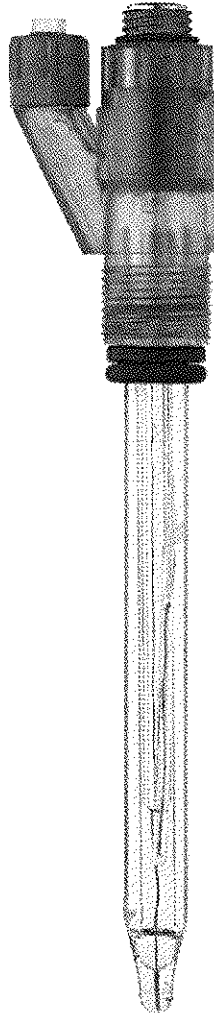


Electrodes for pH/Redox Measurement *ceraliquid CPS 41/42/43*

**pH/redox electrodes with ceramic diaphragm
and liquid KCl electrolyte, also with integrated
Pt 100 temperature sensor**



Areas of application

- The Ceraliquid electrodes filled with liquid KCl are used in media with very low conductivities ($\geq 0.1 \mu\text{S/cm}$), e.g.
 - ultrapure water
 - boiler feed water
- They can be used wherever a high percentage of organic solvents or alcohols will not permit the application of a low-maintenance electrode with solid "Polytex" electrolyte.

Important areas of application are:

- Food industry
- Fermenters
- Biotechnology
- Laboratory measurements.

Benefits at a glance

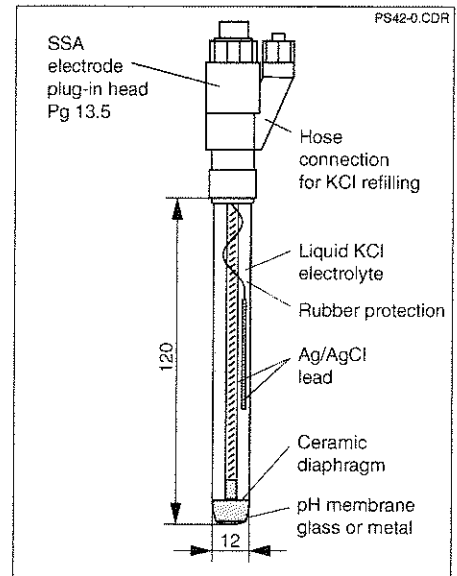
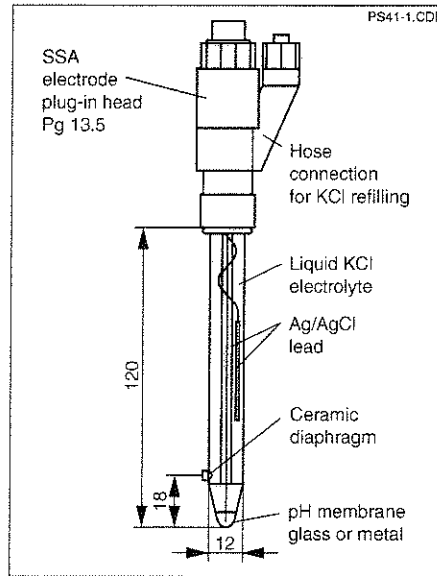
- Liquid KCl electrolyte, enabling use even at lowest conductivities ($\geq 0.1 \mu\text{S/cm}$)
- Ceramic diaphragm
- Application under pressures of up to 8 bar with counterpressure
- Different pH membrane glasses, including versions for steam sterilisation (max. 130 °C)
- Three lengths: 120, 225 and 360 mm
- Standard electrode connection head
- Also as combined pH electrode with integrated Pt 100 temperature sensor
 - Only one electrode mounting position and one connection cable CPK 7 required
 - Continuous and accurate temperature-compensated pH measurement



Electrode construction

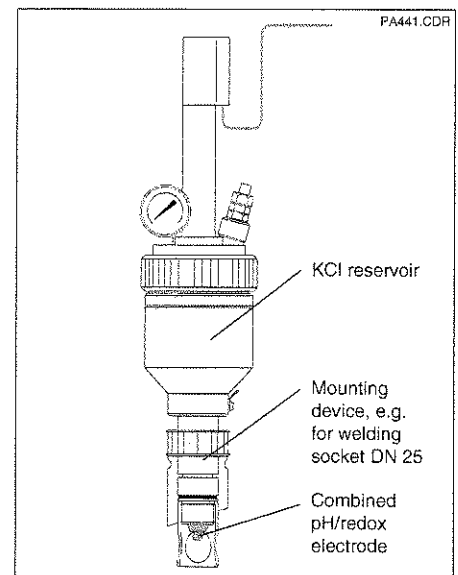
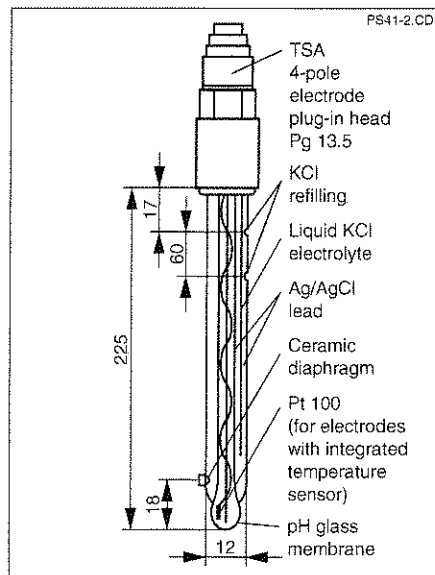
left:
Combined pH electrode
Ceraliquid CPS 41

right:
Combined
redox electrode
Ceraliquid CPS 42



left:
Combined pH electrode
Ceraliquid CPS 41
with / without
temperature sensor
for Probit CPA 441

right:
Probit CPA 441
assembly



Technical data

General data

Manufacturer	Endress+Hauser
Product designation	Ceraliquid CPS 41/42/43

Electrical connection

Plug-in head	GSA head with Pg 13.5 for Probit CPA 441
	SSA head with hose connection for liquid KCl
	<i>only for combined pH electrodes with integrated Pt 100:</i>
	TSA head, 4-pole connection head with Pg 13.5
	TSS head, 4-pole connection head with Pg 13.5 and hose connection for liquid KCl
Shaft length	120 / 225 / 360 mm
Diameter	12 mm

Reference system

Metal lead	Ag/AgCl
Electrolyte	liquid KCl 3 mol, AgCl-free
Pressure range	≤ 8 bar with counterpressure via separate KCl vessel
Diaphragm	ceramics
Temperature range	-15 ... 130 °C
Minimum conductivity	≥ 1 μS/cm for 1 diaphragm, ≥ 0.1 μS/cm for 3 diaphragms
pH membrane glasses	type A, B, D
pH range	0 ... 14
Chain zero-point	$E_0 = 7.0$
Redox measuring element	platinum ring or gold pin
KCl consumption with $\Delta p = 0.1$ bar	max. 3 ml/day for 1 diaphragm

Redox electrode selection

The selection of the right redox electrode depends mainly on the medium to be measured. Please follow this general rule:

- **Gold electrode** for oxidising media, e.g. cyanide oxidation, nitrite oxidation, ozone measurement, hydrogen superoxide measurement

- **Platinum electrode** for reducing media, e.g. chromate reduction, chlorine dosing in swimming pools.

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

How to order

Redox electrodes Ceraliquid CPS 42					
Electrode type					
0	Standard version				
Measuring element					
PB	Platinum ring				
Shaft length					
2	120 mm (only SSA)				
4	225 mm (only GSA)				
Connection head					
GSA	Threaded plug-in head Pg 13.5				
SSA	Hose connection head Pg 13.5				
CPS 42-					complete order code

Reference electrode

For combination with pH single electrodes CPS 64.

For detailed information refer to Technical Information CPS 64/65 (order no. 50054653).

How to order

Reference electrodes Ceraliquid CPS 43					
Electrode type					
0	Standard version				
Electrolyte					
TB	Liquid KCl				
Shaft length					
2	120 mm				
Connection head					
SSA	Hose connection head Pg 13,5				
CPS 43-					complete order code

Endress+Hauser GmbH+Co.
- Instruments International -
P.O. Box 22 22
D-79574 Weil am Rhein
Tel. (07621) 975 - 02
Fax (07621) 975345

Endress+Hauser
Nothing beats know-how

