

# pH/ORP 400

Glass body bulb electrode



# PH/ORP 400

The FLS 400 glass-bodied pH/ORP electrode line is designed for a wide range of applications. The ceramic coupling guarantees high performance in terms of pressure and temperature. Different types of ceramic couplings are available for various solutions, depending on the application requirements: annular for a faster response time, 3 membranes for a higher pressure. The standard double couplings also prevent contamination of the reference solution and guarantee a long service life. Models with long external cable (9 m) with connection head (S7) are also available.

## GLASS BODY BULB ELECTRODE

### APPLICATIONS

- Water treatment
- Neutralisation systems
- Water quality monitoring
- Process control
- Agriculture and fertilizers
- Cooling towers and scrubbers
- Galvanic processes

### MAIN CHARACTERISTICS

- Glass body
- Sensors suitable for extreme applications
- Simple and cost-effective installation
- Cost-effective installation adapters
- Special models available on request
- High-performance electrodes

### TECHNICAL DATA

#### General information

#### Operating range:

- Electrodes for pH: 0-14 pH (0-12.3 pH without Na<sup>+</sup> error)
- Electrodes for ORP: ±2000 mV

**Temperature compensation device (for TC models):** Pt1000

**Pipe size range:** from DN15 a DN100 (da 0,5" a 4")

**Value at 0 mV of the new electrodes:** 7,00 pH ±0,2 pH

**New electrode efficiency:** > 97% at 25°C (77°F)

#### Response time of new electrodes:

- pH: 2 s for 95% signal change
- ORP: depends on the application

#### Reference solution:

- Electrolyte: 3M KCl polymer gel (different substrates depending on the model)

#### Connection to the process:

- In-line installation with: PG13.5 (PH435CD); ½ threaded adapter (PH431CD; ORP431CD)

#### Max operating pressure/temperature:

- 6 bar (90 psi) at 130°C (266°F); 16 bar (240 psi) at 25°C (77°F) (PH435CD)
- 2 bar (30 psi) at 100°C (212°F); 10 bar (100 psi) at 25°C (PH431CD; ORP431CD)

#### Materials in contact with liquids:

- Body: glass
- Coupling: ceramic annular (PH431CD; ORP431CD); ceramic double annular (PH4354CD)
- Detection surface: glass membrane (pH) or platinum (ORP)

#### Standards & Approvals

Manufactured under ISO 9001  
 Manufactured under ISO 14001  
 CE  
 EAC

# PRODUCT CODES



## PH4XX

Double junction bulb pH Electrodes with glass body

| Code    | Applications/<br>Operative<br>Range | Detection<br>surface | Max operating<br>pressure at<br>operating<br>temperature | Cable**      | Connection  | O-ring   | Installation                             | Weight (gr) |
|---------|-------------------------------------|----------------------|--|--------------|-------------|----------|--|-------------|
| PH431CD | 0-13 pH*                            | Glass type GX2       | 2 bar at 100°C<br>(30psi at 212°F)                       | not required | 9 m (27 ft) | -        | GEG135                                   | 200         |
| PH435CD | 0-14 pH*                            | Glass type H         | 6 bar at 130°C<br>(85 psi at 266°F)                      | CE5S7        | S7          | silicone | GEG135<br>GEG135SE<br>EG135FS<br>EG135FL | 200         |

\*(0-12,3 pH without Na<sup>+</sup> error)  
\*\*(Sold separately)

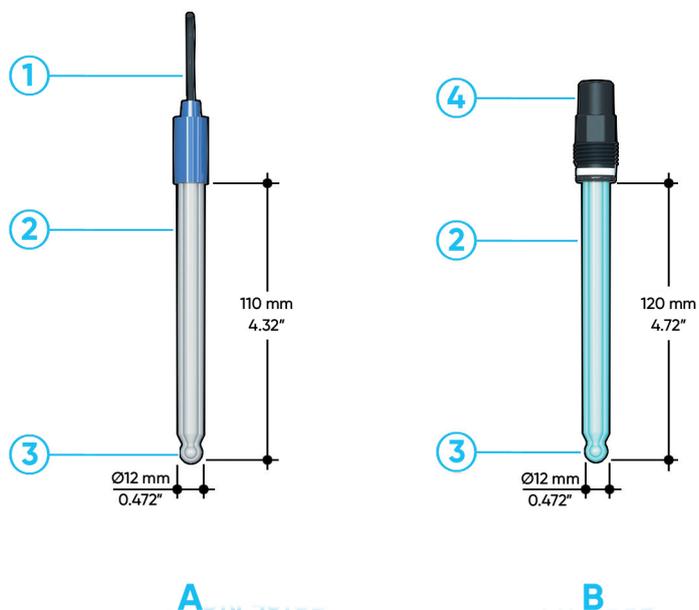
## ORP4XX

Double junction bulb ORP Electrodes with glass body

| Code     | Applications/<br>Operative<br>Range | Detection<br>surface | Max operating<br>pressure at<br>operating<br>temperature | Cable*       | Connection    | O-ring | Installation | Weight (gr) |
|----------|-------------------------------------|----------------------|--|--------------|---------------|--------|--------------|-------------|
| ORP431CD | ± 1000 mV                           | Platinum             | 2 bar at 100°C<br>(30 psi at 212°F)                      | Not required | 9 mt (27 ft.) | -      | GEG135       | 200         |

\*(Sold separately)

# TECHNICAL DRAWINGS



**A** PH431CD, ORP431CD  
**B** PH435CD

**1** Cable: 9m  
**2** Glass body

**3** pH glass bulb  
**4** S7