pH ELECTRODES

Data Sheet

R2-04-22

FEATURES

EMEC pH electrodes assures long-time stability and accuracy.
pH easy-maintenance electrodes provides accurate reading value and fast response, performances required for the most accurate measurements.

Single and double junction models are available. pH electrodes double junction models only are suitable for sea-water. Double junction system offers better electrode protection and guarantees a longer service life. Choose double junction models if you are working with materials like *sulphide*, *sulfur* and *silver*.

DURABILITY

Electrode's lifetime is affected by the working conditions: such as temperature, solution type (acid or alkaline). Usually working at room temperature with a weak solution the electrode's lifetime is around 2 years. Increasing temperature drastically changes the lifetime. Electrodes get old quickly while stocked.

CALIBRATION

Wash the electrode and dry it without wipes, just shaking it. Don't wipe or brush, this would create electrostatic charges that can influence the reading of the electrode. Follow the controller's electrode calibration procedure, always use new buffer solutions.

MAITENANCE

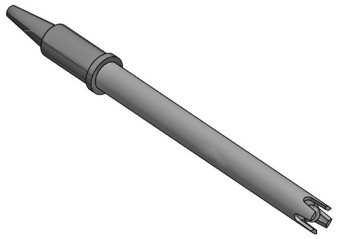
When the reading of the electrode is slow or unstable it may be because it's dirty, cleaning is needed at fixed intervals to remove the dust. Remove the electrode from the system, wash it with clean fresh water and then dip it in to an acid solution of HCl (max 10%) for five minute . Abundantly rinse it with fresh water and perform a new calibration.

STOCKING

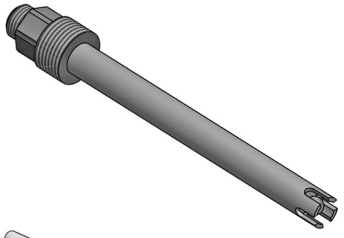
Always keep the electrodes in the original stocking bottles, the liquid inside is a transparent KCl at pH4. Never leave the electrodes dry, keep it in water for short time stocking.

The section below shows the electrode's differences so that you can select the electrode that best fit in your application

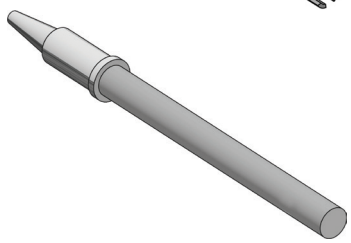
EPHS
EPHM
EPHL
EPHMD
EPHMD/100
EPHM/HF
EPHL/HF



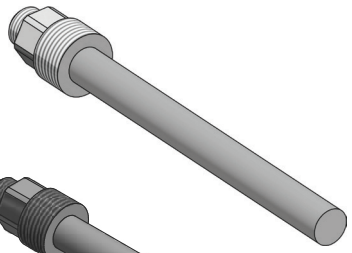
EPHSN6
EPHHF/SN6



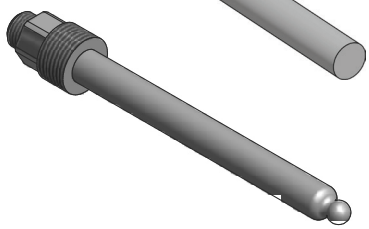
EPHSC



EPHSC/SN6



EPHSN6GK



MODELS	Electrode	Range	Pressure/ Temperature	Connection	Cable	Body	Min conductivity
EPHS	combined	0 / 14 pH	7 bar / 70°C (3,5 bar / 80°C)	BNC	1,5 m	Ø 12 Plastic	100 µS
EPHM	combined	0 / 14 pH	7 bar / 70°C (3,5 bar / 80°C)	BNC	5 m	Ø 12 Plastic	100 µS
EPHL	combined	0 / 14 pH	7 bar / 70°C (3,5 bar / 80°C)	BNC	15 m	Ø 12 Plastic	100 µS
EPHSN6	combined	0 / 14 pH	7 bar / 70°C (3,5 bar / 80°C)	SN6 / PG13,5 threading	-	Ø 12 Epoxy	100 µS
EPHMD/100	double junction - combined	0 / 14 pH	7 bar / 100°C	BNC	5 m	Ø 12 Epoxy	100 µS
EPHM/D	double junction - combined	0 / 14 pH	7 bar / 70°C (3,5 bar / 80°C)	BNC	5 m	Ø 12 Epoxy	100 µS
EPHM/D/SN6	double junction - combined	0 / 14 pH	7 bar / 70°C (3,5 bar / 80°C)	SN6 / PG13,5 threading	-	Ø 12 Epoxy	100 µS
EPHMD/LI	double junction - combined for Low Ionic application (low conductivity)	0 / 14 pH	7 bar / 70°C (3,5 bar / 80°C)	BNC	5 m	Ø 12 Epoxy	3 µS
EPHSC	double junction - combined - self-cleaning	0 / 14 pH	7 bar / 70°C (3,5 bar / 80°C)	BNC	5 m	Ø 12 Epoxy	100 µS
EPHSC/SN6	double junction - combined - self-cleaning	0 / 14 pH	7 bar / 70°C (3,5 bar / 80°C)	SN6 / PG13,5 threading	-	Ø 12 Epoxy	100 µS
EPHM/HF	double junction - combined - fluoridric acid resistant (1%)	0 / 14 pH	7 bar / 70°C (3,5 bar / 80°C)	BNC	5 m	Ø 12 Epoxy	100 µS
EPHSN6 GK	High temperature (-5/135°C)	0 / 14 pH	10 bar/20°C	SN6 / PG13,5 threading	-	Glass	150 µS
EPHHF/SN6	double junction - combined - fluoridric acid resistant (1%)	0 / 14 pH	7 bar / 70°C (3,5 bar / 80°C)	SN6 / PG13,5 threading	5 m	Ø 12 Epoxy	100 µS

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ISO 9001:2015 No.07728/0
ISO 14001:2015 No.00997/0
ISO 45001:2018 No.01121/0

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EPHM
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EPHMD/100
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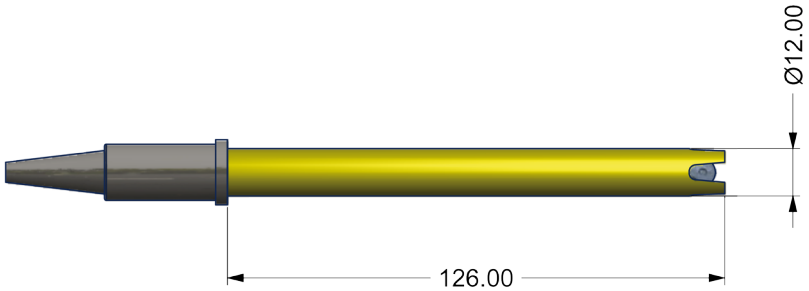
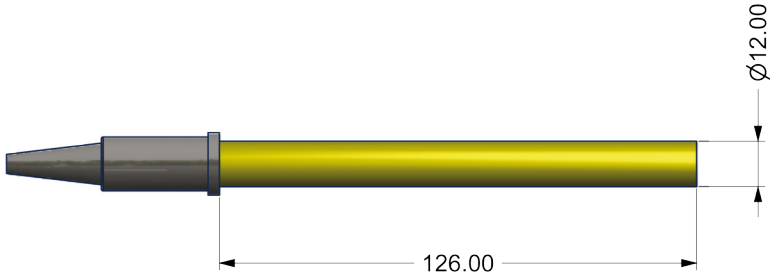
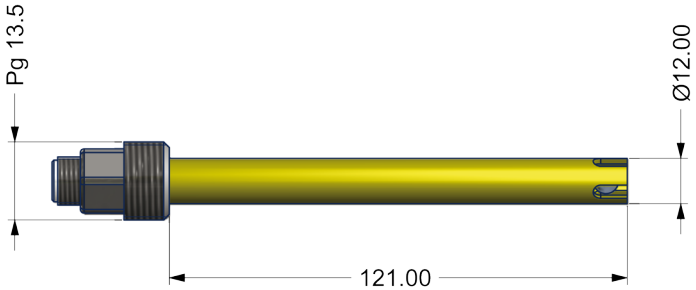
EPHL/HF



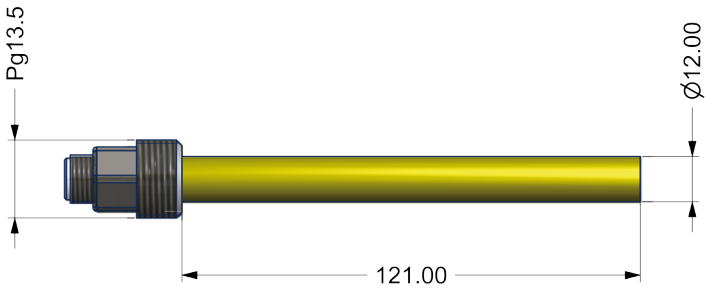
EPHSC



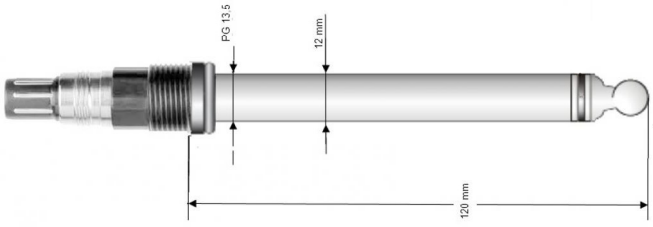
EPHSN6
EPHHF/SN6



EPHSC/SN6



EPHSN6 GK



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ACCESSORIES

For updated list of accessories refer to technical datasheet.

ASSEMBLIES

- PEF1 off-line probe holder
  For pH, ORP, chlorine amperometric cells and temperature electrodes. Flow level control and proximity switch (mod. SEPR). Max 50°C. Fittings 6x8.
- PEF5 off-line probe holder
  For pH, ORP (PG13,5 thread), chlorine amperometric cells and temperature electrodes. Flow level control and proximity switch (mod. SEPR). Max 50°C. Fittings 6x8.
- PEF2 off-line probe holder
  For pH, ORP, chlorine open amperometric cells and temperature electrodes. Flow level control and proximity switch (mod. SEPR). Max 50°C. Fittings 6x8.
- PEF3 off-line probe holder
  For pH, ORP (PG13,5 thread) chlorine open amperometric cells and temperature electrodes. Flow level control and proximity switch (mod. SEPR). Max 50°C. Fittings 6x8.
- PEF22 and PEF23R off-line probe holder
- NPED1 off-line probe holder
  For Ø12 electrodes, with PG13,5 thread. Max 50° C, 5bar. Fittings 6x8.
- NPED2 off-line probe holder
  For two electrodes, epoxy Ø12. Max 50° C, 5bar. Fittings 6x8.
- NPED3 off-line probe holder
  For pH and ORP Ø12 electrodes and conductivity probes with 3/4"threading. Max 50° C, 5bar. Fittings 6x8.
- NPED4 off-line probe holder
  For two EPH, ERH electrodes, epoxy Ø12. Max 50° C, 5bar, flow sensor with N.O. contact. Fittings 6x8.
- NPED4/2F Two wires version for instruments with N.C. contact.
- NPED4-3/4 off-line probe holder
  For two EPH, ERH electrodes, 3/4" threading, epoxy body Ø12. Max 50° C, 5bar, flow sensor with N.O. contact.Fittings 6x8.
- PEA in-line probe holder
  For pH and ORP electrodes, Ø12. 1/2" connection, max 65°C. PVDF body.
- PEB in-line probe holder
  For pH and ORP electrodes, Ø12. 3/4" connection, max 65°C.
- PEL PVDF in-line probe holder for "T" connection.
  For pH and ORP electrodes with 1/2" or 3/4" thread. Max 90°C, 7 bar (130°C, 3 bar).
- PELC PVDF in-line probe holder for saddle connection
  For pH and ORP electrodes with 1/2" or 3/4" thread. Max 90°C, 7 bar (130°C, 3 bar).
- PEC PVC Immersion probe holder
  For pH and ORP electrodes, Ø12. Length 100 cm.
- PEC/SN6 PVC Immersion probe holder
  For pH and ORP electrodes, with PG13,5 thread. Length 100 cm.
- GHIERA PG13,5 threading nut with o-ring

BUFFER SOLUTIONS

Technical buffer solutions for pH electrodes:

- BSA: pH 4, 50ml.
- BSB: pH 7, 50ml.
- BSC: pH 9, 50ml.

AMPLIFIER

For cables lenght greater than standard values an ADI amplifier is suggested to maintain a realiable signal between probe and controller.

- ADI1 PH: Amplifier for pH electrodes with gal anic isolation. Max distance 150m. 1 channel.
- ADI2: Amplifier for pH electrodes with gal anic isolation. Max distance 150m. 2 channels.

CABLES

- CASN6S: Cable BNC/SN6 for probe EPHSN6. Length 5mt.
- CASN6M: Cable BNC/SN6 for probe EPHSN6. Length 10mt.
- CASN6L: Cable BNC/SN6 for probe EPHSN6. Length 15mt.

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