

# Waste water monitoring station *CE 10*

## Wall mounted multi-parameter system for measuring and recording waste water parameters



### Application:

The CE 10 is a pipe work system in which measurement sensors for pH, Redox, temperature, conductivity, oxygen and turbidity can be fitted. Mediums without blocking, abrasive or aggressive contents are analysed on-line.

CE 10 installation must be in frost protected, dry conditions.

### Main application areas:

- Water authorities
- River water monitoring
- Seep water monitoring (landfills)
- Breweries
- Drink manufacturer
- Pulp and paper
- Milk production

### Advantages:

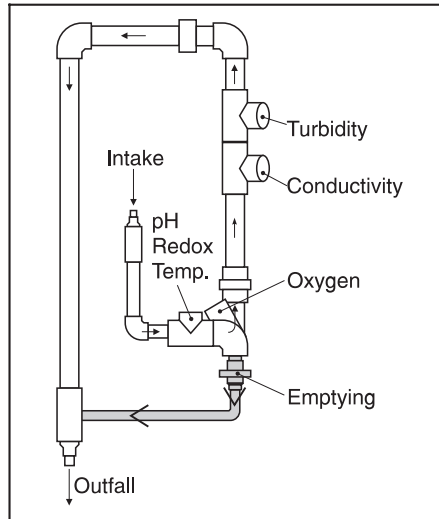
- Space saving, vertical installation.
- No blockage due to large pipe diameter.
- Reliable operation - special sensor features were taken into account during design.
- Pressure-tight to 5 bar.
- Fast and simple sensor cleaning and monitoring.
- Self cleaning effect when in operation.
- Reduced maintenance due to automatic sensor cleaning (cleaning jets).
- For continuous application: Robust sensor holder.

Endress + Hauser

Nothing beats know-how



## Measuring system



The complete measurement system consists of a CE 10 armature system, as well as the transmitters required for the measurement systems used.

These are mounted externally, e.g.:

- In a field housing.
- Together with other electronic components (pump security, controller for automatic cleaning) in a CE11 or CE25 measurement station.
- In already available electrical control cabinets.

## Function principle

### Construction

In the construction phase the different measurement principles as well as the sensor features were taken into account. Advantages:

- Fast response time of the pH, Redox and dissolved oxygen sensors, even after long operation breaks.
- Gas bubbles flow through the turbidity sensor.

### Modularity

The armature systems are threaded and offer a number of advantages:

- Simple complete cleaning.
- Modular expansion possibilities.
- Fast exchange of defective components.

### Cleaning

An automatic cleaning system enables maintenance free operation of the system. The sensors are regularly sprayed with fresh water using cleaning jets that are built into the armatures. Any soiling is then removed by the strong water spray.

- Cleaning can be initiated manually or automatically. Automatic cleaning is activated using an externally controlled magnetic valve.
- Cleaning water connection for 3/4" hose.

## General information

### Mediums

- Keep large soiling materials away from the system (danger of blockage or sampling filter required).
- Measurement water 4 ... 12 pH at 0 ... 50 °C
- Abrasive components could attack the sensors.

### Hydraulics

- Hose connections:  
Inflow: 3/4", outflow: 1"
- Required flow rate:  
0.5 ... 1.5 m<sup>3</sup>/h
- Maximum pressure 5 bar (20 °C)
- External feed pump
- An open outlet is required for emptying purposes.
- Cleaning connection: 3/4" hose or pipe connector should be available.

### Environmental conditions

- Frost protection
- Spray water protection
- No aggressive vapours

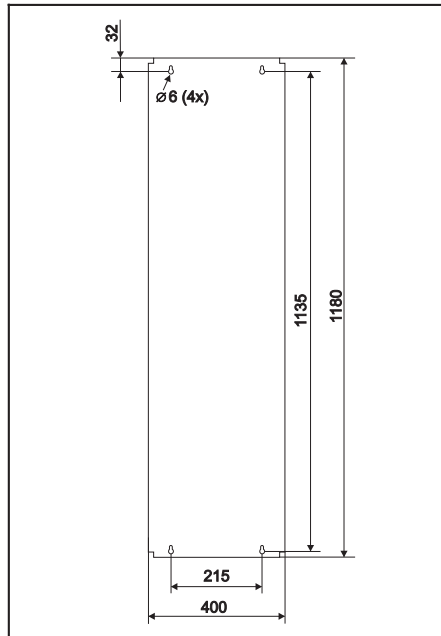
### Installation

- Wall mounting
- Vertical spacing
- For operation leave at least 1 metre working space.

### Electrical

- The pH, temperature and conductivity sensors are supplied with 7 m cable (plugs on both ends).
- The turbidity and oxygen sensors are as a standard supplied with 7 m cable (fixed to the sensor).
- The transmitters should be mounted separately.
- Electronic blockage detection using a block detector (pressure limit switch).

## Dimensions



Dimensions in mm

### Models:

- A Tube system with jubilee clips  
Delivery is without mounting plate
- B With V2A plate for wall mounting  
For dimensions see figure on the left
- C V2A plate, manual cleaning
- D V2A plate for automatic cleaning

For further information see function.

## Technical data

### Application area

Application	Wall mounted multi-parameter armature system for measuring and recording waste water parameters for use in frost free rooms.
Identifier	CE 10
Manufacturer	Endress+Hauser

### Application conditions

Application areas	- Mediums in neutral range without abrasive particles - Coarse particles must be prevented from entering the system either by selecting a suitable location or by installing a coarse filter.
Tube system	Glued and threaded PVC
Medium temperature	0...50 °C
Pressure tight to:	5 bar (0...40 °C)
Weight	Approx. 40 kg

### How to order

Order structure	See order scheme on the rear page
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### Optionally fitted components

#### Sensors

	Sensor	Transmitter	Meas. range	Comment
pH/Temp.	CPS 11-2AA2TSA	Mycom 121/151	1 - 12 pH	Standard
Redox	CPS12-0PA2CSA	Liquisys 221/251		Standard
Conductivity	CLS21-C1E4A	Mycom 121/151	10 <sup>μS</sup> /cm - 20 <sup>mS</sup> /cm K = 1	Service, drinking, waste water acids/alkalies
	CLS21-C1E4A	Liquisys 221/251		
Disolved oxygen	COS3-2	Mycom 121/151	0,05 - 60 mg/l	Digestors, drinking water monitoring
	COS4-2	Liquisys 221/251		
Turbidity	CUS1-A2	Mycom 121/151	0 - 100...4000NTU	Standard Service water
	CUS31-A2A	Liquisys 221/251		
Block detection	PTC133-1R1F6A5 A1Q	None required	0...4 bar	Switched output

Automatic cleaning: Magnetic valve 230 VAC ca. 10 VA

### Cleaning

**Technical alterations reserved**

## How to order

CE 10 flow through armature system							
<b>pH-, Redox-, temperature-, measurement</b>							
1	pH armature not installed						
2	With pH armature						
3	With pH armature, pH- and temperature- sensor						
<b>Conductivity measurement</b>							
1	Conductivity armature not installed						
2	With conductivity armature						
3	With conductivity armature and sensor						
<b>Oxygen measurement</b>							
1	Cxygen armature not installed						
2	With oxygen armature						
3	With oxygen armature and sensor						
<b>Turbidity measurement</b>							
1	Turbidity armature not installed						
2	With turbidity armature						
3	With turbidity armature and sensor						
<b>Extra components</b>							
1	No extra componenty installed						
2	Blockage detector (sensor)						
<b>Construction models</b>							
A	Tube system with jubilee clips						
B	With V2A plate for wall mounting						
C	V2A plate, manual cleaning						
D	V2A plate for automatic cleaning						
<b>Material- and connection models</b>							
A	PVC, with hose connections						
B	PVC, removable threaded hose connections						
CE 10 -							← Order code

## Acessories

Intake hose for measurement water, spiral reinforced 3/4" Order No. 50031904  
 Outfall hose for measurement water, web reinforced 1" Order No. 50031917

Further accessories on request.

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