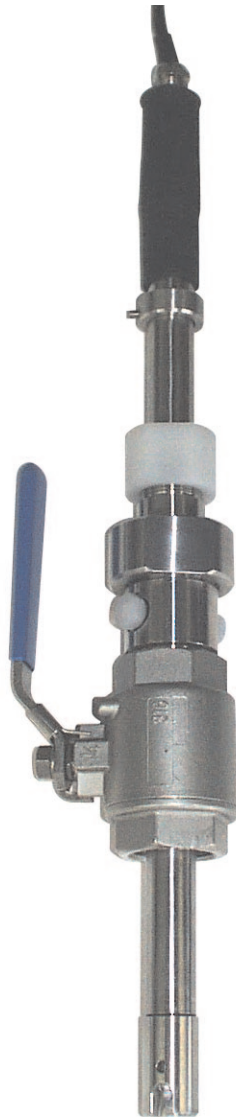


Retractable Process Assembly for pH/Redox Measurement *OPA 450*

Manually operated Retractable Assembly for Installation of pH/Redox Electrodes in Tanks or Pipelines



pH/redox measurement requires regular electrode cleaning or calibration. The OPA 450 assembly, developed specifically for this purpose, permits simple and safe electrode installation and removal or maintenance under process conditions.

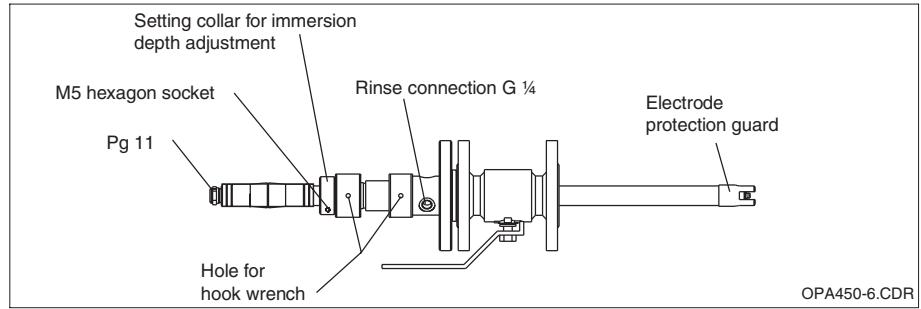
Areas of application

- pH/redox measurement in the chemical industry
- Tanks and process vessels
- Pipelines
- Fibrous media or media that form coats
- Power stations

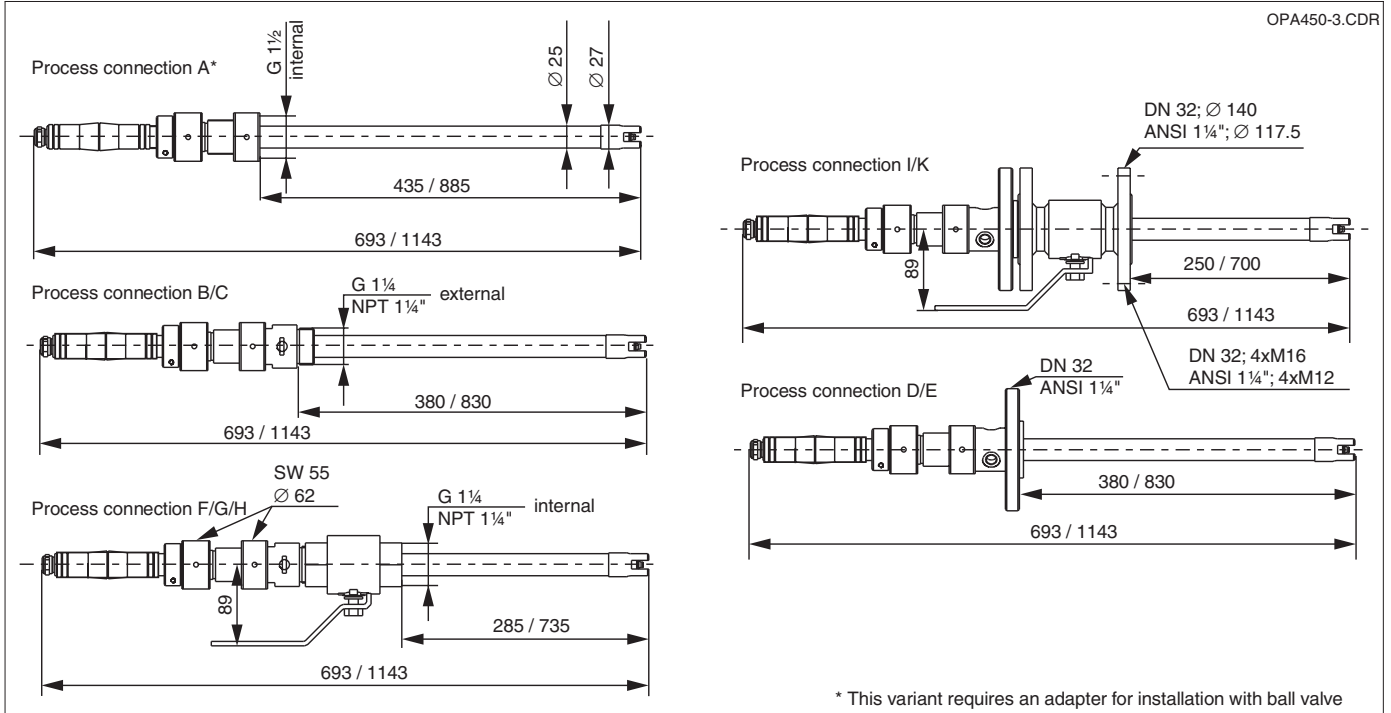
Benefits at a glance

- Simple removal and installation of pH/redox electrode under process conditions
- Cleaning and calibration of pH/redox electrode without process interruption
- Process is sealed off reliably by ball valve made of stainless steel
- Use of standard gel electrodes with or without integrated Pt 100 with a length of 120 mm
- Use of standard pH cables
- Variable immersion depth up to 700 mm
- Integrated rinse and calibration connections
- Damped sensor movement into and out of process
- Integrated potential matching
- Material: stainless steel 316S

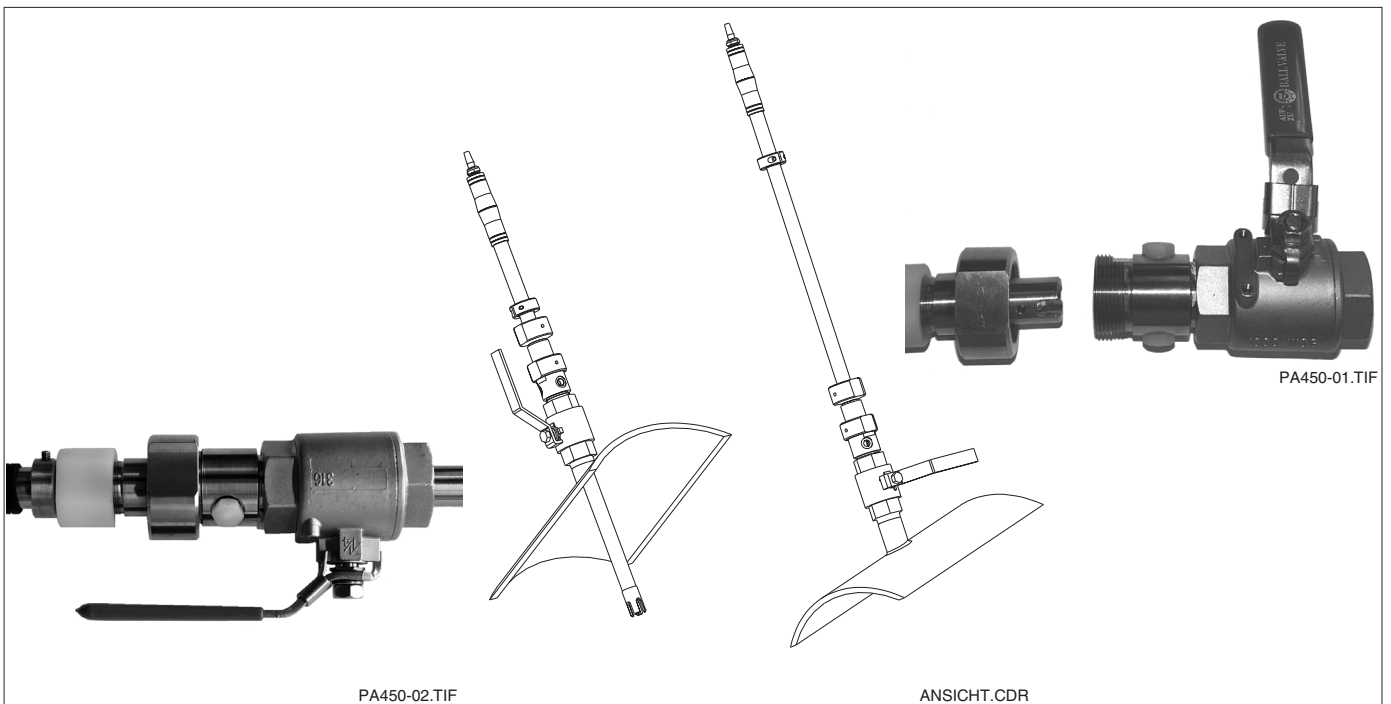
Dimensions and process connections



Design of OPA 450 assembly

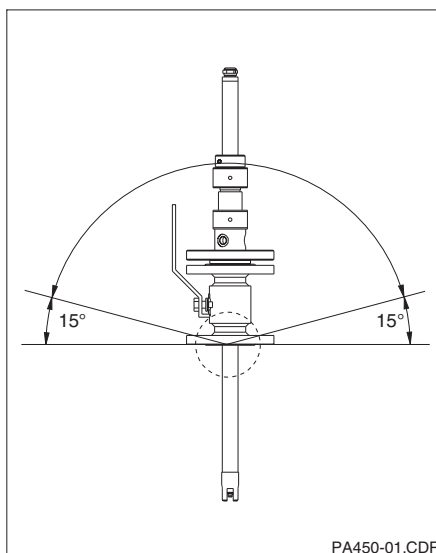


Dimensions of the various versions (assembly moved into process, dimensions of different length variants are indicated).
 Observe required mounting clearance of min. 700 / 1200 mm.



Two different views of OPA 450 assembly:
 assembly moved in, ball valve open (left); assembly removed, ball valve closed (right)

Installation



The OPA 450 assembly should preferably be installed upright. Inclinations of up to 15° from the horizontal are permissible.

Permissible assembly installation angle range

Technical data

General specifications

Designation	OPA 450
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Installation

Immersion depth	250 mm, 700 mm
No. of electrode positions in sensor holder	1 mounting position for combination gel electrode with ESA, GSA or HDA plug-in head
Cable gland	Pg 11

Process connection

A	G 1½ internal thread (without adapter)
B	G 1¼ external thread
C	NPT 1¼" external thread
F, G	G 1¼ internal thread
H	NPT 1¼" internal thread
D, I	DN 32, PN 16 flange
E, K	1¼" ANSI flange
Flush connection	G ¼

Weight

Without ball valve	2.0 kg
With threaded ball valve	5.0 kg
With flanged ball valve	10.0 kg

Materials in contact with medium

Immersion tube	stainless steel 316S
Rinse adapter plugs	PVDF
O-Rings	EPDM / Viton
Ball valve	stainless steel 316C
Ball valve sealings	PTFE

Materials not in contact with medium

Inner tube, lock ring	stainless steel 304S
Screws	stainless steel 316S
Union nut	PA66GF
Clamping ring	PEEK
Distance sleeve	PVDF
Handle	PVC
Cable gland	Brass

Pressure/temperature

Operating pressure	max. 4 bar
Max. pressure limits	20 bar at 20 °C, 5 bar at 130 °C
Temperature range	-15 to +130 °C

Subject to modifications.

Product structure

Retractable assembly OPA 450						
	<p>Immersion depth</p> <p>1 250 mm (10 inch)</p> <p>2 700 mm (28 inch)</p> <p>Process connection</p> <p>A G 1½ internal thread (without adapter)</p> <p>B Adapter SS 316S with G 1¼ external thread</p> <p>C Adapter SS 316S with 1¼" NPT external thread</p> <p>D Adapter with DN32, PN16 flange</p> <p>E Adapter with ANSI 1¼" flange, 150 lbs</p> <p>F Ball valve SS 316C with G1¼ internal thread</p> <p>G Ball valve SS 316S with G1¼ internal thread</p> <p>H Ball valve SS 316C with 1¼" NPT internal thread</p> <p>I Ball valve SS 316C with DN32, PN16 flange</p> <p>K Ball valve SS 316C with ANSI 1 ¼" flange</p> <p>Sealing material</p> <p>1 Sealing material: EPDM</p> <p>2 Sealing material: Viton</p> <p>Equipment</p> <p>10 Basic version</p> <p>20 Assembly desiliconised, Pg 13.5</p> <p>30 Certificate 3.1.B acc. to EN 10204 (not for process connections F, H, I, K)</p>					
OPA 450-	<table border="1"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>complete order code</p>					

Special versions

- OPA 450, 28" Immersion, Titan, Viton, MNPT 1½", order no. 51507349
- OPA 450, 28" Immersion, Titan, Viton, ANSI 2", order no. 51507350
- OPA 450, 28" Immersion, Hastelloy, Viton, MNPT 1½", order no. 51507351
- OPA 450, 28" Immersion, Hastelloy, Viton, ANSI 2", order no. 51507352

Accessories and spare parts

- Hose connection set (2 pcs.)
12 mm hose connection for rinse connection on OPA 450
Order no. 50090491
- Welding neck 320S G 1¼ straight for process connection F and G
Order no. 51502284
- EPDM sealing set for OPA 450
Order no. 50090489
- Viton sealing set for OPA 450
Order no. 50090490
- Gel-filled pH combination electrode e.g. OPS 11 with internal temperature sensor
Order no. OPS 11-2AA2GSA
- Gel-filled Redox combination electrodes, e.g. OPS 12 with gold electrode
Order no. OPS12-ONA2 GSA
- Measuring cables for electrodes e.g. OPK 9 (for electrodes with temperature sensor and waterproof TOP 68 connector)
Order no. OPK9-NAA1A (5 m)
- Hook wrench DIN 1810 design B, Ø 58-62, Order no. 50090687
- PMC mounting set
Order no. 51501551
- Protection cage with EPDM O-rings
Order no. 51501533
- Protection cage with Viton O-rings
Order no. 51501534