

FLS pH/ORP 600

C-PVC BODY FLAT SURFACE ELECTRODE



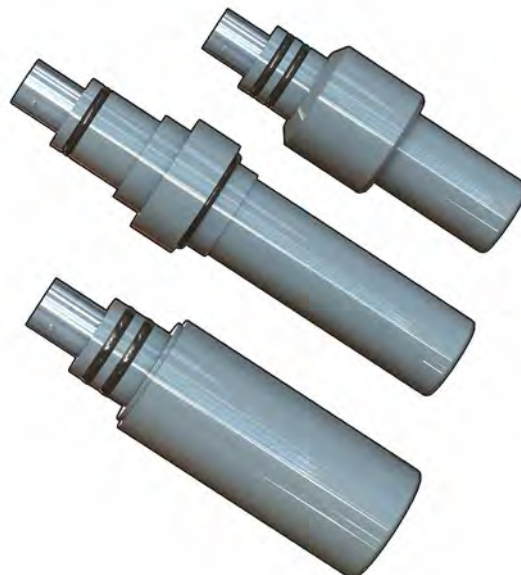
This is the rugged version of the traditional flat electrodes with an improved self-cleaning effect. Installation and maintenance are easy due to the quick disconnect BNC connectors. Built into the electrode's body is a sealed, gel-filled double junction reference design. This design provides an extra 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. Version with amplified signal for long distance connection and metal pin to ground liquid. A wide range of installation accessories allows in line, submersion or hot tap installation.

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

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
- Low cost fittings
- HF option (pH) for liquids with HF (max. 2%) inside
- LC option (pH) on request for pure water (<100 $\mu\text{S}/\text{cm}$)
- DA option for presence of stray currents or for long distance due to signal amplification



TECHNICAL DATA

General

- Operating Range:
 - pH Electrodes: 0 - 14 pH (0 - 12.3 pH without Na+ error)
 - ORP Electrodes: ± 2000 mV
- Pipe Size Range: DN15 to DN100 (0.5" to 4")
- Zero voltage point new electrode performances: 7.00pH \pm 0.2pH
- Efficiency new electrode performances: > 97% @ 25°C (77°F)
- Response time new electrode performances:
 - pH: < 6 sec for 95% of signal change
 - ORP: application dependent
- Reference
 - type: sealed double junction
 - electrolyte: Solidified Gel 3.5M KCl 0.1M KCl for LC electrode version / solidified gel KCl 3.5M
 - secondary junction: Nylon filament
 - wire: Ag/AgCl.
- Process Connection:
 - In-line installation: threaded nipple $\frac{1}{2}$ ", $\frac{3}{4}$ "
 - FLS installation fittings
 - submersible installation
 - hot-tap installation

- Max Working pressure/ working temperature:
 - 6,7bar@75°C (100psi@170°F)
 - 5,7bar@81°C (85psi@180°F)
- Wetted materials:
 - body: C-PVC (PVDF only on request)
 - reference Junction: porous HDPE
 - sensing surface: glass membrane (pH), platinum sealed in glass (ORP)
 - O-ring: FPM (Viton)

Standards & Approvals

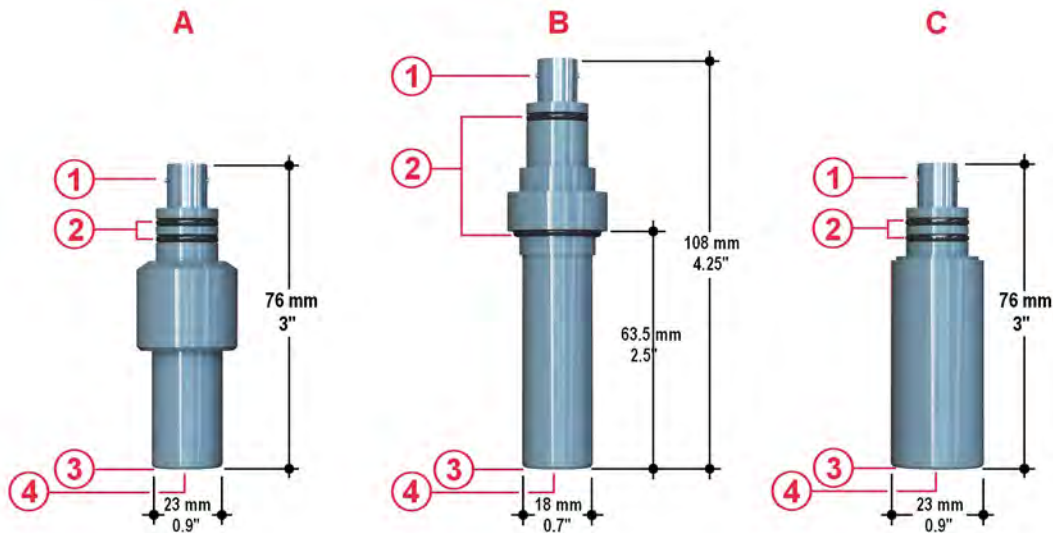
- Manufactured under ISO 9001
- Manufactured under ISO 14001
- CE
- EAC

Specific for pH-ORP.600							
Model	Body	Junction material/type	Reference solution	Sensing surface	O-ring	Connection	Max working pressure @ working temperature
PH660CD	C-PVC	HDPE porous/ D.J.	3,5M KCl	flat glass membrane	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
ORP660CD	C-PVC	HDPE porous/ D.J.	3,5M KCl	platinum	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
PH650CD	C-PVC	HDPE porous/ D.J.	3,5M KCl	flat glass membrane	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
ORP650CD	C-PVC	HDPE porous/ D.J.	3,5M KCl	platinum	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
PH655CD	C-PVC	HDPE porous/ D.J.	3,5M KCl	flat glass membrane	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
ORP655CD	C-PVC	HDPE porous/ D.J.	3,5M KCl	platinum	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)

Specific for pH-ORP.600

Model	Body	Junction material/type	Reference solution	Sensing surface	O-ring	Connection	Max working pressure @ working temperature
PH660CDHF	C-PVC	HDPE porous/ D.J.	3,5M KCl	flat glass membrane	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
PH650CDHF	C-PVC	HDPE porous/ D.J.	3,5M KCl	flat glass membrane	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
PH655CDHF	C-PVC	HDPE porous/ D.J.	3,5M KCl	flat glass membrane	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
PH660CDDA	C-PVC	HDPE porous/ D.J.	3,5M KCl	flat glass membrane	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
ORP660CDDA	C-PVC	HDPE porous/ D.J.	3,5M KCl	platinum	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
PH650CDDA	C-PVC	HDPE porous/ D.J.	3,5M KCl	flat glass membrane	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
ORP650CDDA	C-PVC	HDPE porous/ D.J.	3,5M KCl	platinum	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
PH660CDLC	C-PVC	HDPE porous/ D.J.	0,1M KCl	flat glass membrane	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
PH650CDLC	C-PVC	HDPE porous/ D.J.	0,1M KCl	flat glass membrane	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)
PH655CDLC	C-PVC	HDPE porous/ D.J.	0,1M KCl	flat glass membrane	FPM	Twist-Lock (BNC)	6,7bar@75°C (100psi@170°F)

DIMENSIONS



A Submersible PH650, ORP650
 B In-line PH660, ORP660
 C Insertion/Hot-tap PH655, ORP655

1 BNC receptacle
 2 Viton O-rings
 3 Porous HDPE junction
 4 pH glass or platinum

ORDERING DATA

ORP6XX CD Flat surface electrodes						
Part No.	Description /Name	Applications/ Operative Range	Cable (sold separately)	Connection	Installation	Weight (gr.)
ORP660CD	C-PVC Double Junction ORP Combination Flat surface Electrode	-	CN653	Twist-Lock (BNC)	EG66P, MK660	100
ORP650CD	C-PVC Double Junction ORP Combination Flat surface Electrode	-	CN653/CN653 TC1	Twist-Lock (BNC)	MIFV20X05, MIMC20X05	100
ORP655CD	C-PVC Double Junction ORP Combination Flat surface Electrode with pressurized filling gel	-	CN653	Twist-Lock (BNC)	WT675, WT675TC1	100
ORP660CDDA	Ground Loop interrupt Flat Surface pH/ORP combination Electrode	Presence of stray currents/ Signal amplified	CN653	Twist-Lock (BNC)	EG66P, MK660	200
ORP650CDDA	Ground Loop interrupt Flat Surface pH/ORP combination Electrode	Presence of stray currents/ Signal amplified	CN653/CN653 TC1	Twist-Lock (BNC)	MIFV20X05, MIMC20X05	200

ORDERING DATA

pH6XX CD Flat surface electrodes						
Part No.	Description / Name	Applications/ Operative Range	Cable (sold separately)	Connection	Installation	Weight (gr.)
PH660CD	C-PVC Double Junction pH Combination Flat surface Electrode	-	CN653	Twist-Lock (BNC)	EG66P, MK660	100
PH650CD	C-PVC Double Junction pH Combination Flat surface Electrode	-	CN653/CN653TC1	Twist-Lock (BNC)	MIFV20X05, MIMC20X05	100
PH655CD	C-PVC Double Junction pH Combination Flat surface Electrode with pressurized filling gel	-	CN653	Twist-Lock (BNC)	WT675, WT675TC1	100
PH660CDHF	C-PVC Double Junction pH Combination Flat surface Electrode	Liquids with HF (max 2%)	CN653	Twist-Lock (BNC)	EG66P, MK660	100
PH650CDHF	C-PVC Double Junction pH Combination Flat surface Electrode	Liquids with HF (max 2%)	CN653/CN653TC1	Twist-Lock (BNC)	MIFV20X05, MIMC20X05	100
PH655CDHF	C-PVC Double Junction pH Combination Flat surface Electrode with pressurized filling gel	Liquids with HF (max 2%)	CN653	Twist-Lock (BNC)	WT675, WT675TC1	100
PH660CDDA	Ground Loop interrupt Flat Surface pH combination Electrode	Presence of stray currents/ Signal amplified	CN653	Twist-Lock (BNC)	EG66P, MK660	200
PH650CDDA	Ground Loop interrupt Flat Surface pH combination Electrode	Presence of stray currents/ Signal amplified	CN653/CN653TC1	Twist-Lock (BNC)	MIFV20X05, MIMC20X05	200
PH660CDLC	C-PVC Double Junction pH Combination Flat surface Electrode	Liquids with low conductivity (10 μ S/cm <conductivity<100 μ S/cm)	CN653	Twist-Lock (BNC)	EG66P, MK660	100
PH650CDLC	C-PVC Double Junction pH Combination Flat surface Electrode	Liquids with low conductivity (10 μ S/cm <conductivity<100 μ S/cm)	CN653/CN653TC1	Twist-Lock (BNC)	MIFV20X05, MIMC20X05	100
PH655CDLC	C-PVC Double Junction pH Combination Flat surface Electrode with pressurized filling gel	Liquids with low conductivity (10 μ S/cm <conductivity<100 μ S/cm)	CN653	Twist-Lock (BNC)	WT675, WT675TC1	100