EMEC
LIQUID CONTROL SYSTEMS

GENERAL CATALOGUE

DESIGN. PRODUCTION. CONSULTING.
THERE'S A WHOLE WORLD WITHIN.

THIRTY YEARS OF LEADERSHIP

EMEC ranks among Italy's top, consolidated industrial actors in the field of electronic control systems for fluids metering and management applications. Our products are designed and manufactured for both industrial and small-scale applications.
We are an all-Italian business entity with a clear strategic outlook, right from the outset, striving to merge design innovation with a long-term industrial footing. Our high-precision, hi-reliability products are entirely designed and assembled at our Rieti facilities.
EMEC's reputation as a market leader is expanding both in Italy and internationally thanks to its appreciated products quality and all- Italian design.

EVERYTHING UNDER CONTROL

Our products are supported by passion and a solid industrial background. At EMEC, we have always sought to identify and seize investment opportunities, committing our resources to technology and human resources. That key to our success - and what sets us apart from market competitors - is our complete control of the production cycle, reliant on specialist business set-ups and resources. Our approach feeds into all aspect ahead of end product delivery: systems design, component production and assembly, software programming and final testing. In line with total quality commitments, we provide installation and maintenance specialists with up-to-date training for both our household and industrial products.
Our retail and commercial units operate with a technical mindset, encompassing a firm grounding in all aspects of design and production; as such, they stimulate product innovation and enhancements based on Customer requirements, feedback and field experience. That approach makes us ideal partners when it comes to delivering targeted solutions to specific requirements. Our claims are anything but overstated: complete control, to us, is the only viable approach to ensuring total product quality and effective service delivery..

A CONSTANTLY EVOLVING WORLD

Our 30-year industrial footing has bred constant improvements in all our products, expanding range and functions. Our range of products is currently implemented in a broad range of settings:

- Industrial water treatment
- Drinking water processing
- Industrial water effluents processing
- Chemical and mechanical water Depuration
- Bacterial water Depuration
- Liquid fertilisation and irrigation
- Chemicals processing
- Industrial food processing
- Cooling towers
- Refineries
- Health spas
- Swimming pools
- Car washes

SUSTAINABILITY

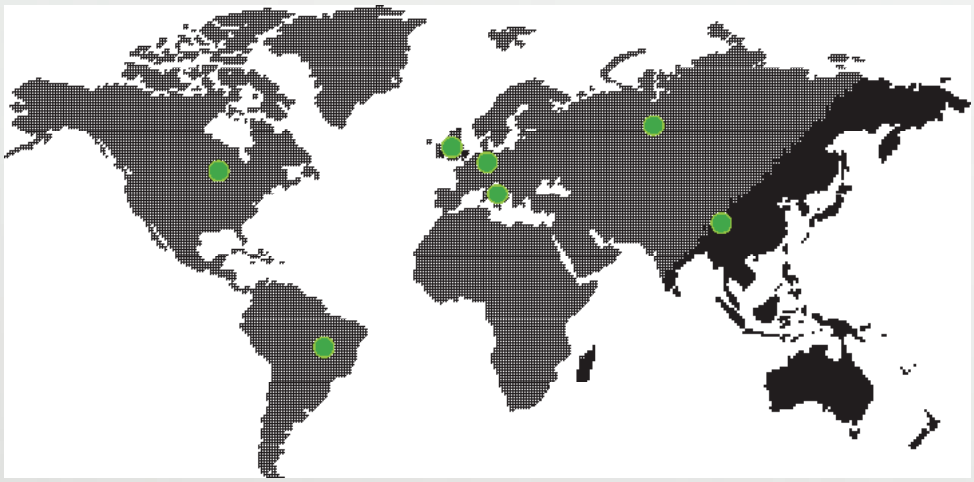
Respecting and safeguarding the environment are the core values underpinning our business. Thus we promote all actions designed to curb the environmental impact of our processes, products and raw materials, on a life-cycle basis. Our company implements an Environmental Management System compliant with UNI ENI ISO 14001 standards, subject to ongoing updates. Our goal is to curb atmospheric emissions, rationalise water consumption and enact appropriate waste management policies. Environmental impact assessments cover new products, process innovations and public tenders.
We are committed to providing our employees and staff with appropriate information and training concerning our company policy and its implementation with respect to both the workplace and our products.

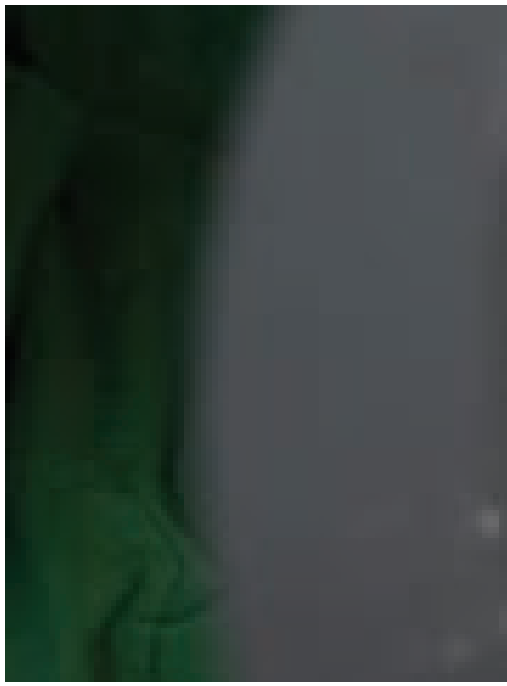
CERTIFIED SKILLS AND VALUES

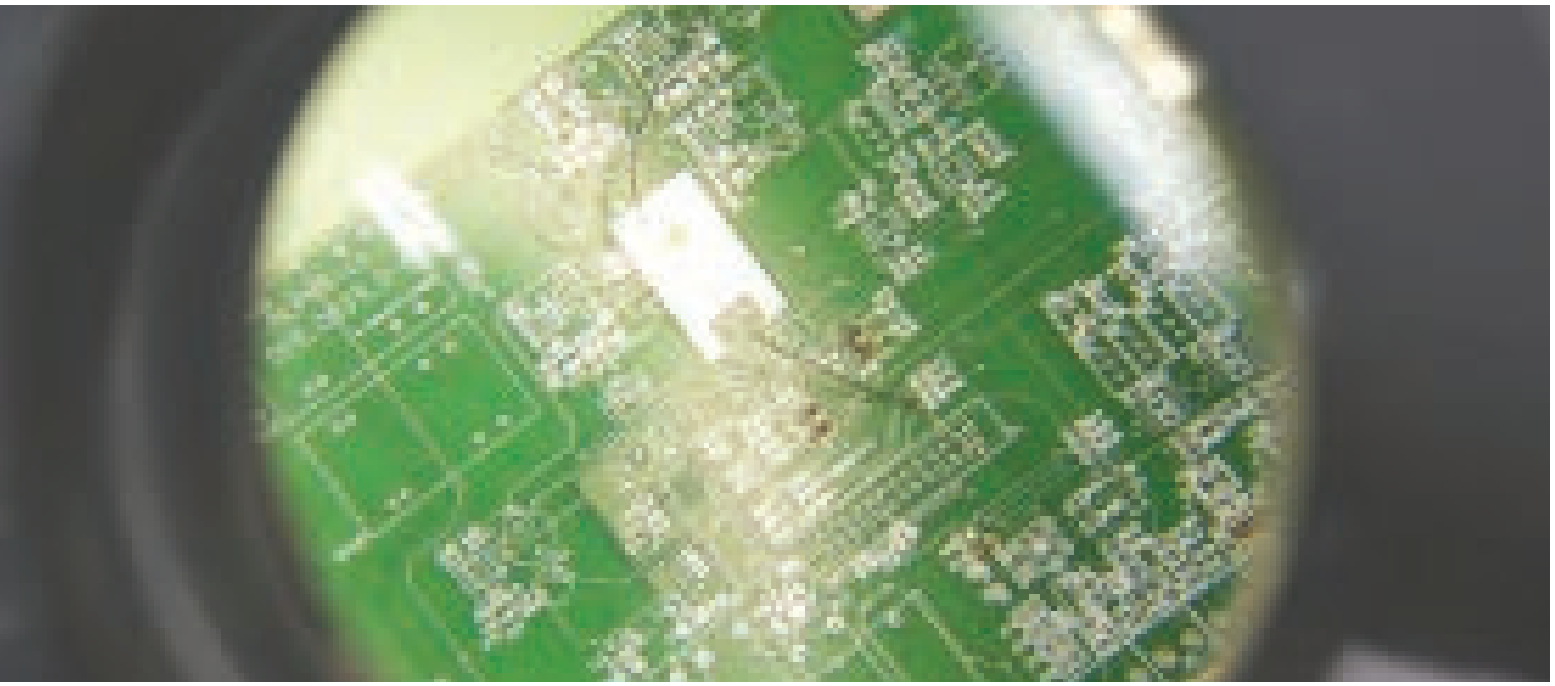
EMEC's values and reliability are the result of a long-standing commitment to quality and detail. We testify to that commitment through ongoing human resources training, rigorous abidance by production benchmarks, and concerted efforts to curb all employee health hazards. Our pledge is a firm one and is backed by our policy implementation and investment goals. Our global quality approach matches our market standing and is certified by the world's leading certification institutes..

qualityaustria
SYSTEM CERTIFIED
ISO 9001:2000
OHSAS 18001:2007
ISO 14001:2004

EMEC WORLDWIDE







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DOSING PUMPS

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GENERAL INFORMATION

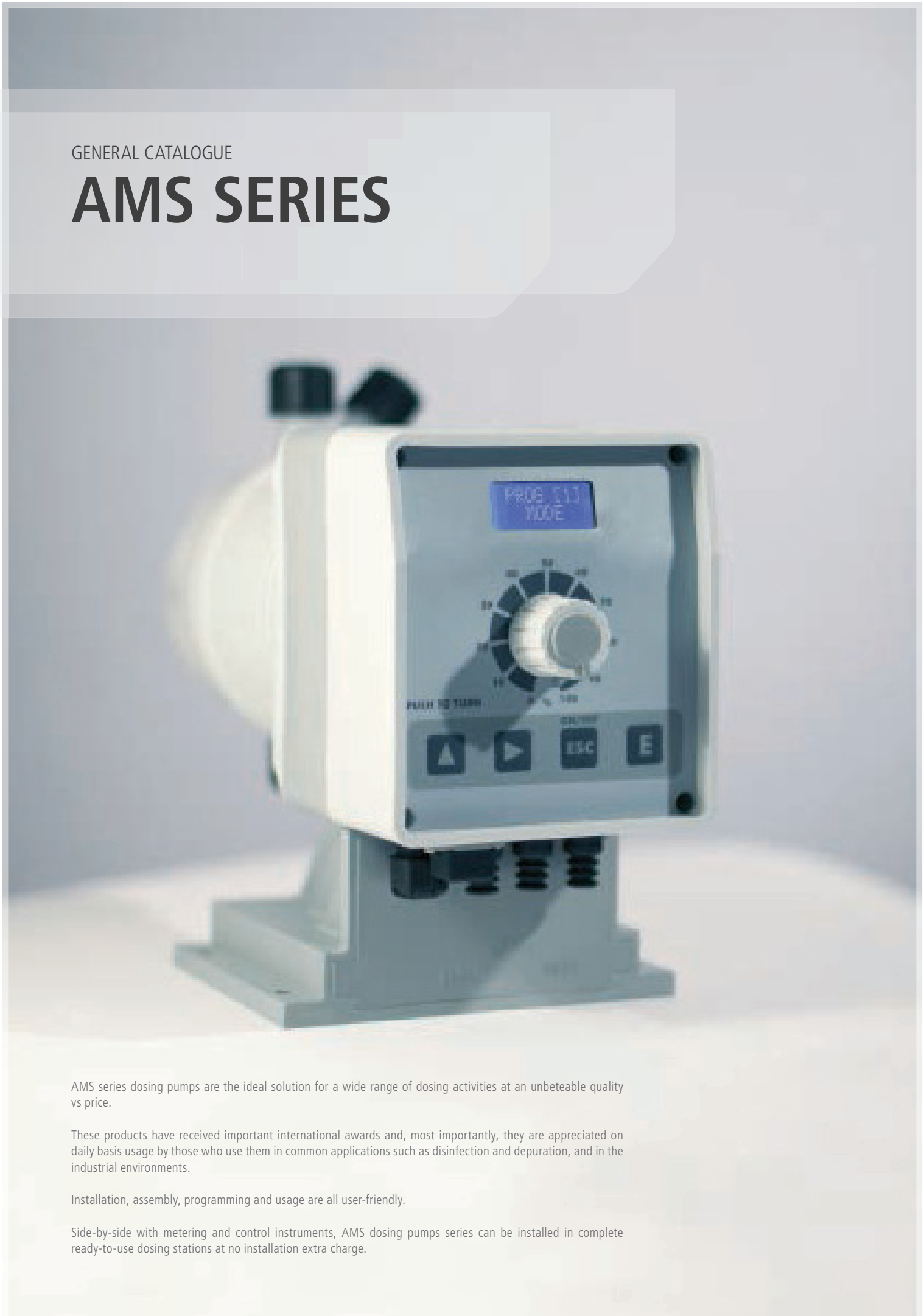
POWER SUPPLY: 12/24 V
The range for all the dosing pumps refers to models with a 230VAC (50-60Hz) and 115 VAC (50-60Hz) power supply. For different power supply ranges (24VDC/VAC, 12VDC) please ask the technical support department for information.

CHEMICAL COMPATIBILITY
EMEC recommends using PVDF liquid ends if dosing:
- sulphuric acid (concentrations above 85%);
- nitric acid (concentrations above 40%).
PVDF hoses is also recommended for dosing concentrated sodium hypochlorite.

SKIDS, ASSEMBLED BOX AND DOSING STATIONS
Assembled box or dosing station on customer specifications.

GENERAL CATALOGUE

AMS SERIES



AMS series dosing pumps are the ideal solution for a wide range of dosing activities at an unbeteable quality vs price.

These products have received important international awards and, most importantly, they are appreciated on daily basis usage by those who use them in common applications such as disinfection and depuration, and in the industrial environments.

Installation, assembly, programming and usage are all user-friendly.

Side-by-side with metering and control instruments, AMS dosing pumps series can be installed in complete ready-to-use dosing stations at no installation extra charge.

ADVANTAGES

- Moulded glass filled and Polypropylene housing to ensure protection against aggressive chemicals and tough environment.
- PVDF for liquid ends highly resistant to chemicals
- Pump head for viscous liquids up to 8,000 cps
- Self-venting pump head (AMSA model)
- Stainless Steel (AISI 316) and PMMA pump head sold as option
- Pump capacity shown on LCD display

APPLICATIONS

- Disinfection
- Legionella prevention
- Cooling towers
- Water treatment
- Swimming pools
- Industrial-level chemical dosing

TECHNICAL FEATURES

- Foot mounted
- Backlit LCD display
- IP65 protection (NEMA4x)
- Power supply: 230 VAC (190÷265 VAC) - 115 VAC (90÷135 VAC) - 24 VAC (20÷32 VAC) - 12 VDC (10÷16 VDC)
- Working temperature: -10°C / +45°C (14°F / 113°F)
- Dosing accuracy ± 2%

PERFORMANCE

- Range: 5 - 60 l/hr
- Pressure: 2 - 25 bar

SERIES FUNCTIONS LIST

Pumps operating modes

- MULTIPLY — External pulses from a water meter are multiplied by a value set during program session. The pump doses with a rate determined by this parameter.
- DIVIDE — External pulses from a water meter are divided by a value set during program session. The pump doses with a rate determined by this parameter.
- PPM — Dosing rate is determined by pulses from a water meter on the base of set PPM, chemical product concentration (%) and quantity for each single stroke set during program session.
- PERC — Dosing rate is determined by pulses from a water meter on the base of set PERC (%), chemical product concentration (%) and quantity for each single stroke set during program session.
- MLQ — Dosing rate is determined by pulses from a water meter on the base of set MLQ (milliliters per quintal), chemical product concentration (%) and quantity for each single stroke set during program session.
- BATCH — signal from an external contact starts the pump to dose the set quantity.
- VOLT — voltage from an external device drives the pump that doses proportionally using a minimum and maximum of strokes per minute set during program session (0÷10 VDC)
- MA — current from an external device drives the pump that doses proportionally using a minimum and maximum of strokes for minute set during program session (0/4÷20 mA).
- PH — Proportional dosing driven by internal built-in pH meter (0-14 pH).
- RH — Proportional dosing driven by internal built-in ORP meter (0-2000 mV).

Feeding systems

- Constant: regular pump feeding as configured by the user (strokes/hr, strokes/minute and liters/hr)
- Proportional: proportional feeding based on input signal

Controls

- Feeding
- Tank level
- Stand-by input: pump enabling/disabling control
- Alarm: contact relay switched by pump's anomalies

Input

- Digital: to connect a pulse sender water meter or an instrument
- Current input (0/4-20mA): to connect a pulse sender water meter or an instrument
- Voltage input (0÷10 VDC): to connect a pulse sender water meter or an instrument

Adjustments

- Stroke speed (frequency) adjustment: injection frequency control
- Stroke length adjustment: injection volume control

pH/ORP reading and control

Feeding driven by internal built-in pH or ORP meter.

Automatic repriming with strokes recovery system

Pump wil automatic reprime if a run out of product or pump head air bubbles happens. Missing strokes are recovered.

Upkeep menu

When into PPM mode the pump doses a small amount of chemical if system stops.

Pause/Work Cycle

BATCH working mode, can be programmed as follows:
- quantity to dose at maximum frequency;
- pause duration between one stroke and another.

The pause/work cycle is dependent on the setup of an external contact (N.O.-N.C.). The contact enables a dosing cycle (pause/work). If changes the pump stays idle. If contact is not set, the pause/work cycle is repeated until the pump is powered.

Instant flow measurement

In MULTIPLY, DIVIDE, PPM, PERC and MLQ operating modes, the pump connected to a pulse sender water meter shows the instant flow.

Input signal on display

In VOLT and MA operating modes, the pump displays the input signal value (Volt or mA).

Statistics menu

The Statistics menu gives you an insight-view into pump's dosing activities, liters of product injected and strokes executed. Counters can be reset.

AMS Series

MODELS

	AMS MF	AMS PH	AMS RH	AMS CO	AMS CL	AMS IS	AMS PV	AMS PVM	AMS IC
Functions	Dosing system: - Costant - Divide - Multiply - PPM - Batch - Volt - mA - % - ml/q Stroke recovery system Pause/Work Cycle Upkeep Instant flow measurement Input signal on display Statistics menu	pH meter (0-14pH) Proportional feed driven by internal built-in pH meter	ORP meter (0-2000mV) Proportional feed driven by internal built-in ORP meter	Constant feeding	Constant feeding	Constant feeding Proportional feeding	Constant feeding Proportional feeding Pulse divider (1-1000) mode	Constant feeding Proportional feeding Pulse divider (1-100) mode Pulse multiplier (1-10) mode	Constant feeding Proportional feeding
Level control	●	●	●		●	●	●	●	●
Stroke speed (freq.) adjustment	0-100%	0-100%	0-100%	0-100%	0-100%	0-100%	0-1% 0-10% 0-100%	0-10% 0-100%	0-100%
Stroke length adjustment	●	●	●	●	●	●	●	●	●
Digital signal input	●					●	●	●	
Current signal (0/4mA- 20mA)	●								●
Voltage signal (0-10VDC)	●								
Flow sensor input	●								
Standby input	●								
pH probe input		●							
ORP probe input			●						
Alarm output	●	optional	optional						

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose (PVDF)	Suction Hose	cc per stroke	
					min	max
2505	5 l/h at 25 bar	1,32 GPH at 362 PSI	4 x 6	4 x 6	0,21	0,70
1510	10 l/h at 15 bar	2,64 GPH at 217 PSI	4 x 6	4 x 6	0,42	1,4
1015	15 l/h at 10 bar	3,96 GPH at 145 PSI	6 x 8	6 x 8	0,62	2,08
0720	20 l/h at 7 bar	5,28 GPH at 101 PSI	6 x 8	6 x 8	0,83	2,8
0340	40 l/h at 3 bar	10,56 GPH at 43 PSI	8 x 10	8 x 12	1,67	5,6
0260	60 l/h at 2 bar	15,85 GPH at 29 PSI	8 x 10	8 x 12	2,31	7,7

PUMPS WITH SELF VENTING PUMP HEAD

FLOW			Delivery Hose (PVDF)	Suction Hose	cc per stroke	
					min	max
253,2	3,2 l/h at 25 bar	0,85 GPH at 362 PSI	4 x 6	4 x 6	0,13	0,44
1506	6 l/h at 15 bar	1,59 GPH at 217 PSI	4 x 6	4 x 6	0,25	0,83
1010	10 l/h at 10 bar	2,64 GPH at 145 PSI	6 x 8	6 x 8	0,48	1,39
0713	13 l/h at 7 bar	3,43 GPH at 101 PSI	6 x 8	6 x 8	0,54	1,80

PUMP HEAD AVAILABLE

AISI316
Inox

PMMA
Viscous liquids
(8000 cps)

PVDF
Self-venting

BALLS
standard ceramic available in AISI 316 and PTFE

DIAPHRAGM
PTFE

INCLUDED ACCESSORIES

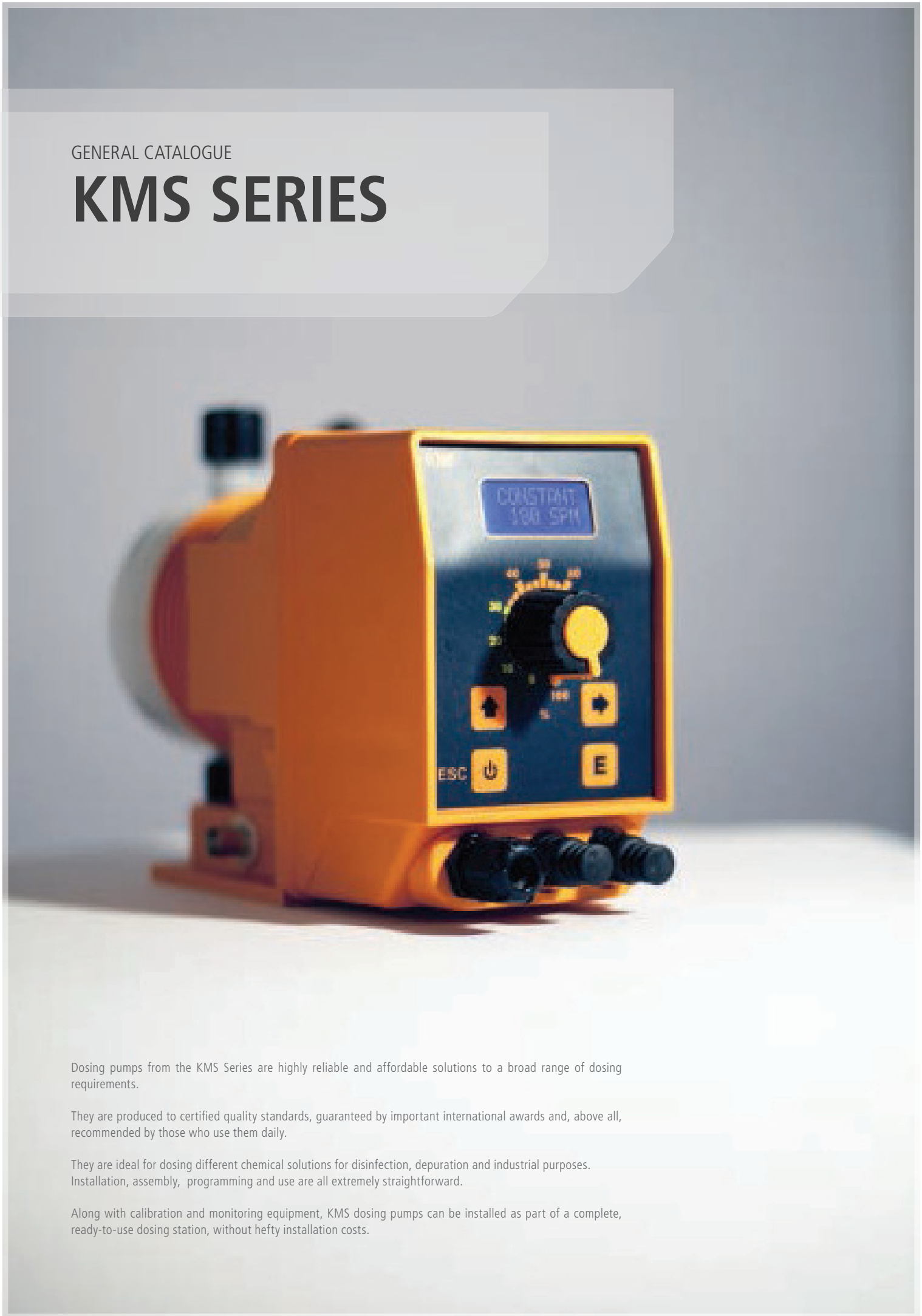
- Level probe with axial foot filter (PVDF). Not included in AMS CO and AMSA CO models

- Injection valve (PVDF)

Others:
- Assembly kit
- Fuse
- 2 m delivery hose (PVDF)
- 2 m suction hose (transparent PVC)
- 2 m discharge hose (transparent 4x6 PVC)
- 2 m signal cable for "standby" and "alarm" (MF model)
- 2.5 m external signal cable

GENERAL CATALOGUE

KMS SERIES



Dosing pumps from the KMS Series are highly reliable and affordable solutions to a broad range of dosing requirements.

They are produced to certified quality standards, guaranteed by important international awards and, above all, recommended by those who use them daily.

They are ideal for dosing different chemical solutions for disinfection, depuration and industrial purposes. Installation, assembly, programming and use are all extremely straightforward.

Along with calibration and monitoring equipment, KMS dosing pumps can be installed as part of a complete, ready-to-use dosing station, without hefty installation costs.

ADVANTAGES

- Moulded glass filled and Polypropylene housing to ensure protection against aggressive chemicals and tough environment.
- PVDF for liquid ends highly resistant to chemicals
- Pump head for viscous liquids up to 8,000 cps
- Self-venting pump head (AMSA model)
- Stainless Steel (AISI 316) and PMMA pump head sold as option
- Pump capacity shown on LCD display

APPLICATIONS

- Disinfection
- Legionella prevention
- Cooling towers
- Water treatment
- Swimming pools
- Industrial-level chemical dosing

TECHNICAL FEATURES

- Foot mounted
- Backlit LCD display
- IP65 protection (NEMA4x)
- Power supply: 230 VAC (190÷265 VAC) - 115 VAC (90÷135 VAC) - 24 VAC (20÷32 VAC) - 12 VDC (10÷16 VDC)
- Working temperature: -10°C / +45°C (14°F / 113°F)
- Dosing accuracy ± 2%

PERFORMANCE

- Range: 1 - 18 l/h
- Pressure: 2 - 20 bar

SERIES FUNCTIONS LIST

Pumps operating modes

- MULTIPLY — External pulses from a water meter are multiplied by a value set during program session. The pump doses with a rate determined by this parameter.
- DIVIDE — External pulses from a water meter are divided by a value set during program session. The pump doses with a rate determined by this parameter.
- PPM — Dosing rate is determined by pulses from a water meter on the base of set PPM, chemical product concentration (%) and quantity for each single stroke set during program session.
- PERC — Dosing rate is determined by pulses from a water meter on the base of set PERC (%), chemical product concentration (%) and quantity for each single stroke set during program session.
- MLQ — Dosing rate is determined by pulses from a water meter on the base of set MLQ (milliliters per quintal), chemical product concentration (%) and quantity for each single stroke set during program session.
- BATCH — signal from an external contact starts the pump to dose the set quantity.
- VOLT — voltage from an external device drives the pump that doses proportionally using a minimum and maximum of strokes per minute set during program session (0÷10 VDC)
- MA — current from an external device drives the pump that doses proportionally using a minimum and maximum of strokes for minute set during program session (0/4÷20 mA).
- EN — weekly timer.
- PH — Proportional dosing driven by internal built-in pH meter (0-14 pH).
- RH — Proportional dosing driven by internal built-in ORP meter (0-2000 mV).

Feeding systems

- Constant: regular pump feeding as configured by the user (strokes/hr, strokes/minute and liters/hr)
- Proportional: proportional feeding based on input signal

Controls

- Feeding
- Tank level
- Stand-by input: pump enabling/disabling control
- Alarm: contact relay switched by pump's anomalies

Input

- Digital: to connect a pulse sender water meter or an instrument
- Current input (0/4-20mA): to connect a pulse sender water meter or an instrument
- Voltage input (0÷10 VDC): to connect a pulse sender water meter or an instrument

Adjustments

- Stroke speed (frequency) adjustment: injection frequency control
- Stroke length adjustment: injection volume control

pH/ORP reading and control

Feeding driven by internal built-in pH or ORP meter.

Automatic repriming with strokes recovery system

Pump wil automatic reprime if a run out of product or pump head air bubbles happens. Missing strokes are recovered.

Upkeep menu

When into PPM mode the pump doses a small amount of chemical if system stops.

Pause/Work Cycle

BATCH working mode, can be programmed as follows:
- quantity to dose at maximum frequency;
- pause duration between one stroke and another.

The pause/work cycle is dependent on the setup of an external contact (N.O.-N.C.). The contact enables a dosing cycle (pause/work). If changes the pump stays idle. If contact is not set, the pause/work cycle is repeated until the pump is powered.

Instant flow measurement

In MULTIPLY, DIVIDE, PPM, PERC and MLQ operating modes, the pump connected to a pulse sender water meter shows the instant flow.

Input signal on display

In VOLT and MA operating modes, the pump displays the input signal value (Volt or mA).

Statistics menu

The Statistics menu gives you an insight-view into pump's dosing activities, liters of product injected and strokes executed. Counters can be reset.

Silenced version

All models from the KMS series are available in their silenced version.

KMS Series

MODELS

	KMS DC	KMS MF	KMS EN	KMS PH	KMS RH	K CO	K CL	K IS	K PV	K PVM	K IC
Functions	Constant feeding	Dosing system: - Costant - Divide - Multiply - PPM - Batch - Volt - mA - % - ml/q Stroke recovery system Pause/Work Cycle Upkeep Instant flow measurement Input signal on display Statistics menu	Proportional dosage to an external signal Weekly timer Electrovalve control (option)	pH meter (0-14pH) Proportional feed driven by internal built-in pH meter	ORP meter (0-2000mV) Proportional feed driven by internal built-in ORP meter	Constant feeding	Constant feeding	Constant feeding Proportional feeding	Constant feeding Proportional feeding Pulse divider (1-1000) mode	Constant feeding Proportional feeding Pulse divider (1-100) mode Pulse multiplier (1-10) mode	Constant feeding Proportional feeding
Level control	●	●	●	●	●		●	●	●	●	●
Stroke speed (freq.) adjustment	0-100%	0-100%	0-100%	0-100%	0-100%	0-100%	0-100%	0-100%	0-1% 0-10% 0-100%	0-10% 0-100%	0-100%
Stroke length adjustment	●	●	●	●	●	●	●	●	●	●	●
Digital signal input	●	●	●					●	●	●	
Current signal (0/4mA- 20mA)		●									●
Voltage signal (0-10VDC)		●									
Flow sensor input		●									
Standby input	●	●		●	●						
pH probe input				●							
ORP probe input					●						
Alarm output	●	●		optional	optional						

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose (PVDF)	Suction Hose	cc per stroke	
					min	max
2001	1 l/h at 20 bar	0,26 GPH at 290 PSI	4 x 6	4 x 6	0,03	0,09
1802	2 l/h at 18 bar	0,53 GPH at 261 PSI	4 x 6	4 x 6	0,06	0,19
1504	4 l/h at 15 bar	1,06 GPH at 217 PSI	4 x 6	4 x 6	0,11	0,37
1005	5 l/h at 10 bar	1,32 GPH at 102 PSI	4 x 6	4 x 6	0,14	0,46
0808	8 l/h at 8 bar	2,11 GPH at 116 PSI	4 x 6	4 x 6	0,22	0,74
0510	10 l/h at 5 bar	2,64 GPH at 58 PSI	4 x 6	4 x 6	0,28	0,93
0218	18 l/h at 2 bar	4,76 GPH at 29 PSI	6 x 8	6 x 8	0,50	1,67

PUMPS WITH SELF VENTING PUMP HEAD

FLOW			Delivery Hose (PVDF)	Suction Hose	cc per stroke	
					min	max
200,5	0,5 l/h at 20 bar	0,13 GPH at 290 PSI	4 x 6	4 x 6	0,014	0,046
1801	1 l/h at 18 bar	0,26 GPH at 261 PSI	4 x 6	4 x 6	0,03	0,09
1503	3 l/h at 15 bar	0,79 GPH at 217 PSI	4 x 6	4 x 6	0,08	0,28
103,5	3,5 l/h at 10 bar	0,92 GPH at 102 PSI	4 x 6	4 x 6	0,10	0,32
085,5	5,5 l/h at 8 bar	1,45 GPH at 116 PSI	4 x 6	4 x 6	0,15	0,51
057,5	7,5 l/h at 5 bar	1,98 GPH at 58 PSI	4 x 6	4 x 6	0,21	0,69
0213	13 l/h at 2 bar	3,43 GPH at 29 PSI	6 x 8	6 x 8	0,37	1,20

PUMP HEAD AVAILABLE

AISI316
Inox

PMMA
Viscous liquids (8000 cps)

PVDF
Self-venting

BALLS
standard ceramic available in AISI 316 and PTFE

DIAPHRAGM
PTFE

INCLUDED ACCESSORIES

- Level probe with axial foot filter (PVDF). Not included in K CO and KA CO models

- Injection valve (PVDF)

Others:
- Assembly kit
- Fuse
- 2 m delivery hose (PVDF)
- 2 m suction hose (transparent PVC)
- 2 m discharge hose (transparent 4x6 PVC)
- 2 m signal cable for "standby" and "alarm" (MF model)
- 2.5 m external signal cable

GENERAL CATALOGUE

TMS Series

Dosing pumps from the TMS Series are highly reliable and affordable solutions to a broad range of dosing requirements.

They are produced to certified quality standards, guaranteed by important international awards and, above all, recommended by those who use them daily.

They are ideal for dosing different chemical solutions for disinfection, depuration and industrial purposes. Installation, assembly, programming and use are all extremely straightforward.

Along with calibration and monitoring equipment, TMS dosing pumps can be installed as part of a complete, ready-to-use dosing station, without hefty installation costs.

ADVANTAGES

- Moulded glass filled and Polypropylene housing to ensure protection against aggressive chemicals and tough environment.
- PVDF for liquid ends highly resistant to chemicals
- Pump head for viscous liquids up to 8,000 cps
- Self-venting pump head (AMSA model)
- Stainless Steel (AISI 316) and PMMA pump head sold as option
- Pump capacity shown on LCD display

APPLICATIONS

- Disinfection
- Legionella prevention
- Cooling towers
- Water treatment
- Swimming pools
- Industrial-level chemical dosing

TECHNICAL FEATURES

- Wall mounted
- Backlit LCD display
- IP65 protection (NEMA4x)
- Power supply: 230 VAC (190÷265 VAC) - 115 VAC (90÷135 VAC) - 24 VAC (20÷32 VAC) - 12 VDC (10÷16 VDC)
- Working temperature: -10°C / +45°C (14°F / 113°F)
- Dosing accuracy ± 2%

PERFORMANCE

- Range: 5 - 100 l/hr
- Pressure: 0 - 20 bar

SERIES FUNCTIONS LIST

Pumps operating modes

- MULTIPLY — External pulses from a water meter are multiplied by a value set during program session. The pump doses with a rate determined by this parameter.
- DIVIDE — External pulses from a water meter are divided by a value set during program session. The pump doses with a rate determined by this parameter.
- PPM — Dosing rate is determined by pulses from a water meter on the base of set PPM, chemical product concentration (%) and quantity for each single stroke set during program session.
- PERC — Dosing rate is determined by pulses from a water meter on the base of set PERC (%), chemical product concentration (%) and quantity for each single stroke set during program session.
- MLQ — Dosing rate is determined by pulses from a water meter on the base of set MLQ (milliliters per quintal), chemical product concentration (%) and quantity for each single stroke set during program session.
- BATCH — signal from an external contact starts the pump to dose the set quantity.
- VOLT — voltage from an external device drives the pump that doses proportionally using a minimum and maximum of strokes per minute set during program session (0÷10 VDC)
- MA — current from an external device drives the pump that doses proportionally using a minimum and maximum of strokes for minute set during program session (0/4÷20 mA).
- PH — Proportional dosing driven by internal built-in pH meter (0-14 pH).
- RH — Proportional dosing driven by internal built-in ORP meter (0-2000 mV).

Feeding systems

- Constant: regular pump feeding as configured by the user (strokes/hr, strokes/minute and liters/hr)
- Proportional: proportional feeding based on input signal

Controls

- Feeding
- Tank level
- Stand-by input: pump enabling/disabling control
- Alarm: contact relay switched by pump's anomalies

Input

- Digital: to connect a pulse sender water meter or an instrument
- Current input (0/4-20mA): to connect a pulse sender water meter or an instrument
- Voltage input (0÷10 VDC): to connect a pulse sender water meter or an instrument

Adjustments

- Stroke speed (frequency) adjustment: injection frequency control

pH/ORP reading and control

Feeding driven by internal built-in pH or ORP meter.

Automatic repriming with strokes recovery system

Pump wil automatic reprime if a run out of product or pump head air bubbles happens. Missing strokes are recovered.

Upkeep menu

When into PPM mode the pump doses a small amount of chemical if system stops.

Pause/Work Cycle

BATCH working mode, can be programmed as follows:
- quantity to dose at maximum frequency;
- pause duration between one stroke and another.

The pause/work cycle is dependent on the setup of an external contact (N.O.-N.C.). The contact enables a dosing cycle (pause/work). If changes the pump stays idle. If contact is not set, the pause/work cycle is repeated until the pump is powered.

Instant flow measurement

In MULTIPLY, DIVIDE, PPM, PERC and MLQ operating modes, the pump connected to a pulse sender water meter shows the instant flow.

Input signal on display

In VOLT and MA operating modes, the pump displays the input signal value (Volt or mA).

Statistics menu

The Statistics menu gives you an insight-view into pump's dosing activities, liters of product injected and strokes executed. Counters can be reset.

TMS Series

MODELS

	TMS DC	TMS MF	TMS PH	TMS RH	T CO	T CL
Functions	Constant feeding	Dosing system: - Costant - Divide - Multiply - PPM - Batch - Volt - mA - % - ml/q Stroke recovery system Pause/Work Cycle Upkeep Instant flow measurement Input signal on display Statistics menu	pH meter (0-14pH) Proportional feed driven by internal built-in pH meter	ORP meter (0-2000mV) Proportional feed driven by internal built-in ORP meter	Constant feeding	Constant feeding
Level control	●	●	●	●		●
Stroke speed (freq.) adjustment	0-100%	0-100%	0-100%	0-100%	0-100%	0-100%
Digital signal input	●	●				
Current signal (0/4mA- 20mA)		●				
Voltage signal (0-10VDC)		●				
Flow sensor input		●				
Standby input	●	●	●	●		
pH probe input			●			
ORP probe input				●		
Alarm output	●	●	optional	optional		

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose (PVDF)	Suction Hose	cc per stroke
2005	5 l/h at 20 bar	1,32 GPH at 290 PSI	4 x 6	4 x 6	0,7
0515	15 l/h at 5 bar	3,96 GPH at 73 PSI	6 x 8	6 x 8	2,1
0420	20 l/h at 4 bar	5,28 GPH at 58 PSI	6 x 8	6 x 8	2,8
0330	30 l/h at 3 bar	1,32 GPH at 43 PSI	8 x 10	8 x 12	4,2
0150	50 l/h at 1 bar	1,32 TPH at 15 PSI	8 x 10	8 x 12	7
00100	100 l/h at 0 bar	2,64 GPH at 0 PSI	12 x 18 PVC retinato	12 x 18 PVC retinato	14

PUMPS WITH SELF VENTING PUMP HEAD

FLOW			Delivery Hose (PVDF)	Suction Hose	cc per stroke
203,2	3,2 l/h at 20 bar	0,85 GPH at 290 PSI	4 x 6	4 x 6	0,44
0510	10 l/h at 5 bar	2,64 GPH at 73 PSI	6 x 8	6 x 8	1,39
0413	13 l/h at 4 bar	3,43 GPH at58 PSI	6 x 8	6 x 8	1,80

PUMP HEAD AVAILABLE

AISI316
Inox

PMMA
Viscous liquids
(8000 cps)

PVDF
Self-venting

BALLS
standard ceramic available in AISI 316 and PTFE

DIAPHRAGM
PTFE

INCLUDED ACCESSORIES

- Level probe with axial foot filter (PVDF). Not included in T CO and TA CO models

- Injection valve (PVDF)

Others:
- Assembly kit
- Fuse
- 2 m delivery hose (PVDF)
- 2 m suction hose (transparent PVC)
- 2 m discharge hose (transparent 4x6 PVC)
- 2 m signal cable for "standby" and "alarm" (MF model)
- 2.5 m external signal cable

GENERAL CATALOGUE

VMS Series

Dosing pumps from the VMS Series are highly reliable and affordable solutions to a broad range of dosing requirements.

They are produced to certified quality standards, guaranteed by important international awards and, above all, recommended by those who use them daily.

They are ideal for dosing different chemical solutions for disinfection, depuration and industrial purposes. Installation, assembly, programming and use are all extremely straightforward.

Along with calibration and monitoring equipment, VMS dosing pumps can be installed as part of a complete, ready-to-use dosing station, without hefty installation costs.

ADVANTAGES

- Moulded glass filled and Polypropylene housing to ensure protection against aggressive chemicals and tough environment.
- PVDF for liquid ends highly resistant to chemicals
- Pump head for viscous liquids up to 8,000 cps
- Self-venting pump head (AMSA model)
- Stainless Steel (AISI 316) and PMMA pump head sold as option
- Pump capacity shown on LCD display

APPLICATIONS

- Disinfection
- Legionella prevention
- Cooling towers
- Water treatment
- Swimming pools
- Industrial-level chemical dosing

TECHNICAL FEATURES

- Wall mounted
- Backlit LCD display
- IP65 protection (NEMA4x)
- Power supply: 230 VAC (190÷265 VAC) - 115 VAC (90÷135 VAC) - 24 VAC (20÷32 VAC) - 12 VDC (10÷16 VDC)
- Working temperature: -10°C / +45°C (14°F / 113°F)
- Dosing accuracy ± 2%

PERFORMANCE

- Range: 0 - 17 l/h
- Pressure: 1 - 20 bar

SERIES FUNCTIONS LIST

Pumps operating modes

- MULTIPLY — External pulses from a water meter are multiplied by a value set during program session. The pump doses with a rate determined by this parameter.
- DIVIDE — External pulses from a water meter are divided by a value set during program session. The pump doses with a rate determined by this parameter.
- PPM — Dosing rate is determined by pulses from a water meter on the base of set PPM, chemical product concentration (%) and quantity for each single stroke set during program session.
- PERC — Dosing rate is determined by pulses from a water meter on the base of set PERC (%), chemical product concentration (%) and quantity for each single stroke set during program session.
- MLQ — Dosing rate is determined by pulses from a water meter on the base of set MLQ (milliliters per quintal), chemical product concentration (%) and quantity for each single stroke set during program session.
- BATCH — signal from an external contact starts the pump to dose the set quantity.
- VOLT — voltage from an external device drives the pump that doses proportionally using a minimum and maximum of strokes per minute set during program session (0÷10 VDC)
- MA — current from an external device drives the pump that doses proportionally using a minimum and maximum of strokes for minute set during program session (0/4÷20 mA).
- EN — weekly timer.
- PH — Proportional dosing driven by internal built-in pH meter (0-14 pH).
- RH — Proportional dosing driven by internal built-in ORP meter (0-2000 mV).

Feeding systems

- Constant: regular pump feeding as configured by the user (strokes/hr, strokes/minute and liters/hr)
- Proportional: proportional feeding based on input signal

Controls

- Feeding
- Tank level
- Stand-by input: pump enabling/disabling control
- Alarm: contact relay switched by pump's anomalies

Input

- Digital: to connect a pulse sender water meter or an instrument
- Current input (0/4-20mA): to connect a pulse sender water meter or an instrument
- Voltage input (0÷10 VDC): to connect a pulse sender water meter or an instrument

Adjustments

- Stroke speed (frequency) adjustment: injection frequency control

pH/ORP reading and control

Feeding driven by internal built-in pH or ORP meter.

Automatic repriming with strokes recovery system

Pump wil automatic reprime if a run out of product or pump head air bubbles happens. Missing strokes are recovered.

Upkeep menu

When into PPM mode the pump doses a small amount of chemical if system stops.

Pause/Work Cycle

BATCH working mode, can be programmed as follows:
- quantity to dose at maximum frequency;
- pause duration between one stroke and another.

The pause/work cycle is dependent on the setup of an external contact (N.O.-N.C.). The contact enables a dosing cycle (pause/work). If changes the pump stays idle. If contact is not set, the pause/work cycle is repeated until the pump is powered.

Instant flow measurement

In MULTIPLY, DIVIDE, PPM, PERC and MLQ operating modes, the pump connected to a pulse sender water meter shows the instant flow.

Input signal on display

In VOLT and MA operating modes, the pump displays the input signal value (Volt or mA).

Statistics menu

The Statistics menu gives you an insight-view into pump's dosing activities, liters of product injected and strokes executed. Counters can be reset.

Silenced version

All models from the VMS series are available in their silenced version.

VMS Series

MODELS

	VMS MF	VMS EN	VMS PH	VMS RH	V CO	V CL
Functions	Dosing system: - Costant - Divide - Multiply - PPM - Batch - Volt - mA - % - ml/q Stroke recovery system Pause/Work Cycle Upkeep Instant flow measurement Input signal on display Statistics menu	Proportional feeding to an external signal Weekly Timer Electrovalve control (option)	pH meter (0-14pH) Proportional feed driven by internal built-in pH meter	ORP meter (0-2000mV) Proportional feed driven by internal built-in ORP meter	Constant feeding	Constant feeding
Level control	●	●	●	●		●
Stroke speed (freq.) adjustment	0-100%	0-100%	0-100%	0-100%	0-100%	0-100%
Digital signal input	●	●				
Current signal (0/4mA- 20mA)	●					
Voltage signal (0-10VDC)	●					
pH probe input			●			
ORP probe input				●		
Alarm output	●		optional	optional		

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose (PE)	Suction Hose	cc per stroke
2001	1 l/h at 20 bar	0,26 GPH a 290 PSI	4 x 8	4 x 8	0,1
1802	2 l/h at 18 bar	0,52 GPH a 261 PSI	4 x 8	4 x 8	0,19
1804	4 l/h at 18 bar	1,05 GPH a 261 PSI	4 x 8	4 x 8	0,37
1502	2 l/h at 15 bar	0,52 GPH a 217 PSI	4 x 6	4 x 6	0,19
1504	4 l/h at 15 bar	1,05 GPH a 217 PSI	4 x 6	4 x 6	0,37
1505	5 l/h at 15 bar	1,32 GPH a 217 PSI	4 x 6	4 x 6	0,46
1004	4 l/h at 10 bar	1,05 GPH a 145 PSI	4 x 6	4 x 6	0,37
1005	5 l/h at 10 bar	1,32 GPH a 145 PSI	4 x 6	4 x 6	0,46
1010	10 l/h at 10 bar	2,64 GPH a 145 PSI	4 x 6	4 x 6	0,93
0706	6 l/h at 7 bar	1,58 GPH a 101 PSI	4 x 6	4 x 6	0,56
0510	10 l/h at 5 bar	2,64 GPH a 72 PSI	4 x 6	4 x 6	0,93
0512	12 l/h at 5 bar	3,17 GPH at 72 PSI	4 x 6	4 x 6	1,11
0501	1 l/h at 5 bar	0,26 GPH at 72 PSI	4 x 6	4 x 6	0,1
0408	8 l/h at 4 bar	2,11 GPH at 58 PSI	4 x 6	4 x 6	0,74
0310	10l/h at 3 bar	2,64 GPH at 43 PSI	4 x 6	4 x 6	0,93
0217	17l/h at 2 bar	4,49 GPH at 29 PSI	6 x 8	6 x 8 (PE)	1,57
0116	16l/h at 1 bar	4,22 GPH at 14 PSI	6 x 8	6 x 8 (PE)	1,48

PUMPS WITH SELF VENTING PUMP HEAD

FLOW			Delivery Hose (PE)	Suction Hose	cc per stroke
200,5	0,5 l/h at 20 bar	0,13 GPH at 290 PSI	4 x 8	4 x 8	0,05
1802	2 l/h at 18 bar	0,52 GPH at 261 PSI	4 x 8	4 x 8	0,19
1503	3 l/h at 15 bar	0,79 GPH at 217 PSI	4 x 6	4 x 6	0,28
1501	1 l/h at 10 bar	0,26 GPH at 217 PSI	4 x 6	4 x 6	0,1
103,4	3,4 l/h at 10 bar	0,89 GPH at 145 PSI	4 x 6	4 x 6	0,32
1007	7 l/h at 10 bar	1,84 GPH at 145 PSI	4 x 6	4 x 6	0,65
1002	2 l/h at 10 bar	0,52 GPH at 145 PSI	4 x 6	4 x 6	0,19
0704	4 l/h at 7 bar	1,05 GPH at 101 PSI	4 x 6	4 x 6	0,37
057,5	7,5 l/h at 5 bar	1,98 GPH at 72 PSI	4 x 6	4 x 6	0,7
0509	9 l/h at 5 bar	2,37 GPH at 72 PSI	4 x 6	4 x 6	0,84
045,5	5,5 l/h at 4 bar	1,45 GPH at 58 PSI	4 x 6	4 x 6	0,51
0307	7 l/h at 3 bar	1,84 GPH at 43 PSI	4 x 6	4 x 6	0,65
0213	13 l/h at 2 bar	3,43 GPH at 29 PSI	6 x 8	6 x 8 (PE)	1,2
0113,5	13,5 l/h at 1 bar	3,56 GPH at 14 PSI	6 x 8	6 x 8 (PE)	1,25

INCLUDED ACCESSORIES

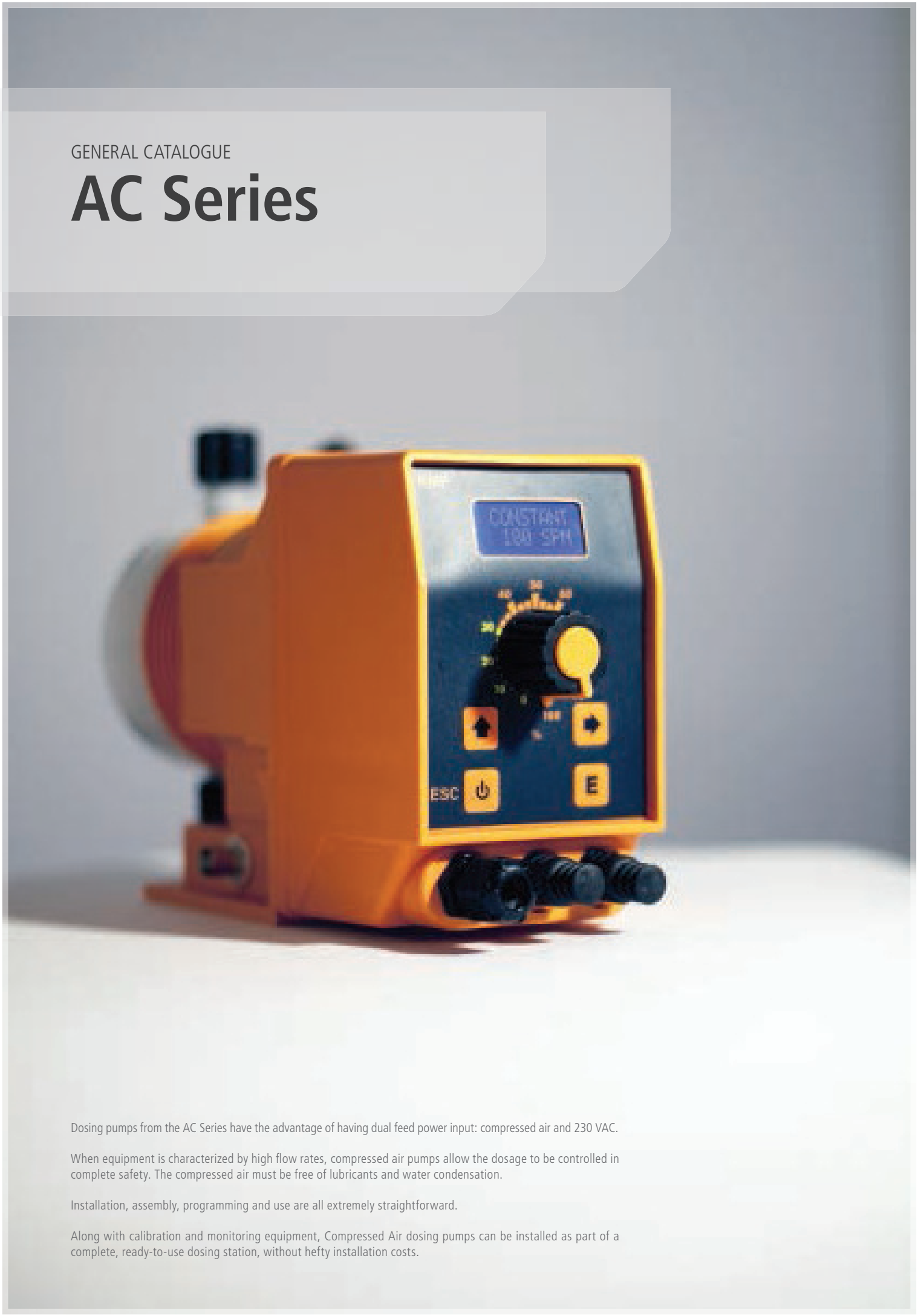
- Level probe with axial foot filter (PVDF). Not included in V CO and VA CO models

- Injection valve (PVDF)

Others:
- Assembly kit
- Fuse
- 2 m delivery hose (PE)
- 2 m suction hose (transparent PVC)
- 2 m discharge hose (transparent 4x6 PVC)
- 2.5 m external signal cable

GENERAL CATALOGUE

AC Series



Dosing pumps from the AC Series have the advantage of having dual feed power input: compressed air and 230 VAC.

When equipment is characterized by high flow rates, compressed air pumps allow the dosage to be controlled in complete safety. The compressed air must be free of lubricants and water condensation.

Installation, assembly, programming and use are all extremely straightforward.

Along with calibration and monitoring equipment, Compressed Air dosing pumps can be installed as part of a complete, ready-to-use dosing station, without hefty installation costs.

ADVANTAGES

- Moulded glass filled and Polypropylene housing to ensure protection against aggressive chemicals and tough environment.
- PVDF for liquid ends highly resistant to chemicals
- Available Stainless Steel (AISI 316) pump head
- Pump capacity shown on LCD display

APPLICATIONS

- Disinfection
- Legionella prevention
- Cooling towers
- Water treatment
- Swimming pools
- Industrial-level chemical dosing

TECHNICAL FEATURES

- Foot mounted (AMS AC and K AC); wall mounted (T AC)
- Backlit LCD display
- IP65 protection (NEMA4x)
- Power supply: 230 VAC (190÷265 VAC) - 115 VAC (90÷135 VAC) - 24 VAC (20÷32 VAC) - 12 VDC (10÷16 VDC)
- Compressed air supply (pressure range 6/10 bar; comressed air without lubrificant and/or condensed water)
- Working temperature: -10°C / +45°C (14°F / 113°F)
- Dosing accuracy ± 2%
- Max. injections: 120 strokes/minute

PERFORMANCE

- Range: 50 - 180 l/hr
- Pressure: 0 - 10 bar

SERIES FUNCTIONS LIST

Pumps operating modes

- MULTIPLY — External pulses from a water meter are multiplied by a value set during program session. The pump doses with a rate determined by this parameter.
- DIVIDE — External pulses from a water meter are divided by a value set during program session. The pump doses with a rate determined by this parameter.
- PPM — Dosing rate is determined by pulses from a water meter on the base of set PPM, chemical product concentration (%) and quantity for each single stroke set during program session.
- PERC — Dosing rate is determined by pulses from a water meter on the base of set PERC (%), chemical product concentration (%) and quantity for each single stroke set during program session.
- MLQ — Dosing rate is determined by pulses from a water meter on the base of set MLQ (milliliters per quintal), chemical product concentration (%) and quantity for each single stroke set during program session.
- BATCH — signal from an external contact starts the pump to dose the set quantity.
- VOLT — voltage from an external device drives the pump that doses proportionally using a minimum and maximum of strokes per minute set during program session (0÷10 VDC)
- MA — current from an external device drives the pump that doses proportionally using a minimum and maximum of strokes for minute set during program session (0/4÷20 mA).

Feeding systems

- Constant: regular pump feeding as configured by the user (strokes/hr, strokes/minute and liters/hr)
- Proportional: proportional feeding based on input signal

Controls

- Feeding
- Tank level
- Stand-by input: pump enabling/disabling control
- Alarm: contact relay switched by pump's anomalies

Input

- Digital: to connect a pulse sender water meter or an instrument
- Current input (0/4-20mA): to connect a pulse sender water meter or an instrument
- Voltage input (0÷10 VDC): to connect a pulse sender water meter or an instrument

Adjustments

- Stroke speed (frequency) adjustment: injection frequency control
- Stroke length adjustment: injection volume control

Automatic repriming with strokes recovery system

Pump wil automatic reprime if a run out of product or pump head air bubbles happens. Missing strokes are recovered.

Upkeep menu

When into PPM mode the pump doses a small amount of chemical if system stops.

Pause/Work Cycle

BATCH working mode, can be programmed as follows:
- quantity to dose at maximum frequency;
- pause duration between one stroke and another.

The pause/work cycle is dependent on the setup of an external contact (N.O.-N.C.). The contact enables a dosing cycle (pause/work). If changes the pump stays idle. If contact is not set, the pause/work cycle is repeated until the pump is powered.

Instant flow measurement

In MULTIPLY, DIVIDE, PPM, PERC and MLQ operating modes, the pump connected to a pulse sender water meter shows the instant flow.

Input signal on display

In VOLT and MA operating modes, the pump displays the input signal value (Volt or mA).

Statistics menu

The Statistics menu gives you an insight-view into pump's dosing activities, liters of product injected and strokes executed. Counters can be reset.

AMS AC Series

MODELS

	AMS AC MF	AMS AC CO	AMS AC CL
Functions	Dosing system: - Costant - Divide - Multiply - PPM - Batch - Volt - mA - % - ml/q Stroke recovery system Pause/Work Cycle Upkeep Instant flow measurement Input signal on display Statistics menu	Constant feeding	Constant feeding
Level control	●		●
Stroke speed (freq.) adjustment	0-100%	0-100%	0-100%
Stroke length adjustment	●	●	●
Digital signal input	●		
Flow sensor input	●		
Stand-by Input	●		
Alarm output	●		

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose (PVDF)	Suction Hose	cc per stroke	
					min	max
1050	50 l/h at 10 bar	13.2 GPH at 145 PSI	8 x 10	8 x 12	2,1	7
05180	180 l/h at 5 bar	47.6 GPH at 72 PSI	13 x 16	12 x 18	7,5	25
00260	260 l/h at 0 bar	68.7 GPH at 0 PSI	13 x 16	12 x 18	10,8	36

PUMP HEADS AVAILABLE

AISI316
Inox

PMMA
Viscous liquids
(8.000 cps)

PMMA
Viscous liquids
(50.000 cps)

INCLUDED ACCESSORIES

- Level probe with axial foot filter (PVDF). Not included in AMS AC CO model

- Injection valve (PVDF)

Others:
- Assembly kit
- Fuse
- Stailess Steel hose clamps
- 2 m delivery hose (PVDF)
- 2 m suction hose (transparent PVC)
- 2 m discharge hose (transparent 4x6 PVC)
- 2 m signal cable for "standby" and "alarm" (MF model)
- 2.5 m external signal cable

K AC Series

MODELS

	K AC MF	K AC CO	K AC CL
Functions	Dosing system: - Costant - Divide - Multiply - PPM - Batch - Volt - mA - % - ml/q Stroke recovery system Pause/Work Cycle Upkeep Instant flow measurement Input signal on display Statistics menu	Constant feeding	Constant feeding
Level control	●		●
Stroke speed (freq.) adjustment	0-100%	0-100%	0-100%
Stroke length adjustment	●	●	●
Digital signal input	●		
Flow sensor input	●		
Stand-by Input	●		
Alarm output	●		

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose (PVDF)	Suction Hose	cc per stroke
1018	18 l/h at 10 bar	13.2 GPH at 145 PSI	6 x 8	6 x 8	2

PUMP HEADS AVAILABLE

AISI316
Inox

PMMA
Viscous liquids
(8.000 cps)

PMMA
Viscous liquids
(50.000 cps)

INCLUDED ACCESSORIES

- Level probe with axial foot filter (PVDF). Not included in K AC CO model

- Injection valve (PVDF)

Others:
- Assembly kit
- Fuse
- Stailess Steel hose clamps
- 2 m delivery hose (PVDF)
- 2 m suction hose (transparent PVC)
- 2 m discharge hose (transparent 4x6 PVC)
- 2 m signal cable for "standby" and "alarm" (MF model)
- 2.5 m external signal cable

T AC Series

MODELS

	T AC MF	T AC CO	T AC CL
Functions	DDosing system: - Costant - Divide - Multiply - PPM - Batch - Volt - mA - % - ml/q Stroke recovery system Pause/Work Cycle Upkeep Instant flow measurement Input signal on display Statistics menu	Constant feeding	Constant feeding
Level control	●		●
Stroke speed (freq.) adjustment	0-100%	0-100%	0-100%
Digital signal input	●		
Flow sensor input	●		
Stand-by Input	●		
Alarm output	●		

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose (PVDF)	Suction Hose	cc per stroke	
					min	max
1050	50 l/h at 10 bar	13.2 GPH at 145 PSI	8 x 10	8 x 12	2,1	7
05180	180 l/h at 5 bar	47.6 GPH at 72 PSI	13 x 16	12 x 18	7,5	25
00260	260 l/h at 0 bar	68.7 GPH at 0 PSI	13 x 16	12 x 18	10,8	36

PUMP HEADS AVAILABLE

AISI316
Inox

PMMA
Viscous liquids
(8.000 cps)

PMMA
Viscous liquids
(50.000 cps)

INCLUDED ACCESSORIES

- Level probe with axial foot filter (PVDF). Not included in T AC CO model

- Injection valve (PVDF)

Others:
- Assembly kit
- Fuse
- Stailess Steel hose clamps
- 2 m delivery hose (PVDF)
- 2 m suction hose (transparent PVC)
- 2 m discharge hose (transparent 4x6 PVC)
- 2 m signal cable for "standby" and "alarm" (MF model)
- 2.5 m external signal cable

GENERAL CATALOGUE

RAC Series

Qualitative and technological research carried out in the dosing sector have led to the design of the RAC pump series, conceived to meet the needs of the world of car washes.

Car wash facilities originally emerged as self-service facilities and use a hydrocleaning system for vehicles based on water pressure and on the right quantity of soaps and wax

As they are designed for use on a car's surface, dosing pumps in car wash facilities must guarantee maximum performance and dependability.

The RAC Series guarantees precise and steady dosage.

ADVANTAGES

- Moulded glass filled and Polypropylene housing to ensure protection against aggressive chemicals and tough environment.
- Double ceramic or stainless steel balls valve

APPLICATIONS

- Car wash

TECHNICAL FEATURES

- 3 installation modes:
  - horizontal (with bracket)
  - wall-mounted
  - DIN bar
- Compressed air supply with a pressure range of 6-8 bar (without of lubricant and/or condensed water)
- Suctioned air: 0.020 liters/stroke (2.4 l/min)
- Max. pump injections 120 strokes/minute
- IP65 protection (NEMA4x)
- Working environment temperature: -10°C / +45°C (14°F / 113°F)
- Electrovalve: 24VAC/VDC, 48 VAC, 115 VAC, 230 VAC

PERFORMANCE

- Range: 1 - 12 l/h
- Pressure: 6 bar

FUNCTIONS

Pump operating mode

- Pneumatic using compressed air power

Feeding systems

- Constant: regular pump feeding as configured by the user on PLC or other system

Adjustments

- Stroke length adjustment: injection volume control

Input

- Tension (2 Hz - duty cycle 50%) pulse external signal (using PLC or other system)

Automatic repriming

Pushing the button completely fills the pump head with chemical product. Any air which might have entered the body will therefore be expelled through the discharge hose.

Assembly options

- Twin mounting on either side
- Horizontal installation, wall-mounting or DIN bar

RAC Series

MODELS

	RAC	RACV
Functioning	Pneumatic	Pneumatic with electrovalve
Suctioned air consumption	2,4 l/min	2,4 l/min
Strokes per minute	120	120
Injection adjustment (PLC or other system)	●	●
Stroke speed (freq.) adjustment	0-100%	0-100%
Manual venting knob	●	●
Priming button	●	●
Work cycle	250 mS on ≧ 250 mS off	250 mS on ≧ 250 mS off

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose	Suction Hose	cc per stroke
0601	1 l/h at 6 bar	0,26 GPH at 87 PSI	4 x 6	6 x 8	0,14
0603	3 l/h at 6 bar	0,79 GPH at 87 PSI	4 x 6	6 x 8	0,42
0606	6 l/h at 6 bar	1,59 GPH at 87 PSI	4 x 6	6 x 8	0,83
0612	12 l/h at 6 bar	3,1 GPH at 87 PSI	4 x 6	6 x 8	1,66

INCLUDED ACCESSORIES

- Foot filter

- 3 bar Injection valve (PVDF + SS ball)

Others:
- 2 m delivery hose (PE)
- 2 m suction hose (PVC)
- 2 m discharge hose (PVC)

GENERAL CATALOGUE

POLYMER Series

Dosing pumps from the POLYMER Series are designed for viscous fluids up to 50,000 cps. The viscosity of the fluid is the measure of its resistance to flow and it varies with temperature changes.

In order to avoid the problems associated with priming a viscous liquid, the pump head is built with larger tubes than in other equipment, using transparent acrylic material (PMMA).

Installation, assembly, programming and use are all extremely straightforward.

Along with calibration and monitoring equipment, Polymer dosing pumps can be installed as part of a complete, ready-to-use dosing station, without hefty installation costs.

ADVANTAGES

- Moulded glass filled and Polypropylene housing to ensure protection against aggressive chemicals and tough environment.
- Pump head available in PMMA
- Pump capacity shown on LCD display

APPLICATIONS

- Water treatment
- Industrial-level chemical dosing

TECHNICAL FEATURES

- Foot (CMS-P) or wall (GMS-P) mounted
- Backlit LCD display
- IP65 protection (NEMA4x)
- Power supply: 230 VAC (190÷265 VAC) - 115 VAC (90÷135 VAC) - 24 VAC (20÷32 VAC) - 12 VDC (10÷16 VDC)
- Working environment temperature: -10°C / +45°C (14°F / 113°F)
- Dosing accuracy ± 2%
- Max viscosity: 50.000 cps

PERFORMANCE

- Range: 2 - 40 l/h
- Pressure: 1 - 8 bar

SERIES FUNCTIONS LIST

Pumps operating modes

- MULTIPLY — External pulses from a water meter are multiplied by a value set during program session. The pump doses with a rate determined by this parameter.
- DIVIDE — External pulses from a water meter are divided by a value set during program session. The pump doses with a rate determined by this parameter.
- PPM — Dosing rate is determined by pulses from a water meter on the base of set PPM, chemical product concentration (%) and quantity for each single stroke set during program session.
- PERC — Dosing rate is determined by pulses from a water meter on the base of set PERC (%), chemical product concentration (%) and quantity for each single stroke set during program session.
- MLQ — Dosing rate is determined by pulses from a water meter on the base of set MLQ (milliliters per quintal), chemical product concentration (%) and quantity for each single stroke set during program session.
- BATCH — signal from an external contact starts the pump to dose the set quantity.
- VOLT — voltage from an external device drives the pump that doses proportionally using a minimum and maximum of strokes per minute set during program session (0÷10 VDC)
- MA — current from an external device drives the pump that doses proportionally using a minimum and maximum of strokes for minute set during program session (0/4÷20 mA).
- PH — Proportional dosing driven by internal built-in pH meter (0-14 pH).
- RH — Proportional dosing driven by internal built-in ORP meter (0-2000 mV).

Feeding systems

- Constant: regular pump feeding as configured by the user (strokes/hr, strokes/minute and liters/hr)
- Proportional: proportional feeding based on input signal

Controls

- Feeding
- Tank level
- Stand-by input: pump enabling/disabling control
- Alarm: contact relay switched by pump's anomalies

Input

- Digital: to connect a pulse sender water meter or an instrument
- Current input (0/4-20mA): to connect a pulse sender water meter or an instrument
- Voltage input (0÷10 VDC): to connect a pulse sender water meter or an instrument

Adjustments

- Stroke speed (frequency) adjustment: injection frequency control
- Stroke length adjustment: injection volume control

pH/ORP reading and control

Feeding driven by internal built-in pH or ORP meter.

Automatic repriming with strokes recovery system

Pump wil automatic reprime if a run out of product or pump head air bubbles happens. Missing strokes are recovered.

Upkeep menu

When into PPM mode the pump doses a small amount of chemical if system stops.

Pause/Work Cycle

BATCH working mode, can be programmed as follows:
- quantity to dose at maximum frequency;
- pause duration between one stroke and another.

The pause/work cycle is dependent on the setup of an external contact (N.O.-N.C.). The contact enables a dosing cycle (pause/work). If changes the pump stays idle. If contact is not set, the pause/work cycle is repeated until the pump is powered.

Instant flow measurement

In MULTIPLY, DIVIDE, PPM, PERC and MLQ operating modes, the pump connected to a pulse sender water meter shows the instant flow.

Input signal on display

In VOLT and MA operating modes, the pump displays the input signal value (Volt or mA).

Statistics menu

The Statistics menu gives you an insight-view into pump's dosing activities, liters of product injected and strokes executed. Counters can be reset.

CMS-P Series

MODELS

	CMSP MF	CMSP PH	CMSP RH	CMSP CO	CMSP CL	CMSP IS	CMSP PV	CMSP PVM	CMSP IC
Functions	Dosing system: - Costant - Divide - Multiply - PPM - Batch - Volt - mA - % - ml/q Stroke recovery system Pause/Work Cycle Upkeep Instant flow measurement Input signal on display Statistics menu	pH meter (0-14pH) Proportional feed driven by internal built-in pH meter	ORP meter (0-2000mV) Proportional feed driven by internal built-in ORP meter	Constant feeding	Constant feeding	Constant feeding Proportional feeding	Constant feeding Proportional feeding Pulse divider (1-1000) mode	Constant feeding Proportional feeding Pulse divider (1-100) mode Pulse multiplier (1-10) mode	Constant feeding Proportional feeding
Level control	●	●	●		●	●	●	●	●
Stroke speed (freq.) adjustment	0-100%	0-100%	0-100%	0-100%	0-100%	0-100%	0-1% 0-10% 0-100%	0-10% 0-100%	0-100%
Stroke length adjustment	●	●	●	●	●	●	●	●	●
Digital signal input	●					●	●	●	
Current signal (0/4mA- 20mA)	●								●
Voltage signal (0-10VDC)	●								
Flow sensor input	●								
Standby input	●								
pH probe input		●							
ORP probe input			●						
Alarm output	●	optional	optional						

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose	Suction Hose	cc per stroke	
					min	max
0802	2 l/h at 8 bar	0,52 GPH at 116 PSI	16 x 22	20 x 27	0,084	0,28
0604	4 l/h at 6 bar	1,05 GPH at 87 PSI	16 x 22	20 x 27	0,168	0,56
0410	10 l/h at 4 bar	2,64 GPH at 58 PSI	16 x 22	20 x 27	0,42	1,4
0225	25 l/h at 2 bar	6,60 GPH at 29 PSI	16 x 22	20 x 27	1,05	3,5
0140	40 l/h at 1 bar	10,56 GPH at 14 PSI	16 x 22	20 x 27	1,68	5,6

INCLUDED ACCESSORIES

- Spare fuse
- Syringe 50 ml.
- 2 m delivery hose (PVC)
- 2 m suction hose (PVC)
- 30 m discharge hose (transparent 4x6 PVC)
- 2 m signal cable for "standby" and "alarm" (MF model)
- 2.5 m external signal cable

GMS-P Series

MODELS

	GMSP DC	GMSP MF	GMSP PH	GMSP RH	GMSP CO
Functions	Constant feeding	Dosing system: - Costant - Divide - Multiply - PPM - Batch - Volt - mA - % - ml/q Stroke recovery system Pause/Work Cycle Upkeep Instant flow measurement Input signal on display Statistics menu	pH meter (0-14pH) Proportional feed driven by internal built-in pH meter	ORP meter (0-2000mV) Proportional feed driven by internal built-in ORP meter	Constant feeding
Level checker	●	●	●	●	
Stroke speed (freq.) adjustment	0-100%	0-100%	0-100%	0-100%	0-100%
Digital signal input	●	●			
Current signal (0/4mA- 20mA)		●			
Voltage signal (0-10VDC)		●			
Flow sensor input		●			
Standby input	●	●	●	●	
pH probe input			●		
ORP probe input				●	
Alarm output	●	●	optional	optional	

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose	Suction Hose	Max cc per stroke
0601	1 l/h at 6 bar	0,26 GPH at 87 PSI	16 x 22	20 x 27	0,14
0403	3 l/h at 4 bar	0,79 GPH at 58 PSI	16 x 22	20 x 27	0,42
0208	8 l/h at 2 bar	2,11 GPH at 29 PSI	16 x 22	20 x 27	1,2
0120	20 l/h at 1 bar	5,28 GPH at 14 PSI	16 x 22	20 x 27	2,8
0,525	25 l/h at 0,5 bar	6,60 GPH at 7 PSI	16 x 22	20 x 27	3,5

INCLUDED ACCESSORIES

- Spare fuse
- Syringe 50 ml.
- 2 m delivery hose (PVC)
- 2 m suction hose (PVC)
- 30 m discharge hose (transparent 4x6 PVC)
- 2 m signal cable for "standby" and "alarm" (MF model)
- 2.5 m external signal cable

GENERAL CATALOGUE

WDPHxx Series

This special series was conceived to provide a complete and functional service of control and dosage. Indeed, the WDPHxx series system integrates a control instrument and two dosing pumps.

Its compact design, reduced bulk and affordability make this product the ideal solution to specific dosing needs; it is typically used in the swimming pool sector, in medium/small pools.

This range is produced to certified quality standards, guaranteed by important international awards and, above all, recommended by those who use it daily.

Installation, assembly, programming and use are all extremely straightforward thanks to the encoder knob, which facilitates interaction with the equipment.

ADVANTAGES

- Moulded glass filled and Polypropylene housing to ensure protection against aggressive chemicals and tough environment.
- PVDF for liquid ends highly resistant to chemicals
- Self-venting pump head

APPLICATIONS

- Swimming pools disinfection
- Water treatment

TECHNICAL FEATURES

- Wall mounted
- Backlit LCD display
- Two dosing pumps
- Rotational ENCODER
- IP65 protection (NEMA4x)
- Power supply: 230 VAC (190÷265 VAC) - 115 VAC (90÷135 VAC) - 24 VAC (20÷32 VAC) - 12 VDC (10÷16 VDC)
- Working environment temperature: -10°C / +45°C (14°F / 113°F)

PERFORMANCE

- Range: 4 - 10 l/h
- Pressure: up to 3 bar

SERIES FUNCTIONS LIST

Feeding modes
- Manual timed
- Proportional to value read (by a probe)

Controls
- Feeding
- Tank level
- Stand-by input: pump enabling/disabling control
- Alarm: contact relay switched by pump's anomalies

Alarms
- Maximum dosing time
- Probe failure
- Threshold
- Levels
- Flow
- Voltage

Probes check-up
- Continuous probes check-up. If signal does not change over a predefined period of time, an alarm is enabled.

Functions
- Programmable delay at dosing start-up (60 minutes maximum)
- pH dosage priority program
- Service menu with probe reading value
- Electrovalve control (230 VAC) for lambitor or chlorine generator (hydrolisys)
- Test function for volume injection defining
- Weekly timer for anti-algae shock dosage
- Weekly or daily timer for active Oxygen
- Standard dosing volume (at 25° and 30°C) based on pool volume

Ranges
- pH: 0/14 pH
- ORP: 0/999 mV
- Chlorine: 0/10 mg/l Cl_2
- Bromine: 0/10 mg/l Br

WDPHxx Series

MODELS

	WDPHRH	WDPHCL	WDPHCF	WDPHCA	WDPHOS	WDPHRHS	WDPHCLS
Dosing parameters	Acid/base (pH) and disinfectant (ORP)	Acid/base (pH) and Chlorine/ Bromine	Acid/base (pH) and flocculant (gr/h) with 230 VAC output for Chlorine	Acid/base (pH) and anti-algae with 230 VAC output for Chlorine	Acid/base (pH) and active oxygen	Acid/base (pH) and disinfectant (ORP)	Acid/base (pH) and Chlorine/Bromine
Measurement and control range	**pH**: 0/14 pH **ORP**: 0/1000 mV	**pH**: 0/14 pH **Chlorine**: 0/10 mg/l Cl_2 **Bromine**: 0/10 mg/l Br	**pH**: 0/14 pH **Chlorine**: 0/10 mg/l Cl_2	**pH**: 0/14 pH **Chlorine**: 0/10 mg/l Cl_2	**pH**: 0/14 pH **Temp.**: 0/100°C	**pH**: 0/14 pH **ORP**: 0/1000 mV	**pH**: 0/14 pH **Chlorine**: 0/10 mg/l Cl_2
Resolution	1 mV	0,01 (< 10 mg/l Cl_2) 0,1 (≧ 10 mg/l Cl_2)	0,01 (< 10 mg/l Cl_2) 0,1 (≧ 10 mg/l Cl_2)	0,01 (< 10 mg/l Cl_2) 0,1 (≧ 10 mg/l Cl_2)	1° C	1 mV	0,01 (< 10 mg/l Cl_2) 0,1 (≧ 10 mg/l Cl_2)
Adjustment variable	temperature	temperature and pH [1]	temperature and pH [1]	temperature and pH [1]		temperature	temperature and pH [1]
Flow control	●	●	●	●	●	●	●
Service menu	●	●	●	●	●	●	●
Alarms:							
- max dosing time	●	●	●	●	●	●	●
- probe failure	●	●	●	●	●	●	●
- threshold	●	●	●	●	●	●	●
- levels	●	●	●	●	●	●	●
- voltage	●	●	●	●	●	●	●
- flow	●	●	●	●	●	●	●
Probes check-up	●	●	●	●	●	●	●
Delay (60 min.)	●	●	●	●	●	●	●
pH priority	●	●	●	●		●	●
Electrovalve control (230 VAC)			●	●		●	●
Test function			●	●	●		
Weekly timer for shock dosage				●			
Weekly/daily timer for active Oxygen					●		
Standard volume at 25° and 30°C					●		

[1] pH compensation with ECL6 probe only.

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose	Suction Hose	Max cc per stroke
0310	10 l/h at 3 bar	2,64 GPH at 43 PSI	4 x 6	4 x 6	0,93
0304 (2)	4 l/h at 3 bar	1,05 GPH at 43 PSI	4 x 6	4 x 6	0,37

(2) For the oxygen section only.

PUMPS WITH SELF VENTING PUMP HEAD

FLOW			Delivery Hose	Suction Hose	Max cc per stroke
0307	7 l/h at 3 bar	1,85 GPH at 43 PSI	4 x 6	4 x 6	0,65

INCLUDED ACCESSORIES

- 2 level probes with axial foot filter (PVDF)

- 2 Injection valves (PVDF)

- Temperature probe PT100 (only mod. WDPHOS)

Others:
- Accessories for assembly
- Spare fuse
- 4 m delivery hose (PE)
- 4 m suction hose (PVC)
- 4 m discharge hose (transparent 4x6 PVC)
- 2.5 m “stand-by” signal cable

GENERAL CATALOGUE

WTC Series

This series was designed for water treatment in cooling towers.

Indeed, the WTC Series system integrates a control instrument and two dosing pumps and controls up to 4 outputs, which can be programmed separately.

Its compact design, reduced bulk and affordability make this product ideal to meet specific dosing needs.

Along with the manifolds, WTC dosing pumps can be mounted on designated panels or boards with portholes ready for installation in cooling towers (plug&play).

ADVANTAGES

- Moulded glass filled and Polypropylene housing to ensure protection against aggressive chemicals and tough environment.
- PVDF for liquid ends highly resistant to chemicals
- Self-venting pump head
- Pre-bleed function
- Lockout function
- Timeout function
- Permanent data storage (without battery power)
- Current Feed&Bleed display

APPLICATIONS

- Cooling towers

TECHNICAL FEATURES

- Wall mounted
- Backlit LCD display
- 2 pumps and 1 input for external pump
- IP65 protection (NEMA4x)
- Power supply: 230 VAC (190÷265 VAC) - 115 VAC (90÷135 VAC) - 24 VAC (20÷32 VAC) - 12 VDC (10÷16 VDC)
- Working environment temperature: -10°C / +45°C (14°F / 113°F)

PERFORMANCE

- Range: 2 - 10 l/h
- Pressure: 5 - 5 - 15 bar

FUNCTIONS

Feeding modes

- PULSE — pulses from a water meter activate the pump/timer to run for a time set from 1 to 99 minutes
- PERC — work on percentage in a duty-cycle
- PPM — dosing rate is determined by pulses froma pulse senderwater meter or external signal and ppm set
- 1-2-3-4 WEEK — 40 On/Off cycles based on a 24-hour timeframe for 7-14-21-28 days
- FEED & BLEED — dose inhibitor on the cooling tower bleed time - Blow Down output

Output

- Pump 1
- Pump 2
- On/off (programmable timer)
- Blow down (conductivity-controlled discharge)

Input

- Pulse sender water meter
- Flow
- Stand-by

Allarms

- Conductivity
- Tank level
- Flow

Functions

- Pre-bleed: reduced water system conductivity before biocide dosing
- Blow down: discharge control on conductivity values
- Lockout: discharge valve locked for a settable time (after biocide dosage)
- Timeout: maximum discharge valve opening time
- Permanent data storage (without battery power)

Range

Conductivity: 0-9.999 µS

Serie WTC

PUMPS WITH MANUAL VENTING PUMP HEAD

FLOW			Delivery Hose	Suction Hose	Max cc per stroke
1502	2 l/h at 15 bar	0,52 GPH at 217 PSI	4 x 6	4 x 6	0,19
1004	4 l/h at 10 bar	1,05 GPH at 145 PSI	4 x 6	4 x 6	0,37
0706	6 l/h at 7 bar	1,58 GPH at 101 PSI	4 x 6	4 x 6	0,56
0510	10 l/h at 5 bar	2,64 GPH at 72 PSI	4 x 6	4 x 6	0,93

PUMPS WITH SELF VENTING PUMP HEAD

FLOW			Delivery Hose	Suction Hose	Max cc per stroke
0704	7 l/h at 3 bar	1,05 GPH at 101 PSI	4 x 6	4 x 6	0,37

INCLUDED ACCESSORIES

- 2 level probes with axial foot filter (PVDF)

- 2 Injection valves (PVDF)

Others:
- Assembly kit
- Spare fuse
- 4 m delivery hose (PE)
- 4 m suction hose (PVC)
- 4 m discharge hose (transparent 4x6 PVC)
- 2.5 m "stand-by" signal cable

ADVANTAGES ACCESSORIES

- MANIFOLD series - refer to Accessories section

CONTROL INSTRUMENTS

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LD Series p. 72

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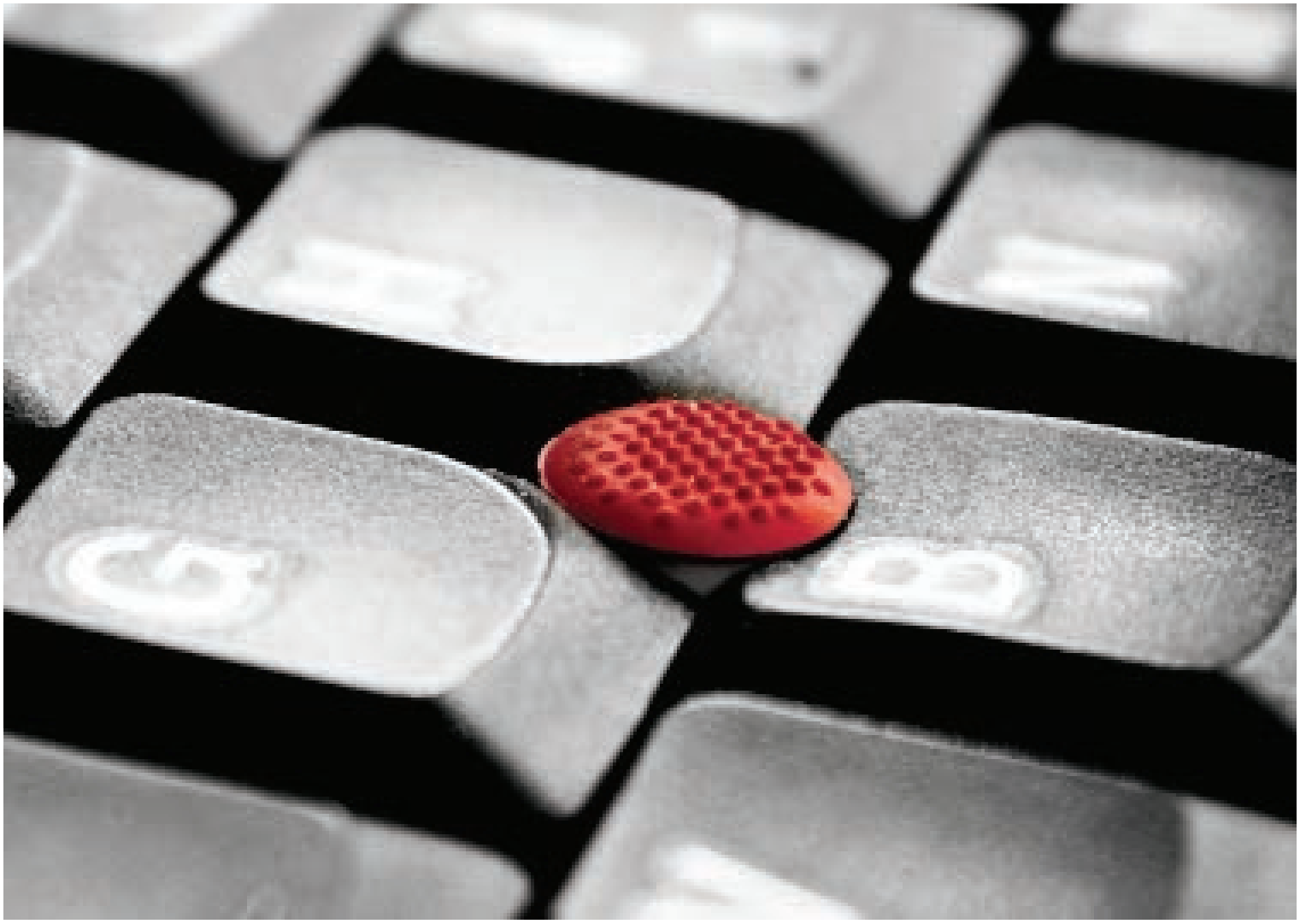
Mixing and dosing stations p. 82

GENERAL CATALOGUE

ERMES



The key element in harnessing the potential of next-generation instruments is remote control.

To be able to manage different instruments with different functions located in different places using a single interface: all that becomes a reality with ERMES.

What does it consist of?

Software, a network of instruments, a USB or ETHERNET or modem GSM/GPRS unit.
Complete effectiveness and simplicity of use are the core values behind the ERMES system.

ERMES is ready to go out of the box

Using standard communications protocols means that all our instruments can be easily installed in a few minutes. Ready to go just out of the box.

Using common protocols means to use already exisiting networks without the need to call an I.T. technician for exoteric configuration. If you know how to setup your PC you already know ho to install our instruments. No knowledge of network protocols is necessary, IP addresses or DNS.

If you need to connect the instruments remotely the only requirement is a common internet access and a SIM card. That's all you need.

ERMES takes care of the rest: simply, quickly and reliably.

Everything is always under control: with ERMES software your instruments are always under control and they can be programmed remotely as on site. You may also receive and SMS alarm message on your mobile phone with several reporting options for the current status of one or more instruments. Alert messages can also be sent to one or more email address.

AVAILABLE CONFIGURATIONS

- Connection using a RS485 network and USB or RS485 cable. This connection enables the user to control one or more instruments directly connected to a PC.
- Connection using a RS485 network and GSM modem or RS485 cable. This connection enables the user to control one or more instruments from anywhere in the world via a standard Internet connection and a data SIM card.
- Connection using a RS485 network and ETHERNET router. This connection enables the user to control one or more instruments within a LAN (Local Area Network).
- Connection using a RS485 network and WIFI router. This connection enables the user to control one or more instruments using wireless technology as on notebooks.

Standard settings can be customized by adding external modules.

Mixed configurations allows to connect instruments to ERMES software in multiple ways: directly, locally and remotely.

ADVANTAGES

- Communication oftware for remote or local controls suitable for MAX5, MTOWER and LD MULTICHANNEL instruments
- More instruments can be linked to a local network within a maximum of 30 units using a RS485 protocol.
- Guided and simplified software installation
- Just one ETHERNET or GSM/GPRS MODEM device installed to control all plant's instruments.

MINIMUM PC REQUIREMENTS

- O/S: Microsoft Windows XP - VISTA (32bit) - 7 (32bit)
- Intel Pentium 4 1.3Ghz CPU or later version
- RAM: 1GB
- Hard Disk space required: 250MB
- USB Port

APPLICATION

- MAX5 Series
- MTOWER Series
- LD MULTICHANNEL Series

ERMES logo where available

FUNCTIONS

- Instruments status:
  - probes
  - outputs
  - alarms
  - setpoints
- Complete remote configuration and control of instruments
- Instruments activity can be logged and sent as graphics, excel or pdf file.

COMMUNICATIONS SOFTWARE FOR EMEC INSTRUMENTS

More instruments can be linked in a local network within a maximum of 30 units using a RS485 protocol.
These instruments have a USB port for direct connection to a PC. LD Multichannel Series need to use a RS485-USB converter on instrument's RS485 port.

CONFIGURATIONS AVAILABLE

CONFIGURATIONS	RS485 communication	USB* communication	ETHERNET module	MODEM module	USB 2.0 DATA LOG module
BASIC	•	•			
ADVANCED USB	•	•			•
ETHERNET	•	•	•		
GSM/GPRS	•	•		•	

* Not available on the LD Multichannel instruments Series.

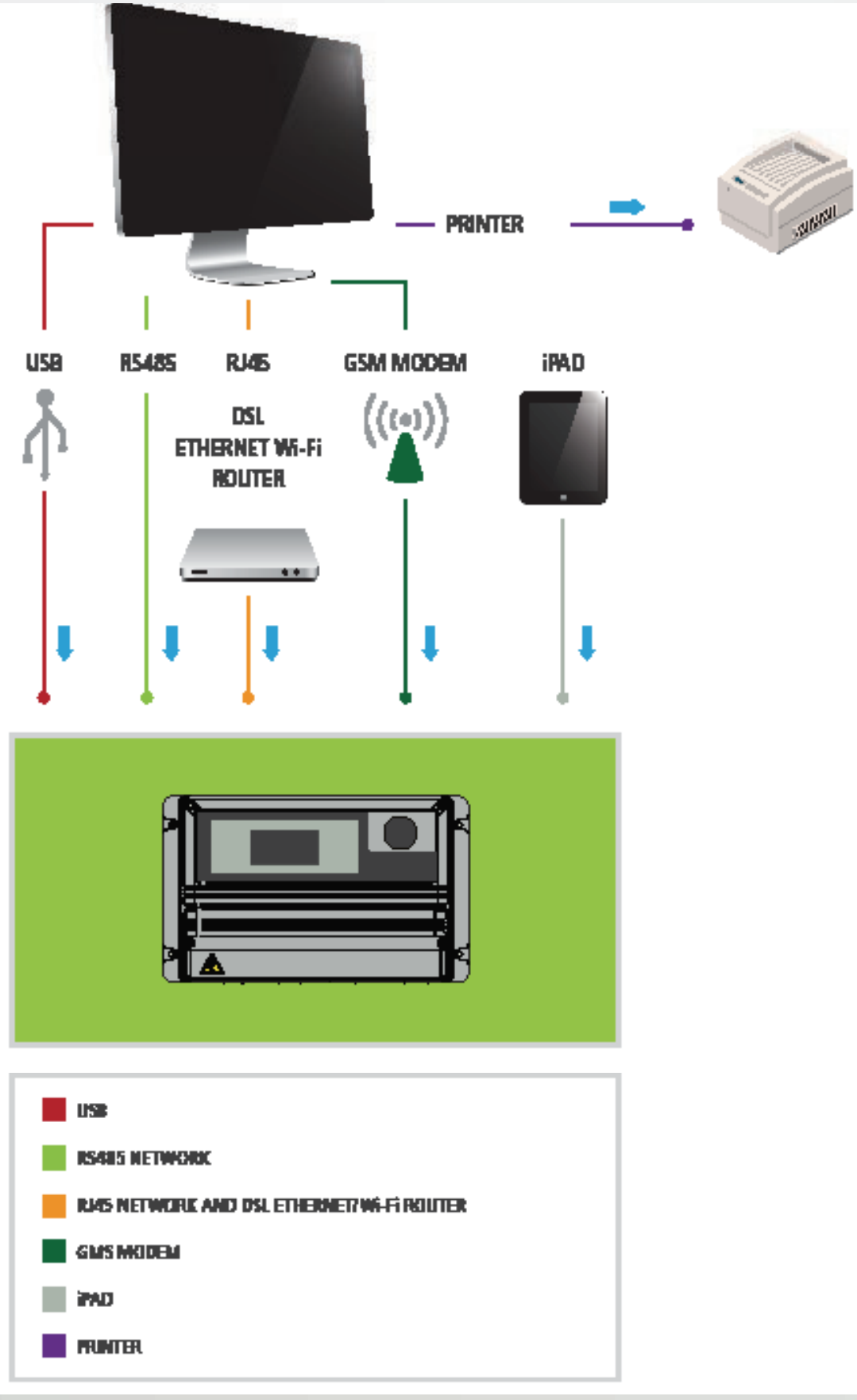
- Standard settings can be customized adding external modules. Modules can be installed internally or externally as required.
- Choosing a GSM/GPRS configuration, installation plant requires internet availability. If instrument's location can't be reached by an internet connection an external modem can be installed.
- Choosing ETHERNET configuration, it is necessary a LAN (RJ-45) cable. If instrument's location can't be reached by a LAN cable an external ethernet module can be installed near network access point and connected to the instrument via RS485
- Mixed configurations allows to connect instruments to ERMES software in multiple ways: directly, locally and remotely. These configutaions extend connection capacity.

FEATURES

	RS485 net (1)	USB comm service (2)	EMAIL alert service (3)	HTTP remote service (4)	SMS alert service (5)	USB data log (6)
BASIC	•	•				
ADVANCED USB	•	•				•
ETHERNET	•	•	•	•		
GSM/GPRS	•	•	•	•	•	

(1) **RS485 net**: RS485 port for connecting instruments to network or to a PC using a converter
(2) **USB comm service**: direct PC/instrument link using USB
(3) **EMAIL alert service**: email multi-level alert messages using standard pop protocol
(4) **HTTP remote service**: instruments configuration using a standard browser
(5) **SMS alert service**: SMS multi-level alert messages using standard Short Message Service protocol
(6) **USB data log**: instrument data activity recorded on standard USB pen-drive

ERMES software allows to control and program multiple instruments in multiple ways



GENERAL CATALOGUE

MAX5 Series

MAX5 is an integrated multiparameter regulation and control system with the ability to run up to 5 individually programmable channels.

The channels can be programmed with different combinations.

The software which is included controls and programs a network of up to 30 MAX5s per unit set up (connected amongst themselves via RS485).

The communication system on the MAX5 enables the user, even in the basic version, to hook it up to a PC in order to control it remotely. Versions of the MAX5 with an Ethernet connection, with an internal GSM/ GPRS modem or with a USB port are available.

System activity is stored in a data log. The data can be viewed remotely or archived on a USB memory device. The user-friendly interface is equipped with an encoder knob: turning the knob allows the user to scroll through the menus, while pressing the knob selects the chosen menu function.

ERMES

ADVANTAGES

- Simultaneous multiple view for probes reading
- Easy control by ENCODER with "EASY-NAV" rotation
- Local network or remote control
- Large, backlit LCD display
- Permanent data storage (without battery power)

TECHNICAL FEATURES

- Wall mounting
- 5 programmable channels + 1 temperature channel
- IP65 protection (NEMA4x)
- Rotational ENCODER
- Backlit LCD display (240x64)
- Working environment temperature: -10°C / 50°C; 0-95% relative humidity (condensation free)
- Universal power supply: 90÷265 VAC; 50/60 Hz
- Average power consumption: 12 W
- Self installing communication software (ERMES)

ELECTRICAL FEATURES

Input signals
- Terminal block and BNC

Inputs
- 5 product tank levels
- 1 water meter
- 1 temperature probe
- 1 standby (contact)
- 1 flow (contact)

Output
- 6 powered relay outputs
- 6 proportional outputs (open collector)
- 6 4/20 mA outputs (optional)
- 1 output for probe cleaning
- 1 alarm output (relay with volt-free contact)

MEASURING PARAMETERS

Factory parameter configuration.
- pH
- ORP (ORP)
- Chlorine (total, free and combined)
- Chlorine dioxide
- Hydrogen Peroxide
- Ozone
- Peroxyacetic acid
- Turbidity
- Conductivity (contact or inductive)
- Dissolved oxygen
- Temperature (on all models, regardless of the configuration)

APPLICATIONS

- Swimming pools disinfection
- Water treatment
- Cooling towers
- Industrial-level chemical dosing
- Depuration

FUNCTIONS

Dosing systems
- On/off
- Proportional to pulses
- Proportional to PWM
- Fixed PWM
- PID

Equipment control
- Local
- Remote

Alarms
- Damaged probes
- Maximum dosage
- 2 off-line alarms per channel
- 5 product level alarms
- Flow (in probe holder)

Functions
- Permanent data storage with system log
- Multiple probe readings can be viewed
- Service menu with probe reading value
- Regular probe check up
- 5 timers for timered feedings
- Totalizer for instant flow rate when connected to a meter
- Data log on USB device (option)
- 6 mA outputs (option)

MAX5 Series

MODELS

BASIC
MAX5 using RS485 connection + USB comm service

ADVANCED USB
MAX5 using RS485 connection + USB comm service + USB data log

ETHERNET
MAX5 using Ethernet connection + RS485 connection + USB comm service

GSM/GPRS
MAX5 using external GSM/GPRS modem + RS485 connection + USB comm service

	RS485 communication	USB communication	ETHERNET module	MODEM module	USB 2.0 DATA LOG module
BASIC	•	•			
ADVANCED USB	•	•			•
ETHERNET	•	•	•		
GSM/GPRS	•	•	•	•	

SOFTWARE

ERMES communication software

OPTIONS

- 6 mA outputs

TRANSMISSION ACCESSORIES

- RS485 - USB connection converter
- LCOMM 5 - external GSM/GPRS modem and antenna cable

GENERAL CATALOGUE

MTOWER Series

Equipment from the MTOWER Series is designed for water treatment in cooling towers.

MTOWER instruments allow you to monitor and adjust the water's fundamental parameters so as to ensure that the facilities work flawlessly and steadily, with a reduced maintenance burden and assured savings.

Equipment from the MTOWER Series controls pre-biocide, biocide and inhibitor dosage and regulates flow based on conductivity. This system thereby protects against corrosion and deposit build-up within the equipment, all the while guaranteeing maximum efficiency in the cooling system.

The user-friendly interface is equipped with an encoder knob: turning the knob allows the user to scroll through the menus, while pressing the knob selects the chosen menu function.

The menu is both clear and straightforward, owing to the fact that it is structured based on the equipment's functions.

ERMES

ADVANTAGES

- Simultaneous multiple view for probes reading
- Easy control by ENCODER with "EASY-NAV" rotation
- Local network or remote control
- Large backlit LCD display
- Pre-bleed function
- Lockout function
- Timeout function
- Permanent data storage (without battery power)
- Current Feed&Bleed display

APPLICATIONS

- Cooling towers

TECHNICAL FEATURES

- Wall mounting
- IP65 protection (NEMA4x)
- Rotational ENCODER
- Backlit LCD display
- Working environment temperatura: -10°C / 50°C; 0-95% relative humidity (condensation free)
- Universal power supply: 90÷265 VAC; 50/60 Hz
- Average power consumption: 45 W
- Self installing communication software (ERMES)

ELECTRICAL FEATURES

Input signals
- Terminal block and BNC

Inputs
- Probes
- 1 water meter for makeup water
- 1 water meter for bleed water
- 1 temperature probe
- Tank levels
- Flow sensor

Output
- 6 powered relay outputs
- 2 outputs (voltage free contact)
- 3 proportional pulse signal outputs (open collector)
- 4 mA output (max resistive load 500 Ohm)
- 1 alarm output (relay with volt-free contact)

MEASURING PARAMETERS

- Conductivity
- pH
- ORP (ORP)
- Chlorine
- Chlorine dioxide
- Temperature (on all configurations)

FUNCTIONS

Biocide working modes
- Proportional to value reading;
- Proportional to value read in the set period;
- Timer with 1/4 week programming period.

Alarms
- Conductivity (high/low)
- Bleed timeout (conductivity not reached after set time has elapsed)
- Product levels
- Flow

Feedings
- 2 biocides
- 2 pre-biocides (activator)
- 1 inhibitor
- 1 pH corrector

Feeding systems
- On/Off
- Proportional to pulses
- Proportional to PWM

Functions
- Pre-bleed: reduced water system conductivity before biocide dosing
- Blow down: discharge control on conductivity values
- Lockout: discharge valve locked for a settable time (after biocide dosage)
- Timeout: maximum discharge valve opening time
- Permanent data storage (without battery power)
- Programmable delay at dosing start-up (99 minutes maximum)
- Temperature readings and compensation (PT100 probe)

MTOWER Series

3 CHANNELS MODELS

	MTOWER CD/PH/CL	MTOWER PLUS CD/PH/RH
Measuring parameters	pH chlorine Conductivity	pH ORP Conductivity
Measurement and control scale	0-9999 µS 0-14 pH *Chlorine scales**	0-9999 µS 0-14 pH 0-999 mV
Compensation	temperature	temperature

** Available scale for chlorine:*

Probe	Scale
Ecl 1/2	2.000 mg/l Cl_2
Ecl 1/5	5.000 mg/l Cl_2
Ecl 1/20	20.00 mg/l Cl_2
Ecl 1/200	200.0 mg/l Cl_2
Ecl 2/2	2.000 mg/l Cl_2O_2
Ecl 2/20	20.00 mg/l Cl_2O_2
Ecl 3/2	2.000 mg/l Cl_2
Ecl 3/10	10.00 mg/l Cl_2
Ecl 4,5,6,7,12	10.00 mg/l Cl_2
Ecl 17/10	10.00 mg/l Cl_2O_2
Ecl 18/10	10.00 mg/l Cl_2
Ecl 4,5,6,7,12 Br	10.00 mg/l Br

2 CHANNELS or 1 CHANNEL MODELS

	MTOWER CD/PH	MTOWER CD/RH	MTOWER CD/CL	MTOWER CD
Measuring parameters	pH Conductivity	ORP Conductivity	Chlorine Conductivity	Conductivity
Measurement and control scale	0-9999 µS 0-14 pH	0-9999 µS 0-999 mV	0-9999 µS *Chlorine scales**	0-9999 µS
Compensation	temperature	temperature	temperature	temperature

SOFTWARE

ERMES communication software

FEATURES

	RS485 communication	USB communication	ETHERNET module	MODEM module	USB 2.0 DATA LOG module
BASIC	•	•			
ADVANCED USB	•	•			•
ETHERNET	•	•	•		
GSM/GPRS	•	•	•	•	

OPTIONS

- 24 VAC electrovalve output
- mA current output

ACCESSORIES PLUS

- MANIFOLD series - see Accessories section

GENERAL CATALOGUE

LD Multichannel Series

LD Multichannel Series control instruments comprise a multi-system parameter regulator, with the ability to guarantee complete control of the water to be treated and to ensure optimal dosage of chemical products.

Meticulous planning enabled us to draw from past experience, leading to products which are simple to program but are endowed with many, useful functions, so as to best meet our clients' new requirements.

The interface-based control mechanism, Encoder knob and option to connect remotely via GSM/GPRS or Ethernet make this series a cutting-edge range within its market sector.

The user-friendly interface is equipped with an encoder knob: turning the knob allows the user to scroll through the menus, while pressing the knob selects the chosen menu function.

ERMES

ADVANTAGES

- Simultaneous multiple view for probes reading
- Easy control by ENCODER with "EASY-NAV" rotation
- Local network or remote control
- Large backlit LCD display

TECHNICAL FEATURES

- Wall mounting
- IP65 protection (NEMA4x)
- Rotational ENCODER
- Backlit LCD display
- Working environment temperature: -10°C / 50°C; 0-95%relative humidity (condensation free)
- Universal power supply: 90÷265 VAC; 50/60 Hz
- Average power consumption: 25 W
- Self installing communication software (ERMES)

ELECTRICAL FEATURES

Input signals
- BNC connectors (pH/ORP)
- Terminal block (Conductivity/Cl_2/H_2O_2)

Input signals
- Probes
- 1 temperature probe PT100
- Tank levels
- Flow sensor

Output
- 2 powered relay outputs: 1 for pH and 1 for the second parameter
- 4 proportional outputs proportional pulse signal outputs (open collector): 2 for pH and 2 for the second parameter
- 1 output with voltage free contact (stand-by)
- 1 proportional pulse signal output (open collector)
- 1 RS485 outout for PC connection

MEASURING PARAMETERS

- Conductivity
- pH
- ORP (ORP)
- Chlorine
- Bromine
- Hydrogen Peroxide
- Temperature (on all configurations)

APPLICATION SECTORS

For pH/Chlorine and pH/ORP and pH/Bromine combinations
- Swimming pools disinfection
- Water treatment

For pH/Conductivity combinations
- Cooling towers
- Water treatment
- Industrial-level chemical dosing

For pH/Hydrogen peroxide combinations
- Swimming pools disinfection
- Water treatment
- Depuration

FUNCTIONS

Controls
- Flow (in the probe holder)
- Remote control for outputs enabling/disabling

Alarms
- Damaged probe
- Maximum dosage
- Off-line
- Level
- Flow

Feeding
- Automatic
- Manual

Feeding systems
- On/off
- Proportional to pulses
- Proportional to PWM
- Timed PWM

Functions
- Permanent data storage with system log
- Programmable delay at dosing start-up (60 minutes maximum)
- Dosing priority settings
- Service menu with probe reading value
- Probe readout menu
- Regular probe check up
- Data log on USB device (option)
- mA output (option)

LD Multichannel Series

MODELS

	LDPHCL1	LDPHCL4 [1]	LDPHRH	LDPHO2	LDPHCD
Measuring parameters	pH and Chlorine	pH and Chlorine/ Bromine[1]	pH and ORP	pH and Hydrogen Peroxide	pH and Conductivity
Measurement and control scale	**pH**: 0-14 pH **Chlorine**: 0-10 mg/l Cl_2	**pH**: 0-14 pH **Chlorine**: 0-10 mg/l Cl_2 **Bromine**: 0-10 mg/l Br	**pH**: 0-14 pH **ORP**: 0-1000 mV	**pH**: 0-14 pH **Hydrogen Peroxide** 0-200 mg/l H_2O_2	**pH**: 0-14 pH **Conductivity**: K=0,1: 0-325 µS K=1: 0-29,9 mS
Resolution	0,01 (< 10 mg/l Cl_2) 0,1 (≧ 10 mg/l Cl_2)	0,01 (< 10 mg/l Cl_2) 0,1 (≧ 10 mg/l Cl_2)	1 mV	0,01 (< 10 mg/l H_2O_2) 0,1 (≧ 10 mg/l H_2O_2) 1 (≧ 100 mg/l H_2O_2)	0,01 (< 10 µS) 0,1 (≧ 10 µS) 1 (≧ 100 µS)
Compensation	pH in temperature / Chlorine in pH	pH in temperature [2] / Chlorine in pH	pH in temperature	pH in temperature	pH in temperature / cond. in temperature

[1] Chlorine/Bromine selection (with ECL6 probe).

[2] pH compensation only with ECL6 probe.

FEATURES

	RS485 communication	USB communication	ETHERNET module	MODEM module	USB 2.0 DATA LOG module
BASIC	•	•			
ADVANCED USB	•	•			•
ETHERNET	•	•	•		
GSM/GPRS	•	•	•	•	

OPTIONS

- Data log on USB memory stick for downloading data
- mA current output

TRANSMISSION DEVICES

- RS485 - USB Interface convertor
- LCOMM 5 - external modem with GSM/GPRS protocol and antenna cable

SOFTWARE

ERMES communication software

GENERAL CATALOGUE

LD Series

The LD Series is composed of digital, single-parameter instruments for the control and regulation of several parameters.
They fall under two categories:
- LD with keypad control
- LD with encoder control.

Equipment from the LD Series which are hooked up can be linked to a network (up to 31 units) and controlled remotely.

Combined with probes and probe holders, they can be assembled on a panel.

ADVANTAGES

- Simultaneous multiple view for probes reading
- Easy control by ENCODER with "EASY-NAV" rotation
- Local network or remote control
- Large backlit LCD display

TECHNICAL FEATURES

- Wall mounting
- IP65 protection (NEMA4x)
- Backlit LCD display
- Working environment temperature: -10°C / 50°C; 0-95%relative humidity (condensation free)
- Universal power supply: 90÷265 VAC; 50/60 Hz o 9-30VDC
- Average power consumption: 10 W

ELECTRICAL FEATURES

Input signals
- BNC connectors (pH/ORP)
- Terminal block (Conductivity/Cl_2)

Inputs
- Stand-by
- 2 tank levels
- Pulse sender water meter
- Temperature probe
- Flow

Output
- 2 powered relay outputs
- 1 proportional output proportional pulse signal outputs (open collector)
- 1 maximum dosage outputs (tension-less contact)
- 2 galvanically isolated outputs. Programmable 0/4÷20mA (reading and temperature). Maximum appliable resistance 400 Ω
- 1 RS485 or RS232 output

MEASURING PARAMETERS

- pH
- ORP (ORP)
- Chlorine (total and free)
- Chlorine dioxide
- Bromine
- Hydrogen Peroxide
- Ozone
- Peroxyacetic acid
- Turbidity
- Conductivity
- Dissolved oxygen
- Temperature

APPLICATION SECTORS

- Swimming pools disinfection
- Water treatment
- Cooling towers
- Industrial-level chemical dosing
- Depuration

FUNCTIONS

Controls
- Flow (in the probe holder)
- Remote control for outputs enabling/disabling

Alarms
- Maximum dosage
- 2 off-lines
- 2 levels
- Flow

Dosing systems
- On/Off
- Proportional

Functions
- Programmable delay at dosing start-up (60 minutes maximum)
- Menu with probe reading value
- Temperaure display and compensation
- Alert SMS through RS232/485 serial port (with modem)
- Permanent data storage (without battery power)

LD Series

MODELS

	LDPH	LDRH	LDCL	LDCD
Measuring parameters	pH	ORP	Total Chlorine Free Chlorine Chlorine dioxide Hydrogen Peroxide Ozone Bromine Peroxyacetic acid *depending on probe*	Conductivity
Measurement and control scale	0/14 pH	-1000/+2000 mV	da 0/2.000 mg/l Cl_2 a 0/ 2000 mg/l Cl_2	K=0,1 0/299,9 µS K=0,1 0/2,999 mS K=1 0/2,999 mS K=1 0/29,99 mS K=10 0/29,99 mS K=10 0/299,9 mS
Resolution	1 pH	1 mV	da 0,001 a 1 mg/l Cl_2	K=0,1 0,1 µS K=0,1 1 µS K=1 1 µS K=1 10 µS K=10 10 µS K=10 100 µS
Compensation	Temperature	- -	- -	Temperature

OPTIONS

- **Alert SMS** through RS232/485 serial port (with modem)

TRANSMISSION ACCESSORIES

LDCOM
Central Unit for "LDxx" instruments data collecting

LIP-D
To connect the RS232/422/485 serial interface instruments to the 10Base-T Ethernet

C GSM USB/485
GSM Modem (mobile phone) for PC. USB or RS485 connection.

LCOMM 6
GSM Modem with 2 digital inputs

LCOMM 7
GSM Modem with 4 digital inputs

LCOMM 8
GSM Modem with:
- 4 digital inputs
- 4 relay outputs (85-264 VAC - 50/60 Hz) programmable via SMS
- 4 outputs Open Collector programmable via SMS

LD Series with encoder

MODELS

	LDTORBH	LDDO	LDCDIND
Measuring parameters	Turbidity	Dissolved oxygen	Inductive conductivity
Measurement and control scale	0 / 9999 NTU	20 mg/l Cl_2	0 / 9,999 mS 0 / 99,99 mS 0 / 999,9 mS 0 / 9999 mS
Resolution	1 NTU	1 mg/l Cl_2	0 / 0,001 mS 0 / 0,01 mS 0 / 0,1 mS 0 / 1 mS
Required probe (1)	ETORBH	EOLUM	ECDINDPT
Compensation	temperature	temperature and pressure	temperature

(1) For further informations see probe chapter.

LDPHNE: PH NEUTRALIZER

The LDPHNE instrument controls pH and solves the pH variation issue by taking it to neutral.
It controls 2 dosing pumps (acid/base), the chemical tank level (high/low) and a mixer.

	LDPHNE
Measuring parameters	pH
Measurement and control scale	0 / 14 pH
Resolution	1 pH
Compensation	temperature

FEATURES

Inputs
- 2 pump (acid/base)
- 2 additive levels

Output
- 4 powered relay outputs (loading/downloading/mixer/alarm)
- 2 pulse outputs (acid pump/base pump)

OPTIONS

- Data log on USB memory stick for downloading data
- mA current output

TRANSMISSION ACCESSORIES

- RS485 - USB Interface converter
- LCOMM 5 - external modem with GSM/GPRS protocol and cable antenna (2 meters)

FEATURES

	RS485 communication	ETHERNET module	MODEM module	USB 2.0 DATA LOG module
BASIC	•			
ADVANCED USB	•			•
ETHERNET	•	•		
GSM/GPRS	•	•	•	

GENERAL CATALOGUE

PANEL INSTRUMENTS

The panel instruments fall under three categories:
- J DIGITAL for 96x48 panel
- JC for 96x96 panel
- DIN digital for DIN bar (6 units) mounting

For optimal water conditioning, these instruments allow you to regulate two on/off output and a current output for a connection to a chart recorder or dosing pump.

An LCD display shows the working values and a simple keypad enables you to program these instruments.
The compact design of this series facilitates its installation in areas where minimum size is requested.

ADVANTAGES

- Parameters reading and display
- Keyboard-operated setup
- Backlit LCD display
- Compact sizes

APPLICATION SECTORS

- Swimming pools disinfection
- Water treatment
- Cooling towers
- Industrial-level chemical dosing
- Depuration

TECHNICAL FEATURES

- Panel (96x96 o 96x48) or DIN bar mounting
- Microprocessor
- IP44 protection
- Backlit LCD display
- Working environment: -10°C / 50°C; 0-95% relative humidity (condensation free)
- Power supply: 230 VAC; 115 VAC; 24 VAC
- Average power consumption 4 W

FUNCTIONS

- Programmable delay at startup for probe polarization.
- Probe reading can be viewed instantly.
- Temperature measurement and compensation.
- Delayed output activation in line with set values for each setpoint being reached.
- Multiple connection modes for a single flow sensor.

ELECTRICAL FEATURES

- **Input signals**
  BNC connectors (pH/ORP) or terminal block.
- **On/off output** (free contact)
- **Ouputs**
  Programmable 0/4÷20mA galvanically isolated.
  Maximum appliable resistance 350 Ω.
- **Flow sensor input**

DIMENSIONS

- J DIGITAL: hole dimension 44,50x91x130 mm or 44,50x91x85 mm
- JC: hole dimension 90x90x130 mm or 90x90x85 mm
- DIN DIGITAL for DIN rail bar (6 modules)

MEASURING PARAMETERS

- pH
- ORP (ORP)
- Chlorine (total, free and combined)
- Conductivity
- Temperature

Panel instruments

MODELS

96x48	J DIGITAL PH	J DIGITAL RH	J DIGITAL CL	J DIGITAL CD	J DIGITAL O3	J DIGITAL O2	J DIGITAL CLO2	J DIGITAL TEMP
DIN 6 moduli	DIN DIGITAL PH	DIN DIGITAL RH	DIN DIGITAL CL	DIN DIGITAL CD	DIN DIGITAL O3	DIN DIGITAL O2	DIN DIGITAL CLO2	DIN DIGITAL TEMP
96x96	JC PH	JC RH	JC CL	JC CD				
Measuring parameters	pH	ORP	Total Chlorine Free Chlorine Combined Chlorine *depending on probe*	Conductivity	Ozone	Dissolved oxygen	Chlorine dioxide	Temperature
Measurement and control scale	0 / 14 pH	0 / 1000 mV	0 / 2,000 mg/l Cl_2 0 / 20,00 mg/l Cl_2 0 / 10,00 mg/l Cl_2 0 / 200,0 mg/l Cl_2	0 / 2,000 µS 0 / 20,00 µS 0 / 200,0 µS 0 / 2000 µS 0 / 20,00 mS 0 / 200,0 mS	0 / 1 mg/l O_3 0 / 10 mg/l O_3	0 / 60 mg/l O_2	0 / 2 mg/l ClO_2 0 / 20 mg/l ClO_2	0 / 100 °C
Resolution	1 pH	1 mV	0,001 mg/l Cl_2 0,01 mg/l Cl_2 0,1 mg/l Cl_2	0,1 µS 1 µS 1 µS 10 µS 10 µS 100 µS	1 mg/l O_3	1 mg/l O_2	1 mg/l ClO_2	1 °C
Compensation	temperature	- -	- -	temperature	- -	- -	- -	- -

ACCESSORIES PLUS

- OFF-LINE PROBE HOLDERS (see accessories section)
- SEPR - Inductive proximity sensor.
- SEPR1 - Capacitive proximity sensor.


7.91pH
Tmp 25°C
pH
ON/OFF
ESC
E

GENERAL CATALOGUE

CUSTOMIZED PRE-ASSEMBLED PANEL

Customized pre-assembled panels availablem on chemical resistant panels.
Panels with personalized logo and background.
The dosing systems are pre-assembled and ready to be connected; they are designed to fulfill specific needs.
Several quick to install and flexible solutions available so as to meet different aims.

"READY TO GO" SOLUTION

EMEC dosing pumps, measuring and monitoring systems can be assembled with probes and accessories on panels in specified combinations.

They can also be assembled on designated boxes, with or without shutters and on stainless steel personalized frames (skid).

These assembled solutions are destined for use in the following:

- cooling towers
- swimming pools
- wastewater treatment
- drinking water treatment facilities

PANEL CHARACTERISTICS

Standard sizes:

- 800x1000 mm
- 800x900 mm
- 800x800 mm
- 600x800 mm
- 600x650 mm
- 400x600 mm

Panels are made of laminated plastic material resistant to chemical agents

ADVANTAGES

- Panels can be equipped with:

- pumps, instruments or other elements belonging to the client and assembled by EMEC;
- personalized logos;
- background chosen by client;
- personalized sizes.

- Stainless steel cabins and skids are designed on client requirements and preassembled for quick installation.
- Electric control panels designed to control all the assembeld solution.

PLANTS ON SKIDS OR IN CUSTOM-MADE CABINS

Systems on skids are assembled and then placed on a base, called a "sledge" made out of metal. The entire Stainless Steel 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 with pothole end/or with doors.

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

CONTROL PANELS FOR POOLS

Water quality and correct disinfection are guaranteed not only for pools but also at wellness and thermal centres:

- disinfection
- pH correction (acid/basic)
- flocculants feeding
- anti-algae feeding

Swimming pools

COOLING TOWERS PANELS

Cooling water treatment is an operation that requires care and precision.

- biocide feeding
- activator biocide feeding
- inhibitors feeding
- anti-oxidant feeding
- pH correction

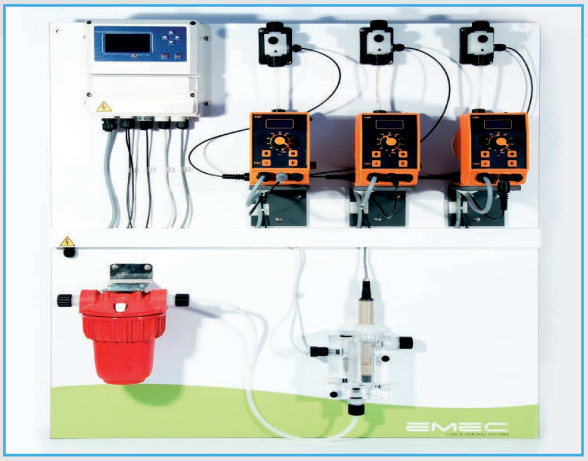
Cooloing Towers

ANTI-LEGIONELLA PANEL

The best answer to Legionella bacteria is prevention and efficient disinfection of the water:

- disinfection
- chlorine dioxide (solid) or sodium hypochlorite feeding
- filming chemical feed

Anti-legionella



DRINKING WATER PANEL

The proposed configuration for water drinking contemplates:

- disinfection with sodium hypochlorite or calcium hypochlorite

Drinking

SYSTEMS IN CABINS

Systems designed and created in cabins with doors or pothole.

Safety, simplified installation and optimisation of devices are the advantages provided by this solution.

Cabin with door

SYSTEMS ON SKIDS

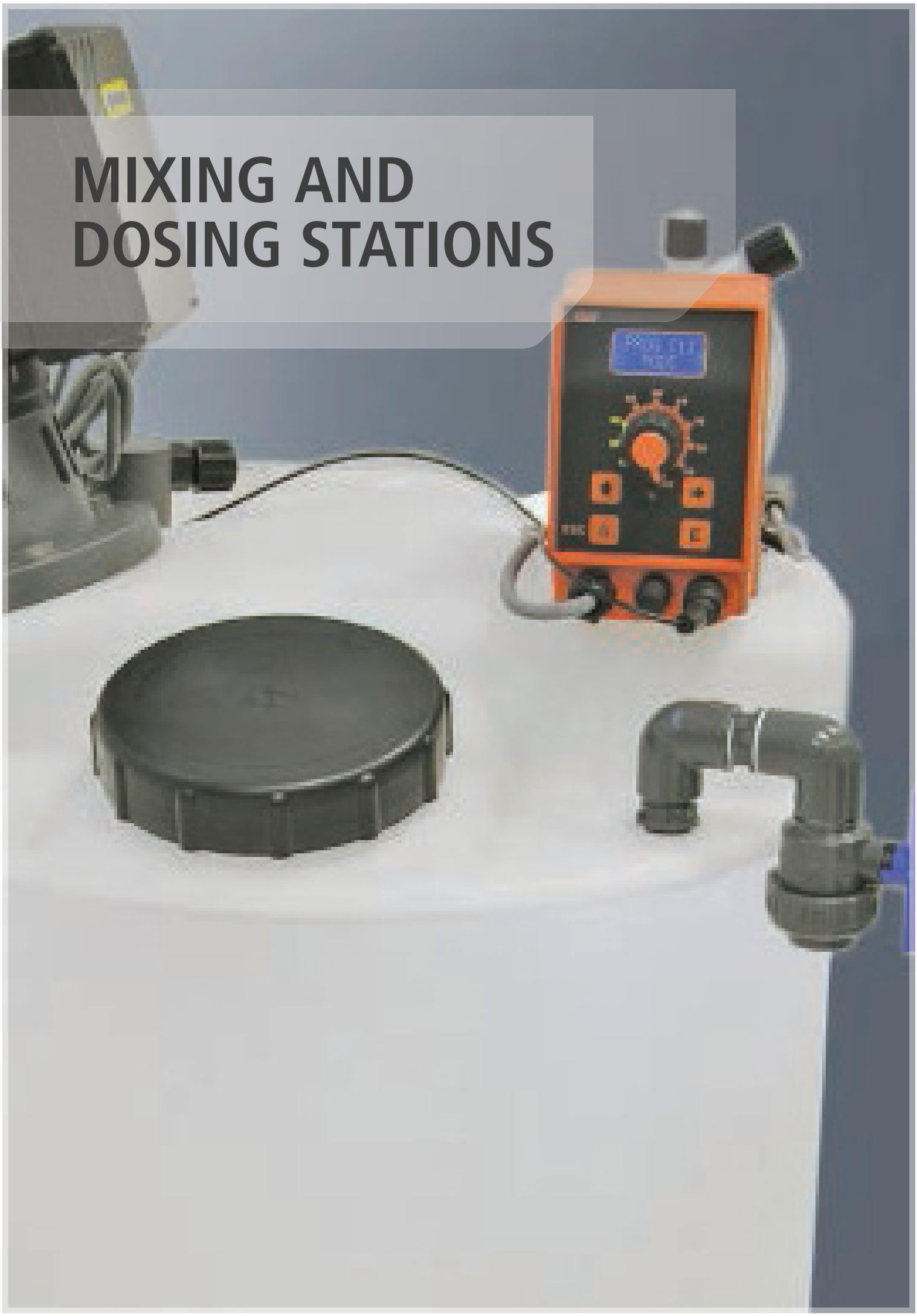
Installing of skid systems designed entirely by EMEC and prepared in detail. The skid solution facilitates the installation of the systems.

Highly practical, with overall advantageous costs and significant time-saving for installing operations.

Skid systems


LIQUID CONTROL

MIXING AND DOSING STATIONS



READYMADE SYSTEMS

Storage, dosing, all regulation in one single system.

Dosing stations are assembled to include:

- Dosing pumps
- Suction lances
- Mixer
- Water makeup valve
- Water bleed valve

Dosing stations are complete solutions and only electric and piping operations are the responsibility of the client.

ADVANTAGES

- All products are manufactured by EMEC, with the great advantage of not having problems in connecting or linking-up elements.
- Pre-assembled panel is flexible and can be adapted to the client's requirements.
- Dimensions: the dosing station is only as large as the circumference of the chemical tank.

CNT500 DOSING STATION

- **500 litre** chemical tank
- MIXV4 or MIXV2 mixer
- LASP4 or LASP5 suction lance
- Dosing pump
- 1/2" loading valve
- Bleed valve
- Ready for 2 lances and 2 pumps assembly

CNT120 DOSING STATION

- **120 litre** chemical tank
- MIXV8 or MIX8 mixer
- LASP4 or LASP5 suction lance
- Dosing pump
- 1/2" loading valve
- Bleed valve
- Ready for 2 pumps assembly

CNT250 DOSING STATION

- **250 litre** chemical tank
- MIXV4 or MIXV8 or MIX8 mixer
- LASP4 or LASP5 suction lance
- Dosing pump
- 1/2" loading valve
- Bleed valve
- Ready for 2 lances and 2 pumps assembly

CNT50 DOSING STATION

- **50 litre** chemical tank
- Manual mixer
- LASP4 or LASP5 suction lance
- Dosing pump (VMS or KMS series)
- 1/2" loading valve
- Bleed valve
- Ready for 2 pumps assembly

PROBES

INDEX

ECL Series - Amperometric cells for chlorine p. 88

EPH Series - pH probes p. 92

ERH Series - ORP probes p. 94

ECD Series - Conductivity probes p. 96

ETORBH Series - Turbidity probes p. 102

EOLUM Series - Dissolved oxygen probes p. 104

ETE Series - Temperature probes p. 106

GENERAL CATALOGUE

ECL SERIES

The ECL Series is designed for measuring free chlorine (both organic and inorganic), total chlorine, hydrogen peroxide, ozone, chlorine dioxide and peracetic acid.

The ECL Series combines two macro categories of probes: open amperometric cells and closed amperometric cells.

CLOSED amperometric cells are made up of an electrode sensor sealed within a cylindrical PVC chamber.
One end of the chamber has a selective membrane which only allows the passage of the substance of interest, thus avoiding contamination of the electrode by other substances dissolved in the water.

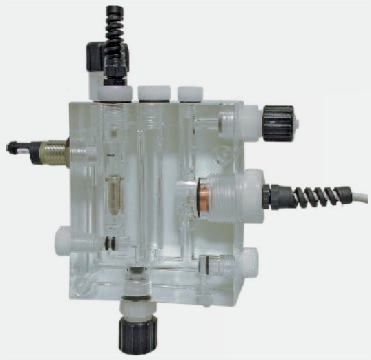
OPEN amperometric cells comprise an Off-line probe holders, a sensing electrode, a flow electrode and temperature sensor.

The flow of water within this cell must remain constant and within 40 l/min. A pressure stabilizer is available for areas subject to sudden pressure changes.

OPEN amperometric cells

ADVANTAGES

- Fast and accurate readings with 2-electrode cell with platinum/copper or platinum/silver (sea water)
- Stable readings even at low chlorine concentrations
- Consistent measurement interval
- Temperature compensation
- Recommended flow of 40 l/hr
- Ideal for measuring chlorine and bromine in swimming pools
- Self-cleaning



TECHNICAL FEATURES

- Transparent acrylic body
- Working temperature 1° / 40° C
- Working pressure between 0.4 and 3 bar
- Flow regulation
- Platinum and copper electrode (platinum and silver for ECL12 and ECL12/E)
- 1.5 m cable with connector

MEASURING PARAMETERS

- Free chlorine (organic and inorganic) in fresh water
- Free chlorine (organic and inorganic) in sea water
- Bromine in fresh water

	ECL4N	ECL5N	ECL6	ECL7	ECL6/E	ECL12	ECL12/E	ECL16/E*
Parameter	Bromine/ Chlorine (organic and inorganic)	Bromine/ Chlorine (organic and inorganic)	Bromine/ Chlorine (organic and inorganic)	Bromine/ Chlorine (organic and inorganic)	Bromine/ Chlorine (organic and inorganic)	Free Chlorine (organic and inorganic)	Free Chlorine (organic and inorganic)	Free Chlorine (organic and inorganic)
Use	fresh water	sea water	fresh water	fresh water	fresh water	sea water	sea water	fresh water
Scale	0 / 10 mg/l	0 / 10 mg/l	0 / 10 mg/l	0 / 10 mg/l	0 / 10 mg/l	0 / 10 mg/l	0 / 10 mg/l	0 / 10 mg/l
Maximum pressure	3 bar	3 bar	3 bar	3 bar	3 bar	3 bar	3 bar	3 bar
Maximum temperature	40°C	40°C	40°C	40°C	40°C	40°C	40°C	40°C
Probe holder	- -	- -	pH ORP temperature	pH ORP (PG 13,5) temperature	temperature	pH ORP temperature	temperature	- -
Working pH	6 / 8 pH	6 / 8 pH	6 / 8 pH	6 / 8 pH	6 / 8 pH	6 / 8 pH	6 / 8 pH	6 / 8 pH

* With stabilizing flow.

SPARE PARTS

- Electrodes
- Glass Balls

CLOSED amperometric cells

ADVANTAGES

- Fast and accurate readings
- Stable readings even at low concentrations of chlorine
- pH-independence (ECL3 / ECL8)
- Continuous measurement interval
- Temperature compensation
- For fresh water or sea water, with designated electrolyte
- Presence of stabilizer does not affect readings (ECL3S)
- Recommended flow of 40 l/hr
- Long maintenance and calibration intervals

TECHNICAL FEATURES

- PVC body
- Working temperature 1° / 40° C (5° / 70°C for ECL17 and ECL18)
- Working pressure max 1 bar (8 bar for ECL17 and ECL18)
- 1.5 m cable with connector

MEASURING PARAMETERS

- Chlorine (total, free)
- Hydrogen Peroxide
- Chlorine Dioxide
- Ozone
- Peracetic acid

	ECL1	ECL3S	ECL3N	ECL8	ECL18	ECL2	ECL17	ECL9	ECL10	ECL11
Parameter	Free active chlorine (inorganic)	Free chlorine (organic and inorganic) per fresh water	Free chlorine (inorganico) per fresh water	Total chlorine	Free chlorine (inorganic)	Chlorine dioxide	Chlorine dioxide	Hydrogen Peroxide	Ozone	Peracetic acid
Scale	0 / 2 mg/l 0 / 5 mg/l 0 / 20 mg/l 0 / 200 mg/l	0 / 10 mg/l	0 / 2 mg/l 0 / 10 mg/l	0 / 2 mg/l 0 / 20 mg/l	0 / 2 mg/l 0 / 10 mg/l	0 / 2 mg/l 0 / 20 mg/l	0 / 2 mg/l 0 / 10 mg/l	0 / 200 mg/l 0 / 2000 mg/l	0 / 0,5 mg/l 0 / 10 mg/l	0 / 200 mg/l 0 / 2000 mg/l
Maximum pressure	1 bar	1 bar	1 bar	1 bar	8 bar	1 bar	8 bar	1 bar	1 bar	1 bar
Maximum temperature	40°C	40°C	40°C	40°C	70°C	40°C	70°C	40°C	40°C	40°C
Operating pH	6 / 8 pH	compensated	compensa-ted	6 / 8 pH	6 / 8 pH	irrelevant	irrelevant	irrelevant	irrelevant	irrelevant
Body	PVC	PVC	PVC	PVC	PP	PVC	PP	PVC	PVC	PVC
Membrane	●	●	●	●		●		●	●	●

ACCESSORIES PLUS

Probe holders
- In-line
- Immersion
- Off-line

(see accessories section)

GENERAL CATALOGUE

EPH SERIES

The regulation process in the field of dosage control largely depends on the precision, linearity and response time of the probes installed in the equipment. It therefore stands to reason that the quality of the control of the process depends on the quality of the measurement instrument.
Moreover, probes are notably subjected to the highest mechanical stress from the process itself. It is therefore important to be able to rely on their quality and to regularly check their condition.
Probe quality and constant maintenance are essential requirements in a dependable system for dosage regulation.

The EPH Series is designed to measure the pH of water. The electrodes are made of epoxy, which guarantees durability and use with pressures of up to 7 bar. The KCl electrolyte within the electrode comes in gel form and does not require any type of maintenance action.

EPH Series

ADVANTAGES

- Fast, accurate and stable readings
- Consistent measurement interval
- Range of standard length cables

MEASURING PARAMETERS

- pH

TECHNICAL FEATURES

- EPOXY body
- Working temperature 0° / 80° C
- Working pressure max 7 bar
- Response time: 95% data close to the actual in less than 1 second
- Coaxial cable and BNC connectors or connector on the SN6 screw electrode and BNC connector for the instrument

	EPHS EPHM EPHL	EPHSN6	EPHMD/100	EPHM/D	EPHSC	EPHSC/SN6	EPHM/HF
Scale	0/14 pH	0/14 pH	0/14 pH	0/14 pH	0/14 pH	0/14 pH	0/14 pH
Maximum pressure	7 bar	7 bar	7 bar	7 bar	7 bar	7 bar	7 bar
Maximum temperature	80 °C	80 °C	100 °C	80 °C	80 °C	80 °C	80 °C
Minimum conductivity	> 100 µS	> 100 µS	> 100 µS	> 1 µS	> 100 µS	> 100 µS	> 100 µS
Electrode	Combined	Combined	Combined double-junction	Combined double-junction For low Cl_2 application	Combined double-junction Self-cleaning	Combined double-junction Self-cleaning	Combined double-junction Fluorydric acid resistant (1%)
Connection	BNC	SN6 PG13,5 thread	BNC	BNC	BNC	SN6 PG13,5 thread	BNC
Cable length	0,8 mt 4,5 mt 15 mt	no cable	4,5 mt	4,5 mt	4,5 mt	4,5 mt	4,5 mt

ACCESSORIES PLUS

Signal amplifier

ADI1 PH: Amplifier with galvanic isolaton. Maximum distance 150m. 1 channel.
ADI2: Amplifier with galvanic isolaton. Maximum distance 150m. 2 channels.

Cables

CASN6S: BNC/SN6 cable for electrodes mod. EPHSN6. 5mt.
CASN6M: BNC/SN6 cable for electrodes mod. EPHSN6. 10mt.
CASN6L: BNC/SN6 cable for electrodes mod. EPHSN6. 15mt.

Probe holders

- In-line
- Immersion
- Off-line

(see accessories section)

GENERAL CATALOGUE

ERH SERIES

The regulation process in the field of dosage control largely depends on the precision, linearity and response time of the probes installed in the equipment. It therefore stands to reason that the quality of the control of the process depends on the quality of the measurement instrument.

Moreover, probes are notably subjected to the highest mechanical stress from the process itself. It is therefore important to be able to rely on their quality and to regularly check their condition. Probe quality and constant maintenance are essential requirements in a dependable system for dosage regulation.

The ERH Series is designed to measure water's ORP potential. The electrodes are made of epoxy, which guarantees durability and use with pressures of up to 7 bar. The KCl electrolyte within the electrode comes in gel form and does not require any type of maintenance action.

ERH Series

ADVANTAGES

- Fast, accurate and stable readings
- Continuous measurement range
- Cables of different standard lengths

MEASURING PARAMETERS

- ORP

TECHNICAL FEATURES

- Epoxy or glass body
- Working temperature 0° / 80° C
- Working pressure max 7 bar
- Response time: 95% data close to the actual in less than 1 second
- Coaxial cable and BNC connectors or connector on the SN6 screw electrode and BNC connector for the instrument

	ERHS ERHM ERHL	ERHSN6	ERHMD/100	ERHM/D	ERHSC	ERHSC/SN6	ERHHL
Scale	± 1000 mV	± 1000 mV	± 1000 mV	± 1000 mV	± 1000 mV	± 1000 mV	± 1000 mV
Maximum pressure	7 bar	7 bar	7 bar	7 bar	7 bar	7 bar	7 bar
Maximum temperature	80 °C	80 °C	100 °C	80 °C	80 °C	80 °C	80 °C
Minimum conductivity	> 100 µS	> 100 µS	> 100 µS	> 1 µS	> 100 µS	> 100 µS	> 1 µS
Electrodes	Combined	Combined	Combined double-junction	Combined double-junction For low Cl_2 application	Combined double-junction Self-cleaning	Combined double-junction Self-cleaning	Combined double-junction For low Cl_2 application Glass body
Connection	BNC	SN6 PG13,5 thread	BNC	BNC	BNC	SN6 PG13,5 thread	BNC
Cable length	0,8 mt 4,5 mt 15 mt	no cable	4,5 mt	4,5 mt	4,5 mt	no cable	10 mt

ACCESSORIES PLUS

Signal amplifier

ADI1 RH: Amplifier with galvanic isolaton. Maximum distance 150m. 1 channel.
ADI2: Amplifier with galvanic isolaton. Maximum distance 150m. 2 channels.

Cables

CASN6S: BNC/SN6 cable for electrodes mod. EPHSN6. 5mt.
CASN6M: BNC/SN6 cable for electrodes mod. EPHSN6. 10mt.
CASN6L: BNC/SN6 cable for electrodes mod. EPHSN6. 15mt.

Probe holders

- In-line
- Immersion
- Off-line

(see accessories section)

GENERAL CATALOGUE

ECD SERIES

The regulation process in the field of dosage control largely depends on the precision, linearity and response time of the probes installed in the equipment. It therefore stands to reason that the quality of the control of the process depends on the quality of the measurement instrument.

Moreover, probes are notably subjected to the highest mechanical stress from the process itself. It is therefore important to be able to rely on their quality and to regularly check their condition.

Probe quality and constant maintenance are essential requirements in a dependable system for dosage regulation.
The ECD Series is designed to measure water conductivity.

This is a decisive factor in sound equipment maintenance, especially in cooling towers, reverse osmosis facilities and in the field of fertigation.

ECDHL Series

ADVANTAGES

- High linearity

MEASURING PARAMETERS

- Conductivity

TECHNICAL FEATURES

- Epoxy ⌀ 12 body
- Platinum electrodes
- Working temperature max 70° C
- Working pressure max 7 bar
- Coaxial cable and BNC connectors
- Standard cable 4,5 mt

ACCESSORIES PLUS

Probe holders

- In-line
- Immersion
- Off-line (see accessories section)

	ECDHL	ECDHLC	ECDHLCPT
Scale	ECDHL/01: 0 / 200 µS ECDHL/1: 0,2 / 20 mS ECDHL/10: 20 / 200 mS	ECDHLC/01: 0 / 200 µS ECDHLC/1: 0,2 / 20 mS ECDHLC/10: 20 / 200 mS	ECDHLCPT/01: 0 / 200 µS ECDHLCPT/1: 0,2 / 20 mS ECDHLCPT/10: 20 / 200 mS
K Factor	ECDHL/01: 0,1 ECDHL/1: 1 ECDHL/10: 10	ECDHLC/01: 0,1 ECDHLC/1: 1 ECDHLC/10: 10	ECDHLCPT/01: 0,1 ECDHLCPT/1: 1 ECDHLCPT/10: 10
Temperature compensation	-	NTC 10K	PT 100
Assembly	immersion / in-line / off-line	immersion / in-line / off-line	immersion / in-line / off-line
Body	EPOXY	EPOXY	EPOXY

ECDC Series

ADVANTAGES

- Fast, accurate and stable readings

MEASURING PARAMETERS

- Conductivity

TECHNICAL FEATURES

- PVDF or PVCC (ECDCC20) body
- GRAPHITE electrodes
- Working temperature max 60° C
- Working pressure max 7 bar
- Thread R3/4" or R1/2" (ECDCC20 thread M20 and nut)
- Standard cable/connector 4 mt
- In-line or off-line assembly (ECDCCIM)

ACCESSORIES PLUS

Probe holders

- In-line
- Immersion
- Off-line

(see accessories section)

	ECDC	ECDCC	ECDCCPT
Scale	ECDC/1: 0 / 20 mS ECDC/10: 0 / 200 mS	ECDCC/1: 0 / 20 mS ECDCC/10: 0 / 200 mS	ECDCCPT/1: 0 / 20 mS ECDCCPT/10: 0 / 200 mS
K Factor	ECDC/1: 1 ECDC/10: 10	ECDCC/1: 1 ECDCC/10: 10	ECDCCPT/1: 1 ECDCCPT/10: 10
Temperature compensation	-	NTC 10K	PT 100
Assembly	in-line / off-line	in-line / off-line	in-line / off-line
Body	PVDF	PVDF	PVDF
Connector	4 poles / 90°	4 poles / 90°	4 poles / 90°
Thread	1/2" or 3/4"	1/2" or 3/4"	1/2" or 3/4"

	ECDCCIM	ECDCC20
Scale	0 / 20 mS	0 / 20 mS
K Factor	1	1
Temperature compensation	NTC 10K	NTC 10K
Assembly	immersion	in-line / off-line
Body	PVDF	PVCC
Thread	1/2" or 3/4"	M20 and nut

ECDI Series

ADVANTAGES

- Fast, accurate and stable readings

MEASURING PARAMETERS

- Conductivity

TECHNICAL FEATURES

- PVDF body
- Stainles steel electrodes (AISI-316)
- Working temperature max 60° C
- Working pressure max 7 bar
- Thread R3/4" o R1/2"
- Standard cable/connector 4 mt

ACCESSORIES PLUS

Probe holders

- PEC/IM series
- NPED series
- PEF23 series
  (see accessories section)

	ECDI	ECDIC	ECDICPT
Scale	ECDI/1: 0 / 5 mS ECDI/02: 0 / 500 µS ECDI/01: 0 / 200 µS	ECDIC/1: 0 / 5 mS ECDIC/02: 0 / 500 µS ECDIC/01: 0 / 200 µS	ECDICPT/1: 0 / 5 mS ECDICPT/02: 0 / 500 µS ECDICPT/01: 0 / 200 µS
K Factor	ECDI/1: 1 ECDI/02: 0,2 ECDI/01: 0,1	ECDIC/1: 1 ECDIC/02: 0,2 ECDIC/01: 0,1	ECDICPT/1: 1 ECDICPT/02: 0,2 ECDICPT/01: 0,1
Temperature compensation	-	NTC 10K	PT 100
Assembly	Off-line or In-line	Off-line or In-line	Off-line or In-line
Body	PVDF	PVDF	PVDF

EICD Series

ADVANTAGES

- Fast, accurate and stable readings

MEASURING PARAMETERS

- Conductivity in high temperature and high pressure

TECHNICAL FEATURES

- Stainless steel body (AISI-316)
- Stainless steel electrodes (AISI-316)
- Working temperature max 130° C (200°C per EICDHPT)
- Working pressure max 15 bar
- Thread R3/4"
- Standard cable/connector 4 mt
- In-line assembly

	EICDC	EICDCPT	EICDHPT
Scale	EICDC/1: 0 / 20 mS EICDC/01: 0 / 200 µS EICDC/001: 0 / 20 µS	EICDCPT/1: 0 / 20 mS EICDCPT/01: 0 / 200 µS EICDCPT/001: 0 / 20 µS	EICDHPT/1: 0 / 20 mS EICDHPT/01: 0 / 200 µS EICDHPT/001: 0 / 20 µS
K Factor	EICDC/1: 1 EICDC/01: 0,1 EICDC/001: 0,01	EICDCPT/1: 1 EICDCPT/01: 0,1 EICDCPT/001: 0,01	EICDHPT/1: 1 EICDHPT/01: 0,1 EICDHPT/001: 0,01
Temperature compensation	NTC 10K	PT 100	PT 100
Assembly	In-line	In-line	In-line
Body	PVDF	PVDF	PVDF
Cable	4mt cable/connector	4mt cable/connector	4mt cable

ECDIND PT Series

ADVANTAGES

- Inductive sensor
- Extremely stable readings due to polarization independence
- Broad measurement range

MEASURING PARAMETERS

- Inductive Conductivity

TECHNICAL FEATURES

- PEEK body
- Working temperature max 85° C
- Working pressure max 8 bar
- Standard cable/connector 4 mt G1 and NPT ¾"
- In-line assembly

ACCESSORIES PLUS

Probe holders

- PEL-IND series
  (see accessories section)

	ECDINDPT/1	ECDINDPT/2	ECDINDPT/3
Scale	0,3 / 3 mS	0,3 / 30 mS	0,3 / 300 mS
Temperature compensation	PT 100	PT 100	PT 100
Assembly	in-line or off-line	in-line or off-line	in-line or off-line
Body	PEEK	PEEK	PEEK

GENERAL CATALOGUE

ETORBH SERIES

The regulation process in the field of dosage control largely depends on the precision, linearity and response time of the probes installed in the equipment. It therefore stands to reason that the quality of the control of the process depends on the quality of the measurement instrument.

Moreover, probes are notably subjected to the highest mechanical stress from the process itself. It is therefore important to be able to rely on their quality and to regularly check their condition. Probe quality and constant maintenance are essential requirements in a dependable system for dosage regulation.

The ETORBH Series is designed to measure water turbidity. For optimal results, use with instruments from the MAX5 and LDTORBH series.

ETORBH Series

ADVANTAGES

- 90°C NIR Diffuse light analysis system with nephelometry method
- Slanted sensor surface uses fluid flow to enhance self-cleaning effect and eliminate air bubbles
- Self-cleaning system with motorized brush
- Factory-calibrated

MEASURING PARAMETERS

- Turbidity

TECHNICAL FEATURES

- PVC/PPS GF 40 body
- Measure optical window: sapphire glass
- Repeatability <1% of measured data
- Standard cable/connector 7 mt G1 and NPT ¾"
- In-line, immersion and off-line assembly

	ETORBH
Scale	0 / 9.999 NTU
Temperature	- 5 / 50 °C
Maximum pressure	6 bar
Temperature compensation	NTC 30K at 25 °C
Body	PVC

ACCESSORIES PLUS

Probe holders

- In-line
- Immersion
- Off-line

(see accessories section)

GENERAL CATALOGUE

EOLUM SERIES

The regulation process in the field of dosage control largely depends on the precision, linearity and response time of the probes installed in the equipment. It therefore stands to reason that the quality of the control of the process depends on the quality of the measurement instrument.

Moreover, probes are notably subjected to the highest mechanical stress from the process itself. It is therefore important to be able to rely on their quality and to regularly check their condition. Probe quality and constant maintenance are essential requirements in a dependable system for dosage regulation.

The EOLUM Series is designed to measure dissolved oxygen in water based on the optical measurement (fluorescence) of the concentration of the oxygen. For best results, use with instruments from the MAX5 Series.

EOLUM Series

ADVANTAGES

- Measurement system based on fluorescence.
- The fluorescent membrane guarantees reduced maintenance and enhanced efficiency.
- Measurements executed even in still water (lack of flow).
- Measurements executed even at low levels of dissolved oxygen.

MEASURING PARAMETERS

- Dissolved oxygen in water

TECHNICAL FEATURES

- Stainless Steel body
- Silicone fluorescent layer
- Response time: T_{90}: 60 sec. approx.
- Standard cable/connector 15 mt G1
- In-line or off-line assembly

	EOLUM
Scale	0 / 20 mg/l O_2
Temperature	- 5° / 50 °C
Maximum pressure	10 bar
Temperature compensation	PT100
Body	Stainless steel

ACCESSORIES PLUS

Probe holders

- In-line
- Immersion
- Off-line

(see accessories section)

GENERAL CATALOGUE

ETE SERIES

The regulation process in the field of dosage control largely depends on the precision, linearity and response time of the probes installed in the equipment. It therefore stands to reason that the quality of the control of the process depends on the quality of the measurement instrument.

Moreover, probes are notably subjected to the highest mechanical stress from the process itself. It is therefore important to be able to rely on their quality and to regularly check their condition. Probe quality and constant maintenance are essential requirements in a dependable system for dosage regulation.

The EOLUM Series is designed to measure dissolved oxygen in water based on the optical measurement (fluorescence) of the concentration of the oxygen. The ETE Series is designed to measure water temperature.

ETE Series

ADVANTAGES

- Fast, stable and accurate measuring

MEASURING PARAMETERS

- Temperature

TECHNICAL FEATURES

- PVDF or Stainless Dteel (ETE/I) body
- 1/2" Thread
- Standard cable 4 mt
- In-line assembly

	ETEHLP	ETEP	ETEPT	ETE/I
Scale	0° / 100°C	0° / 100°C	0° / 100°C	0° / 100°C
Maximum pressure	10 bar	10 bar	10 bar	10 bar
Temperature compensation	NTC 10KOhm	NTC 10KOhm	PT100	NTC 10KOhm
Body	PVDF	PVDF	PVDF	Stainless steel
Features	High linearity	-	-	-

ACCESSORIES

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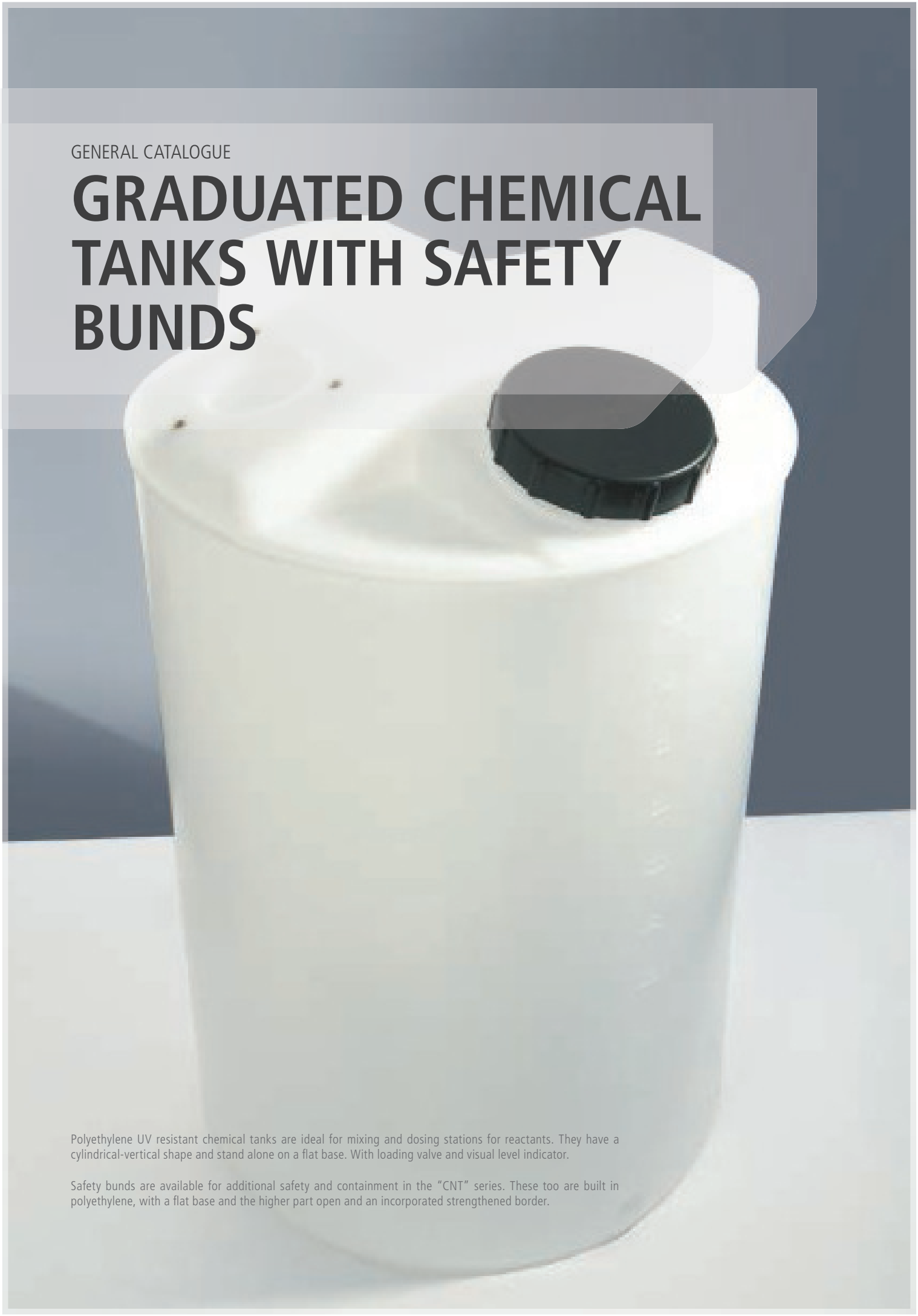
GENERAL CATALOGUE

GRADUATED CHEMICAL TANKS WITH SAFETY BUNDS



Polyethylene UV resistant chemical tanks are ideal for mixing and dosing stations for reactants. They have a cylindrical-vertical shape and stand alone on a flat base. With loading valve and visual level indicator.

Safety bunds are available for additional safety and containment in the "CNT" series. These too are built in polyethylene, with a flat base and the higher part open and an incorporated strengthened border.

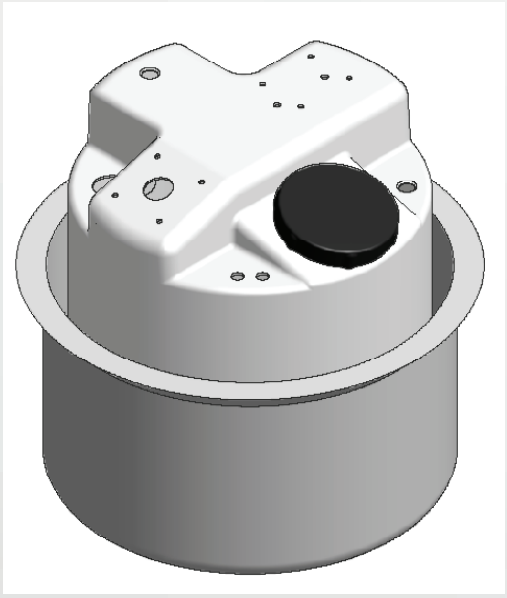
ADVANTAGES

- Built in heavy PE
- Ready for assembly of: dosing pump, suction lance, mixer, bleeding and loading valves
- Air valve on highest part
- Dummy holes to perfectly isolate the contents of the chemical tank
- Tilted mixer for central mixing
- Capacity varying from 60 to 1000 litres
- Combined graduated additive tanks

OPTION

- Loading valve (1/2" or 3/4")
- Bleeding valve (1/2" or 1")
- Air valves

MODELS	Capacity (litres)	Max height (mm)	Min height (mm)	Diameter (mm)	Safety bunds model
CNT50	50	500	420	⌀ 410	COS06 (60 lt)
CNT120	120	730	650	⌀ 470	COS1N (120 lt)
CNT250	250	860	775	⌀ 605	COS2N (220 lt)
CNT500	500	1200	1105	⌀ 760	COS5N (600 lt)
CNT10N	1000	1200	1150	⌀ 1100	COS10N (1200 lt)



GENERAL CATALOGUE

MIXERS

The mixers allow for the product to be mixed within the tanks and to reduce the amount of deposit at the bottom.

Mixers with different speed ranges are available, depending on the motor power, and can be fitted to different sized tanks.

The axis comes in stainless steel coated in PVC.

ADVANTAGES

- Stainless steel shaft, PVC coated
- Low speed mixer series, from 65 to 400 rpm
- High speed mixer series, from 1400 rpm

LOW SPEED MIXER

	Electric power	Motor power	Speed	Shaft lenght	Impeller
MIX8-MON	monophase	0,09 Kw	65-200-400 rpm	630-730-980 mm	3 blade (⌀ 150 mm)
MIX8-TRI	three-phase	0,09 Kw	65-200-400 rpm	630-730-980 mm	3 blade (⌀ 150 mm)

HIGH SPEED MIXER

	Electric current	Motor power	Speed	Shaft lenght	Impeller
MIXV8-MON	monophase	0,09 Kw	1400 rpm	630 mm	marine (⌀ 90 mm)
MIXV8-TRI	three-phase	0,09 Kw	1400 rpm	630 mm	marine (⌀ 90 mm)
MIXV4-MON	monophase	0,18 Kw	1400 rpm	730 mm	marine (⌀ 90 mm)
MIXV4-TRI	three-phase	0,18 Kw	1400 rpm	730 mm	marine (⌀ 90 mm)
MIXV2-MON	monophase	0,37 Kw	1400 rpm	980 mm	marine (⌀ 90 mm)
MIXV2-TRI	three-phase	0,37 Kw	1400 rpm	980 mm	marine (⌀ 90 mm)

GENERAL CATALOGUE

MULTIFUNCTION VALVES

Multifunction valves should be fitted to the dosing pump's outlet, and they function as pressure, safety, anti-siphon and drainage valves.

ADVANTAGES

- Accessories allow valves to be fitted directly onto pump
- Pressure range adjustable from 1 to 18 bar for safety valve operating mode
- Pressure range adjustable from 1 to 5 bar for pressure valve operating mode
- Injection and connecting fittings: 1/2", 3/8" adaptable to different diameters hoses
- PVDF body and liquid ends
- Available with bracket and hose fitting kit

FUNCTIONS

- Pressure function enables dosage to be stabilized to set pressure level. This function can prevent accidental release of chemical products when the tank level is higher than the output point.
- Safety function bleeds the chemical if above the set pressure level (up to 18 bar).
- Bleed function manually discharges chemical on delivery hose.
- Anti-syphon function prevents the accidental release of chemical products as a result of a depression in the plant.

MULTIFUNCTION VALVES

	Body	O-ring	Fittings	Discharge hose fitting	Membrane
MFKT/V	PVDF	Viton®	1/2", 3/8"	4X6	PTFE
MFKT/D	PVDF	EPDM	1/2", 3/8"	4X6	PTFE

MULTIFUNCTION VALVES with clamp and ring nut for pipes fixing

	Body	O-ring	Fittings	Discharge hose fitting	Membrane
MFKTS/V	PVDF	Viton®	1/2", 3/8"	4X6	PTFE
MFKTS/D	PVDF	EPDM	1/2", 3/8"	4X6	PTFE

GENERAL CATALOGUE

PULSES DAMPENERS

The pulse dampeners enables you to generate a steady and uninterrupted flow of chemical product.

ADVANTAGES

- Membrane-free pulse dampaners
- Available with PP or PVDF internal coating
- Maximum temperature of 45°C
- Maximum pressure of 10 bar

PULSE SUPPRESSOR

	Body	O-ring	Volume	Fittings
SOIM1/V	PVC	Viton®	0,5 lt	1/2"
SOIM1/D	PVC	EPDM	0,5 lt	1/2"

	Body	O-ring	Volume	Fittings
SOIM3/V	PVC	Viton®	0,09 lt	3/8"
SOIM3/D	PVC	EPDM	0,09 lt	3/8"
SOIM3K/V	PVDF	Viton®	0,09 lt	3/8"

GENERAL CATALOGUE

FLOW SENSOR

The SEFL is a flow sensor device designed to monitor the proper functioning of the pump, by detecting the real flow of chemical through the pump.

It is equipped with a knob for the regulation of the device's sensitivity based on the pump range.

The flow sensor should be fitted onto the dosing pump's delivery valve and connected to the flow sensor input via the BNC.

ADVANTAGES

- Flow sensor with activity LED
- PVDF body
- Flow adjustment knob
- Maximum temperature 45°C
- Maximum pressure 20 bar
- N.C. contact
- Accessories allow valves to be fitted directly onto pump

FLOW SENSORS

	Body	O-ring	Pump flow	Fittings
SEFL/D	PVDF	EPDM	≦ 4l/h	1/2" - 3/8"
SEFL/D4+	PVDF	EPDM	> 4l/h	1/2" - 3/8"
SEFL/V	PVDF	Viton®	≦ 4l/h	1/2" - 3/8"
SEFL/V4+	PVDF	Viton®	> 4l/h	1/2" - 3/8"

FLOW SENSORS with with bracket and hose fixing kit

	Body	O-ring	Pump flow	Fittings
SEFLS/D	PVDF	EPDM	≦ 4l/h	1/2" - 3/8"
SEFLS/D4+	PVDF	EPDM	> 4l/h	1/2" - 3/8"
SEFLS/V	PVDF	Viton®	≦ 4l/h	1/2" - 3/8"
SEFLS/V4+	PVDF	Viton®	> 4l/h	1/2" - 3/8"

FLOW SENSOR for low viscosity liquid application (max 8.000 cps)

	Body	O-ring	Pump flow	Fittings
SEFL/D/LPV	PVDF	EPDM	≦ 4l/h	1/2" - 3/8"
SEFL/D4+/LPV	PVDF	EPDM	> 4l/h	1/2" - 3/8"
SEFL/V/LPV	PVDF	Viton®	≦ 4l/h	1/2" - 3/8"
SEFL/V4+/LPV	PVDF	Viton®	> 4l/h	1/2" - 3/8"

GENERAL CATALOGUE

SUCTION LANCE

The suction lance is a rigid suction system made to be fitted on the chemical tank where mixing is carried out or if there is a need for more than one level. Furthermore, the lance locks the dosing pump when the product in the reservoir runs out.

The lance must be placed in the chemical tank with the valve and filter on the bottom. The specific weight of the chemical product lifts the float valve. When the chemical tank is emptied, the float valve sinks. This prevents the pump working beyond the point where the product to be injected has run out.

ADVANTAGES

- Height regulation system
- Bottom valve and filter to avoid sediment draft
- One or two level probes
- Fitting connections: 1 1/4"
- Option of integrating additional suction elements
- Main body comes in PVC
- Different heights available (45-60-72-80-90-115 cm) also on request
- Connections available for different sized pipes

SUCTION LANCE

	O-ring	Suction fitting	Level probe	Pump flow
LASP4/V	Viton®	1/2" for 4x6 pipes	single	≦ 10 l/h
LASP4/D	EPDM	1/2" for 4x6 pipes	single	≦ 10 l/h
LASP5/V	Viton®	1/2" for 6x8 or 8x12 pipes	single	> 10 l/h
LASP5/D	EPDM	1/2" for 6x8 or 8x12 pipes	single	> 10 l/h

Lenght of the lance (Cm)	Tanks volumes (lt)
40 cm	50 lt (mod. CNT50)
63 cm	120 lt (mod. CNT120)
75 cm	100 lt (mod. CNT250)
108 cm	200 lt (mod. CNT500)

GENERAL CATALOGUE

INJECTION LANCES

Injection valves with pressurized piping can be removed safely using injection lances.

Using the injection lance reduces chemical deposit and formation of crystalline substances at the injection point.

ADVANTAGES

- PVC or PVDF body
- Ball valve
- Maximum temperature 35°C (130°C for LIN-K, LINR-K and LINKR-K)
- Maximum pressure 8 bar
- Pipe fitting 1/2"
- Fittins for hoses of different sizes

INJECTION LANCE

	Body	O-ring	Fitting
LIN-V	PVC	Viton	1/2"
LIN-D	PVC	EPDM	1/2"
LIN-K	PVDF	Viton	1/2"

INJECTION LANCE with ball valve

	Body	O-ring	Fitting	Ball valve
LINR-V	PVC	Viton	1/2"	PVC
LINR-D	PVC	EPDM	1/2"	PVC
LINR-K	PVDF	Viton	1/2"	PVC
LINKR-K	PVDF	Viton	1/2"	PVDF

GENERAL CATALOGUE

PROBE HOLDERS

The right probe holder constitutes the finishing touch to a measurement system. There is a wide range of solutions: immersion, in-line or off-line.

In-line electrode holders are made so that they can be installed directly in the equipment's pipes. Immersion electrode holders are ideal for installation inside tanks.

Off-line probe holders are usually installed on a panel, and the water from the plant is made to flow through them and then reintroduced into the circuit.

The choice between one type or another depends on the probe used, its intended purpose and the plant.

IN-LINE PROBE HOLDER

PLUS

- PVC or PVDF or PP body
- In-line installation, on "T" connection or saddle connection

Probe holders for in-line installation

	Body	Electrodes connection	Fitting	Pressure	Temperature
PEA/CH	PVDF	1 Ø 12 probe	1/2"	7 bar	90°C
PEB	PP	1 Ø 12 probe	3/4"	7 bar	90°C
PEA/SN6	PVDF	1 Ø 12 probe PG13,5 thread	1/2"	7 bar	90°C

Probe holders for "T" connection

	Body	Electrodes connection	Fitting	Pressure	Temperature
PEL	PVDF	1 Ø 12 probe	1/2" - 3/4"	7 bar	90°C
PEL-E	PVC	1 ETORBH or EOLUM probe	PN16 Ø63	7 bar	40°C
PEL-IND	PVC	1 ECDIND PT probe	PN16 Ø40	7 bar	40°C
PEL-IND-C	PVCC	1 ECDIND PT probe	PN16 Ø40	7 bar	80°C

Probe holders for saddle connection

	Body	Electrodes connection	Fitting	Pressure	Temperature
PELC	PVDF	1 Ø 12 probe	1/2" - 3/4"	7 bar	90°C

OFF-LINE PROBE HOLDERS

ADVANTAGES

- Transparent or black SAN vase
- 6x8 fitting
- Available with flow sensor

	Electrodes connection	Fitting	Pressure	Temperature	Flow sensor
NPED1	2 Ø probes 12 PG13,5 thread	6x8	5 bar	50°C	-
NPED2	2 EPOXY Ø 12 probes	6x8	5 bar	50°C	-
NPED3	2 EPOXY Ø 12 probes 1 probe with 3/4" thread	6x8	5 bar	50°C	-
NPED4	2 EPOXY Ø 12 probes 1 N.C. contact	6x8	5 bar	50°C	1 N.C. contact
NPED4/2F	2 EPOXY Ø 12 probes 2 wires for N.C. contact	6x8	5 bar	50°C	2 wires for N.C. contact
NPED4-3/4	2 EPOXY Ø 12 probes 1 probe with 3/4" thread 1 N.O. contact	6x8	5 bar	50°C	1 N.O. contact
NPED-E	1 ETORBH or EOLUM probe	6x8	5 bar	50°C	-

OFF-LINE PROBE HOLDERS FOR AMPEROMETRIC CELLS

ADVANTAGES

- PMMA body
- 6x8 PVDF fitting
- Flow adjustment knob
- Flow sensor
- Pressure stabilizer from 0,4 to 3 bar

	Electrodes connection	Fitting	Pressure	Temperature
PEF1	1 amperometric cell 2 Ø 12 probes 1 temperature probe	6x8 PVDF	5 bar	50°C
PEF1/E	1 amperometric cell 1 temperature probe	6x8 PVDF	5 bar	50°C
PEF5	1 amperometric cell 2 Ø 12 probes PG13,5 thread 1 temperature probe	6x8 PVDF	5 bar	50°C
PEF2	2 electrodes Ø 12 1 temperature probe	6x8 PVDF	5 bar	50°C
PEF3	2 Ø 12 probes PG13,5 thread 1 temperature probe	6x8 PVDF	5 bar	50°C
PEF17	1 amperometric cell	6x8 PVDF	5 bar	50°C
PEF22	2 amperometric cells 2 Ø 12 probes 1 temperature probe	6x8 PVDF	5 bar	50°C
PEF23	1 amperometrc cell 2 Ø 12 probes 1 temperature probe 1 3/4" conductivity probe	6x8 PVDF	5 bar	50°C

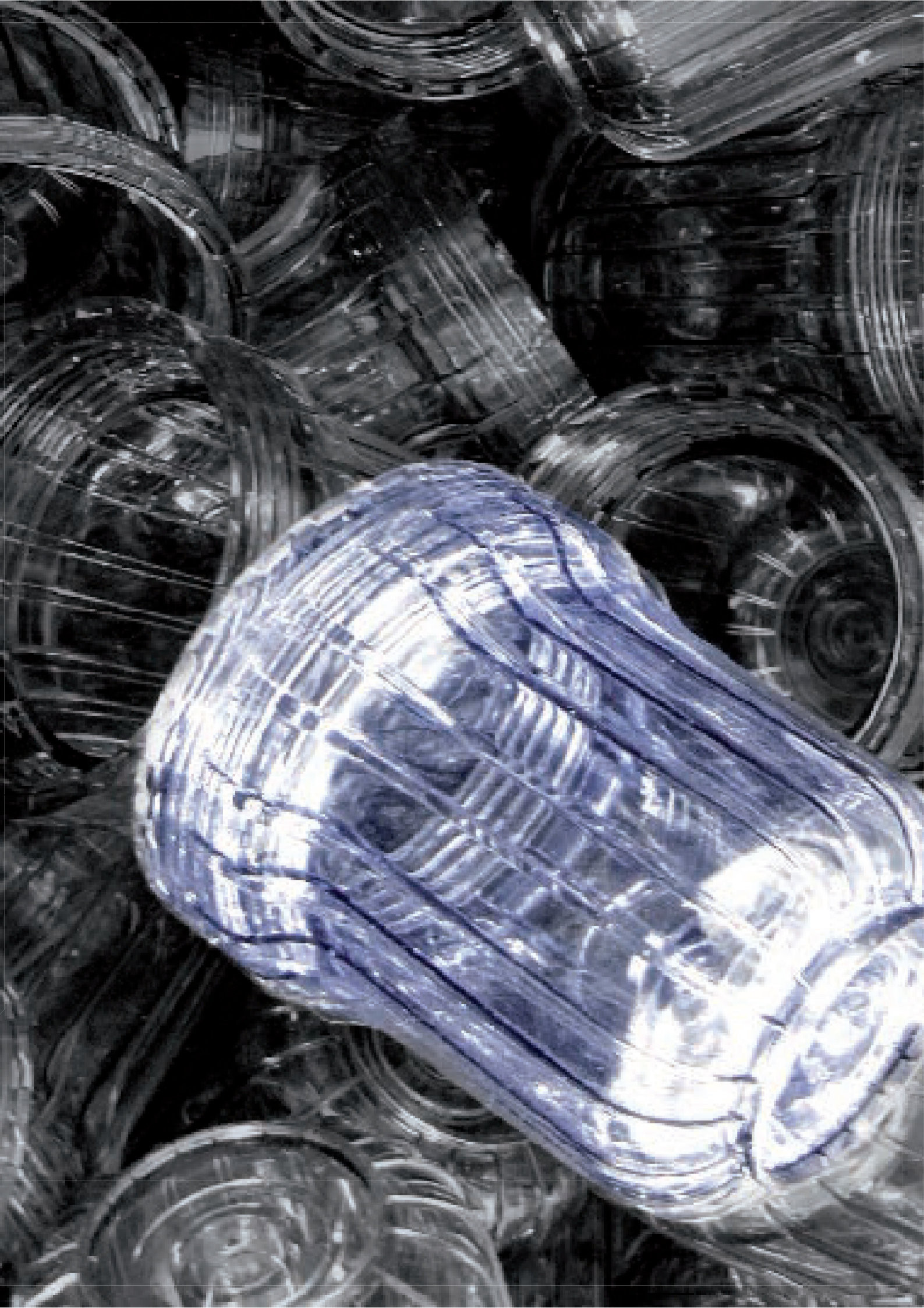
IMMERSION PROBE HOLDERS

ADVANTAGES

- PP body
- 100 cm lenght
- Fixing flange upon request

	Body	Electrodes connection	Temperature
PEC	PP	1 Ø 12 probe	80°C
PEC/SN6	PP	1 Ø 12 probe PG13,5 thread	80°C
PEC/IM	PP	1 conductivity probe 3/4" thread	80°C
PECAP/SN6*	PP/PVC	1 SN6 Ø 12 probe	40°C
PEC2	PVC	2 Ø 12 probes	40°C
PECAP2*	PVC	2 Ø 12 probes	40°C
PEC-E	PP	1 ETORBH or EOLUM probe	80°C

* Models with a compressed air or water cleaning fitting operated manually or automatically using a controller.



GENERAL CATALOGUE

MANIFOLDS

Complete cooling tower facilities require the use of manifolds and motorized electrovalves. Manifolds come in a one-piece PMMA design, and have a flow sensor as well as housing for the conductivity probe.

They can be accessorized with motorized valve, two injection points and even additional measurement probes. The water from the cooling equipment flows inside the manifold. A sensor detects the flow, and locks the pumps when flow is absent.

The probe, or probes if using the MANIFOLD PLUS, detect(s) the measurement and the connected dosing pump thus doses the biocide, descaler, or other product.

This treated water exits the manifold and reenters the plant. The MANIFOLDS version with electrovalve enables you to bleed the system when the water cannot be recovered.

ADVANTAGES

- Water input connection 3/4" or 1"
- Flow sensor included
- Sampling port
- With non return valve for electrovalve security
- Maximum pressure 8 bar
- Maximum temperature 75° C

MANIFOLDS

	Water input	Electrodes connection	Injections for product dosing
MANIFOLD/E/3	3/4"	1 conductivity probe with 3/4" thread	-
MANIFOLD/E/1	1"	1 conductivity probe with 3/4" thread	-
MANIFOLD/3	3/4"	1 conductivity probe with 3/4" thread	2 injections
MANIFOLD/1	1"	1 conductivity probe with 3/4" thread	2 injections

MANIFOLDS WITH MOTORIZED VALVE (non return valve)

	Water input	Electrodes connection	Injections for product dosing	Solenoid valve
MANIFOLD/EV/3	3/4"	1 conductivity probe with 3/4" thread	2 injections	3/4" 230 VAC bobbin
MANIFOLD/EV/1	1"	1 conductivity probe with 3/4" thread	2 injections	1" 230 VAC bobbin
MANIFOLD PLUS/3	3/4"	1 conductivity probe with 3/4" thread 2 Ø 12 probes with PG13,5 thread	2 injections	3/4" 230 VAC bobbin
MANIFOLD PLUS/1	1"	1 conductivity probe with 3/4" thread 2 Ø 12 probes with PG13,5 thread	2 injections	1" 230 VAC bobbin

GENERAL CATALOGUE

PULSE SENDER WATER METERS

Measuring water flow is a decisive step in achieving accurate proportional dosages.

The pulse emitted transmits a signal to a connected instrument/pump for dosing the chemical product.

Meters without pulse senders are also available.

ADVANTAGES

- Turbine water meters with 1/2" to 2" connections
- Flanged Woltmann water meters 2" to 12"
- Working temperature: hot water up to 130° C; cold water to 60° C
- Maximum pressure 16 bar
- Epoxy coated cast iron housing

Pulses per lt CWFA / CWCA / CWFI series								
	Water Meter calibre							
	50 - 2"	65 - 2,5"	80 - 3"	100 - 4"	150 - 6"	200 - 8"	250 - 10"	300 - 12"
Pulses per 10 lt	1-2-4	1-2-4	1-2-4	n/a	n/a	n/a	n/a	n/a
Pulses per 100 lt	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4	n/a	n/a	n/a
Pulses per 1.000 lt	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4
Pulses per 10.000 lt	n/a	n/a	n/a	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4

Pulses per lt CATFI / CATCI series						
	Water Meter calibre					
	15	20	25	30	40	50
Pulses per 1 lt	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4
Pulses per 10 lt	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4
Pulses per 100 lt	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4
Pulses per 1000 lt	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4	1-2-4

COLD WATER PULSE Sender WATER METER

- Maximum temperature 30° C
- Maximum pressure 16 bar

	Fittings
CATFI 15	1/2"
CATFI 20	3/4"
CATFI 25	1"
CATFI 30	1.1/4"
CATFI 40	1.1/2"
CATFI 50	2"

HOT WATER PULSE Sender WATER METER

- Maximum temperature 90° C
- Maximum pressure 16 bar

	Fittings
CATCI 15	1/2"
CATCI 20	3/4"
CATCI 25	1"
CATCI 30	1.1/4"
CATCI 40	1.1/2"
CATCI 50	2"

COLD WATER PULSE Sender WATER METER

WOLTMANN PULSE Sender WATER METER DRY DIAL

- Maximum temperature 60° C
- Maximum pressure 16 bar

	Flange
CWFA 50	2″
CWFA 65	2.1/2″
CWFA 80	3″
CWFA 100	4″
CWFA 150	6″
CWFA 200	8″
CWFA 250	10″
CWFA 300	12″

WOLTMANN PULSE Sender WATER METER FOR HOT WATER

- Maximum temperature 130° C
- Maximum pressure 16 bar

	Flange
CWCA 50	2″
CWCA 65	2.1/2″
CWCA 80	3″
CWCA 100	4″
CWCA 150	6″
CWCA 200	8″

WOLTMANN PULSE Sender WATER METER DRY DIAL PTFE internal and external coating

- Maximum temperature 60° C
- Maximum pressure 16 bar

	Flange
CWFAT 50	2″
CWFAT 65	2.1/2″
CWFAT 80	3″
CWFAT 100	4″

Marketing Dept. 10/2011

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