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Technical Information
FlowFit CPA25

Flow assembly for 12 mm sensors for pH/ORP, conductivity and oxygen measurement

Application

The Flowfit CPA25 flow assembly is designed for the implementation of measuring points in industrial auxiliary processes and in water/wastewater treatment. It has room for three sensors and keeps the sensors wet even if flow is interrupted. This ensures a longer sensor operating life. The assembly itself is made from corrosion-resistant polypropylene and is therefore very durable. With Flowfit CPA25, you get the perfect product for your standard applications. Flowfit CPA25 can be used in many applications in industrial auxiliary processes and in water/wastewater treatment. It is designed for a variety of applications, including:

- Drinking water supply
- Water and wastewater treatment
- Water cooling circuits
- Osmosis systems

It can be used at pressures up to 6 bar (87 psi).

Your benefits

- Compact design with 3x PG 13.5 sensor slots.
- Special flow geometry to achieve reliable and stable measured values from the installed sensors.
- Siphon profile protects the sensors from drying out during plant downtimes.
- Service cap for easy sensor cleaning and installation.
- Sensor calibration to check sensors are functioning correctly can be performed with sensors installed.

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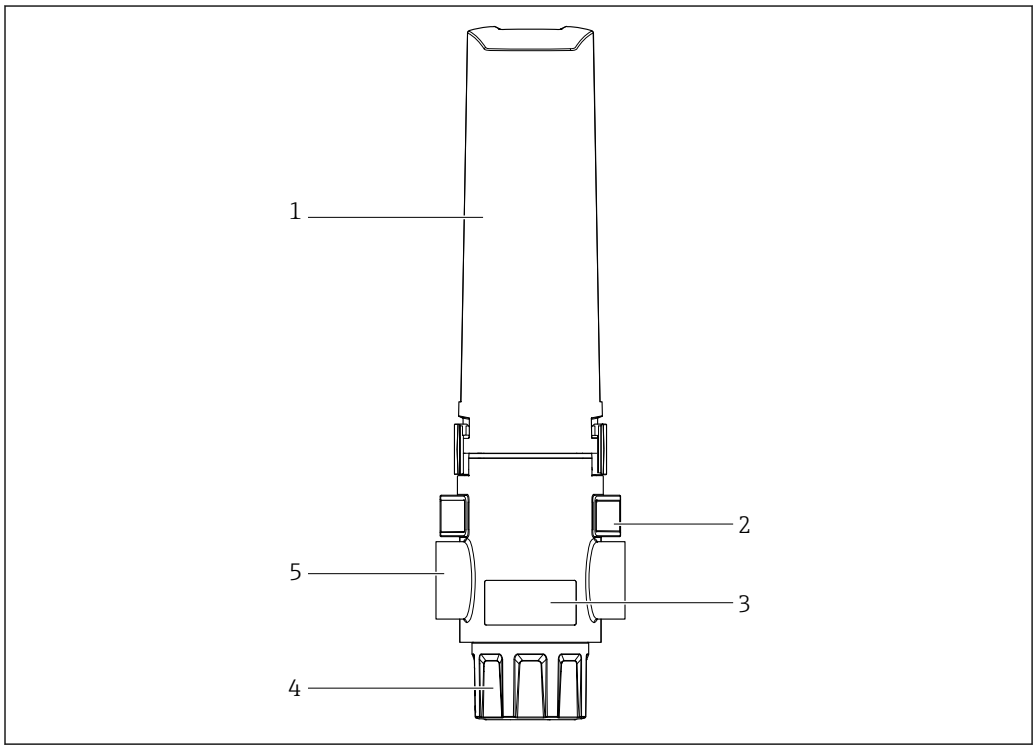
Function and system design

Operating principle

The Flowfit CPA25 flow assembly is designed for the installation of up to 3x PG 13.5 sensor slots with a nominal shaft length of approx. 120 mm (4.72 in).

The assembly is used to implement measuring points for nonhazardous liquids in the water / wastewater treatment sectors and in industrial auxiliary processes.

Thanks to its design, it can be used in pressurized systems.

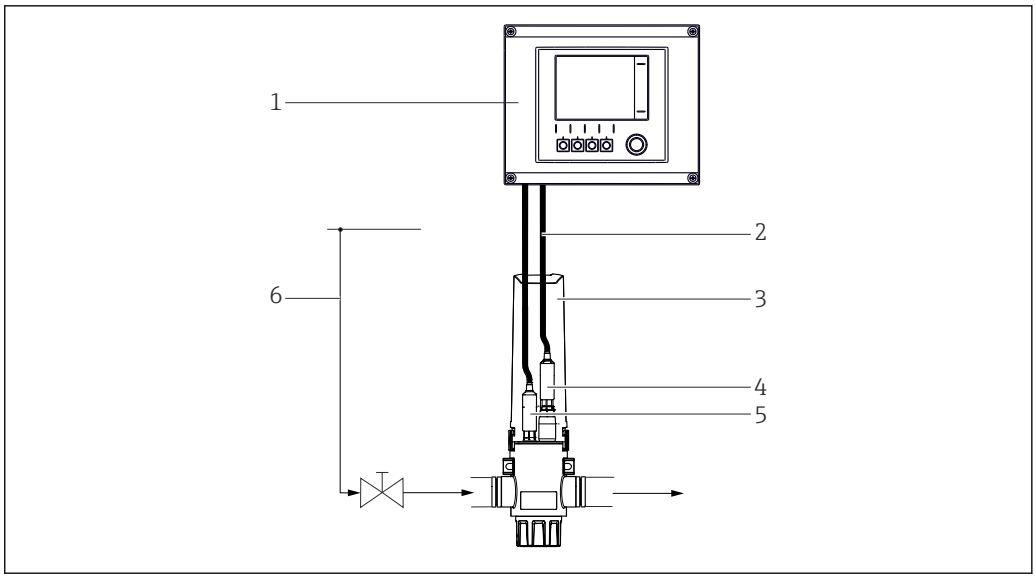


1 Overview of CPA25

1 *Splash cover*
2 *Mounting hole*
3 *Nameplate*
4 *Service cap*
5 *Process connection*

Measuring system

A complete measuring system comprises:
- Flowfit CPA25 assembly
- Up to 3 sensors with a shaft length of 120 mm (4.72 in), e.g. pH Memosens CPS11E, conductivity Memosens CLS82E or oxygen COS81E
- Transmitter, e.g. Liquiline CM44x
- Measuring cable, e.g. CYK10



2 *Example of a measuring system with Flowfit CPA25*

1 Liquiline CM44x transmitter
2 Measuring cable CYK10
3 Flowfit CPA25 assembly
4, 5 12 mm sensors, e.g. pH Memosens CPS61E, conductivity Memosens CLS82E or oxygen COS81E
6 Sample water supply with valve

Dependability

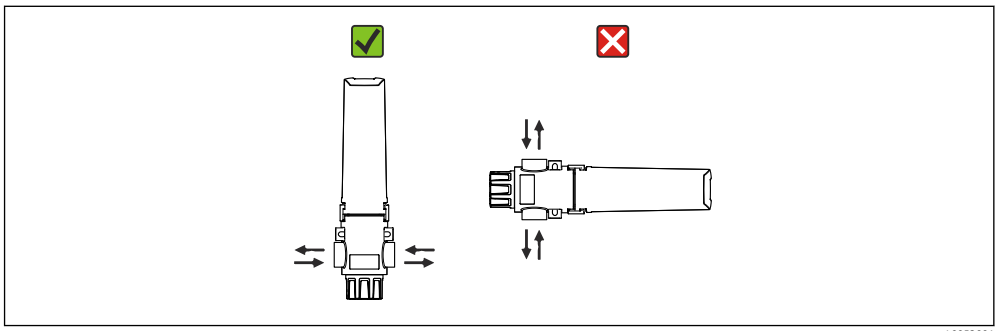
- The assemblies are manufactured in accordance with Endress+Hauser's certified quality criteria.
- The fixed assembly is manufactured from high-grade materials:
  - Assembly: polyproplylene (PP)
  - Blind plug: polyvinylidenefluoride (PVDF)
  - Only these materials and the relevant seal (EPDM or FKM) are in contact with the process medium.

Mounting

Orientation

- The assembly is designed for installation in pipe networks. Suitable supply lines and discharge lines must be provided by the customer onsite.
- The seal to the process connections that seals the assembly from the supply and discharge lines must be provided by the customer onsite.

▶



Only mount the assembly vertically.

↳ This allows the medium to flow through horizontally.

Environment

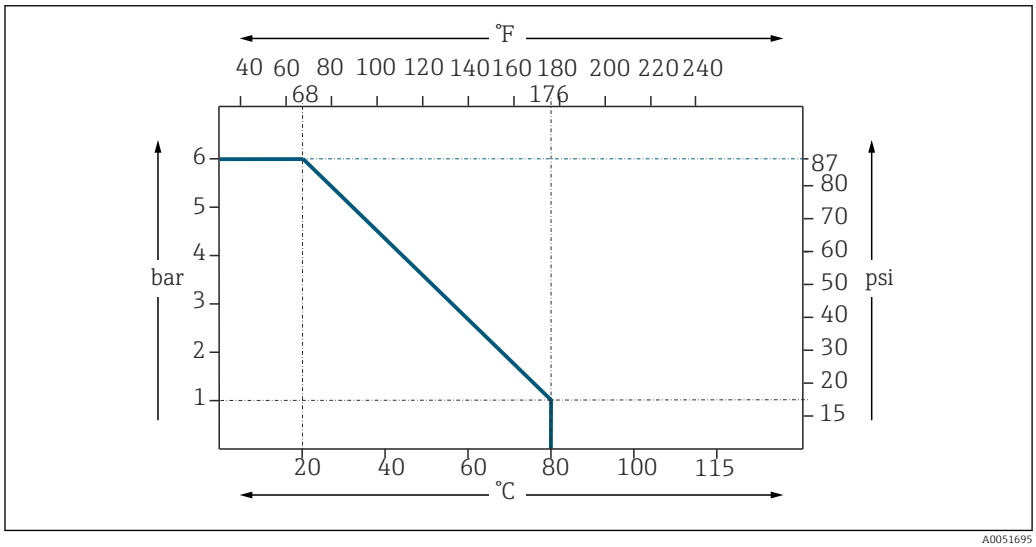
Ambient temperature range	-15 to +60 °C (5 to +140 °F)
Storage temperature	-15 to +60 °C (5 to +140 °F)

Process

Thermoplastics have temperature-dependent mechanical properties.

► Observe these properties when selecting components.

Process temperature range	0 to 80 °C (32 to 176 °F)
Process pressure range	0 to 6 bar (0 to 87 psi) relative **Maximum pressure at up to 20°C (68°F)** 6 bar (87 psi) gauge pressure **Maximum pressure at 80°C (176°F)** 1 bar (14.5 psi) gauge pressure

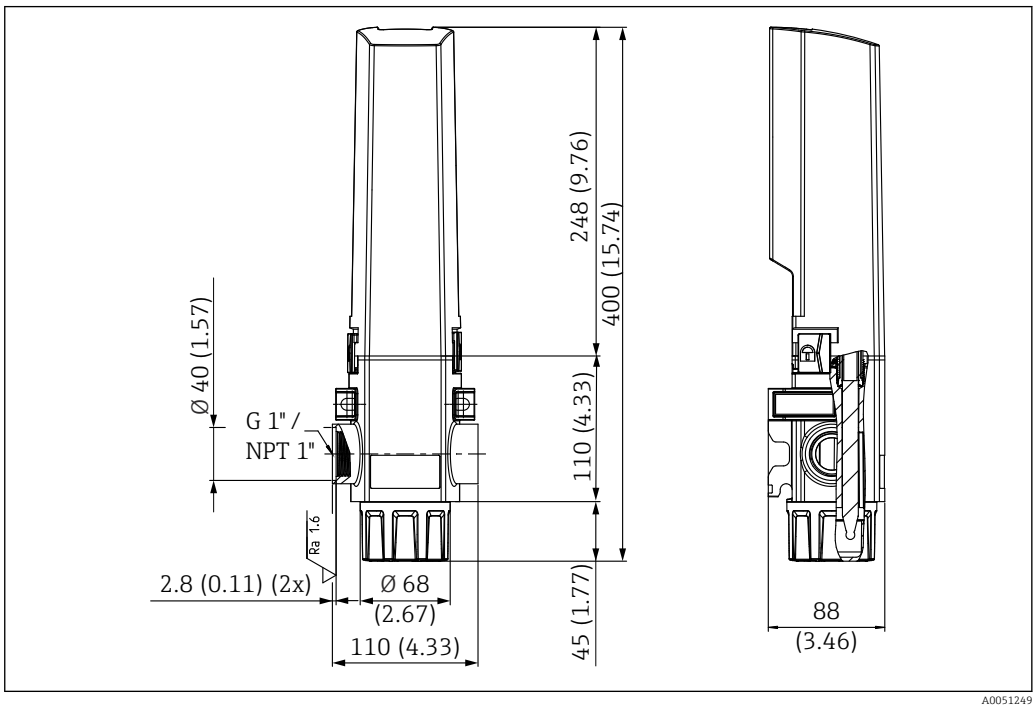


3 Temperature/pressure ratings

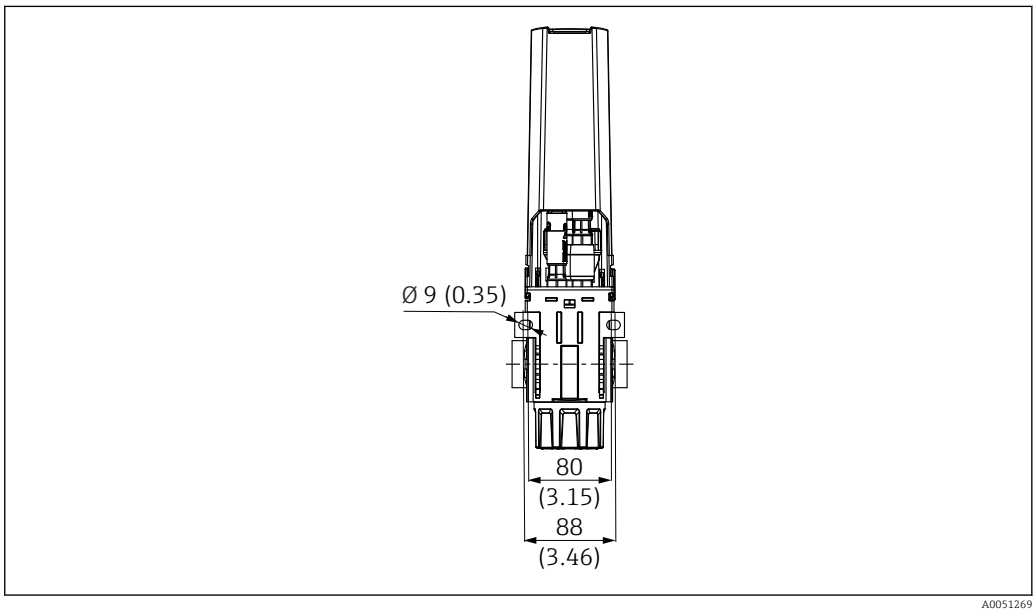
Flow limit	**Flow velocity** ► Pay attention to limitations of the sensors. Depending on the flow velocity, the zeta value of the assembly is between: 4.5 to 5.5

Mechanical construction

Design, dimensions



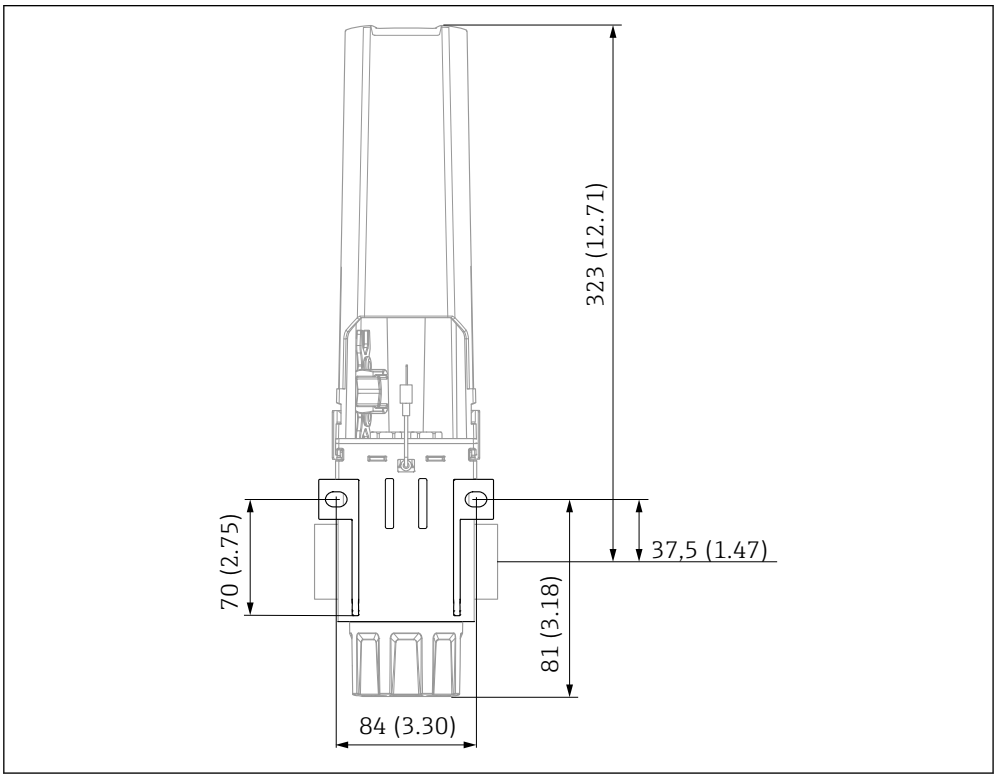
4 Dimensions. Unit of measurement mm (in)



5 Dimensions of bore for wall holder. Unit of measurement mm (in)

The assembly has an integrated wall holder.

▶



Screw the assembly onto a wall or mounting plate with suitable screws (see the dimensions).

Weight

Approx. 0.8 kg (1.8 lbs)

Materials

Component	Material
Flow housing	PP
Service cap	PP
Splash cover	PP
Adapters	PP
Blind plug	PVDF
PAL option 1 (option 1 and 2 mutually exclude one another)	1.4404/316L
PAL option 2 (option 1 and 2 mutually exclude one another)	3.7035/ Ti Grade 2

Process connections

Depending on version:
- 2 x G1 (female)
- 2 x NPT 1" (female)

Optional adapters:
- G1" to G1/2" female thread
- G1" to G3/4" female thread

Seal is supplied by customer:
e.g. PTFE tape

Sensor connections

3x PG13.5

Supported shaft length

120 mm (4.72 in)

Maximum number of sensors installed

3 sensors possible, e.g.:
- 2 with Memosens connection
- 1 with KCl connection

Ordering information

Ordering instructions

Create the order code for the assembly as follows:

1. Is the assembly used in the hazardous or non-hazardous area?
2. Select the drive type and the limit position switches.
3. Select the type of service chamber.
4. What material should the wetted seals be made of?
5. What material should the wetted surfaces be made of?
6. Select the suitable process connection.
7. Which connections should the service chamber have?

Order the accessories as follows:
- If you wish to order the accessories together with the assembly, then use the accessory code of the product structure.
- If you only wish to order accessories, then use the order numbers from the "Accessories" section.

Product page

www.endress.com/CPA25

Product Configurator

1. **Configure**: Click this button on the product page.
2. Select **Extended selection**.
   ↳ The Configurator opens in a separate window.
3. Configure the device according to your requirements by selecting the desired option for each feature.
   ↳ In this way, you receive a valid and complete order code for the device.
4. **Apply**: Add the configured product to the shopping cart.

For many products, you also have the option of downloading CAD or 2D drawings of the selected product version.

5. **Show details**: Open this tab for the product in the shopping cart.
   ↳ The link to the CAD drawing is displayed. If selected, the 3D display format is displayed along with the option to download various formats.

Scope of delivery

The scope of delivery comprises:
- Assembly in the version ordered
- Splash cover
- Service cap
- Auxiliary tool for mounting sensor
- Anti-bend protector for KCl supply
- Blind plug (3x)
- Operating Instructions
- Optionally selected accessories

Certificates and approvals

Current certificates and approvals that are available for the product can be selected via the Product Configurator at www.endress.com:

1. Select the product using the filters and search field.
2. Open the product page.
3. Select **Configuration**.

Accessories

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

Listed accessories are technically compatible with the product in the instructions.

1. Application-specific restrictions of the product combination are possible.
   Ensure conformity of the measuring point to the application. This is the responsibility of the operator of the measuring point.
2. Pay attention to the information in the instructions for all products, particularly the technical data.
3. For accessories not listed here, please contact your Service or Sales Center.

Device-specific accessories

Sensors

pH sensors

Memosens CPS11E
- pH sensor for standard applications in process and environmental engineering
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps11e

Technical Information TI01493C

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

Technical Information TI00028C

Memosens CPS31E
- pH sensor for standard applications in drinking water and swimming pool water
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps31e

Technical Information TI01574C

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

Technical Information TI00079C

Memosens CPS41E
- pH sensor for process technology
- With ceramic junction and KCl liquid electrolyte
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps41e

Technical Information TI01495C

Memosens CPS61E
- pH sensor for bioreactors in life sciences and for the food industry
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps61e

Technical Information TI01566C

Memosens CPS71E
- pH sensor for chemical process applications
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps71e

Technical Information TI01496C

Ceragel CPS71
- pH electrode with reference system including ion trap
- Product Configurator on the product page: www.endress.com/cps71

Technical Information TI00245C

Memosens CPS91E
- pH sensor for heavily polluted media
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps91e

Technical Information TI01497C

Orbipore CPS91
- pH electrode with hole junction for media with high dirt load
- Product Configurator on the product page: www.endress.com/cps91

Technical Information TI00375C

ORP sensors

Memosens CPS12E
- ORP sensor for standard applications in process and environmental engineering
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps12e

Technical Information TI01494C

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

Technical Information TI00367C

Memosens CPS42E
- ORP sensor for process technology
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps42e

Technical Information TI01575C

Ceraliquid CPS42
- ORP electrode with ceramic junction and KCl liquid electrolyte
- Product Configurator on the product page: www.endress.com/cps42

Technical Information TI00373C

Memosens CPS72E
- ORP sensor for chemical process applications
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps72e

Technical Information TI01576C

Ceragel CPS72
- ORP electrode with reference system including ion trap
- Product Configurator on the product page: www.endress.com/cps72

Technical Information TI00374C

pH-ISFET sensors

Memosens CPS47E
- ISFET sensor for pH measurement
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps47e

Technical Information TI01616C

Memosens CPS77E
- Sterilizable and autoclavable ISFET sensor for pH measurement
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps77e

Technical Information TI01396

Combined pH/ORP sensors

Memosens CPS16E
- pH/ORP sensor for standard applications in process technology and environmental engineering
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps16e

Technical Information TI01600C

Memosens CPS76E
- pH/ORP sensor for process technology
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps76e

Technical Information TI01601C

Memosens CPS96E
- pH/ORP sensor for heavily polluted media and suspended solids
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cps96e

Technical Information TI01602C

Conductivity sensors

Memosens CLS82E
- Hygienic conductivity sensor
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cls82e

Technical Information TI01529C

Oxygen sensors

Oxymax COS22E
- Sterilizable sensor for dissolved oxygen
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cos22e

Technical Information TI00446C

Oxymax COS22D / COS22
- Sterilizable sensor for dissolved oxygen
- With Memosens technology or as an analog sensor
- Product Configurator on the product page: www.endress.com/cos22d or www.endress.com/cos22

Technical Information TI00446C

Memosens COS81E
- Hygienic optical oxygen sensor with maximum measurement stability over multiple sterilization cycles
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/cos81e

Technical Information TI01558C

Process connections
- G1" to G1/2" female thread; Order No. 71604519
- G1" to G3/4" female thread; Order No. 71604521

Mounting accessories

Railing holder; Order No. 71573126

Service-specific accessories

- Splash cover; Order No. 71572887
- Service cap; Order No. 71573088
- Cover without PML; Order No. 71573103
- Cover with PML 316L/EPDM; Order No. 71573106
- Cover with PML titanium/EPDM; Order No. 71573116
- Cover with PML 316L/FKM; Order No. 71573119
- Cover with PML titanium/FKM; Order No. 71573121
- Blind plugs PG13.5; Order No. 71573122

Cleaning accessories

Cleaning brushes; Order No. 71573123

Seals

- EPDM seals; Order No. 71572882
- FKM seals; Order No. 71572884
- Silicone grease for seals; Order No. 71573128

www.addresses.endress.com

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