

# COOLING TOWER CATALOGUE

SYSTEMS FOR COOLING TOWERS





Three thick, green, wavy lines that start from the left edge of the page and curve upwards and to the right, ending before the text. They are parallel to each other and have a smooth, flowing appearance.

## WATER TREATMENT SYSTEMS

# Index

## OVERVIEW

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

## DOSING PUMPS

|                                                              |    |
|--------------------------------------------------------------|----|
| <b>Stepper Motor/Peristaltic Dosing Pumps: Velon Series</b>  | 10 |
| <b>Stepper Motor/Peristaltic Dosing Pumps: WT PER Series</b> | 12 |
| <b>Solenoid/Diaphragm Dosing Pumps: WT Series</b>            | 14 |

## MULTI-CHANNEL DIGITAL CONTROLLERS

|                                    |    |
|------------------------------------|----|
| <b>Centurio Tower/Centurio Pro</b> | 16 |
| <b>MTower Plus</b>                 | 18 |
| <b>MTower 1CH/2CH</b>              | 20 |

## SINGLE-CHANNEL DIGITAL CONTROLLERS

|                     |    |
|---------------------|----|
| <b>LDS/LDS Plus</b> | 22 |
|---------------------|----|

## PREASSEMBLED MULTI-CHANNEL PANEL SOLUTIONS

|                               |    |
|-------------------------------|----|
| <b>Basic solutions</b>        | 24 |
| <b>Intermediate solutions</b> | 26 |
| <b>Advanced solutions</b>     | 28 |

## PREASSEMBLED SINGLE-CHANNEL PANEL SOLUTIONS

|                               |    |
|-------------------------------|----|
| <b>Basic solutions</b>        | 30 |
| <b>Intermediate solutions</b> | 31 |

## ONLINE CONTROL SYSTEMS

|                    |    |
|--------------------|----|
| <b>NIMBUS</b>      | 32 |
| <b>MY EMEC APP</b> | 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<br>(bar - psi)                        | RPM Range<br>(rpm)        | Protection               | Power Supply                      | Installation Class             |
|------------------------------------------------|------------------------------------------------|---------------------------|--------------------------|-----------------------------------|--------------------------------|
| Next-Generation,<br>High-Performance           | 2 (29)                                         | da 1 a 100                | IP65                     | 24   100-240 VAC,<br>12VDC, 24VDC | II                             |
| Flow Rate Range<br>(l/h - gal/h)<br>(Ø1,6x1,6) | Flow Rate Range<br>(l/h - gal/h)<br>(Ø4,8x1,6) | Operating<br>Temperature  | Additive<br>Temperature  | Manufacturing<br>Materials        | Remote<br>Control              |
| 0,018 - 1,8 l/h<br>0,0047 - 0,47<br>gal/h      | 0,12 - 12 l/h<br>0,0317 - 3,17 gal/h           | 10 - 45 °C<br>55 - 113 °F | 0 - 50 °C<br>32 - 122 °F | PC/ABS, PVDF,<br>POM, TPV         | Web (NIMBUS) e<br>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 x 1.6 mm (standard supply)
- 2 long-life biocompatible hoses, 1.6 x 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



NIMBUS

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

## SPM Range

spm

45

|             |             |                  |    |
|-------------|-------------|------------------|----|
| up to 5 bar | up to 3 l/h | up to 0,79 gal/h | 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  $\mu$ S-100mS (K=1) - 0.01  $\mu$ S-100mS (K=01)  
0.001  $\mu$ S-100mS (K=001) - 1  $\mu$ 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 | ECCR

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  $\mu$ S-100mS (K=1) - 0.01  $\mu$ S-100mS (K=01)  
0.001  $\mu$ S-100mS (K=001) - 1  $\mu$ 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  $\mu$ S  
0/3000  $\mu$ 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  $\mu$ S  
0/3000  $\mu$ 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  $\mu$ S - 0/3000  $\mu$ 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 O<sub>2</sub>

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 | controller   MTOWER-CD-PH | controller   MTOWER-CD-RH | controller   MTOWER-CD-PH-RH |
| p. holder   NPED4      | p. holder   NPED4         | p. holder   NPED4         | p. holder   NPED4            |
| probe   ECDCCPT1       | probe   ECDCCPT1-EPHS     | probe   ECDCCPT1-ERHS     | probe   ECDCCPT1-EPHS-ERHS   |

#### INDUCTIVE CONDUCTIVITY

|                                   |                                   |                                   |                                   |
|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| controller   MTOWER-CDIND         | controller   MTOWER-CDIND-RH      | controller   MTOWER-CDIND-pH      | controller   MTOWER-CDIND-PH-RH   |
| p. holder   MANIFOLD-E-3<br>NPED1 | p. holder   MANIFOLD-E-3<br>NPED1 | p. holder   MANIFOLD-E-3<br>NPED1 | p. holder   MANIFOLD-E-3<br>NPED1 |
| probe   ECDCCPT1                  | probe   ECDCCPT1-EPHS             | probe   ECDCCPT1-ERHS             | 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<br>EPHS                  | probes   ECDCCPT1<br>ERHS                  | probes   ECDCCPT1<br>EPHS<br>ERHS          |
| pumps   Up to 2x KMF1504<br>(with bracket) | pumps   Up to 2x KMF1504<br>(with bracket) | pumps   Up to 2x KMF1504<br>(with bracket) | pumps   Up to 2x KMF1504<br>(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<br>EPHS                    | probes   ECDIND<br>ERHS                    | probes   ECDIND<br>EPHS<br>ERHS            |
| pumps   Up to 2x KMF1504<br>(with bracket) | pumps   Up to 2x KMF1504<br>(with bracket) | pumps   Up to 2x KMF1504<br>(with bracket) | pumps   Up to 2x KMF1504<br>(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)

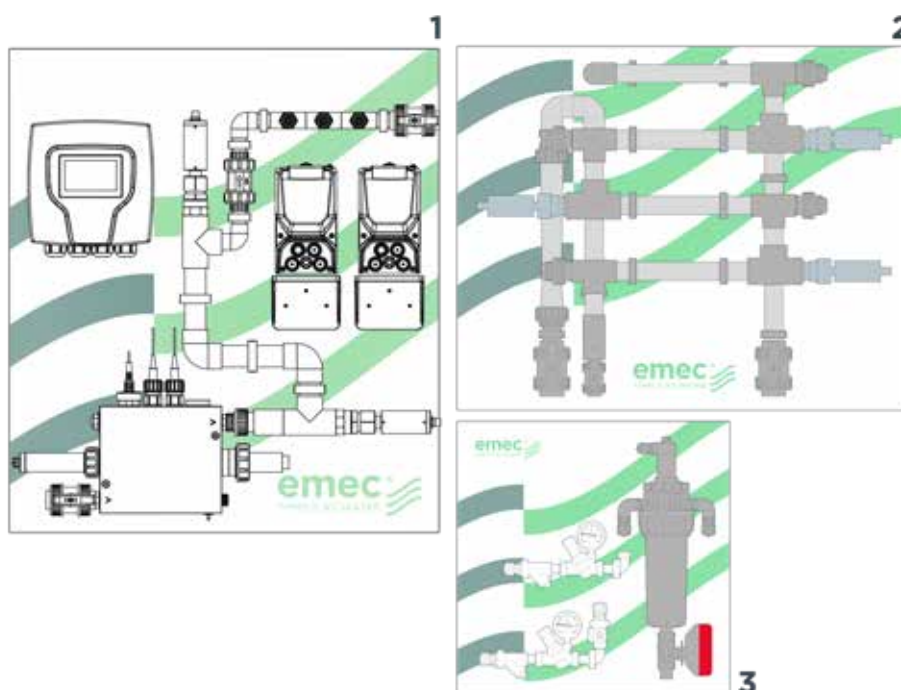
*The images on this page are for illustrative purposes only, for more information on possible configurations, please contact the sales department or your sales representative.*



# 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





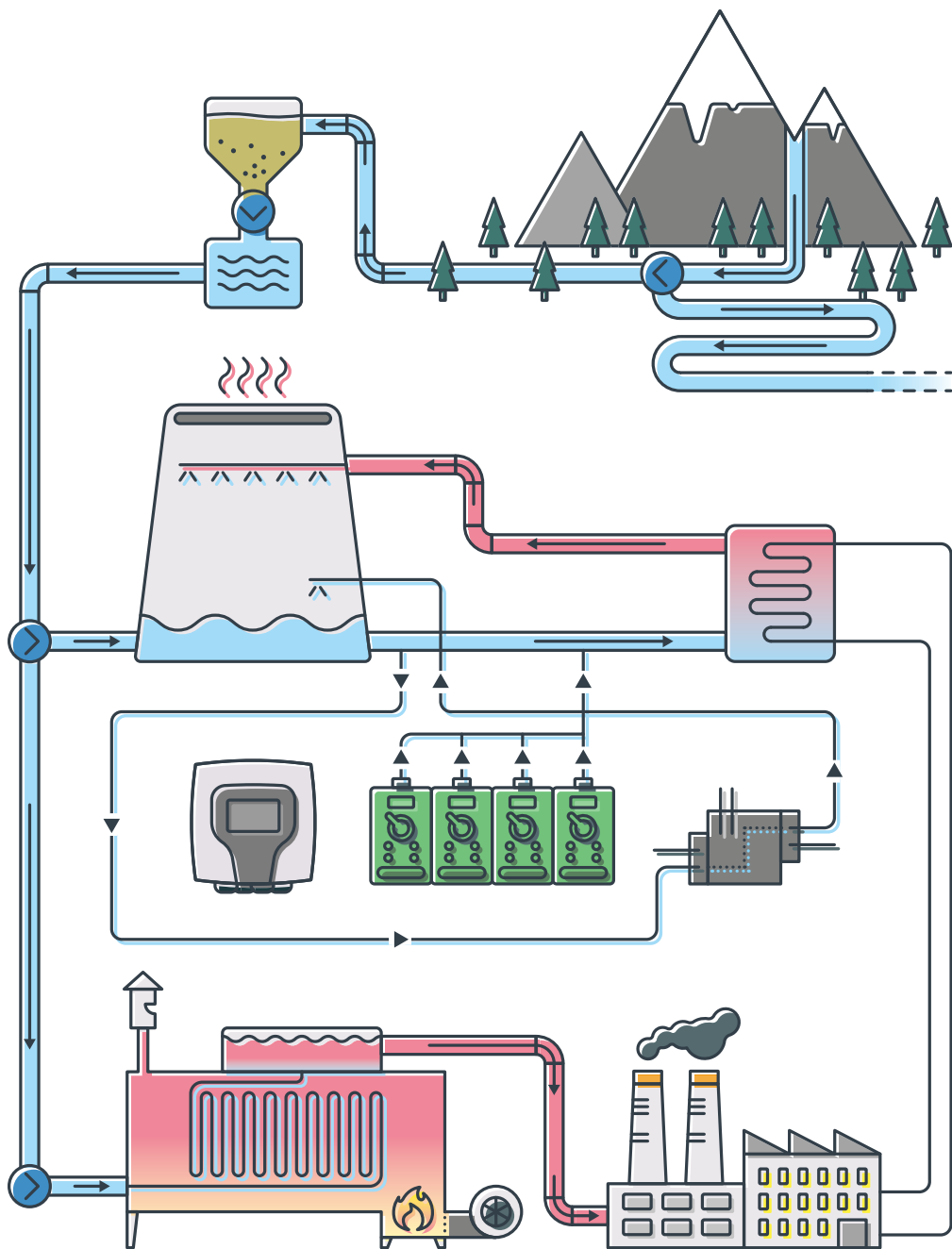
www.emecpumps.com  
follow us



# Emec Tutorial

Find our installation videos and much more  
on Youhose





**emec**<sup>®</sup>  
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](mailto:info@emec.it) - [www.emecpumps.com](http://www.emecpumps.com)