

# DULCOTEST® Sensors for Hydrogen Peroxide

Reliable online measurement of hydrogen peroxide – with DULCOTEST® sensors.



## Graduated measuring ranges 0.2 – 2,000 mg/l, special measuring ranges up to 100,000 mg/l

You have the choice of three types of sensor for applications with different requirements with our DULCOTEST® hydrogen peroxide sensors PER1, PEROX and PEROX H 3E.

The sensor PER1-mA is resistant to contaminated water and can be used in water up to a temperature of 50°C. As a compact sensor with integrated transducer and temperature correction, it has a measuring range of up to 100,000 mg/l.

The PEROX type sensor has no cross-sensitivity to chlorine and, with its rapid response time and separate temperature

measurement, it can be used to control fast processes in clear water, even with the intermittent absence of hydrogen peroxide.

The sensor type PEROX H 3E with integrated transducer and 3-electrode system has the benefits of type PEROX and can also be used in moderately contaminated water in addition to reliable measurement above 0.2 ppm H<sub>2</sub>O<sub>2</sub>.

## Your benefits

- Precise, real-time amperometric measurement for efficient process control (short response time)
- Amperometric measuring means no turbidity or discoloration
- Stable zero point means no drift
- Temperature compensation eliminates faults caused by the influence of temperature
- Diaphragm-covered electrodes for reduced dependence on flow and cross-sensitivities
- Short run in period for quick commissioning

## Field of application

- Exhaust air scrubbers
- Cooling circuits:
- Groundwater remediation
- Potable water oxidation
- Process water disinfection
- Waste water treatment (advanced oxidation)
- Waste water monitoring e.g. in the semiconductor industry
- Chemical bleaches, e.g. paper, textiles
- Dechlorination, e.g. in chemical processes
- Landfill seepage water
- Biotechnology, greenhouses, pharmaceuticals
- Swimming pool water (active oxygen method)

# DULCOTEST® Sensors for Hydrogen Peroxide

Reliable online measurement of hydrogen peroxide – with DULCOTEST® sensors.

## Technical Data

### Hydrogen Peroxide Sensor PER1

Sensor for the measurement of hydrogen peroxide even in chemically contaminated and polluted water. Available with measuring ranges for medium to very high concentrations

### Your benefits

- Measured variable hydrogen peroxide, with measuring ranges from 20 ppm to 100,000 ppm (10%) available
- Diaphragm-covered sensor minimises faults caused by changing flow or ingredients in the water
- Resistance to films of dirt by pore-free diaphragm
- Operating temperature up to 50 °C

<b>Measured variable</b>	Hydrogen peroxide
<b>Calibration</b>	Photometric with manual DT3B photometer
<b>pH range</b>	1.0 ... 11.0
<b>Cross sensitivity</b>	Ozone, chlorine dioxide, peracetic acid, chlorine, bromine
<b>Temperature</b>	0 ... 50 °C
<b>Admissible temperature fluctuation</b>	< 0.3 °C/min
<b>Response time sensor <math>t_{90}</math></b>	approx. 480 sec
<b>Min. conductivity</b>	0.05 mS/cm
<b>Max. pressure</b>	1.0 bar
<b>Intake flow</b>	20...100 l/h
<b>Supply voltage</b>	16...24 V DC (two-wire system)
<b>Output signal</b>	4...20 mA temperature-compensated, uncalibrated, not electrically isolated
<b>Selectivity</b>	Hydrogen peroxide selective towards sulphite
<b>Installation</b>	Bypass: open outlet or return of the sample water into the process line
<b>Sensor fitting</b>	DGM, DLG III
<b>Measuring and control equipment</b>	D1C
<b>Typical applications</b>	Cooling and waste water treatment, plant irrigation water, bleaching processes, H <sub>2</sub> O <sub>2</sub> product qualification, water with higher H <sub>2</sub> O <sub>2</sub> concentrations of up to 100,000 ppm.
<b>Resistance to</b>	Salts, acids, alkalis, surfactants, dirt films, not against hydrogen sulphide (H <sub>2</sub> S)
<b>Measuring principle, technology</b>	Amperometric, 2 electrodes, membrane-covered

	Measuring range	Order no.
PER 1-mA-2000 ppm	20.0...2,000.0 mg/l	1022510

**Important note:** Measuring ranges up to 100,000 ppm on request

**Note:** a mounting kit (order no. 815079) is required for initial fitting of the sensors in the in-line probe housing DLG III.

# DULCOTEST® Sensors for Hydrogen Peroxide

Reliable online measurement of hydrogen peroxide – with DULCOTEST® sensors.

## Hydrogen Peroxide Sensor PEROX

Sensor for the measurement of hydrogen peroxide without cross-sensitivity to chlorine. It can also be used for fast control processes even with the temporary absence of hydrogen peroxide in clear water.

### Your benefits

- Measured variable hydrogen peroxide without cross sensitivity to chlorine
- Diaphragm-covered sensor minimises faults caused by changing flow
- Control of fast processes through rapid response time by the sensor in conjunction with fast external temperature measurement for temperature correction
- Reliable measurement even after periods of absence of hydrogen peroxide by pulsed, self-regenerating measuring electrode

<b>Measured variable</b>	Hydrogen peroxide
<b>Calibration</b>	Photometric with manual DT3B photometer
<b>Measuring range</b>	1...20, 10...200, 100...2000 mg/l, switchable
<b>pH range</b>	2.5 ... 10.0
<b>Temperature</b>	0 ... 40 °C
<b>Admissible temperature fluctuation</b>	< 1 °K/min (with external T measurement)
<b>Response time sensor t<sub>90</sub></b>	approx. 20 sec
<b>Min. conductivity</b>	With 20 mg/l range: 5 µS/cm With 200 mg/l range: 200 µS/cm Up to 1,000 mg/l: 500 µS/cm Up to 2,000 mg/l: 1 mS/cm
<b>Max. pressure</b>	2.0 bar
<b>Intake flow</b>	30...60 l/h
<b>Supply voltage</b>	16...24 V DC (3-wire system)
<b>Output signal</b>	4...20 mA not temperature-compensated, uncalibrated, not electrically isolated
<b>Selectivity</b>	Hydrogen peroxide selective towards free chlorine
<b>Installation</b>	Bypass: open outlet or return of the sample water into the process line
<b>Sensor fitting</b>	DGM, DLG III
<b>Measuring and control equipment</b>	DAC
<b>Typical applications</b>	Exhaust air scrubbers, treatment of swimming pool water, potable water, controls with requisite very short response times.
<b>Resistance to</b>	Salts, acids, lyes, surfactants.
<b>Measuring principle, technology</b>	amperometric, 2 pulsing electrodes, diaphragm-covered

	Order no.
H <sub>2</sub> O <sub>2</sub> sensor PEROX-H2.10 P	792976
PEROX transducer V1 for D1Ca	1034100
PEROX Transducer V2	1047979