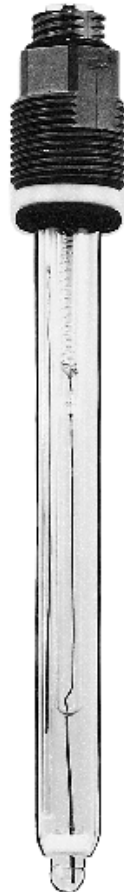


Electrodes for pH Measurement *Orbitex W CPS 21*

pH combination electrode for waste water processing with open ring junction



Areas of application

The gel-filled Orbitex W pH electrode is used in communal and industrial waste water applications, electroplating, and in waste water from metal processing plants.

There is a wide range of pH electrodes available from the electrode families Orbisint, Ceratex and Ceraliquid to suit every application.

Benefits at a glance

- The open ring junction used in place of a diaphragm prevents blocking and assures measuring accuracy.
- Solid "Polytex" electrolyte, therefore usable under pressures of up to 6 bar without counterpressure. Refilling with KCl electrolyte is not required.
- Long reference cartridge. The reference electrode lead system is protected by a long diffusion path of 180 mm, thereby providing significantly longer service life.
- For pH ranges from 2 to 12 and temperatures from 0 to 60 °C.
- Can be used in media with conductivities starting at 500 µS/cm.
- Length 120 mm.
- TOP 68 connector ESA, water proof (IP 68)

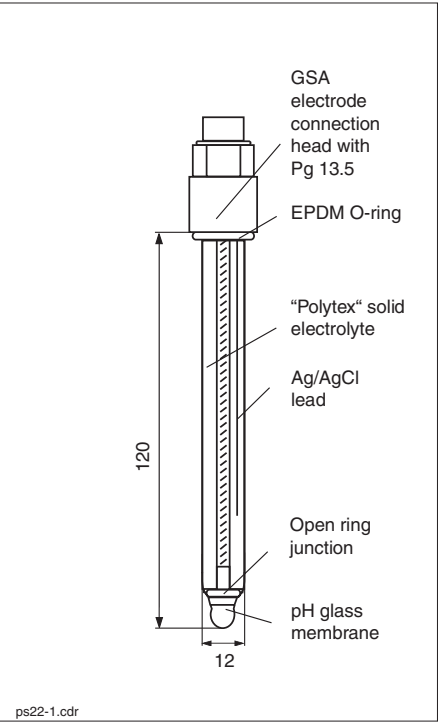
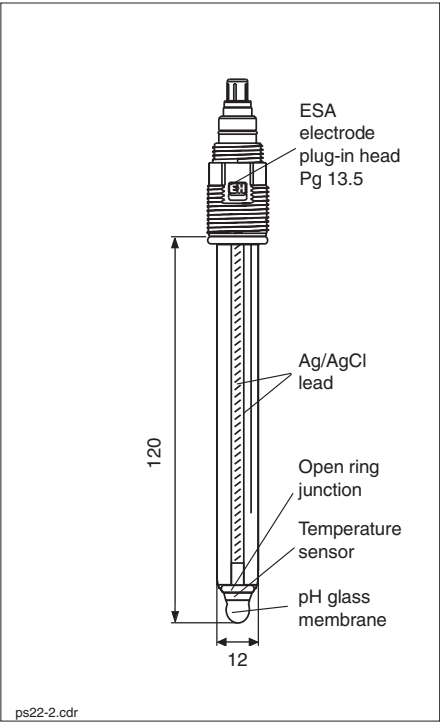


Electrode construction and dimensions

Combined pH
Orbitex W electrode

left:
with ESA plug-in head
(IP 68)

right:
with GSA plug-in head



pH electrode selection

When selecting pH electrodes, not only the pH value has to be considered, but also temperature, pressure and the conductivity of the medium to be measured.

The temperature/pH range table is a guide for selecting a suitable pH membrane glass. For the Orbitex W electrodes only one membrane glass is available.

The conductivity of the medium to be measured determines the reference system to be selected. The conductivity of the medium must be at least 500 $\mu\text{S}/\text{cm}$ for Orbitex W electrodes.

Finally select the correct electrode length and electrode connection head according to the order code.

Type of head

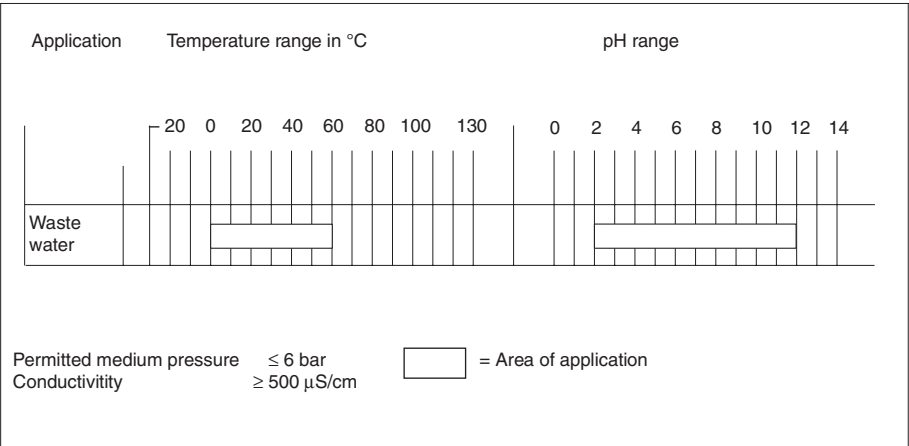
GSA
Standard plug-in head with coaxial connector for electrodes **without** temperature sensor

ESA
TOP 68 plug-in head for all pH and redox electrodes with or without integrated temperature sensor. The ESA/ESS head guarantees a stable connection between measuring cable and electrode even under hard operating conditions.

HDA
Threaded plug-in head Pg 13.5, TOP 68, 16 bar for electrodes with Pt 100.

The connector is robust, water proof (IP 68) and highly resistant against chemicals. It is suitable for Ex applications in zone 0 / 1G acc. to ATEX 100a. An adapter ring TOP 68 / SMEK is available for the connection of ESA electrodes to the SMEK cable (Order no. 51501123).

Temperature and pH ranges



Technical data

General data

Manufacturer	Endress+Hauser
Product designation	Orbitex W CPS 21

Electrical connection

Plug-in head	GSA head with Pg 13.5 for industrial applications
	HDA head with Pg 13.5, TOP 68, 16 bar (triple safety overpressure according to TÜV-certifikate)
	ESA head with Pg 13.5 for industrial applications (IP 68)
Shaft lengths	120 mm
Diameter	12 mm

Reference system

Metal lead	Ag/AgCl
Electrolyte	Gel 3 mol KCl, AgCl-free
Pressure range	≤ 6 bar
Diaphragm	open ring, no diaphragm
Temperature range	0 ... 60 °C
Minimum conductivity	≥ 500 µS/cm
pH range	2 ... 12
Chain zero point	E ₀ = 7,0

Subject to modifications.

Accessories

- ❑ **Adapter ring
TOP 68-SMEK**
for pH-/redox electrodes with
ESA-/ESS plug-in head for
connection to SMEK cable.
Materials: PPS, EPDM O-ring

Order no.
51501123

Product structure

pH electrode Orbitex W CPS 21

Electrode type

1 pH combination / $E_o = 7,0$

Application range

EA pH = 2 ... 12, temperature = 0 ... 60 °C

Shaft length

2 Shaft length 120 mm

Connection head

GSA Threaded plug-in head Pg 13.5
HDA Threaded plug-in head Pg 13.5, TOP 68, 16 bar
ESA Threaded plug-in head Pg 13.5, TOP 68
SME Threaded plug-in head Pg 13.5, SMEK

CPS 21-

complete order code

Endress+Hauser GmbH+Co.
- Instruments International -
P.O. Box 2222
D-79574 Weil am Rhein
Tel. (07621) 975 - 02
Fax (07621) 975345