bürkert
FLUID CONTROL SYSTEMS

Chlorine (Cl_2) or chlorine dioxide (ClO_2) sensor cube

- Fully compatible with büS systems and a wide range of further analysis sensor cubes
- Optional pH-compensated chlorine measurement
- Hot-swap facility for exchanging the sensor cube during operation
- Minimal sample water consumption
- MEMS technology sensor

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

Type 8905 ▸
Online water analysis system

Type 8906 ▸
Online water analysis system

Type MS01 ▸
pH Sensor Cube

Type MZ15 ▸
Manual calibration and cleaning module

Type ME61 ▸
EDIP process display

Type ME43 ▸
Fieldbus gateway

Type ME63 ▸
Industrial Ethernet Gateway, IP65/IP67/IP69k

Type ME44 ▸
I/O module, IP 20

Type ME66 ▸
Passive distributor, IP65/ IP67/IP69k

Type description

This sensor cube measures the free acting chlorine or chlorine dioxide in water, depending on the variant. It is designed for operation on a fluidic backplane in the Type 8905 online water analysis system.

The sensor cube contains a high precision membrane-covered amperiometric sensor, based on Bürkert MEMS technology (micro electro-mechanical system). The measurement shows the Cl_2 or ClO_2 content in the sample water. The chlorine sensor cube measures either the available chlorine HOCl or, if an MS01 pH sensor cube is connected for pH compensation, the free chlorine.

The electrical and fluidic connections are established via the backplane of the system. The sensor cube communicates with the system via the digital büS interface, allowing fully automatic login to the online water analysis system. If the sensor is plugged into the system, it automatically logs on to the büS and can be parameterised according to customer requirements.

As a supplement to the standard sensor, there is a variant with an external KCl reference electrode. This sensor is recommended for changing chlorine concentrations and generally unsteady process conditions.

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Visit product website ▸

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1. General technical data

Product properties	
Material	
Make sure the device materials are compatible with the fluid you are using. Further information can be found in chapter "3.1. Bürkert resistApp" on page 4.	
Housing	PPE+PS
Lever	Zamak, painted
Seal	EPDM
Compatibility	With online water analysis system Type 8905 (the electrical and fluidic contact is made via backplane system.) Further information can be found in the data sheet of the online water analysis system, see **data sheet Type 8905** ▶.
Dimensions	Further information can be found in chapter "4. Dimensions" on page 5.
Measuring element	• Chlorine/chlorine dioxide sensor: membrane-covered PT-cell, amperometric 3-electrode measuring cell, without electrolyte • Temperature sensor: Pt1000 Class B, no contact with the water sample
Measuring range	
Free-acting chlorine measurement (Cl_2)	0.01...5 ppm (the measuring range of free chlorine depends on the pH value of the fluid.)
Chlorine dioxide measurement (ClO_2)	0.005...5 ppm
Maintenance	Interval: 12 months, typical, depending on the water quality
Performance data	
Chlorine measurement (Cl_2)	With anti-biofouling external reference electrode (marked zero Cl_2) or without (marked Cl_2)
pH compensation	Yes, with MS01 sensor cube Further information can be found in the data sheet of the pH sensor cube, see **data sheet Type MS01** ▶.
Measurement deviation	± 0.03 ppm or ± 5 % of the measured value (the greater value applies)
Measuring range resolution	0.01 ppm
Linearity	± 0.02 ppm
Repeatability	± 0.02 ppm
Response time (t90)	< 30 s
Chlorine dioxide measurement (ClO_2)	
pH compensation	No
Measurement deviation	± 0.005 ppm or ± 3 % of the measured value (the greater value applies)
Measuring range resolution	0.001 ppm
Linearity	± 0.01 ppm or ± 3 % of the measured value (the greater value applies)
Repeatability	± 0.01 ppm or ± 3 % of the measured value (the greater value applies)
Response time (t90)	< 30 s
Temperature measurement	
Measuring range	0...+ 50 °C (+ 32...+ 122 °F)
Measuring range resolution	0.01 °C (0.018 °F)
Electrical data	
Operating voltage	24 V DC via the backplane of the system Type 8905 (via büS)
Power consumption	0.8 VA
Medium data	
Fluid	• Water without particles: drinking water, industrial water • For Cl < 0.2 ppm, use anti-biofouling external reference electrode (marked zero Cl_2)
Fluid pH range	pH 4...pH 9
Fluid conductivity	> 50 µs/cm For a conductivity between 50 and 100 µS/cm, only the sensor cube with the anti-biofouling external reference electrode (marked zero Cl_2) is compatible.
Temperature of the fluid sample	+ 3...+ 40 °C (+ 37...+ 104 °F)
Pressure of the fluid sample	PN 3
Flow rate of the fluid sample	> 6 l/h

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Product connections	
Process connection	Via pinch valve in the fluidic backplane of Type 8905 Further information can be found in the data sheet of the online water analysis system, see **data sheet Type 8905** ▶.
Electrical connection	Spring contacts in the fluidic backplane of Type 8905 which is connected to a büS system Further information can be found in the data sheet of the online water analysis system, see **data sheet Type 8905** ▶.
Data transfer	
Internal communication	Via büS (Bürkert system bus, CANopen-based) or CANopen
External communication via status LED	According to NAMUR NE 107
Approvals and conformities	
Directives	
CE directive	Further information on the CE directive can be found in chapter "2.2. Standards" on page 4.
Environment and installation	
Ambient temperature	• Operation: + 3...+ 40 °C (+ 37...+ 104 °F) • Storage and transport: - 10...+ 60 °C (+ 14...+ 140 °F), for empty and purged sensor cube
Relative air humidity	≤ 90 %, without condensation
Height above sea level	Max. 2000 m
Operating condition	Continuous
Equipment mobility	Fixed
Application range	Indoor and outdoor Protect the device against electromagnetic interference, ultraviolet rays and, when installed outdoors, against the effects of climatic conditions.
Degree of protection according to IEC/EN 60529	• IP65, when plugged in the fluidic backplane • IP20, as standalone product
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

2. Approvals and conformities

2.1. Conformity

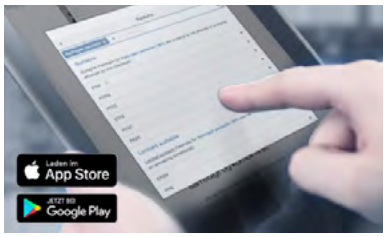
In accordance with the EU Declaration of Conformity, the product is compliant with the EU Directives.

2.2. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-type Examination Certificate and/or the EU Declaration of Conformity.

3. Materials

3.1. Bürkert resistApp



Bürkert resistApp – Chemical resistance chart

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

Start chemical resistance check

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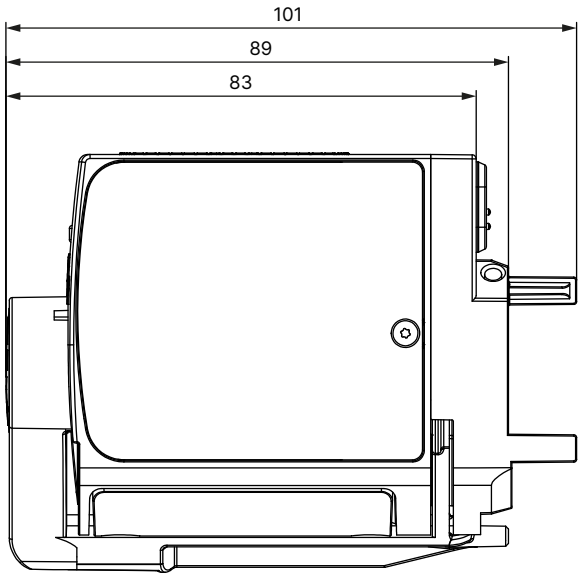
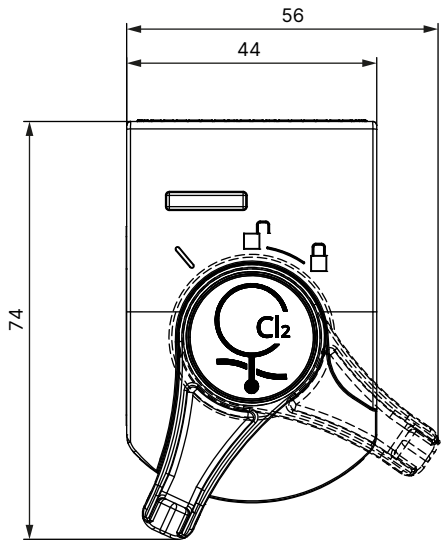
4. Dimensions

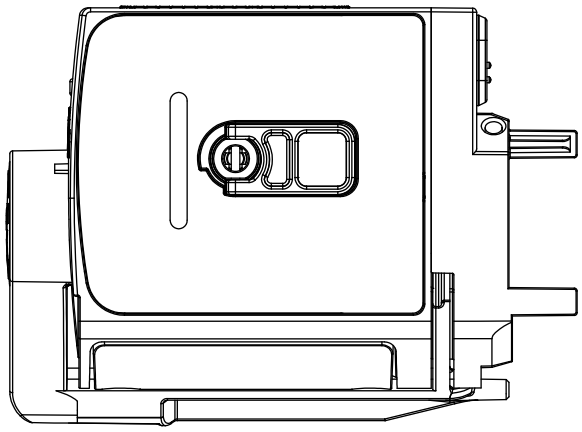
Note:
Dimensions in mm, unless otherwise stated

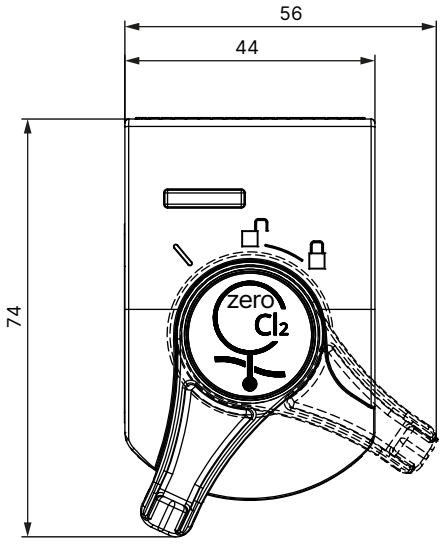
Without external KCl reference electrode





With external KCl reference electrode





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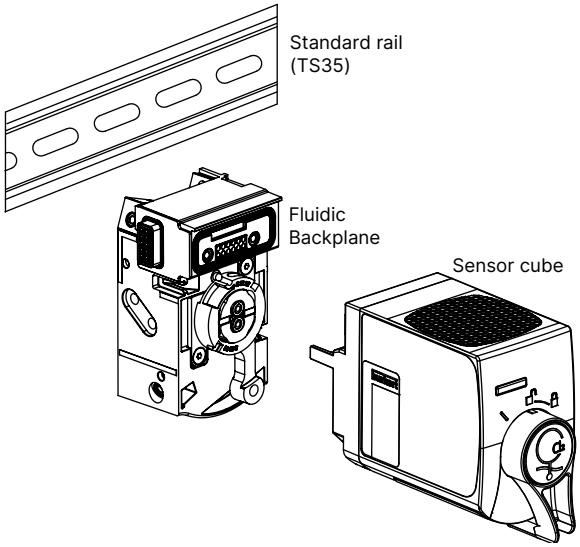
5. Product installation

5.1. Installation notes

The Type MS02 sensor cube is designed for use with Type 8905 online water analysis system. The sensor cube is mounted onto the backplane of the Type 8905, which is installed on a standard rail (TS35).

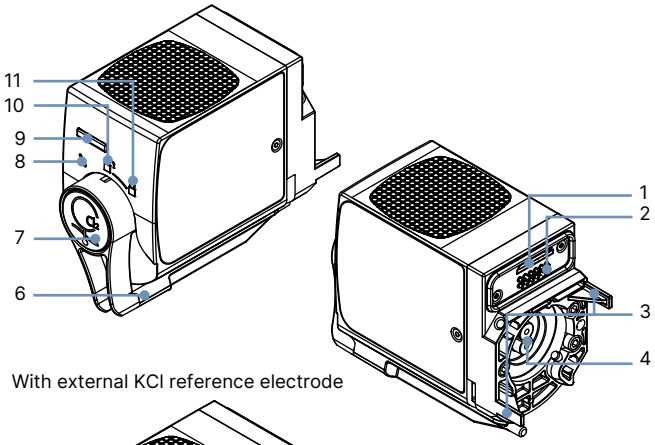
See **data sheet Type 8905** ▶ online water analysis system for more information.



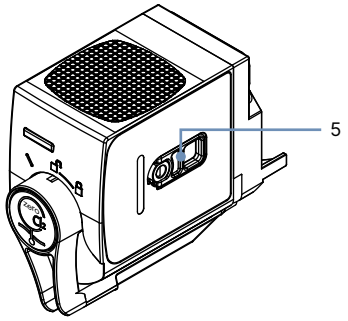
6. Product design and assembly

6.1. Product features

Without external KCl reference electrode



With external KCl reference electrode



No.	Element
1	Slot for the micro-SIM card (for configuration data)
2	Electrical interface
3	Guide pins
4	Fluid connections
5	KCl reference electrode
6	Lever to: • lock / unlock the product • carry out maintenance operations
7	Push button for unlocking
8	Maintenance position
9	Sensor cube status LED
10	Unlocked position
11	Locked position

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7. Ordering information

7.1. Bürkert eShop

Bürkert eShop – Easy ordering and quick delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

Order online now

7.2. Bürkert product filter

Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements?
Use the Bürkert product filter and find suitable articles for your application quickly and easily.

Try out our product filter

7.3. Ordering chart

Note:
The chlorine/chlorine dioxide sensor cube must be operated within a system.

Observe the order information for online water analysis system Type 8905, see **data sheet Type 8905** ▶ or contact your Bürkert sales office.

Description	Article no.
Chlorine (Cl_2) sensor cube	567625
Chlorine (Cl_2) sensor cube with anti-biofouling external reference electrode	573205
Chlorine dioxyde (ClO_2) sensor cube	567721

7.4. Ordering chart accessories

Description	Article no.
Photometer MD100, measuring range 0.01...6 ppm	566393
DPD-1 reagent (100 tablets)	566394
Spare parts set: chlorine measuring cell	568040
Anti-biofouling external reference electrode	570699

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