Level | Pressure | Flow | Temperature | Liquid Analysis | Registration | Systems Components | Services | Solutions

Technical Information

Cleanfit P CPA474

Retractable plastic process assembly with ball valve for pH and ORP electrodes

Application

- Chemical industry
- Wastewater / industrial water
- Power plants
- Refuse incinerators

This assembly is very well suited to applications which require the save separation from the process during the service step and for media which have a tendency to stick at the electrode holder.

Your benefits

- Safety:
  - Safe and reliable process termination possible under nearly all conditions
  - Only plastics (PP, PVDF, PEEK) in contact with medium
  - "Heavy duty version" for high temperature and high pressure applications (up to 10 bar)
- Comfortable operation:
  - Assembly service in ongoing process: total disassembly of assembly body possible with closed ball valve (e.g. for exchanging sealing rings, electrode holder etc.)
  - Various immersion depths (tank/pipe installation)
  - Sealing water to screen off rinse chamber
- Automation even for difficult processes:
  - Fully-automatic calibration and cleaning in conjunction with Topcal S CPC300
- Easy installation:
  - Version with pneumatic ball valve drive is supplied fully hosed-up

TI345C/07/en/02.05
51510925

Endress+Hauser

People for Process Automation

Function and system design

Principle

The "Measure" and "Service" operating statuses can be changed in the following ways:
- Manually
- Pneumatically
- Pneumatically via Topcal S CPC300 or Topclean S CPC30 with optional CPR40 rinsing block
- All versions possible with limit position switch.

Principle sequence when moving the retractable assembly
- from "Service" to "Measure"
  - Open ball valve
  - Move assembly
- from "Measure" to "Service"
  - Move assembly
  - Close ball valve

In the "Service" status (sensor moved back into the assembly), the ball valve seals the assembly off from the process. This means that cleaning and calibration can take place and electrodes can be changed without interrupting the process.

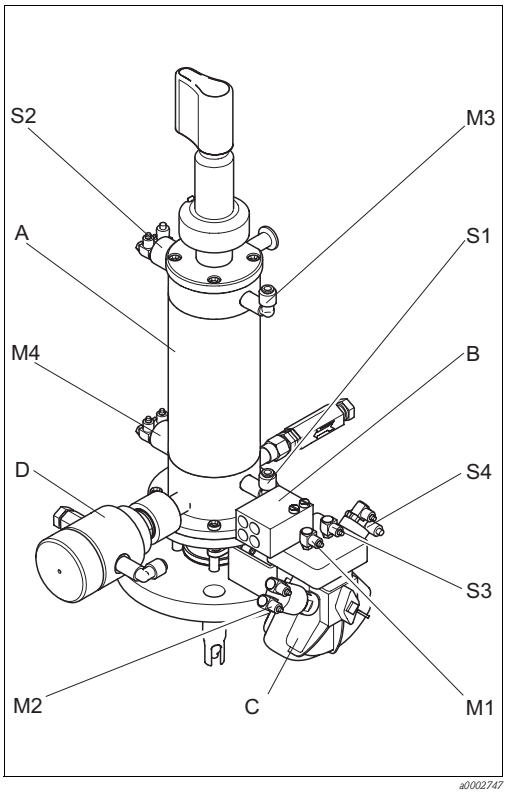
Warning!
The **rinse chamber** and the **rinse connections** of the assemblies are **in open contact with the medium in the measuring position,** or at least when moving, and are thus exposed to the **process pressure**.
For this reason, the inlet and outlet of the rinse chamber **must** be **protected by valves**. These valves are available from Endress+Hauser as accessories (see product structure, "Additional equipment").
These valves close automatically in the pneumatic version.

Limit position switches

The pneumatic limit position switches serve as control elements and determine the sequence of the individual steps.

The following types of limit position switches are available depending on the order version (product structure, "Assembly operation, ball valve"):
- "Pneumatic limit position switch" version: 4 pneumatic switches (type, see "Mechanical construction")
- "Electric limit position switch" version: 3 pneumatic and 2 inductive switches (types, see "Mechanical construction")

Function



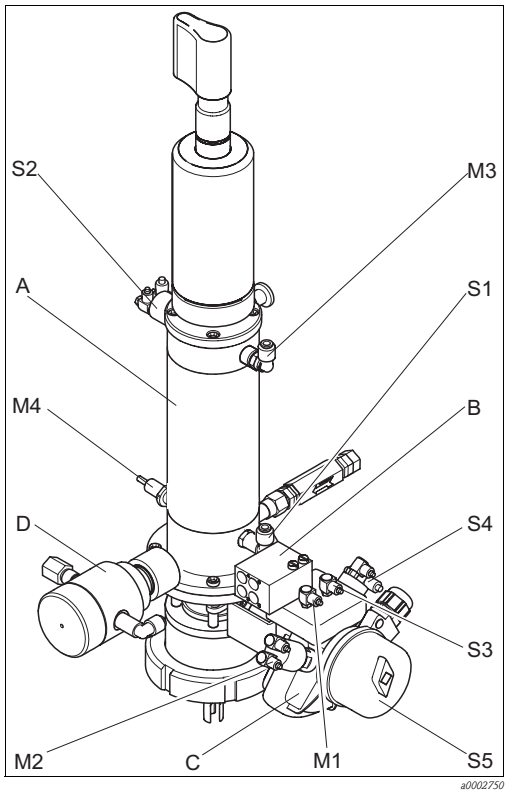


Fig. 1: Pneumatic limit position switches

Electrical limit position switches

A Assembly cylinder
B Pneumatic connection block
Measuring:
M1 Pneumatics "Open ball valve"
M2 Limit position switch "Ball valve open"
M3 Pneumatics "Assembly Measuring"
M4 Limit position switch "Assembly Measuring"

C Ball valve drive
D Rinsing input / output
Service:
S1 Pneumatics "Assembly Service"
S2 Limit position switch "Assembly Service"
S3 Pneumatics "Close ball valve"
S4 Limit position switch (pneu.) "Ball valve closed"
S5 Limit position switch (el.) "Ball valve closed"

Assembly moving principle

Moving from "Service" position into "Measure" position

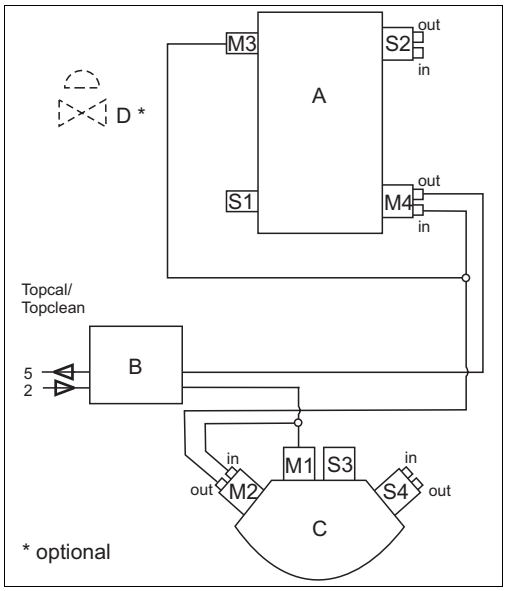


Fig. 2: Move to "Measuring" position, version with pneumatic limit position switches

in Pneumatic input, limit position switch
out Pneumatic output, limit position switch
5 Feedback signal "Assembly measuring"
2 Compressed air input "Start measuring"

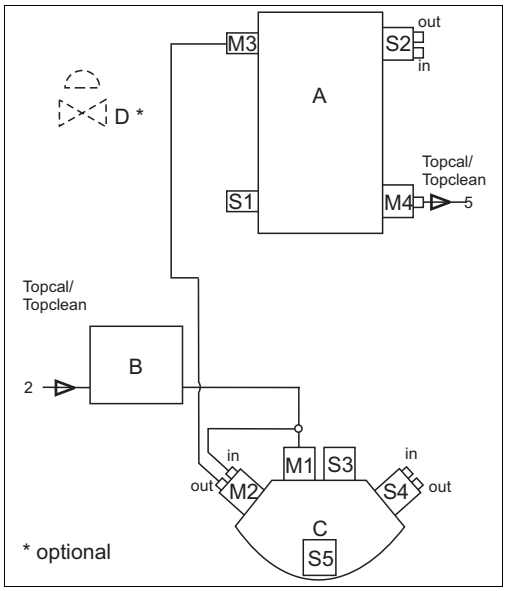


Fig. 3: Move to "Measuring" position, version with electric limit position switches

A Assembly cylinder
B Pneumatics connection block
C Ball valve drive
D Outlet safety seal for rinse chamber

1. Compressed air is provided at position M1 (pneumatic "Open ball valve"). At the same time, compressed air is applied to M2 (limit position switch "Ball valve open").
   The ball valve (C) opens. **The rinse chamber outlet valve (D) must be closed.**
2. When the ball valve is completely open, the limit position switch M2 forwards compressed air to the pneumatics of the pressure cylinder, input "Assembly measuring" (M3) and simultaneously to the limit position switch "Assembly measuring" (M4).
   The electrode holder moves out of the assembly into the medium.
3. Once the limit position is reached, the limit position switch M4 sends a signal (5, "Assembly measuring" feedback signal) to the transmitter / DCS or to Topcal S / Topclean S.

Moving from "Measure" position into "Service" position

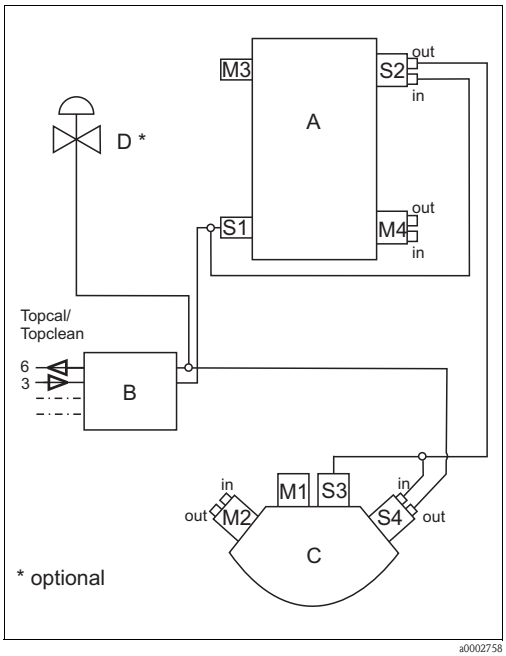


Fig. 4: Move to "Service" position, version with pneumatic limit position switches

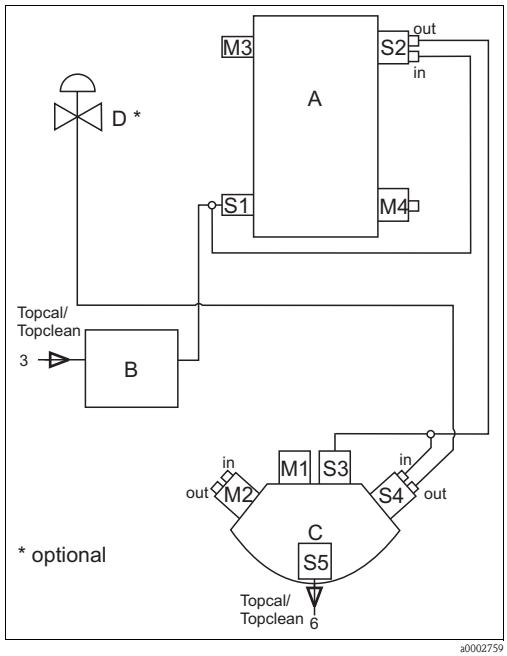


Fig. 5: Move to "Service" position, version with electric limit position switches

in Pneumatic input, limit position switch
out Pneumatic output, limit position switch
6 Feedback signal "Assembly service"
3 Compressed air input "Start service"

A Assembly cylinder
B Pneumatics connection block
C Ball valve drive
D Outlet safety seal for rinse chamber

1. Compressed air is simultaneously provided at the pneumatics of the pressure cylinder, input "Assembly service" (S1) and at the limit position switch "Assembly service" (S2). The electrode holder moves from the medium into the assembly.
2. When the limit position is reached, the limit position switch S2 forwards pressure to position S3 (close ball valve) and position S4 (limit position switch "Ball valve closed") simultaneously.
   The ball valve (C) closes.
3. Once the ball valve is completely closed, a signal (6, "Assembly service" feedback signal) is sent from the limit position switch S4 (or the limit position switch S5 in case of the version with electric limit position switches) to the transmitter / DCS or to Topcal S / Topclean S. At the same time, pressure is applied to the rinse chamber outlet valve (D).
   Valve D opens as long as the pressure is applied. Any drop in pressure causes this valve to close.

Measuring system

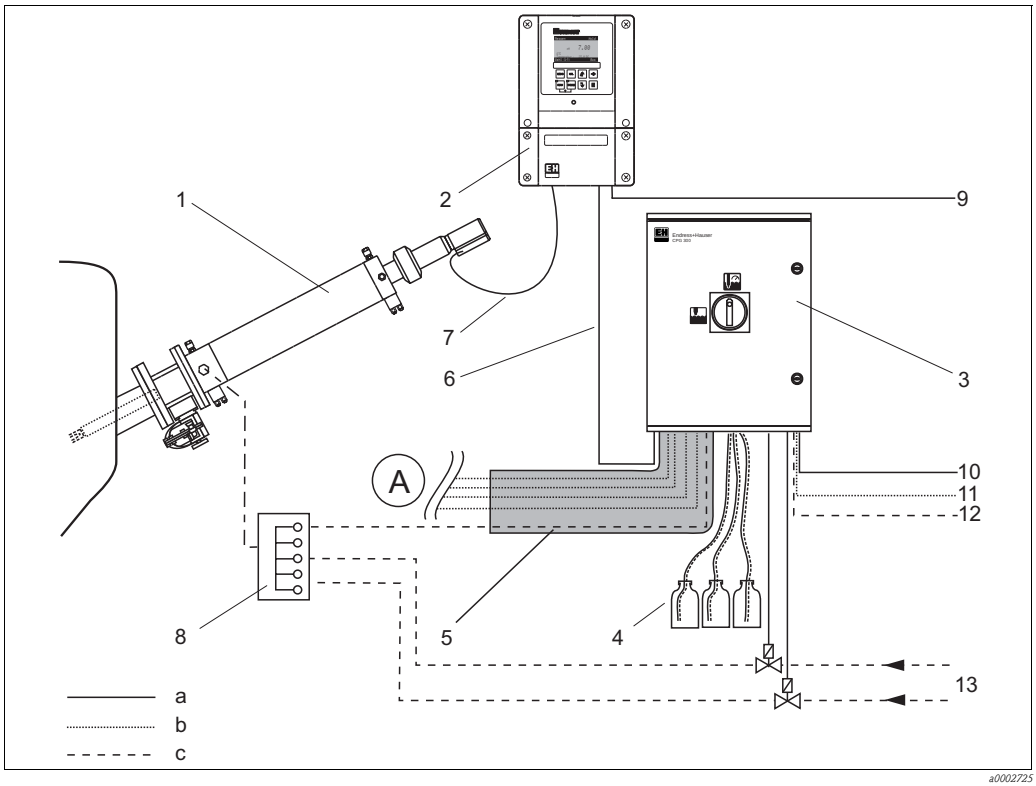


Fig. 6: Fully automatic measuring system (example)

A For information on function and connection of the pneumatics and the limit position switches to the assembly, please refer to the related chapters of the Operating Instructions.

1 Cleanfit P assembly
7 Special measuring cable, e.g. CPK9, CPK12
8 CPR40 rinse block (optional)

Topcal S CPC300:[1]

2 Mycom S CPM153 transmitter
3 CPG300 control unit
4 Vessels for cleaning agents and buffer solutions
5 Multi hose
6 Supply / control cable

a Electric line
b Compressed air line
c Water / cleaning agent / buffer

To be supplied by customer:

9 Power supply for Mycom S CPM153
10 Power supply for CPG300
11 Compressed air
12 Water supply
13 Steam / water / cleaning agent (optional)

1) Fully automatic calibration and cleaning system

Installation

Installation instructions

A Glass electrode: Installation angle of at least 15° from the horizontal
B ISFET pH-sensor Tophit: No restrictions, recommended 0 ... 180°

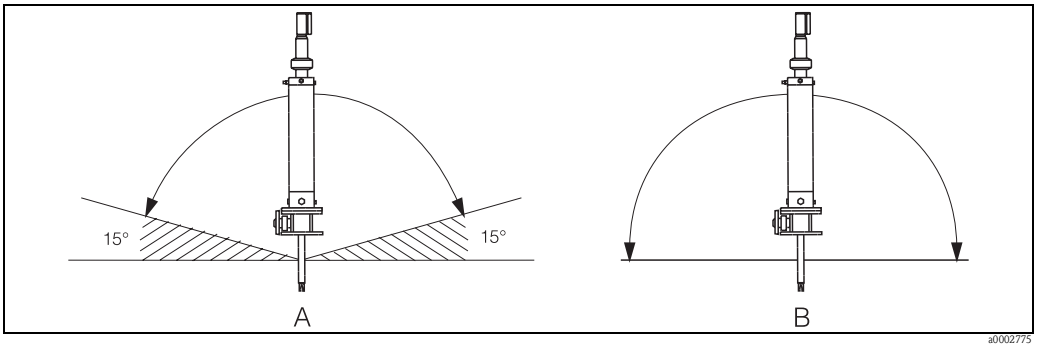


Fig. 7: Permitted orientations depending on the sensor used

Caution!
- For all assemblies with stainless steel pressure cylinders, we recommend to use a flanged version when installing with inclined orientation. Otherwise, the weight of the assembly could affect the safety of the process connection.
- Avoid a siphon effect[a] at the rinse chamber outlet when installing with inclined orientation. The inlet to the rinse chamber must be from below.

Pneumatic connections for automatic operation

Requirements:
- air pressure of 4 to 8 bar (58 to 116 psi)
- air must be filtered (40 µm) and be free of water and oil
- no continuous air consumption
- minimum nominal diameter of the air lines: 4 mm (0.16 inches).

Caution!
There must be a pressure-reducing valve upstream if the air pressure can increase to above 8 bar (116 psi) (including any short pressure surges).
We recommend you also use a pneumatic throttle for lower pressures. This results in a smoother assembly operation. Endress+Hauser offers such a throttle as an accessory (see chapter "Accessories").

Environment

Ambient temperature range

Ambient temperature not below 0 °C (32 °F).
With an optional inlet/outlet safety seal, the ambient temperature may not exceed 50 °C (122 °F).

a) Siphon effect: line emptied by vacuum

Process

Pressure

PA pressure cylinder:	max. 6 bar (87 psi)
Stainless steel pressure cylinder: ("Heavy duty version")	max. 10 bar (145 psi)
Pneumatic outlet safety seal:	continuous operation: 10 bar (145 psi) / 100 °C (212 °F) short time (max. 1 h): 5 bar (72.5 psi) / 130 °C (266 °F)
Manual outlet safety seal:	10 bar (145 psi) / 20 °C (68 °F), 2 bar (29 psi) / 130 °C (266 °F)

Caution!
The process pressure may not exceed 4 bar (58 psi) with manually actuated assemblies!

Temperature

See pressure-temperature diagram.

Pressure-temperature diagram

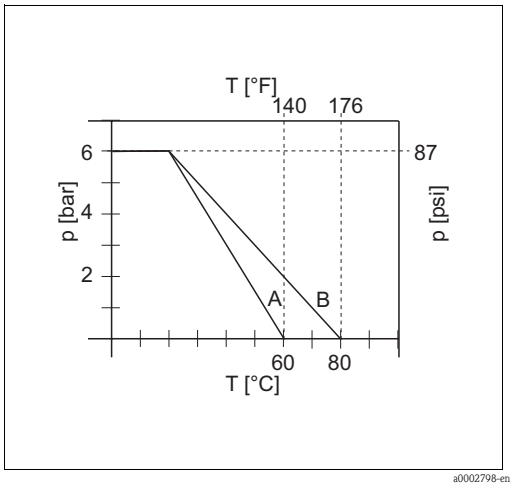


Fig. 8: Pressure-temperature diagram CPA474 standard version (PA pressure cylinder)

A Electrode holder + ball valve PP
B Electrode holder PEEK/PVDF, ball valve PVDF

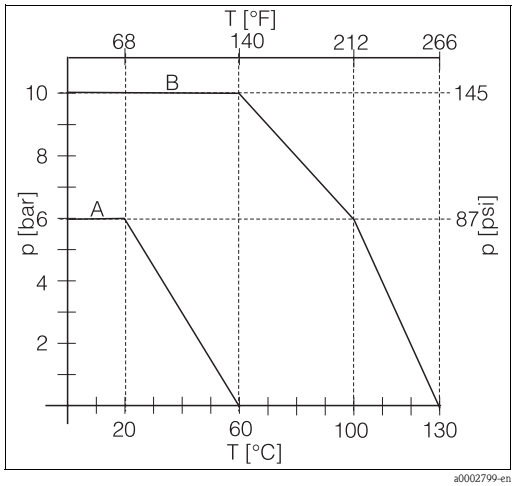


Fig. 9: Pressure-temperature diagram CPA474 "Heavy duty version" (VA pressure cylinder)

A Electrode holder + ball valve PP
B Electrode holder PEEK/PVDF, ball valve PVDF

Flow velocity

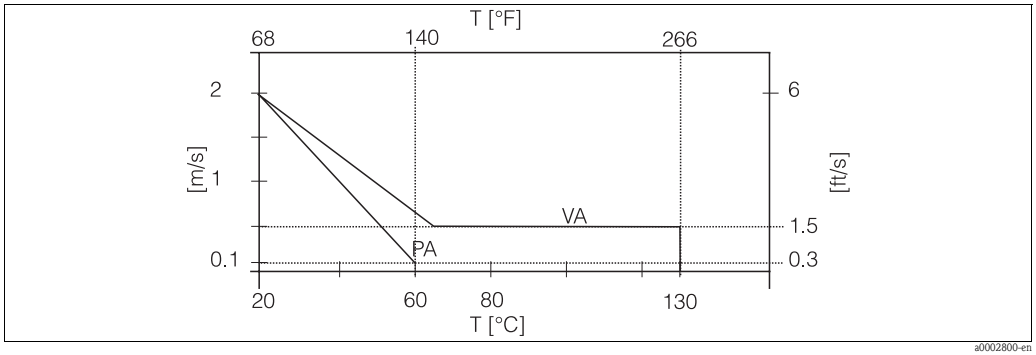


Fig. 10: Flow velocity in dependance from temperature

PA Standard version
VA Heavy duty version

Note!
A flow of 2 m/s (6 ft/s) should not be exceeded as otherwise measurable effects (potential) can develop at the electrode.

Mechanical construction

Design, dimensions

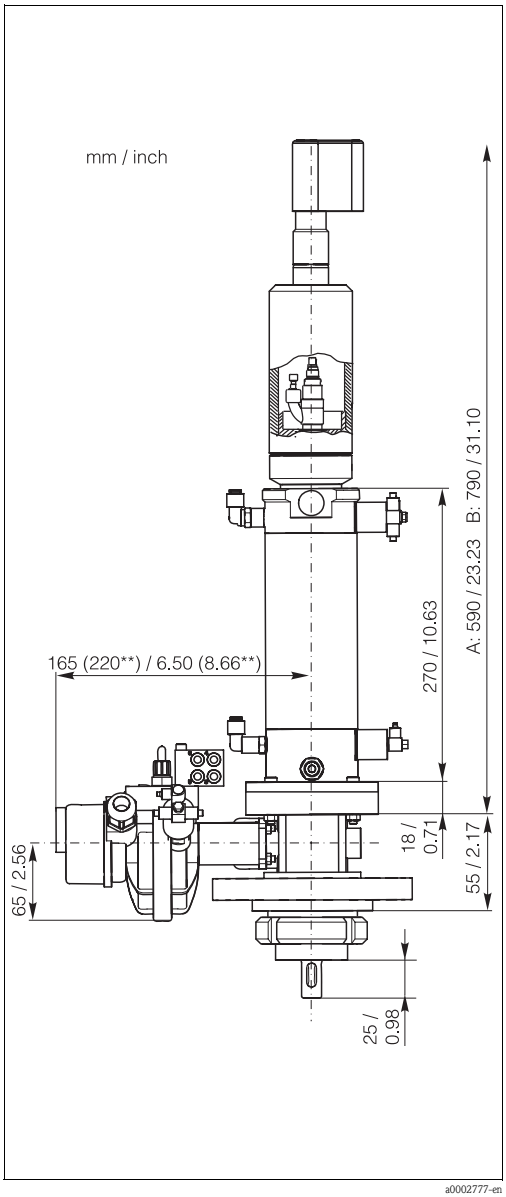


Fig. 11: Assembly version: pneumatic, short, for KCl sensors, thread adapter nut

Thread adapter nut connections are only available with short versions!

*** version with electric limit position switches*

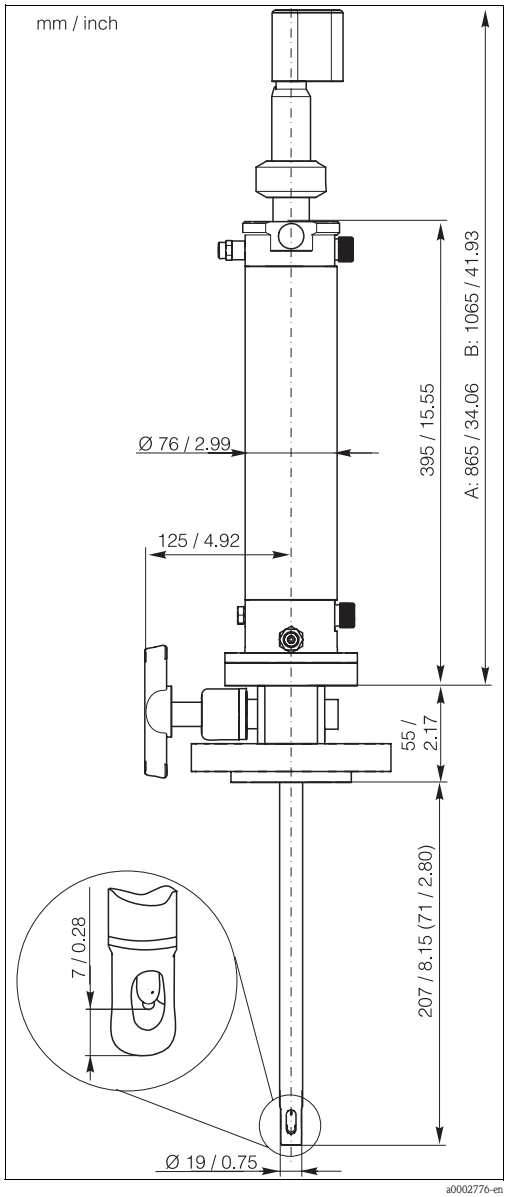


Fig. 12: Assembly version: manual, long, for gel sensors, flange

in brackets: short version

A Length when extended

B Required mounting clearance

Process connection

Fig. 13: Process connections CPA474 (dimensions in brackets: ANSI flange)

D Thread adapter nut DN 50 (for flow assembly CPA240, short version only!)

G/H Flange DN 50 / PN 16 and flange ANSI 2" / 150 lbs

Fitted sensors

Short version	pH glass electrodes, Gel 225 mm (8.9 inches)
	pH glass electrodes, KCl 425 mm (16.7 inches)
	pH ISFET sensors, Gel, 225 mm (8.9 inches)
	pH ISFET sensors, KCl, 425 mm (16.7 inches)
Long version	pH glass electrodes, Gel, 360 mm (14.2 inches)
	pH ISFET sensors, Gel, 360 mm (14.2 inches)

Weight

3 - 8 kg (6.6 - 17.6 lb), depending on the pressure cylinder material, the process connection, the drive and additional equipment, see product structure.

Materials

In contact with medium:

Seals	EPDM / FPM / perfluoroelastomer
Electrode holder	PP / PEEK / PVDF
Ball valve	PP / PVDF
Inlet safety seal	PVDF, PTFE, Viton®, Hastelloy C4
Outlet safety seal	PVDF
Rinse connection socket	PVDF

Not in contact with medium:

Pressure cylinder	PA / stainless steel 1.4404 (AISI 316 L)
Process flange[1]	stainless steel 1.4404 (AISI 316 L)
El. limit position switch	fore-part PBT, cable PVC

1) for "Heavy duty" assembly version

Rinse fittings

2 x G¼ (internal) or
2 x NPT ¼" (internal)

Limit position switches

Pneumatic: 3/2 way valve
Electric: inductive (NAMUR type)

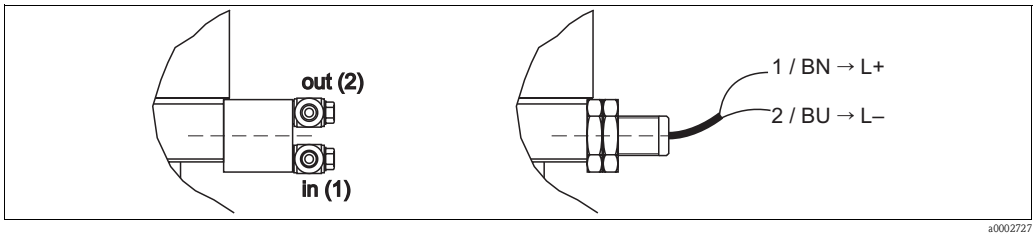


Fig. 14: Limit position switches, left: pneumatic (1 = compressed air inlet, 2 = compressed air outlet) right: electric (NAMUR)

Note!
The position of the input resp. the output may be different from the figure. Please, refer to the marks at the limit position switch: "1" is the input (in), "2" is the output (out).

Inlet and outlet safety seal

Optionally the assembly is supplied with a non-return valve on the inlet side of the rinse chamber (inlet safety seal) and an outlet valve (pneumatic outlet safety seal) resp. a ball valve (manual outlet safety seal, see product structure).

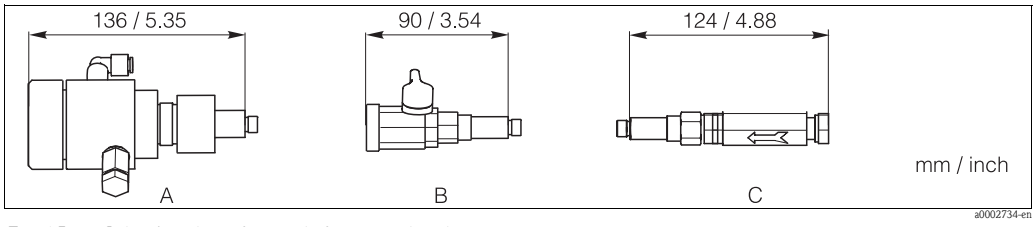


Fig. 15: Inlet / outlet safety seals for rinse chamber

A Pneumatic outlet safety seal
B Manual outlet safety seal
C Non-return valve (inlet safety seal)

Caution!
An outlet safety seal is definitely required if the rinse chamber does not remain sealed with the drain plug[a].

a) also applies in "Measure" position

Inlet safety seal (optional)

The non-return valve prevents medium from penetrating from the rinse chamber into the rinse water inlet.

Pneumatic outlet safety seal (optional)

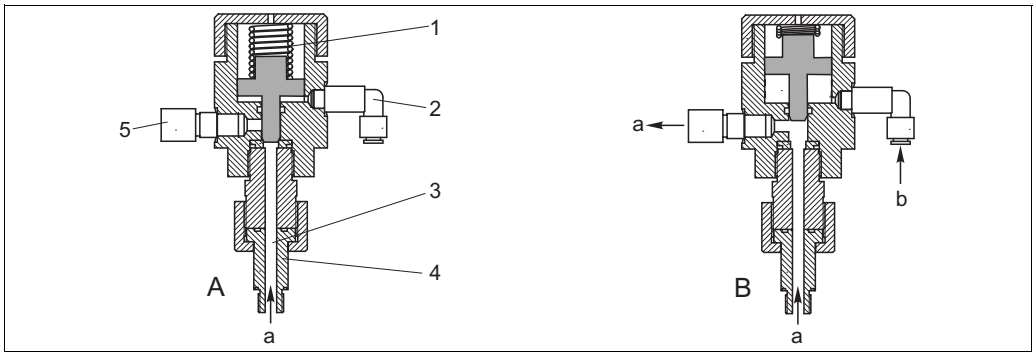


Fig. 16: Functional diagram of the pneumatic valve on the outlet side of the rinse chamber
A: Valve closed (no connection between rinse water and rinse chamber)
B: Valve open (rinse water can enter rinse chamber)

1 Compression spring
2 Compressed air input
3 Inlet from the rinse chamber outlet
4 Rinse connection socket
5 Rinse water outlet
a Rinse water
b Compressed air

Manual outlet safety seal (optional)

The manual safety seal is a ball valve made of PVDF. You have to drive it manually.

Scraper ring

Optionally, the assembly is supplied with a moulded seal on the process side of the ball valve. This seal has a scraper function.

This is especially recommended in the following cases:
- If the rinse chamber, otherwise open to the process, should be protected during operation.
- If material sticking to the electrode holder (caused by the medium)[a] should be scraped off when moving to service mode.

Caution!
The rinse chamber and the internal volume of the ball valve are always filled with medium. At least in the short period between opening the ball valve and moving the electrode holder out of the service position there is open contact to the medium.
In that period, the full process pressure acts on the rinse connections.

Certificates and approvals

Test reports

Test certificate 3.1B acc. to EN 10204 on demand.

Ordering information

Scope of delivery

The scope of delivery comprises:
- Cleanfit assembly (ordered version)
- Operating Instructions (English).

a) fibres, lime etc.

Product structure

Assembly drive, ball valve										
A	Assembly + ball valve: manual (convertable to pneumatic)									
B	Assembly: pneumatic, ball valve: manual, without limit position switches (retrofittable)									
C	Assembly: pneumatic, ball valve: manual, with pneumatic limit position switches									
D	Assembly: pneumatic, ball valve: manual, with electric limit position switches (Ex and Non-Ex)									
E	Assembly + ball valve: pneumatic, with pneumatic limit position switches									
F	Assembly + ball valve: pneumatic, with electric limit position switches (Ex and Non-Ex)									
Y	Special version acc. to customer specification									
	Assembly version									
	1	Standard version: max. 80 °C (176 °F), max. 6 bar (87 psi), with moulded seal (PA cylinder)								
	2	Heavy duty version: max. 130 °C (266 °F), max. 10 bar (145 psi), with moulded seal (SS cylinder)								
	3	Standard version: max. 80 °C (176 °F), max. 6 bar (87 psi), without moulded seal, i.e. the rinse chamber is **not** sealed off the medium! (PA cylinder)								
	4	Heavy duty version: max. 130 °C (266 °F), max. 10 bar (145 psi), without moulded seal, i.e. the rinse chamber is **not** sealed off the medium! (SS cylinder)								
	9	Special version acc. to customer specification								
		Electrode type								
		A	For gel electrodes and pH ISFET sensors with Pg 13.5							
		B	For liquid KCl electrodes and ISFET sensors with Pg 13.5 and hose connection head (type ESS)							
		Y	Special version acc. to customer specification							
			Immersion depth							
			1	Short version up to 71 mm (2.8 inches) with PA cylinder (possible sensor lengths: type A = 225 mm (8.9 inches), type B = 425 mm (16.7 inches)) Assembly versions 1 and 3 only!							
			2	Short version up to 71 mm (2.8 inches) with stainless steel 1.4404 (AISI 316L) cylinder (possible sensor lengths: type A = 225 mm (8.9 inches), type B = 425 mm (16.7 inches)) Assembly versions 2 and 4 only!							
			3	Long version up to 207 mm (8.15 inches) with PA cylinder (possible sensor lengths: type A = 360 mm (14.2 inches)) Assembly versions 1 and 3 only!							
			4	Long version up to 207 mm (8.15 inches) with stainless steel 1.4404 (AISI 316L) cylinder (possible sensor lengths: type A = 360 mm (14.2 inches)) Assembly versions 2 and 4 only!							
			9	Special version acc. to customer specification							
				Assembly material (in contact with medium)							
				A	Sensor holder: PP, ball valve: PP (max. 80°C (176 °F))						
				B	Sensor holder: PEEK, ball valve: PVDF (max. 130°C (266 °F))						
				C	Sensor holder: PVDF, ball valve: PVDF (max. 130°C (266 °F))						
				Y	Special version acc. to customers specification						
					Seal material (in contact with medium)						
					1	EPDM (for food applications preferred)					
					2	FPM (Viton®, for process applications preferred)					
					3	Perfluoroelastomer					
					9	Special version acc. to customer specification					
						Process connection					
						D	Thread adapter nut DN 50 (for flow assembly CPA240), immersion depth 1,2 only				
						G	Flange DN 50, PN 16				
						H	Flange ANSI 2", 150 lbs				
						Y	Special version acc. to customer specification				
							Optional equipment				
							3	With pneumatic inlet/outlet safety seal (2 x G ¼ internal thread /PVDF safety plug)			
							4	With pneumatic inlet/outlet safety seal (2 x NPT ¼" internal thread / PVDF safety plug)			
							5	With manual inlet/outlet safety seal (2 x G ¼ internal thread / PVDF safety plug)			
							6	With manual inlet/outlet safety seal (2 x NPT ¼" internal thread / PVDF safety plug)			
							7	With rinse connection sockets, 2 x G ¼ internal thread **(version 1, 2 only!)** (with PVDF safety plug)			
							8	With rinse connection sockets 2 x NPT ¼" internal thread **(version 1, 2 only!)** (with PVDF safety plug)			
							9	Special version acc. to customer specification			
CPA474-											complete order code

Accessories

Note!
In the following sections, you find the accessories available at the time of issue of this documentation.
For information on accessories that are not listed here, please contact your responsible service.

Water filter and pressure reducer

- Filter set CPC300
  Water filter (dirt trap) 100 µm, complete, incl. angle bracket;
  order no. 51511336
- Pressure reducer kit
  complete, incl. manometer and angle bracket;
  order no. 51505755

Rinse connection adapter

- Rinse connection adapter CPR40 for connecting 2 or 4 different media.
  Order acc. to product structure, see Technical Information (TI342C/07/en).

Flow assembly

- Flow vessel CPA240 (product structure, see below)
  see Technical Information (TI179C/07/en)

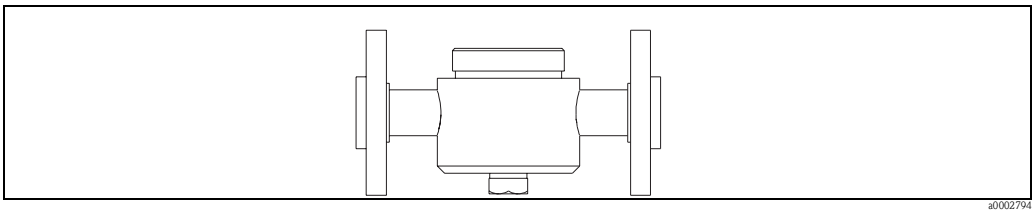


Fig. 17: Flow vessel CPA240 (horizontal flow version, with thread adapter nut DN 50)

	Material						
	20	PVDF (thread adapter nut DN 50) (flow vessel only for CPA474)					
		Flow direction					
		A	Vessel, horizontal flow				
		B	Vessel with inlet below				
			Process connection				
			A	Welding socket for DN 25 pipe connection			
			B	Flange DN 25 PN 16			
			C	Flange ANSI 1" 150 lbs			
			D	Flange JIS 10K 25A			
			E	Threaded connection NPT ½ internal thread			
				Seal material			
				1	EPDM		
				2	FPM (Viton®)		
				3	Chemraz		
					Additional equipment		
					10	Basic version	
					30	With test certificate 3.1B to EN 10204	
CPA240-							complete order code

Hose connections for rinse chamber

- Hose connection set,
  for Cleanfit assemblies, PVDF, G ¼, D12
  order no. 51511724
- Hose connection set,
  for Cleanfit assemblies, stainless steel 1.4404 (AISI 316L), NPT ¼", D12
  order no. 51511725
- Hose connection set,
  for Cleanfit assemblies, PVDF, NPT ¼", D12
  order no. 51511726
- Hose connection set,
  for Cleanfit assemblies, stainless steel 1.4404 (AISI 316L), NPT ¼", D16
  order no. 51511722
- Hose connection set,
  for Cleanfit assemblies, PVDF, NPT ¼", D16
  order no. 51511723
- Hose connection set,
  for Cleanfit assemblies, stainless steel 1.4404 (AISI 316L), G ¼, D16
  order no. 51511590
- Hose connection set,
  for Cleanfit assemblies, PVDF, G ¼, D16
  order no. 51511591

Limit position switches

- Set of pneumatic limit position switches (2 pieces);
  order no. 51502874
- Set of electric limit position switches, Ex and Non-Ex (2 pieces);
  order no. 51502873

Pneumatic throttle

- Pneumatic throttle for the reduction of the assembly moving speed,
  order no. 51511990

Inlet / outlet safety seal

- Pneumatic outlet safety seal for rinse chamber outlet:
  G ¼, order no. 51511929
  NPT ¼", order no. 51511934
- Manual outlet safety seal for rinse chamber outlet,
  G ¼, order no. 51511937
  NPT ¼", order no. 51511938
- Non-return valve (inlet safety seal) for rinse chamber inlet,
  G ¼, order no. 51511939
  NPT ¼", order no. 51511940

Sensors

Glass electrodes

- Orbisint CPS11/CPS11D
  pH electrode for process applications, with PTFE diaphragm, Memosens technology as option;
  Ordering acc. to product structure, see Technical Information (TI028/C07/en)
- Orbisint CPS12
  ORP electrode for process applications, with PTFE diaphragm;
  Ordering acc. to product structure, see Technical Information (TI367/C07/en)
- Ceraliquid CPS41
  pH electrode with ceramics diaphragm and KCl liquid electrolyte;
  Ordering acc. to product structure, see Technical Information (TI079/C07/en)
- Ceraliquid CPS42
  ORP electrode with ceramics diaphragm and KCl liquid electrolyte;
  Ordering acc. to product structure, see Technical Information (TI079/C07/en)
- Ceragel CPS71/CPS71D
  pH electrode with double chamber reference system and integrated bridge electrolyte,
  Memosens technology as option;
  Ordering acc. to product structure, see Technical Information (TI245/C07/en)
- Ceragel CPS72
  ORP electrode with double chamber reference system and integrated bridge electrolyte;
  Ordering acc. to product structure, see Technical Information (TI374/C07/en)
- Orbipore CPS91/CPS91D
  pH electrode with open aperture for media with high dirt load, Memosens technology as option;
  Ordering acc. to product structure, see Technical Information (TI375C/07/en)

ISFET sensors

- Tophit CPS471
  Sterilisable and autoclavable ISFET sensor for food and pharmaceuticals, process technology, water treatment and biotechnology;
  Ordering acc. to product structure, see Technical Information (TI283/C07/en)
- Tophit CPS441
  Sterilisable ISFET sensor for media with low conductivity, with liquid KCl electrolyte;
  Ordering acc. to product structure, see Technical Information (TI352/C07/en)
- Tophit CPS491
  ISFET sensor with open aperture for media with high dirt load;
  Ordering acc. to product structure, see Technical Information (TI377/C07/en)

Buffer solutions

pH

Technical buffer solutions, accuracy 0.02 pH, acc. to NIST/DIN
- pH 4.0 red, 100 ml (0.026 US gal.), order no. CPY 2-0
- pH 4.0 red, 1000 ml (0.264 US gal.), order no. CPY 2-1
- pH 7.0 green, 100 ml (0.026 US gal.), order no. CPY 2-2
- pH 7.0 green, 1000 ml (0.264 US gal.), order no. CPY 2-3

Technical buffer solutions for single use, accuracy 0.02 pH, acc. to NIST/DIN
- pH 4.0 20 x 20 ml (0.005 US gal.), order no. CPY 2-D
- pH 7.0 20 x 20 ml (0.005 US gal.), order no. CPY 2-E

ORP

Technical buffer solutions for redox electrodes
- +225 mV, pH 7, 100 ml (0.026 US gal.); order no. CPY 3-0
- +468 mV, pH 0, 100 ml (0.026 US gal.); order no. CPY 3-1

Cables

- CPK9 special measuring cable
  For sensors with TOP68 plug-in head, for high-temperature and high-pressure applications, IP 68
  Ordering acc. to product structure, see Technical Information (TI118C/07/en)
- CPK1 special measuring cable
  For pH/redox electrodes with GSA plug-in head
  Ordering acc. to product structure, see Technical Information (TI118C/07/en)
- CPK12 special measuring cable
  For pH/redox glass electrodes and ISFET sensors with TOP68 plug-in head
  Ordering acc. to product structure, see Technical Information (TI118C/07/en)
- CYK10 Memosens data cable
  For digital pH sensors with Memosens technology (CPSxxD)
  Ordering according to product structure, see Technical Information (TI376C/07/en)

Transmitters

- Liquisys M CPM223/253
  Transmitter for pH and ORP, field or panel-mounted housing,
  Hart® or PROFIBUS available,
  Ordering acc. to product structure, see Technical Information (TI194C/07/en)
- Mycom S CPM153
  Transmitter for pH and ORP, one or two channel version, Ex or Non-Ex,
  Hart® or PROFIBUS available,
  Ordering acc. to product structure, see Technical Information (TI233C/07/en)

Measuring, cleaning and calibration systems

- Topcal S CPC300
  Fully automatic measuring, cleaning and calibration system; Ex or Non-Ex,
  in-situ cleaning and calibration, automatic sensor monitoring
  Ordering acc. to product structure, see Technical Information (TI236C/07/en)
- Topclean S CPC30
  Fully automatic measuring and cleaning system; Ex or Non-Ex,
  in-situ cleaning, automatic sensor monitoring
  Ordering acc. to product structure, see Technical Information (TI235C/07/en)

International Head Quarters

Endress+Hauser
GmbH+Co. KG
Instruments International
Colmarer Str. 6
79576 Weil am Rhein
Deutschland

Tel. +49 76 21 9 75 02
Fax +49 76 21 9 75 34 5
www.endress.com
info@ii.endress.com

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People for Process Automation