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 compatible 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 Analysis System

Type 8920 ▸
Bürkert Communicator

Type description

This sensor cube measures the free acting chlorine or chlorine dioxide in the water, depending on the variant. The sensor cube is designed for operation on the fluidic backplane in the device Type 8905 Online 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 made 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 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.

powered by EDIP büS

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Visit product website ▸

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1. General technical data

Product properties	
Material	
Please make sure the device materials are compatible with the fluid you are using. Detailed information can be found in chapter "2.1. Chemical Resistance Chart – Bürkert resistApp" on page 4.	
Housing	PPE+PS
Lever	Zamak, painted
Seals	EPDM
Dimensions	Detailed information can be found in chapter "3. Dimensions" on page 5.
Chlorine/chlorine dioxide sensor	Membrane covered PT-cell, amperiometric 3 electrodes measurement, without electrolyte
Temperature sensor	Pt1000 Class B, no contact with the water sample
Compatibility	With Online Analysis System Type 8905 (the electrical and fluidic contact is made via backplane system.) Detailed information can be found in the data sheet of the online analysis system, see **data sheet Type 8905** ▶ for more information.
Measuring range	
Chlorine measurement (Cl_2)	0.01…5 ppm
Chlorine dioxide measurement (ClO_2)	0.005…5 ppm
Maintenance	12 months nominal, depending on the water quality
Performance data	
Chlorine measurement (Cl_2)	
Sensitivity	-11 nA/ppm (at pH 5), -8 nA/ppm (at pH 7)
pH compensation	Yes, with MS01 sensor cube Detailed information can be found in the data sheet of the pH sensor cube, see **data sheet Type MS01** ▶ for more information
Measuring range resolution	0.01 ppm
Measurement deviation	±0.03 ppm or ±5 % of the measured value
Linearity	±0.02 ppm of the measured value
Repeatability	±0.02 ppm of the measured value
Response time (t_{90})	<30 s
Chlorine measurement (ClO_2)	
Sensitivity	-4 nA/ppm
pH compensation	No
Measuring range resolution	0.001 ppm
Measurement deviation	±0.005 ppm or ±3 % of the measured value (the greater value applies)
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 (t_{90})	<30 s
Temperature measurement	0…+50 °C (+32…+122 °F)
Electrical data	
Operating voltage	24 V DC through the backplane of the system Type 8905 via büS
Power consumption	0.8 VA
Media data	
Fluid	Water without particles: drinking water, industrial water
pH range	pH 4…pH 9
Conductivity	>50 µs/cm
Sample water	
Temperature	+3…+40 °C (+37…+104 °F)
Pressure	PN3
Flow rate	>6 l/h
Process/Port connection & communication	
Process connection	Via pinch valve in the fluidic backplane of the Type 8905 Detailed information can be found in the data sheet of t the Online Analysis System, see **data sheet Type 8905** ▶ for more information.

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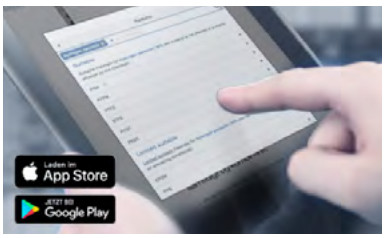
Electrical connection	Spring contacts in the fluidic backplane of the Type 8905, which is connected to a büS System Detailed information can be found in the data sheet of t the Online Analysis System, see **data sheet Type 8905** ▶ for more information.
Data transfer	
Internal communication	Through büS (Bürkert bus, CANopen protocol)
External communication by status LED	According to NAMUR NE 107
Approvals and Certificates	
Standards	
Degree of protection according to IEC/ EN 60529	• IP65, when plugged in the fluidic backplane • IP20, as standalone product
Directives	
CE directives	The applied standards, which verify conformity with the EU Directives, can be found on the EU Type Examination Certificate and/or the EU Declaration of conformity (if applicable).
Environment and installation	
Ambient temperature	
Operating	+3…+40 °C (+37…+104 °F)
Storage and transport	For empty/purged sensor cube: -10…+60 °C (+14…+140 °F)
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)
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

2. Materials

2.1. Chemical Resistance Chart – 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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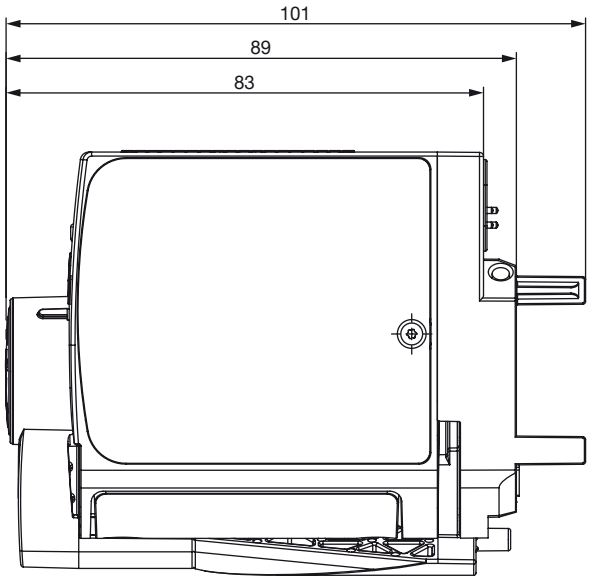
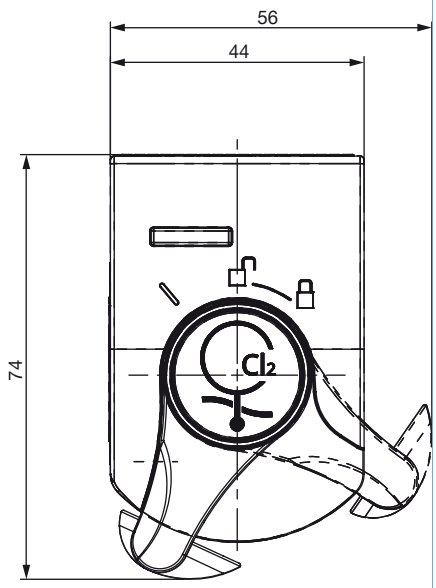
3. Dimensions

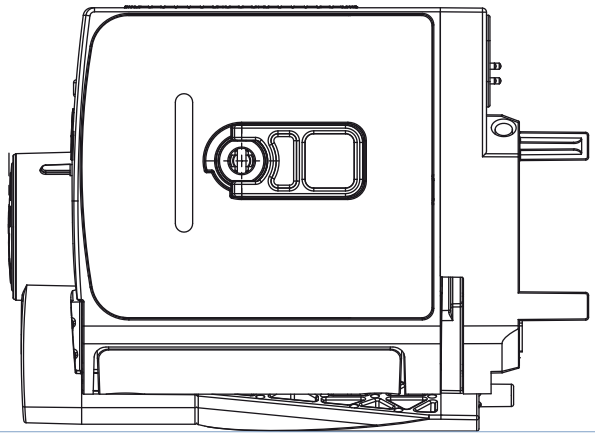
Note:
Dimensions in mm

Without external KCl reference electrode





With external KCl reference electrode



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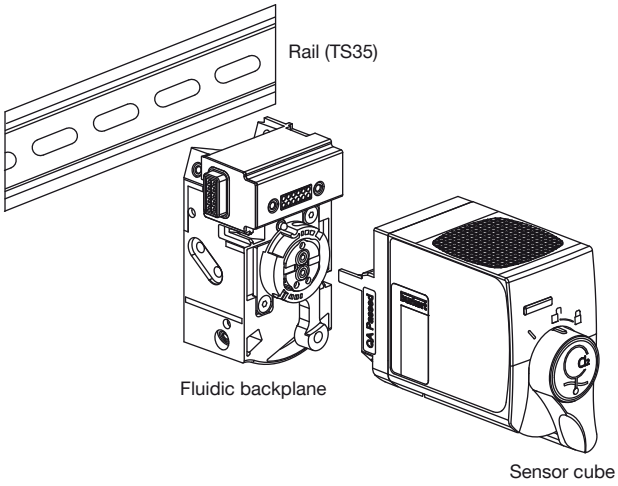
4. Product installation

4.1. Installation notes

Note:

- The sensor cube is designed for use with the online analysis system, Type 8905. The sensor cube is simply plugged into the backplane in Type 8905.
- It is also possible to mount the backplane individually on a DIN rail.

See **data sheet Type 8905** ▸ Online Analysis System for more information.

Installation examples	
Product mounted in a housing for the Online analysis system Type 8905. • Chlorine or chlorine dioxide sensor cube Type MS02 • Housing Type 8905 with display Type ME21 and controller Type ME25 	**Product without housing mounted of the backplane on standard rail (TS35).** 

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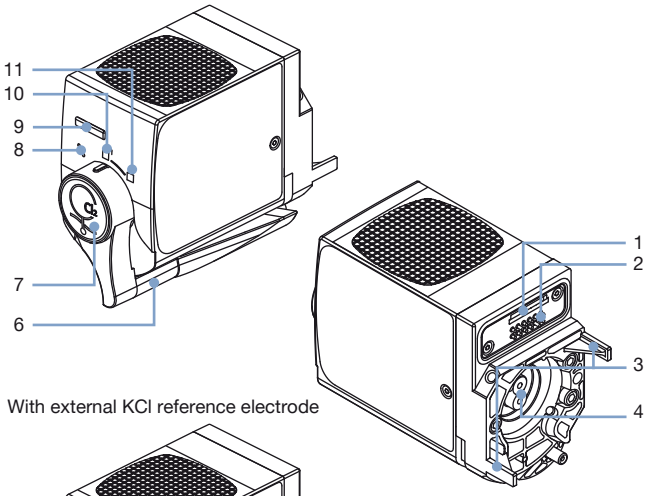
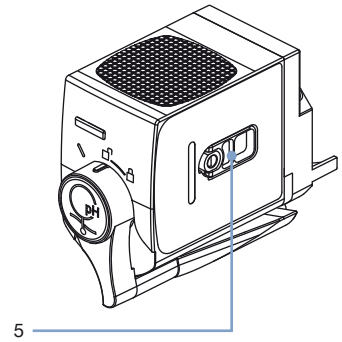
5. Product design and assembly

5.1. Product features

Without external KCl reference electrode



With external KCl reference electrode



Product without housing

No.	Element
1	Slot 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

6. Ordering information

6.1. Bürkert eShop – Easy ordering and quick delivery

Bürkert eShop – Easy ordering and fast 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

6.2. 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.

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6.3. Ordering chart

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

Please refer to the order information for Online Analysis System Type 8905, see **data sheet Type 8905** ▸ or contact your Bürkert representative.

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

6.4. Ordering chart accessories

Description	Article no.
Photometer MD100, measuring range 0.01…6 ppm	566393
DPD-1 reagent (100 Tablets)	566394
Replacement part set: measurement cell	568040
KCl reference electrode	574042

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