DULCOTEST® Sensors for Total Chlorine

Reliable online measurement of total chlorine – with DULCOTEST® sensors.

Graduated measuring ranges 0.01 – 10 mg/l

Total chlorine refers to the total amount of free chlorine (HOCl, OCl^-) and combined chlorine (chloramines). Sensors for total chlorine are used in chloramination, chlorine elimination and waste water monitoring. Total chlorine measurement is also used in conjunction with the measurement of free chlorine to measure the amount of combined chlorine in swimming pool water.

Our product line of DULCOTEST® sensors for total chlorine includes the versatile CTE1 range with different measuring ranges and signal outputs.

Your benefits

- Versatile applications with a wide range of water qualities (pH, salt content, temperature, chemical and contamination load); in combination with many disinfection processes (chlorine gas, sodium hypochlorite, calcium hypochlorite, chloramines); can also be used at high pH values up to 9.5
- Precise, real-time amperometric measurement for efficient process control (short response time)
- Amperometric measuring means no clouding or discolouration
- Integrated temperature compensation eliminates faults caused by influence of temperature
- Diaphragm-covered electrodes for reduced dependence on flow, substances in water and film-forming media
- Diaphragm-covered electrodes embedded in an electrolyte ensure long service life. This maintains optimum measuring conditions regardless of process conditions.

Field of application

Chlorine measurement in potable water, swimming pool water, industrial water, process water and waste water

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Technical Data

Sensor for Total Chlorine CTE 1-mA

Sensor for total chlorine, including, for example, free chlorine, chloramines etc. even with high pH values in different kinds of water. For use on controllers with mA input

Your benefits

- Measured variable: Total chlorine, chlorine compounds, in which chlorine acts as an oxidising agent, e.g. free chlorine (HOCl and OCl^-), chloramines etc.
- Diaphragm-covered sensor (encapsulated) prevents faults caused by changing flow or ingredients in the water
- Hydrophilic diaphragm guarantees permeability for different water-soluble oxidising agents towards the measuring electrodes
- The special reaction system of the electrolyte allows components containing oxidising chlorine to be determined and used at a high pH of up to 9.5

Measured variable	Total chlorine
Reference method	DPD4
pH range	5.5 … 9.5
Temperature	5 … 45 °C
Max. pressure	3.0 bar
Intake flow	30…60 l/h (in DGM or DLG III)
Supply voltage	16...24 V DC (two-wire technology)
Output signal	4…20 mA ≈ measuring range, temperature-compensated, uncalibrated, not electrically isolated
Selectivity	Non-selective, cross-sensitive towards many oxidation agents
Disinfection process	Chlorine gas, hypochlorite, electrolysis with diaphragm, monochloramine
Installation	Bypass: open sample water outlet
Sensor fitting	DGM, DLG III
Measuring and control equipment	D1C, DAC, AEGIS II
Typical applications	CTE 1-mA-0.5 ppm: Potable water; CTE 1-mA-2/5/10 ppm: Potable, industrial, process, waste water. In swimming pools combined with CLE 3.1 to detect combined chlorine.
Resistance to	surfactants
Measuring principle, technology	Amperometric, 2 electrodes, membrane-covered

	Measuring range	Order no.
CTE 1-mA-0.5 ppm	0.01…0.5 mg/l	740686
CTE 1-mA-2 ppm	0.02…2.0 mg/l	740685
CTE 1-mA-10 ppm	0.10…10.0 mg/l	740684

Chlorine sensors complete with 50 ml of electrolyte

A mounting kit, order no. 815079, is required for initial fitting of the chlorine sensors in the in-line probe housing DLG III.

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DULCOTEST® Sensors for Total Chlorine

Reliable online measurement of total chlorine – with DULCOTEST® sensors.

Sensor for Total Chlorine CTE 1-DMT

Sensor for total chlorine, including, for example, free chlorine, chloramines etc. even with high pH values in different kinds of water. For operation with the transmitter DMT

Your benefits

- Measured variable: Total chlorine, chlorine compounds, in which chlorine acts as an oxidising agent, e.g. free chlorine (HOCl and OCl^-), chloramines etc.
- Diaphragm-covered sensor (encapsulated) prevents faults caused by changing flow or ingredients in the water
- Hydrophilic diaphragm guarantees permeability for different water-soluble oxidising agents towards the measuring electrodes
- The special reaction system of the electrolyte allows components containing oxidising chlorine to be determined and used at a high pH of up to 9.5

Measured variable	Total chlorine
Reference method	DPD4
pH range	5.5 … 9.5
Temperature	5 … 45 °C
Max. pressure	3.0 bar
Intake flow	30…60 l/h (in DGM or DLG III)
Supply voltage	3.3 V DC (5 P)
Output signal	Uncalibrated, not temperature-compensated, not electrically isolated
Selectivity	Non-selective, cross-sensitive towards many oxidation agents
Disinfection process	Chlorine gas, hypochlorite, electrolysis with diaphragm, monochloramine
Installation	Bypass: open sample water outlet
Sensor fitting	DGM, DLG III
Measuring and control equipment	DMT
Typical applications	Potable, industrial, process, waste water.
Resistance to	surfactants
Measuring principle, technology	Amperometric, 2 electrodes, membrane-covered

	Measuring range	Order no.
CTE 1-DMT-10 ppm	0.01…10.0 mg/l	1007540

Chlorine sensors complete with 50 ml of electrolyte

A mounting kit, order no. 815079, is required for initial fitting of the chlorine sensors in the in-line probe housing DLG III.

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DULCOTEST® Sensors for Total Chlorine

Reliable online measurement of total chlorine – with DULCOTEST® sensors.

Sensor for total chlorine CTE 1-CAN-P

Sensor for total chlorine, including, for example, free chlorine, chloramines etc. even with high pH values in different kinds of water. For use on controllers with CAN-bus connection

Your benefits

- Measured variable: Total chlorine, chlorine compounds, in which chlorine acts as an oxidising agent, e.g. free chlorine (HOCl and OCl^-), chloramines etc.
- Diaphragm-covered sensor (encapsulated) prevents faults caused by changing flow or ingredients in the water
- Hydrophilic diaphragm guarantees permeability for different water-soluble oxidising agents towards the measuring electrodes
- The special reaction system of the electrolyte allows components containing oxidising chlorine to be determined and used at a high pH of up to 9.5
- Operation on the CAN-bus with all the associated benefits

Measured variable	Total chlorine
Reference method	DPD4
pH range	5.5 … 9.5
Temperature	5 … 45 °C
Max. pressure	3.0 bar
Intake flow	30…60 l/h (in DGMa or DLG III)
Supply voltage	Via CAN interface (11 - 30 V)
Output signal	Uncalibrated, temperature-compensated, electrically isolated
Selectivity	Non-selective, cross-sensitive towards many oxidation agents
Disinfection process	Chlorine gas, hypochlorite, electrolysis with diaphragm, monochloramine
Installation	Bypass: open sample water outlet
Sensor fitting	DGM, DLG III
Measuring and control equipment	DULCOMARIN® 3, DULCOMARIN® II only with hardware after 06.02.2014 from software version 3035 or later
Typical applications	Potable, industrial, process, waste water. In swimming pools combined with CLE 3.1 to detect combined chlorine.
Resistance to	surfactants
Measuring principle, technology	Amperometric, 2 electrodes, membrane-covered

	Measuring range	Order no.
CTE 1-CAN-P-10 ppm	0.01…10.0 mg/l	1083210

Chlorine sensors complete with 100 ml of electrolyte

A mounting kit, order no. 815079, is required for initial fitting of the chlorine sensors in the in-line probe housing DLG III.

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