



**WATER TREATMENT**









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# WATER TREATMENT

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# Water Treatment



## ► Automatic PH / PPM Controller Auto Pro 1000



### Automatic PH , Chlorine and redox / ORP Controller

Proteam Europa advanced AUTOPRO 1000 allows operators of complex water-treatment applications such as cooling tower control systems to manage multiple parameters including pH, ORP, conductivity and flow rate simultaneously and with the greatest precision. Via an intuitive seven-key control pad and 20-character alphanumeric display, users can check the statistics on the life of the probes and the operating life of the controller while a data logger function provides information that helps monetarize results from the measurements. Users also benefit from analogue and digital outputs that can be set via software plus an "electrode quality" function that gives the operator the power to optimize performance, making this the water treatment controller of choice for industry professionals.

### Fomat and display

Auto pro 1000 is housed in a 280 x 290 mm IP65 enclosure and is equipped with a 4- line, 20 - character LCD display

### Multi- parametric

Auto pro 1000 is multi-parametric control instrument capable up to six simultaneous measurement for professional water-treatment applications,

### Statistical data

By activating the statistics function, the user can view the details of the acquired measurements or rest the stored statistics.

### Multi- method relay activation

The relay can be programmed in three different modes : a ) attivation when a threshold value is exceeded; b) timed activation; c) in PWM modee (in ON /OFF mode with increasing OFF times as the threshold is approached).

### Control Panel

The advanced menu allows the user to carry out self - diagnostics and view the status of relays, 220-4 mA outputs, calibration parameters and firmware version.

### Dosing pump Auto Pro

Code	Bar	l/h	Stroke	ml/Stroke	Tubing	Consumption
Pro 100	8	5	160	0.63	4X6	22W
Pro 200	5	15	300	0.83	4X6	33W
Pro 300	4	32	300	1.78	8X12	37W



Probe Holder



Probes for Chlorine





# Water Treatment



## ► Automatic PH / PPM Controller Auto Pro 1000



Probes for PH



Probes for ORP

### Automatic Dosing panel with integrated PH controller

#### Available measures

Measure	Range	Nominal accuracy
pH	0-14 pH	± 0.01 pH
ORP	+ 2,000 mV	+1 mV
Electrical conductivity	0.054-200,000 µS	±2%
Dissolved oxygen	0-20 ppm	±2%
Flow rate	0-99,999 l/s	± 0.5 Hz
Chlorine	0-200 ppm	± 0.01 ppm
Paracetic acid	0-99,000 ppm	± 0.01 ppm
Hydrogen peroxide	0-99,000 ppm	± 0.01 ppm
Bromine	0-10 ppm	± 0.01 ppm
Ozone	0-99,000 ppm	± 0.01 ppm
Temperature	0-100°C	+ 0.2°C

Water Treatment

#### Technical Features

Features	Description	
Multiple measure	Combination from the above list	Double channel
Calibration	Single or double point	Wizard calibration routine
Temperature measure	Compensation of Measurements or	PT100 sensor
Voltage input	activation of an output	24 Vac
Reed input	Hold function	Dry contact
Serial port	Hold function	Modbus RTU/ASCII
Six output relays	RS485 protocol	4 are powered 10A - 250 Vac
Two solid state relay	Normally-open status	2 are dry contact 10A - 250 Vac
Four solid state relays Four	Output frequency signal	1-120 pulses/minute
4 - 20 mA outputs	Output current analogue signal	500 ohm max load
Display	Alphanumeric display	4X20 LCD
Power supply	100 - 240 Vac	CE Class I (earth connection required)
Enclosure box	278 x 285 x140 mm	Wall mounting with bracket - IP65





# Water Treatment



## ► Automatic PH ORP / Redox Controller Auto Pro Mini



**Auto Pro Mini**



**Auto Pro Mini 500**



### Automatic PH / ORP Digital Controller

Digital Controller automatically maintains both sanitizer ORP (oxidation-reduction potential or Redox) and water pH in pools and spas. All operating functions are clearly labelled and accessible from the front panel, with safety and easy reset features not found on other controllers. The standard pH control level is 7.5. Below 7.4, the water is too acidic and causes corrosion and eye irritation. Above 7.6, it is too alkaline and causes eye irritation plus water cloudiness, scaling, stains and reduced sanitizer efficiency. The standard ORP control level is 700 mV, based on World Health Organization (WHO) and Health Department and National Spa and Pool Institute (NSPI) values for prevention of germs and bacteria.

### Parameters and Specification

pH (0 – 14)	
ORP (0 – 1,000 mV)	
Flow rate:	5 l/h
Pressure:	5 bar
ORP sensor:	Platinum electrode with 10-ft (3 m) cable
pH sensor:	Glass electrode with 10-ft (3 m) cable
Dimensions:	205 x 194 x 133 mm (LxHxD)
Material:	ABS
Alphanumeric display:	16 characters x 2 lines
Power supply:	220 Vac, 50/60Hz

### Automatic PH / CL / ORP Digital Controller

The new PPM Sensor is a solid state sensor with a selective membrane that provides direct readings of Free Chlorine in water at concentrations ranging from 0.1 to 14 ppm (parts per million) or mg/l (milligrams per litre). These are true readings of Free Chlorine and approximate values derived from ORP readings. A significant advantage of this sensor is that it's not affected by cyanuric acid (CYA) stabilizer and/or oxidizers, thereby assuring constant Free Chlorine levels at all times. Extensive laboratory and field test have shown it to be very accurate and reliable. PPM/pH Controller automatically maintains both Free Chlorine concentration and pH of the water. All operating functions are clearly labelled and accessible from the front panel, with safety and easy-reset features not found on other controllers. The Free Chlorine concentration can be adjusted from 0.1 to 10 ppm (or mg/l) based on local Health Department and National Spa and Pool Institute (NSPI) values for prevention of germs and bacteria (or from 0.01 to 2.0 for low chlorine level applications). The standard pH control level is 7.5. Below 7.4, the water is too acidic and causes corrosion and eye irritation. Above 7.6, it is too alkaline and cause eye irritation plus water cloudiness, scaling, stains and reduced sanitizer efficiency.

### Parameters and Specification

Parameters:	pH sensor:	Glass electrode with 10-ft (3 m) cable
pH (0 – 14)	Dimensions:	205 x 194 x 133 mm (LxHxD)
ORP (0 – 1,000 mV)	Material:	ABS
Free chlorine (0 – 5 ppm)	Alphanumeric display:	16 characters x 2 lines
Flow rate:	Power supply:	230V, 50/60Hz
Pressure:		
ORP sensor:		Platinum electrode with 10-ft (3 m) cable

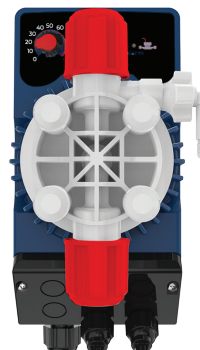
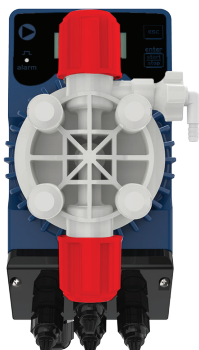


# Water Treatment



## ► Dosing Pump

### Solenoid Driven Dosing Pump



### Key Features

Double scale pulse frequency selector 0-100% and 0-20% | PTFE diaphragm | Constant / On-Off dosing control 2 LED display status | Analogue Controls | Economically priced | On-Off power switch | Dosing Head with integrated priming valve | Double Ball valves Wall Mount with bracket & fixing kit | Reinforced plastic PP housing | Supplied complete with hose accessory kit | On request Low Level Facility Switch

Water Treatment

#### Liquid Ends Material HC1 & HC3

Pump Head	Standard Version	Upon Request
Diaphragm	PP	Up to 18 L/H - PVDF Up to 10 L/H - PVC Self Degassing Head
Balls	PTFE	-
Connection Fitting	Glass Pyrex	PTFE - Ceramic
Seals/O-Rings	PP	PVDF
Spring Loaded Injection Valve	Viton	Dutral
Injection Fitting	Hastelloy/Pirex	Hastelloy/(PTFE, AISI 316, Ceramic)
Foot Valve/ Filter Fitting	pp	PVDF
Suction Hose/Air Bleed Hose	PVC	-
Discharge Hose	PE	-

### PTM100 - Solenoid Driven Dosing Pump

The PTM100 is a solenoid driven dosing pump, diaphragm actuated, designed for standard duties where rugged features and constant dosing operation guarantee a reliable performance. PTM100 is an excellent price quality product suitable for simple applications such as swimming pools, boilers, cooling towers, water treatment systems. Also available PTM100 PRED LIV which includes the level control and is not provided with low level probe. PTM100 is the dosing friend that will always makes sure the job gets done!

### Technical Features

Code	Max Flow/ Pressure l/h Bar	Stroke Freq. (Per Min)	Stroke Volume (ml/l)	Hose Size (mm)	Max Suction (Lift m)
00753108	1.2 10	120	0.17	4x6	1.5
00753207	1.5 6	120	0.21	4x6	1.5
00753212	2.5 20	120	0.35	4x6	1.5
00753405	3 18	120	0.42	4x6	1.5
00753508	4.2 14	120	0.58	4x6	1.5
00753518	5 10	120	0.52	4x6	1.5



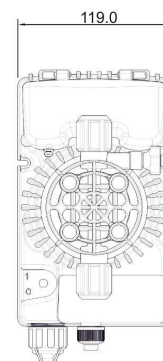
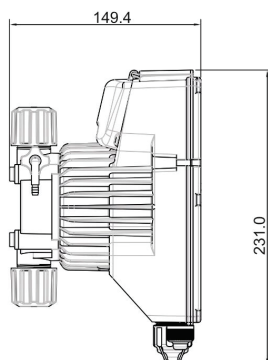
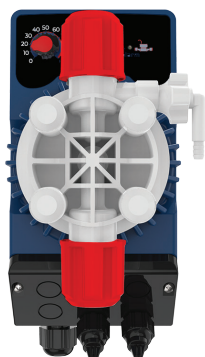


# Water Treatment



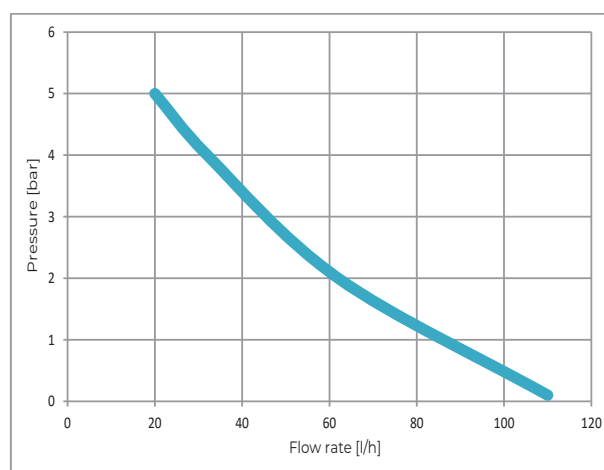
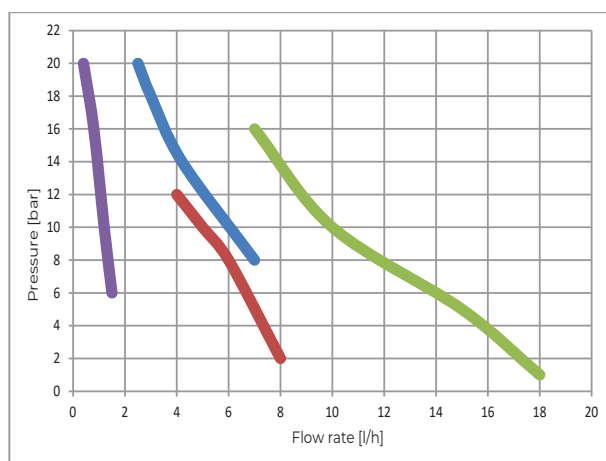
## ► Dosing Pump

### Solenoid Driven Dosing Pump



### Technical Specification

Code	Max Flow/ Pressure l/h Bar		Stroke Freq. (Per Min)	Stroke (ml/l)	Tube Dia (mm)	Power Consumption
00753509	6	8	160	0.63	4x6	22W
00753510	8	2	160	0.83	4x6	22W
00753511	7	16	300	0.39	4x6	33W
00753512	10	10	300	0.55	4x6	33W
00753513	15	5	300	0.83	4x6	33W
00753514	18	1	300	1.00	4x6	33W
00753515	20	5	300	1.11	8x12	37W
00753516	32	4	300	1.78	8x12	37W
00753517	62	2	300	3.44	8x12	37W
00753518	110	0	300	6.11	8x12	37W



# Water Treatment



## ► Dosing Pump



### Electronic / Automatic Solenoid Driven Dosing Pumps

The Pro series 600 PH/RX electronic solenoid driven dosing pump has an integral pH/Redox controller with a single control set point which monitors the pH/Redox level of water. Its main purpose is to operate the pump if this level goes above or below the set point. This set point can be adjusted and features a digital display of the value at any time. Connection to the electrode is made via a BNC connector. PTM 300 PH/RX is designed to feature closing pumps duties and the function of top quality controller.

Liquid Ends Material HCl & HCl3		
	Standard Version	Upon Request
Pump Head	PP	Up to 18L/H- PVDF Up to 10 L/H - PVC Self Degassing Head
Diaphragm	PTFE	-
Balls	Glass Pyrex	PTFE - Ceramic
Connection Fitting	PP	PVDF
Seals/O-Rings	Viton	Dutral
Spring Loaded Injection Valve	Hastelloy / Pirex	Hastelloy / (PTFE, AISI 316, Ceramic)
Injection Fitting	PP	PVDF
Foot Valve/ Filter Fitting	PP	PVDF
Suction Hose	PVC	-
Air Bleed Hose / Discharge Hose	PE	-

Water Treatment

### Key Features

Built-in pH-Rx instrument | pH measuring range: 0/14 pH | Redox/RP range +/- 1000 mV | Electronic Frequency control PTFE diaphragm | 2 Lines LCD display | Stop/Start button | Proportional and ON/OFF control modes Dosing Head with integrated priming valve | Microprocessor technology Digital keypad controls | Double Ball valves | Wall Mount with bracket & fixing kit | Optional Horizontal mount bracket at extra cost Reinforced Plastic PP housing IP65 | Supplied complete with hose accessory kit | Provided standard with Low level Facility

### Technical Specification

Code	Max Flow/ Pressure l/h Bar	Stroke Freq. (Per Min)	Stroke Volume (ml/l)	Hose Size (mm)	Max Suction (Lift m)
00750209	2 9	120	0.27	4x6	1.5
00750509	5 9	120	0.69	4x6	1.5
00751004	10 4	120	1.38	4x6	1.5
00751008	10 8	120	1.38	4x6	1.5
00751804	18 4	120	2.77	4x6	1.5
00753002	30 2	120	4.16	10x14	1.5
00755051	50 0.5	120	6.94	10x14	1.5





# Water Treatment



## ► Dosing System



PROTEAM EUROPA TOP PRO - Pool closing system complete assembled panel Complete pool Panel System with Multifunction Controller and Proportional Regulation of PH, Redox, Free Chlorine, and pH Temperature compensation control, comprised of

### Key Features

1 x acid dosing pump AT300mA 05-09 | 1 x chlorine dosing pump AT300mA 10-04 | 1 x controller A-MULTI PHRXCLT Intrumen | 1 x Water filter with 80 micron cartridge | 1 x Ampere-metric free chlorine cell ACG3 series | 1 x pH electrode 1M. cable | 1 x Rx electrode 1M. cable | 1 x Proximity switch | 1 x Temperature sensor STE2 | 2 x Low level switch | 3 x Buffer solutions bottles for (pH/Rx) 230 vAC

### Multifunction Controller Model PROTEAM-MULTI PH RX CL

Multifunction Instrument for measurement & proportional control of pH, ppm free chlorine (residual), Redox (ORP), temperature. Microprocessor and SMD Digital Controlled Technology & LCD alphanumeric back-lit display 2x16.

5 Set-Points each adjustable with ON/OFF Volt Free outputs (2/ph, 2/CL, 1/Rx)  
Times pulse proportional volt free relay output  
3 x 4-20mA outputs for chart recording  
3 x 4-20mA proportional outputs with galvanic isolation for dosing pumps.  
Hysteresis adjustment of ON/OFF set-points  
Programmable Delay setting for each set-point at 99 sec  
Proportional pulse timed output for each set-point  
Block of relays outputs with proximity switch signal  
Function to control "Shock treatment" via programmable timer  
Automatic temperature compensation and reading through temperature probe  
Plastic enclosure IP65  
Upon request serial ouput RS232 for PC remote control

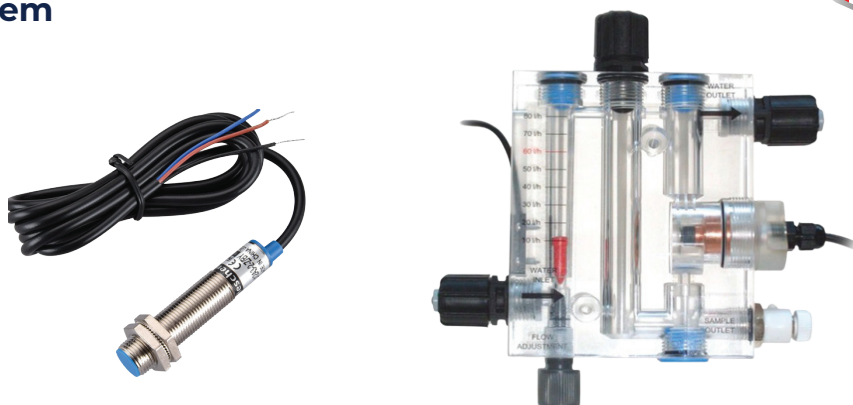
	Technical Characteristics			
	pH	Free Chlorine	RX	Temperature
Range	0-14.00pH	0-10.00ppm	0-1999mv	0-100°C
Resolution	0.001pH	0.01ppm	1mV	0-1°C
Input Probes	pH Electrode	Ampere-metric Cells	Rx Electrode	Temp.Prob PST2
Connections	BNC Connector	Connections Clamp	BNC Connector	Connections Clamp
Set-Points	2 On-Off	2 On-Off	1 On-Off	-



# Water Treatment



## ► Dosing System



### Each PROTEAM-series pump is provided standard with the following accessories:

1 x Injection Valve with hastelloy spring and ball Pyrex | 1 x Foot Valve/Filter | 2M x Delivery Hose PE  
2 x 1.5M of suction and priming | Clear PVC hose | 1 x Low Level probe switch | Set of screws, Wall mounting bracket and rawplugs

Power supply	230 Vac-1 phase-50/60 Hz / + 10%
Power cable	1.5 m grounded with plug
Panel dimensions mm	600 x 1000 x 155
Panel material	PVC

Solenoid driven dosing pump model AT300 mA | PTFE diaphragm | Flow rate control by stroke frequency 0,100% | Proportional control via 4-20 mA signal | Microprocessor Technogy & Digital controls 2 LED display status | On-Off power switch | Low Level control and Probe | Air Bleed valve for priming

Water  
Treatment

### Liquid Ends Material AT3- series Dosing Pump

Pump Head	Standard Version	Upon Request
Diaphragm	PP	PVDF
Balls	PTFE	-
Connection Fitting	Glass Pyrex	PTFE - Ceramic
Seals/O-Rings	PP	PVDF
Spring Loaded Injection Valve	Viton	Dutral
Injection Fitting	Hastelloy / Pirex	Hastelloy / (PFTE, AISI 316, Ceramic)
Foot Valve/ Filter Fitting	PP	PVDF
Suction Hose/Air Bleed Hose	PVC	-
Discharge Hose	PE	-

### AT3 Characteristics

Model	l/h	Bar
AT-500	5	9
AT-600	15	5





# Water Treatment



## ► Dosing System



### CHEMTROL 255 - PPM/PH DIGITAL CONTROLLER

The CHEMTROL™ 255 PPM/pH Controller introduces a technological breakthrough in automated water treatment with a new sensor for Free Chlorine.

#### TRUE PPM READINGS

The new PPM Sensor is a solid state sensor with a selective membrane that provides direct readings of Free Chlorine in water at concentrations ranging from 0.1 to 10 ppm (parts per million) or mg/l (milligrams per litre). These are true readings of Free Chlorine and not approximate values derived from ORP readings. A significant advantage of this sensor is that it's not affected by cyanuric acid (CYA) stabilizer and/or oxidizers, thereby assuring constant Free Chlorine levels at all times. Extensive laboratory and field test have shown it to be very accurate and reliable. The CHEMTROL™ 255 PPM/pH Controller automatically maintains both Free Chlorine concentration and pH of the water. All operating functions are clearly labelled and accessible from the front panel, with safety and easy-reset features not found on other controllers. The Free Chlorine concentration can be adjusted from 0.1 to 10 ppm (or mg/l) based on local Health Department and National Spa and Pool Institute (NSPI) values for prevention of germs and bacteria (or from 0.01 to 2.0 for low chlorine level applications). The standard pH control level is 7.5. Below 7.4, the water is too acidic and causes corrosion and eye irritation. Above 7.6, it is too alkaline and cause eye irritation plus water cloudiness, scaling, stains and reduced sanitizer efficiency.

#### Specifications

PPM control	Standard from 0.1-10 ppm (mg/l). Optional from 0.01 to 2.0 ppm (mg/l)
pH control	Adjustable from 7.0 to 8.0
PPM sensor	Solid state with selective membrane
pH sensor	Glass electrode with 10 10-ft (3 m) cable
Readouts	PPM (3 digits) and pH (2 digits) LEDs
Feed modes	Manual, automatic, proportional
Adjustments	Setpoint, calibration, limits, feed rate
Indicators	LEDs for feed mode, feed status, alarms
Safety	Audio, visual and remote alarms. Out-of-range limits and overfeed safety timers
Cabinet	Polystyrene 9x7x4 in. (22x18x10 cm)
Electrical	110V, 230V or 24 VAC (specify)
Plumbing	PVC tees for 1-1/2" or 2" line
Warranty	5 years on electronic module. 1 year on all other parts
Shipping	9 lbs (4 kg) without pumps. 18 lbs (8 kg) with 2 chemical feed pumps



# Water Treatment



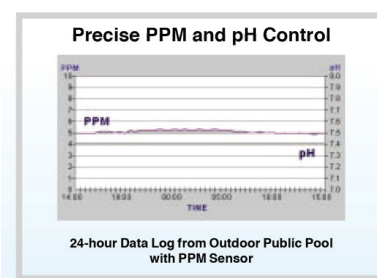
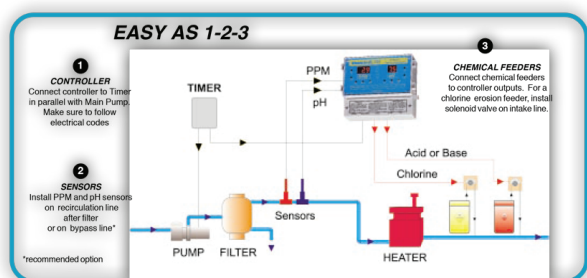
## ► Dosing System

### The CHEMTROL™ 250 ORP/pH - Digital Controller

Digital Controller automatically maintains both sanitizer ORP (oxidation-reduction potential or Redox) and water pH in pools and spas. All operating functions are clearly labelled and accessible from the front panel, with safety and easy reset features not found on other controllers. The standard pH control level is 7.5. Below 7.4, the water is too acidic and causes corrosion and eye irritation. Above 7.6, it is too alkaline and causes eye irritation plus water cloudiness, scaling, stains and reduced sanitizer efficiency. The standard ORP control level is 700 mV, based on World Health Organization (WHO) and Health Department and National Spa and pool Institute (NSPI) values for prevention of germs and bacteria.

### Specifications

PPM Control	Adjustable from 400 to 900 mV
pH control	Adjustable from 7.0 to 8.0
ORP sensor	Platinum electrode with 10-ft (3 m) cable
pH sensor	Glass electrode with 10-ft (3 m) cable
Readouts	PPM (3 digits) and pH (2 digits) LEDs
Feed modes	Manual, automatic, proportional
Adjustments	Setpoint, calibration, limits, feed rate
Indicators	LEDs for feed mode, feed status, alarms
Safety	Audio, visual and remote alarms. Out-of-range limits and overfeed safety timers
Cabinet	Polystyrene 9x7x4 in. (22x18x10 cm)
Electrical	110V, 230V or 24 VAC (specify)
Plumbing	PVC tees for 1-1/2" or 2" line
Warranty	5 years on electronic module. 1 year on all other parts
Shipping	12x12x12-in (30x30x30 cm) carton. 9 lbs (4 kg) without pumps. 18 lbs (8kg) with 2 chemical feed pumps



Water Treatment





# Water Treatment



## ► Dosing Tank



### Polyethylene Cylindrical Dosing Tank

Code	Description	Tank (L)	Dia
00753005	Dosing Tank	100	500
00753004	Dosing Tank	200	625
00753003	Dosing Tank	300	675
00753001	Dosing Tank	500	880
00753002	Dosing Tank	1000	1100

### Electric and Manual MIXERS

Code	Description	Lenght (mm)	Tank (L)	Motor Type
00751010	Manual Strrier	600	100	
00751011	Agitatore 1400	600	200/300	Monophase
00751012	Agitatore 1400	900	500/1000	Monophase
00751013	Manual Strrier	900	500/1000	

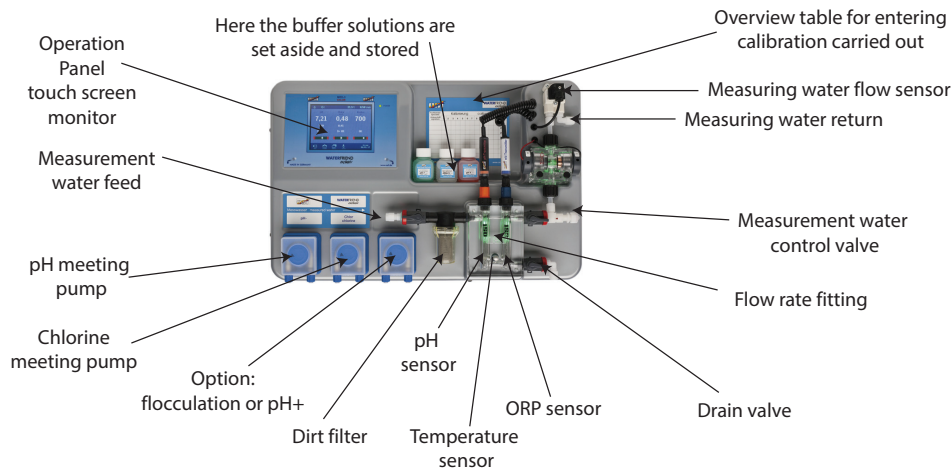


# Water Treatment



## ► Automatic Dosing System - Auto Pro Smart

### Auro Pro Smart - Chlorine - pH and ORP



Water Treatment

### Auro Pro Smart - Chlorine - pH and ORP With Touch - screen - Monitor And Internet Connection

The WATERFRIEND exclusive Chlorine MRD-3 system is the new improved version of the successful model WATERFRIEND exclusive MRD-3. It features a large colour touch screen display with a comfortable graphic user interface and an integrated web server. This innovative technology allows the remote access via internet, computer network or a smartphone.

#### Features

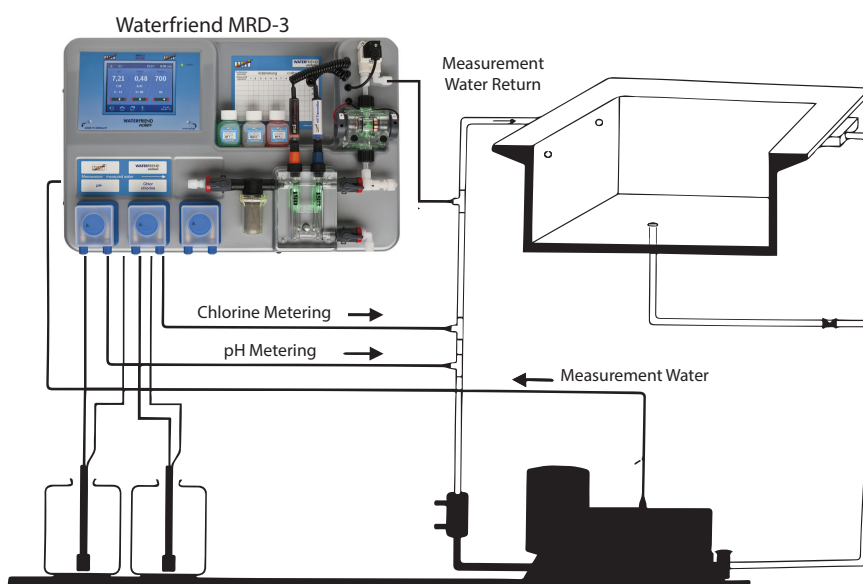
MRD-3 control unit (plastic housing, wall-mounting installation) | Chlorine level control sensor (amperometric) 2 electrodes mit osf-amplifiers with RGB coloured light indicator | 1 water flow rate meter 2 dosing pumps (max 10 l/h) with variable speed motors | 2 suction lances with floating switch | Illuminated osf flow chambers (transparent) with colour-coded calibration | 2 teflon injectors | 3 different buffer solutions (50 ml) Test water pipe and dosing pipe, 10 m each | 2 test water collection faucets | Measuring cup | Fittings and small parts. The high performance dosing pumps are driven by the special motors with adjustable speed. It is possible to adjust the flow rate from 0 to 10 l per hour. The new MRD-3 system is available with 2 or 3 dosing pumps. The intelligent speed control allows to flexibly suit the system to various size swimming pools, different water temperature and user profiles.



# Water Treatment



## ► Automatic Dosing System - Auto Pro Smart



pH and Redox sensor



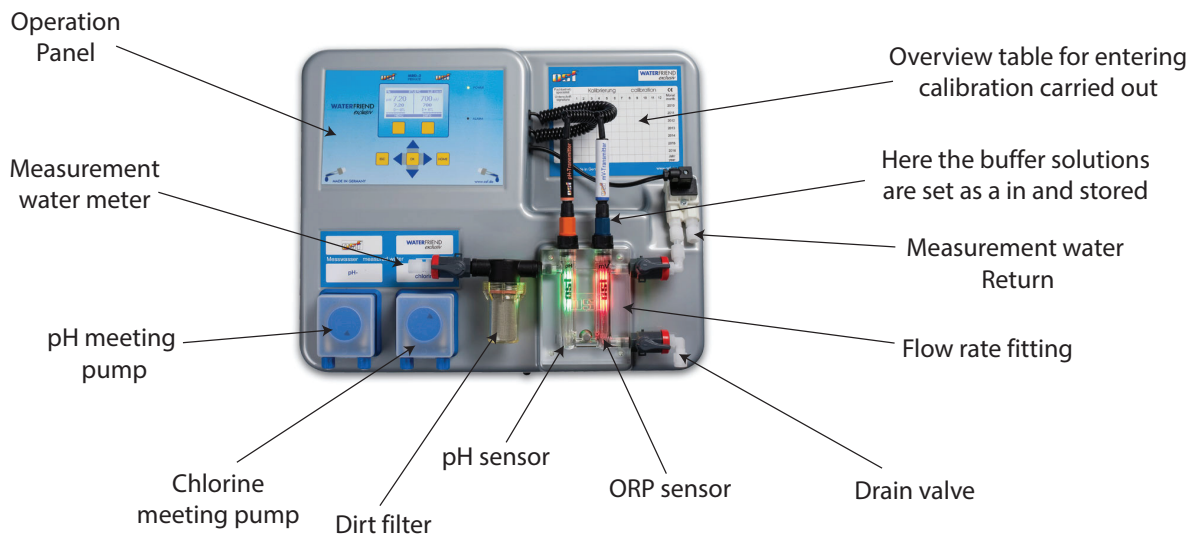


# Water Treatment



## ► Automatic Dosing System - Auto Pro Mega

### Automatic Dosing System pH and ORP



Water Treatment

### Automatic Dosing System pH and ORP

The WATERFRIEND exclusive system delivers the latest technology of automatic water quality control. Several microprocessors are responsible for control of different parameters. Apart from that they also control each other, thus providing the optimal reliability and safety in use. Colour LED provide information about calibration state.

#### Features

Control unit with the large LCD display (multi-language support) | 2 dosing pumps (max 10 l/h) with variable speed motors  
 2 electrodes mit osf-amplifiers | High quality flow rate control unit | 2 teflon injectors | Illuminated osf flow chambers (transparent) with colour-coded calibration indication  
 2 suction lances with floating switch | 3 different buffer solutions (50 ml) | Test water side and dosing side tubes, 10 m each 2 test water collection faucets | Fittings and small parts

The high performance dosing pumps are driven by the speical motors with adjustable speed. It is possible to adjust the flow rate from 0 to 10 ltr per hour. This intelligent speed control allows to flexibly suit the system to various size swimming pools, different water temperature and user profiles. The unit is serially equipped with the RS-485 connector for connection to the osf system and to our Pool-Control-TOUCH controls. In such combination the remote monitoring of the WATERFRIEND exclusive System can be done via computer network, mobile phone or WLAN.



# Water Treatment



## ► Chlorine Feeders



Code	Description	m <sup>3</sup>
00751050	Inline chlorine feeder	0.03

### Chlorine and Bromine feeder In -Line

Capacity	4.21 LBS/2kg
Max. Output	16 LBS/Hr.
Max. working pressure	50 PSI - 3.44 bar - 3.51 kg/cm <sup>2</sup>
Total height	20 cm.
Base diameter	14 cm.



Code	Description	m <sup>3</sup>
00751051	Inline chlorine feeder	0.03

### Chlorine and Bromine feeder In -Line

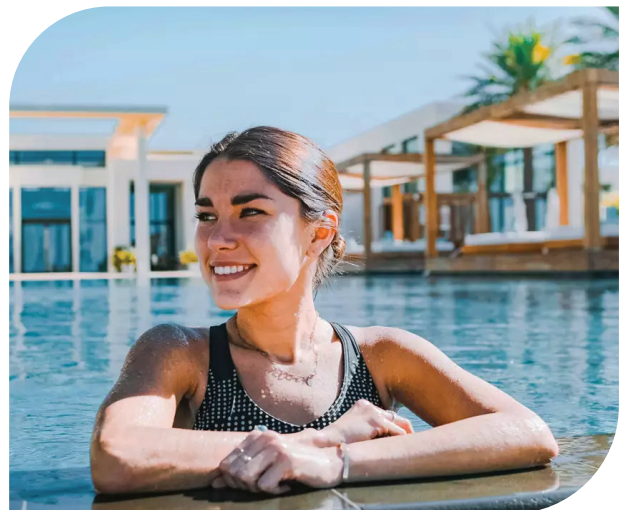
Capacity	9 LBS/4.08kg
Max Output	32 LBS/Hr.
Max. working pressure	50 PSI - 3.44 bar - 3.51 kg/cm <sup>2</sup>
Total height	36 cm.
Base diameter	18 cm.



Code	Pkg.Unit	Standard Wt. (Kg)	m <sup>3</sup>
00751053	1	-	-

### Floating Dispenser

Allows easy dosage of pool chemicals with capacity for 4 tablets of 200 grams each.



## Description

Chlorine Feeder manufactured from unalterable ABS plastic material. Fixed with double safety system cover with built-in, manual air relief valve. Easy to use adjustment regulation valve and drain plug. Has mounting fixture for safe operation and correct installation. Comes with 1½" internal in-and outlet thread connection. Flow direction indicator or housing for correct installation. Feeders are available in inline-models.



# Water Treatment



## ► UV - Residencial Pools



### Specification

Proteam Europa specially designed for sea water environment. The housing is made of high quality PVC which is anti corrosion and durable equipped with lamp and high purity quartz sleeves for high efficient and long term sterilization. The disinfection process fully closed with sound and light alarm device, no chemical reaction and by products

### Features

Stable and Accurate dosage, Service life of lamp is more than 10,000 hours, Excellent quartz tube provides transmittance over 99%. High quality UV lamp which can achieve 99% sterilization rate. Safe and reliable operation simplified and reduced maintenance.

Water  
Treatment

Code	Flow Rate (m <sup>3</sup> /h)	Total Power (W)	Voltage (V)	Connection Size (mm)
00960460	5	47	220/50Hz	DN63
00960920	8	93	220/50Hz	DN63
00960160	15	160	220/50Hz	DN63
00960320	25	320	220/50Hz	DN63

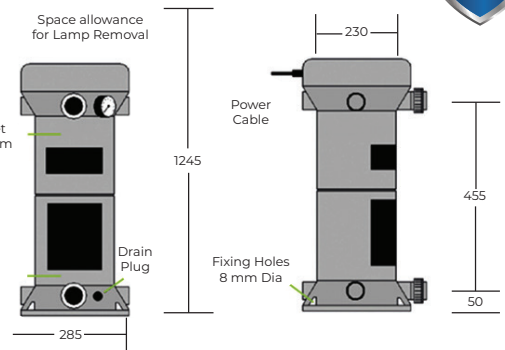
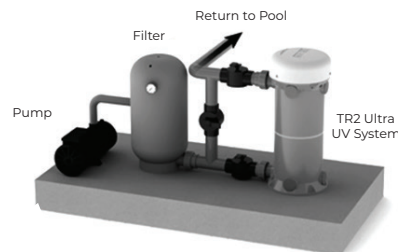




# Water Treatment



## ► UV Sterilizers



Code	Max.Flow Rate (m <sup>3</sup> /h)	Performance in mJ Per Cm <sup>3</sup>	Pressure Max	UV Lamp Power	Diameter of Reactor (mm)	Total Height (mm)	Inlet/Outlet Diameter PVC Union
E & ES Series							
TR2-1	11	30mJ/cm <sup>2</sup>	40 psi - 3 bar	1*58W	230	1245	2"
TR2-2	22	30mJ/cm <sup>2</sup>	40 psi - 3 bars	2*116W	230	1245	2"
TR2-3	32	30mJ/cm <sup>2</sup>	40 psi - 3 bars	3*174W	230	1245	2"
TR2-4	40	30mJ/cm <sup>2</sup>	40 psi - 3 barss	4*232W	230	1245	2"

### UV Sterilizer TR Ultra

The TR2 Ultra series of ultraviolet units are designed to provide residential swimming pools and with a cost effective UV system for disinfection and improved water quality. One to four high output, low pressure UV lamps can be incorporated within the same unit, providing a maximum flow capacity of 40m<sup>3</sup>/h with a powerful UV dose of 30mJ/cm<sup>2</sup> at the end of the lamp life.

### UV Technology

The TR2 ultra range is designed for disinfection of residential Pool and spa water and provides cost effective treatment and improved water quality. One, two, three or four low pressure UV lamps are incorporated, treating flows of up to 40m<sup>3</sup>/h. This is sufficient for disinfection of the water, providing complementary protection against chlorine resistant organisms, as well as enhanced algae control. UV treatment is compatible with all other sanitizers, including chlorine, bromine, active oxygen, peroxide and copper based compounds, and allows for the levels of these to be significantly reduced. UV treatment introduces no by-product into the water, but also has no residual effect. Therefore a small background level of disinfectant should always be maintained. TR2 ultra systems have a small footprint and low power consumption. They are easily installed, having selectable inlet outlet positions.

### Main Benefits

Suitable for indoor and outdoor applications System can be upgraded to treat additional flow capacity Simple installation Low capital and running costs Reduction in skin, eye and respiratory irritation Energy efficient Easy maintenance Improved algae control Long term compatibility with salt and chlorinator pools

### Main Features

100% corrosion resistant UV inhibited polymeric reactor vessel Low pressure UV system Sized to provide the stated UV dose - a factor of the internal UV intensity and water contact time Over the whole of the lamp life for 99.99% disinfection Automatic pre - set pressure flow switch Inlets and outlets 63mm Center ring indicates lamp operation at a glance 13,000 hour operational lamp life External pressure gauge 2 years warranty CE and UL approved

### Materials

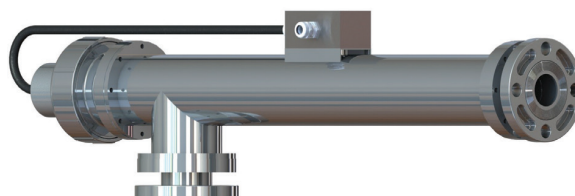
UV Reactor Body UV inhibited polymer | Inlet / Outlet UPVC unions | High purity quartz sleeve



# Water Treatment



## ► UWater Treatment - V Sterilizers



Technical Data Model	Flow Rate (1)	Flow Rates (2)	Lamp power	Supply rating	Inlet/Outlet Connections	Maintenance Area	Control panel Dimensions
	m <sup>3</sup> /h	m <sup>3</sup> /h	KW	V/ph/HZ	mm/inches	mm(LxWxH)	mm(LxWxH)
SPA UV 15	15	22	1.5	220-230/1/50	50/2"	2060x100x320	500x200x500
SPA UV 25	25	37	3	380-415/3/50	75/3"	2100x150x400	500x200x500
SPA UV 50	50	75	3	380-415/3/50	75/3"	2100x150x400	500x200x500
SPA UV 75	75	112	3	380-415/3/50	100/4"	2110x200x510	500x200x500

Water Treatment

### Applications

Private pools | Water features | Commercial Pools

### Main Features

Poly chromatic 8,000 hour medium pressure UV lamp system. | Advanced lamp efficiency. | Electropolished 316L stainless steel vessel Vessel and wetted parts available in titanium. | Quick release lamp powerhead and thimble assembly. Wall mounted control panel with display. | Power and operation indicators. | CE Certified, manufactured to ISO 9001:2015 CF - LT Model version available with reduced features.

### Materials

Reactor Vessel 316L stainless steel. | Flanges uPVC sub flanges with galvanised steel backing rings (BS table D or ANSI 150 flanges available) | Lamp high purity quartz | Thimble high purity quartz Panel Polyester coated mild steel.

### Options

316L stainless steel strainer | Water flow switch | Titanium construction

### Remote Control and Signals

2Line LCD controller mounted to control panel, incorporating lamp ON/OFF button and lamp hours screen. Auto lamp OFF Function. Lamp current Displayed. System control Screen (switch between manual or remote) Reactor and panel temperatures displayed. Low and high current alarms can be set within the controller. Alarm screen displays : lamp high current, lamp RCD trip, lamp MCB trip, lamp low current, Reactor high temp, panel high temp, lamp change required, pump interlock. Lamp cooling screen. (countdown to next start)

Flow rates based on a dose of 60mj/cm<sup>2</sup> at %95 UVT, end of lamp life 8,000 hrs based on 3 on/off cycles per day. Flow rates based on a dose of 40mj/cm<sup>2</sup> at %95 UVT, end of lamp life 8,000 hrs based on 3 on/off cycles per day. Electrical supply must be confirmed at time of order.



# Water Treatment



## ► UV Sterilizer



### UV Sterilizer

The UVARAY CF series of medium pressure ultraviolet units is designed to be easy to install system giving a cost effective solution for commercial pool disinfection and chloramine reduction.

### Application

Commercial swimming pools and spas | Water Features | Lakes and ponds

### Main Characteristics

Easy to install with in-line vessel design | Higher UV efficiency | Lower capital cost | Lower power consumption

### Main Features

Substantial reduction in chloramines | Medium pressure UV lamp for maximum oxidation | Touch screen microprocessor control with data logging | Connects to building management systems | Automatic "smart-drive" wiper system as standard | Simple lamp replacement | CE approved | 316 L Stainless steel reactor vessel

### UV Technology UVARAY CF

Medium pressure UV systems are very effective against highly infectious cryptosporidium Parvum and giardia lamblia species which can exist in swimming pool water. These are virtually unaffected by the levels of chlorine used to sanitize swimming pools. The use of chlorine in swimming pools results in the formation of chloramines as direct result of its interaction with pollutants and it is these that result in eye and skin irritation combined with unpleasant odours. Reduction of these by utilizing medium pressure UV results in a vastly improved water quality and atmosphere.

### How it works?

The medium pressure UV lamps are housed within stainless steel reactor vessel connected to a wall mounted electrical control plane which supplies power to the lamp and controls all the operating functions. The unit can be set to operate at 50% power overnight to save electricity and can be connected to a building management system to allow monitoring of the system. To ensure maximum performance, the reactor is fitted with fully automatic thimble cleaning system which is designed to be simple and reliable.

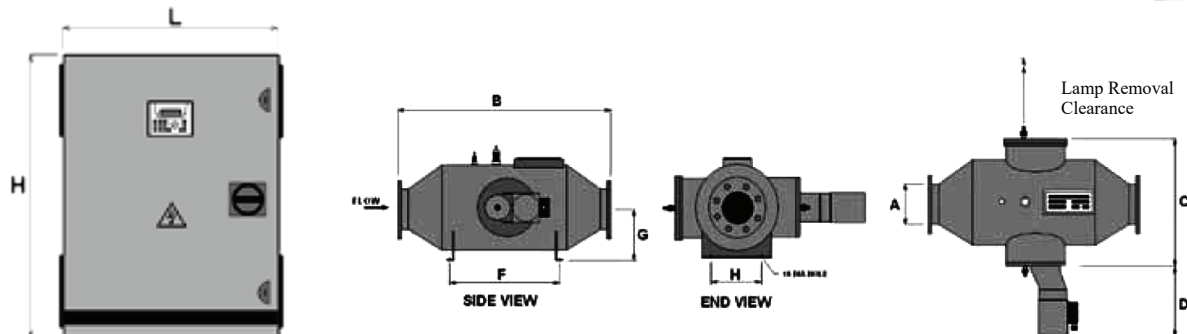




# Water Treatment



## ► UV Sterilizer



### Technical Specification

UVARAY CF MODELS	Flow Rates		Lamp Power KW	Supply Rating	Control Panel Dimension mm(LXWXH)
	m <sup>3</sup> / h	US gpm			
CF20	20	88	1.0	220/1/60	600x600x200
CF40	40	175	1.0		600x600x200
CF60	60	264	1.5	230/1/50	600x600x200
CF105	105	460	2.0		600x600x200
CF145	145	640	2.5		600x600x200
CF170	170	750	3.0		600x600x200
CF220	220	970	2x2.0=4.0	380/3/50-60*	800x800x300
CF300	300	1320	2x2.5=5.0	400/3/50*	800x800x300
CF355	355	1560	2x3.0=6.0	415/3/50*	800x800x300
CF415	415	1825	2x3.5=7.0	480/3/60*	800x800x300
CF530	530	2330	3x3.0=9.0	Other Voltages	1000x1000x300
CF620	620	2730	3x3.5=10.5	On Request	1000x1000x300
CF710	710	3125	4x3.0=12.0		800x1400x400
CF830	830	3650	4x3.5=14.0		800x1400x400
CF1000	1000	4400	5x3.5=17.5		1000x1600x400

### Panel Display Options

Lamp Hours Run  
UV Intensity %  
UV Intensity mw/cm  
UV Intensity mj/cm

### Alarms

Lamp Failure Alarm  
Lamp Change Required Alarm  
Reactor High Temperature Alarm  
Low UV Intensity alarm

### Controls

Remote Start / Stop  
Remote Lamp Power

### Dimensions

Reactor	Reactor Dimension (mm/inch)							
	A	B	C	D	E	F	G	H
CF20	75/3.0	250/9.8	320/12.6	195/7.7	400/15.7	-	-	-
CF40	75/3.0	740/29.1	380/15.0	195/7.7	400/15.7	300/12.0	175/6.9	150/6.0
			380/15.0	195/7.7	400/15.7	300/12.0		
CF105-145	150/6.0	900/35.4	480/18.9	195/7.7	500/19.7	400/15.7	225/8.8	200/8.0
	150/6.0		580/22.8	195/7.7		400/15.7		
CF220-300	200/8.0	820/32.3	480/18.9	285/11.2	500/19.7	400/15.7	225/8.8	200/8.0
			580/22.8	285/11.2		450/17.7		
CF530-620	300/12.0	970/38.2	580/22.8	285/11.2	600/23.6	450/17.7	275/10.8	250/10.0
CF710-830	350/14.0	970/38.2	580/22.8	285/11.2	600/23.6	450/17.7	275/10.8	250/10.0
CF1000	400/16.0	870/34.3	580/22.8	285/11.2	600/23.6	450/17.7	300/11.8	250/10.0



# Water Treatment



## ► UV Sterilizer



### UV Sterilizer for pools and ponds

The reactor use 304/316 polished stainless steel , the smooth interior leaves no blind spot for sterilization. The ultraviolet light tube is equipped with a quartz sleeve, to ensure optimal working temperature. The electrical configuration of the devise is suitable to most electrical specifications. Special exterior design makes the devise convenient to use. All rounded sterilization , highly efficient, sterillization rate up to 99.9%. High output , physical sterilization , no side effects, No secondary pollution. The amount of water that can be sterilized ranges from 5.5-250T/H. The devise adapts to swimming pools, Spa and water parks of various sizes.

### Technical Specification

Model	Power (W)	Rated flow (m <sup>3</sup> /h)	Working Voltage (V)	Cabinet	Cabinet Size LXDHX(mm)	Control Box	Lamp power Qty	Connection
UV-55	78	5.5	220V/50Hz	304/316SS	930x108x720	painted carbon steel	39Wx2	32 mm
UV-012	160	12	220V/50Hz	304/316SS	930x108x720	painted carbon steel	80Wx2	50mm
UV-020	240	20	220V/50Hz	304/316SS	930x159x780	painted carbon steel	80Wx3	65mm
UV-025	320	25	220V/50Hz	304/316SS	930x159x780	painted carbon steel	80Wx4	80mm
UV-035	465	35	220V/50Hz	304/316SS	1630x219x830	painted carbon steel	155Wx3	100mm
UV-045	620	45	220V/50Hz	304/316SS	1630x219x830	painted carbon steel	155Wx4	80 or 100
UV-060	775	60	220V/50Hz	304/316SS	1630x219x1080	painted carbon steel	155Wx5	150mm
UV-080	930	80	220V/50Hz	304/316SS	1630x325x1180	painted carbon steel	155Wx6	150mm
UV-090	1280	90	220V/50Hz	304/316SS	1630x325x1180	painted carbon steel	320Wx4	150mm
UV-100	1085	100	220V/50Hz	304/316SS	1630x325x1180	painted carbon steel	155Wx7	150mm
UV-125	1395	125	220V/50Hz	304/316SS	1630x325x1200	painted carbon steel	155Wx9	150mm
UV-110	1600	110	220V/50Hz	304/316SS	1630x325x1400	painted carbon steel	320Wx5	150mm
UV-150	1705	150	220V/50Hz	304/316SS	1630x325x1500	painted carbon steel	155Wx11	200mm
UV-130	1920	130	220V/50Hz	304/316SS	1630x325x1500	painted carbon steel	320Wx6	150mm
UV-150	2240	150	220V/50Hz	304/316SS	1630x377x1500	painted carbon steel	320Wx7	200mm
UV-180	2560	180	220V/50Hz	304/316SS	1630x377x1500	painted carbon steel	320Wx8	200mm
UV-200	2880	200	220V/50Hz	304/316SS	1630x377x1500	painted carbon steel	320Wx9	200mm
UV-250	3840	250	220V/50H	304/316SS	1630x426x1500	painted carbon steel	320Wx12	250mm



# Water Treatment



## ► Ozone Generators



### Ozone Generators

Ozone is a gas that is a highly active form of oxygen that is hundreds of times more effective than chlorine. Dissolving ozone gas in the circulating pool water kills virtually all bacteria and viruses and produces a pool water that is sparkling, clear and free of odours associated with conventional chlorine treatment. Ozone gas is not stable and quickly decomposes to normal oxygen. It therefore must be generated in-situ and introduced immediately into the water stream. Two types of generators available depending on the pool usage. For domestic pools, ozone is produced using a generator that synthesis ozone from air using ultra-violet light. For hotel and club pools, which usually have a higher bather loading, ozone is generated using a corona discharge generator. Many indoor family pools use a Triogen ozone system as the only source of water disinfection. An occasional dose of compatible algacide is all that is required to prevent algae growth in the pool. On occasions when the pool is to

be used by visitors, It is recommended that a little chlorine - based disinfectant be added to avoid cross contamination. In smaller commercial pools, it is mandatory to maintain a disinfectant residual in the pool as a safeguard against cross infection. Most of the organic contaminants are oxidised by the ozone treatment and therefore the residual disinfectant is able to give protection with minimal formation of chloramines. In addition, the consumption of the secondary disinfectant is reduced.

### Compact Ozone System Selection

Domestic pool application UV250 System - Compact UV Ozone Generator Model UV250 Volume up to 70m<sup>3</sup>  
UV500 System - Compact UV Ozone Generator Model UV500 Volume up to 140m<sup>3</sup>  
Each Ozone System includes Injector, Water Check Valve and 3 metres of interconnecting tubing.

### Commercial Pool application

T2 System - Compact CD Ozone Generator Model TOGB2 Volume up to 100m<sup>3</sup>  
T4 System - Compact CD Ozone Generator Model TOGB2 + TAD 1 Dryer Volume up to 200m<sup>3</sup>  
T8 System - Compact CD Ozone Generator Model TOGB2 (2 off) + TAD BI Dryer Volume up to 400m<sup>3</sup>  
Each ozone system includes injector, water trap assembly, air flowmeter and 3 metres of interconnecting tubing.

### Optional Extras

Injector Booster Pump Model CH2-50-1 (All systems excluding T8 System) Injector Booster Pump Model CH4-50-1 (T8 System only) Degassing System Model TDG A1 (Suitable for all systems) Each degassing system includes contact tank, vent valve, water trap assembly and carbon destruct unit.









# Water Treatment



## ► Ozone Generators

### Technical Information

	Code: 00750250 UV250 & UV500 Ozone Generators Wall Mounted Ozone Generators Utilising High Intensity UV Lamps to Produce Ozone By Photosynthesis. Specifically Designed for Residential Pools	Voltage (v/ph/hz) Power (Watts) Dimension(mm) Weight(Kg)	230/1/150 16(UV250) 32 (UV500) 410 Hx 155Wx 100D 2.8
	Code: 00750500 TOG B2 Ozone Generators Wall Mounted Ozone Generators Utilising High Voltage Corono Discharge to Produce Ozone. Specifically Designed For Large Domestic Pool And Commercial pools And Spas.	Voltage (v/ph/hz) Power (Watts) Dimension(mm) Weight(Kg)	110/230/1/50-60 85 (T2) 440 Hx 155Wx 100D 4.4
	Code: 00750083 TAB B1 Air Dryer Wall Mounted Fully Automatic Twin Column Air Dryer Designed ForContinuous Operation. The Air Dryer is Used in Conjunction with theF2 Ozone System to increase Output.	Voltage (v/ph/hz) Power (Watts) Dimension(mm) Weight(Kg)	110/230/1/50-60 60 440 Hx 305W x 110D 10.0
	Code: 00750085 TDG A1 Degasser System A Floor Mounted Contact tank with Automatic Vent Ensure Adequate Ozone Contact Time And Removal of Excess Ozonised Air From the System.	Diameter (mm) Height (mm o/all) Connections Weight(Kg)	250 1600 1" or 11/42"PVC union 29 kg Empty
	Code: 07570012 Injector Booster Pumps Two Sizes of Booster Pumps Used to drive the Venturi Injectors Which draw the Air Through The Ozone System Under Vacuum And Introduces The Ozone Gas Into The Water Stream.	CH2-50-1 Voltage (V/ph/hz) Power (Watts) CH4-50-1 Voltage (V/ph/hz) Power (Watts)	230/1/50 710 230/1/50 1250



# Water Treatment



## ► Ozone Generators



### Technical Specification

Code	Feed Gas (m <sup>3</sup> /h)	Ozone Output (g/h)	Cooling water flow (l/h < 30°C)	Power Consumption (av kw)
07570015	0.7	15	100	0.60
07570025	1.3	25	150	0.89
07570050	2.7	50	250	1.47
07570100	5.4	100	500	2.85
07570150	8.1	150	750	4.20
07570200	10.8	200	1000	5.70

Code	Feed Gas (m <sup>3</sup> /h)	Ozone Output (g/h)	Cooling water flow (l/h < 30°C)	Power Consumption (av kw)
07590065	2.7	65	250	2.4
07590130	5.4	130	500	3.9
07590190	8.1	190	750	5.4
07590260	10.8	260	1000	7.6
07590320	13.5	320	1250	10.0
07590390	16.2	390	1500	12.2
07590450	18.9	450	1750	14.4
07590520	21.6	520	2000	16.2
07590580	24.3	580	2250	18.0
07590650	27.0	650	2500	20.6

### Commercial Ozone Generators - M6 and M7

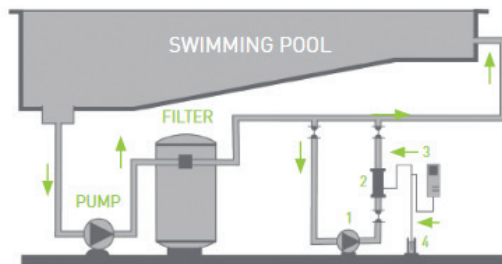
Both the air drying system and the ozone generation system operate under vacuum conditions, thereby eliminating the risk of ozone gas escape. The ozone generating modules incorporate the patented "Free Tube" design which gives excellent dielectric reliability and decreases maintenance requirements. The ozone modules have a PVC outer body fitted with stainless steel liner tubes which give excellent resistance to chlorinated water allowing pool water to be used in the ozone generator cooling system. The dielectric tubes and electrodes are suspended within the liner tubes which removes all expansion stresses from the dielectric which results in maximum reliability and long life. All models can be supplied either with constant ozone output or with totally automatic ozone output variation and easy to operate electrical controls. The M6 Range of ozone generators are specifically designed for swimming pool water treatment applications and are totally complete with integral air dryer, ozone generation equipment and full electrical controls. All the components are housed within one enclosure which has internal partitioning to separate the components and is fitted with removable access doors for ease of maintenance.



# Water Treatment

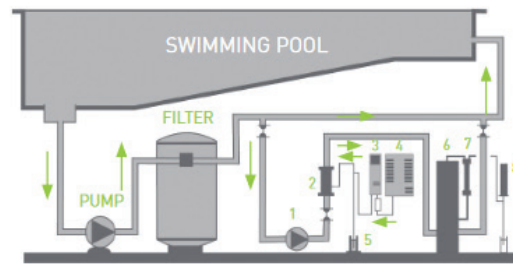


## ► Ozone Generators



- 1- Booster Pump      3- Ozone generator  
2- Ozone Injector      2- Water Trap and Pot

TYPICAL INSTALLATION OF OZONE GENERATOR WITHOUT CONTACT / DEGASSER SYSTEM



- 1- Booster Pump      4- Air Driver      7- Automatic Vent Valve  
2- Ozone Injector      5- Water Trap and Pot      8- Vent Gas Destructor and Pot  
3- Ozone Generator      6- Contact Tank

TYPICAL INSTALLATION OF OZONE GENERATOR WITH AIR DRYER AND CONTACT / DEGASSER SYSTEM

### Specification

Ozone module "Free Tube" design. Totally self contained unit. Vacuum operation for safety. Pool water can be used for cooling and returned. To the system. Simple to install and operate Proven ability to safely lower the free chlorine. Residual Effective against chlorine resistant micro-organism. Very low THM levels. Significant improvement in water quality Reduced skin and eye irritation with enhanced. Atmospheric conditions for bathers and staff

The M7 Range of ozone Generators are totally complete with air pre-chiller, intergral air dryer, dewpoint monitoring system, ozone generation equipment and full electrical controls. The ozone power supply system incorporates a frequency inverter that increases the mains frequency to maximise ozone production and also allows fully variable automatic control of the ozone output.

### Features

Ozone module "Free Tube" design. Refrigerated pre-dryer for high plantroom. Temperatures. Vacuum operation for safety. Constant dewpoint monitoring of dry air feedgas Totally self contained unit. Proven ability to safely lower the free chlorine Residual. Effective against chlorine resistant micro-organism Very low THM levels. Significant improvement in water quality





# Water Treatment



## ► Salt Chlorinator



□ Healthy

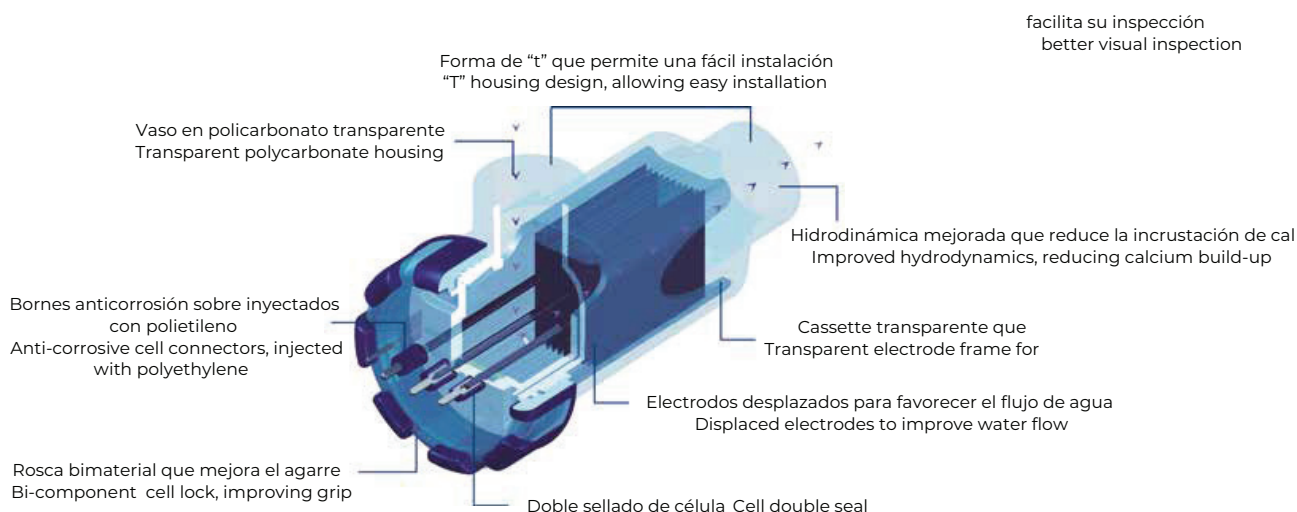
□ Comfortable

□ Ecological

This system saves 80% in maintenance and 100% in buying unnecessary chemical products. Once the equipment is being amortized, the manufacturing costs are only 10% of the cost of a conventional chlorination system. The installation, even in big swimming pools, is very simple and no construction is required.

## Technical Specification

Model	Cell dimensions L*W*H (mm)	Chlorine output(g/h)	Voltage	Total Power(Max)	Pump power(Max)	Light power (max)	Recomanded Pool volume (m3)
0080020	370*265*145	15	AC230-240V	1.70Kw	1.5KW/6.9A	AC12V/100W	75
0080030	370*265*145	25	AC230-240V	1.75Kw	1.5KW/6.9A	AC12V/100W	125
0080040	370*265*145	32	AC230-240V	1.80KW	1.5KW/6.9A	AC12V/100W	170
0080050	370*265*145	40	AC230-240V	1.85KW	1.5KW/6.9A	AC12V/100W	200



# Water Treatment



## ► Salt Chlorinator



### Technical Specification

Model	CL Output	Pool Size (lts)	Plates	Min.Salt(ppm)	Notes
CL20 PUP	7 g/hr	20,000	2	4000	Standard
CL 40 PUP	14 g/hr	40,000	3	6000	Standard
CL 40 H	14 g/hr	40,000	4	4000	High Endurance
CL60	20 g/hr	60,000	4	6000	Standard
CL 60 H	20 g/hr	60,000	7	3000	High Endurance
CL 90	30 g/hr	90,000	7	4000	Standard
CL 90 H	30 g/hr	90,000	9	4000	High Endurance
CL 120	40 g/hr	120,000	9	6000	Standard
CL 120 H	40 g/hr	120,000	11	4000	High Endurance
CI 150	50 g/hr	150,000	11	6000	Standard

### Salt Chlorinator

The PROTEAM Saltwater chlorinator combines cutting edge technology and sleek design to provide you with a reliable and fully featured salt water chlorinator, easy to install and program, all at affordable cost. Developed in Australia for extreme working condition, the PROTEAM chlorinator was developed by one of the leader in the field, whose design is renowned for the quality and reliability. We specify the highest quality electrodes and polymer incorporating the latest nanotechnology to provide a renowned and cost effective sanitizing system. Reverse polarity, self cleaning, automatic electrode monitoring are only some of key feature common to all models.

### Features

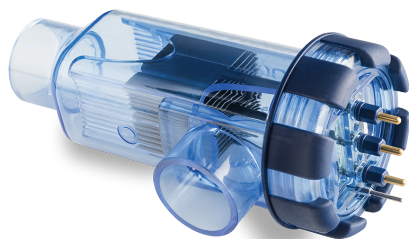
Models range from 20,000 lts to 150,000 lts. | Reverse polarity cleaning. | Output set points low 40%, medium 70%, High 100%. | Manual and automatic settings. | Low salt alarm. | Emergency Low salt function. | Water flow alarm. Automatic Electrode condition monitoring. | Output control of voltage and current using state of the art feedback technology. | Soft start function during polarity reversal to increase operation life of electrode. | Software and hardware protection against power spikes. | Efficient flow characteristics in the electrode design. | Very high electrode efficiency and hence high chlorine output. | Weather proof to IP24



# Water Treatment



## ► Salt Chlorinator



- ☐ Low cost
- ☐ Effective Healthy
- ☐ Comfortable
- ☐ Ecological

This system saves 80% in maintenance and 100% in buying unnecessary chemical products. Once the equipment is being amortized, the manufacturing costs are only 10% of the cost of a conventional chlorination system. The installation, even in big swimming pools, is very simple and no construction is required.

### Effective

The disinfectant power of pure chlorine gas which is generated by the system is much superior as of the commercial hypochlorites. This chlorine is completely dissolved in water at a precise and constant rate with no addition of byproducts and preservatives. The high chlorine concentration existing in the cell destroys contaminants which cannot be eliminated adding commercial hypochlorites, such as chloramines and other remains of body lotions. A second disinfectant effect is given by the strong electric field existing in the cell. The result is a double and more powerful process of disinfection. Acting continuously the system provides with an exceptional water quality even without any residual chlorine level in the pool as in the conventional chlorination. This is better seen in the astonishing crystal clear water of salt water chlorination.

### Healthy

After completing its disinfection and oxidising process, chlorine converts back to salt in the pool. Chemical storage is no longer needed as in conventional chlorination. The strong oxidizing conditions in the cell are able to destroy chloraminated compounds which are not eliminated in traditional chlorination. Chloramines are responsible for the skin and ocular irritation and procedure this characteristic chlorine odor of conventional treated swimming pools. The presence of some salt in the swimming pool water acts as natural antiseptic against bacteria and algae, acting smoothly over the skin of the swimmer.

### Comfortable

This low salt concentration provides a very pleasant isotonic sensation. The skin no longer swells or dehydrates, the hair does not get dry and the eyes can be opened into water without sting. There is no chlorine odor over the skin and no need to take a shower immediately after the bath. Besides, salt composition accelerates tanning. Chlorine is produced and immediately dissolved in water. The manipulation and storage of chemical toxic products disappears eliminating the risk of fire or explosion. The corrosive atmosphere and the bad smells of filter room are eliminated, in that way also the working conditions and the equipment maintenance are improved.

### Ecological

Chlorine is generated through a renewal process and at the end it returns to its initial state of salt. Water is treated without adding any external compound or preservative. The local production of chlorine avoids CO<sub>2</sub> and any due to transport energy consumption.

### Salt Electrochlorination

Innowater manufactures domestic and industrial salt chlorination which adapt to any kind of place or necessity. The range of products of innowater is an electrochlorination system in line of highest efficiency developed in order to produce chlorine in fresh water. Innowater uses the most sophisticated electrolysis technology and it means a step forward in electrochlorination. Its cell incorporates a catalyst which increases definitely the chemical efficiency of the electrolytic process and generates chlorine remains in low salt concentration waters. For the first time this unique capacity of innowater chlorinator allows electrochlorination treatment in the different applications of fresh water. Swimming pool, waste water treatment, drinkable water, cooling circuits etc. The range of chlorinates has been planned for any application and can be measured depending on the water composition to produce from 10 to 1.000 gr of chlorine per hour. We can manufacture higher capacity machines by order.





# Water Treatment



## ► Salt Chlorinator



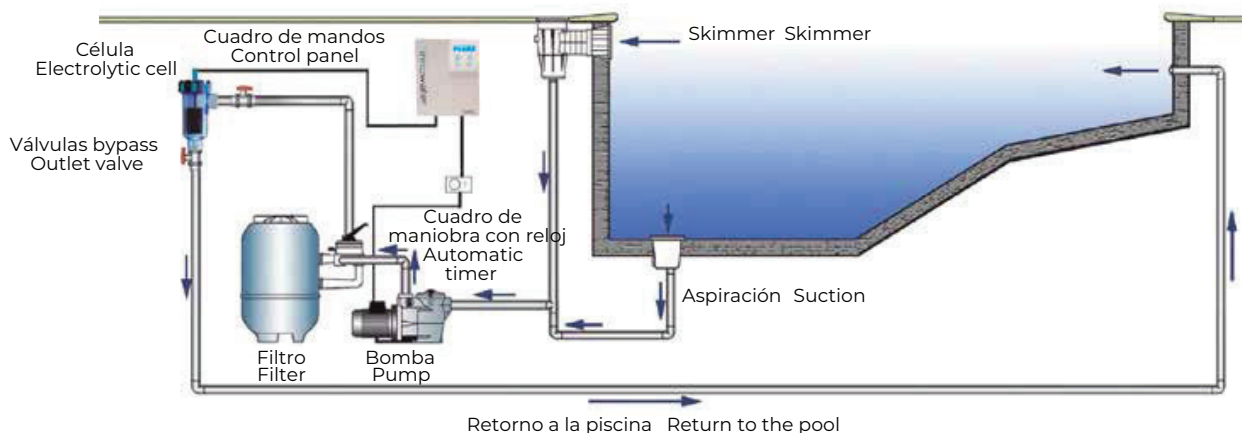
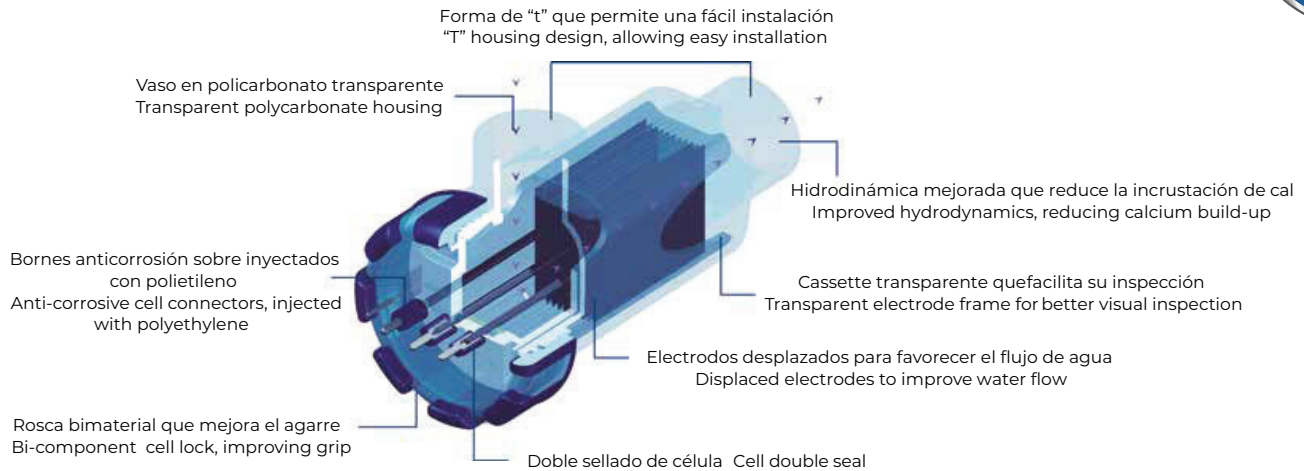
### Technical specification

Model	smc 10	smc 15
Chlorine production per hour	10gr/h	15gr/h
Recommended volume	0-30m3/spa	30-50m3
Recommended salt level	4gr/l sea water	4gr/l sea water
Cell expected life span	14.000h	14.000h
maximum flow rate	450 l/min	450 l/min
Maximum operating pressure	480kpa	480kpa
cell housing pressure drop	2.5kpa	4kpa
voltage output	24vdc	24vdc
current output	1.5 amp	2.5amp
power requirment	220vac	220vac
Watt	50watt	60watt
cell cassette material	Polycarbonate	Polycarbonate
cell material	Titanium grade 1	Titanium grade 1
reversal time	Programmable 1 to 12h	Programmable 1 to 12h

Model	smc 20	smc 30	smc 50
Chlorine production per hour	20gr/h	30gr/h	50gr/h
Recommended volume	50-90m3	90-150m3	150-200m3
Recommended salt level	4gr/l sea water	4gr/l sea water	4gr/l sea water
Cell expected life span	14.000h	14.000h	14.000h
maximum flow rate	450 l/min	450 l/min	600l/min
Maximum operating pressure	480kpa	480kpa	480kpa
cell housing pressure drop	5kpa	5kpa	5kpa
voltage output	24vdc	24vdc	24vdc
current output	3.5amp	5amp	7.5amp
power requirment	220vac	220vac	220vac
Watt	90watt	130watt	190watt
cell cassette material	Polycarbonate	Polycarbonate	Polycarbonate
cell material	Titanium grade 1	Titanium grade 1	Titanium grade 1
reversal time	Programmable 1 to 12h	Programmable 1 to 12h	Programmable 1 to 12h



## ► Salt Chlorinator



Water  
Treatment

Ver instalación de pH en la página 49.

See pH controller installation on page 49.

## SMC domestic models - smc10 ,smc20 ,smc30 , smc50

### Technical features

New sealed power supply of high performance | Elimination of forced air ventilation, high resistance to corrosive. Atmosphere, notable decrease faults - IP65 | New easy user interface with backlit LCD display. | New wall mounting with independent stainless steel brackets. | Detachable lead plug that allows faster and easier technical services installation. | Self cleaning cell. | Cell connection without nuts using thermo rubber waterproof connector. Includes software and electronics for pH and redox measurement. | External control included



# Water Treatment



## ► Salt Chlorinator



### Technical Specification

Model	smc 10	smc 15
Chlorine production per hour	10gr/h	15gr/h
Recommended volume	0-30m3/spa	30-50-m3
Weight	4.5kg	4.5kg
Packaging dimensions	610x370x340mm	610x370x340mm

Model	smc 20	smc 30	smc 50
Chlorine production per hour	20gr/h	30gr/h	50gr/h
Recommended volume	50-90m3	90-150m3	150-200m3
Weight	4.5kg	5kg	13kg
Packaging dimensions	610x370x340mm	610x370x340mm	610x370x340mm

### Kits options

Salt water chlorinator pH and Rx Controller		
pH		Rx
smc10pHb		smc10pHRx
smc15pHb		smc15pHRx
smc20pHb		smc20pHRx
smc30pHb		smc30pHRx
smc50pHb		smc50pHRx

### Salt water chlorinator Basic smc + pH Controller Basic Chlorinator

Sealed power supply of high performance | Elimination of forced air ventilation : high resistance to corrosive atmosphere, | notable decrease faults easy user interface with back lit LED display | Wall mounting with independent stainless steel bracket. | Datachable lead plug that allows faster and easier technical services installaion. | Self cleaning cell connection without nuts, using thermo rubber waterproof connector



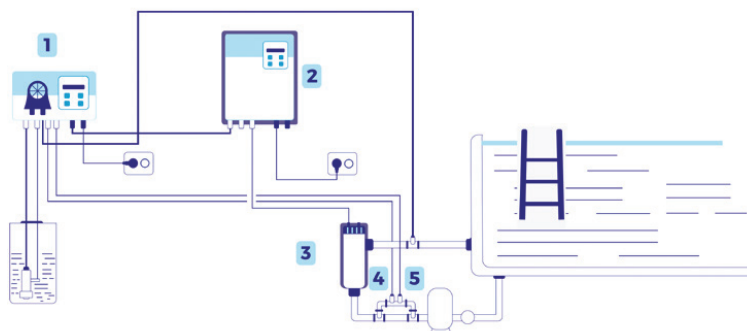


# Water Treatment



## ► Salt Chlorinator

### pH and Rx Basic Structure



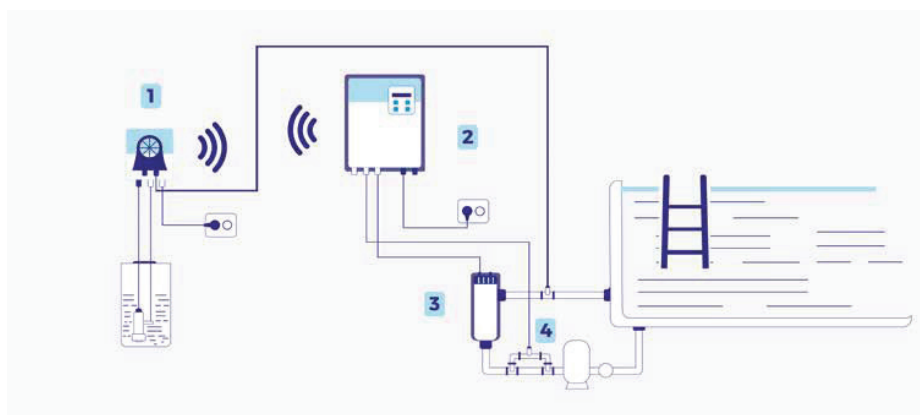
•PH and Rx

•Salt water chlorinator

•Cell

•PH sensor

•RH (ORP) Sensor



Water  
Treatment



# Water Treatment



## ► Salt Chlorinator



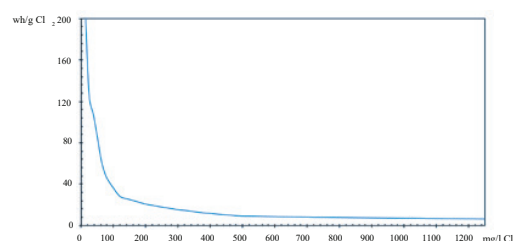
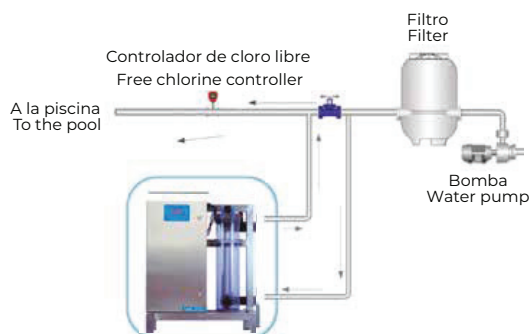
### Technical Specification

Election Guide		Volume m <sup>3</sup>			
		100	200	400	500
Bathers per day	Minimum chlorinator				
50	smc75.smc50	smc100.smc75	smc150.smc150	smc150.smc150	
100	smc100.smc75	smc150.smc100	smc150.smc100	smc250.smc180	
200	smc150.smc100	smc250.smc180	smc250.smc180	smc300.smc250	
300			smc300.smc150		
400				smc500.smc250	
500					

Election Guide		Volume m <sup>3</sup>		
		750	1000	1500
Bathers per day	Minimum chlorinator			
50	smc250.smc250	smc300.smc300	smc500.smc500	
100	smc250.smc250			
200	smc250.smc250	smc500.smc500		
300	smc250.smc250		smc750.smc500	
400	smc500.smc300			
500		smc750.smc500	smc1000.smc500	

### How to calculate your public pool salt chlorinator

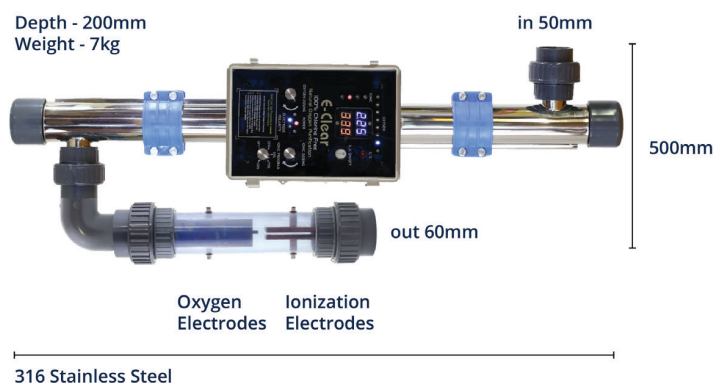
To assure the correct performance of our units in your public swimming pool, we do have to consider only volume as in private pools. But we have to know other parameters. Use as a guide the following chart we recommend you if you have any doubts send us mail, our technical department will point out the suitable chlorinator for your appli-



# Water Treatment



## ► Chlorine free purification system



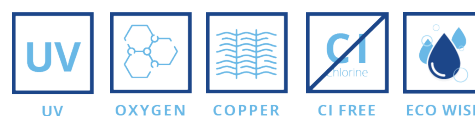
### E Clear System with UV protection

This patented and advanced technology provides natural oxygen via electronic oxidation plus germicidal ionization and ultraviolet. This combined technology results in the total elimination of all algae, bacteria and a host of viruses including cryptosporidium whilst still providing the required oxidation to qualify as a stand-alone 100% toxic-free freshwater sanitiser not requiring 1 gram of chlorine, bromine, ozone or salt.

#### Model CF-75 UV

Pools up to 75 m<sup>3</sup>

63mm 316 Stainless steel UV Chamber with  
1 x 55 Watt high spectrotherm UVC Lamp

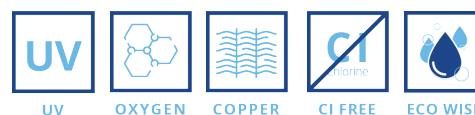


Power	Current	Pressure	UV Dosage	O2 Dosage
220-240vAC Single	3AMPS50-60HZ	Max 16 Psi	30 000 uW/cm <sup>2</sup>	50mg/hour
Copper Dosage	Silver Dosage	Flow	Connection	
0.5ppm	-	Up to 20m 3/hour	In/Out 63mm Cement	

#### Model CF-150 UV

Pools up to 150 m<sup>3</sup>

90mm Electrodes Chamber with 1 set Of oxygen stack  
electrodes and 1 set Of Copper Ionization Electrodes.



Power	Current	Pressure	UV Dosage	O2 Dosage
220-240vAC Single	3.5AMPS50-60HZ	Max 16 Psi	30 000 uW/cm <sup>2</sup>	50mg/hour
Copper Dosage	Silver Dosage	Flow	Connection	
0.5ppm	-	Up to 40m 3/hour	In/Out 90mm Cement	

Water  
Treatment



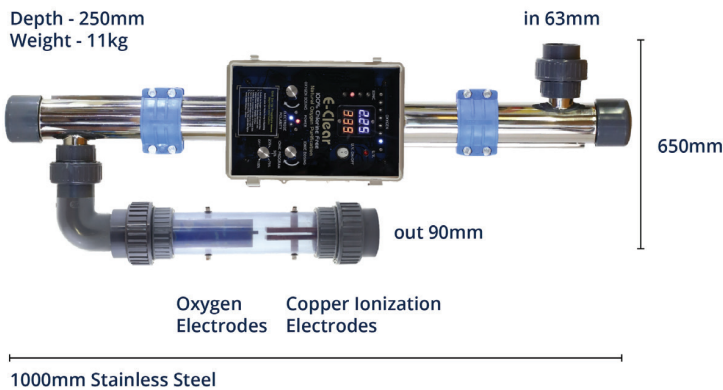


# Water Treatment



## ► Chlorine free purification system

### Model CF-150 UV



### Model CF-250 UV

Pools up to 250 m<sup>3</sup>  
90mm Electrodes Chamber with 1 set  
Of oxygen stack electrodes and 1 set  
Of Copper Ionization Electrodes.

550mm x 1020mm



Power	Current	Pressure	UV Dosage	O <sub>2</sub> Dosage
220-240vAC Single	9AMPS50-60HZ	Max 16 Psi	30 000 uW/cm <sup>2</sup>	50mg/hour
Copper Dosage	Silver Dosage	Flow	Connection	
0.5ppm	-	Up to 60m <sup>3</sup> /hour	In/Out 90mm Cement	



# Water Treatment



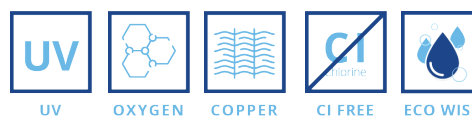
## ► Chlorine free purification system



### Model CF-500 UV

Pools up to 500m<sup>3</sup>

90mm Electrodes Chamber with 1 set Of oxygen stack electrodes and 1 set Of Copper Ionization Electrodes

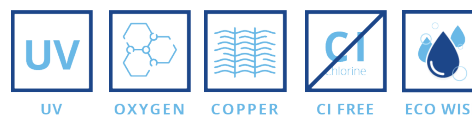


Power	Current	Pressure	UV Dosage	O2 Dosage
220-240vAC Single	17AMPS50-60HZ	Max 16 Psi	30 000 uW/cm <sup>2</sup>	600mg/hour
Copper Dosage	Silver Dosage	Flow	Connection	
0.5ppm	-	Up to 120m 3/hour	In/Out 90mm Cement	

### Model CF-1000 UV

Pools up to 1000m<sup>3</sup>

90mm Electrodes Chamber with 1 set Of oxygen stack electrodes and 1 set Of Copper Ionization Electrodes



Power	Current	Pressure	UV Dosage	O2 Dosage
220-240vAC Single	34AMPS50-60HZ	Max 16 Psi	30 000 uW/cm <sup>2</sup>	1200mg/hour
Copper Dosage	Silver Dosage	Flow	Connection	
0.5ppm	-	Up to 240m 3/hour	In/Out 90mm Cement	



# Water Treatment



## ► Chlorine free purification system

Model CF-1000 UV

1050 x 450mm



12 x Sets of Oxygen Electrodes

8 x Sets of 90mm Copper Electrodes

16 x UVC Germicidal Ultraviolet Lamps

4X4 Channel Electronic Control Boxes

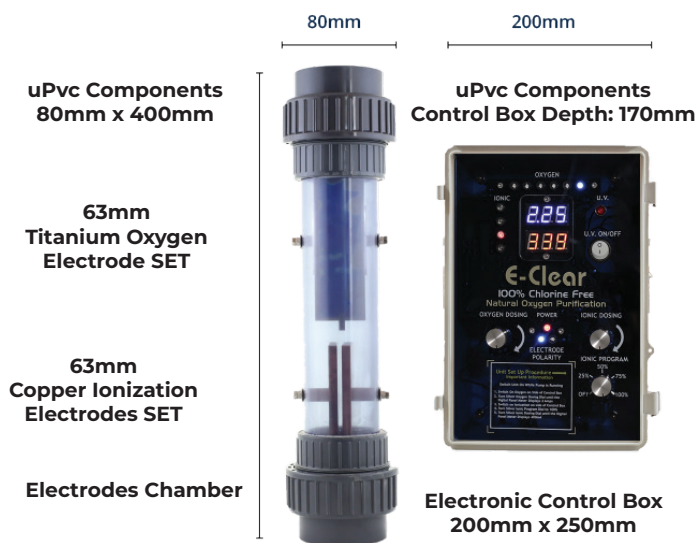
360mm (h)  
90mm input  
130mm (w)



# Water Treatment



## ► Chlorine free purification system



### E Clear System without UV protection

E-Clear is a 100% natural oxygen purification system that provides multiple forms of toxic free oxygen, which splits into 4 powerful oxidizers (O1) – (O2) – (OH) – (H2O2). These chemically free oxidizers are produced and delivered directly into the water stream in grams per minute via “Electronic Oxidation” combined with ionization. This system provides the most advanced, most efficient toxic-free purification technology available for swimming pool water.

### Advantages

Complies with International health directives. No more red burning eyes, dried-out hair, skin, allergies or asthma No carcinogenic disinfection byproducts (DBPs) / trihalomethanes (THMs). No harmful chloramine gas Chemical free. Water-wise – backwash your garden. Hassle free – oxidation & ionization automated No chlorine or salt is required. Self-cleaning anodes. Save on chlorine & other chemicals Save on water. Non-corrosive – extends the life of pool equipment.

### Model CF-75 UV

Pools up to 75 m<sup>3</sup>

63mm Electrodes Chamber with 1 set

Of oxygen stack electrodes and 1 set

Of Copper Ionization Electrodes.



Power	Current	Pressure	O2 Dosage	Copper Dosage	Flow	Connection
220-240vAC Single	5Amps 50GHZ	Max 16 Psi	50mg/hour	0.5ppm	Up to 20m 3/hour	In/Out 63mm

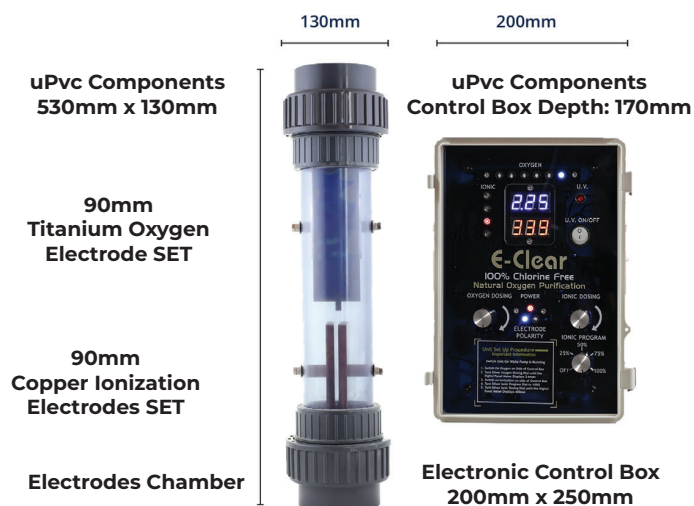




# Water Treatment



## ► Chlorine free purification system



Water Treatment



### Model CF-150 UV

Pools up to 150 m<sup>3</sup>

90mm Electrodes Chamber with 1 set  
Of oxygen stack electrodes and 1 set  
Of Copper Ionization Electrodes.



Power	Current	Pressure	O2 Dosage	Copper Dosage	Flow	Connection
220-240vAC Single	2.5Amps 50-60 GHZ	Max 16 Psi	100mg/hour	0.5ppm	Up to 40m <sup>3</sup> /hour	In/Out 90mm

### Model CF-250 UV

Pools up to 250 m<sup>3</sup>

90mm Electrodes Chamber with 1 set  
Of oxygen stack electrodes and 1 set  
Of Copper Ionization Electrodes.



Power	Current	Pressure	O2 Dosage	Copper Dosage	Flow	Connection
220-240vAC Single	6.5Amps 50-60 GHZ	Max 16 Psi	300mg/hour	0.5ppm	Up to 60m <sup>3</sup> /hour	In/Out 90mm

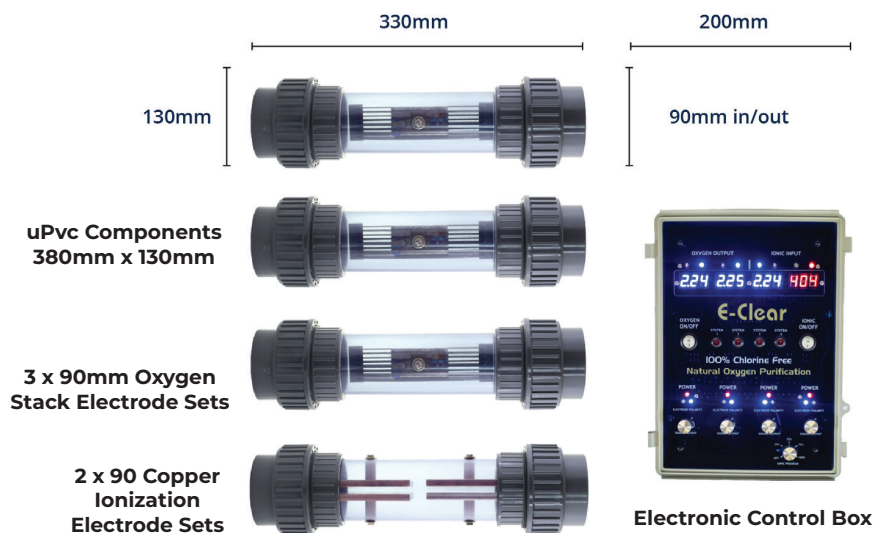


# Water Treatment



## ► Chlorine free purification system

### Model CF-250 UV



Water Treatment

### Model CF-500 UV

Pools up to 500m<sup>3</sup>

90mm Electrodes Chamber with 1 set Of oxygen stack electrodes and 1 set Of Copper Ionization Electrodes



Power	Current	Pressure	O2 Dosage	Copper Dosage	Flow	Connection
220-240vAC Single	13Amps 50-60 GHZ	Max 16 Psi	600mg/hour	0.5ppm	Up to 120m 3/hour	In/Out 90mm

### 2 x 4 Channel Electronic Control Boxes - 320mm x 280mm Each

