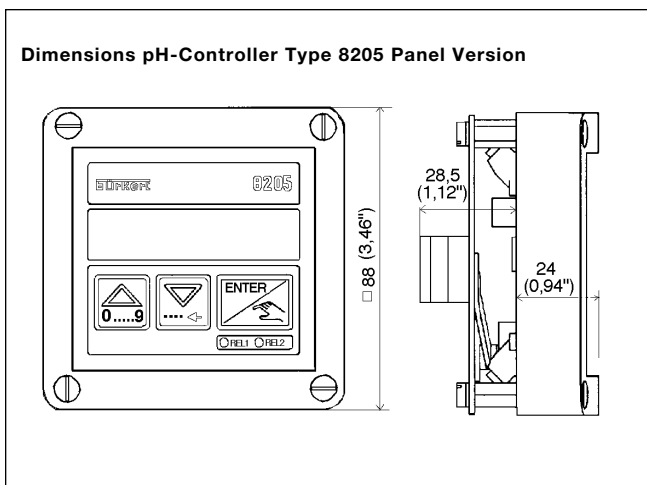
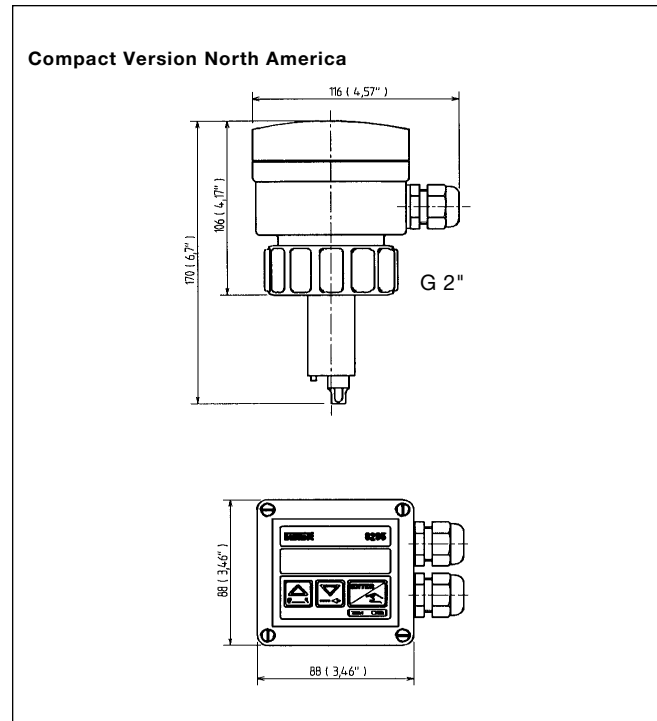
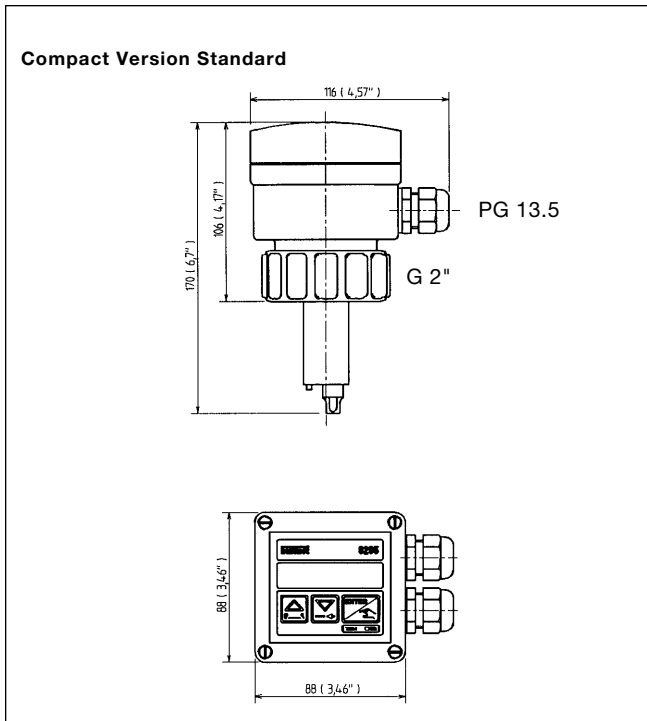
## Separate pH-Sensor Type 8200 Short Distance (&lt;15 ft)

	Easycontrol	Metrocode	Polilyte Std	Polilyte HP
Measuring range	0 – 14	0 – 14	2 – 14	2 – 14
Housing	glass shaft	glass shaft	glass shaft	glass shaft
Fluid pressure	0 – 2 bar (0 – 29 psi)	0 – 16 bar <sup>1)</sup> (0 – 232 psi)	0 – 2 bar (0 – 29 psi)	0 – 6 bar <sup>1)</sup> (0 – 87 psi)
Fluid temperature	0 – +60°C (32 – 140°F)	0 – +130°C (32 – 266°F)	0 – +40°C (32 – 104°F)	0 – +90°C (32 – 194°F)
Max. pressure at max. temperature	2 bar (24 psi)	3 bar (44 psi)	2 bar (24 psi)	4 bar (59 psi)
No. of diaphragms	1	3	2	2
Diaphragm	ceramic	HP-ceramic	single pore	single pore
Reference electrolyte	gel	gel	polymerized	polymerized
<b>pH-sensor connection</b>				
Connection	Material-connection size			
G 2" with union nut	PVC; PP; PVDF; SS			
G 1"	PVC			
Sanitary	SS DN40; DN 50; DN 65			
Triclamp®	SS 50.5 / 64			
Signal transmission	analog signal output			
Wiring	coaxial cables for pH and 4-wire cable for Pt1000 : 6 ft or 15 ft			

<sup>1)</sup> only 0-3 bar if used with Tri-Clamp® or sanitary DIN 11 851 holders type 8200 with protection tube

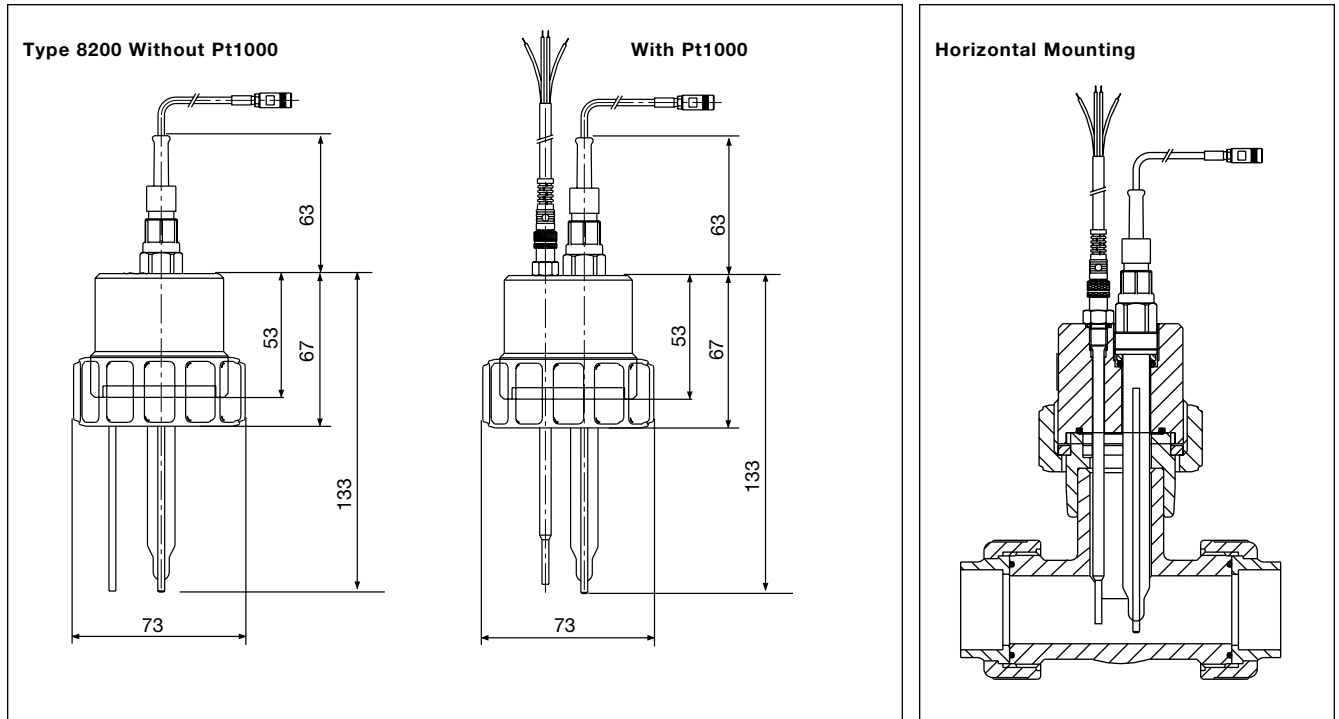
Dimensions [mm (inch)]

Dimensions of the Compact pH-Controller Type 8205

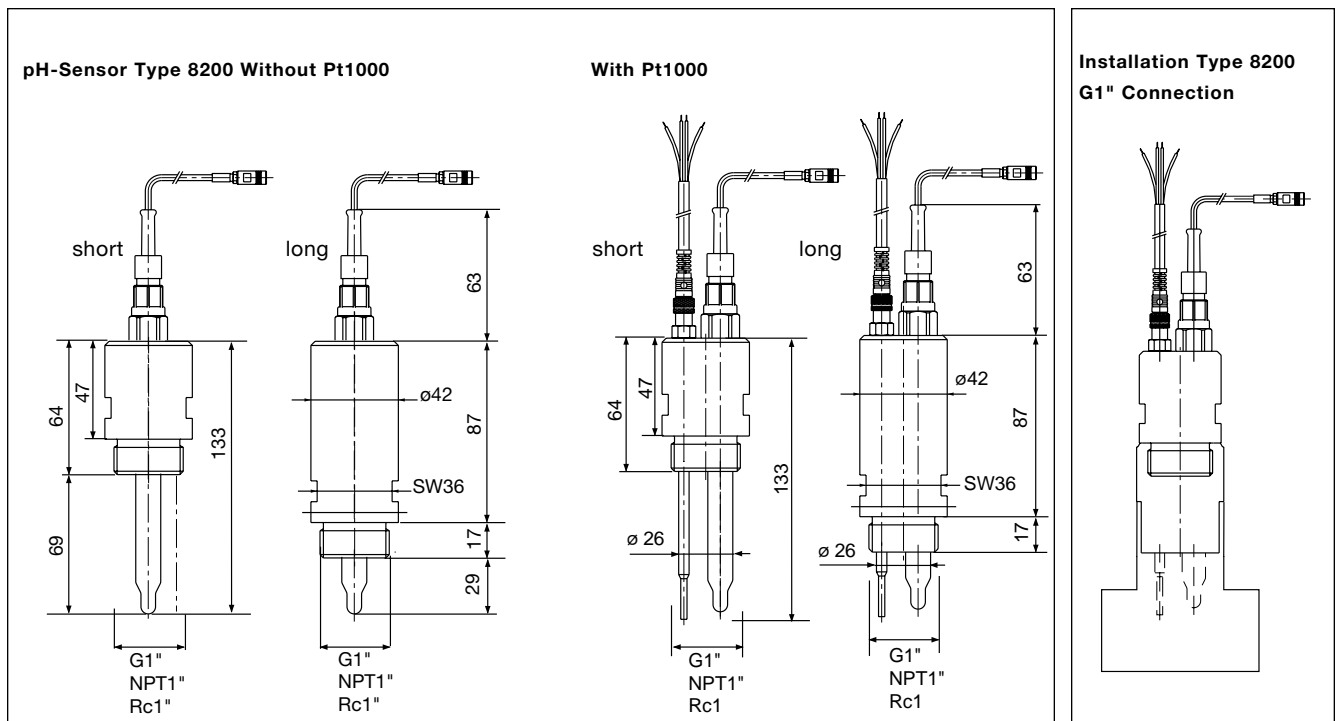


## Dimensions [mm]

### pH-Sensor Type 8200 for Burkert Fitting Type S020; 1500; 1501 G2" Connection; Material: PVC, PP, PVDF, SS



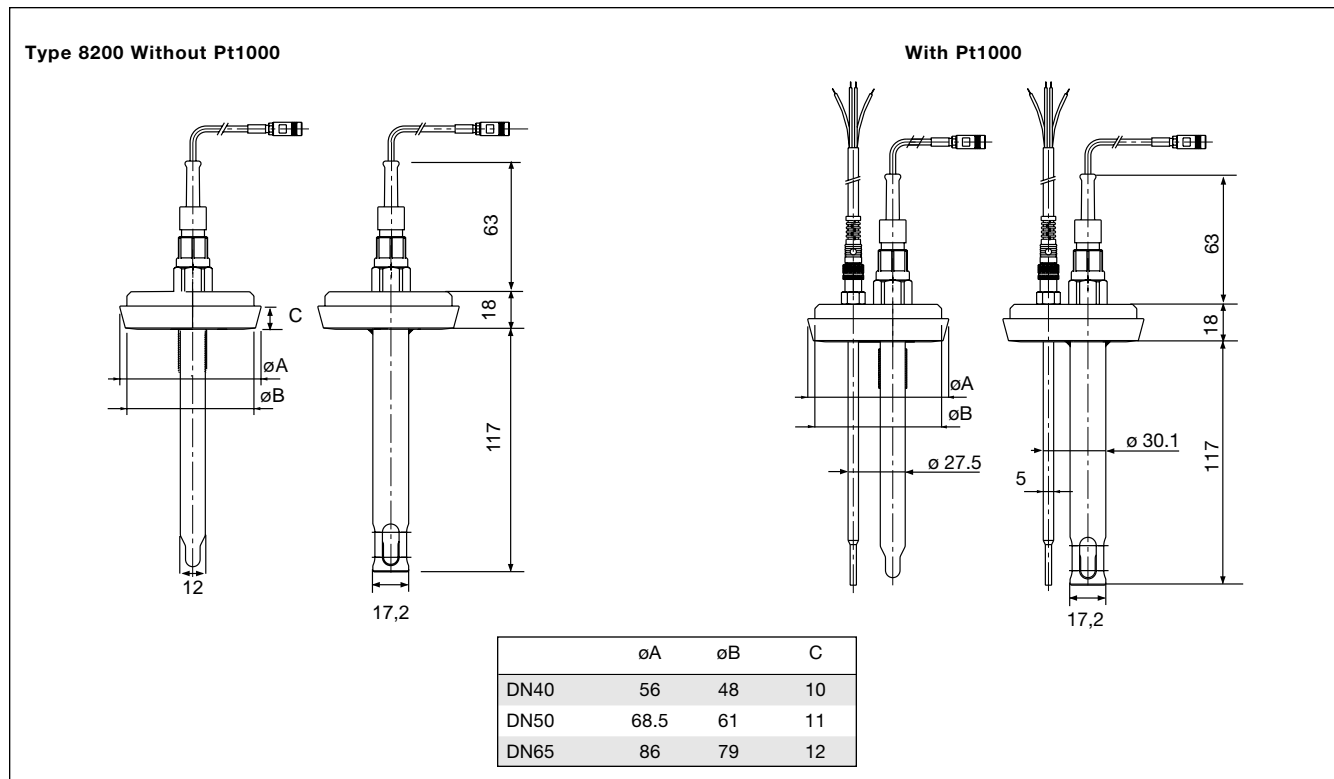
### pH-Sensor Type 8200 G1", NPT1", Rc1 Connection in PVC



Dimensions [mm]

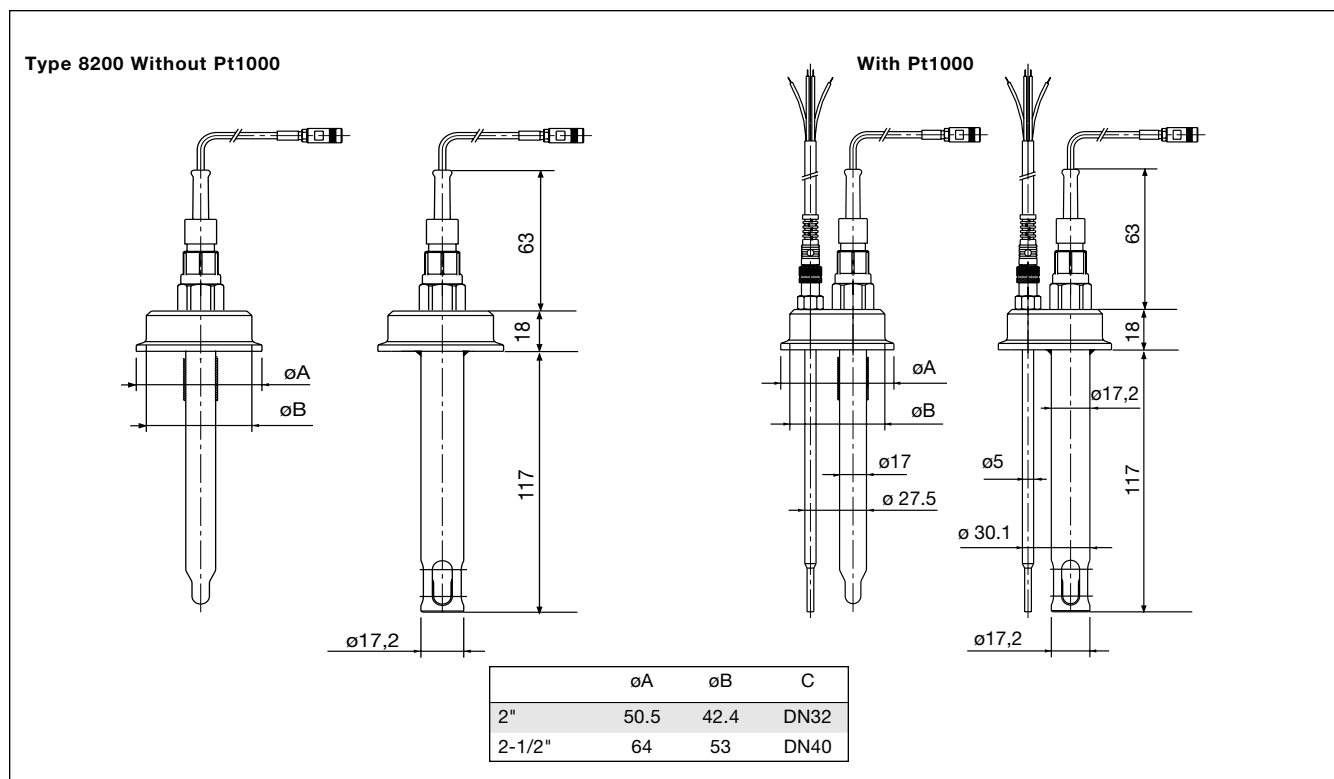
**pH-Sensor Type 8200 Sanitary Connection According to DIN 11851**

Material: Stainless Steel (304/1.4301 or 316Ti/1.4571)



**pH-Sensor Type 8200 Triclamp® Connection**

Material: Stainless Steel (316L/DIN 1.4404)





Dimensions [mm] - Fittings S020, DN 15 - 50

**Weld Ends - Stainless Steel**

Connection acc. ISO 4200

Material Stainless Steel: DIN 1.4404; BS 316L

**Male Threaded Port - Stainless Steel / Brass**

Material Stainless Steel: DIN 1.4404; BS 316L

**Female Threaded Port - Stainless Steel / Brass**

Material Stainless Steel: DIN 1.4404; BS 316L

**Flange - Stainless Steel**

Material: DIN 1.4404; B.S. 316 L

**Tri-Clamp®**

Connection acc. ISO 2852

DIN 3202-F1  
Metric Only

Material: DIN 1.4404; B.S. 316 L

Variable Dimensions [mm] for Weld Ends, Male Threaded Port, Female Threaded Port, Flange, Tri-Clamp®

Remote Version Short Distance

DN	Weld Ends ø out- side	Wall- thick- ness	Length Dimensions							Thread				Tri- Clamp® H	Flange Dimensions					
			A	B	C	D	E (DIN) (ANSI)	E (JIS)	F	G1	L1	G2	L2		Norm*	I	J	K	M	N
32	42.4	2.0	119	119	120	180	180	178	81.6	G 11/4	23.5	G 1/2	18.0	50.5	DIN	31.0	4x18.0	100.0	140	78.0
										NPT 11/4	21.0				ANSI	31.0	4x15.8	88.9	117	63.5
										Rc	21.0				JIS	31.0	4x19.0	100.0	135	76.0
40	48.3	2.0	129	129	130	200	200	190	85.4	G 11/2	23.5	M55x2	19.0	64.0	DIN	36.0	4x18.0	110.0	150	88.0
										NPT 11/2	20.0				ANSI	36.0	4x15.8	98.4	127	73.0
										Rc 11/2	19.0				JIS	36.0	4x19.0	105.0	140	81.0
50	60.3	2.6	149	149	150	230	230	216	91.5	G 2	27.5	M64x2	20.0	77.5	DIN	41.0	4x18.0	125.0	165	102.0
										NPT 2	24.0				ANSI	41.0	4x19.0	120.6	152	92.1
										Rc 2	24.0				JIS	41.0	4x19.0	120.0	155	96.0

Compact Version

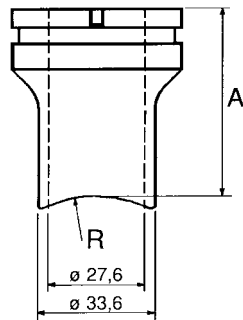
DN	Weld Ends ø out- side	Wall- thick- ness	Length Dimensions							Thread				Tri- Clamp® H	Flange Dimensions					
			A	B	C	D	E (DIN) (ANSI)	E (JIS)	F	G1	L1	G2	L2		Norm*	I	J	K	M	N
15	21.3	1.6	84	84	85	130	130	140	80.3	G 1/2	16.0	G3/4	11.5	34.0	DIN	23.5	4x14.0	65.0	95	45.0
										NPT 1/2	17.0				ANSI	23.5	4x15.8	60.3	89	34.9
										Rc 1/2	15.0				JIS	23.5	4x15.0	70.0	95	51.0
20	26.9	1.6	94	94	95	150	150	152	77.8	G 3/4	17.0	G 1	13.5	50.5	DIN	28.5	4x14.0	75.0	105	58.0
										NPT 3/4	18.3				ANSI	28.5	4x15.8	69.8	99	42.9
										Rc 3/4	16.3				JIS	28.5	4x15.0	75.0	100	56.0
25	33.7	2.0	104	104	105	160	160	165	78.0	G 1	23.5	G 1/14	14.0	50.5	DIN	28.5	4x14.0	85.0	115	68.0
										NPT 1	18.0				ANSI	28.5	4x15.8	79.4	108	50.8
										Rc 1	18.0				JIS	28.5	4x19.0	90.0	125	67.0
32	42.4	2.0	119	119	120	180	180	178	81.6	G 11/4	23.5	G 1/2	18.0	50.5	DIN	31.0	4x18.0	100.0	140	78.0
										NPT 11/4	21.0				ANSI	31.0	4x15.8	88.9	117	63.5
										Rc	21.0				JIS	31.0	4x19.0	100.0	135	76.0
40	48.3	2.0	129	129	130	200	200	190	85.4	G 11/2	23.5	M55x2	19.0	64.0	DIN	36.0	4x18.0	110.0	150	88.0
										NPT 11/2	20.0				ANSI	36.0	4x15.8	98.4	127	73.0
										Rc 11/2	19.0				JIS	36.0	4x19.0	105.0	140	81.0
50	60.3	2.6	149	149	150	230	230	216	91.5	G 2	27.5	M64x2	20.0	77.5	DIN	41.0	4x18.0	125.0	165	102.0
										NPT 2	24.0				ANSI	41.0	4x19.0	120.6	152	92.1
										Rc 2	24.0				JIS	41.0	4x19.0	120.0	155	96.0

\*Flange: DIN 2501/2633, length according to DIN 3201-F1; ANSI B16-5-1988, length according to DIN 3201-F1; JIS 10K, length according to ANSI B16-10

Dimensions [mm] - Fittings DN 65 - 100

Weld-o-Let Fittings with Radius - Stainless Steel

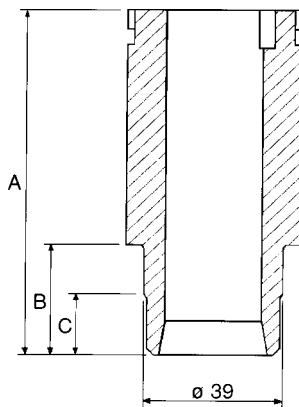
Material: 1.4404 (DIN),  
316L (B.S.)



Variable Dimensions [mm]

DN	A	R
65	54.52	36.65
80	53.07	44.45
100	50.71	57.15

Weld-o-Let Fittings - PE, PP, PVDF

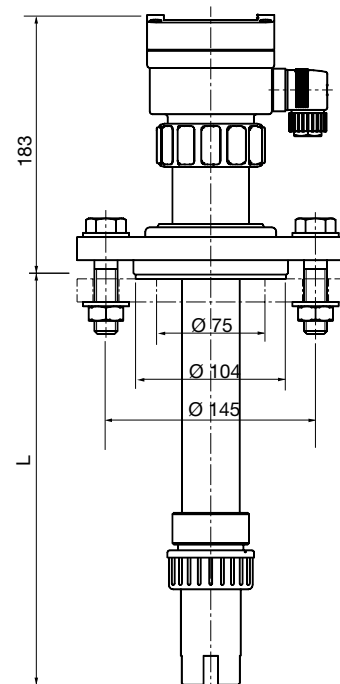
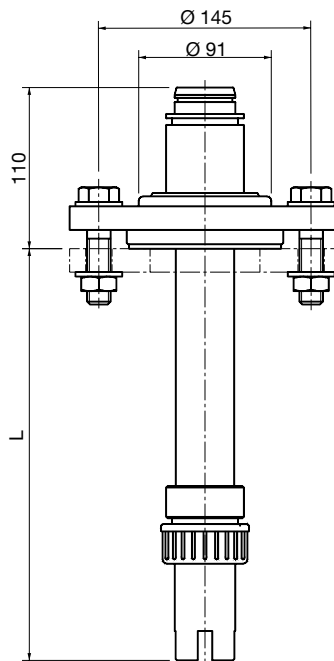


Variable Dimensions [mm]

DN	A	PE		PP		PVDF	
		B	C	B	C	B	C
65-100	72.5	13	---	13	---	10.4	---

Immersion Fitting - PP

Lengths L: 20, 40, 60 and  
80 inches



## Ordering Data pH-Controller Type 8205

## A Compact Version of pH-Controller Type 8205 Consists of Two Basic Units As Follows:

- Fitting Type S020, DN15 to DN50 (1/2" to 2") or 1500/1501, DN65 to DN200 (2-1/2" to 8")
- Compact pH-Controller

TYPE DESCRIPTION*	Electrode	Gasket	ITEM-No Worldwide Standard 2 x PG 13.5	ITEM-No North America Standard 2 x 1/2" NPT
<b>Compact pH-Controller 4-20 mA Output, No Relay, 12 – 30 VDC; With Pt1000</b>				
Compact Controller 8205	GLS	FPM	426 430 Q	426 460 W
Compact Controller 8205	STE	FPM	426 431 D	426 461 K
Compact Controller 8205	LEI	FPM	426 432 E	426 462 L
Compact Controller 8205	SCH	FPM	426 433 F	426 463 M
Compact Controller 8205	HOL	FPM	426 434 G	426 464 N
Compact Controller 8205	GLS	EPDM	426 435 H	426 465 P
Compact Controller 8205	STE	EPDM	426 436 A	426 466 Q
Compact Controller 8205	LEI	EPDM	426 437 B	426 467 R
Compact Controller 8205	SCH	EPDM	426 438 L	426 468 S
Compact Controller 8205	HOL	EPDM	426 439 M	426 469 T
<b>Compact pH-Controller 4-20 mA Output; 2 Triac Pulse Outputs; 1 Relay Alarm; 12 – 30 VDC</b>				
Compact Controller 8205	GLS	FPM	426 440 S	426 470 Y
Compact Controller 8205	STE	FPM	426 441 P	426 471 M
Compact Controller 8205	LEI	FPM	426 442 Q	426 472 N
Compact Controller 8205	SCH	FPM	426 443 R	426 473 P
Compact Controller 8205	HOL	FPM	426 444 J	426 474 Q
Compact Controller 8205	GLS	EPDM	426 445 K	426 475 R
Compact Controller 8205	STE	EPDM	426 446 L	426 476 J
Compact Controller 8205	LEI	EPDM	426 447 M	426 477 K
Compact Controller 8205	SCH	EPDM	426 448 W	426 478 U
Compact Controller 8205	HOL	EPDM	426 449 X	426 479 V
<b>Compact pH-Controller 4-20 mA Output; 2 Transistor Pulse Outputs; 1 Relay Alarm; 12 – 30 VDC</b>				
Compact Controller 8205	GLS	FPM	426 450 U	426 480 K
Compact Controller 8205	STE	FPM	426 451 R	426 481 G
Compact Controller 8205	LEI	FPM	426 452 J	426 482 H
Compact Controller 8205	SCH	FPM	426 453 K	426 483 A
Compact Controller 8205	HOL	FPM	426 454 L	426 484 B
Compact Controller 8205	GLS	EPDM	426 455 M	426 485 C
Compact Controller 8205	STE	EPDM	426 456 N	426 486 D
Compact Controller 8205	LEI	EPDM	426 457 P	426 487 E
Compact Controller 8205	SCH	EPDM	426 458 Y	426 488 P
Compact Controller 8205	HOL	EPDM	426 459 Z	426 489 Q

\*Item nos. for flat glass controllers, on request

## Ordering Data pH-Controller Type 8205

## A Separate Version of pH-Controller Consists of:

- Fitting type S020, DN15 to DN50 (1/2" to 2") or 1500/1501, DN65 to DN200 (2-1/2" to 8")
- pH-holder 8200
- pH-electrode
- Pt1000 temperature sensor
- Cable for pH-electrode and Pt1000
- pH-transmitter 8205 wall- or panel mounted version

TYPE DESCRIPTION	Pulse Output	Alarm Relay	Power Supply	ITEM-No
<b>pH-Controller Panel-Mounted Version for Separate Sensor Type 8200; 4-20 mA Output</b>				
Panel-mounted Controller 8205	2 x relay	yes	12 – 30 VDC	427 939 K
Panel-mounted Controller 8205	2 x Triac	yes	12 – 30 VDC	427 940 Y
Panel-mounted Controller 8205	2 x Transistor	yes	12 – 30 VDC	427 941 M
<b>pH-Controller Wall-Mounted Version for Separate Sensor Type 8200; 4-20 mA Output</b>				
Wall-mounted Controller 8205	2 x relay	yes	12 – 30 VDC	427 946 J
Wall-mounted Controller 8205	2 x Triac	yes	12 – 30 VDC	427 947 K
Wall-mounted Controller 8205	2 x Transistor	yes	12 – 30 VDC	427 948 U
Wall-mounted Controller 8205	2 x relay	yes	115 – 230 VAC	427 951 P
Wall-mounted Controller 8205	2 x Triac	yes	115 – 230 VAC	427 952 Q
Wall-mounted Controller 8205	2 x Transistor	yes	115 – 230 VAC	427 953 R

TYPE DESCRIPTION	Material	Boring for Temperature Sensor	Protection Tube	ITEM-No
<b>pH-Holder Type 8200 Without pH-Electrode; Short Distance Max. 15 ft. Cable Length</b>				
8200 short version G1" connection thread	PVC	no	no	429 220 G
8200 long version G1" connection thread	PVC	no	no	429 222 W
8200 short version G1" connection thread	PVC	yes	no	429 221 V
8200 long version G1" connection thread	PVC	yes	no	429 223 X
8200 short version 1"NPT connection thread	PVC	no	no	430 165 S
8200 long version 1"NPT connection thread	PVC	no	no	430 167 U
8200 short version 1"NPT connection thread	PVC	yes	no	430 166 T
8200 long version 1"NPT connection thread	PVC	yes	no	430 168 D
8200 short version RC 1" connection thread	PVC	no	no	430 169 E
8200 long version RC 1" connection thread	PVC	no	no	430 171 Y
8200 short version RC 1" connection thread	PVC	yes	no	430 170 B
8200 long version RC 1" connection thread	PVC	yes	no	430 172 Z
8200 with G 2" connection for fitting Type S020; 1500; 1501	PVC	no	no	429 224 Y
8200 with G 2" connection for fitting Type S020; 1500; 1501	PP	no	no	429 225 Z
8200 with G 2" connection for fitting Type S020; 1500; 1501	PVDF	no	no	429 226 S
8200 with G 2" connection for fitting Type S020; 1500; 1501	SS	no	no	429 227 T
8200 with G 2" connection for fitting Type S020; 1500; 1501	PVC	yes	no	429 228 C
8200 with G 2" connection for fitting Type S020; 1500; 1501	PP	yes	no	429 229 D
8200 with G 2" connection for fitting Type S020; 1500; 1501	PVDF	yes	no	429 230 A
8200 with G 2" connection for fitting Type S020; 1500; 1501	SS	yes	no	429 231 X
8200 with Triclamp® connection DN 32 (dia 50.5 mm)	SS 316 L	no	no	429 232 Y
8200 with Triclamp® connection DN 32 (dia 50.5 mm)	SS 316 L	no	yes	429 233 Z
8200 with Triclamp® connection DN 32 (dia 50.5 mm)	SS 316 L	yes	no	429 234 S
8200 with Triclamp® connection DN 32 (dia 50.5 mm)	SS 316 L	yes	yes	429 235 T
8200 with Triclamp® connection DN 40 (dia 64 mm)	SS 316 L	no	no	429 236 U
8200 with Triclamp® connection DN 40 (dia 64 mm)	SS 316 L	no	yes	429 237 V
8200 with Triclamp® connection DN 40 (dia 64 mm)	SS 316 L	yes	no	429 238 E
8200 with Triclamp® connection DN 40 (dia 64 mm)	SS 316 L	yes	yes	429 239 F

**Ordering Data**

TYPE DESCRIPTION	Material	Temperature Sensor Pt1000	Protection Tube	ITEM-No
<b>pH-Holder Type 8200 Without pH-Electrode; Short Distance Max. 15 ft. Cable Length</b>				
8200 with sanitary connection DN 40 DIN 11851	SS 304	no	no	429 240 L
8200 with sanitary connection DN 40 DIN 11851	SS 304	no	yes	429 242 A
8200 with sanitary connection DN 40 DIN 11851	SS 304	yes	no	429 244 C
8200 with sanitary connection DN 40 DIN 11851	SS 304	yes	yes	429 246 E
8200 with sanitary connection DN 40 DIN 11851	SS 316 Ti	no	no	429 241 H
8200 with sanitary connection DN 40 DIN 11851	SS 316 Ti	no	yes	429 243 B
8200 with sanitary connection DN 40 DIN 11851	SS 316 Ti	yes	no	429 245 D
8200 with sanitary connection DN 40 DIN 11851	SS 316 Ti	yes	yes	429 247 F
8200 with sanitary connection DN 50 DIN 11851	SS 304	no	no	429 248 Q
8200 with sanitary connection DN 50 DIN 11851	SS 304	no	yes	429 250 N
8200 with sanitary connection DN 50 DIN 11851	SS 304	yes	no	429 252 C
8200 with sanitary connection DN 50 DIN 11851	SS 304	yes	yes	429 254 E
8200 with sanitary connection DN 50 DIN 11851	SS 316 Ti	no	no	429 249 R
8200 with sanitary connection DN 50 DIN 11851	SS 316 Ti	no	yes	429 253 D
8200 with sanitary connection DN 50 DIN 11851	SS 316 Ti	yes	no	429 251 B
8200 with sanitary connection DN 50 DIN 11851	SS 316 Ti	yes	yes	429 255 F
8200 with sanitary connection DN 65 DIN 11851	SS 304	no	no	429 256 G
8200 with sanitary connection DN 65 DIN 11851	SS 304	no	yes	429 260 Q
8200 with sanitary connection DN 65 DIN 11851	SS 304	yes	no	429 258 J
8200 with sanitary connection DN 65 DIN 11851	SS 304	yes	yes	429 262 E
8200 with sanitary connection DN 65 DIN 11851	SS 316 Ti	no	no	429 257 H
8200 with sanitary connection DN 65 DIN 11851	SS 316 Ti	no	yes	429 261 D
8200 with sanitary connection DN 65 DIN 11851	SS 316 Ti	yes	no	429 259 K
8200 with sanitary connection DN 65 DIN 11851	SS 316 Ti	yes	yes	429 263 F

**Ordering Data**

TYPE DESCRIPTION	Material	Temperature Range	Pressure	ITEM-No
<b>ACCESSORIES</b>				
<b>pH-Electrodes 120 mm For Sensor Type 8200</b>				
EASYCONTROL pH 0 – 14	Glass	32 – 140°F	29 psi	427 114 G
METROCODE pH 0 – 14	Glass	32 – 266°F	232 psi	418 319 C
POLILYTE Standard pH 2 – 14	Glass	32 – 104°F	29 psi	427 132 A
POLILYTE HP pH 2 – 14	Glass	32 – 194°F	87 psi	427 133 B
<b>Temperature Probe Pt 1000</b>				
Pt 1000 Temperature Sensor for pH-Instruments	SS 316 Ti			427 023 G
<b>Connection Cables Between Type 8205 Controller and Type 8200 Sensor; Short Distance</b>				
pH coaxial cable with standard electrode plug		6 ft		427 024 H
pH coaxial cable with standard electrode plug		15 ft		427 025 A
Pt 1000 4-wire cable with Lumberg connector		6 ft		427 110 Q
Pt 1000 4-wire cable with Lumberg connector		15 ft		427 113 F
<b>Gaskets</b>				
Gasket for all fitting type 8200	FPM			429 264 G
Gasket for all fitting type 8200	EPDM			429 265 H
<b>Accessories for Tank Installation (Compact Version)</b>				
Immersion fitting	PP	1.5 ft		419 567 W
Immersion fitting	PP	3 ft		419 568 F
Immersion fitting	PP	4.5 ft		419 569 G
Immersion fitting	PP	6 ft		419 570 D
Extension cable for immersion fitting		1.5 ft		416 632 L
Extension cable for immersion fitting		3 ft		416 633 M
Extension cable for immersion fitting		4.5 ft		416 634 N
Extension cable for immersion fitting		6 ft.		416 635 P
Fixing Kit - Flange DN 65 with SS screws				413 615 Q

**Ordering Data for Stainless Steel Fittings Type S020**

Diameters	Materials	I T E M - No.	
		Compact Version	Remote Short Distance
<b>SS - Female G-Threaded Ports</b>			
DN 15	SS, FPM	428 736 Y	--- ---
DN 20	SS, FPM	428 737 Z	--- ---
DN 25	SS, FPM	428 738 A	--- ---
DN 32	SS, FPM	428 739 B	428 739 B
DN 40	SS, FPM	428 740 Q	428 740 Q
DN 50	SS, FPM	428 741 D	428 741 D
<b>SS - Female NPT-Threaded Ports</b>			
1/2"	SS, FPM	428 742 E	--- ---
3/4"	SS, FPM	428 743 F	--- ---
1"	SS, FPM	428 744 G	--- ---
1-1/4"	SS, FPM	428 745 H	428 745 H
1-1/2"	SS, FPM	428 746 A	428 746 A
2"	SS, FPM	428 747 B	428 747 B
<b>SS - Female ISO7 (JIS) Threaded Ports</b>			
DN 15	SS, FPM	428 748 L	--- ---
DN 20	SS, FPM	428 749 M	--- ---
DN 25	SS, FPM	428 750 J	--- ---
DN 32	SS, FPM	428 751 F	428 751 F
DN 40	SS, FPM	428 752 G	428 752 G
DN 50	SS, FPM	428 753 H	428 753 H
<b>SS- Male G Threaded Ports</b>			
DN 15	SS, FPM	428 754 A	--- ---
DN 20	SS, FPM	428 755 B	--- ---
DN 25	SS, FPM	428 756 C	--- ---
DN 32	SS, FPM	428 757 D	428 757 D
DN 40	SS, FPM	428 758 N	428 758 N
DN 50	SS, FPM	428 759 P	428 759 P
<b>SS - Weld Ends (Metric)</b>			
DN 15	SS, FPM	428 760 L	--- ---
DN 20	SS, FPM	428 761 H	--- ---
DN 25	SS, FPM	428 762 A	--- ---
DN 32	SS, FPM	428 763 B	428 763 B
DN 40	SS, FPM	428 764 C	428 764 C
DN 50	SS, FPM	428 765 D	428 765 D
<b>SS - Tri-Clamp® (ISO 2852)</b>			
DN 15	SS, FPM	428 766 E	--- ---
DN 20	SS, FPM	428 767 F	--- ---
DN 25	SS, FPM	428 768 Q	--- ---
DN 32	SS, FPM	428 769 R	428 769 R
DN 40	SS, FPM	428 770 N	428 770 N
DN 50	SS, FPM	428 771 B	428 771 B
<b>SS - DIN Flanges (DIN 2501)</b>			
DN 15	SS, FPM	428 772 C	--- ---
DN 20	SS, FPM	428 773 D	--- ---
DN 25	SS, FPM	428 774 E	--- ---
DN 32	SS, FPM	428 775 F	428 775 F
DN 40	SS, FPM	428 776 G	428 776 G
DN 50	SS, FPM	428 777 H	428 777 H
<b>SS - Flanges (JIS 10K)</b>			
DN 15	SS, FPM	431 053 J	--- ---
DN 20	SS, FPM	431 054 K	--- ---
DN 25	SS, FPM	431 055 L	--- ---
DN 32	SS, FPM	431 056 M	431 056 M
DN 40	SS, FPM	431 057 N	431 057 N
DN 50	SS, FPM	431 058 X	431 058 X

Diameters	Materials	I T E M - No.	
		Compact Version	Remote Short Distance
<b>SS - ANSI Flanges (ANSI B16-5-1988)</b>			
1/2"	SS, FPM	428 778 J	--- ---
3/4"	SS, FPM	428 779 K	--- ---
1"	SS, FPM	428 780 H	--- ---
1-1/4"	SS, FPM	428 781 W	428 781 W
1-1/2"	SS, FPM	428 782 X	428 782 X
2"	SS, FPM	428 783 Y	428 783 Y
<b>SS - Weld-o-Let</b>			
DN 65	SS	418 112 M	418 112 M
DN 80	SS	418 113 N	418 113 N
DN 100	SS	418 114 P	418 114 P

**Ordering Data of Brass Fittings Type S020**

Diameters	Materials	I T E M - No.	
		Compact Version	Remote Short Distance
<b>Brass - Female G-Threaded Ports</b>			
DN 15	Brass, FPM	428 712 Y	--- ---
DN 20	Brass, FPM	428 713 Z	--- ---
DN 25	Brass, FPM	428 714 S	--- ---
DN 32	Brass, FPM	428 715 T	428 715 T
DN 40	Brass, FPM	428 716 U	428 716 U
DN 50	Brass, FPM	428 717 V	428 717 V
<b>Brass - Female NPT-Threaded Ports</b>			
1/2"	Brass, FPM	428 718 E	--- ---
3/4"	Brass, FPM	428 719 F	--- ---
1"	Brass, FPM	428 720 C	--- ---
1-1/4"	Brass, FPM	428 721 Z	428 721 Z
1-1/2"	Brass, FPM	428 722 S	428 722 S
2"	Brass, FPM	428 723 T	428 723 T
<b>Brass - Female ISO7 (JIS) Threaded Ports</b>			
DN 15	Brass, FPM	428 724 U	--- ---
DN 20	Brass, FPM	428 725 V	--- ---
DN 25	Brass, FPM	428 726 W	--- ---
DN 32	Brass, FPM	428 727 X	428 727 X
DN 40	Brass, FPM	428 728 G	428 728 G
DN 50	Brass, FPM	428 729 H	428 729 H
<b>Brass - Male G/Metric Threaded Ports</b>			
DN 15	Brass, FPM	428 730 E	--- ---
DN 20	Brass, FPM	428 731 T	--- ---
DN 25	Brass, FPM	428 732 U	--- ---
DN 32	Brass, FPM	428 733 V	428 733 V
DN 40	Brass, FPM	428 734 W	428 733 V
DN 50	Brass, FPM	428 735 X	428 735 X

Ordering Data for Plastic Fittings Type S020

Diameters	Materials	ITEM - No.	
		Compact Version	Remote Short Distance
<b>PVC - True Union DIN</b>			
DN 15	PVC, FPM	428 670 J	430 837 L
DN 20	PVC, FPM	428 671 F	430 838 V
DN 25	PVC, FPM	428 672 G	430 839 W
DN 32	PVC, FPM	428 673 H	428 673 H
DN 40	PVC, FPM	428 674 A	428 674 A
DN 50	PVC, FPM	428 675 B	428 675 B
<b>PVC - True Union ASTM</b>			
1/2"	PVC, FPM	428 682 T	--- ---
3/4"	PVC, FPM	428 683 U	--- ---
1"	PVC, FPM	428 684 V	--- ---
1-1/4"	PVC, FPM	428 685 W	428 685 W
1-3/4"	PVC, FPM	428 686 X	428 686 X
2"	PVC, FPM	428 687 Y	428 687 Y
<b>PVC - True Union JIS</b>			
DN 15	PVC, FPM	429 078 H	--- ---
DN 20	PVC, FPM	429 079 A	--- ---
DN 25	PVC, FPM	429 080 Y	--- ---
DN 32	PVC, FPM	429 081 M	429 081 M
DN 40	PVC, FPM	429 082 N	429 082 N
DN 50	PVC, FPM	429 083 P	429 083 P
<b>PVC - Solvent Spigot (Metric)</b>			
DN 15	PVC, FPM	428 676 C	--- ---
DN 20	PVC, FPM	428 677 D	--- ---
DN 25	PVC, FPM	428 678 N	--- ---
DN 32	PVC, FPM	428 679 P	428 679 P
DN 40	PVC, FPM	428 680 D	428 680 D
DN 50	PVC, FPM	428 681 S	428 681 S
<b>PE - Weld-o-Let</b>			
DN 65-100	PE	418 642 G	418 642 G

Diameters	Materials	ITEM - No.	
		Compact Version	Remote Short Distance
<b>PP - True Union with Threaded Port</b>			
DN 15	PP, FPM	428 688 H	430 840 B
DN 20	PP, FPM	428 689 A	430 841 Y
DN 25	PP, FPM	428 690 F	430 842 Z
DN 32	PP, FPM	428 691 U	428 691 U
DN 40	PP, FPM	428 692 V	428 692 V
DN 50	PP, FPM	428 693 W	428 693 W
<b>PP - Weld Ends</b>			
DN 15	PP, FPM	428 694 X	--- ---
DN 20	PP, FPM	428 695 Y	--- ---
DN 25	PP, FPM	428 696 Z	--- ---
DN 32	PP, FPM	428 697 S	428 697 S
DN 40	PP, FPM	428 698 B	428 698 B
DN 50	PP, FPM	428 699 C	428 699 C
<b>PP - Weld-o-Let</b>			
DN 65-100	PP	418 650 L	418 650 L
<b>PVDF - True Union with Threaded Port</b>			
DN 15	PVDF, FPM	428 700 R	430 843 S
DN 20	PVDF, FPM	428 701 E	430 844 T
DN 25	PVDF, FPM	428 702 F	430 845 U
DN 32	PVDF, FPM	428 703 G	428 703 G
DN 40	PVDF, FPM	428 704 H	428 704 H
DN 50	PVDF, FPM	428 705 A	428 705 A
<b>PVDF - Weld Ends</b>			
DN 15	PVDF, FPM	428 706 B	--- ---
DN 20	PVDF, FPM	428 707 C	--- ---
DN 25	PVDF, FPM	428 708 M	--- ---
DN 32	PVDF, FPM	428 709 N	428 709 N
DN 40	PVDF, FPM	428 710 A	428 710 A
DN 50	PVDF, FPM	428 711 X	428 711 X
<b>PVDF - Weld-o-Let</b>			
DN 65-100	PVDF	418 658 Q	

Easy pH-Control

*Easy* ON/OFF Control



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