# Conductive Conductivity Measuring Cells

**KOBOLD**

# EXPERT-LINE

- Conductive Measuring System
- Two-electrode measuring cells
- Measuring ranges:
  0.04...20 µS/cm (K = 0,01)
  0.1...200 µS/cm (K = 0.1)
  50...500 µS/cm (K = 1.0)
  10 µS/cm...20 mS/cm
  (K = 1.0)
- Installation in pipes
- Integrated temperature sensor compensation available
- Compact size
- High chemical, thermal and mechanical resistance

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**Model:**
ACS-X

51

## Description

The compact measuring cells for determining the specific conductivity are based on the two-electrode principle.
The measuring range of the cells depends on the materials used and the cell constant K.
The measuring cells can be fitted with temperature sensors (Pt 100) as an option, to compensate the influence of the medium temperature.
The conductivity measuring cells with cell constants K = 0.01 and 0.1 1/cm have been specially designed for measurements in high-purity and pure water applications.

## Typical applications for these measuring cells are:

● Monitoring ion exchangers
● Inspecting reverse osmosis.

Measuring cells with cell constant K = 1.0 1/cm are used in industrial process water applications.

## Typical applications are:

● Media separation
● Drinking water treatment
● Waste water treatment

The measuring cells are connected with a 4-pin connector that can be fixed by a retaining screw. A cable gland (conduit thread 11) is available to lay the cable (ACK-X).
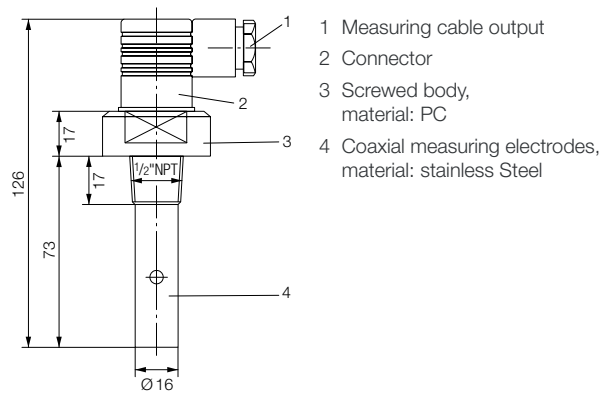
## Function principle of the two-electrode measuring cells

The two-electrode measuring cells are supplied with a.c. voltage from the conductivity transmitter ACM-X. The alternating current flowing through the measuring electrodes and the medium is determined by the conductivity of the liquid.
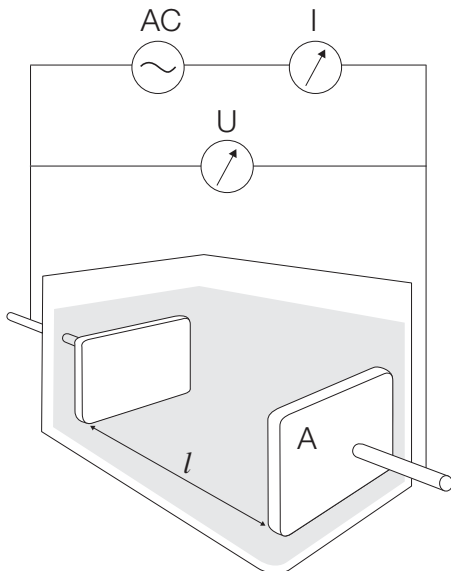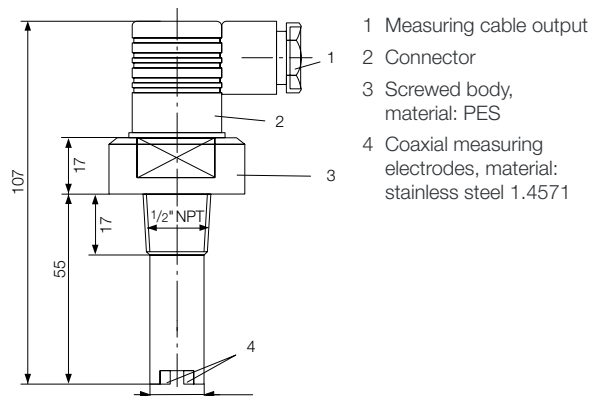


## Electrodes with cell constant K = 0.01 and 0.1 1/cm measuring range 1 and 2

● Measuring range 1:       0.04...20 µS/cm (K=0.01)
● Measuring range 2:       0.1...200 µS/cm (K=0.1)
● Accuracy:                ±1% of measured value
● Measuring surfaces:      stainless steel 1.4571, coaxial arrangement
● Cell body:               PC (polycarbonate)
● Thermostability:         60°C
● Rated pressure:          6 bar
● Process connection:      ½" NPT
● Temperature sensor:      Pt 100 (option)



1 Measuring cable output
2 Connector
3 Screwed body, material: PC
4 Coaxial measuring electrodes, material: stainless Steel

## Electrodes with cell constant K = 1.0 1/cm measuring range 3

● Measuring range 3:       50...500 µS/cm (K=1.0)
● Accuracy:                ±1% of measured value
● Measuring surfaces:      stainless steel 1.4571, bar-shaped arrangement
● Cell body:               PES (polyethersulfone)
● Thermostability:         120°C, (PVC-threaded sleeve max. 60°C)
● Rated pressure:          6 bar
● Process connection:      ½" NPT



1 Measuring cable output
2 Connector
3 Screwed body, material: PES
4 Coaxial measuring electrodes, material: stainless steel 1.4571

## Electrodes with cell constant K = 1.0 1/cm measuring range 4

- Measuring range 4: 10 µS/cm...20 mS/cm (K=1,0)
- Accuracy: ± 0,2 % of measured value
- Measuring surfaces: Graphite
- Cell body: PES (polyethersulfone)
- Thermostability: 150 °C
- Rated pressure: 16 bar (20 °C)
- Process connection: G 1
- Temperature sensor: Pt 100 (option)

1 Measuring cable output
  (conduit thread 9)
2 Connector (4-pin)
3 Plug head with key flat
4 Screwed body
5 Measuring electrodes

## Installation instructions:

Installation in a standard cross unit or T-piece with a threaded sleeve (½ NPT or G 1, depending on the measuring cell) and a compensating sleeve.
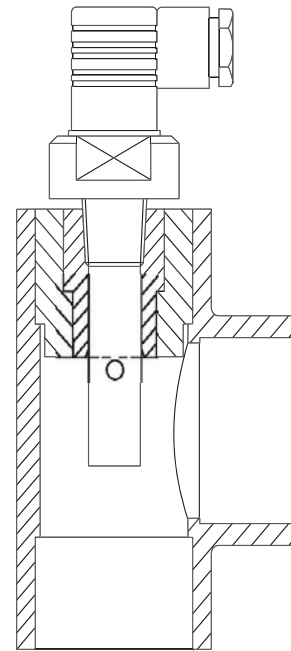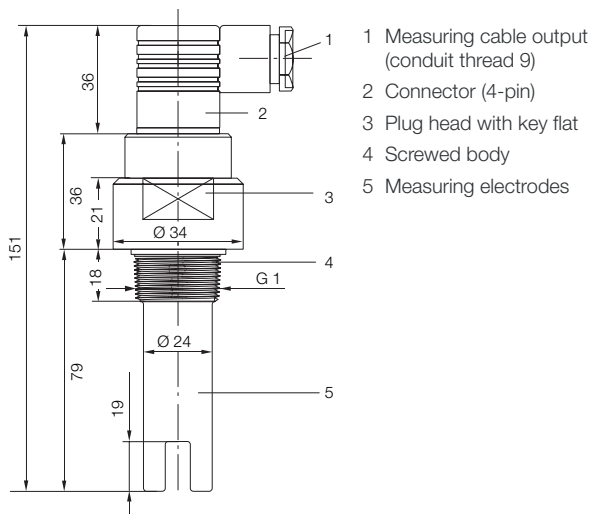
## Order Details Measuring Cell (Example: **ACS-X 3 K 1 T**)

| Model | Process connection | Measuring cell | Measuring range | Options |
|---|---|---|---|---|
| ACS-X | **3** = ½ NPT (not with measuring range 4)  **4** = G 1 (only with measuring range 4) | **K** = conductive | **1** = measuring range 1: 0.04...20 µS/cm (K=0.01 1/cm)  **2** = measuring range 2: 0.1...200 µS/cm (K=0.1 1/cm)  **3** = measuring range 3: 50...500 µS/cm (K=1.0 1/cm)  **4** = measuring range 4: 10 µS/cm...20 mS/cm (K=1.0 1/cm) | **T** = with temperature sensor Pt100 (not with measuring range 3)  **K** = without temperature sensor |

## Order Details Connection Cable

| Model | Length |
|---|---|
| ACK-X | **05** = 5 m  **10** = 10 m  **15** = 15 m  **20** = 20 m  **25** = 25 m |

No responsibility taken for errors; subject to change without prior notice.

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