Technical Information

Dipfit CPA111

Immersion and installation assembly for open and closed vessels with DN 100 flange

Application

CPA111 is an immersion assembly for pH/ORP and temperature sensors intended for use in water and wastewater applications.

The adjustable flange means the assembly offers great flexibility and can be used universally.

Your benefits

- Environmentally compatible materials (polypropylene)
- Can be used up to 5 bar (72 psi) absolute
- Three sensor mounting positions for pH/ORP and temperature sensor or cleaning systems in standard length of 120 mm
- Flexible configuration of the immersion depth thanks to adjustable flange (optional)
- Simple installation and removal of sensor holder thanks to bayonet lock

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Function and system design

Measuring system
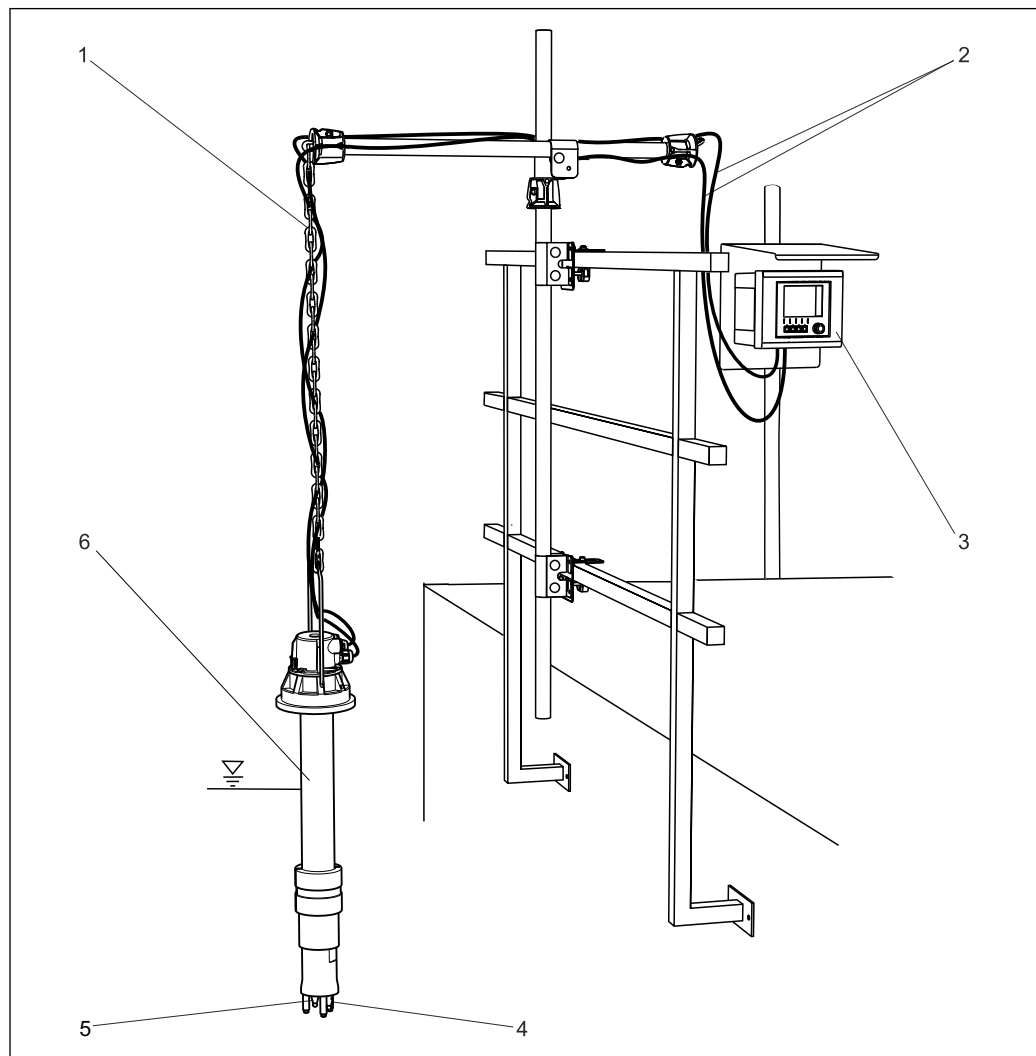
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🖼 *1   Example of a measuring system*

1	*Assembly holder CYH112 (with chain)*	*4*	*Sensor CPS11D (pH)*
2	*Sensor cable CYK10*	*5*	*Sensor CPS12D (ORP)*
3	*Transmitter CM442 with weather protection cover*	*6*	*Assembly CPA111-D (with suspension bracket)*

Environment

Ambient temperature   -10 to +80 °C (+10 to +180 °F)

Process

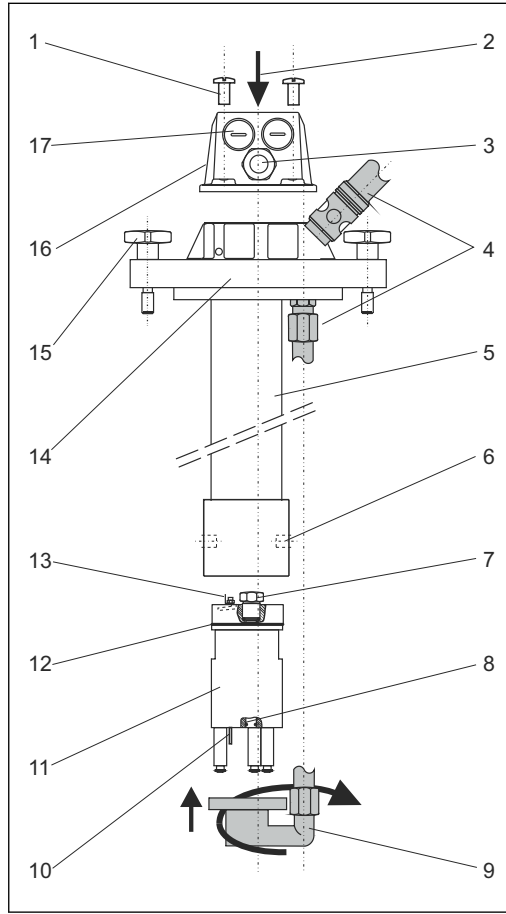**Process temperature**   -10 to +80 °C (+10 to +180 °F)

Process pressure

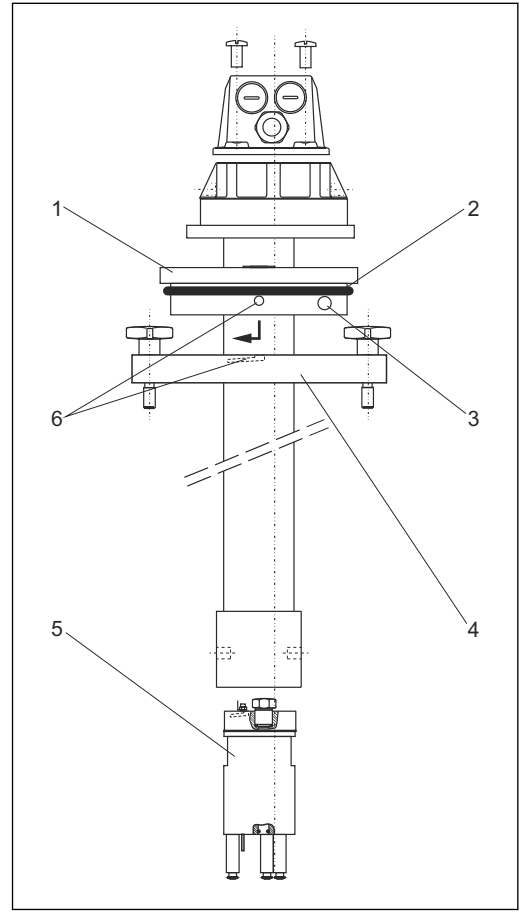|	
CPA111-A/B/D	Unpressurized
CPA111-C	Max. 5 bar (72 psi) abs. at 20 °C (68 °F), unpressurized up to 80 °C (176 °F)

Mechanical construction

Design   **Versions with flange**
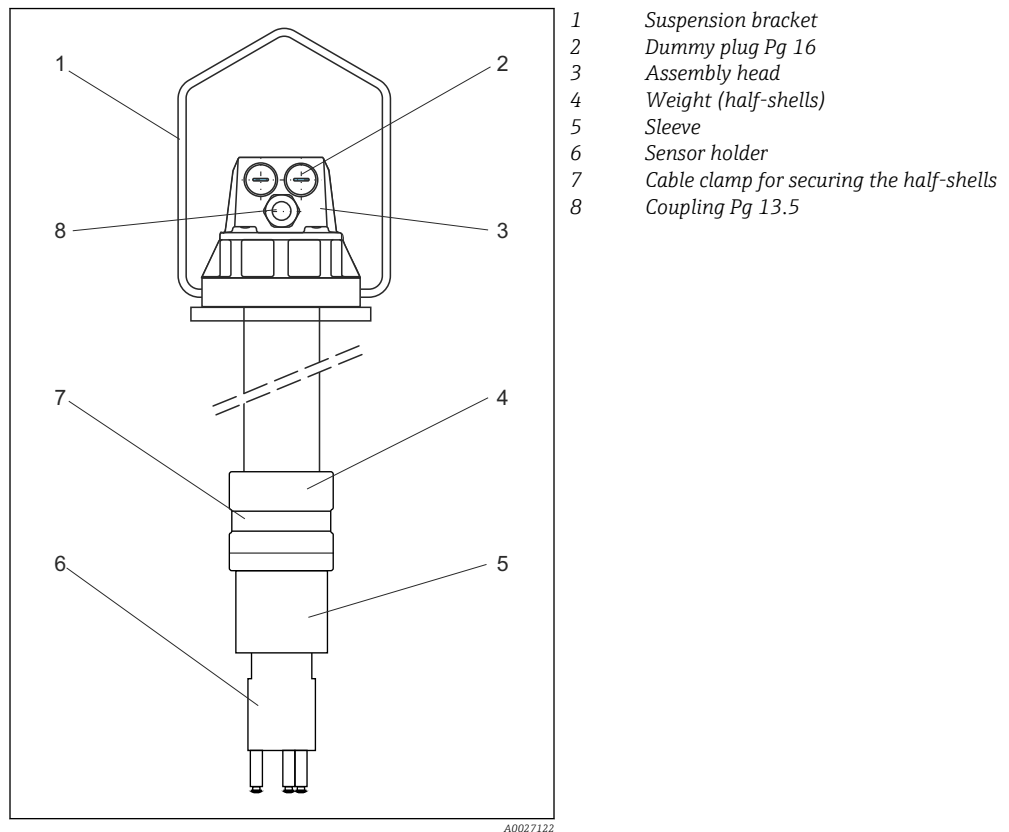

🖾 *2   Version A and C with DN 100 flange*

1   Phillips screw (4 pieces)
2   Punch hole for electrolyte vessel CPY7
3   Coupling Pg 13.5
4   Quick-release coupling for Chemoclean cleaning
5   Assembly pipe
6   Borehole for wetting cup
7   Dummy plug
8   O-ring for electrode installation
9   Accessories Chemoclean CPR30
10   Potential matching pin
11   Electrode holder (3 mounting positions)
12   O-ring
13   AMP plug for PML connection
14   DN 100 flange, A: Standard , C: Pressurized flange
15   Star handle screws M10 (not for pressurized version)
16   Assembly head
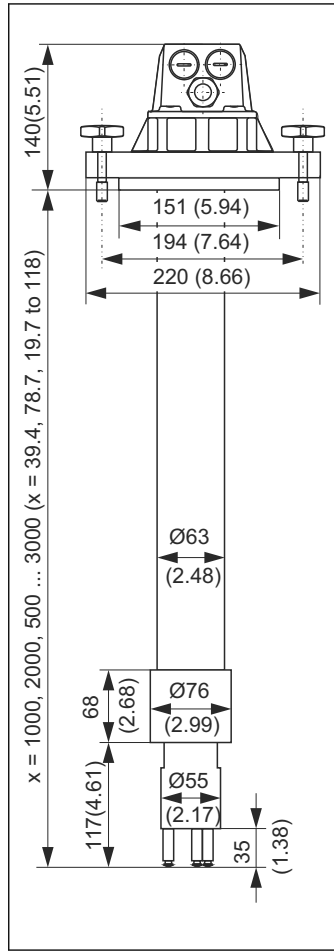*17   Dummy plug Pg 16*

🖾 *3   Version B with adjustable DN 100 flange*

1   Adjustable flange adapter (2 half-shells)
2   O-ring for tolerance compensation
3   Clamping screw (2 pieces)
4   DN 100 flange
5   Sensor holder
6   Bayonet lock
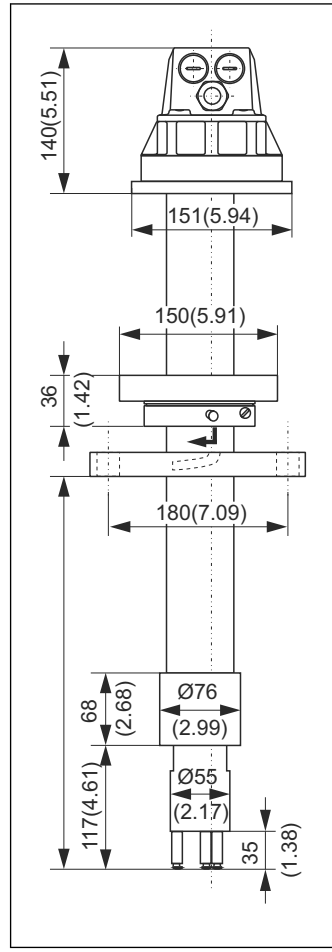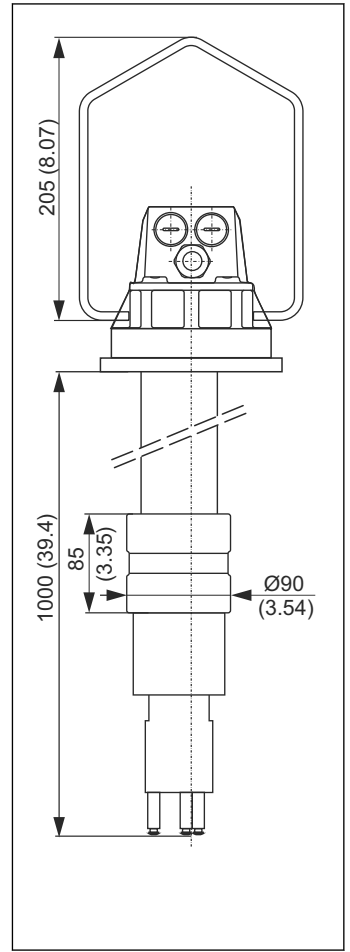
Version with suspension bracket

1	*Suspension bracket*
2	*Dummy plug Pg 16*
3	*Assembly head*
4	*Weight (half-shells)*
5	*Sleeve*
6	*Sensor holder*
7	*Cable clamp for securing the half-shells*
8	*Coupling Pg 13.5*

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Dimensions

4 CPA111-A or -C

All dimensions in mm (inch)
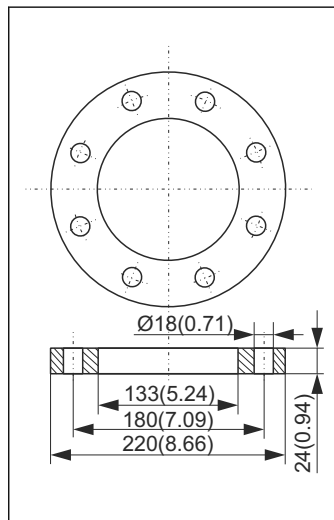
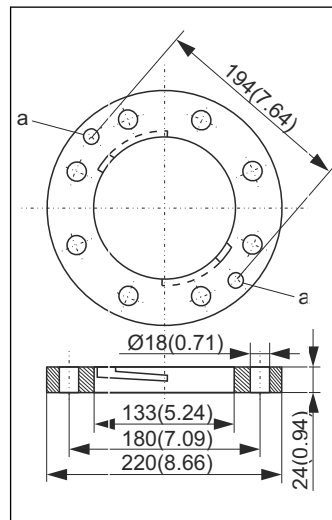*5 CPA111-B*

6 CPA111-D

7 Pressurized flange DN 100 for CPA111-C

All dimensions in mm (inch)

8 Flange DN 100 for CPA111-A/B

a = bore holes for cross formed screws

Weight   Approx. 4.0 kg (8.8 lbs)

Materials	Sensor holder	PP-GF 20
	Immersion tube	PP
	O-ring	VITON
	Only version CPA111-D:	
	Half-shells	Cast iron, PVC-coated
	Cable clamp	Stainless steel 1.4401 (AISI 316)
Cable entries	1 x Pg 13.5 and 2 x Pg 16	
Suitable sensors	12 mm glass electrodes, ISFET sensors and combined sensors	
Immersion depth	Standard	1000 mm (39.4 inch), 2000 mm (78.8 inch)
	Other length	500 to 3000 mm (19.7 to 118 inch)
Process connections	CPA111-A	Flange DN 100, additionally with captive cross formed screws
	CPA111-B	Adjustable flange DN 100
	CPA111-C	Pressurized flange DN 100
	CPA111-D	Stainless steel suspension bracket (1.4571 (AISI 316 Ti))

Ordering information

Product page	www.endress.com/cpa111
Product Configurator	The navigation area is located on the right of the product page.

1. Under "Device support" click "Configure your selected product".
   ↳ The Configurator opens in a separate window.
2. Select all the options to configure the device in line with your requirements.
   ↳ In this way, you receive a valid and complete order code for the device.
3. Export the order code as a PDF or Excel file. To do so, click the appropriate button at the top of the screen.

Scope of delivery	The delivery comprises:

The delivery comprises:
- Assembly in the version ordered
- Operating Instructions

If you have any questions, please contact your supplier or your local sales center.

Accessories

ℹ️ 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 office.

Installation accessories

Flexdip CYH112
- Modular holder system for sensors and assemblies in open basins, channels and tanks
- For Flexdip CYA112 water and wastewater assemblies
- Can be affixed anywhere: on the ground, on the capstone, on the wall or directly onto railings.
- Stainless steel version
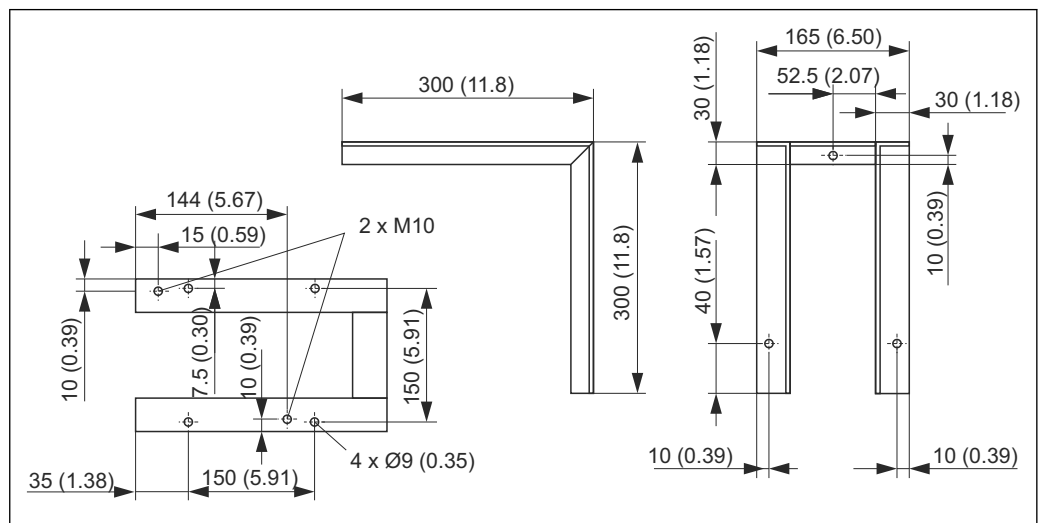- Product Configurator on the product page: www.endress.com/cyh112

📖 Technical Information TI00430C

Mounting frame
For CPA111, CPA510, CPA530 and CLA111
- Material: stainless steel 1.4301 (AISI 304)
- Order number: 50066561

🖼 *9   Mounting frame in mm (inch)*

Adjustable flange adapter DN 100
- For CPA111 and CLA111 for variable immersion depths
- Order number: 50070514

Flange DN 100, unpressurized
- For CPA111 and CLA111 suitable for adjustable flange adapter
- Order number: 50066632

Seals

O-ring set for CPA111
- Material: EPDM
- Order number: 50091993

Sensors	**Glass electrodes**

Orbisint CPS11D/ CPS11
- pH electrode for process technology
- Optional SIL version for connecting to SIL transmitter
- With dirt-repellent PTFE diaphragm
- Product Configurator on the product page: www.endress.com/cps11d or 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

Ceragel CPS71D/ CPS71
- pH electrode with double-chamber reference system and integrated bridge electrolyte
- Product Configurator on the product page: www.endress.com/cps71d or www.endress.com/cps71

   Technical Information TI00245C

Orbipore CPS91D/ CPS91
- pH electrode with open aperture for media with high dirt load
- Product Configurator on the product page: www.endress.com/cps91d or www.endress.com/cps91

   Technical Information TI00375C

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

Ceraliquid CPS42D/ CPS42
- ORP electrode with ceramic junction and KCl liquid electrolyte
- Product Configurator on the product page: www.endress.com/cps42d or www.endress.com/cps42

   Technical Information TI00373C

Ceragel CPS72D/ CPS72
- ORP electrode with double-chamber reference system and integrated bridge electrolyte
- Product Configurator on the product page: www.endress.com/cps72d or www.endress.com/cps72

   Technical Information TI00374C

Orbipore CPS92D/ CPS92
- ORP electrode with open aperture for media with high dirt load
- Product Configurator on the product page: www.endress.com/cps92d or www.endress.com/cps92

   Technical Information TI00435C

ISFET sensors

Tophit CPS441D/ CPS441
- Sterilizable ISFET sensor for low-conductivity media
- Liquid KCl electrolyte
- Product Configurator on the product page: www.endress.com/cps441d or
  www.endress.com/cps441

   Technical Information TI00352C

Tophit CPS471D/ CPS471
- Sterilizable and autoclavable ISFET sensor for food and pharmaceutics, process engineering
- Water treatment and biotechnology
- Product Configurator on the product page: www.endress.com/cps471d or
  www.endress.com/cps471

   Technical Information TI00283C

Tophit CPS491D/ CPS491
- ISFET sensor with open aperture for media with high dirt load
- Product Configurator on the product page: www.endress.com/cps491d or www.endress.com/cps491

   Technical Information TI00377C

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

Memosens CPS96D
- Combined pH/ORP sensor for chemical processes
- With poison-resistant reference with ion trap
- With Memosens technology
- Product Configurator on the product page: www.endress.com/cps96d

   Technical Information TI00507C

Extension cable	**Memosens data cable CYK11**

Memosens data cable CYK11
- Extension cable for digital sensors with Memosens protocol
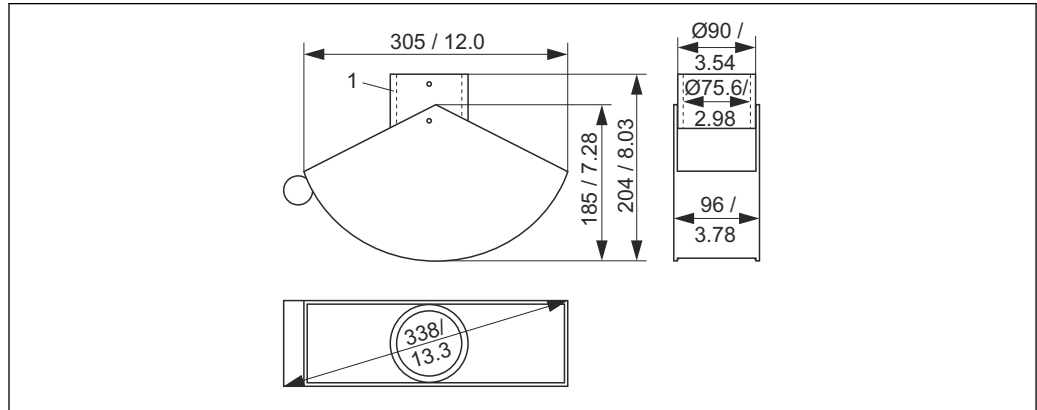- Product Configurator on the product page: www.endress.com/cyk11

   Technical Information TI00118C

| Calibration accessories	**Wetting cup for CPA111**

Wetting cup for CPA111
- Prevents the sensors from drying out if water level is too low
- For use in open vessels, tanks and channels
- Material: PP
- Order number: 50066569

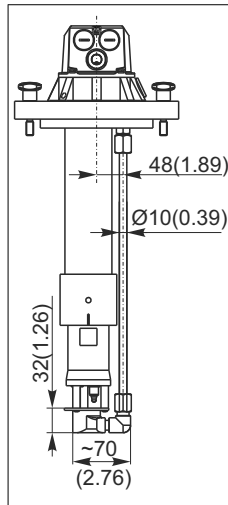⊠ *10   Dimensions in mm (inch)*

Calibration cap for CPA111
- For the calibration of pH/ORP electrodes
- Temporary fastening capability to spacer bolts of the electrode holder
- Material: PP
- Order number: 50066570
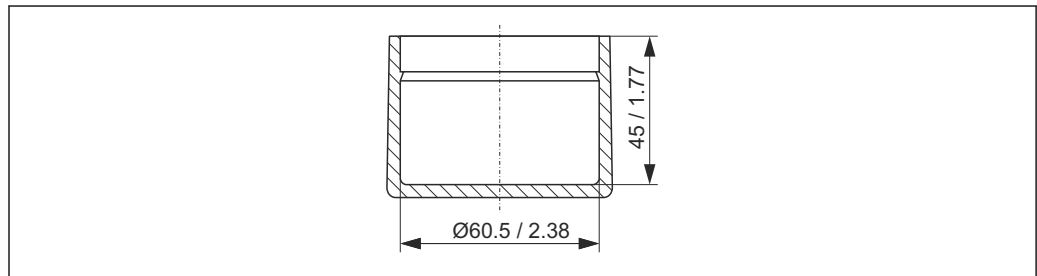

⊠ *11   Dimensions in mm (inch)*

Chemoclean

Chemoclean CPR30

Automatic spray cleaning system for cleaning the sensors Order according to product structure	
Materials in contact with the medium	
Spray head	PP-GF20
O-rings	EPDM / VITON
Operating data	
Process pressure	Max. 4 bar (58 psi) absolute, at 20 ℃ (68 ℉)
Process temperature	Max. 80 ℃ (176 ℉) at ambient pressure
Cleaner pressure	4 to 6 bar (58 to 87 psi) absolute, at 20 ℃ (68 ℉)

CPR31
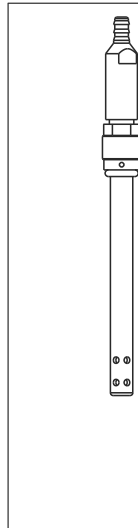
Materials in contact with the medium	
Spray head, check valve	PVDF
O-rings	EPDM / VITON
Hose	EPDM, reinforced
Operating data	
Process pressure	Max. 8 bar (116 psi) absolute, at 50 ℃ (122 ℉)
Process temperature	Max. 120 ℃ (248 ℉) at ambient pressure
Process pressure when cleaning	Max. 3 bar (43 psi) absolute
Cleaner pressure	3 to 6 bar (43 to 87 psi) absolute, at 20 ℃ (68 ℉)
Cleaner temperature	Max. 30 ℃ (86 ℉)

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