

Flat surface, self-cleaning pH and ORP Electrodes

FACE

Type:
 PH660 CD,
 PH660 CD HF,
 PH650 CD,
 PH650 CD HF,
 PH655 CD,
 ORP660 CD,
 ORP650 CD,
 ORP655 CD



This is the rugged version of the traditional flat electrodes with an improved self-cleaning effect. Installation and maintenance are easy due to the quick disconnect BNC connectors. Built into the electrode's body is a sealed, gel-filled double junction reference design. This design provides an extra barrier against reference side contamination and allows the electrodes to be used in severe applications prolonging electrode life. The pH-responsive flat glass surface is placed in the center of the measuring surface and surrounded by the flat porous plastic reference junction providing an excellent sample contact. A wide range of installation accessories allows in line, submersion or hot tap installation.

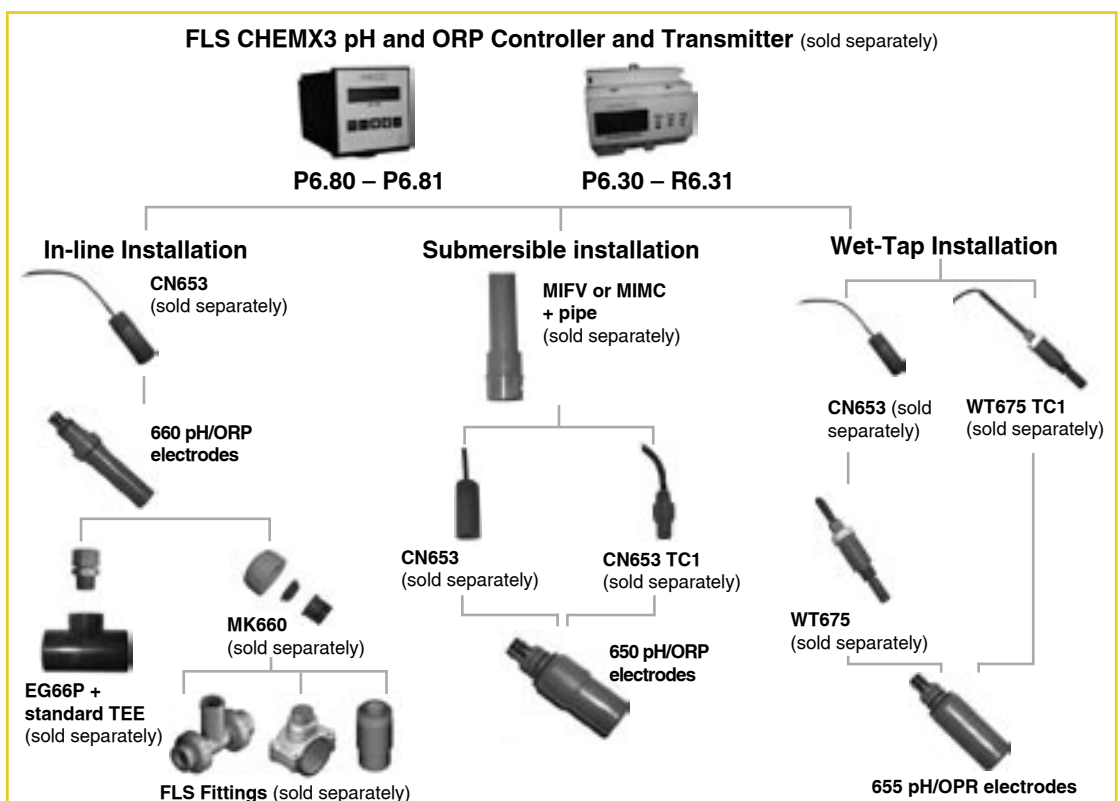
Main Features

- pH and ORP versions.
- Flat electrodes.
- Double junction technology.
- Large gel reference volume.
- High protection from process contamination.
- Easy and quick installation system.
- BNC connector.
- In line, submersion or hot tap installation.
- HF option (pH) for liquids with HF (max. 2%) inside.
- DI option (pH) on request for pure water (<100uS).
- Low cost fittings.

Applications



- Water & Wastewater treatment.
- Pre-chlorination & de-chlorination.
- Neutralization systems.
- Water quality monitoring.
- Ozone treatment.
- Cooling towers.
- Boiler systems.
- Bleach production.
- Pulp bleaching.
- Aquaculture.
- Fruit and vegetables washing.
- Textile Dye Process.

System Overview





PHAMP1 Battery Powered Amplifier may be required for electrode-monitor connections longer than 10 mt. (33 ft.).

Cable Assembly

Cable	Part No.	Description	For Electrodes	Cable Length
	CN653	Quarter-turn, quick disconnect, universal cable assembly for in-line or submersible installation	All *	5 mt. (16.5 ft.)
	CN653 TC1	Quarter-turn, quick disconnect, submersible cable assembly with TEMPERATURE COMPENSATION (PT 100)	PH650, ORP650	5 mt. (16.5 ft.)

* Excluded PH655 CD when used together with WT675 TC1

Temperature Sensors

Sensor	Part No.	Description	Operating Range	Accuracy	Cable Length
	T970278	Epoxy body PT100 Temperature Sensor for easy In-line and submersible installation	0 to 100°C	±0.3°C @ 0°C ±0.8°C @ 100°C	5 mt. (16.5 ft.)
	T971554	1/4" threaded PT100 Temperature Sensor for In-line installation on FLS Tee-Fittings	0 to 100°C	±0.3°C @ 0°C ±0.8°C @ 100°C	5 mt. (16.5 ft.)

Technical Data

General

- Operating Range:
 - PH660 CD, PH660 CD HF, PH650 CD, PH650 CD HF, PH655 CD: 0 - 14 pH (0 - 12.3 pH without Na+ error)
 - ORP660 CD, ORP650 CD, ORP655 CD: ± 2000 mV.
- Pipe Size Range: DN15 to DN100 (0.5" to 4").
- Zero voltage point (new electrode): 7.00pH ± 0.2pH.
- Span (new electrode): within 2% of theoretical (0.02 pH/pH unit).
- Speed of response (new electrode): 95% in 5 seconds.
- Reference
 - Type: sealed double junction
 - Electrolyte : Solidified Gel 3.5M KCl (0.1M KCl for DI electrodes)
 - Secondary junction: Nylon filament
 - Wire: Ag/AgCl.
- Process Connection:
 - In-line installation:
 - threaded nipple 3/4"
 - FLS installation fittings
 - Submersible installation
 - Wet-Tap installation.

Please refer to Accessories and Fittings for more details and a complete list of items.

- Working Temperature/Pressure Range:
 - 0°C to 75°C (32°F to 167°F) @ 7,0 bar (100 psi)
 - 0°C to 50°C (32°F to 106°F) @ 7,0 bar (100 psi) for HF electrodes
 - 0°C to 81°C (32°F to 178°F) @ 6,0 bar (85 psi)
 - 0°C to 100°C (32°F to 212°F) @ 3,5 bar (50 psi).
- Wetted materials:
 - Body: CPVC (PVDF only on request)
 - Reference Junction: porous HDPE
 - Sensing surface:
 - glass membrane (pH)
 - platinum sealed in glass(ORP)
 - O-ring: FPM (Viton).

Standards & Approvals

- Manufactured under ISO 9001 (Quality).
- CE.



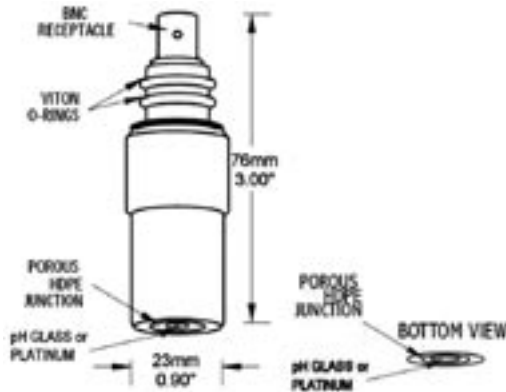
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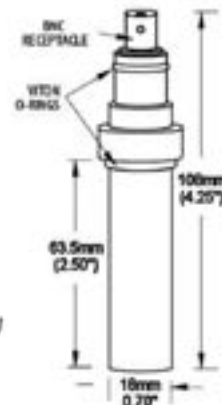
FLAT SURFACE

Dimensions

**Submersible PH650 CD,
PH650 CD HF, ORP650 CD**



**In-line PH660 CD,
PH660 CD HF, ORP660 CD**



**Insertion/wet-tap
PH655 CD ,ORP655 CD**



Ordering Data

CHEMX3 pH and ORP Flat Surface, Self Cleaning Electrodes

In Line				
Part No.	Description	Cable Assembly	Connection	Weight (gr.)
PH660 CD	C-PVC Double Junction pH Combination Flat surface Electrode	Required	Twist-Lock (BNC)	100
PH660 CD HF	C-PVC Double Junction pH Combination Electrode for HF (Hydrofluoric Acid)	Required	Twist-Lock (BNC)	100
ORP660 CD	C-PVC Double Junction REDOX Combination Flat surface Electrode	Required	Twist-Lock (BNC)	100
Submersible				
Part No.	Description	Cable Assembly	Connection	Weight (gr.)
PH650 CD	C-PVC Double Junction pH Combination Flat surface Electrode	Required	Twist-Lock (BNC)	100
PH650 CD HF	C-PVC Double Junction pH Combination Electrode for HF (Hydrofluoric Acid)	Required	Twist-Lock (BNC)	100
ORP650 CD	C-PVC Double Junction REDOX Combination Flat surface Electrode	Required	Twist-Lock (BNC)	100
Insertion / Wet-Tap				
Part No.	Description	Cable Assembly	Connection	Weight (gr.)
PH655 CD	C-PVC Double Junction pH Combination Flat surface Electrode	Required	Twist-Lock (BNC)	100
ORP655 CD	C-PVC Double Junction REDOX Combination Flat surface Electrode	Required	Twist-Lock (BNC)	100

Cable Assembly

Part No.	Description	For Electrodes	Cable Length	Weight (gr.)
CN653	Universal cable assembly	All *	5 mt. (16.5 ft.)	300
CN653 TC1	Submersible cable assembly with TEMPERATURE COMPENSATION (PT 100)	PH650 CD PH650 CD HF	5 mt. (16.5 ft.)	350

* Excluded PH655 CD when used together with WT675 TC1.

Temperature Sensors

Part No.	Description	Cable Length	Weight (gr.)
T970278	Epoxy body PT100 Temperature Sensor	5 mt. (16.5 ft.)	200
T971554	1/4" threaded PT100 Temperature Sensor	5 mt. (16.5 ft.)	200