

# Sterilisable pH Assembly *ProbFit H CPA 465*

## Retractable assembly for pH measurement in pipes or tanks under sterile measuring conditions



### Areas of application

The retractable pH assembly ProbFit H CPA 465 is used wherever

- very exacting sanitary and hygienic requirements are to be fulfilled
- the pH electrode must be sterilised, calibrated or cleaned without interrupting the process
- automatic cleaning or sterilisation is required
- pH electrodes are not to be removed between batches but must be kept wet
- low-maintenance, sterilisable pH electrodes with high accuracy are required
- measurement must be carried out in very sticky media.

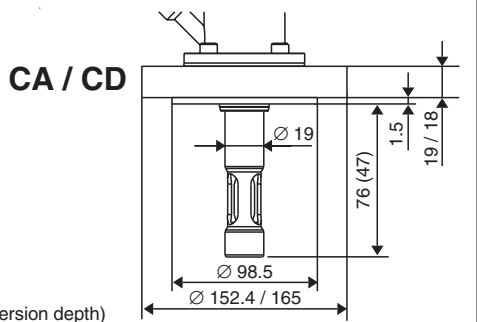
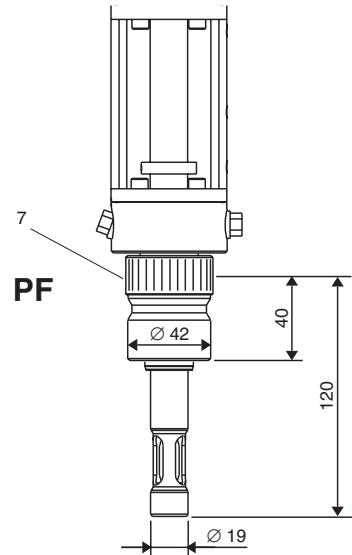
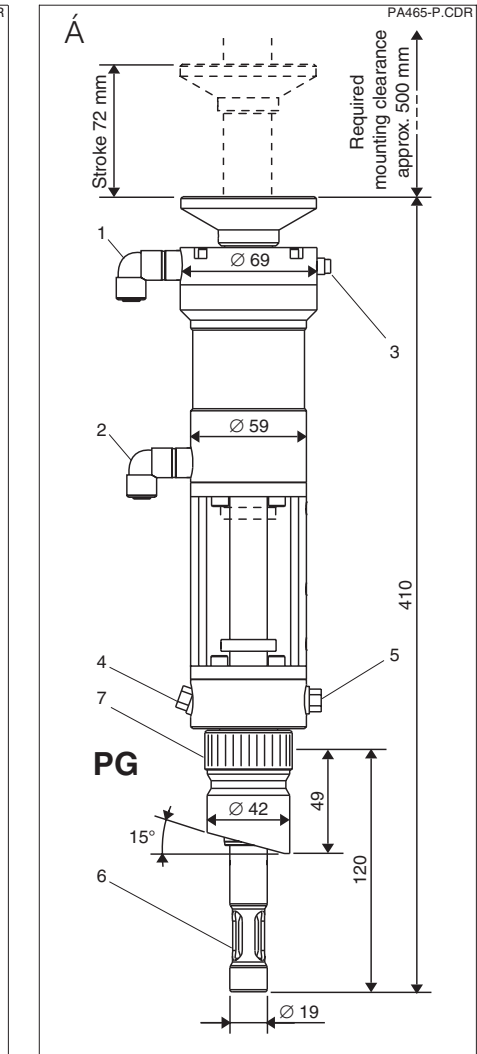
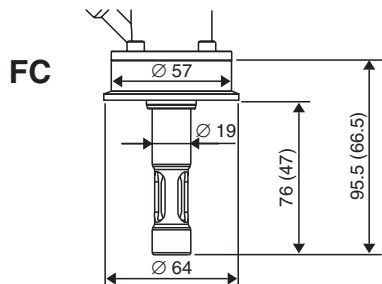
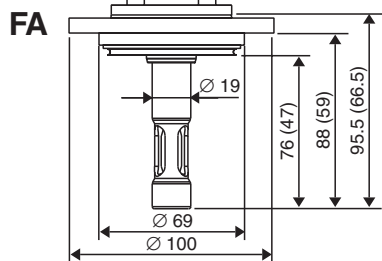
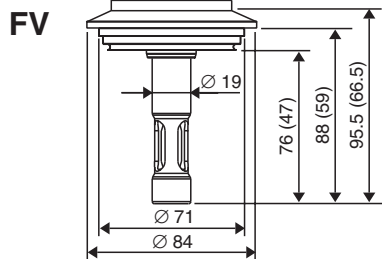
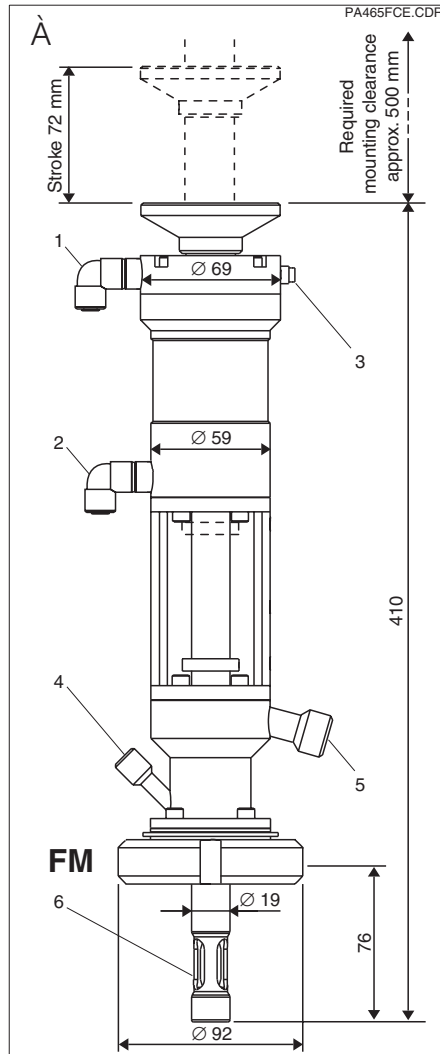
### Benefits at a glance

- All parts contacting the medium are made of stainless steel 1.4404 (SS 316L); seals consist of EPDM or Viton according to FDA recommendations
- Process connection is thermally isolated from pneumatic drive
- Available in various mounting versions:
  - dairy fitting
  - Varivent adapter
  - APV adapter
  - 2" clamp fitting
  - built-in adapter DN 25
  - flange DN 50
  - flange ANSI 2"
- In the food version, sterile conditions in fermenters or bioreactors are maintained even after repeated withdrawal from medium:
  - design of cleaning or sterilisation chamber without dead space
  - unique crevice-free medium connection

Many applications in the food industry as well as fermentation processes in the pharmaceutical or biotechnical industries largely depend on the pH value. The product quantity and quality that can be achieved are affected even by minute pH deviations. pH control systems from Endress+Hauser can be optimally adapted to the measuring task at hand in order to reduce costs.



# Dimensions and mounting versions



- ① Dimensioned drawing ProbFit H CPA 465-F (food version)  
 ProbFit H CPA 465-C (chemistry version)  
**FM** with dairy fitting connection DN 50  
**FV** with Varivent adapter for DN 40 ... 125  
**FA** with APV adapter for DN 40 ... 100  
**FC** with 2" clamp fitting  
**CA** with flange ANSI 2"  
**CD** with flange DN 50

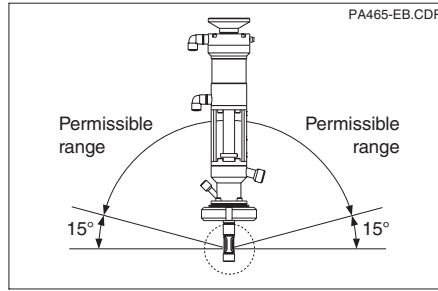
- ② Dimensioned drawing ProbFit H CPA 465-P (pharmaceutical version)  
**PG** with built-in adapter DN 25, oblique  
**PF** with built-in adapter DN 25, straight

- 1 Compressed air connection, measurement  
 2 Compressed air connection, service position  
 3 PM connection  
 4 Rinse connection, inlet  
 5 Rinse connection, outlet  
 6 Electrode protection guard  
 7 Union nut G 1¼ (OD 45 mm)

(Dimensions in parentheses are for reduced immersion depth)

# Mounting

Permissible mounting positions for CPA 465



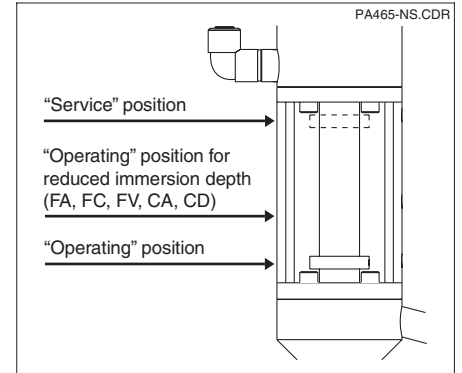
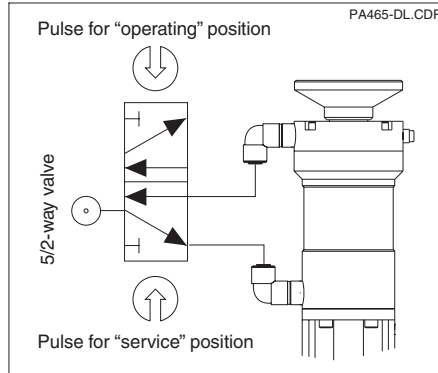
The preferred mounting position of the CPA 465 assembly is vertical, although inclinations of up to 15° from the horizontal are permissible.

In the case of small pipe diameters, the immersion depth can be reduced by 29 mm on versions FA, FC, FV, CA and CD. This requires installation of a distance sleeve (supplied accessory).

# Operation

left:  
Compressed air control for CPA 465

right:  
Mounting positions for inductive proximity switches for feedback (M8x1)



# Technical data

## General data

Manufacturer	Endress+Hauser GmbH+Co.
Product designation	ProbFit H CPA 465

## Materials

Materials in contact with medium	stainless steel 1.4404 (SS 316L), surface roughness $R_a = 0.8 \mu\text{m}$
Seals in contact with medium	EPDM or Viton with FDA approval
Housing	stainless steel 1.4301 (SS 304)
Splash protection cover	POM

## Process connection

Food version	dairy fitting connection DN 50 Varivent adapter DN 50 ... 125 APV adapter DN 50 ... 100 2" clamp fitting
Pharmaceutical version	built-in adapter DN 25, straight or oblique
Chemistry version	flange ANSI 2" 150 lbs flange DN 50 PN 16

## Rinse connections

Food version / chemistry version	inlet G 1/4, ID 6; outlet G 1/2, ID 10
Pharmaceutical version	G 1/8

## Compressed air connection

All versions	ID 4 / OD 6
Compressed air	filtered (5 $\mu\text{m}$ ), 3 ... 6 bar

## Operating pressure and temperature

Medium pressure	max. 10 bar at up to 140 °C
Steam sterilisation	approx. 30 min at 140 °C, steam pressure max. 3 bar

## Electrodes, measures and weight

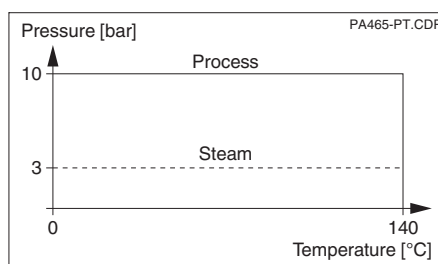
Electrode type	Orbisint CPS 11, Ceraliquid CPS 41
Electrode length	360 mm
Electrode installation	via Pg 13.5 thread
Weight	approx. 4 kg

## Supplementary documentation

Technical Information Orbisint CPS 11/12/13	order no. 50054649
Technical Information Ceraliquid CPS 41/42/43	order no. 50059346

Subject to modifications.

Pressure / temperature specifications of CPA 465



## How to order

### Retractable pH assembly ProbFit H CPA 465

#### Version and mounting type

FA Food version, APV adapter DN 50 ... 100  
 FC Food version, 2" clamp fitting  
 FM Food version, dairy fitting connection DN 50  
 FV Food version, Varivent adapter DN 50 ... 125

PO Pharmaceutical version, without adapter  
 PF Pharmaceutical version, built-in adapter DN 25, straight  
 PG Pharmaceutical version, built-in adapter DN 25, oblique

CA Chemistry version, flange ANSI 2" 150 lbs  
 CD Chemistry version, flange DN 50 PN 16

#### Electrode type

1 Version for Orbisint electrodes  
 2 Version for Ceraliquid electrodes

#### O-ring material

1 EPDM  
 2 Viton

#### Equipment

A Standard equipment  
 B Material certificate acc. to EN 10204-3.1B

CPA 465-

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complete order code

## Accessories

- Varivent tank adapter  
order no. 50080515
- Inductive proximity switches  
(set of 2 pieces)
  - NC contact (NAMUR): 50087310
  - NO contact: order no. 50073993
- Welding neck DN 25  
stainless steel AISI 316 L
  - straight: order no. 51500328
  - inclined: order no. 51500327
- Sealing set
  - Food version EPDM  
order no. 50079989
  - Food version Viton  
order no. 50079988
  - Pharmaceutical version EPDM  
order no. 50079987
  - Pharmaceutical version Viton  
order no. 50079986
- Combined pH electrode Orbisint W  
with integrated Pt 100  
order code CPS 11-2 DA5 TSA
- Combined pH electrode Ceraliquid P
  - with integrated Pt 100  
order code CPS 41-2 BB5 TSS
  - with integrated Pt 100,  
steam-sterilisable  
order code CPS 41-2 DB5 TSS
- Electrolyte vessel for Ceraliquid P  
electrodes  
order code CPY 7
- Retrofitting kit for conversion  
from Orbisint W electrode version  
to Ceraliquid P electrode version  
order no. 50080516

**Endress+Hauser GmbH+Co KG.**  
**- Instruments International -**

P.O. Box 2222  
 D-79574 Weil am Rhein  
 Tel. (07621) 975 - 02  
 Fax (07621) 975345

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