

Technical Information

Dipfit CPA140

Immersion assembly with flange connection for very demanding processes for the installation of 12 mm sensors



Sensor holder with bayonet lock

Application

- Chemical industry, e.g. in
 - production of synthetic materials and dyes
 - production of pesticides and fertilizers
 - oil or wastewater separation
 - condensate treatment
- Power stations and incinerator plants, e.g. in
 - cooling water monitoring
 - flue gas cleaning
- Metal extraction and metal processing

Your benefits

- Simple installation and removal of the sensor holder thanks to bayonet lock technology
- Reliable sealing even in media containing solid particles
- Suitable for use at high pressures and temperatures
- Immersion depth from 500 to 2500 mm
- Integrated potential matching pin made of Alloy C4 or tantalum
- Reduced condensation thanks to breathable GORE-TEX® filter
- 3 slots for 12 mm sensors and cleaning head
- Chemical and ultrasonic cleaning can be easily retrofitted
- Variety of flange connections (DIN, ANSI, JIS) for flexible connection to the process

Function and system design

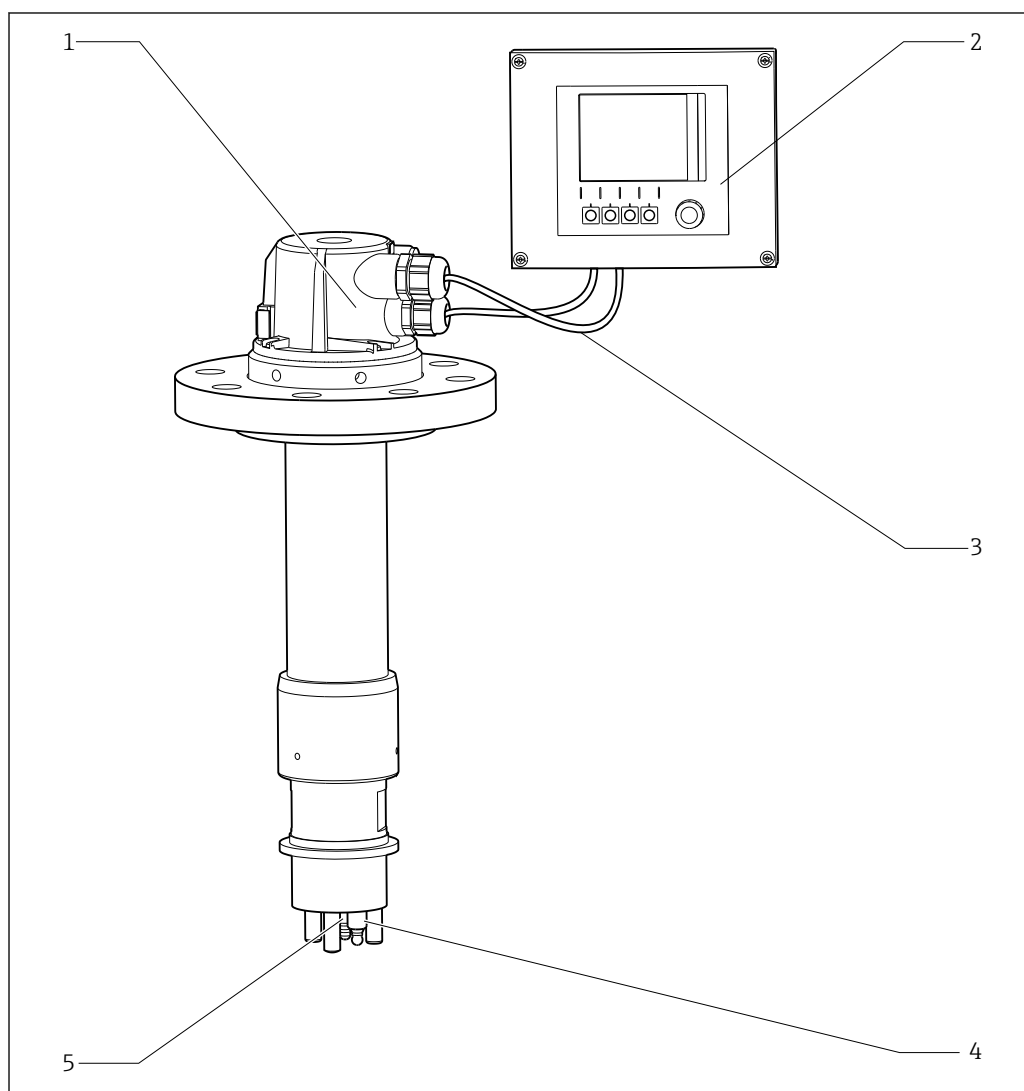
Measuring system

A complete measuring system comprises:

- Immersion assembly Dipfit CPA140
- 1-3 pH, ORP, pH/ORP combined sensors or temperature sensors (12 mm), e.g. CPS11D, CPS12D
- 1-3 measuring cables, e.g. CYK10 or CPK9
- Transmitter, e.g. Liquiline CM442

Optional:

Extension cable, e.g. CYK11



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1 Example of a measuring system (process and process connections are not illustrated)

1 Immersion assembly Dipfit CPA140, here as PVDF version

2 Transmitter CM442

3 Sensor cable CYK10

4 pH sensor CPS11D

5 ORP sensor CPS12D

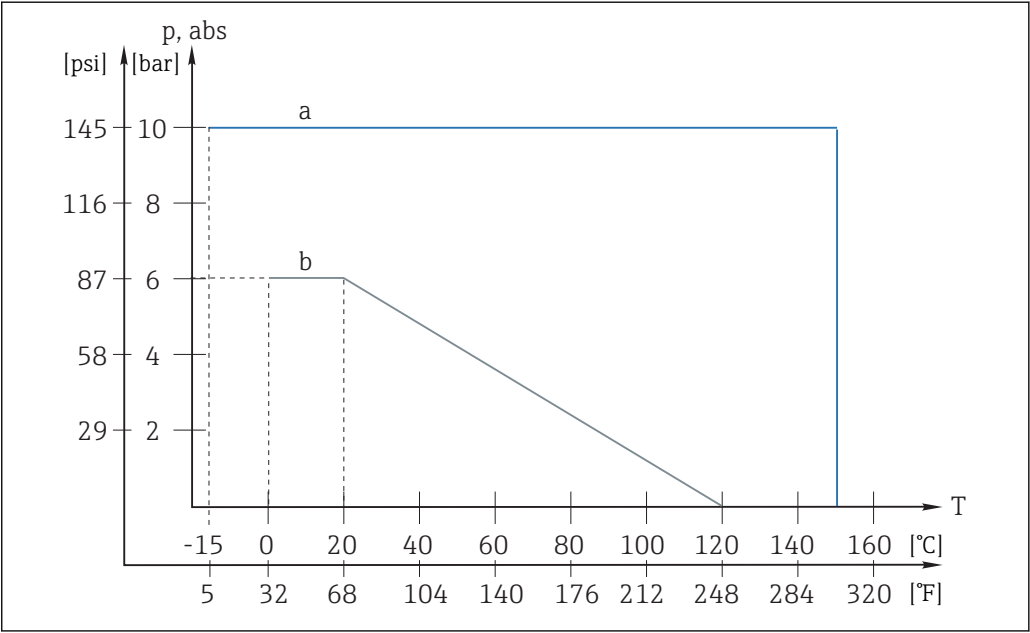
Environment

Ambient temperature range	-10 to +70 °C (+10 to +160 °F)
Storage temperature	-10 to +70 °C (+10 to +160 °F)
Degree of protection	IP65

Process

Process temperature	PVDF version	0 to 120 °C (32 to 250 °F)
	Stainless steel version	-15 to 150 °C (5 to 300 °F), for all seals except EPDM -15 to 140 °C (5 to 280 °F), for EPDM seal
Process pressure	PVDF version	Max. 6 bar (87 psi), absolute
	Stainless steel version	Max. 10 bar (145 psi), absolute

Pressure-temperature ratings



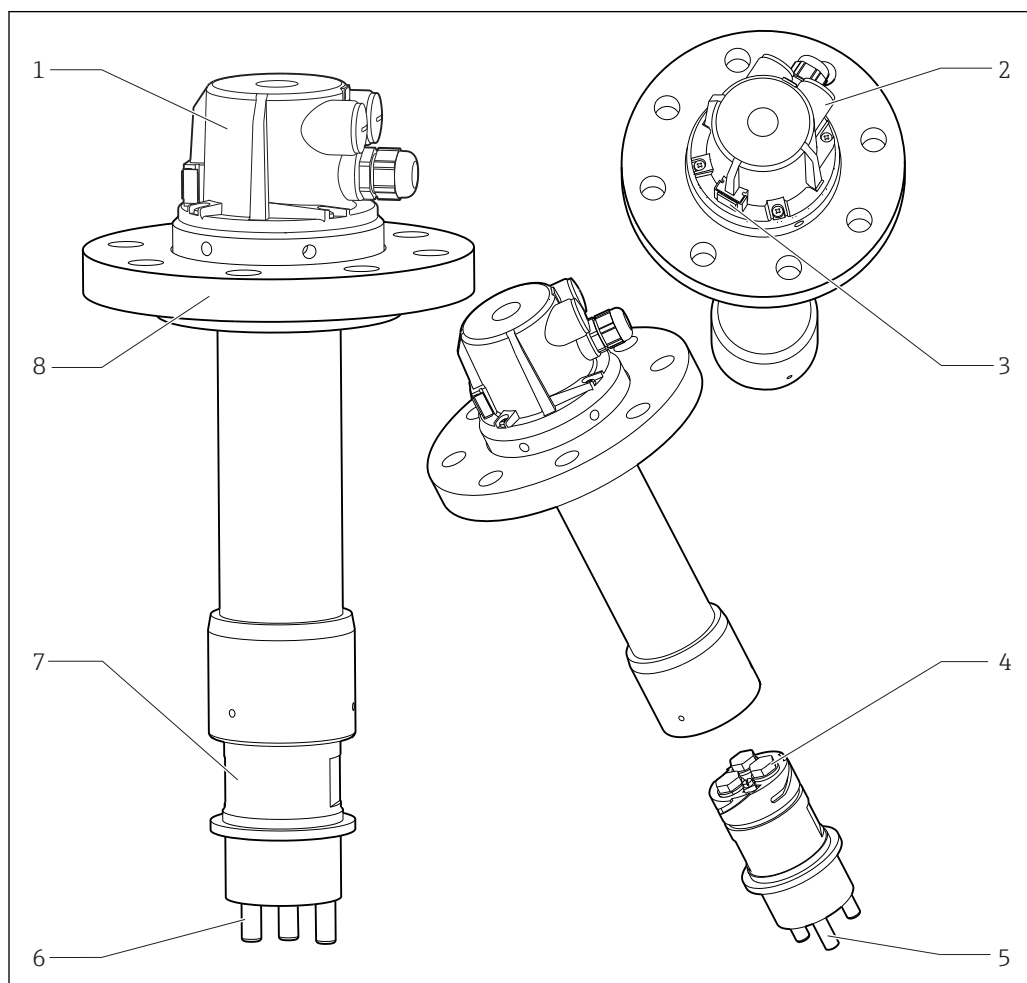
2 Pressure-temperature ratings

- a Stainless steel version
- a PVDF version

Mechanical construction

Design

PVDF version

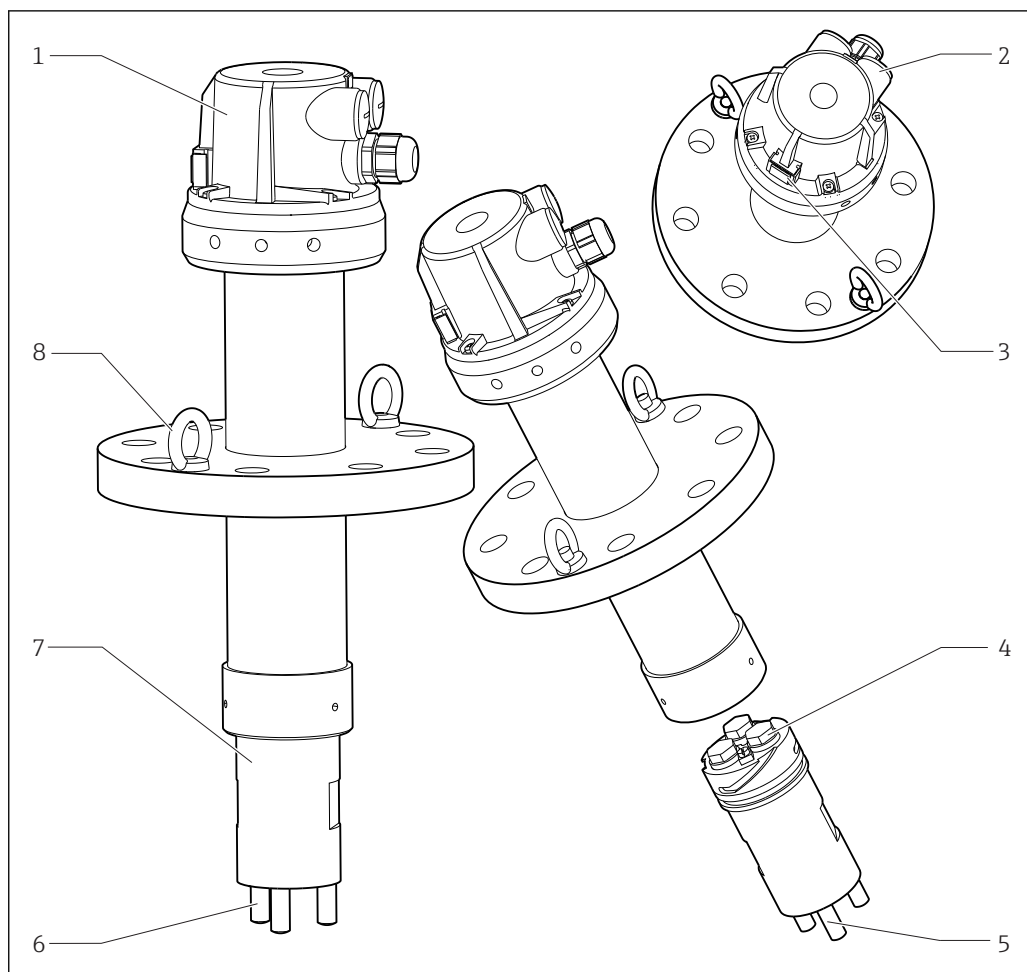


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3 PVDF version

- 1 Assembly head
- 2 Cable gland Pg 13.5 and 2x dummy plug Pg 16
- 3 GORE-TEX® filter
- 4 3 sensor slots for 120 mm sensors
- 5 Potential matching pin
- 6 Shock-protection stud
- 7 Sensor holder with bayonet lock
- 8 Lap joint flange, depending on version

Stainless steel version

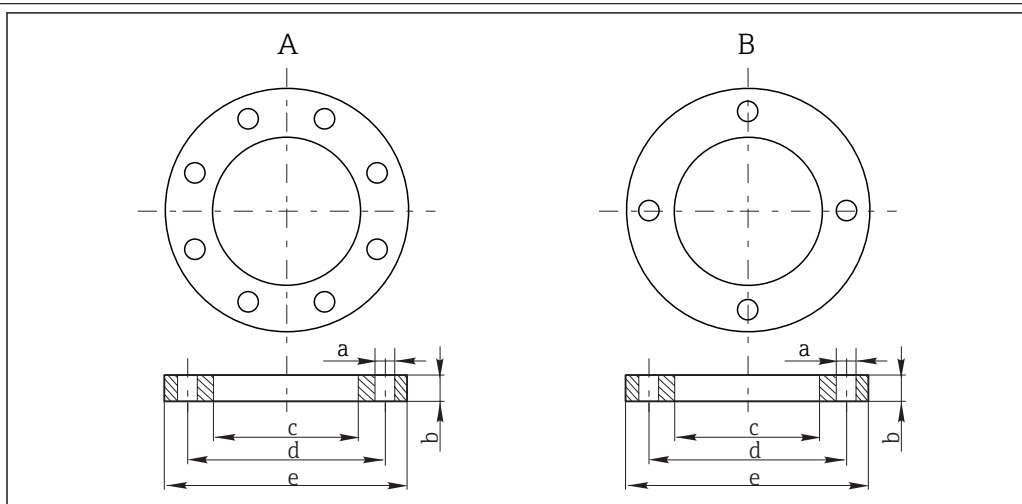


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4 Stainless steel version

- 1 Assembly head
- 2 Cable gland Pg 13.5 and 2x dummy plug Pg 16
- 3 GORE-TEX® filter
- 4 3 sensor slots for 120 mm sensors
- 5 Potential matching pin
- 6 Shock-protection stud
- 7 Sensor holder with bayonet lock
- 8 Installation aids (screw-in lifting eyes) and fixed flange, depending on the version

Dimensions

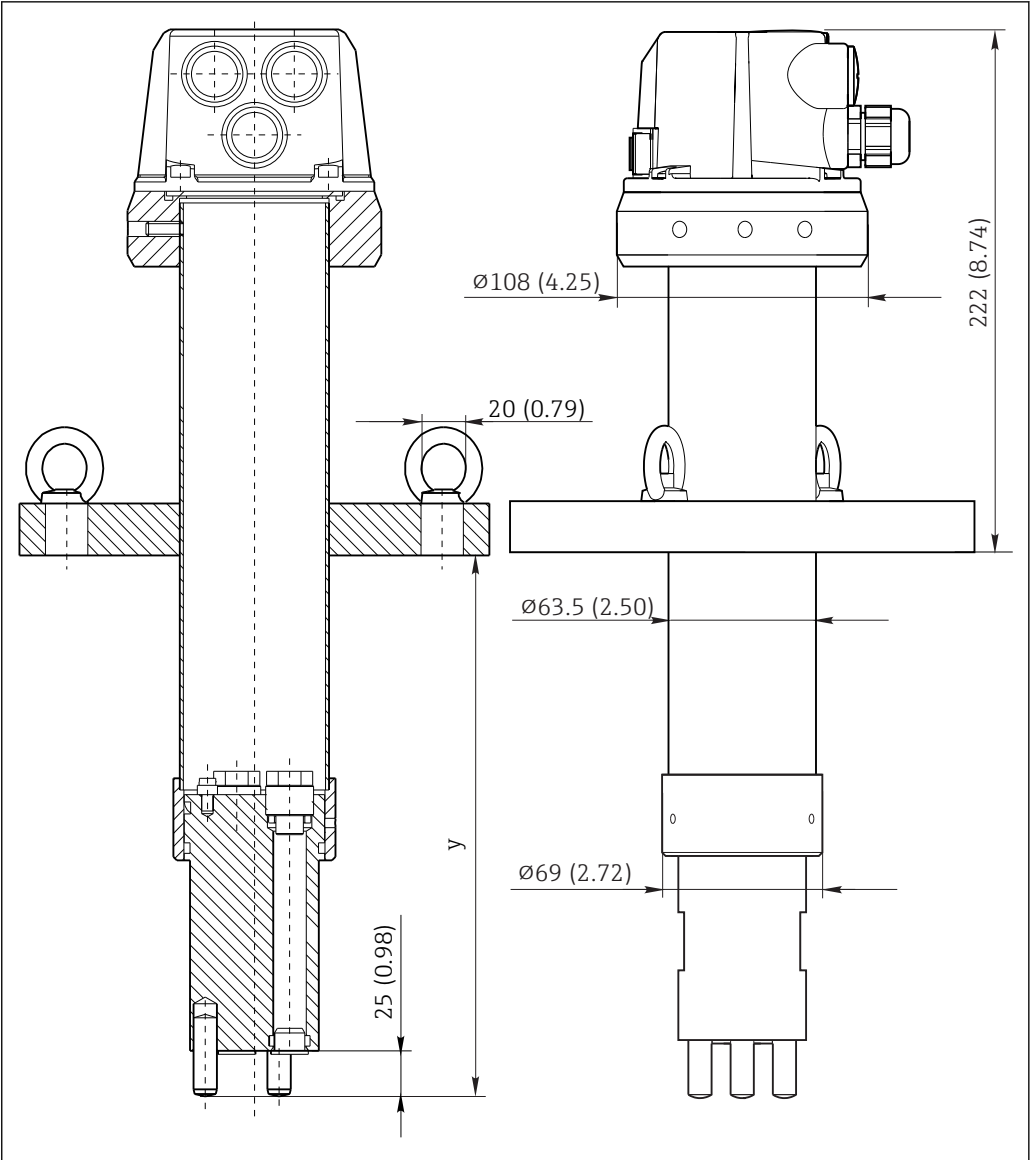


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5 Flange dimensions, → Table

A Stainless steel version
B PVDF version

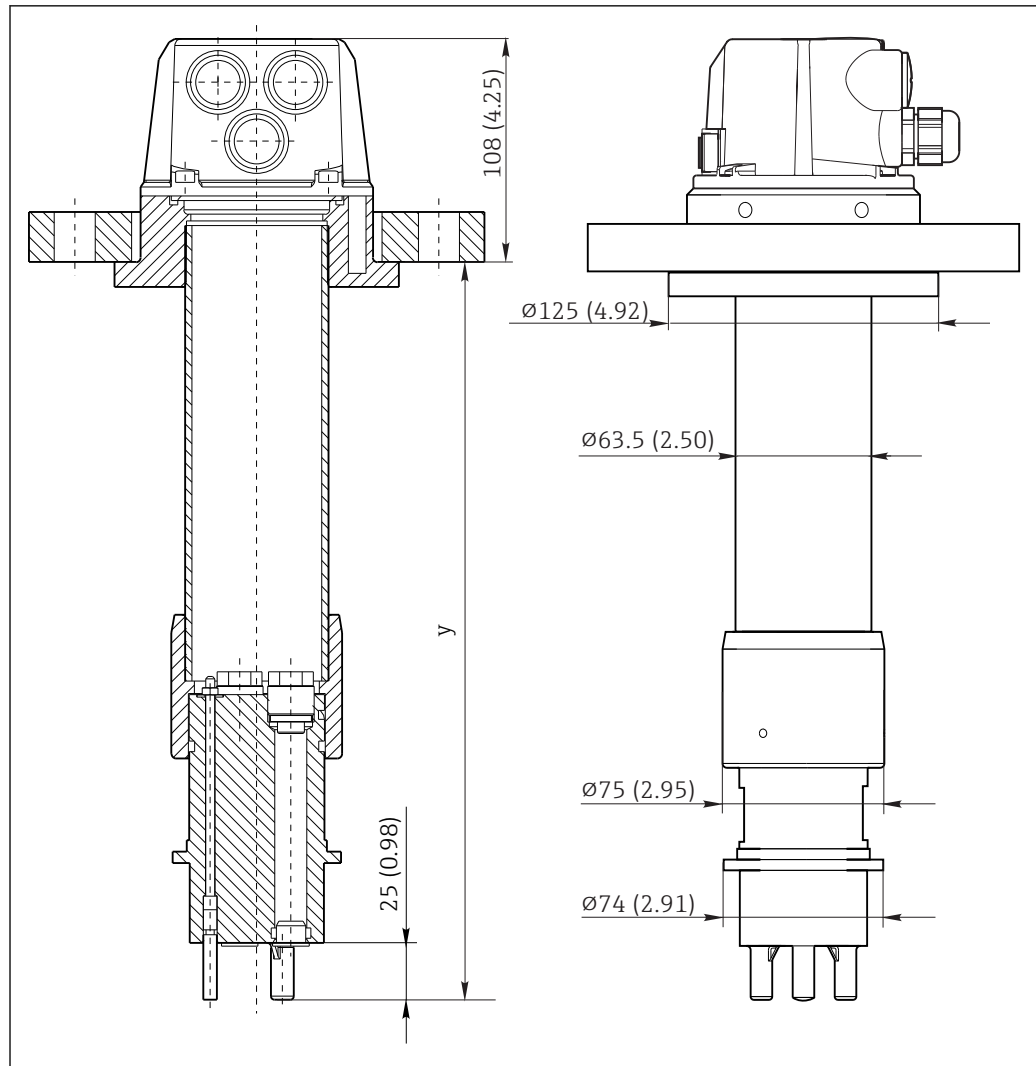
	Stainless steel assembly version			PVDF assembly version		
	DN80 PN16	ANSI 3" 150 lbs	JIS 10K 80A	DN80 PN16	ANSI 3" 150 lbs	JIS 10K 80A
a [mm (in)]	18 (0.71)	19 (0.75)	19 (0.75)	18 (0.71)	19 (0.75)	19 (0.75)
b [mm (in)]	20 (0.79)	23.8 (0.94)	18 (0.71)	22 (0.87)	22 (0.87)	18 (0.71)
c [mm (in)]	63.5 (2.50)	63.5 (2.50)	63.5 (2.50)	110 (4.33)	110 (4.33)	110 (4.33)
d [mm (in)]	160 (6.30)	152.4 (6.00)	150 (5.91)	160 (6.30)	152 (5.98)	150 (5.91)
e [mm (in)]	200 (7.87)	190.5 (7.50)	185 (7.28)	200 (7.87)	200 (7.87)	185 (7.28)
Screws	M16	M16	M16	M16	M16	M16
Bore holes	8	4	4	8	4	4



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6 Stainless steel version, dimensions in mm (in)

y Immersion depth, → Configurator on product page



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7 PVDF version, dimensions in mm (in)

y Immersion depth, → Configurator on product page

Weight

Depends on version (material, immersion depth):

PVDF 2.5 to 3.0 kg (5.5 to 6.6 lbs)

Stainless steel 8.0 to 12.0 kg (17.6 to 26.5 lbs)

Materials

In contact with medium, depending on version

Immersion tube	PVDF / stainless steel 1.4404 (AISI 316L)
O-rings	EPDM / VITON / Chemraz / Fluoraz
Sensor holder	PVDF / stainless steel 1.4404 (AISI 316L)
Potential matching pin	Alloy C4 / tantalum / stainless steel 1.4401 (AISI 316)
Shock-protection stud	PVDF / stainless steel 1.4401 (AISI 316)
Dummy plug	PEEK

Not in contact with medium, depending on version

Assembly head	PP-GF 20
Lap joint flange	UP-GF / stainless steel 1.4404 (AISI 316L)
Installation aids ¹⁾	Stainless steel 1.4301 (AISI 304)

1) Only for stainless steel version

Process connections	Depending on version: <ul style="list-style-type: none"> ■ None ■ Flange DN 80 / PN 16 ■ Flange ANSI 3" / 150 lbs ■ Flange JIS 10K 80A
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Cable glands	1 x Pg 13.5 and 2 x dummy plug Pg 16
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Sensor mounting slots	3 x Pg 13.5
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Immersion depth	Depending on version: <ul style="list-style-type: none"> ■ 500 mm (19.7 in) ■ 1000 mm (39.4 in) ■ 1500 mm (59.1 in) ■ 2000 mm (78.7 in) ■ 2500 mm (98.4 in)
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Certificates and approvals

Pressure Equipment Directive 2014/68/EU	The assembly has been manufactured according to good engineering practice as per Article 4, Paragraph 3 of the Pressure Equipment Directive 2014/68/EU and is therefore not required to bear the CE label.
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Inspection certificate	A test certificate 3.1 in accordance with EN 10204 is supplied depending on the version (→ Product Configurator on the product page).
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Ordering information

Product page	www.endress.com/cpa140
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Product Configurator	<p>On the product page there is a Configure button to the right of the product image.</p> <ol style="list-style-type: none"> 1. Click this button. <ul style="list-style-type: none"> ↳ The Configurator opens in a separate window. 2. Select all the options to configure the device in line with your requirements. <ul style="list-style-type: none"> ↳ 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 on the right above the selection window. <p> For many products you also have the option of downloading CAD or 2D drawings of the selected product version. Click the CAD tab for this and select the desired file type using picklists.</p>
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Scope of delivery	<p>The scope of delivery comprises:</p> <ul style="list-style-type: none"> ■ Ordered version of assembly ■ Operating Instructions
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- ▶ If you have any queries:
Please contact your supplier or local sales center.

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.

Sensors (selection)


Orbisint CPS11D / CPS11

- pH sensor 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


Orbipore CPS91D

pH electrode with open aperture for media with high dirt load

 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

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 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

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 COS81D

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



Technical Information TI01201C

Measuring cable**Memosens data cable CYK10**

- For digital sensors with Memosens technology
- Product Configurator on the product page: www.endress.com/cyk10



Technical Information TI00118C

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

Measuring cable CPK9

- Terminated measuring cable for connecting analog sensors with TOP68 plug-in head
- Selection in accordance with product structure
- Ordering information: Endress+Hauser sales office or www.endress.com.

Measuring cable CPK12

- Terminated measuring cable for connecting analog ISFET sensors with TOP68 plug-in head
- Selection in accordance with product structure
- Ordering information: Endress+Hauser sales office or www.endress.com

KCl supply vessel**Electrolyte vessel CPY7B**

- Storage container for KCl electrolyte, 200 ml
- Product Configurator on the product page: www.endress.com/cpy7b



Operating Instructions BA00128C

Cleaning**Chemoclean CPR31**

- Spray system to clean pH, ORP and temperature sensors
- Spray head and PVDF check valve, EPDM or VITON O-rings, EPDM hose, reinforced
- Cleaner up to 6 bar (87 psi) absolute, maximum 30 °C (86 °F)
- Order according to product order structure



Operating Instructions BA00201C

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