

Sensors for chlorine dioxide OCS 240 and OCS 241

Membrane covered, amperometric sensors for installation in flow assembly CCA 250



The chlorine sensor OCS 240 is suitable for applications with a measuring range of 0.05 ... 20 mg ClO_2/l .

The chlorine sensor OCS 241 is especially suitable for disinfection of drinking water conditioning or for the detection of chlorine traces (measuring range 0.01 ... 5 mg ClO_2/l).

The concentration of free active chlorine can be measured when using the following chlorinating agents: NaOCl , $\text{Ca}(\text{OCl})_2$, Cl_2 and electrolytically generated chlorine.

Areas of application

- Drinking water conditioning
- Pool water conditioning
- Service water conditioning

Benefits at a glance

- Minimum flow rate for installation in flow assembly CCA 250: 30 l/h
- Measurement almost independent of flow rate in the range above 30 l/h
- No zero point calibration necessary so that the complicated installation of an active carbon filter, as in open chlorine sensors, is unnecessary.
- Measured values are not affected by conductivity fluctuation
- The sensor OCS 240 is ready for measurement after a polarisation time of approx. 30 – 60 min. The sensor OCS 241 requires 45 – 90 min.
- Ready-made membrane head allows simple membrane change
- Recalibration intervals approx. 1 – 4 months under constant operating conditions
- Outlet up to 1 bar back pressure

Drinking, industrial and swimming pool water must be disinfected with suitable oxidising agents such as chlorine or chlorine compounds.

The dosing of the appropriate oxidising agents must be carefully controlled to suit the application.

Too low a concentration make the degree of disinfection questionable. Too high a concentration can result in corrosion effects, impairment of taste or skin irritation.

Measuring system

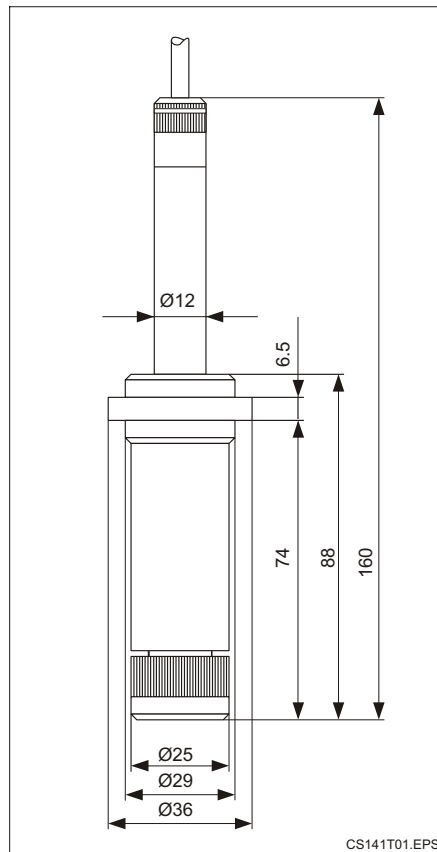
The membrane-covered amperometric chlorine dioxide sensors OCS 240 and OCS 241 are intended for installation in the OCA 250

Operating principle

The membrane-covered sensor consists of a cathode serving as the working electrode and an anode acting as the counter-electrode. These electrodes are immersed in an electrolyte. The electrodes and electrolyte are separated from the medium to be measured by a membrane. This membrane prevents the loss of electrolyte and penetration of contaminants which can cause "poisoning". A fixed polarisation voltage is applied between the anode and the cathode.

When the sensor is immersed in measuring water containing chlorine dioxide, the chlorine dioxide diffuses through the membrane. The chlorine dioxide molecules impinging on the cathode (electron surplus) are reduced to chloride ions. At the anode, silver is oxidized to silver chloride. The resulting maximum diffusion current is a direct measure of the concentration of dissolved chlorine dioxide.

Dimensions



Dimensions of
OCS 240/241

Technical Data

General data	Designation	Chlorine dioxide sensor OCS 240 / 241
Material	Shaft material	PVC
	Membrane material	PTFE
	Membrane cap	replaceable
Electrical connection	Cable connection	3 m 4-core, double screened cable, low noise
Conductivity measurement	Measuring system	passively operated sensor with gold cathode and silver/silver chloride anode
	Temperature sensor	NTC, 10 k at 25 °C
	Measuring range OCS 240	0.05 ... 20 mg ClO ₂ /l
	Measuring range OCS 241	0.01 ... 5 mg ClO ₂ /l
	Polarisation time of OCS 240	- 20 mV
	Polarisation time of OCS 240	first polarisation 30 min repolarisation 10 min
	Polarisation time of OCS 241	- 20 mV
	Polarisation time of OCS 241	first polarisation 90 min repolarisation 45 min
	Response time	90 % of final value: < 2 min 99 % of final value: < 5 min

Subject to modifications

Accessories

OCY 14-WP
2 ready to use replacement cartridges for CCS 240/241

Order-No.

51500461

OCY 24-F
50 ml ready to use filling electrolyte for CCS 240/241

51500462

Supplementary documentation

Technical informations

Flow assembly for free chlorine and chlorine dioxide OCA 250

51503882

Product structure

Chlorine dioxide sensor OCS 240

Version

N with NTC temperature sensor



OCS 240 -

complete order code

Trace chlorine dioxide sensor OCS 241

Version with NTC temperature sensor



OCS 241 -

complete order code



hobeco
www.hobeco.net

Hobeco Sudamericana Ltda.
Ladeira Madre de Deus, 13 - Gamboa
CEP 20221-090 - Rio de Janeiro -RJ Brasil
Tel: 0xx21-2518-2237 Fax: 0xx21-2263-9067
<http://www.hobeco.net>