

Conductivity probes



State-of-the-art probes for ultra-accurate conductivity measurement

Conductivity represents one of the fundamental parameters in determining the quality of water and liquids in general because it is linked to the concentration of ions responsible for electrical conduction in a solution. Electrical conductivity is the reciprocal of electrical resistivity and measures the ability of a solution to conduct an electric current when an alternating voltage is applied to a measuring cell made up of two or four electrodes. To compensate for the geometry of the cell, each probe is characterised by a constant that can be expressed in two ways which are the inverse of one another and are indicated with the letters K and C, the first expressed in cm and the second in cm^{-1} . The conductivity of a solution is generally expressed in $\mu\text{S}/\text{cm}$.



Technical features

Features	CK-1-SS-PP	CK-5-SS-PP	CK-10-SS-PP	CTK-1-SS-PP	CTK-5-SS-PP	CTK-10-SS-PP	CTK-1-SS-PF	CTK-100-SS-SS	CTK-1-GR-PP	CTK-1-GR-EP	CK-1-PT-GL	CTK-01-PT-EX	CTK-10-PT-EX
Measurement range	0.5 - 5,000 μS	0.1 - 1,000 μS	0.1 - 500 μS	0.5 - 5,000 μS	0.1 - 2,000 μS	0.05 - 500 μS	0.5 - 20,000 μS	0.01 - 20 μS	0.5 - 50,000 μS	0.5 - 20,000 μS	0.5 - 20,000 μS	5 - 200,000 μS	0.05 - 500 μS
K [cell constant]	1 cm	5 cm	10 cm	1 cm	5 cm	10 cm	1 cm	100 cm	1 cm	1 cm	1 cm	0.1 cm	10 cm
Operating temp	0 - 60°C	0 - 60°C	0 - 60°C	0 - 80°C	0 - 80°C	0 - 80°C	0 - 100°C	-20 - 130°C	5 - 100°C	0 - 70°C	0 - 130°C	0 - 70°C	0 - 70°C
Maximum pressure	6 bar	6 bar	6 bar	6 bar	6 bar	6 bar	2 bar	16 bar @ 130°C	5 bar	7.5 bar	6 bar	7.5 bar	7.5 bar
Body material	PP	PP	PP	PP	PP	PP	PTFE	SS 316L	PP	Epoxy	Glass	Epoxy	Epoxy
Electrode material	SS 316L	SS 316L	SS 316L	SS 316L	SS 316L	SS 316L	SS 316L	SS 316L	Graphite	Graphite	Platinum	Platinum	Platinum
Mechanical connection	½" GAS M	½" GAS M	½" GAS M	¾" GAS M	¾" GAS M	¾" GAS M	1" GAS M	½" NPT	½" GAS M	12 mm	12 mm	12 mm	12 mm
Electrical connection	5m cable	5m cable	5m cable	Cable not included	Cable not included	Cable not included	Cable from 5m or 10m	5m cable	Cable from 5m or 10m	6m cable	6m cable	6m cable	6m cable
Temperature sensor	-	-	-	PT100	PT100	PT100	PT100	PT100	PT100	PT100	-	PT100	PT100

CK-1-SS-PP

Medium conductivity probe, with steel electrodes and PP body without temperature sensor. Suitable for reverse osmosis, irrigation, wastewater, drinking water and cooling water treatment



Technical features

Measurement range 1 - 5,000 μS

Cell constant K 1 cm ; Cell constant C 1 cm^{-1}

Operating temp 0 - 60°C

Maximum pressure 6 bar

Body material PP ; Electrode material SS316 L

Mechanical connection ½" GAS M

Electrical connection 5m cable

Temperature sensor Not present

CK-5-SS-PP

Probe for medium-low conductivity, with steel electrodes and PP body without temperature sensor. Suitable for reverse osmosis, irrigation, wastewater, drinking water and cooling water treatment.



Technical features

Measurement range	0.1 – 1,000 μ S
Cell constant K	5 cm ; Cell constant C 0.2 cm ⁻¹
Operating temp	0 – 60°C
Maximum pressure	6 bar
Body material	PP ; Electrode material SS316 L
Mechanical connection	1/2" GAS M
Electrical connection	5m cable
Temperature sensor	Not present

CK-10-SS-PP

Low-conductivity probe, with steel electrodes and PP body without temperature sensor. Suitable for reverse osmosis and fish farming.



Technical features

Measurement range	0.1 – 500 μ S
Cell constant K	10 cm ; Cell constant C 0.1 cm ⁻¹
Operating temp	0 – 60°C
Maximum pressure	6 bar
Body material	PP ; Electrode material SS316 L
Mechanical connection	1/2" GAS M
Electrical connection	5m cable
Temperature sensor	Not present

CTK-1-SS-PP

Medium-conductivity probe, with steel electrodes, PP body and temperature sensor. Suitable for irrigation, wastewater, drinking water and cooling water.



Technical features

Measurement range	5 – 5,000 μ S
Cell constant K	1 cm ; Cell constant C 1 cm ⁻¹
Operating temp	0 – 80°C
Maximum pressure	6 bar
Body material	PP ; Electrode material SS316 L
Mechanical connection	3/4" GAS M
Electrical connection	Removable connector (cod.9900110111-112-113)
Temperature sensor	PT100

CTK-5-SS-PP

Probe for medium-low conductivity, with steel electrodes, PP body and temperature sensor. Suitable for irrigation, drinking water and cooling water.



Technical features

Measurement range	0.5 – 2,000 μ S
Cell constant K	5 cm ; Cell constant C 0.2 cm ⁻¹
Operating temp	0 – 80°C
Maximum pressure	6 bar
Body material	PP ; Electrode material SS316 L
Mechanical connection	3/4" GAS M
Electrical connection	Removable connector (cod.9900110111-112-113)
Temperature sensor	PT100

CTK-10-SS-PP

Low-conductivity probe, with steel electrodes, PP body and temperature sensor. Suitable for reverse osmosis and fish farming.



Technical features

Measurement range	0.01 – 500 μS
Cell constant K	10 cm ; Cell constant C 0.1 cm^{-1}
Operating temp	0 – 80°C
Maximum pressure	6 bar
Body material	PP ; Electrode material SS316 L
Mechanical connection	$\frac{3}{4}$ " GAS M
Electrical connection	Removable connector (cod.9900110111-112-113)
Temperature sensor	PT100

CTK-1-SS-PF

Probe for medium-high conductivity, with steel electrodes, body in PTFE and temperature sensor. Suitable for reverse osmosis, irrigation, wastewater, drinking water and cooling water.



Technical features

Measurement range	0 – 20,000 μS
Cell constant K	1 cm ; Cell constant C 1 cm^{-1}
Operating temp	0 – 100°C
Maximum pressure	2 bar
Body material	PTFE ; Electrode material SS316 L
Mechanical connection	1" GAS M
Electrical connection	5m or 10m cable
Temperature sensor	PT100

CTK-100-SS-SS

Probe for extra-low-conductivity values, with steel electrodes, steel body and temperature sensor. Mainly suitable for reverse osmosis applications.



Technical features

Measurement range	0.04 – 20 μS
Cell constant K	100 cm ; Cell constant C 0.01 cm^{-1}
Operating temp	-20 – 130°C
Maximum pressure	16 bar @ 130°C
Body material	SS316 L ; Electrode material SS316 L
Mechanical connection	$\frac{1}{2}$ " NTP
Electrical connection	5m cable
Temperature sensor	PT100

CTK-1-GR-PP

Probe for medium-high conductivity, with graphite electrodes and PP body loaded with graphite and temperature sensor. Suitable for drinking water, industrial processes, boilers, wastewater and salt water.



Technical features

Measurement range	0 – 50,000 μS
Cell constant K	1 cm ; Cell constant C 1 cm^{-1}
Operating temp	5 – 100°C
Maximum pressure	5 bar
Body material	PP + 30% Graphite ; Electrode material Graphite
Mechanical connection	$\frac{1}{2}$ " GAS M
Electrical connection	5m or 10m cable
Temperature sensor	PT100

CTK-1-GR-EP

Probe for medium-high conductivity, with graphite electrodes, epoxy body and temperature sensor. Suitable for irrigation, wastewater, drinking water and cooling water.



Technical features

Measurement range	5 – 20,000 μS
Cell constant K	1 cm ; Cell constant C 1 cm^{-1}
Operating temp	0 – 70°C
Maximum pressure	7.5 bar
Body material	Epoxy ; Electrode material Graphite
Mechanical connection	12 mm
Electrical connection	6m cable
Temperature sensor	PT100

CK-1-PT-GL

Probe for medium-high conductivity with platinum electrodes and glass body without temperature sensor. Suitable for reverse osmosis and fish farming.



Technical features

Measurement range	1 – 20,000 μS
Cell constant K	1 cm ; Cell constant C 1 cm^{-1}
Operating temp	0 – 130°C
Maximum pressure	6 bar
Body material	Glass ; Electrode material Platinum
Mechanical connection	12 mm
Electrical connection	6m cable
Temperature sensor	Not present

CTK-01-PT-EX

High-conductivity probe with platinum electrodes, epoxy body and temperature sensor. Suitable for wastewater and salt water.



Technical features

Measurement range	100 – 200,000 μS
Cell constant K	0.1 cm ; Cell constant C 10 cm^{-1}
Operating temp	0 – 70°C
Maximum pressure	7.5 bar
Body material	Epoxy ; Electrode material Platinum
Mechanical connection	12 mm
Electrical connection	6m cable
Temperature sensor	PT100

CTK-10-PT-EX

Extra-low-conductivity probe with platinum electrodes, epoxy body and temperature sensor. Suitable for irrigation, wastewater, drinking water and cooling water.



Technical features

Measurement range	0.1 – 500 μS
Cell constant K	10 cm ; Cell constant C 0.1 cm^{-1}
Operating temperature	0 – 70°C
Maximum pressure	7.5 bar
Body material	Epoxy ; Electrode material Platinum
Mechanical connection	12 mm
Electrical connection	6m cable
Temperature sensor	PT100