

Measure and Control technologies

Solenoid Driven Dosing pumps

Motor Driven Metering pumps

Peristaltic dispensers

Sensors and Electrodes

Monitor Control Panels

Accessories



MEASURING PARAMETERS: Free (residual) and Total chlorine; pH, RX (ORP); Conductivity EC (μ S); Hydrogen Peroxide; Bromine; Ozone; Chlorine Dioxide; Cooling Towers controllers.

TOUCH series



TOUCH series are work-in progress controllers whose functions make it the most versatile controller on the market. TOUCH series can be considered a Central management unit for BMS (Building management system) and Domestic.



- Touch screen display controllers;
- Auxiliary outputs for remote equipment; Sensor cleaning;
- Expansion of relay outputs configuration;
- Real time clock driving Aux and Start-up/Stop operations;
- mA outputs, adjustable settings and galvanic isolation;
- Universal power supply 100-250 Vac (on request 12Vdc);
- ON-OFF and Timed pulses (PWM) modes; PH priority; Max dosing time safety function; Over dosage; Hysteresis; Delay; Start up delay; Alarms; Level control; Proximity switch functions; Basic/Expert menu;
- Manual / Automatic temperature, programmable set point;
- Graphic charts and data logger download;
- Standard Ethernet (LAN) connection, Modbus TCP;
- FWT SmartApp® software included
- RS485 Modbus protocol;
- Software includes graphic charts and data download.

OPTION UPON REQUEST:

- **WI-FI** connection: remote control by smartphone or tablet;

CTRL series



CTRL series is a compact system with single, dual and triple controller with various functions that make the unit extremely versatile keeping a high quality of performances and accuracy combined with an excellent price/quality ratio



- Large graphic display;
- mA outputs, adjustable settings and galvanic isolation;
- Universal power supply 100-250 Vac (on request 12Vdc);
- ON-OFF and Timed pulses (PWM) modes; PH priority; Over dosage; Hysteresis; Delay; Start up delay; Alarms; Level control; Proximity switch functions;
- Manual / Automatic temperature, programmable settings;
- Basic / Expert programming menu;

FEATURES COMMON TO CTRL3; CTRL2/6; CTRL+

- Possibility to expand relay outputs;
- Auxiliary outputs driving remote equipment;
- Open chlorine cell automatic cleaning;
- Max dosing time safety function;
- Real time clock configurable to Start-up/Stop operations;

OPTIONS UPON REQUEST:

- **ETHERNET** / RS485 connection **EXTERNAL** module;
- FWT SmartApp® software

OTHER IMPORTANT FEATURES ENHANCING FWT CONTROLLERS QUALITY

- PH measurements can be changed to RX just changing the parameter during programming and using RX electrode;
- Chlorine measurements features 4 chlorine ranges suitable for Membrane and Open type chlorine cell;
- Conductivity measurements features many ranges suitable for various applications including **Cooling Towers**;
- PPM measurements suitable for Membrane type sensors for various ranges and measurements: Hydrogen Peroxide; Bromine; Chlorine Dioxide; Absence of Chlorine.

COOLING TOWER CONTROLLER SERIES:

- Dosing of scale inhibitors and biocides; Inhibitor dosing operations via four monitoring modes; Biocide cycles via timer programming; Automatic blow-down operations via Conductivity measurements or Timer; Lockout and pre-bleed operations;

SOLENOID DRIVEN DOSING PUMPS

FWT offers three solenoid driven dosing pump series covering a wide range of performances.

MX / MXE series

Performance from 1,5 to 7 l/h; pressure from 4 to 15 bar



MX series main characteristics are:

- Stroke frequency adjustment;
- Wall mounting: includes a support bracket for easy quick mounting;
- Small dimension: for mounting into small cabinets and small environments;
- Ceramic ball checks valves, PTFE diaphragm, Plastic PP housing IP65.

MXE series main characteristics are:

- Excellent Price/Quality ratio;
- Lip type check valves.

FX / FXS series

Performance from 1,5 to 22 l/h; pressure from 2 to 20 bar



- FX features double controls: pulse frequency and stroke volume adjustment
- FXS features single control: pulse frequency adjustment

FX series main characteristics are:

- Foot mounting for horizontal mounting: available wall mounting bracket;
- Ceramic ball checks valves, PTFE diaphragm,
- Plastic PP housing IP65.

VX series

Performance from 5 to 30, 50 and 80 l/h; pressure from 1 to 20 bar



VX series main characteristics are:

- Stroke frequency adjustment;
- High performances;
- Wall mounting: Die-cast aluminium housing IP65;
- Plastic PP housing IP65;
- Ceramic ball checks valves, PTFE diaphragm.

MODELS AND DOSING MODES

- **C/A** Constant / ON-OFF analog controls
- **C/AL** Constant / ON-OFF with level switch
- **C/D** Constant / ON-OFF digital controls
- **P/D** Proportional to external digital contact

- **CS/D** Proportional to ext mA signal
- **MF/D** Multifunction: all the dosing modes in one
- **CTRL3** Dosing pump with pH or RX or Cl₂ controller
- **CTRL2** Dosing pump with pH-RX controller

OPERATING CONTROLS

STROKE FREQUENCY ADJUSTMENT

Two operating controls versions

Analog with L.E.D. indicators



Digital with display, L.E.D.



REGOLAZIONE CORSA DEL PISTONE

Stroke length to adjust injected volume in addition to impulse frequency; only FX series



All dosing pumps are provided with **level control** setting (except model C/A). Upon request Level floating switch with support bracket.

MAIN COMMON FEATURES

Power supply: 230 Vac ($\pm 10\%$) / 1 phase / 50/60 Hz
 Available: 110 Vac / 60 Hz; 12÷24 Vdc (limited range)
 Voltage working range: min. 207 Vac + Max 253 Vac
 Reproducibility under standard conditions: $\pm 5\%$
 Low power consumption

Each pump is provided with Accessories Kit comprising hoses, injection valve and foot valve.

LIQUID ENDS

Wetted Parts	Standard config.	Extra Option
Pump Head / Fittings	PP	PVDF
Ball check valves	CERAMIC	LIP TYPE
Seal / o rings	FPM (Viton®)	EPDM
Diaphragm	PTFE	-----

MOTOR DRIVEN DOSING PUMPS

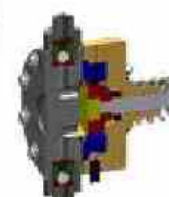
FWT offers four motor driven metering pump series covering a wide range of performances.

MAIN COMMON FEATURES FOR ALL METERING PUMPS

- ⇒ Gearbox in cast aluminium protected with Epoxy paint;
- ⇒ Flow rate adjustment via stroke length from 0-100% whilst in operation or at rest;
- ⇒ Motor/gearbox are coupled by a flexible coupling thus increasing transmission life;
- ⇒ Standard power supply: 230/400 Vac 50 Hz / 275/480 Vac 60 Hz; 3 phase; +/- 10%;
- ⇒ Standard motors are vertical mounting "TEFC, B14 type, ~ 1400 rpm;
- ⇒ Motors configuration • 0,18 kW • 0,25 kW • 0,37 kW • 0,55 kW • 0,75 kW
- ⇒ FWT offers a wide range of accessories and special configurations for a complete service



	LIQUID ENDS		
	STANDARD CONFIGURATION	Option	
WETTED PARTS	AA	CA / BA	VT
Pump head	AISI 316L	PP (CA) / PVC (BA)	PVDF
Piston	AISI 316L	CERAMIC	CERAMIC
Piston gaskets	NBR (or FPM or EPDM)	FPM (or EPDM)	FPM (or EPDM)
Ball check valve	AISI 316	CERAMIC	GLASS PYREX
Diaphragm	PTFE / NBR	PTFE / NBR	PTFE / NBR



MECHANICAL ACTUATED DIAPHRAGM METERING PUMPS

Mechanical diaphragm type pumps are suitable when:

- ✓ Zero leakage is essential
- ✓ Pumped liquid contains suspended solids particles

D series

- Flow rates from 18 to 1000 l/h
- Pressures from 8 to 3 bar
- Standard motor 0,18 kW
- Small dimensions



PUMP ADJUSTMENT REMOTE CONTROL



- ✓ Inverter to control pump flow via remote control from external input signal 4÷20 mA
- ✓ Servomotors stroke length control 4÷20mA or 3÷15 psi
- ✓ Controller with timer to manage external contacts (eg. water meter) recommended for proportional dosing.

PLUNGER TYPE METERING PUMPS

Piston type pumps are suitable when:

- ✓ High pressure dosing is required
- ✓ High flow rate dosing is required
- ✓ Dosing high viscosity liquids

PS series

- Flow rates from 6 to 190 l/h
- Pressures from 16 to 3,5 bar
- Standard motor 0,18 kW
- Small dimensions



PM series

- Flow rates from 14 to 1027 l/h
- Pressures from 25 to 6,5 bar
- Standard motor configuration 0,18÷0,25÷0,37÷0,55÷0,75 kW



PERISTALTIC DISPENSER

VPER



l/h	Bar
1	3
4	3
12	1

VPER series: peristaltic dispensers with flow adjustment from 0 to 100%, enclosed into IP 65 reinforced polypropylene housing. Flow is controlled by adjusting motor speed by means of a knob.

- Rollers with guides and fastener clips ensure hose firm in place
- Standard peristaltic hose: Santoprene (available on request Silicone)
- Universal power supply 90÷236V 50Hz (available 110-24Vac - 12-24Vdc)
- Level control on request
- Available removable power cable with connector

UPER



l/h	Bar
0.5	1
1.1	1
2.2	1
3.3*	1
6.0*	1

UPER series: fixed constant flow rate without housing for internal mounting into other equipment enclosures.

- Power supply 230Vac 50/60Hz; optional 24Vdc-ac; 240V; 110V 60Hz

NOTE*: types 4,4 l/h and 6,6 l/h feature only 12-24Vdc voltage

UPER C



l/h	Bar
1	3
3	1
12	1

UPER C series: fixed constant flow rate enclosed into IP 65 reinforced polypropylene housing.

- Rollers with guides and fastener clips ensure hose firm in place
- Standard peristaltic hose: Santoprene (available on request Silicone)
- Power supply: 230Vac 50Hz (available 110-24Vac - 12-24Vdc)
- Level control on request
- Available removable power cable with connector

UPER EC



l/h	Bar
1	3
3	1
12	1

UPER EC series are peristaltic dispensers automatically driven by an integral CONDUCTIVITY meter (micro Siemens) which assures a specified concentration of detergent into the basin, automatically reinstating it if such concentration is different from the one previously set by the operator. Sensor provided with unit. Enclosure as V-PER.

- Standard peristaltic hose: Santoprene (available on request Silicone)
- Power supply: 230Vac 50Hz (available 110-24Vac - 12-24Vdc)
- Conductivity range: 500 ÷ 20.000 µS

VPER HF



l/h	Bar
100	1,5

UPER HF series: with flow adjustment from 0 to 100% for high flow rate performances with max 1 bar pressure.

Flow is controlled by adjusting motor speed by means of a knob.

- Strong plastic rollers assembly hinged at front plastic clear cover
- Rollers with guides and fastener clips ensure hose firm in place
- Reinforced polypropylene housing heat resistant
- Santoprene hose 9,6x14,4 mm (Silicon on request)
- Universal power supply 90÷236V 50Hz

TVPER



l/h	Bar
1	3
3	1
12	1

TVPER series: with integral TIMER (Digital settings); flow adjustment from 0 to 100% of the motor speed. Enclosed into plastic modular housing. Recommended for applications such as dosing biological activators, odours control, dosing hydrogen peroxide.

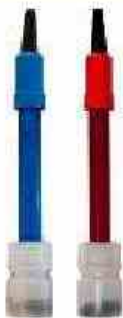
- Standard peristaltic hose: Santoprene (available on request Silicone)
- Power supply: 230Vac 50Hz (available 12-24Vdc)
- Level control on request

Each peristaltic is provided with Accessories Kit comprising hoses, injection valve and foot valve.

ELECTRODES AND SENSORS

FWT features a complete range of electrodes and sensors to complement our range of controllers.

ELECTRODES PH and RX with cables



Plastic body electrodes satisfy most of the technical requirements featured in typical small installations such as pools and small water treatment systems.

Electrodes are provided with coaxial cable 0,5, 1 or 5 meters.

Each electrode includes a single buffer solution storage container.

ELECTRODES PH and RX glass body



Glass body electrodes for those applications where special performances are required such as high temperatures and pressure and higher quality response.

Glass body electrodes do not feature a coaxial cable, which are available upon request. Connectors S8-P13,5.

MEMBRANE SENSORS



Ion-selective membrane potentiostatic sensors.

Measuring parameters: Free and Total chlorine; pH, RX (ORP); Hydrogen Peroxide; Bromine; Ozone; Chlorine Dioxide; Dissolved Oxygen; Absence of chlorine.

- CC1 Free chlorine Inorganic-Organic: NaOCl ; $\text{Ca}(\text{OCl})_2$; chlorine gas;
- CLST Total chlorine; $\text{Ca}(\text{OCl})_2$; chlorine gas; ▪ CN1H Absence of chlorine;
- AS2N Free Chlorine Inorganic, open system, 8 bar; ▪ BR1-N Bromine;
- CLS WP Hydrogen Peroxide; ▪ CLS OZ dissolved ozone.

OPEN CHLORINE CELLS



Amperometric free chlorine cell; "open" system; body in PMMA

- CLC2 free chlorine cell, pH and RX electrodes holder, temperature holder, flow adjustment for in-coming water flow;
- CLC2/P free chlorine cell, pH or RX and temperature holder, provided of proximity switch, in-coming flow adjustment.

CONDUCTIVITY PROBES



Conductivity sensors for cooling towers, boilers and water treatment systems

- High resolution sensors in graphite stem body;
- Sensor with graphite electrodes, body PTFE; two electrodes open system, provided with 4 m. cable.

OTHER SENSORS



Temperature; Proximity switch

- Temperature sensor: with stem or tap body, measurement type PT100 or NTC;
- Proximity switch: inductive flow sensor to detect the presence of incoming water flow into the electrode holder.

SENSOR HOLDERS



Off-line sensor holders, in-line holder, immersion holder.

- OFF-LINE SENSOR HOLDER in-line probe cell able to lodge many components according to system and measurement requirements: modules for electrodes, temperature and flow sensors, conductivity stem sensors, membrane sensor, flow adjustment for in-coming water flow.
- IN-LINE HOLDER: installation in the pipe system;
- IMMERSION HOLDER: body in PVC, length from 0.50, 1 and 1,5 m;

COOLING TOWERS MONITORING AND DOSING

FWT staff has many years of experience and a comprehensive product range for all processes connected with cooling water conditioning, in a wide variety of designs for every application. FWT offers a special controllers series for centralising control that addresses the operation of cooling towers; specially designed for cooling water treatment and blow-down operations, air scrubbers and humidifiers of any industrial air-conditioning systems.

MODELS AVAILABLE

CTRL EC COOL / CTRL2 PHEC COOL with the addition of PH (or RX/ORP) controller.

EC COOL main features:

- Automatically monitoring total dissolved solids and desalination through Conductivity measurements, driving an electro valve or via TIMER;
- Accurate dosing control of scale inhibitors and biocides;
- Corrosion inhibitor dosing via four different operative modes;
- Control of two biocides dosing pumps: Biocide cycles via timer programming;
- Automatic blow-down operation lockout and pre-bleed operations;
- 4-20mA analog current output mode for remote control equipment;
- Flow sensor (proximity switch) function;
- Level control for external chemical tanks



FERTIRRIGATION

Fertigation has increased intensely in the past 15 years, particularly for sprinkler and drip systems. In agricultural areas with declining water supplies, drip systems have also increased. With increased irrigation, a corresponding increase in fertigation has taken place. The need for irrigation is the main factor in fertigation because the irrigation system is primarily installed to provide water: the opportunity to fertigate is an added benefit.

FWT Products list for fertirrigation systems:

- Heavy-duty diaphragm fertilizer metering pumps with stroke length adjustment;
- Solenoid driven dosing pumps for drip systems, horticultural, high value crops;
- Proportional dosing to external digital contact from pulse water meters;
- EC (conductivity) controller with probe;
- PH and Chlorine controllers.



MAIN APPLICATIONS DUTIES

FWT Srl products are used in many application fields according to the specific technical requirements. Customer can be sure that from our team he will always receive the correct solution with respect to chemical dosing handling and measurement.

FWT Products list for fertirrigation systems:

- WATER TREATMENT
- WASTE WATER TREATMENT
- COOLING TOWERS
- SWIMMING POOLS, AQUAPARKS, SPAS
- FERTIRRIGATION AND GREENHOUSES
- CIP (CLEANING IN PLACE) AND SIP (STERILISATION IN PLACE)
- ELECTROPLATING
- ANIMAL FEEDING AND KEEPING
- BEVERAGE, WINERIES, BREWERIES
- FOOD INDUSTRY
- SHIPPING INDUSTRY
- BIOTECHNOLOGIES
- HYGIENE AND CLEANING INDUSTRY



DOSING PUMPS ACCESSORIES

FWT offers a wide range of accessories for dosing pumps and controllers to ensure a complete service.

- Electric Mixers
- Manual Mixers



- Suction lances
- Extractable lances



- Dosing tanks PE
Capacity up to 1000 lt



- Safety valves
- Counterpressure valves
- Pulsation dampers



- Pulse emitter water meter (threaded) from 1/2" to 2"
- Pulse emitter water meter (flanged) from 2" to 8"

MONITORING AND CONTROL PANELS

FWT offers wide range of complete panel mounted stations for in-line measuring and control, which are available in a variety of designs covering most of requirements for systems installations. FWT panels allow also a full customization according to individual application. FWT panels cover all pool requirements, from residential swimming pool to aquaparks.



FWT (Fluid and Water Technology) is a company formed with specialised experts with over twenty years of experience in liquid handling dosing systems and measuring systems. All the staff has been operating in these fields covering all key positions concerning customer service, research & development, trading, production.

FWT offers a wide range of accessories and sensors to guarantee a complete service.

If you are interested to receive our complete catalogue and price list, please contact our International sales department.

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