Technical Information
Flowfit CYA27

Modular flow assembly for multiparameter measurements

Application

Flowfit CYA27 is a flow assembly for multiparameter measurements mainly in bypass installations for:
- Drinking water
- Process water
- Saltwater
- Swimming pool water

Your benefits

- Maximum flexibility: The modular design of the assembly means that it can be adapted perfectly to the process requirements. Up to 6 parameters can be measured. Flexible installation options enable optimum sensor positioning for accurate measurements.
- Minimum water loss: Using the Flowfit CYA27, sensors require a sample flow of only 5 l/h (1.32 gal/h) for a precise measurement. This means that only a very small volume of water needs to be discarded.
- Reliable measurement: Integrated flow monitoring ensures that the measurement is always ready for operation. LEDs indicate whether the flow rate is correct and facilitate a quick response in the event of errors.
- Easy to maintain: The optional cleaning and dosing module enables automatic cleaning cycles.

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Function and system design
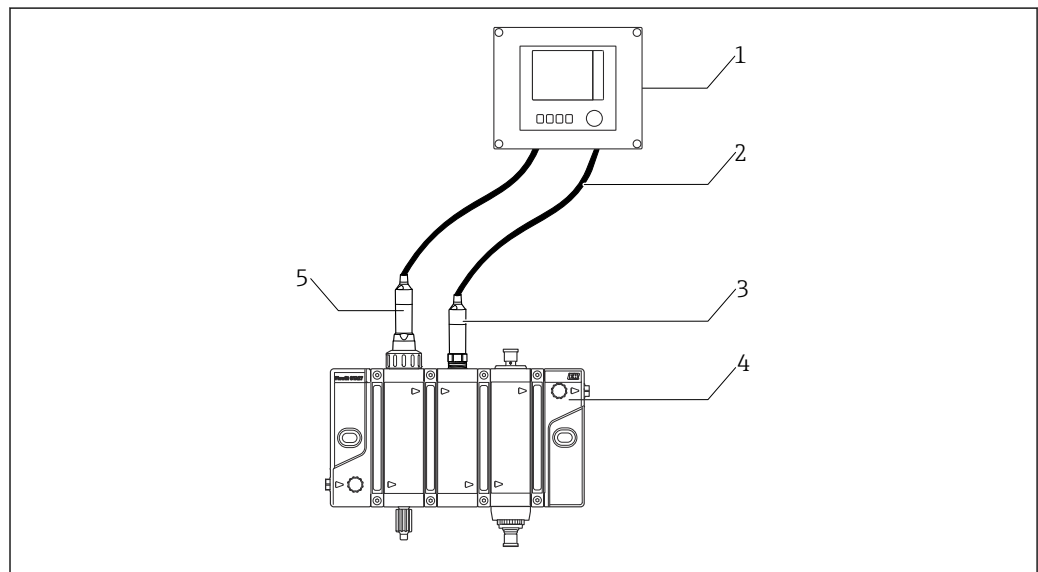
Operating principle	The CYA27 flow assembly can be used for reliable measurements for the purpose of liquid analysis. The measurement of different parameters, such as disinfection, pH, ORP, conductivity and oxygen is possible. An additional flow measurement enables safe and reliable operation of the measuring point.

Measuring system

A complete measuring system may contain up to six different sensors and consists, for example, of the following:
- Flowfit CYA27 flow assembly
- At least one sensor, e.g. CCS51D for measuring free chlorine
- At least one measuring cable, e.g. CYK10
- Transmitter, e.g. Liquiline CM44x or CM44xR with latest software
- Optional:
  - pH sensors, e.g. Memosens CPS31D
  - ORP sensors, e.g. Memosens CPS16D
  - Conductivity sensor CLS82D
  - Oxygen sensors, e.g. COS22D
  - Transmitter, e.g. Liquiline Compact CM82
  - Liquiline Mobile CML18 multi-parameter handheld instrument
  - Extension cable CYK11
  - Sampling valve on assembly if using modules for disinfection and conductivity
  - Flow switch
  - Status indication light

🖼 1   Example of a measuring system

1   Transmitter Liquiline CM44x or CM44xR
2   Measuring cable CYK10
3   pH sensor, e.g. CPS31D
4   Flowfit CYA27 flow assembly
5   Disinfection sensor CCS5xD (membrane-covered, Ø25 mm), e.g. CCS51D

Power supply

Cable specification	Cable accessories 10 m (32.8 ft), M12 socket straight, 5-pin version
	Cable accessories Ex (US) Cl.1 Div.2 cable, 10 m (32.8 ft), M12 socket straight, 4-pin version

Performance characteristics

Reference operating conditions	20 °C (68 °F)

Installation

Orientation

The assembly is designed for mounting on panels, walls, level surfaces, masts or railings. The only permitted orientation of the assembly is horizontal, → 🖺 3.

The prescribed orientation of the assembly may limit the installation of certain sensors. e,g, upside-down installation.

Installation instructions

NOTICE

Environment
▸ The ambient conditions of the technical specification of the assembly and sensors must be observed at the installation site.
▸ Take technical precautions, such as installing in an additional enclosure, to protect the measuring point from ambient or environmental influences (e.g. temperature, pollution).

NOTICE

Direct sunlight or UV light
▸ Appropriate precautions should be taken at the installation site to protect the assembly from direct sunlight or other sources of UV radiation.
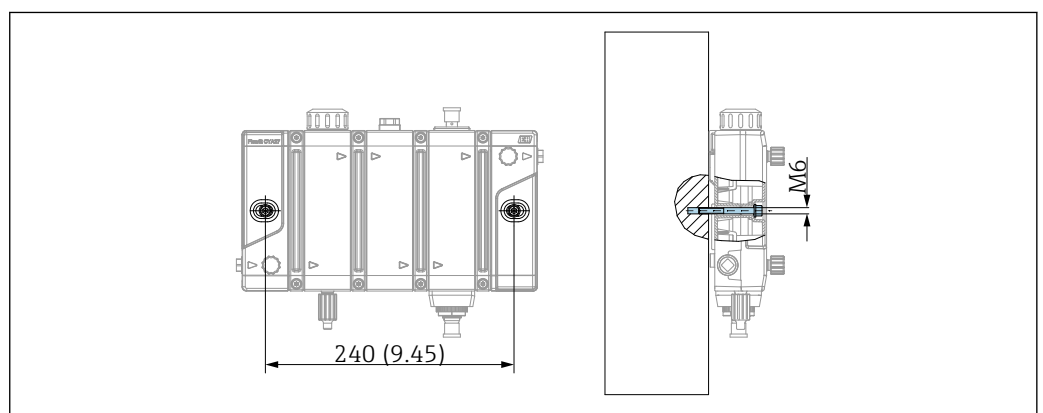
At ambient temperatures below 0 °C (32 °F), the medium temperature must be at least 5 °C (41 °F) and the supply and return lines must be insulated.

Direct wall mounting

The assembly can be screwed directly onto the wall using two holes provided in the inlet and outlet module.

Direct mounting on the wall is permitted for assemblies with one to a maximum of three modules.

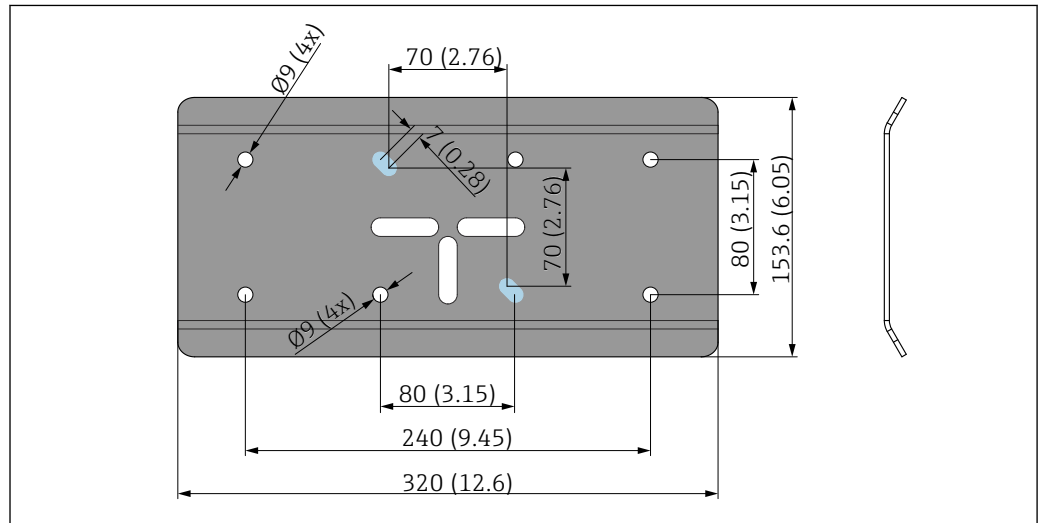| Number of modules	1	2	3
Spacing between drill holes mm (in)	120 (4.73)	180 (7.09)	240 (9.45)

🖾 *2   Direct wall mounting. Engineering unit: mm (in)*

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Mounting the assembly with wall holder unit

With the wall bracket, it is possible to select up to six modules. It is then possible to remove individual modules while the rest of the assembly remains securely in the bracket. Different drill holes allow, for example, the use of the Flowfit CCA250 hole pattern.
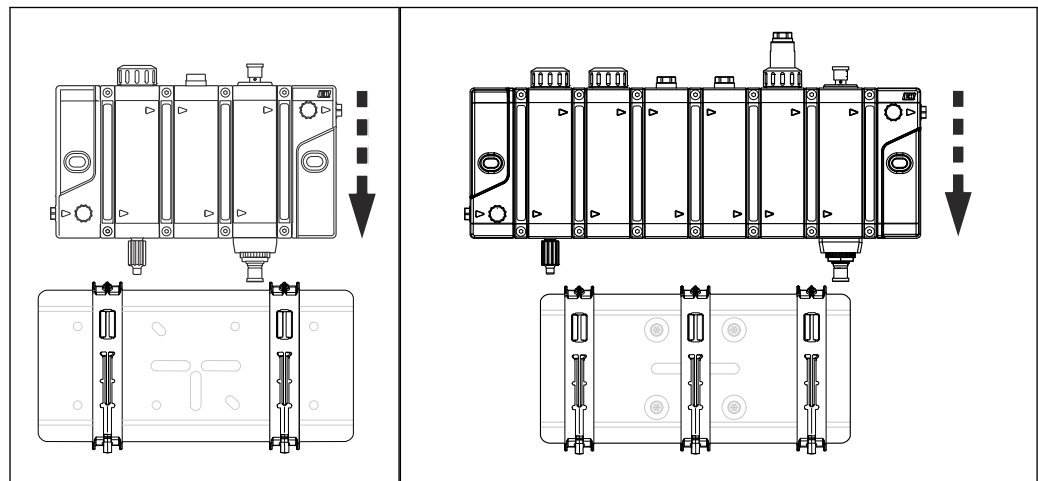
Optional accessories, comprising a wall bracket with securing clips for assemblies with 1 to 6 modules.

ℹ️ The drill holes highlighted in color correspond to those of assembly CCA250, which can be reused.

🔲 *3   Dimensions of wall bracket. Engineering unit: mm (in)*

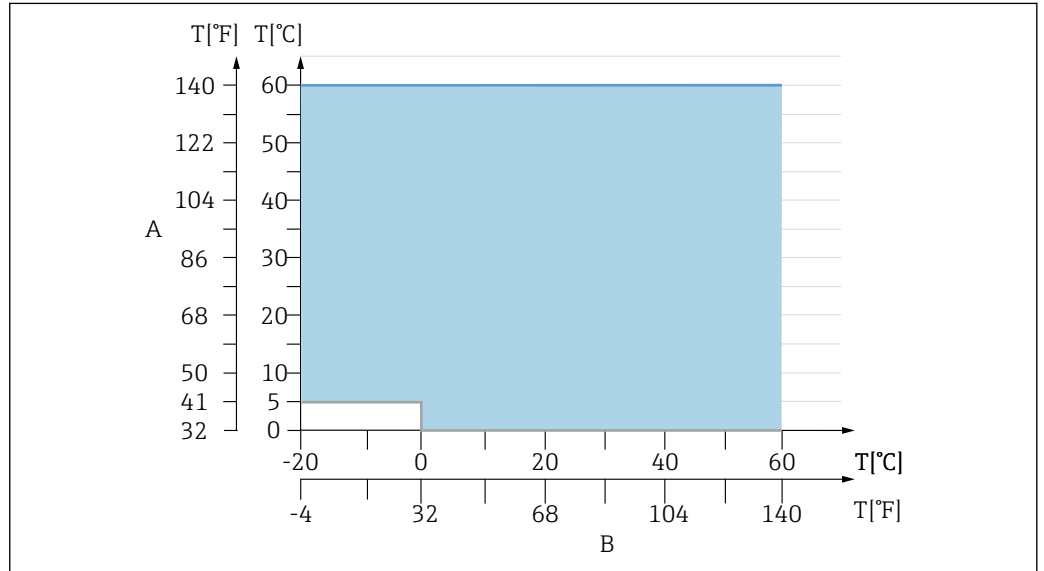🔲 *4   2 securing clips for 1 to 5 modules*   🔲 *5   3 securing clips for 6 modules*

ℹ️ With six modules, three securing clips are required for increased stability.

Environment

Ambient temperature

−20 to 60 ℃ (−4 to 140 ℉)

At ambient temperatures below 0 ℃ (32 ℉), the medium temperature must be at least 5 ℃ (41 ℉) and the supply and return lines must be insulated.

A   Medium temperature
B   Ambient temperature

Storage temperature
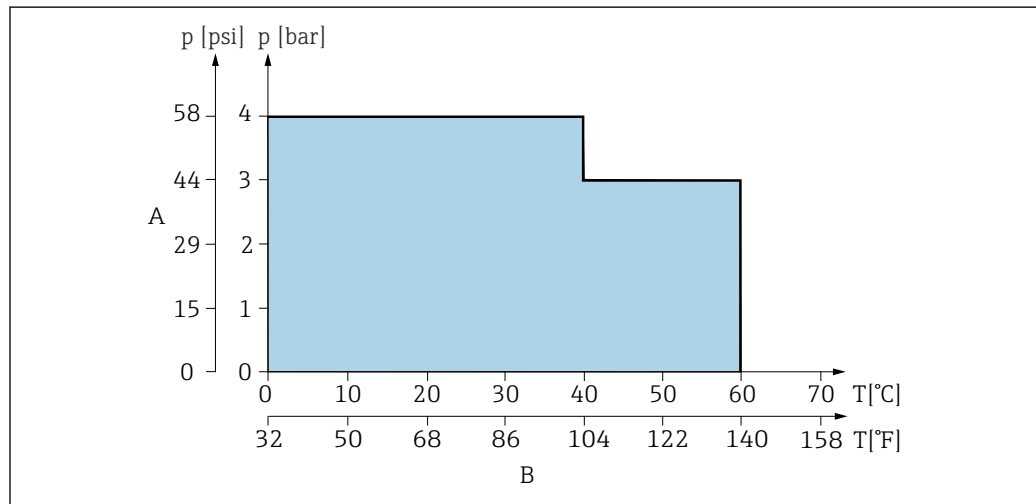
-20 to +60 ℃ (-4 to 140 ℉)

Degree of protection

- Flow switch: IP67
- Status indication light: IP66/67

Process

Process temperature range	0 to 60 °C (32 to 140 °F), non-freezing

Process pressure range	0 to 4 bar (0 to 58 psi) relative

Pressure/temperature ratings

🖼 *6   Pressure/temperature ratings*

A   Process pressure
B   Medium temperature

pH range	pH1 to 12

Process connections	G 1/4" (ISO 228)

Flow

Recommended flow range

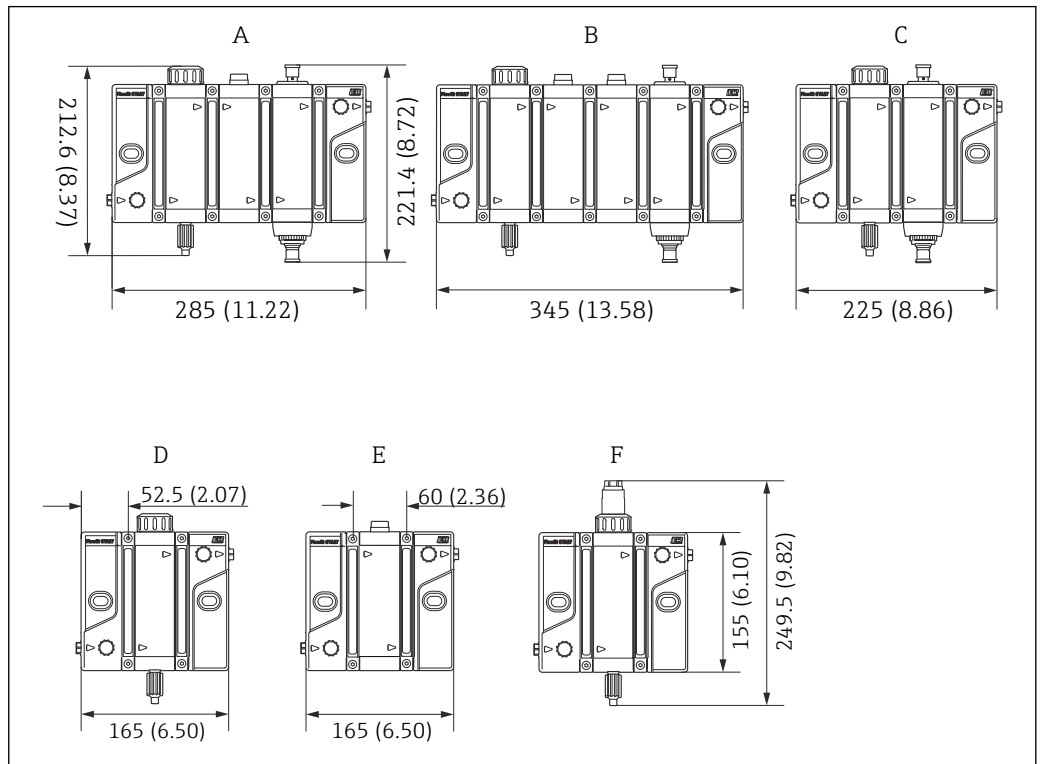| 5 l version	5 to 8 l/h (1.32 to 2.11 gal/h)
30 l version	30 to 40 l/h (7.92 to 10.46 gal/h)

Critical upper limits

5 l version	40 l/h (10.56 gal/h)
30 l version	80 l/h (21.13 gal/h)

ℹ️ Above the specified flow rate, the pressure in the assembly may exceed the specification limits of the sensors.

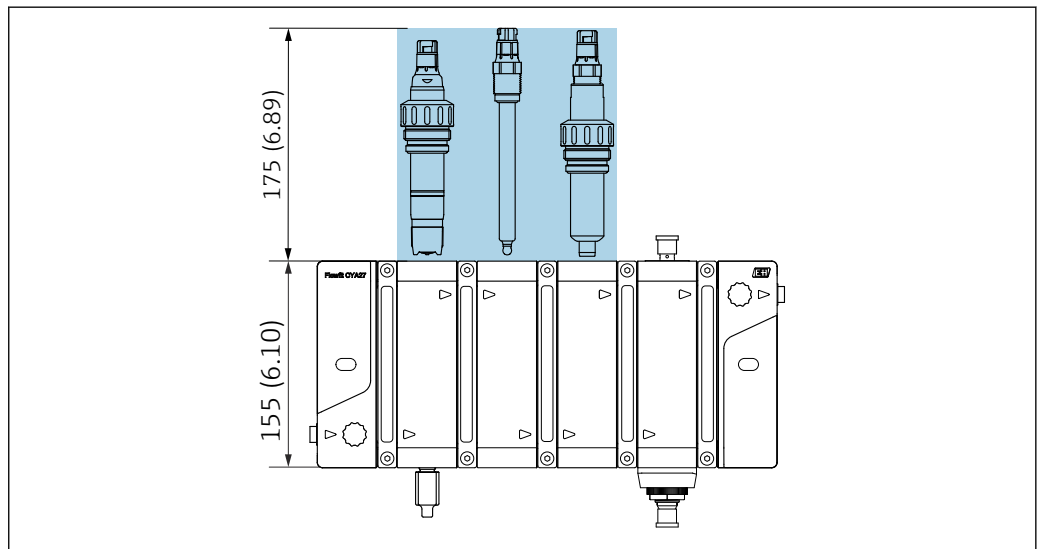Endress+Hauser

Mechanical construction

Dimensions

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🖭 7   Dimensions. Engineering unit: mm (in)

A   Disinfection, pH and flow rate indication version with sampling valve, status indication light and flow switch
B   Disinfection, pH, ORP and flow rate indication version with sampling valve, status indication light and flow switch
C   Disinfection and flow rate indication version with sampling valve, status indication light and flow switch
D   Disinfection version with sampling valve
E   pH, ORP or oxygen version
F   Conductivity version with sampling valve

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🖭 8   Mounting distance. Engineering unit: mm (in)

The mounting distance required to remove the sensor or sensors is 175 mm (6.9 in).

Weight

Number of modules	1	2	3	4	5	6
Weight in kg (lb) ℹ️ max. weight depending on version without sensors	0.9 kg (1.98 lb)	1.5 kg (3.31 lb)	2.1 kg (4.63 lb)	2.7 kg (5.95 lb)	3.3 kg (7.28 lb)	3.8 kg (8.38 lb)

Wall mounting accessories: 1.3 kg (2.87 lb)

Pipe mounting accessories (incl. wall bracket): 2.2 kg (4.85 lb)

Materials

In contact with medium	
Assembly:	PMMA (modules) PVDF for inlet and outlet module
Seals:	FPM (FKM) Black compound in conjunction with PVDF Green compound in conjunction with PVC
Plugs, adapters, valves:	PVC or PVDF
Floats:	Titanium
Potential equalization connection (PAL):	1.4404/1.4571 (316L/316TI) (stainless Cr-Ni steel)

Materials not in contact with the medium

Obligation to provide information in accordance with Art. 33 REACH regulation (EU no. 1907/2006):

The PVC used (hard) contains more than 0.1% of the following substance: dioctyltin compounds (DOTE) CAS number: 15571-58-1. No special precautions are required when handling the item, since the substance is firmly embedded in the plastic and is not released if used as intended.

Certificates and approvals

RL 2014/68/EU PED
The assembly has been manufactured according to good engineering practice as per Article 4, Paragraph 3 of the Pressure Equipment Directive (PED) 2014/68/EU and is therefore not required to bear the CE label.

ADI-free
No materials or ingredients derived from animals are used during the entire production of all the parts in contact with the process.

Ordering information

Product page	www.endress.com/cya27

Product Configurator

Detailed ordering information is available for your nearest sales organization www.addresses.endress.com or in the Product Configurator under www.endress.com :

1. Click **Corporate**
2. Select the country
3. Click **Products**
4. Select the product using the filters and search field
5. Open the product page

The **Configuration** button to the right of the product image opens the Product Configurator.

> **Product Configurator - the tool for individual product configuration**
> - Up-to-the-minute configuration data
> - Depending on the device: Direct input of measuring point-specific information such as measuring range or operating language
> - Automatic verification of exclusion criteria
> - Automatic creation of the order code and its breakdown in PDF or Excel output format
> - Ability to order directly in the Endress+Hauser Online Shop

Scope of delivery

The scope of delivery comprises:
- Assembly including enclosed accessories in the version ordered
- Operating Instructions
- Manufacturer's Declaration

Accessories

The following are the most important accessories available at the time this documentation was issued.

▶ For accessories not listed here, please contact your Service or Sales Center.

Device-specific accessories

Disinfection sensors

Memosens CCS51D
- Sensor for measuring free chlorine
- With Memosens technology
- Product Configurator on the product page: www.endress.com/ccs51d

📖 Technical Information TI01423C

Memosens CCS50D
- Membrane-covered amperometric sensor for chlorine dioxide
- With Memosens technology
- Product Configurator on the product page: www.endress.com/ccs50d

📖 Technical Information TI01353C

Memosens CCS55D
- Sensor for measuring free bromine
- With Memosens technology
- Product Configurator on the product page: www.endress.com/ccs55d

📖 Technical Information TI01423C

pH sensors

Memosens CPS31D
- pH electrode with gel-filled reference system with ceramic diaphragm
- Product Configurator on the product page: www.endress.com/cps31d

📖 Technical Information TI00030C

Orbisint CPS11D / CPS11
- pH sensor for process technology
- With dirt-repellent PTFE diaphragm
- Product Configurator on the product page: www.endress.com/cps11dor www.endress.com/cps11

📖 Technical Information TI00028C

Ceraliquid CPS41D / CPS41
- pH electrode with ceramic junction and KCl liquid electrolyte
- Product Configurator on the product page: www.endress.com/cps41d or www.endress.com/cps41

📖 Technical Information TI00079C

ORP sensors

Orbisint CPS12D / CPS12
- ORP sensor for process technology
- Product Configurator on the product page: www.endress.com/cps12d or www.endress.com/cps12

📖 Technical Information TI00367C

pH and ORP combined sensors

Memosens CPS16D
- Combined pH/ORP sensor for process technology
- With dirt-repellent PTFE diaphragm
- With Memosens technology
- Product Configurator on the product page: www.endress.com/cps16D

📖 Technical Information TI00503C

Memosens CPS76D
- Combined pH/ORP sensor for process technology
- Hygienic and sterile applications
- With Memosens technology
- Product Configurator on the product page: www.endress.com/cps76d

Technical Information TI00506C

Conductivity sensor

Memosens CLS82D
- Four-electrode sensor
- With Memosens technology
- Product Configurator on the product page: www.endress.com/cls82d

Technical Information TI01188C

Oxygen sensors

Oxymax COS22D
- Sterilizable sensor for dissolved oxygen
- With Memosens technology
- Product Configurator on the product page: www.endress.com/cos22d

Technical Information TI00446C

Memosens COS81D
- Sterilizable, optical sensor for dissolved oxygen
- With Memosens technology
- Product Configurator on the product page: www.endress.com/cos81d

Technical Information TI01201C

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