



## Turbidity Sensor Cube

- Fully compatible with büS systems and a wide range of further analysis sensor cubes
- Optical sensor according to DIN EN ISO 7027
- Hot swap compatible for exchanging the sensor cube during operation
- Minimal sample water consumption
- With moisture monitoring for permanently stable turbidity measurement

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 turbidity according to DIN EN ISO 7027 and is designed for operation on a fluidic backplane in the device Type 8905 Online Analysis System.

The continuous analysis of turbidity in water is an indicator of undesirable, undissolved substances in water. The measurement before and after filter stages can indicate the filter effect and enables, for example, the optimisation of backwashing processes. In the best case, this can lead to water and energy savings.

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.

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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
Cuvette	Glass
Valve	Silicone
Dimensions	Detailed information can be found in chapter <b>"3. Dimensions"</b> on page 5.
Turbidity sensor	Sensor according to DIN EN ISO 7027: IR-Laser 90° light scattering, replaceable cuvette <sup>1)</sup>
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 <b>data sheet Type 8905</b> ► for more information.
Measuring range	• 0...40 FNU <sup>2)</sup>
Maintenance	• 12 months nominal, depending on the water quality. Regular manual or automatic cleaning (with Type MZ20, see <b>data sheet Type MZ20</b> ► for more information.) • Exchange of desiccant as required, monitoring of humidity by means of integrated sensor

### Performance data

#### Turbidity measurement

Measuring range resolution	± 0.0006 FNU
Measurement deviation	± 0.02 FNU or 2 % of measured value (the greater value applies)
Linearity	± 0.5 % of full scale
Repeatability	± 0.02 FNU or 2 % of measured value (the greater value applies)
Response time (t90)	Depending on filter settings (by default 8 samples = 1 s)
Humidity monitoring	Yes
Exchangeable desiccant agent	Yes

### Electrical data

Operating voltage	24 V DC through the backplane of the system Type 8905 via bUS
Power consumption	0.8 VA

### Media data

Fluid	Water without particles: drinking water, industrial water
pH value	pH 4...pH 9

### Sample water

Temperature	+ 3...+ 40 °C (+ 37...+ 104 °F)
Pressure	PN3
Flow rate	> 6 l/h
Sample water filter	> 100 µm

### 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 the Online Analysis System, see <b>data sheet Type 8905</b> ► for more information.
Electrical connection	Spring contacts in the fluidic backplane of the Type 8905, which is connected to a bUS System Detailed information can be found in the data sheet of the Online Analysis System, see <b>data sheet Type 8905</b> ► for more information.

### Data transfer

Internal communication	Through bUS (Bürkert bus, CAN-Protocol)
External communication by status LED	According to NAMUR NE 107

## Approvals and Certificates

## Standards

Degree of protection according to IEC/  
EN 60529IP65, 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

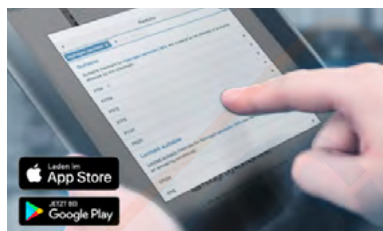
Degree 2 according to UL/EN 61010-1

1.) Only for sensor acc. to DIN EN ISO 7027 and only by Bürkert qualified staff - contact your nearest Bürkert facility

2.) Further measuring ranges on request

## 2. Materials

## 2.1. Chemical Resistance Chart – Bürkert resistApp



## Bürkert resistApp – Chemical Resistance Chart

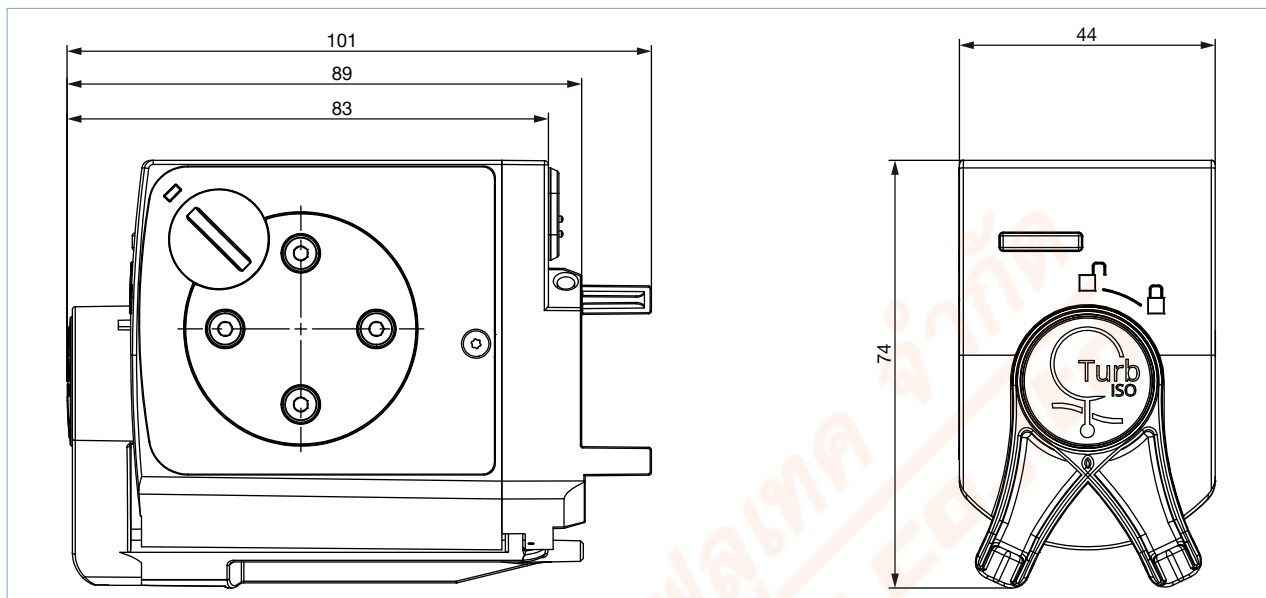
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)

### 3. Dimensions

#### Note:

Dimensions in mm



### 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.

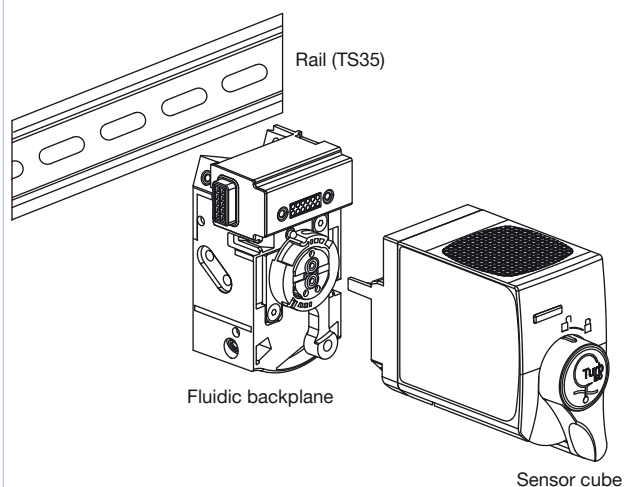
#### Installation examples

##### Product mounted in a housing for the Online analysis system Type 8905.

- Turbidity Sensor Cube Type MS05
- Housing Type 8905 with display Type ME21 and controller Type ME25



##### Product without housing mounted of the backplane on standard rail (TS35).



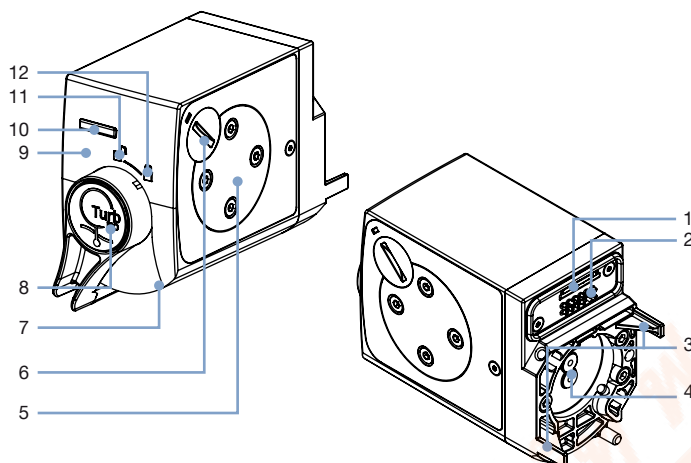
## 5. Product operation

### 5.1. Measuring principle

The sensor cube gets the sample water through the fluidic backplane, in which it is plugged in. The measurement is based on the detection of scattered light in an arrangement of 90° to the incident beam. The sample is flowing through a cuvette in glass or in glass/PET.

## 6. Product design and assembly

### 6.1. Product features



Product without housing

No.	Element
1	Slot micro-SIM card (for configuration data)
2	Electrical interface
3	Guide pins
4	Fluid connections
5	Cover for the cuvette
6	Desiccator cover
7	Lever to: <ul style="list-style-type: none"> <li>lock / unlock the product</li> <li>carry out maintenance operations</li> </ul>
8	Push button for unlocking
9	Maintenance position
10	Sensor cube Status LED
11	Unlocked position
12	Locked position

## 7. Ordering information

### 7.1. 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](#)

### 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 turbidity 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.
Turbidity sensor cube according to DIN EN ISO 7027	568701 ☐

### 7.4. Ordering chart accessories

Description	Article no.
Type MZ20 Cleaning system, 2 solutions See <b>data sheet Type MZ20</b> ► Cleaning System for more information.	566393 ☐
Bubble trap	568492 ☐
Desiccant agent	572279 ☐