

FWT

fluid and water technology



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Measuring and Control

Welcome to Measuring and Control world !!!

QUICK PRODUCTS OVERLOOK

SINGLE MEASUREMENT PARAMETER CONTROLLERS

MW05



Large graphic display, menu programming, wall mounting IP65

Measuring parameters

Free (residual) or total chlorine; pH, RX (ORP); Dissolved Oxygen; Hydrogen Peroxide; Conductivity (µS); Turbidity; Chlorine Dioxide; Peracetic acid.

PW96+



Large display, L.E.D. status, menu programming, wall mounting IP65

Measuring parameters

Free (residual) or total chlorine; pH, RX (ORP); Dissolved Oxygen; Hydrogen Peroxide; Conductivity (µS); Turbidity.

PR96+



Large display, L.E.D. status, menu programming, DIN size rack mounting.

Measuring parameters

Free (residual) or total chlorine; pH, RX (ORP); Dissolved Oxygen; Conductivity (µS); Turbidity.

DC20



LCD display, L.E.D. status, steps programming, wall mounting IP65

Measuring parameters

Free (residual) or total chlorine; pH, RX (ORP); Conductivity; External Pulses/Timer control.

DR20



LCD display, L.E.D. status, steps programming, DIN rack mounting

Measuring parameters

Free (residual) or total chlorine; pH, RX (ORP); Dissolved Oxygen; Conductivity; flow measurements; External Pulses/Timer control.

D20din



LCD display, L.E.D. status, steps programming, DIN rail mounting

Measuring parameters

Free (residual) or total chlorine; pH, RX (ORP); Dissolved Oxygen; Conductivity; flow measurements; External Pulses/Timer control.

MULTIPLE MEASUREMENT PARAMETER CONTROLLERS

**M10
MULTI+**



Large display, L.E.D. status, menu programming, wall mounting IP65

Measuring parameters MULTI+

pH+ RX (ORP)+free Chlorine+Temperature

Measuring parameters M10-M5

pH+ RX (ORP)+free Chlorine+Total chlorine+Turbidity+Temperature

2MW05



Large graphic display, menu programming, wall mounting IP65

Measuring parameters

pH + Free (residual) chlorine + Temperature

pH + RX (ORP) + Temperature

pH + Conductivity (µS) + Temperature

2D20+



Large display, L.E.D. status, menu programming, wall mounting IP65

Measuring parameters

pH + Free (residual) chlorine

pH + RX (ORP)

FWT controller series feature various functions for continuous measurements and different levels of operating modes and programming procedures; FWT controller series are suitable to cover a wide range of technical requirements, safety and able also to match different price demands.

SINGLE measurement parameter MW05 series



MAIN FEATURES

- Universal power supply 90÷240 Vac (upon request 12÷24 Vdc)
- Large custom Backlit LCD graphic display
- 2 Set-points ON-OFF with 2 voltage free outputs
- 1 of 4÷20mA programmable output to drive remote mA equipment
- 1 of 4÷20mA fixed output for driving data logger or recorder
- Galvanic isolation for mA outputs
- 1 of TTL programmable proportional pulse frequency output
- Proportional time / pause output (PWM) to drive On-Off units
- Over dosing time alarm function
- Alarm output relay for HI/LO set-point value
- Programmable High / low Hysteresis and Delay outputs activation
- Extended Menu programming and clock settings
- Data logging storage programming
- Level control for dosing tank or remote relay functions
- Proximity switch function (flow control for sensor holder)
- Selection of Chlorine sensors ion selective types
- Temperature automatic compensation (with FWT temp. probe)
- Stand-by function for sensors maintenance
- Plastic ABS-V0 fire-proof housing IP65, with wired connections IP56
- Overall dimensions mm 201 (h) x 106 (depth) x 202 (width) / 1150 gr.
- Power consumption 7W

Options upon request (except few models):

- ✓ PC software remote control with RS232 / 485 for long distances
- ✓ Timer for automatic chlorine cell cleaning (amperometric) in place of 1 set point
- ✓ GSM connection for alarm signaling via sms messages

Measuring parameters

Free (residual) or total chlorine; pH, RX (ORP); Dissolved Oxygen; Hydrogen Peroxide; Conductivity (μ S); Turbidity; Chlorine Dioxide; Peracetic acid.

TECHNICAL CHARACTERISTICS

Parameters	PH	Cl ₂ *	RX (ORP)	OXYGEN
Range:	0÷14.00 pH	0÷2 / 20.00* ppm	0÷2000 mV	0÷20.00 mgO ₂
Resolution ¹ :	± 0,01 pH	± 0,01 ppm	± 1 mV	± 0,01 mgO ₂
Hysteresis**:	± 0,05 pH	± 0,05 ppm	± 5 mV	± 0,05 mgO ₂
Zero ² :	± 10%	± 20%	± 20%	100% O ₂
Gain ³ :	± 25%	-----	-----	-----
Input probes:	10 ¹² Ohm electrode	Membrane Chlorine sensor or amperometric cell	10 ¹² Ohm electrode	Oxygen sensor
Connections:	BNC	wiring terminal block	BNC	wiring terminal block

Parameters	CONDUCTIVITY				TURBIDITY	TEMPERATURE
Range:	0÷20.00 mS	0÷2000 μ S	0÷200.0 μ S	0÷200.0 mS	0÷20-200-1000 NTU	0÷100 °C
Resolution ¹ :	± 10 μ S	± 1 μ S	± 0,1 μ S	± 100 μ S	± 00,1 - 01 - 1 NTU	0,1 °C
Hysteresis**:	± 0.05 mS	± 5 μ S	± 0,5 μ S	± 0,5 mS	± 00,5 - 0,5 - 5 NTU	-----
Zero ² :	± 10%	± 10%	± 10%	± 10%	± 10%	-----
Gain ³ :	± 25%	± 25%	± 25%	± 25%	± 30%	-----
Input probes:	constant K1	constant K5	constant K5	constant K1*	FWT Turbidity cell	FWT temp.probe
Connections:	wiring terminal block				terminal block	wiring terminal block

* Free or Total chlorine MW05 can either work with membrane sensors CLS or open cells CLC series (pag. 13)

** Hysteresis programmable for each set-point

1- Display resolution; 2- Zero: potentiometer range from calibration point; 3- Gain calibration: electrode adjustment gain

K1* 200 mS range obtainable using graphite conductivity sensors

DUAL measurement parameters 2MW05 series

2MW05



MAIN FEATURES

- 2MW05 is based on MW05 series main technical characteristics
- Universal power supply 90÷240Vac (upon request 9÷24Vdc)
- Large custom Backlit LCD graphic display
- 3 Set-points ON-OFF with 3 voltage free outputs
- 2 of 4÷20mA programmable output to drive remote mA equipment
- 1 of 4÷20mA fixed output for driving data logger or recorder
- Galvanic isolation for mA outputs
- 2 of TTL programmable proportional pulse frequency output
- 2 of Proportional time / pause output (PWM) to drive On-Off units
- pH measuring priority
- Over dosing time alarm function
- Alarm output relay for HI/LO set-point value
- Programmable High / low Hysteresis and Delay outputs activation
- Extended Menu programming and clock settings
- Data logging storage programming
- 2 of Level control for dosing tank or remote relay functions
- Proximity switch function (flow control for sensor holder)
- Selection of Chlorine sensors ion selective types
- Temperature automatic compensation (with FWT temp. probe)
- Stand-by function for sensors maintenance
- Plastic ABS-V0 fire-proof housing IP65, with wired connections IP56
- Overall dimensions mm 201 (h) x 106 (depth) x 202 (width) / 1150 gr.
- Power consumption 7W

✓ PC software remote control with RS232 / 485 for long distances

Options upon request: ✓ Timer for automatic chlorine cell cleaning (amperometric) in place of 1 set point

✓ GSM connection for alarm signaling via sms messages

Measuring parameters

2MW05 PHCLS: PH and Free (residual) or total chlorine, suitable for ion selective chlorine sensors;

2MW05 PHCLC: PH and Free (residual) chlorine, suitable for amperometric chlorine cells;

2MW05 PHRX: PH and Redox RX (ORP); **upon request** PH and Conductivity (μS).

TECHNICAL CHARACTERISTICS 2MW05

Parameters	PH	Cl ₂ *	RX (ORP)	TEMPERATURE
Range:	0÷14.00 pH	0÷2 / 20.00* ppm	0÷2000 mV	0÷100 °C
Resolution ¹ :	± 0,01 pH	± 0,01 ppm	± 1 mV	0,1 °C
Hysteresis**:	± 0,05 pH	± 0,05 ppm	± 5 mV	-----
Zero ² :	± 10%	± 20%	± 20%	-----
Gain ³ :	± 25%	-----	-----	-----
Connections:	BNC	wiring terminal block	BNC	terminal block
Input probes:	10 ¹² Ohm electrode	Membrane Chlorine sensor or amperometric cell	10 ¹² Ohm electrode	FWT temp.probe

Parameters	CONDUCTIVITY			
Range:	0÷20.00 mS	0÷2000 μS	0÷200.0 μS	0÷200.0 mS
Resolution ¹ :	± 10 μS	± 1 μS	± 0,1 μS	± 100 μS
Hysteresis**:	± 0.05 mS	± 5 μS	± 0,5 μS	± 0,5 mS
Zero ² :	± 10%	± 10%	± 10%	± 10%
Gain ³ :	± 25%	± 25%	± 25%	± 25%
Connections:	wiring terminal block			
Input probes:	constant K1	constant K5	constant K5	constant K1*

1- Display resolution;

2- Zero: potentiometer range from calibration point;

3- Gain calibration: adjustment gain

* 200 mS range obtainable using graphite conductivity sensors

* Free or Total chlorine: 2MW05 can either work with membrane sensors CLS or open cells CLC series (pag. 13)

** Hysteresis programmable for each set-point - K1* 200 mS range obtainable using graphite conductivity sensors

MULTIPLE measurement parameters MW10 series

MAIN FEATURES

The features has **two** versions:

- **M10-5** (five measuring parameters)
- **M10-4** (four measuring parameters)
- MW10 is based on MW05 series main technical characteristics
- Universal power supply 90÷240 Vac (upon request 9÷24 Vdc)
- Large custom Backlit LCD graphic display
- 4 or 5 Set-points ON-OFF with 5 voltage free outputs
- 3 of 4÷20mA programmable output to drive remote mA equipment
- 1 of 4÷20mA fixed output for driving data logger or recorder
- Galvanic isolation for mA outputs
- 3 of TTL programmable proportional pulse frequency output
- 3 of Proportional time / pause output (PWM) to drive On-Off units
- pH measuring priority
- Over dosing time alarm function
- Alarm output relay for HI/LO set-point value
- Programmable High / low Hysteresis and Delay outputs activation
- Extended Menu programming and clock settings
- Data logging storage programming
- Level control for dosing tank or remote relay functions
- Proximity switch function (flow control for sensor holder)
- Selection of Chlorine sensors ion selective types
- Temperature automatic compensation (with FWT temp. probe)
- Stand-by function for sensors maintenance
- Plastic ABS-V0 fire-proof housing IP65, with wired connections IP56
- Overall dimensions mm 201 (h) x 106 (depth) x 202 (width) / 1 150 gr.
- Power consumption 7W



- Options upon request:**
- ✓ PC software remote control with RS232 / 485 for long distances
 - ✓ Timer for automatic chlorine cell cleaning (amperometric) in place of 1 set point
 - ✓ GSM connection for alarm signaling via sms messages

Measuring parameters

MW10: PH, Redox RX (ORP), Free Chlorine (residual), Total Chlorine: upon request Turbidity measurements in place of Total Chlorine parameter.

TECHNICAL CHARACTERISTICS MW10

Parameters	PH	Cl ₂ *	RX (ORP)
Range:	0÷14.00 pH	0÷2 / 20.00* ppm	0÷2000 mV
Resolution ¹ :	± 0,01 pH	± 0,01 ppm	± 1 mV
Hysteresis**:	± 0,05 pH	± 0,05 ppm	± 5 mV
Zero ² :	± 10%	± 20%	± 20%
Gain ³ :	± 25%	----	----
Input probes:	10 ¹² Ohm electrode	Membrane Chlorine sensor*	10 ¹² Ohm electrode
Connections:	BNC	wiring terminal block	BNC

Parameters	Cl ₂ *TOT	TURBIDITY	TEMPERATURE
Range:	0÷2 / 20.00* ppm	0÷20-200-1000 NTU	0÷100 °C
Resolution ¹ :	± 0,01 ppm	± 00,1 - 01 - 1 NTU	0,1 °C
Hysteresis**:	± 0,05 ppm	± 00,5 - 0,5 - 5 NTU	----
Zero ² :	± 20%	± 10%	----
Gain ³ :	----	± 30%	----
Input probes:		FWT Turbidity cell	FWT Temp.probe
Connections:		wiring terminal block	

* Free chlorine: MW10 can either work with membrane sensors CLS or open cells CLC series (pag.13)

** Hysteresis programmable for each set-point

1- Display resolution; 2- Zero: potentiometer range from calibration point; 3- Gain calibration: electrode adjustment gain

SINGLE measurement parameter PW96+ series



MAIN FEATURES

- Universal power supply 90÷240 Vac (upon request 12÷24 Vdc)
- Large custom Backlit LCD alphanumeric display
- 3 Set-points ON-OFF with 3 voltage free outputs
- 1 of 4÷20mA programmable output to drive remote mA equipment
- 1 of 4÷20mA fixed output for driving data logger or recorder
- Galvanic isolation for mA outputs
- 1 of TTL programmable proportional pulse frequency output
- Proportional time / pause output (PWM) to drive On-Off units
- Alarm output relay for HI/LO set-point value
- Over dosing time alarm function
- Programmable High / low Hysteresis
- Programmable Delay outputs activation
- Proximity switch function (flow control for sensor holder)
- Temperature automatic compensation (with FWT temp. probe)
- PW housing: ABS-V0 fire-proof IP65, with wired connections IP56
- PW dimensions mm 201 (h) x 106 (depth) x 202 (width) / 1220 gr.
- PR housing: DIN 437000 panel mounting, anodised aluminium IP20
- PR Overall dimensions mm 72 (h) x 134 (depth) x 144 (width) / 850 gr.
- Power consumption 5W

- Options upon request:** ✓ PC software remote control with RS232 / 485 for long distances
Only PW version ✓ Timer for automatic Cl₂ cell cleaning (amperometric) in place of 1 set point
 ✓ Data logging storage programming

Measuring parameters

Free (residual) or total chlorine; pH, RX (ORP); Dissolved Oxygen; Hydrogen Peroxide; Conductivity (μS); Turbidity; Chlorine Dioxide; Peracetic acid.

TECHNICAL CHARACTERISTICS

Parameters	PH	Cl ₂ *	RX (ORP)	OXYGEN
Range:	0÷14.00 pH	0÷2 / 20.00* ppm	0÷2000 mV	0÷20.00 mgO ₂
Resolution ¹ :	± 0,01 pH	± 0,01 ppm	± 1 mV	± 0,01 mgO ₂
Hysteresis**:	± 0,05 pH	± 0,05 ppm	± 5 mV	± 0,05 mgO ₂
Zero ² :	± 10%	± 20%	± 20%	-----
Gain ³ :	± 25%	± 20%	-----	100% Oxygen
Input probes:	10 ¹² Ohm electrode	Chlorine sensor or amperometric cell	10 ¹² Ohm electrode	Oxygen sensor
Connections:	BNC	wiring terminal block	BNC	wiring terminal block

Parameters	CONDUCTIVITY				TURBIDITY	TEMPERATURE
Range:	0÷20.00 mS	0÷2000 μS	0÷200.0 μS	0÷200.0 mS	0÷20 or 40 NTU	0÷100 °C
Resolution ¹ :	± 10 uS	± 1 uS	± 0,1 uS	± 100 uS	± 0,1 NTU	0,1 °C
Hysteresis**:	± 0.05 mS	± 5 uS	± 0,5 uS	± 0,5 mS	± 0,5 NTU	-----
Zero ² :	± 10%	± 10%	± 10%	± 10%	± 20%	-----
Gain ³ :	± 25%	± 25%	± 25%	± 25%	-----	-----
Input probes:	constant K1	constant K5	constant K5	constant K1*	FWT Turbidity cell	FWT temp.probe
Connections:	wiring terminal block				terminal block	wiring terminal block

* Free or Total chlorine P96+ can either work with membrane sensors CLS or open cells CLC series (pag.13)

** Hysteresis programmable for each set-point

1- Display resolution; 2- Zero: potentiometer range from calibration point; 3- Gain calibration: electrode adjustment gain

K1* 200 mS range obtainable using graphite conductivity sensors

MULTIPLE measurement parameters MULTI+ series

MAIN FEATURES

The features has **two** versions:

- **MULTI4+** (four measuring parameters)
- **MULTI3+** (three measuring parameters)
- MULTI+ is based on PW96+ series main technical characteristics
- Universal power supply 90÷240 Vac (upon request 9÷24 Vdc)
- Large custom Backlit LCD alphanumeric display
- 5 (Multi4+) Set-Points with 5 ON/OFF outputs contact free
- 3 (Multi3+) Set-Points with 3 ON/OFF outputs contact free
- 3 (2 Multi3+) of 4÷20mA programmable output for mA equipment
- 1 of 4÷20mA fixed output for driving data logger or recorder
- Galvanic isolation for mA outputs
- 3 of Proportional time / pause output (PWM) to drive On-Off units
- pH measuring priority
- Alarm output relay for HI/LO set-point value
- Programmable High / low Hysteresis and Delay outputs activation
- Extended Menu programming
- Data logging storage programming
- Level control for dosing tank or remote relay functions
- Proximity switch function (flow control for sensor holder)
- Temperature automatic compensation (with FWT temp. probe)
- Plastic ABS-V0 fire-proof housing IP65, with wired connections IP56
- Overall dimensions mm 201 (h) x 106 (depth) x 202 (width) / 1150 gr.
- Power consumption 7W



Options upon request:

- ✓ PC software remote control with RS232 / 485 for long distances
- ✓ GSM connection for alarm signaling via sms messages

Measuring parameters

MULTI4+ PHRXCLT: PH, RX (ORP), Free (residual) chlorine, Temperature

MULTI3+ PHCLT: PH, Free (residual) chlorine, Temperature

MULTI3+ PHRXT: PH, RX (ORP), Temperature

MULTI+ can either work with membrane chlorine sensors CLS or open chlorine cells CLC series.

TECHNICAL CHARACTERISTICS MULTI+

Parameters	PH	Cl ₂ *	RX (ORP)	TEMPERATURE
Range:	0÷14.00 pH	0÷2 / 20.00* ppm	0÷2000 mV	0÷100 °C
Resolution ¹ :	± 0,01 pH	± 0,01 ppm	± 1 mV	0,1 °C
Hysteresis**:	± 0,05 pH	± 0,05 ppm	± 5 mV	----
Zero ² :	± 10%	± 20%	± 20%	----
Gain ³ :	± 25%	± 20%	----	----
Input probes:	10 ¹² Ohm electrode	Chlorine sensor or amperometric cell	10 ¹² Ohm electrode	FWT temp.probe
Connections:	BNC	wiring terminal block	BNC	wiring terminal block

* Free or Total chlorine: MULTI+ can either work with membrane sensors CLS or open cells CLC series (pag.13)

** Hysteresis programmable for each set-point

1- Display resolution; 2- Zero: potentiometer range from calibration point; 3- Gain calibration: electrode adjustment gain

FWT offers a wide range of electrodes, sensors and accessories to guarantee a complete service, check from page 13..



SINGLE measurement parameter D20 series



DC20

Housing: plastic ABS IP65,
with wired connections IP56
Dimensions: mm
180 (h) x 115 (width) x 75 (depth)
545 gr.



DR20

DIN 96x96 for panel mounting,
anodised aluminium
Dimensions: mm
96 (h) x 96 (width) x 118 (depth)
560 gr.



D20 din

DIN rail mounting,
ABS plastic
Dimensions: mm
96 (h) x 96 (width) x 118 (depth)
310 gr.

MAIN FEATURES

- Universal power supply 230 Vac (upon request 110/24Vac - 12/24 Vdc)
- LCD display 3½ digits
- 2 Set-points ON-OFF with 2 voltage free outputs
- 1 of 4÷20mA output to drive remote mA equipment or data logger or recorder
- 1 of Proportional time / pause output (PWM) to drive On-Off units
- Programmable High / low Hysteresis and programmable Delay outputs activation
- Functions settings
- Manual temperature settings
- Power consumption 2W

Measuring parameters

Free (residual) chlorine; pH, RX (ORP); Conductivity (µS); Controller with timer to manage external contacts (DTP series); Temperature.

TECHNICAL CHARACTERISTICS

Parameters	D20 PH	D20 Cl ₂ *	D20 RX (ORP)	D20 DTP
Range:	0÷14.00 pH	0÷10.00* ppm	0÷1000 mV	0÷ 2000 sec. or min.
Resolution ¹ :	± 0,01 pH	± 0,01 ppm	± 1 mV	± 0,01 sec. or min.
Hysteresis**:	± 0,05 pH	± 0,05 ppm	± 5 mV	-----
Zero ² :	± 10%	± 20%	± 20%	-----
Gain ³ :	± 25%	-----	-----	-----
Input probes:	10 ¹² Ohm electrode	Amperometric open chlorine cell	10 ¹² Ohm electrode	Pulse water meter
Connections:	BNC	wiring terminal block	BNC	wiring terminal block

Parameters	D20 CONDUCTIVITY			D20 TEMPERATURE	
Range:	0÷10.00 mS**	0÷1000 µS	0÷100 µS	0÷100.0 mS	0÷100 °C
Resolution ¹ :	± 10 µS	± 1 µS	± 0,1 µS	± 100 mS	0,1 °C
Hysteresis**:	± 50 µS	± 5 µS	± 0,5 µS	± 0,5 mS	± 0,5 °C
Zero ² :	± 10%	± 10%	± 10%	± 10%	-----
Gain ³ :	± 25%	± 25%	± 25%	± 25%	-----
Input probes:	constant K1	constant K5	constant K5	constant K1*	FWT temp.probe
Connections:	wiring terminal block				wiring terminal block

* Free chlorine: D20 only works with amperometric open cells CLC series (pag.13)

1- Display resolution; 2- Zero: potentiometer range from calibration point; 3- Gain calibration: electrode adjustment gain

K1* 100 mS range obtainable using graphite conductivity sensors

DUAL measurement parameters 2D20+ series



MAIN FEATURES

- 2D20+ is based on D20 series main technical characteristics
- Universal power supply 90÷240 Vac
- Large custom Backlit LCD alphanumeric display
- 4 Set-points ON-OFF with 4 voltage free outputs
- 2 of 4÷20mA output to drive remote mA equipment
- 2 of 4÷20mA fixed output for driving data logger or recorder
- Galvanic isolation for mA outputs
- 2 of Proportional time / pause output (PWM) to drive On-Off units
- pH measuring priority
- Programmable High / low Hysteresis
- Alarm output relay for HI/LO set-point value
- Programmable Delay outputs activation
- Extended Menu programming
- Proximity switch function (flow control for sensor holder)
- Temperature settings (manual compensation)
- Plastic ABS-V0 fire-proof housing IP65, with wired connections IP56
- Overall dimensions mm 201 (h) x 106 (depth) x 202 (width) / 1150 gr.

Measuring parameters

2D20+ PHCLS: PH and Free (residual) or total chlorine, suitable for ion selective chlorine sensors;
 2D20+ PHCLC: PH and Free (residual) chlorine, suitable for amperometric chlorine cells;
 2D20+ PHRX: PH and Redox RX (ORP);

TECHNICAL CHARACTERISTICS 2D20+

Parameters	PH	Cl ₂ *	RX (ORP)
Range:	0÷14.00 pH	0÷10.00* ppm	0÷1000 mV
Resolution ¹ :	± 0,01 pH	± 0,01 ppm	± 1 mV
Hysteresis ^{**} :	± 0,05 pH	± 0,05 ppm	± 5 mV
Zero ² :	± 10%	± 20%	± 20%
Gain ³ :	± 25%	± 20%	----
Input probes:	10 ¹² Ohm electrode	Membrane Chlorine sensor or amperometric cell	10 ¹² Ohm electrode
Connections:	BNC	wiring terminal block	BNC

* Free or Total chlorine: 2D20+ can either work with membrane sensors CLS or open cells CLC series (pag.13)

** Hysteresis programmable for each set-point

1- Display resolution; 2- Zero: potentiometer range from calibration point; 3- Gain calibration: electrode adjustment gain

ASSEMBLED CONTROL PANELS

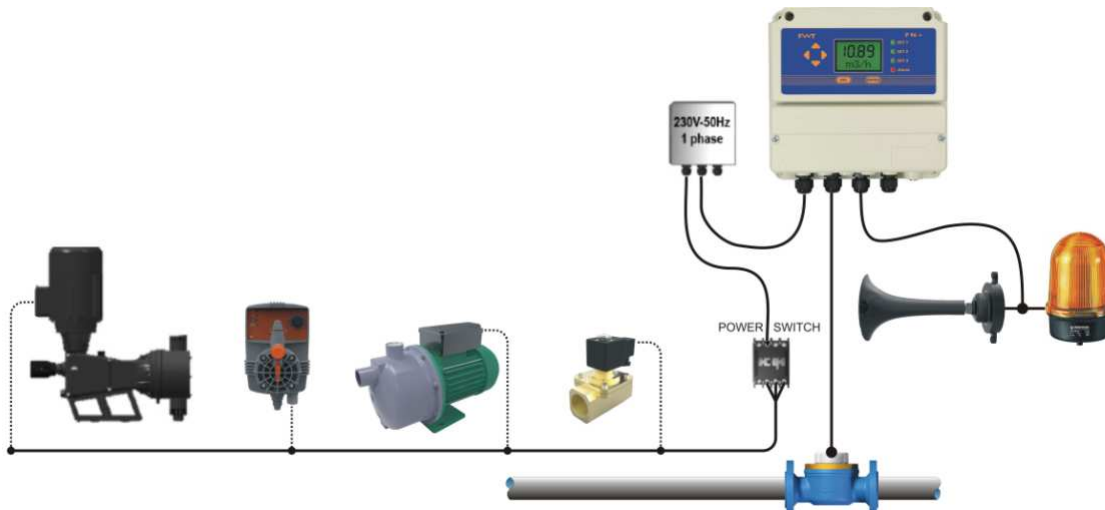
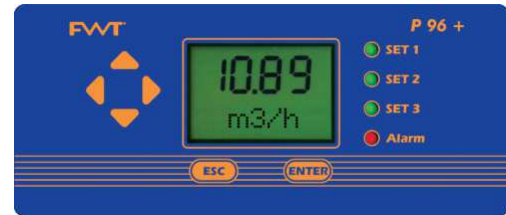
FWT offers many solutions for the most of applications which require online measuring, dosing and control.
WATER TREATMENT / WASTE WATER TREATMENT / SWIMMING POOLS / COOLING TOWERS



IN-LINE FLOW measurements

INSTANT FLOW READER P96+ MP

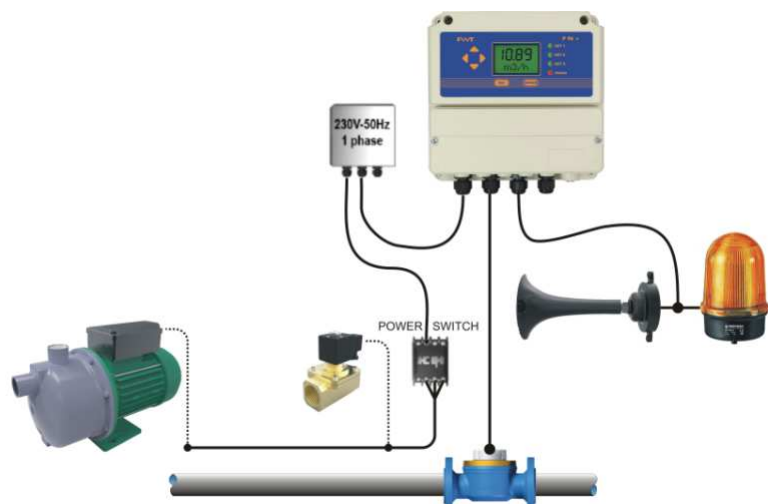
Instant flow reader **P96+ MP** series expand the work of pulse emitter water meters, allowing to measure the flow rate into a systems and also to drive dosing pumps, solenoid valves, pump and alarm devices. P96+MP replaces, with more features and functions, more expensive equipment. P96+MP **PW** housing for wall mounting (check above P96+ series technical characteristics). **Typical application:** Process Industry



VOLUMETRIC METERING CONTROLLER P96+ VM



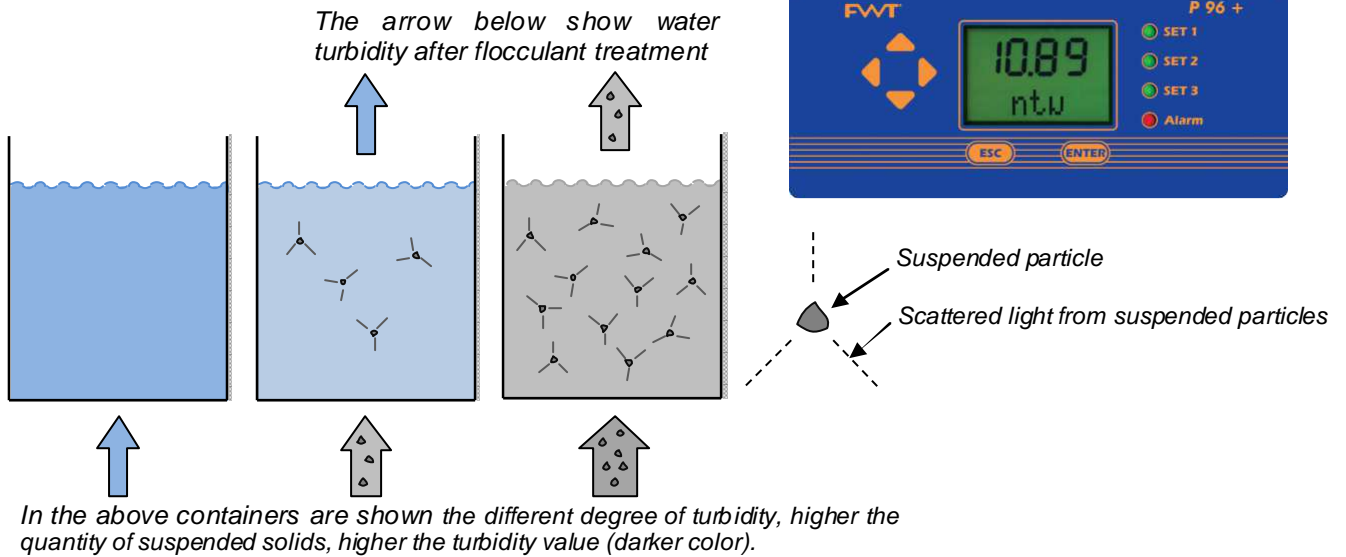
Volumetric metering controller VM series works both as batch dispenser for large flow rates and as a flow totalizer. In conjunction with pulse emitter water meters, volumetric controller can adjust the exact amount of flow to dispense into a system, tank or basin, driving solenoid valves or centrifugal pumps at the same time and also controlling alarm devices. **Typical application:** Process Industry, Irrigation.



Parameters	P96+ MP	P96+ VM
Range:	0÷200.0 m3/h	0÷2000 l
Resolution1:	0,1 m3/h	1 lt
Hysteresis**:	0,5 m3/h	----
Input probes:	Pulse emitter water meter: digital reed contact, voltage free	
Connections:	wiring terminal block	

TURBIDITY

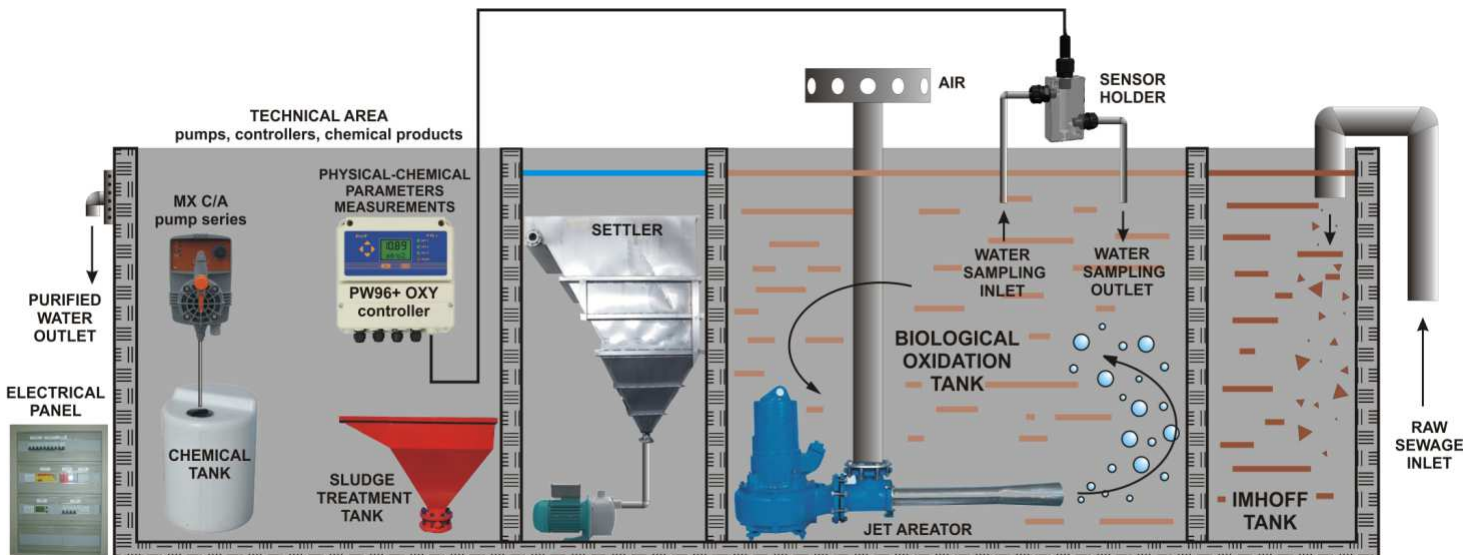
Turbidity refers to water clear appearance. The greater the amount of total suspended solids (TSS) in the water, the more “turbid” it appears and the higher the measured turbidity. All the necessary steps involved in water treatment can be monitored and controlled by turbidity measurement. **PW96+TURB** is suitable for in-line application to measure turbidity in water quality control monitoring in conjunction of FWT turbidity sensor **CELL TURB** (available on request) utilising the **NTU** (Nephelometric Turbidity Units) measuring system.



Parameters	MW05 TURBIDITY	PW96+ OXYGEN
Range:	0÷20 or 40 NTU	0÷20-200 ppm (mg/l)
Resolution ¹ :	± 0,1 NTU	± 00,1 - 01 - 1 ppm (mg/l)
Hysteresis ^{**} :	± 0,5 NTU	± 00,5 - 0,5 - 5 ppm (mg/l)
Zero ² :	± 20%	± 10%
Gain ³ :	----	± 30%
Input probes:	FWT Turbidity cell	FWT Oxygen sensor
Connections:	terminal block	terminal block

DISSOLVED OXYGEN

Oxygen saturation or **dissolved oxygen (DO)** is a relative measure of the amount of oxygen that is dissolved dissolved in the soil or bodies of water or carried in a given medium. It can be measured with a dissolved oxygen probe such as an oxygen sensor. The standard unit is milligrams per litre (ppm), or mgL⁻¹. Environmental oxygenation can be important to the sustainability of a particular ecosystem.



MW05 CD COOL

The **MW05 CD-COOL** is a compact system for centralising cooling tower water treatment control and blow-down operations, air scrubbers and humidifiers of any industrial air-conditioning systems, all in a practical and economic way. The controller drives other process equipment such as: a range of Conductivity sensors (according to range) and versatile control options for flow meters, blow-down solenoid or motorised valves.

Main Features

MW05 CD-COOL is based on MW05 series technical characteristics, complemented by the following functions specifically designed for Cooling Tower dosing and control operations:

BLOWDOWN control with 2 different option modes

- Blowdown control via **conductivity** controller, CD range: 0÷20 mS or request 0÷2000 µS
- Blowdown control via **Timer**

INHIBITOR (feed inhibitor) control of inhibitor dosing pump with 4 different option modes:

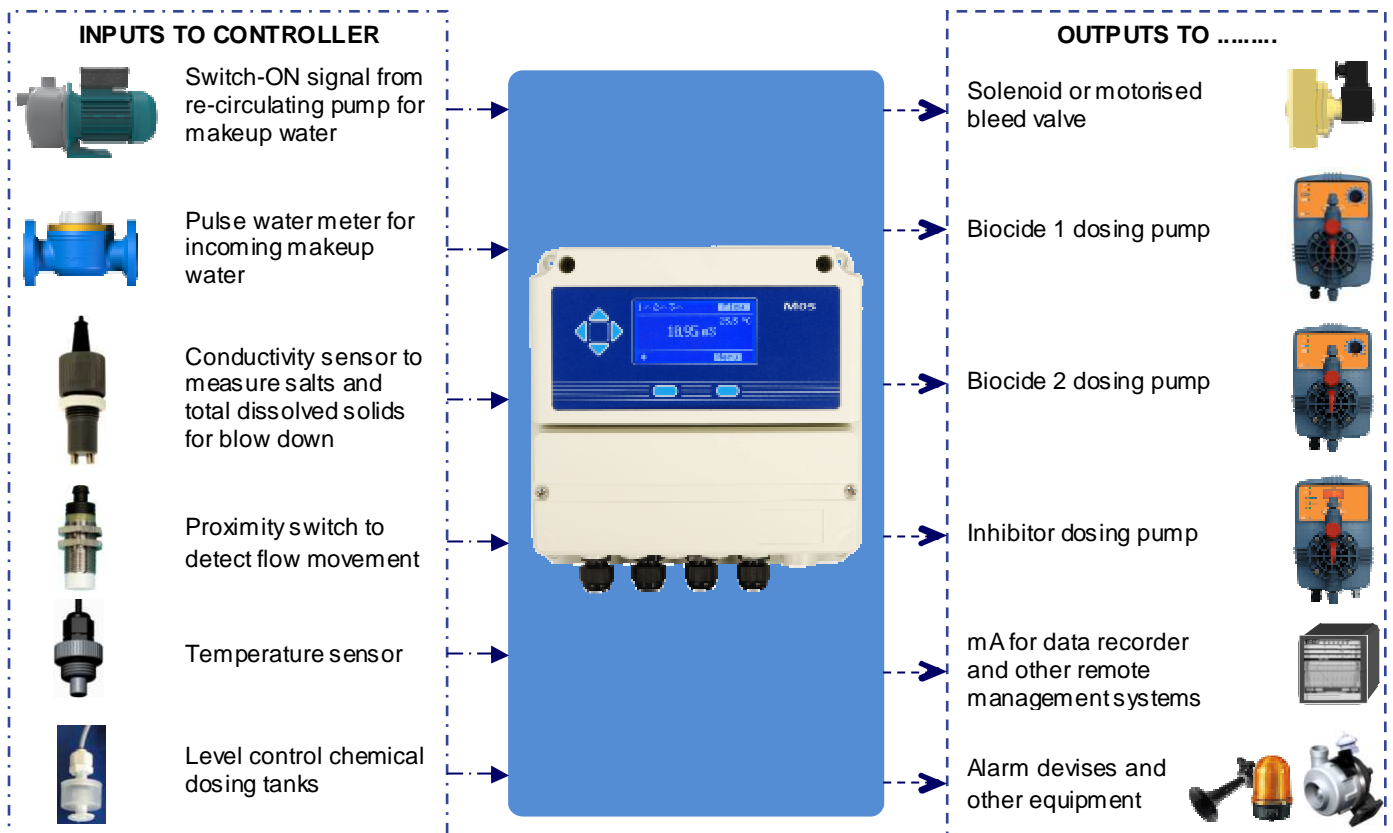
- **Bleed direct** = starts dosing operations when the bleed valve is open
- **% of bleed** = dosing for a time equal to a percentage of the Bleed valve discharge times
- **Timer** = dosing according the timer programmed setting
- **Water meter** = proportional dosing according to water-meter pulse-sender signal

BIOCIDE control for 2 dosing pumps via **Timer** complemented by following functions:

- **Pre Bleed Set:** If conductivity exceeds this value, the instrument opens the bleed EV to reach required setpoint before starting biocide dosing pump.
- **Bleed Lock Time:** suspends temporary one of the 2 Biocide dosing pumps and bleeding operation until the other Biocide pump ceases dosing cycle. Sequence to avoid involuntary drain during biocide operations.

ALARM OUTPUT for general alarm purposes which can monitor either conductivity threshold value or high or low hysteresis or other functions

OTHER FEATURES: chemical dosing tanks level control; 0/4÷20 mA output adjustable for motorized blowdown valve; Automatic temperature compensation and display; Flow control via proximity switch; Data logger; GSM remote messages...and more.



ALTERNATIVE OPTIONS UPON REQUEST

GSM external modem for remote control via SMS alarm status messages



Software for PC remote control and RS232/RS485 converter for remote distances



FWT features a wide range of chlorine sensor which are included in two main ranges: **closed and open system**

Ion selective chlorine SENSORS “membrane” closed system

Potentiostatic ion selective membrane closed measuring principle allows only the passage of chlorine ions thus having direct measuring stable and accurate readings. Maintenance is very low. Handling, commissioning and service are extremely easy. Long working life, just the membrane cap subject to wear and tear. Low polarization time and long cables can be used without problems, suitable also chlorine sensors compatible with surfactants agents.

Furthermore, due to the measuring method this system offers the possibility to have a wide range of chemical parameters measurements such as:

- Chlorine, free and total, for organic and inorganic, potable water, salt water
- Chlorine Dioxide; Hydrogen Peroxide; Ozone; Peracetic acid

MAIN FEATURES

- Large selection of “potentiostatic ion-selective chlorine sensors”
- Suitable for a wide choice of measuring ranges and applications.
- Fast and easy calibration procedure: only one point needs to be calibrated
- Low flow rate dependence: flow rate fluctuations have only a small influence on measured signal
- Temperature compensation is integrated within each probe
- No environmental disturbances even with long cables thanks to sensors low impedance feature.
- Long lifetime and very little required maintenance



TECHNICAL CHARACTERISTICS FOR CHLORINE SENSORS

• Flow rate: 30/40 l/h • Pressure: 1÷8 bar • Working Temperature: Max 0+40°C • Input: ±5+15V

Model	Range (ppm)	Resolution	Application	Compatibility	pH
CLS I-2	0,05÷2	0,001	Free Inorganic Cl ₂	----	5,5÷8
CLS I-20	0,05÷20	0,01	Free Inorganic Cl ₂	----	5,5÷8
CLS I-200	0,05÷200	0,1	Free Inorganic Cl ₂	----	5,5÷8
CLS I/O-2	0,05÷2	0,001	Free Inorganic-Organic Cl ₂	Isocyn./Surfactants/Flocc	4÷12
CLS I/O-20	0,05÷20	0,01	Free Inorganic-Organic Cl ₂	Isocyn./Surfactants/Flocc	4÷12
CLS T-2	0,05÷2	0,001	Total chlorine	Isocyn./Surfactants/Flocc	4÷12
CLS T-20	0,05÷20	0,01	Total chlorine	Isocyn./Surfactants/Floc.	4÷12

Amperometric chlorine CELLS “Open system”

Open system amperometric cell able to the measure inorganic free chlorine with the possibility to adjust the actual incoming water flow. Keeping a good maintenance and a steady flow, will obtain great results with competitive prices.

Model CLC4

CLC4 hosting a proximity switch for output signal (switch upon request).

- Range 0÷10 ppm
- Self-cleaning cell with glass balls
- PMMA body, fittings in PP included
- Electrode Platinum/Copper in vertical position to avoid air bubbles
- Flow adjustment: 40÷50 l/h or by visual adjustment (to be steady and continuous)
- Max pressure 5 bar - Max temperature 5÷60°C

Models CLC2-3

CLC2/3 2 electrodes holders, suitable to host temperature probe and proximity switch. CLC2 without proximity switch.

- Self-cleaning cell with glass balls
- Range 0÷10 ppm. Electrode Platinum/Copper
- Flow adjustment: 40÷50 l/h or by visual adjustment (to be steady and continuous)
- 2 electrodes holder, Proximity switch and temperature probe
- Max pressure 5 bar - Max temperature 5÷60°C



MAINTANANCE KIT CLC

Cleaning kit comprising: peristaltic, accessories and fitting

FWT suggest a simple solution for maintenance of CLC series: operator, before opening the system, must simply let the peristaltic pump to inject the same acid (commercial HCL around 10% concentration) that is used to correct the pH in the systems or at least a simple detergent. Let the peristaltic work for 2/3 minutes until copper electrode is restored to natural colour. This will avoid problems and guarantee a steady measurement. Available Timer for automatic operations.



ELECTRODES AND SENSORS

COMBINED PH AND REDOX ELECTRODES WITH CABLES



Model	Cable
EpH 5	5 m
EpH 9	9 m
EpH 15	15 m

- Combined pH and RX electrodes
- Epoxy body
- Max pressure 6 bar
- Max temperature 60°C
- Available on request longer cables to be used with impedance amplifier unit.

ERX 5	5 m
ERX 9	9 m
ERX 15	15 m

COMBINED PH AND REDOX ELECTRODES WITHOUT CABLES

- **DIN Connection**
- **S8 connector - PG13,5 threading**
- **Edin model: Epoxy body, common duties**
- **EdinG: Glass body, industrial and special duties**



Model
Edin pH
Edin pHG6
Edin pHG10
Edin Rx
Edin RxG6
Edin RXG10

- Max pressure: 6 bar / Max temperature 60°C
- Max pressure: 6 bar / Max temperature 80°C
- Max pressure: 10 bar / Max temperature 80°C
- Max pressure: 6 bar / Max temperature 60°C
- Max pressure: 6 bar / Max temperature 80°C
- Max pressure: 10 bar / Max temperature 80°C



COAXIAL ECABLE

Coaxial cables with BNC suitable for Edin electrodes: **0,5 m; 1 m; 5 m; 9 m; 15 m**



TURBIDITY CELL CELL TURB

Measuring range:	0÷40,0 or 0÷20,0 NTU (to specify at the order)
Functioning mode:	Optical transmission
90° setting sensors:	Light Emitter photodiode – Receiver photodiode
Cleaning mode:	Manual cleaning of glass cylinder prism
Liquid Ends:	PVC body – PP fittings

TEMPERATURE PROBES FOR CONTROLLERS AND CHLORINE CELLS CLC



STemp1	0+100°C	AISI sensor	PTFE fitting 1/2"
STemp2	0+130°C	AISI sensor	PVC fitting 1/2"

SPT100 G	0+100°C	GLASS PYREX	5 m
SPT100 A	0+200°C	AISI 316	5 m

PROXIMITY SWITCH

- Model **SProx** Proximity switch to detect in-coming flow, suitable for amperometric chlorine cell model CLC3

OXYGEN SENSOR

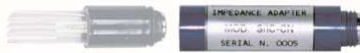
SENSOXY dissolved Oxygen with NTC temperature sensor
Range 0÷20,0 mg/L

- Electrode type: silver-platinum combination
- Electrolyte: alkaline electrolyte solution
- Immersed materials on mounted sensor: stainless steel 1.4435, PEEK, silicone, NBR
- Membrane: OPTIFLOW™
- Polarization voltage : - 670 / ± 50mv
- Sensitivity: 4080 nA at 25°C in air
- Stabilizing time: typ. 15 min., max. 1h
- Working temperature: 0...60°C
- Storage temperature: -10...60°C, with water containing watering cap

- Temperature sensor: NTC 22 KOhm
- Pressure: 0...4 bar inserted; max 0,5 bar totally immersed
- Shaft diameter: 12mm
- Oxygen consumption: ca 20 ng/h in air
- Zero shift: <0.5% of current in air every 2 months at 25°C in water under stable conditions
- Sensitivity shift: <5 % every 2 months at 25°C in water under stable conditions
- Mounting: PG 13.5 thread

ELECTRODES AND SENSORS

IMPEDANCE ADAPTER



Impedance adapter for long distance outside installations; it can send the signal up to 100 m distance.

CONDUCTIVITY PROBES WITH 4 M CABLES



Model	Range	Electrodes	Fitting	Connections
Scd K1	0÷20.000 µS	AISI	PVC	1/2"
Scd K5	0÷200/0 - 2000 µS	AISI	PVC	1/2"
TGcd K1	0÷20.000 µS	GRAPHITE	PTFE	1/2"
Tcd K1	0÷20.000 µS	AISI	PTFE	1/2"
Tcd K5	0÷200/0 - 2000 µS	AISI	PTFE	1/2"
STCcd K1*	0÷20.000 µS	AISI	PVC	1/2"
STCcd K5*	0÷200/0 - 2000 µS	AISI	PVC	1/2"

BUFFER SOLUTIONS

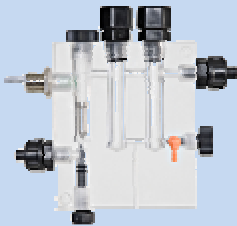


Model	Description
SPH4, SPH7, SPH9	Buffer solution pH 4, ph 7, pH 9, bottle of 75 ml
SRX	Buffer solution 475 mV, bottle of 75 ml
SCD	Buffer solution 1278 uS, bottle of 75 ml

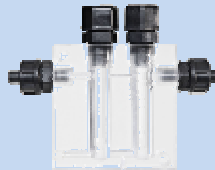
ELECTRODES AND SENSORS HOLDERS

OFF-LINE ELECTRODES HOLDERS

Metacrylate body, PP fittings for hoses 10x14 mm, PVC electrode holders fitting



ECELL4 Off-line holder for 2 electrodes Flow regulation, Proximity switch, Temperature probe, Water sample outlet, earth connection



ECELL2 Off-line holder for 2 electrodes, earth connection



ECELL1 Off-line holder for 1 electrode, earth connection

ECELL3 Off-line holder for 2 electrodes and Temperature probe



CLS1 holder holder for CLS amperometric ion-selective chlorine sensor. Flow rate adjustment and proximity switch. Manual sampling.

CLS2 holder holder for CLS amperometric ion-selective chlorine sensor and either pH or Rx or temperature probes. Flow rate adjustment and proximity switch. Manual sampling.

CLS3 holder holder for pH, Rx electrodes, CLS amperometric ion-selective chlorine sensor, temperature probe. Flow rate adjustment and proximity switch. Manual sampling.

SUBMERSIBLE ELECTRODES HOLDER



ESUB submersible holder, PVC body, length 50 cm (on request 1 m, 1,5 m).

IN-LINE ELECTRODES HOLDERS



ELINE1 In-line electrode holder, PVC or AISI316, connection 1/2"



ELINE2 In-line electrode holder, PP, connection 1/2"