FLS pH/ORP 600
PVCC BODY FLAT SURFACE ELECTRODE

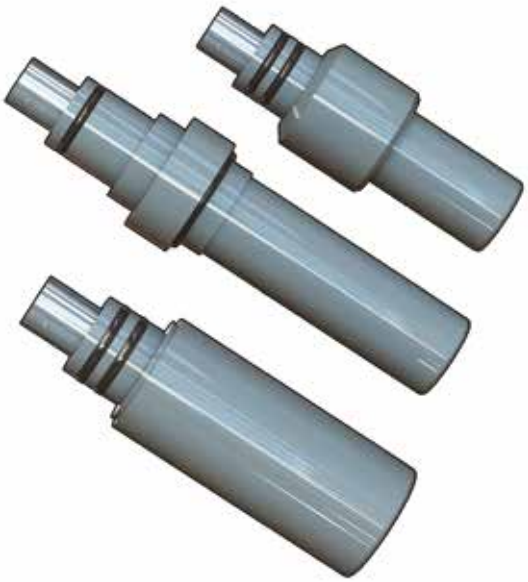
This is the rugged version of the traditional flat electrodes with an improved self-cleaning effect. Installation and maintenance are easy due to the quick disconnect BNC connectors. Built into the electrode's body is a sealed, gel-filled double junction reference design. This design provides an extra 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.
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
- Coolingtowers
- 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
- DI option (pH) on request for pure water (<100uS)
- 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 ± 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 ½”, ¾”
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)

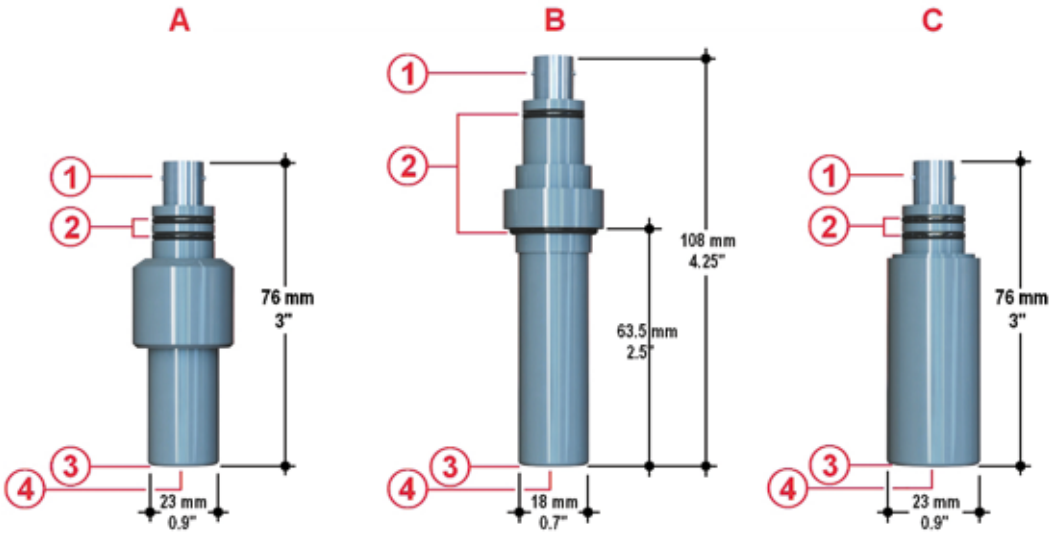
Standards & Approvals

• Manufactured under ISO 9001
• Manufactured under ISO 14001
• CE
• GOST R

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 (<100 ms)	CN653	Twist-Lock (BNC)	EG66P, MK660	100
PH650CDLC	C-PVC Double Junction pH Combination Flat surface Electrode	Liquids with low conductivity (<100 ms)	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 (<100 ms)	CN653	Twist-Lock (BNC)	WT675, WT675TC1	100