

COOLING TOWER CATALOGUE

SYSTEMS FOR COOLING TOWERS



Three thick, green, wavy lines that curve upwards from left to right, positioned to the left of the text "WATER TREATMENT SYSTEMS".

WATER TREATMENT SYSTEMS

Index

OVERVIEW

EMEC, Water Treatment Systems	5
Cooling Towers. How they work	8
Device, Cabin, Skid and Assembled Panels. All the Emec Choices	9

DOSING PUMPS

Stepper Motor/Peristaltic Dosing Pumps: Velon Series	10
Stepper Motor/Peristaltic Dosing Pumps: WT PER Series	12
Solenoid/Diaphragm Dosing Pumps: WT Series	14

MULTI-CHANNEL DIGITAL CONTROLLERS

Centurio Tower/Centurio Pro	16
MTower Plus	18
MTower 1CH/2CH	20

SINGLE-CHANNEL DIGITAL CONTROLLERS

LDS/LDS Plus	22
---------------------	----

PREASSEMBLED MULTI-CHANNEL PANEL SOLUTIONS

Basic solutions	24
Intermediate solutions	26
Advanced solutions	28

PREASSEMBLED SINGLE-CHANNEL PANEL SOLUTIONS

Basic solutions	30
Intermediate solutions	31

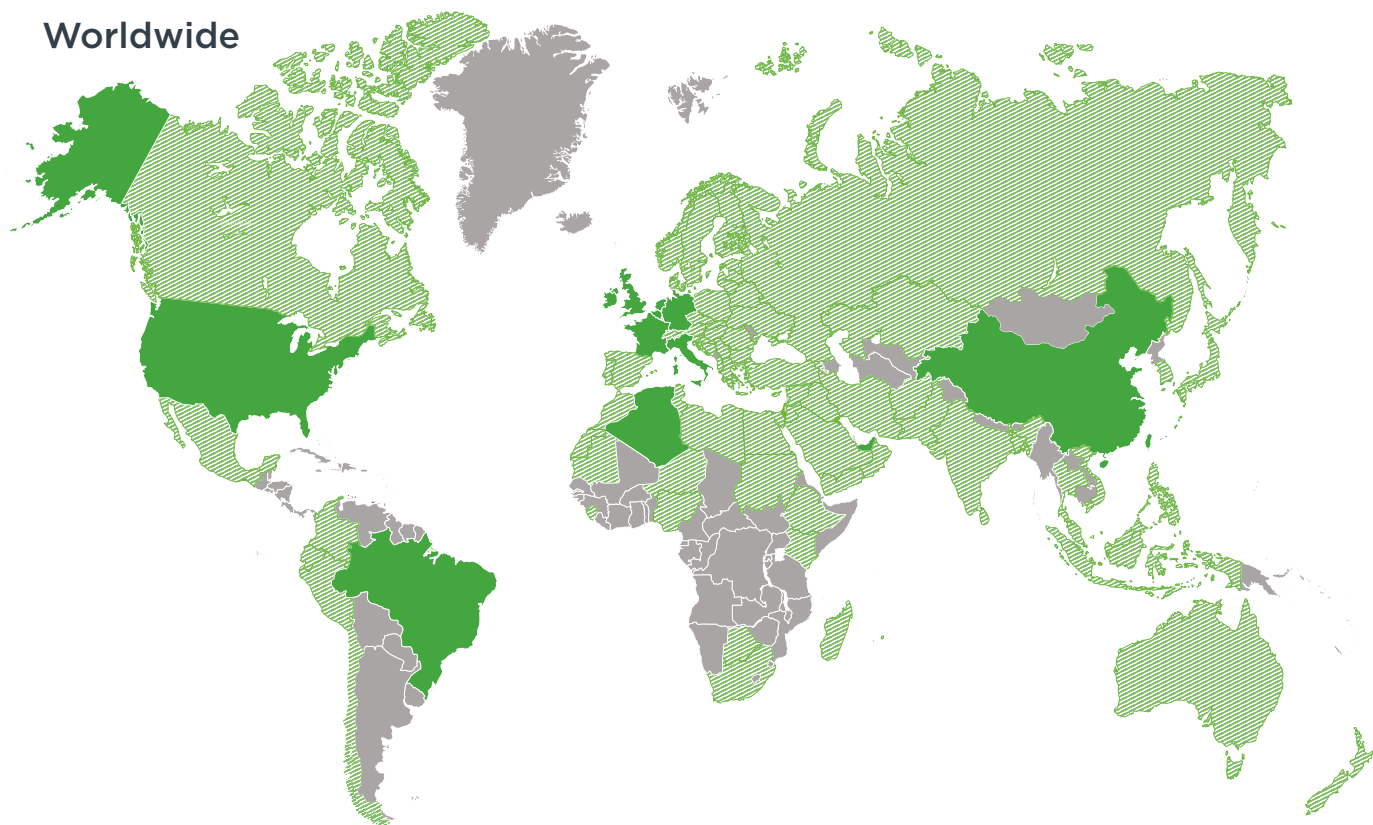
ONLINE CONTROL SYSTEMS

NIMBUS	32
MY EMEC APP	36



WATER TREATMENT SYSTEMS

Worldwide



BRANCHES



DISTRIBUTORS

EMEC SIMPLE AS WATER

40+ years of excellence
250+ employees
88 countries
10 branches
10+ sectors
120.000 dosing pumps/year
15.000 controllers/year
26.000 probes & sensors/year
8.000 dosing station/year
85.000 accessories



100% MADE IN ITALY
 All our products are 100%
 Made in Italy



WARRANTY
 5 years warranty for our dosing
 pumps and controllers.
Terms and conditions apply

Flexibility and innovation

Flexibility and innovation are fundamental to us.

Since 1982, we have been designing and producing reliable, cutting-edge systems for water treatment and chemicals dosing.

As a company, we are open to change and, just like water, we have branched out over time, spreading out into wide-ranging areas, from industrial water treatment to potabilization to water purification, from food and beverage industry to swimming pools.

OUR VALUE

Being at the cutting edge means constant study. Our R&D and design departments are where our heart beats.

Extremely high-profile engineers and technicians are committed to developing software and designing hardware, but also to studying and evaluating hydraulic and mechanical components.

The customers and their satisfaction have always been at the heart of what we do, so we pay constant attention to the quality of our production processes, through a constantly updated and cutting-edge range of industrial machines.

QUALITY AND SAFETY, FIRST OF ALL

We are entirely responsible for every stage of the process, from invention to delivery. Our products undergo up to 10 quality checks and are tested four times before reaching the customer.

The quality management system of our production process is **ISO 9001** certified and has customer satisfaction as its ultimate goal, as well as continuous improvement of company performance.

Customers satisfaction comes hand-in-hand with ensuring safety for them, their operators and final users.

Our dosing pumps and controllers are **UL** certified to guarantee full compliance with general requirements for safety of use, while **NSF** certifications guarantee that our pumps do not release hazardous pollutants into the water and therefore are fully safe for use in contact with drinking water, for example in the food production industry, or at recreational facilities like swimming pools and spas.

COMPETENCE AND PROFESSIONALISM

Extremely high performance, top quality and high technology are our greatest assets. But there is more.

Every day, we safeguard something equally important: human capital. Our co-workers are the best professionals on the market; the most expert and competent people.

For this reason our organizational model is designed to manage their safety and health in an organic and systematic way, respecting the international standard **BS OHSAS 18001**.

ENVIRONMENTAL SUSTAINABILITY

The adoption of an environmental management system compliant with the international standard **ISO 14001** arises from the awareness of the imprint that human activities leave on the planet.

Our environmental protection management system allows us to minimize the impact of production processes (with emissions well below the prescribed limits), of products and of raw materials used (with the recycling of most of the waste materials), also thanks to an energy saving system that covers all company spaces and to the use of renewable energy sources.

OUR CERTIFICATIONS



OUR SOCIAL CHANNELS





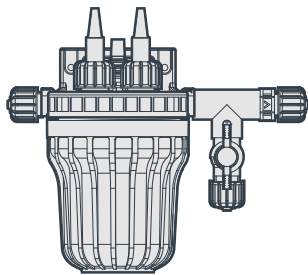
COOLING TOWERS: HOW THEY WORK

The most efficient management of cooling tower systems

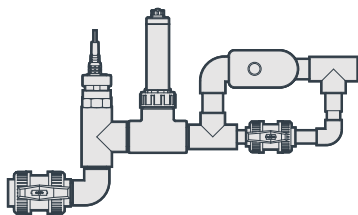
Cooling towers can lower the temperature of water in a plant, whether civil or industrial, by evaporating a small but sufficient quantity of water to generate cooling of the entire circulating mass, allowing it to be reused (at a lower temperature) and thus limiting consumption.

For an efficient cooling system, however, continuous monitoring and, above all, careful water treatment is essential to prevent both corrosion of system components and the formation of bacterial biofilm or other potentially dangerous biological components.

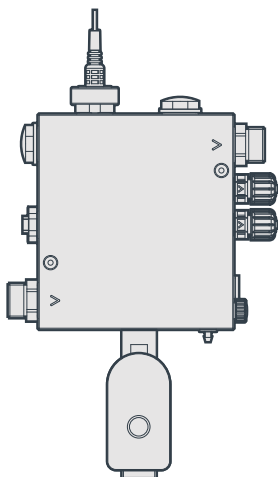
**PROBE
HOLDER**



**PIPING
MANIFOLD**



MANIFOLD



From the very beginning, EMEC has been searching for the most complete solutions to offer the highest possible efficiency in cooling tower operation. With our experience we now features solutions for cooling tower systems both for the civil sector, such as hospitals, large apartment blocks, shopping centres, and for industries such as food, paper, pharmaceuticals, sugar refineries, the chemical industry through to the heavy industry of steel mills. For those who build cooling towers and for those who are involved in water treatment and in particular in the production of chemicals. Plug-and-play solutions were chosen for their ease of handling, with the aim of having all the equipment compactly in one place rather than split up in various locations. Given the need to handle often aggressive chemicals, our solutions are also designed to safeguard the safety of operators.

HYDRAULIC SOLUTIONS

- Simple probe holders
- Piping or manifolds to be able to both measure and inject the chemicals used for conditioning
- Piping or manifolds to handle the purging on the panel but not the injection of the chemical
- Piping or manifolds for measuring, injection but also purging directly on the panel

COMPACT AND RELIABLE SOLUTIONS

- Conductivity measurement in recirculation water for purging with motorised valve for maintaining salinity
- In case of changes, second conductivity measurement for make-up water, with subsequent purge opening
- Measurement of make-up and/or purge flow rate for control of cycles of concentration, with totaliser.
- pH measurement for controlled pH towers with acid dosing and possible redundancy (i.e. two pH measurements, with the second to control the first)
- Redox potential measurement or hypochlorite or hypobromite for oxidising biocide control/dosing
- Timers for shock dosing of biocides
- Tracer product measurement, ppm measurement of dosed product
- Corrosion measurement with sensors in various materials to see MPY
- Turbidity measurement
- Dosing for various products, depending on flow rate or analytical measurement or timer



DEVICE, CABIN, SKID AND ASSEMBLED PANELS. ALL THE EMEC CHOICES

Our solutions

EMEC dosing pumps and measuring and control systems can be assembled with probes and accessories on panels according to specific combinations in order to offer turnkey all-in-one solutions for cooling tower systems.

Pre-assembled panels may have:

- pumps, controllers or elements owned by the customer and assembled by EMEC
- customised logos
- backgrounds chosen by the customer
- customised sizes
- custom power panels

SYSTEMS ON SKIDS OR IN CUSTOM-MADE CABINS

The Stainless Steel or plastic skid is designed and built on client requirements.

In addition to the solution on skids, it is possible to create dosing plants in a cabin, screen guard or with window.

Electric control panels designed to control all the assembled solution.

The final product includes electrical and piping hook-ups ready for installation.



STEPPER MOTOR/PERISTALTIC DOSING PUMPS

VELON Series

Peristaltic dosing pumps with stepper motor



WIFI



DIGITAL SERVICES



APP MY EMEC



ONLINE STATS



CUSTOMIZABLE



MAX FLOW RATE

12 l/h

MAX PRESSURE

2 bar

POWER SUPPLY

12 | 24 VDC

24 VAC

100-240 VAC

VELON is a state-of-the-art compact peristaltic dosing pump, equipped with a high-precision, electronically-controlled multifunction stepper motor that guarantees constant and regular chemical product dosing, even in demanding working conditions and with load variations. Designed to offer a complete, easy-to-use solution in all installation contexts that require precise, reliable, quiet and safe operation.

ACCESSORIES

- 1 PVDF injection valve (0.3 bar)
- 1 PVDF foot filter with level probe
- 4 m suction tubing (flexible PVC)
- 1 long-life biocompatible tubing, 4.8 × 1.6 mm (standard supply)
- 1 long-life biocompatible tubing, 1.6 × 1.6 mm (included accessory)

FEATURES COMMON TO THE ENTIRE SERIES

Microprocessor	Pressure (bar - psi)	RPM Range (rpm)	Protection	Power Supply	Installation Class
Next-Generation, High-Performance	2 (29)	da 1 a 100	IP65	24 100-240 VAC, 12VDC, 24VDC	II
Flow Rate Range (l/h - gal/h) (Ø1,6x1,6)	Flow Rate Range (l/h - gal/h) (Ø4,8x1,6)	Operating Temperature	Additive Temperature	Manufacturing Materials	Remote Control
0,018 - 1,8 l/h 0,0047 - 0,47 gal/h	0,12 - 12 l/h 0,0317 - 3,17 gal/h	10 - 45 °C 55 - 113 °F	0 - 50 °C 32 - 122 °F	PC/ABS, PVDF, POM, TPV	Web (NIMBUS) e App (MyEmec)



AVAILABLE VERSIONS



SPECIFIC MODEL FEATURES

	Velon MF	Velon PO	Velon CL	Velon PM
DESCRIPTION	Multifunction pump with extensive dosing modes and digital management, including remote control	Versatile pump with proportional adjustment and remote control	Essential, practical pump for constant dosing with manual adjustment via potentiometer	Pump with MODBUS RTU integration, ideal for automated systems
INTER./CONT.	Backlit RGB LCD display, encoder, remote management via app/web	Backlit LCD display, encoder, remote management via app/web	Front potentiometer, LED, ON/OFF button	MODBUS RTU, LED, tasto ON/OFF
WORKING MODE	Constant, CC/Pulse, PPM, %, MLQ, Batch, Volt, mA, Pulse, Weekly Program, Ext Constant	Proportional, Autodosing pH and/or Redox	Constant	External Control
MAINTENANCE	Scheduled maintenance via activity meters	Scheduled maintenance via activity meters	Scheduled maintenance via activity meters	Scheduled maintenance via activity meters
INPUT	MODBUS RTU, Multi-function, Level	MODBUS RTU, Standby, Level, Serial Probe	Level	MODBUS RTU, Level
OUTPUT	Alarm (optional)	Allarm (optional)	Allarm (optional)	Allarm (optional)
CONNECTIVITY	Wi-Fi & Bluetooth	Wi-Fi & Bluetooth	-	-
FW UPDATE	OTA	OTA	-	-

SOLENOID / DIAPHRAGM DOSING PUMPS

WT PER Series

Peristaltic dosing pumps with stepper motor



WT



WIFI



DIGITAL SERVICES



APP MY EMEC



ONLINE STATS



CUSTOMIZABLE



MAX FLOW RATE

3 l/h

MAX PRESSURE

2 bar

POWER SUPPLY

100-240 VAC



DOSING
Green



STAND-BY
White



WARNING
Yellow



ALARM
Red

FEATURES

- No. 2 high-precision stepper motors
- High precision through peristaltic dosing
- Low maintenance requirements (long-life, biocompatible peristaltic tubing)
- LCD display with backlighting that adapts to device operation
- Encoder knob for instrument control
- PC+ABS box
- Flow control input
- Conductivity reading
 - 0/3 mS - 0/30 mS (ECDINDPT)
 - 0/10 mS (ECDSINDPT)
 - 0/10 mS (ECDCCPT)
- Alarms: level, no flow
- Configurable digital inputs (N.O. / N.C.)
- Delayed start of dosing
- Permanent data storage with system log viewable on display
- Bluetooth LE / 2.4Ghz WiFi connection for APP and Remote Control
- Upgradable firmware (via OTA)
- Installation class II (IEC/EN 61010-1)
- Pollution level 2 (IEC/EN 61010-1 and IEC 60664-1)
- IP 65 protection (IEC/EN 60529)
- Manual or automatic bleed
- Built-in MODBUS
- Vertical installation
- Remote control via NIMBUS / My EMEC App

ACCESSORIES

- 2 long-life biocompatible hoses, 4.8 × 1.6 mm (standard supply)
- 2 long-life biocompatible hoses, 1.6 × 1.6 mm (included accessories)



PERFORMANCE

Hose Pressure Flow Rate RPM range

Hose	Pressure		Flow Rate		RPM range
	bar	psi	l/h	gal/h	
Ø 1,6x1,6	2	29,0	0,018 - 0,45	0,0047 - 0,1175	1 - 25
Ø 4,8x1,6	2	29,0	0,12 - 3	0,0317 - 0,7925	1 - 25

LONG-LIFE BIOCOMPATIBLE TUBING

Hose life comparison



Permeability coefficient comparison ($\times 10^{-11}$)



INPUTS

CONDUCTIVITY PROBE INLET WATER METER
LEVEL 1 AND LEVEL 2
FLOW SENSOR STANDBY MODE

OUTPUTS

ALARM (VOLTAGE-FREE RELAY CONTACT)
MODBUS RTU PORT PUMP 1 AND PUMP 2
BLEED (WATER DISCHARGE)

WT Series

Solenoid-driven dosing pumps



WIFI



DIGITAL SERVICES



APP MY EMEC



ONLINE STATS



CUSTOMIZABLE

MAX FLOW RATE

3 l/h

MAX PRESSURE

5 bar

POWER SUPPLY

115 VAC

230 VAC

RGB DISPLAY



DOSING
Green



STAND-BY
White



WARNING
Yellow



ALARM
Red



PERFORMANCE

Pressure

bar (psi)

up to 5 bar

Flow Rate

l/h

up to 3 l/h

gal/h

up to 0,79 gal/h

SPM Range

spm

45

FEATURES

- Dual Magnet, 45 strokes/min, continuously adjustable (1%–100%)
- Double Ball Check Valves
- Standard PVDF Hydraulic Components
- Wide LCD Display with Adaptive Backlighting
- Rotary Encoder Knob for Instrument Control
- PC + ABS Enclosure
- Flow Control Input
- Conductivity Measurement:
 - 0–3 mS / 0–30 mS (ECDINDPT)
 - 0–10 mS (ECDSINDPT)
 - 0–10 mS (ECDCCPT)
- Alarms: Level, No-Flow
- Digital Inputs Configurable as N.O. or N.C.
- Delayed Dosing Start
- Permanent Data Storage with System Log Viewable on Display
- Bluetooth® LE / 2.4 GHz Wi-Fi Connectivity for App and Remote Control
- Firmware Upgradeable via OTA (Over-the-Air)
- Installation Class II (IEC / EN 61010-1)
- Pollution Degree 2 (IEC / EN 61010-1 and IEC 60664-1)
- IP65 Protection Rating (IEC / EN 60529)
- Manual or Automatic Priming
- Integrated MODBUS
- Vertical Installation

INPUT

CONDUCTIVITY PROBE

INLET WATER METER

LEVEL 1 AND LEVEL 2

FLOW SENSOR

STANDBY MODE

OUTPUT

ALARM (VOLTAGE-FREE RELAY CONTACT)

MODBUS RTU PORT

PUMP 1 AND PUMP 2

BLEED (WATER DISCHARGE)

MULTI-CHANNEL DIGITAL CONTROLLERS

CENTURIO Series | CENTURIO TOWER or CENTURIO PRO Complete control system for cooling towers

CENTURIO BASIC | USB | ETH | GSM | WIFI | MODBUS

CENTURIO control instruments are multiparameter measurement and regulation systems that combine an absolute control and an extreme ease of use with the elegance of the case created by Giugiaro Design.

CENTURIO TOWER and CENTURIO PRO are digital control instrument designed for cooling tower water treatment and equipped with LINUX operating system, high-performance ARM A5 microprocessor and a large color touchscreen display. It can manage at the same time 5 measurement parameters, read and regulate setpoints of the 5 channels and get real-time graphs. CENTURIO has also an high-capacity storage to archive data logs as well as download option via USB port.

CENTURIO PRO is a complete digital control instrument designed for managing water treatment plants, equipped with LINUX operating system, high-performance ARM A5 microprocessor and a large color touchscreen display. It can manage at the same time the main measurement parameters, read and regulate setpoints of the 6 channels and get real-time graphs. CENTURIO has also an high-capacity storage to archive data logs as well as download option via USB port.

Centurio Tower available configurations:

CENTURIO TOWER - CONDUCTIVITY

CENTURIO TOWER - INDUCTIVE CONDUCTIVITY



DIGITAL SERVICES



FEATURES - CENTURIO TOWER

- Biocide programmable in 10 daily interventions.
- Pre-bleed (water discharge before biocide dosing).
- Blow down (discharge control on conductivity values).
- Lockout (discharge valve locked for a settable time, after biocide dosing).

INPUTS

- 8 product level inputs
- Flow input
- 2 water meter inputs
- 1 RS485 bus probe input
- 6 slots for channels reading

FEATURES - CENTURIO PRO

- For each reading channel:
- 2 digital setpoints (ON/OFF), 2 proportional setpoints (IS), 1 mA output setpoint, 1 temperature setpoint
- 6 timers with a maximum of 10 daily schedules each
- Laser level output

OUTPUTS

- Alarm output
- 8 proportional outputs
- 6 on/off outputs
- 2 freecontact on/off outputs
- 6 current outputs



CHANNEL 1 - CENTURIO TOWER only

16 | 17

Conductivity

probe | ECD/EICD

range | 0.1 μ S-100mS (K=1) - 0.01 μ S-100mS (K=01)
0.001 μ S-100mS (K=001) - 1 μ S-1S (K=10)

comp. | Temperature

Inductive conductivity

probe | ECDIND

range | 0,1-3mS (K=1) - 0,3-30mS (K=01) - 0,3-300mS (K=001)

comp. | Temperature

CHANNEL 1 TO CHOOSE ONLY BETWEEN CONDUCTIVITY AND INDUCTIVE CONDUCTIVITY

CHANNELS 2 to 6 - CENTURIO TOWER CHANNELS 1 to 6 - CENTURIO PRO

pH

probe | EPH

comp. | pH in Temperature - ECL6

range | 0-14 pH

comp. | Temperature

ORP

probe | ERH

range | -999/+999 mV

comp. | Temperature

Chlorine (total, free and combined)

probe | ECL/SCL

comp. | Chlorine in Temperature

range | depending on probe

Tracers

probe | ETRC2

range | 0/999,9 ppm

comp. | Temperature

Bromine

probe | SBR

comp. | Chlorine in Temperature

range | depending on probe

Corrosion

probe | ECORR

range | 0.001/10 MPY

comp. | Temperature

Chlorine Dioxide

probe | SCL2

comp. | Chlorine in Temperature

range | depending on probe

Hydrogen peroxyde

probe | SCL9

comp. | Chlorine in Temperature

range | depending on probe

Turbidity

probe | ETORB2

range | 0/40,00 NTU
0/400,0 NTU
0/4000 NTU

comp. | Temperature

Ozone

probe | SCL10

comp. | Chlorine in Temperature

range | depending on probe

Paracetic Acid

probe | SCL11

comp. | Chlorine in Temperature

range | depending on probe

mA input

range | Analogic input module 0-20 mA

Conductivity

probe | ECD/EICD

range | 0.1 μ S-100mS (K=1) - 0.01 μ S-100mS (K=01)
0.001 μ S-100mS (K=001) - 1 μ S-1S (K=10)

comp. | Temperature

Inductive conductivity

probe | ECDIND

range | 0,1-3mS (K=1) - 0,3-30mS (K=01) - 0,3-300mS (K=001)

comp. | Temperature

MTOWER Series | MTOWER PLUS

Three parameters control system for cooling towers

MTOWER PLUS BASIC | USB | ETH | GSM | WIFI | MODBUS

MTOWER PLUS controllers are a series of fully feature control systems for cooling towers.

They manage simultaneously three parameters: pH or ORP, chlorine, conductivity or inductive conductivity (to specify on order) and temperature. Probes are not included.

They can be remotely controlled through the exclusive web management system NIMBUS.

Optional configurations:

MTOWER PLUS + mA output

MTOWER PLUS + 12VDC or 24VDC power supply



ALARMS

- No water flow alarm
- 3 product level alarms
- Bleed timeout alarm

INPUTS

- 6 product level inputs
- 2 water meter inputs
- Flow input
- Temperature probe input
- Stand-by input

OUTPUTS

- mA output*



DIGITAL SERVICES



INPUTS/OUTPUTS WITH * ARE TO BE CONSIDERED AS OPTIONAL



CHANNEL 1 - MTOWER PLUS | CD/PH/CL and CD/PH/RH

18 | 19

Conductivity

probe | ECD/EICD
range | 0/300,0 μ S
0/3000 μ S
0/30,0 mS
0/300,0 mS
comp. | Temperature

Inductive conductivity

probe | ECDIND
range | 0/3,000 mS
0/30,00 mS
0/300,0 mS
comp. | Temperature

CHANNEL 2 - MTOWER PLUS | CD/PH/CL and CD/PH/RH

pH

probe | EPH
comp. | pH in Temperature - ECL6
range | 0-14 pH
comp. | Temperature

CHANNEL 3 - MTOWER PLUS | CD/PH/CL only

Chlorine (total, free and combined)

probe | ECL/SCL
comp. | Chlorine in Temperature
range | depending on probe

Hydrogen peroxyde

probe | SCL9
comp. | Chlorine in Temperature
range | depending on probe

Bromine

probe | SBR
comp. | Chlorine in Temperature
range | depending on probe

Ozone

probe | SCL10
comp. | Chlorine in Temperature
range | depending on probe

Chlorine Dioxide

probe | SCL2
comp. | Chlorine in Temperature
range | depending on probe

Paracetic Acid

probe | SCL11
comp. | Chlorine in Temperature
range | depending on probe

CHANNEL 3 - MTOWER PLUS | CD/PH/RH only

ORP

probe | ERH
range | 0/1000 mV
comp. | Temperature

MTOWER Series | MTOWER 1 OR 2 CHANNELS

Single or double parameters control system for cooling towers

MTOWER 1CH or 2CH BASIC | USB | ETH | GSM | WIFI | MODBUS

MTOWER 1CH and MTOWER 2CH controllers are a series of fully feature control systems for cooling towers.

MTOWER 1CH manages one parameter: conductivity or inductive conductivity (to specify on order) and temperature. Probes are not included.

MTOWER 2CH manage simultaneously two parameters: pH or ORP or chlorine, conductivity or inductive conductivity (to specify on order) and temperature. Probes are not included.

They can be remotely controlled through the exclusive web management system NIMBUS.

Optional configurations:

MTOWER 2CH + mA output

MTOWER 2CH + 12VDC or 24VDC power supply



ALARMS

- No water flow alarm
- 2 product level alarms
- Bleed timeout alarm

INPUTS

- 6 product level inputs
- 2 water meter inputs
- Flow input
- Temperature probe input
- Stand-by input

OUTPUTS

- mA output*



DIGITAL SERVICES



INPUTS/OUTPUTS WITH * ARE TO BE CONSIDERED AS OPTIONAL



CHANNEL 1 - MTOWER 1CH | CD MTOWER 2CH | CD/PH, CD/RH, CD/CL and CD/TRC

20 | 21

Conductivity

probe | ECD/EICD
range | 0/300,0 μ S
0/3000 μ S
0/30,0 mS
0/300,0 mS
comp. | Temperature

Inductive conductivity

probe | ECDIND
range | 0/3,000 mS
0/30,00 mS
0/300,0 mS
comp. | Temperature

CHANNEL 2 - MTOWER 2CH | CD/PH only

pH

probe | EPH
comp. | pH in Temperature - ECL6
range | 0-14 pH
comp. | Temperature

CHANNEL 2 - MTOWER 2CH | CD/RH only

ORP

probe | ERH
range | 0/1000 mV
comp. | Temperature

CHANNEL 2 - MTOWER 2CH | CD/CL only

Chlorine (total, free and combined)

probe | ECL/SCL
comp. | Chlorine in Temperature
range | depending on probe

Hydrogen peroxyde

probe | SCL9
comp. | Chlorine in Temperature
range | depending on probe

Bromine

probe | SBR
comp. | Chlorine in Temperature
range | depending on probe

Ozone

probe | SCL10
comp. | Chlorine in Temperature
range | depending on probe

Chlorine Dioxide

probe | SCL2
comp. | Chlorine in Temperature
range | depending on probe

Paracetic Acid

probe | SCL11
comp. | Chlorine in Temperature
range | depending on probe

CHANNEL 2 - MTOWER 2CH | CD/TRC only

Tracers

probe | ETRC2
range | 0/9999,9 ppm

SINGLE-CHANNEL DIGITAL CONTROLLERS

Series LDS | LDS or LDS PLUS

LDS is a single reading system with setpoints

LDS PLUS is a single reading system with PID regulation

LDS or LDS PLUS BASIC | USB | ETH | GSM | WIFI | MODBUS

LDS PLUS controllers are a series of single reading digital systems with PID regulation. LDS controllers are a series of single reading controllers that meet a wide range of applications.

Both of two have: easy control by encoder wheel, flow control, local & remote control, NIMBUS web communication, permanent data storage with system log, PT100 temperature probe, stand-by input, water meter input (only LDS PLUS), alarms, programmable delay at dosing start-up (up to 60 minutes), automatic temperature compensation, probe readout menu (LDSCDIND PLUS / LDSCDIND), different working modes [on/off, impulsive proportional, proportional PWM

and fixed PWM, PID (only LDS PLUS)], automatic or manual dosing activity, mA output (optional for LDS), mA water meter input (optional for LDS PLUS only), probe cleaning and 5 relays [2 setpoint; alarm; probe cleaning; circulation (only for LDS PLUS)].

Optional configurations:

LD MULTICHANNEL PLUS + mA output

LD MULTICHANNEL PLUS + 12VDC or 24VDC power supply

LD MULTICHANNEL PLUS + LED strip



ALARMS

- General alarm
- No water flow alarm
- Out of range alarm
- Level alarm
- Max dosing alarm
- Damaged probe alarm

INPUTS

- Product level inputs
- Flow input
- mA water meter input (only for LDS PLUS)*
- Temperature probe input
- Stand-by input

OUTPUTS

- Alarm output
- mA output (optional for LDS)*
- Proportional outputs
- Set points outputs (only for LDS PLUS)
- Relay outputs
- Opto coupled output (only for LDS PLUS)



DIGITAL SERVICES





CH 1 - LDS or LDS PLUS | CD only

22 | 23

Conductivity

probe | ECD/EICD

range | 0/300,0 μ S - 0/3000 μ S - 0/30,0 mS - 0/300,0 mS

comp. | Conductivity in temperature

CH 1 - LDS or LDS PLUS | CDIND only

Inductive conductivity

probe | ECDIND

range | 0/3,000 mS - 0/30,00 mS - 0/300,0 mS

comp. | Conductivity in temperature

CH 1 - LDS or LDS PLUS | PH only

pH

probe | EPH

comp. | pH in Temperature - ECL6

range | 0-14 pH

CH 1 - LDS or LDS PLUS | RH only

ORP

probe | ERH

range | 0/1000 mV

CH 1 - LDS or LDS PLUS | CL only

Chlorine (total, free and combined)

probe | ECL/SCL

comp. | Chlorine in Temperature

range | depending on probe

Hydrogen peroxyde

probe | SCL9

comp. | Chlorine in Temperature

range | depending on probe

Bromine

probe | SBR

comp. | Chlorine in Temperature

range | depending on probe

Ozone

probe | SCL10

comp. | Chlorine in Temperature

range | depending on probe

Chlorine Dioxide

probe | SCL2

comp. | Chlorine in Temperature

range | depending on probe

Paracetic Acid

probe | SCL11

comp. | Chlorine in Temperature

range | depending on probe

CH 1 - LDS or LDS PLUS | ETORB2 only

Turbidity

probe | ETORB2

range | 0/4000 NTU

CH 1 - LDS or LDS PLUS | DO only

Dissolved Oxygen

probe | EOLUM

range | 20 mg/l O₂

comp. | Temperature and pressure

CH 1 - LDS or LDS PLUS | TRC only

Tracers

probe | ETRC2

range | 0/9999,9 ppm

CH 1 - LDS or LDS PLUS | FL only

Fluoride

probe | EFL

range | conc. 0/3,00 ppm (0,01 ppm) - mV 0/1000,00 ppm (0,01 ppm)

PREASSEMBLED MULTI-CHANNEL PANEL SOLUTIONS

Basic solutions

Preassembled panel with Centurio Tower or MTower systems



FEATURES

Panel with MTOWER controller, for managing the bleed valve and chemical measurement and dosing, and for measuring the make-up and bleed flow rate.

Available in 4 versions: Conductivity (only); Conductivity/PH; Conductivity/RH; Conductivity/PH/RH.

Optional: Also available with Centurio Tower controller
Also available with customised colour background

CONDUCTIVITY

controller | MTOWER-CD

p. holder | NPED4

probe | ECDCCPT1

controller | MTOWER-CD-PH

p. holder | NPED4

probe | ECDCCPT1-EPHS

controller | MTOWER-CD-RH

p. holder | NPED4

probe | ECDCCPT1-ERHS

controller | MTOWER-CD-PH-RH

p. holder | NPED4

probe | ECDCCPT1-EPHS-ERHS

INDUCTIVE CONDUCTIVITY

controller | MTOWER-CDIND

p. holder | MANIFOLD-E-3
NPED1

probe | ECDCCPT1

controller | MTOWER-CDIND-RH

p. holder | MANIFOLD-E-3
NPED1

probe | ECDCCPT1-EPHS

controller | MTOWER-CDIND-pH

p. holder | MANIFOLD-E-3
NPED1

probe | ECDCCPT1-ERHS

controller | MTOWER-CDIND-PH-RH

p. holder | MANIFOLD-E-3
NPED1

probe | ECDCCPT1-EPHS-ERHS

The images on this page are for illustrative purposes only, for more information on possible configurations, please contact the sales department or your sales representative.



FEATURES

Panel with MTOWER controller, for managing the bleed valve and chemical dosing, equipped with 2 dosing pumps and make-up and bleed flow measurement. Equipped with MANIFOLD, 1" controllable bleed valve, 2 dosing pumps, 2 injection points.

Available in 4 versions: Conductivity (only); Conductivity/PH; Conductivity/RH; Conductivity/PH/RH.

Optional: Also available with Centurio Tower controller
Also available with customised colour background

CONDUCTIVITY

controller MTOWER-CD	controller MTOWER-CD-PH	controller MTOWER-CD-RH	controller MTOWER-CD-PH-RH
p. holder MANIFOLD 1EV	p. holder MANIFOLD PLUS 1EV	p. holder MANIFOLD PLUS 1EV	p. holder MANIFOLD PLUS 1EV
probes ECDCCPT1	probes ECDCCPT1 EPHS	probes ECDCCPT1 ERHS	probes ECDCCPT1 EPHS ERHS
pumps Up to 2x KMF1504 (with bracket)	pumps Up to 2x KMF1504 (with bracket)	pumps Up to 2x KMF1504 (with bracket)	pumps Up to 2x KMF1504 (with bracket)

INDUCTIVE CONDUCTIVITY

controller MTOWER-CDIND	controller MTOWER-CDIND-PH	controller MTOWER-CDIND-RH	controller MTOWER-CDIND-PH-RH
p. holder MANIFOLD 1EV-IND	p. holder MANIFOLD PLUS 1EV-IND	p. holder MANIFOLD PLUS 1EV-IND	p. holder MANIFOLD PLUS 1EV-IND
probes ECDCCPT1	probes ECDIND EPHS	probes ECDIND ERHS	probes ECDIND EPHS ERHS
pumps Up to 2x KMF1504 (with bracket)	pumps Up to 2x KMF1504 (with bracket)	pumps Up to 2x KMF1504 (with bracket)	pumps Up to 2x KMF1504 (with bracket)

The images on this page are for illustrative purposes only, for more information on possible configurations, please contact the sales department or your sales representative.

Intermediate solutions

Preassembled panel with Centurio Tower system



FEATURES

Panel with CENTURIO PRO controller, up to 3 conductivities, therefore up to 3 purges, equipped with 4 dosing pumps: one for inhibitor in make-up function and 3 for biocide shock dosing. (Up to 6 purges can be implemented).

Available in 2 versions: Capacitive Conductivity and Inductive Conductivity.

Optional: Also available with customised colour background

CONDUCTIVITY

controller | CENTURIO PRO-CD-CD-CD

p. holder | 3x NPED4

probes | 3x ECDCCPT

pumps | Up to 4x KMF1504
(with bracket)

INDUCTIVE CONDUCTIVITY

controller | CENTURIO PRO-CDIND-CDIND-CDIND

p. holder | 3x MANIFOLD-3-E

probes | 3x ECDIND

pumps | Up to 4x KMF1504
(with bracket)

The images on this page are for illustrative purposes only, for more information on possible configurations, please contact the sales department or your sales representative.



Intermediate solutions

26 | 27

Preassembled panel with Centurio Tower system



FEATURES

Panel with CENTURIO PRO controller, up to 3 conductivities, therefore up to 3 purges, equipped with EV and 4 dosing pumps: one for inhibitor in make-up function and 3 for biocide shock dosing. (Up to 6 purges can be implemented).

Available in 2 versions: Capacitive Conductivity and Inductive Conductivity.

Optional: Also available with customised colour background

CONDUCTIVITY

controller | CENTURIO PRO-CD-CD-CD

p. holder | 3x PIPING with EV

probes | 3x ECDCCPT

pumps | Up to 4x KMF1504
(with bracket)

INDUCTIVE CONDUCTIVITY

controller | CENTURIO PRO-CDIND-CDIND-CDIND

p. holder | 3x PIPING with EV

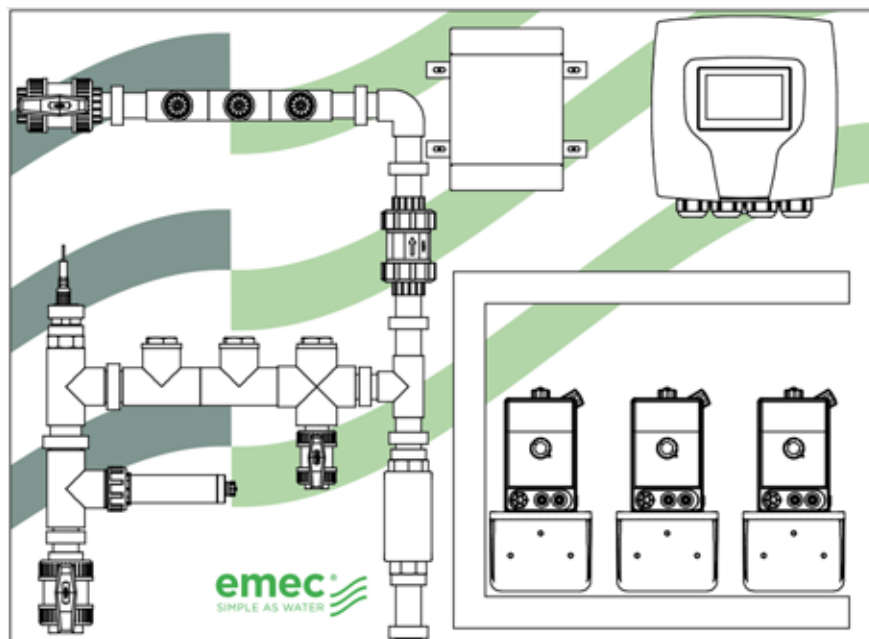
probes | 3x ECDIND

pumps | Up to 4x KMF1504
(with bracket)

The images on this page are for illustrative purposes only, for more information on possible configurations, please contact the sales department or your sales representative.

Intermediate solutions

Preassembled panel with Centurio Tower or MTower systems



FEATURES

Panel with CENTURIO/MTOWER controller, with three measurements (CD, pH and Redox), measurement and metering of make-up and purge flow, with PIPING for measurement, 1 1/4" purge and 4 injection points, equipped with 2 dosing pumps (expandable).

Available in 2 versions: Capacitive Conductivity and Inductive Conductivity.

Optional: Also available with customised colour background

CONDUCTIVITY

controller | CENTURIO/MTOWER-CD-PH-RH

p. holder | PIPING with EV and injection points

probes | ECDCCPT
EPHS
ERHS

pumps | Up to 2x KMF1504
(with bracket)

INDUCTIVE CONDUCTIVITY

controller | CENTURIO/MTOWER-CD-PH-RH

p. holder | PIPING with EV and injection points

probes | ECDIND
EPHS
ERHS

pumps | Up to 2x KMF1504
(with bracket)

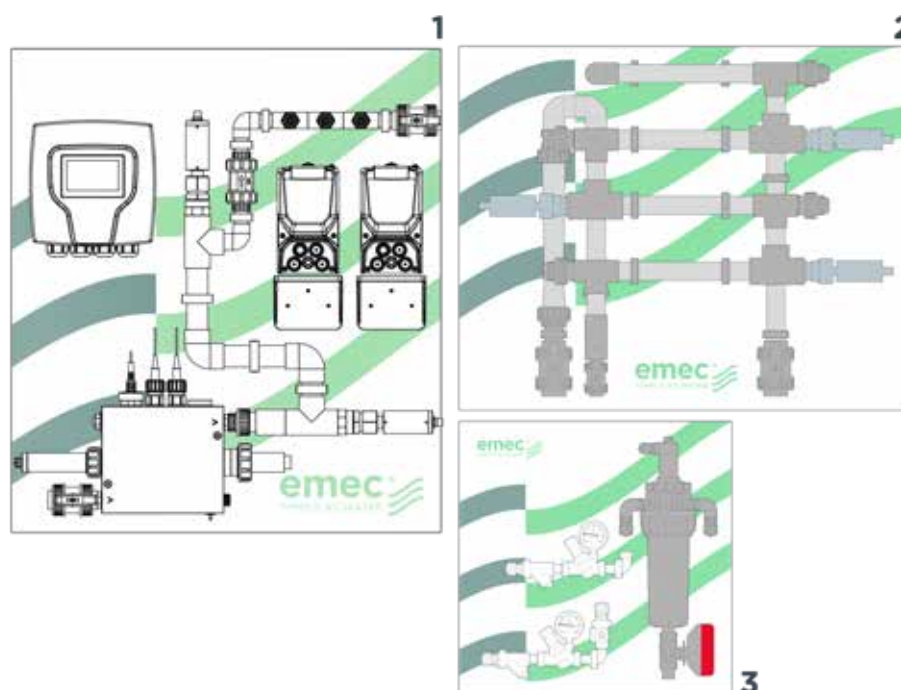
The images on this page are for illustrative purposes only, for more information on possible configurations, please contact the sales department or your sales representative.



Top of the range solutions

28|29

Modular preassembled panels with Centurio Tower system



FEATURES

Top of the range panel with CENTURIO-TOWER controller, with up to 6 measurements (CD, pH and Redox, Tracer, Corrosion and Turbidity), measurement and metering of make-up and purge flow rate, with litre counter and valve on the panel, with PIPING for measurement, 1 1/4" purge and 4 injection points, equipped with 4 dosing pumps. With separate panels for turbidity probe and double/triple corrosion measurement.

The panel is modular so you can remove or put in probes, valves, dosing pumps.

Available in 2 versions: Capacitive Conductivity and Inductive Conductivity.

Optional: Also available with customised colour background

1 - CONDUCTIVITY

controller | CENTURIO

p. holder | PIPING with injection points for purge flow rate measurement

probes | 1 ECDCCPT
1 ETRC2
2 ECORR
1 EPHS
1 ERHS

pumps | Up to 2 x Prisma
(with bracket)

1 - INDUCTIVE CONDUCTIVITY

controller | CENTURIO

p. holder | PIPING with injection points for purge flow rate measurement

probes | 1 ECDCCPT
1 ETRC2
2 ECORR
1 EPHS
1 ERHS

pumps | Up to 2 x Prisma
(with bracket)

2 - CORROSION

probes | Up to 3x ECORR

other | Corrosion specimen holder kit

3- TURBIDITY

p. holder | NPED TORB

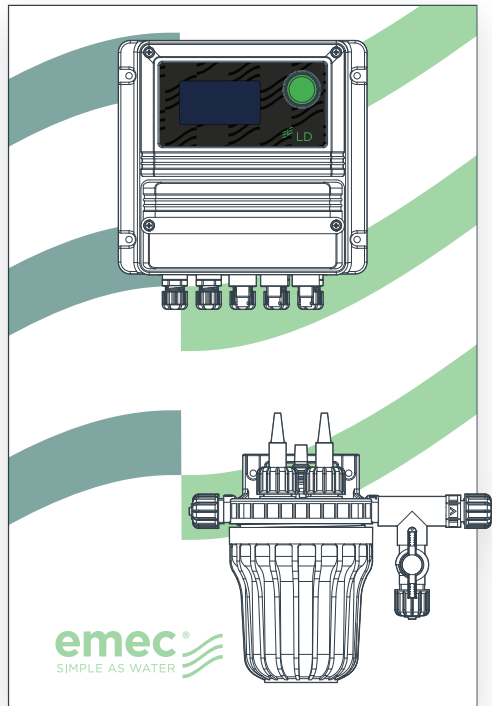
probes | ETORB2

other | Cleaning Kit

PREASSEMBLED SINGLE-CHANNEL PANEL SOLUTIONS

Basic solutions

Preassembled panel with LDS system



FEATURES

Panel with LDSCD controller for purge valve management, with socket probe-holder.

Available in 2 versions: Capacitive Conductivity and Inductive Conductivity.

Optional: Also available with customised colour background

CONDUCTIVITY

controller | LDS-CD

p. holder | NPED4

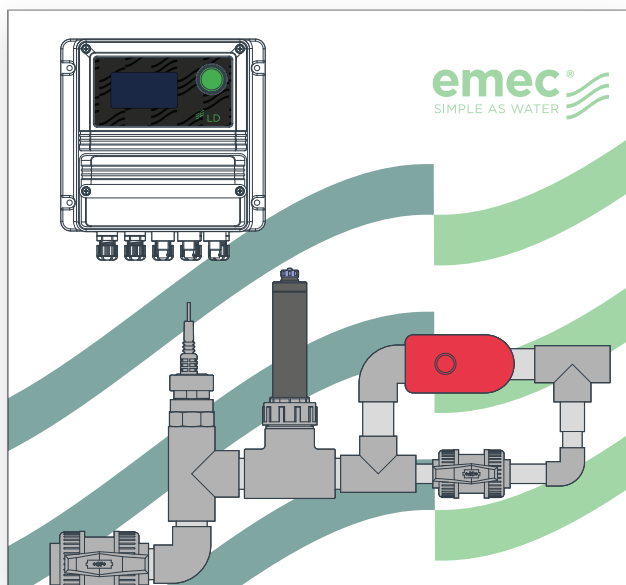
probe | ECDCCPT

INDUCTIVE CONDUCTIVITY

controller | LDS-CDIND

p. holder | MANIFOLD-E-3

probe | ECDIND



FEATURES

Panel with LDSCD controller for managing the 1" partitionable bleed valve, included in the panel.

Available in 2 versions: Capacitive Conductivity and Inductive Conductivity.

Optional: Also available with customised colour background

CONDUCTIVITY

controller | LDS-CD

p. holder | PIPING with 1" EV

probe | ECDCCPT

INDUCTIVE CONDUCTIVITY

controller | LDS-CDIND

p. holder | PIPING with 1" EV

probe | ECDIND



Intermediate solutions

Preassembled panel with LDS system

30 | 31



FEATURES

Panel with LDSCD controller for managing the 1" partitionable bleed valve, included in the panel, equipped with a shock timer pump and an inhibitor pump, with injection points.

Available in 2 versions: Capacitive Conductivity and Inductive Conductivity.

Optional: Also available with customised colour background

CONDUCTIVITY

controller | LDS-CD

p. holder | MANIFOLD with 1" EV

probes | ECDCCPT

pumps | KMF1504 (with bracket)
KEN1504 (with bracket)

INDUCTIVE CONDUCTIVITY

controller | LDS-CDIND

p. holder | MANIFOLD with 1" EV with 2 injection points

probes | 3x ECDIND

pumps | KMF1504 (with bracket)
KEN1504 (with bracket)

The images on this page are for illustrative purposes only, for more information on possible configurations, please contact the sales department or your sales representative.

ADVANCED REMOTE MONITORING AND CONTROL SYSTEM

NIMBUS

Online platform for remote control

NIMBUS is an online platform that enables remote monitoring and control of all parameters of compatible EMEC products, allowing interactive management of probes, instrument inputs, product levels, temperature and setpoints.

HOW DOES NIMBUS WORK?

All EMEC instruments equipped with an encoder or touchscreen and an Ethernet or 3G/4G connection are immediately connected and ready for use.

In addition to remote interaction, NIMBUS allows you to receive email notifications regarding alarms and the status of your instruments, based on various configuration options.

ADVANTAGES

- Reduced on-site inspections and maintenance interventions
- Real-time status of network devices (probes, outputs, alarms and setpoints)
- Customisable reports including data from all plant instruments
- Charts, tables and activity logs downloadable to a PC (CSV format)
- Activity scheduling with automatic reminder notifications

COMPATIBLE SYSTEMS

- PRISMA
- CENTURIO PRO / POOL / TOWER
- MTOWER
- WD
- LD / LDS
- WN
- WT
- VELON
- LD OSIN PLUS
- LOTUS



KEY FEATURES

Nimbus has been developed to deliver a complete, intuitive and secure user experience: from interactive plant status visualisation to geolocation, from remote configuration to maintenance planning.

Thanks to advanced reporting tools, role-based access management, and the highest standards of security and data protection, Nimbus supports companies and teams in efficiently monitoring their infrastructure, streamlining daily operations and enhancing overall operational control.



**INTUITIVE AND
CUSTOMIZABLE
DASHBOARD**



**INTERACTIVE MAP
WITH REAL-TIME
MONITORING OF
SYSTEMS AND
DEVICES**



**BUILT-IN
GEOLOCATION
FOR ALL YOUR
INSTALLATIONS
AND DEVICES**



**GUIDED DEVICE
REGISTRATION**



**REMOTE SETUP AND
CONTROL, ANYTIME,
ANYWHERE**



**SMART TEAM
MANAGEMENT WITH
PROFILED ACCESS
LEVELS**



**INTEGRATED
CALENDAR TO PLAN
TASKS AND
MAINTENANCE**



**DETAILS,
CUSTOMIZABLE
REPORTS AT YOUR
FINGERTIPS**



**MULTILINGUAL
PLATFORM**



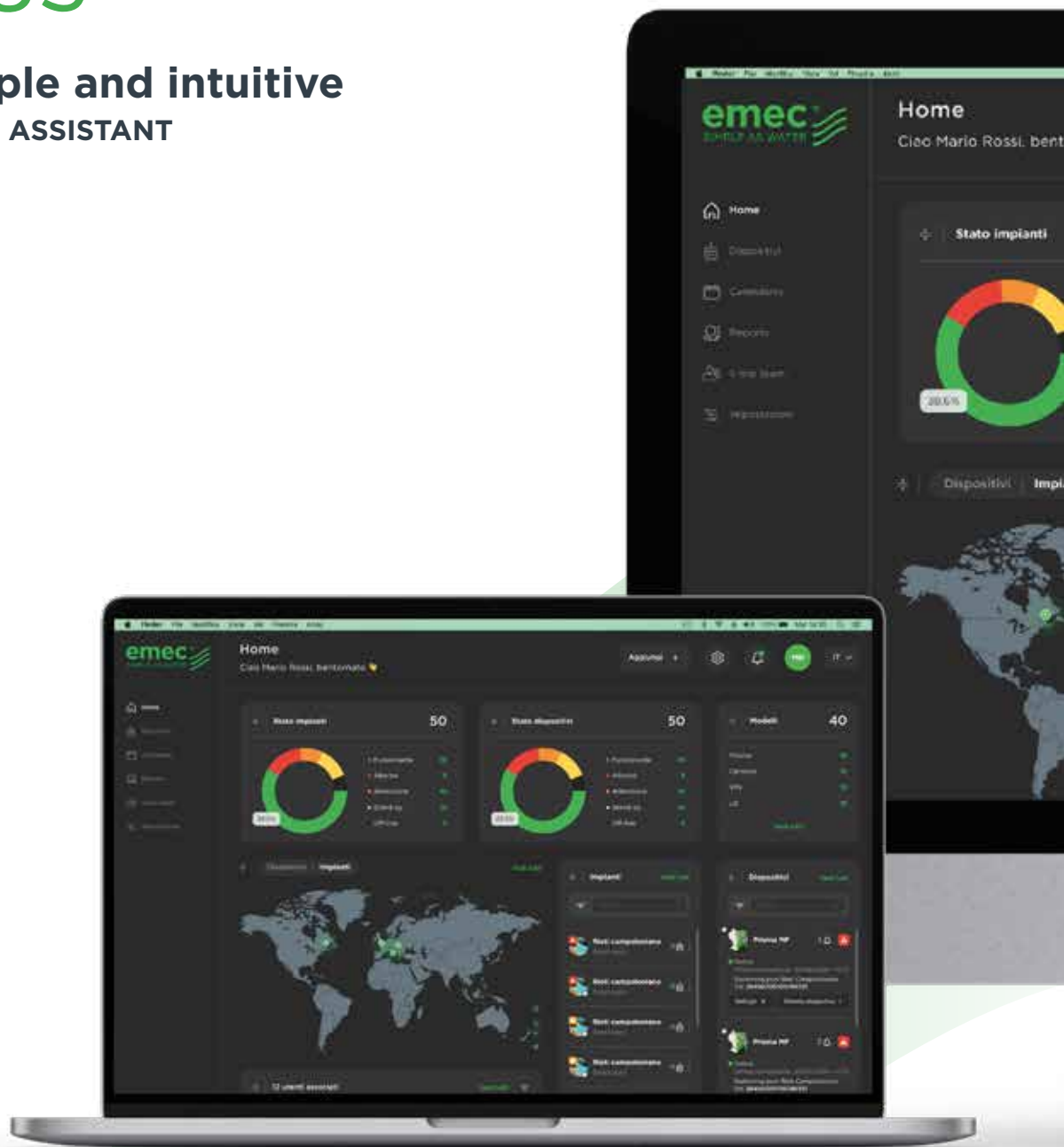
**SECURE CONNECTION
WITH STATE-OF-THE-
ART ENCRYPTION**



**DATA MANAGEMENT
IN COMPLIANCE WITH
THE HIGHEST
SECURITY AND
PRIVACY STANDARDS**



Fast, simple and intuitive
YOUR SMART ASSISTANT



A MULTILINGUAL WEB PLATFORM

The user interface is available in 34 languages

MULTIPLE ACCESS LEVELS

Multiple users can be added to the system, with different access levels assigned to each installation

STATUS NOTIFICATIONS PUSH

Set up push notifications on the status of your installations



EVERYTHING UNDER CONTROL

Real-time display of all your plant parameters and monitoring of the status of all probes

REAL-TIME MANAGEMENT

Real-time management and configuration of all your plant parameters

REAL-TIME CHARTS

Charts of all your plant parameters, based on both real-time data and stored data



My Emec

The app by EMEC
All your systems in your hand



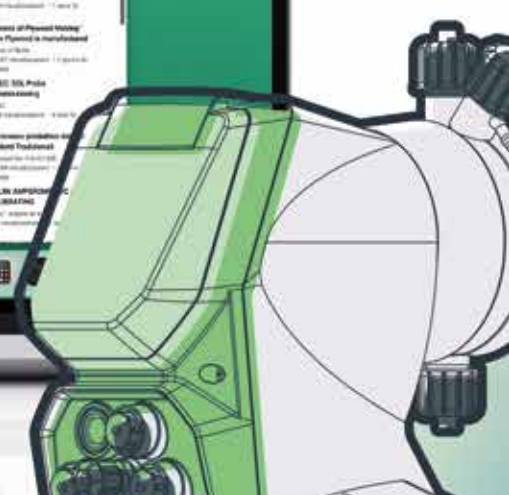


www.emecpumps.com
follow us



Emec Tutorial

Find our installation videos and much more
on Youhose





emec[®]
SIMPLE AS WATER



cod. 20211340



EMEC S.r.l. Via Donatori di Sangue, 1 - 02100 Rieti - Italia

T. +39 0746 2284 1 F. +39 0746 2284 2

info@emec.it - www.emecpumps.com