



Gel-filled pH-combined Electrode



measuring
•
monitoring
•
analysing

APS-Z
COMPACT-LINE



- Measuring range pH 0... 12/0... 14
- KCl gel fill (0% silver ions)
- Salt distillate for longer life time
- Ceramic diaphragm
or
PTFE ring diaphragm
(for very soiled or oily media)
- Integrated Pt 100 optional
- Rated pressure up to 10 bar
(at +25 °C)
- Temperature range:
-5 °C... +80 °C
- High temperature glass electrodes:
-5... +135 °C
(with ceramic diaphragm)
- Discharge system Ag / AgCl
in as a cartridge



A1

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Description

The standard combined electrode for general pH measurements is filled with KCl gel (0% silver ions). The version APS-ZxN1 contains a salt distillate, which ensures longer stability times. The discharge system Ag/AgCl has been designed as a cartridge. The combined electrode version with PTFE ring diaphragm is especially suitable for tough service conditions, for example, service in clarification plants or in oily and very soiled media. A temperature sensor Pt-100 can be integrated VP (Vario Pin) Pg 13.5 screw head). The electrode can resist pressure up to 10 bar. Its dimensions are 120 x 12 mm (DIN 19 263).

Technical Details

Material: general-purpose glass/
high temperature glass

Diaphragm: ceramic, diameter 1 mm
PTFE, annular

pH-values: pH 0... 12 (general-purpose glass)
pH 0... 14 (high temperature glass)

Temperature range: -5... +80 °C (general-purpose glass)
-5... +135 °C (high temperature glass)

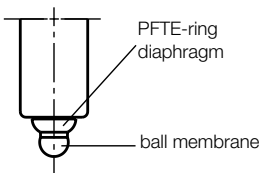
Pressure range: up to 10 bar (at +25 °C)

Length of shaft: 120 mm

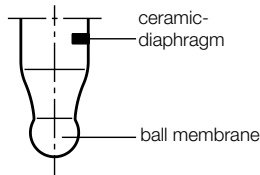
Diameter: 12 mm

Screw head: Pg 13.5

Minimum conductivity: 100 µS/cm



Electrode with PTFE ring diaphragm



Electrode with ceramic diaphragm

Active element of pH electrodes

Designation	pH or redox range	Temperature range	Typical application
Universal glass	pH 0 to 12 (briefly pH 14)	-5 ... +80 °C	Water and wastewater engineering, process measurement technology, low-ion media
High-temperature glass	pH 0 ... 14	0 ... 135 °C	For temperatures above 80 °C or for heavily alkaline media

Reference system design variations (reference electrode)

The only reference electrolytes used for KOBOLD APS-Z electrodes are those that have no silver ions. A cartridge-style conduction system contains the silver/silver chloride (Ag/AgCl). Various forms of diaphragm are used.

Diaphragm type	Explanation	Possible electrolytes	Recommended minimum conductivity of the medium	Typical application / limitations
1x ceramic diaphragm	High-quality zirconium dioxide diaphragma*	Polymerized solid electrolyte	Without salt reserve: 100 µS/cm With salt reserve: 50 µS/cm	General water or wastewater engineering, industrial processes, etc.
		Liquid KCl	5 µS/cm	
PTFE ring diaphragm	Large surface area ring diaphragm	Polymerized solid electrolyte	Without salt reserve: 100 µS/cm With salt reserve: 50 µS/cm	Only for very heavily polluted media or adherent media containing oil, for example

* Zirconium dioxide diaphragm: high-quality ceramic material of consistent porosity. This means optimum diffusion properties.

Salt reserve

<p>salt reserve</p>	<p>The electrode version with universal glass and without temperature sensor (APS-ZxN1) is equipped with a salt reserve, in the form of four salt rings (see illustration).</p> <p>This is recommended when using the electrode in media with fewer ions or at high flow rates. The salt reserve helps to increase the service life of the electrode. The rings are not a manufacturing defect (crystallization).</p>
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Order Details Combined Electrode (Example: APS-Z 1 N 1)

Model	Diaphragm	Temperature sensor	Device version
APS-Z	1 = ceramic diaphragm 2 = PTFE diaphragm	N = without temperature sensor (N-screwed head conduit thread Pg 13.5) R = with temperature sensor VP (Vario Pin) Pg 13.5 screw head	1 = universal glass 2 = high temperature glass -5 ... +135 °C

**Connection cable APK-Z
for pH electrodes model Model APS-Z**

- For pH measurement with an electrode without temperature sensor, model APK-Z...K:
 Low noise coaxial cable
 Diameter: 5 mm in black
 Thermostability: -25 ... +70 °C
 Length: 5 m, 10 m
- For pH measurement with an electrode with temperature sensor, Model APK-Z...R:
 Low noise coaxial cable with VP (Vario Pin)-cable socket
 (4 stranded cables and shielding)
 Diameter: 5,5 mm in black
 Thermostability: -30 ... +70 °C
 Length: 5 m, 10 m



Order Details Connection cable

Model	Cable length	Cable type
APK-Z	5 = 5 m cable length 1 = 10 m cable length	K = standard coaxial cable R = coaxial cable for electrodes with Pt100 VP (Vario Pin)-cable socket