WRS

www.wrsdosing.com

DIGITAL INTELLIGENT DOSING PUMP

EMG, EMA, EMB MODELS

V240815

COMPANY INTRODUCTION:

WRS, adhering to the concept of worldwide application, reliable performance, and smart intelligent operation strives to provide better services for more customers and higher demand in the dosing pump industry. Combining years of engineering experience and in-depth understanding of the practical applications of related industries.

WRS has been committed to the continuous improvement of the brand, using simpler design and easier application to solve the more complex process of fluid addition. Each part is carefully designed, each process is refined, and each finished product is strictly tested, always striving for a perfect product. WRS quality management standards focus on quality awareness, standardizes operations, and materialize the core competitiveness which is our product quality.

WRS's strong technical team leads the transformation of dosing pumps in the digital era, integrating digital control to all our product series, and continuously provides customers with higher standards and better designed products. WRS focuses on the sustainable development of the industry and aims to create a smart leading brand in the chemical dosing industry.

OUR VISION:
Become the smart leading brand in the chemical dosing industry.

OUR MISSION:
Continuous exploration and innovation, pursuit of excellent quality.

OUR DECLARATION:
Underpromise, overdeliver, provide the most optimized solution in the chemical dosing industry.

Signal connection port & power connecting cable.

HIGHLIGHTS

- High Dosing Accuracy.
- Multiple operation modes, both signal input and output.
- Information display on pump.
- Simple Calibration.
- IP65 Protection.
- No air lock design.
- No damage to liquid.
- High durability and less maintenance.

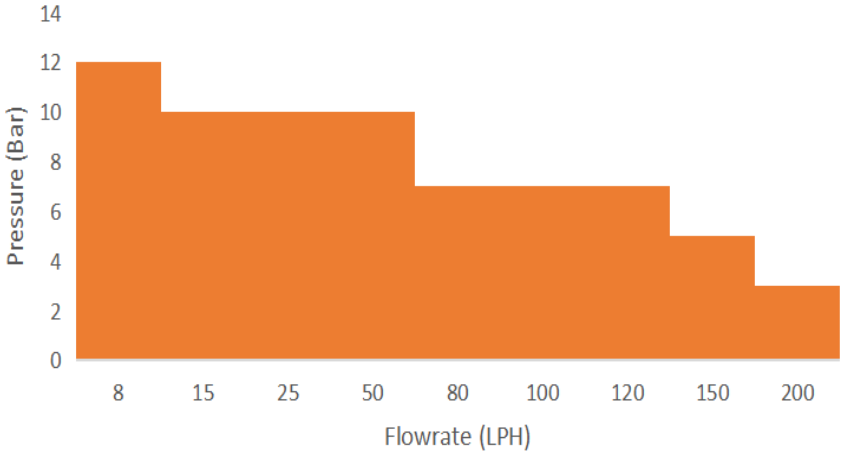
PRODUCT OVERVIEW:

As the world moving towards industry automation, to meet the needs of high-precision control and fully automated chemical dosing application, the new WRS digital intelligent dosing pump is thoroughly optimizing and improving the dosing accuracy and production process of the chemical (liquid) dosing industry.

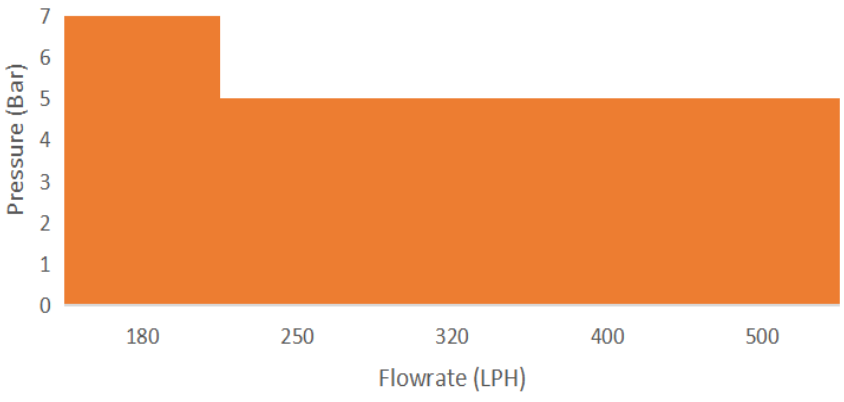
WRS digital intelligent dosing pump harnesses the latest stepper motor technology, completely replaces the traditional technology of adjusting the stroke length/stroke frequency through synchronous motors or electromagnetic drives, further improving the dosing accuracy and perfecting chemical dosing pump technology. At the same time, advanced process reliability intelligent drive and microprocessor control ensure accurate dosing and always maintain low pulsation, even for dosing high-viscosity liquids or degassed liquids.

Throughout decades of industry experience, expertise and new patented solutions set the standard for future products. Unique flexibility and powerful internal control settings, covering a wide range of working conditions. Precise, simple operation, signal feedback and direct information display on screen, provide a convenient on-site installation and operation. WRS digital dosing pumps are leading a new revolution in dosing automation in the chemical dosing industry.

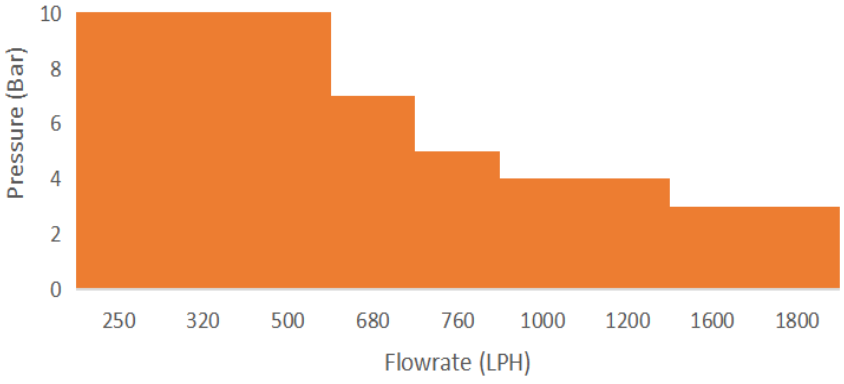
EMG P Models



EMA P Models



EMB P Models



PLUS & LITE COMPARISON TABLE

Plus Series Control

Lite Series Control

		PLUS	LITE
GENERAL			
Display Type	Touch screen HMI	√	-
	Back light LCD	-	√
Operating Method	Touch screen keypad	√	-
	Soft button (Start/stop, Up, Down)	-	√
Information Display	Current flowrate (LPH)	√	√
	Accumulated flowrate (L). Resetable.	√	√
	Current pressure/level value (Bar / m)	√	-
	Current pump status / warnings	√	-
Password Protection	To prevent unauthorized personal to make changes	√	-
CONTROL			
Manual	User may set the flow rate in litres/hour via the control panel on the pump itself (P series = touch screen, L series = soft keys) and the pump automatically adjust to dose user's set flow rate.	√	√
Signal Control	Current analog (4-20-mA). In this operating mode, the pump doses according to an external analog signal, and the flow rate being pumped is proportional to the signal input value (mA), where 4mA = 0% of the design flow rate and 20mA = 100% of the design flow rate.	√	√

		PLUS	LITE
Signal Control	Current analog reversed (20-4-mA). In this operating mode, the pump doses according to an external analog signal, and the flow rate being pumped is proportional to the signal input value (mA), where 4mA = 100% of the design flow rate and 20mA = 0% of the design flow rate.	√	√
	Current analog linear mode (mA). In this operating mode, user set 2 values, P1 & P2 (LPH). The pump doses according to an external analog signal, and the flow rate being pumped is proportional to the signal input value (mA), where 4mA = P1 of the design flow rate and 20mA = P2.	√	√
	Pulse frequency control. In this mode, user set the max. pulse frequency value (Max. 600) The pump can be controlled by receiving a pulse frequency signal from an external source. The pump doses at 100% at max pulse value and 0% at 0 pulse signal.	-	√
Remote On/Off	Dry contact (normally open). By connecting two wires, the pump can be remotely turn on/off via potential-free contacts. Typically used in programmable logic controllers (PLCs) or a level float switch.	√	√
Communication	RS485 RTU Modbus. Pumps can be remotely controlled using an Intelligent Pump Controller (IPC) by connecting to a dedicated RS485 terminal strip using a cable from the remote connection device. Common parameters include device address and baud rate.	√	√
Batch	Doses in batches based on the dosing value (in liters) set in the dosing mode. Can be activated either by receiving a pulse signal or on/off from the pump. If activating via pulse signal, one batch is dosed each time the pump receives an pulse signal.	√	√
Batch + Timer	Doses in batches based on the dosing value (in liters) at specified time. Instead of activated by pulse or pump on/off, it is activated by the timer. Up to three time points can be set in one day.	√	-
Batch Deviation	Fine tuning batch dosing accuracy. In actual application, there are many factors will affect the dosing accuracy. Users can fine tune the error by entering the differential value.	√	√
Cycle	Cycle mode runs based on the “Run Time” and “Stop Time” set by the user. Example: “Run Time” is set to 20 minutes, “Stop Time” is set to 30 minutes. When the pump starts, the pump will be run for 20 minutes, stop for 30 minutes, run for 20 minutes, stop for 30 minutes... and repeat this operation.	√	-
Timer	The timer mode runs based on timer. User to set “Start Time” and “Stop Time” in terms of HH:MM:SS. There are 3 sets of timer able to adjust per day. The timer will be repeat everyday.	√	-
OTHER FEATURES			
Low Level Alarm	Low liquid level alarm. Receive low level signal from an external dry contact.	√	-
Pressure / Level Alarm	Alarm/stop the pump according to the level/pressure set point set by the user. This pump can alarm/stop operation according to the signal from the level sensor. Choose one of the two.	√	-
Calibration Function	It has a built-in program to automatically adjust the flow rate. When the installation is complete, the user only needs to enter the actual flow rate.	√	√
Diaphragm Rupture Sensor	Optional double diaphragm rupture alarm system for safety.	√	√

IDENTIFICATION CODE

Example	EMG	P	0150	P	Q	1	E
Category	Model	Plus or Lite	Flowrate	Fluid-End Material	Connection Method	Power Required	Plug Type

Category	Description		
Model	EMG - Up to 200 LPH EMA - Up to 500 LPH EMB - Up to 2000 LPH		
Plus or Lite	P - Plus; L-Lite		
Flowrate	0008 ... 2000 - See details in Technical Parameters		
Fluid-End Material	P – PVC F – PVDF S – SS316L	T – PTFE C – SS304 D – Duplex 2205	X – Customized Material
Connection Method	R – Hose Compression Q – PVC Socket P – RC Inner Thread	S – Bevel End Tube F – Flanged N – NPT Inner Thread	B – Barb Fitting X – Customized Fitting
Power Required	1 - 220V 50/60Hz 1Phase	2 - 110V 50/60Hz 1Phase	X – Customized Voltage
Plug Type	A - America C - China E - Europe	G - United Kingdom I - Australia / New Zealand N - No Plug	X - Customized Plug Type

**Notes: Identification code are for identifying the pump not for complete selection. If there are any question on selection, please contact with us or our representative.*

COMMON PARAMETERS

Parameters	Unit	Range
Flowrate Adjustment Range		0-100% (*Notes: is recommended to operate from 10-100% of the design flowrate to ensure 1% accuracy.)
Flowrate Adjustment Method		User to key-in flowrate value in Lph. Pump will automatically calculate the stepper motor speed.
Steady State, Repeatability, Linearity Accuracy	%	1
Maximum Suction Pressure	Bar	2
Minimum Differential Pressure	Bar	1
Maximum Suction Lift	m	1.8
Maximum Allowable Viscosity	cps	1500 (For 200 cps and above please consult with our representative.)
Maximum Particle Size		Particle Diameter < 0.2mm, Solid Content < 20%
Standard Material Allowable Fluid Temperature (No Freezing Allowed)	˚C	PVC: -10 to +40 ; PVDF/SS316L: -10 to +50 (No Freezing Allowed) (Outside standard range, please consult with our representative)
Ambient Temperature	˚C	Operating: -10 to +45, Storage: -10 to +50
Ingress Protection Rating	IP	65

TECHNICAL DATA

EMG Models		0008	0015	0025	0040	0060	0080	0100	0120	0150	0200
Max. Flowrate	Lph	8	15	25	40	60	80	100	120	150	200
Max. Pressure	Bar	10	10	10	10	7	7	7	7	5	3
Diaphragm Size	mm	52	52	65	65	84	84	84	84	84	84
Standard Material Connection Method	PVC	Hose Connection 6*9mm *2			DN 15 Socket						
	PVDF				RC 1/2" Inner Thread						
	SS316L	BE W.Tube 6*12mm		Bevel End Welding Tube 10*16mm						BE W.Tube 15*22mm	
Power Consumption	watt	80									
Standard Power Supply Required		220V 50Hz/60Hz									

EMA Models		0180	0250	0320	0400	0500
Max. Flowrate	Lph	180	250	320	400	500
Max. Pressure	Bar	7	5	5	5	5
Diaphragm Size	mm	112	112	112	112	112
Standard Material Connection Method	PVC	DN 15 Socket			DN 20 Socket *3	
	PVDF	RC 3/4" Inner Thread				
	SS316L	Bevel End Tube 15*22mm				
Power Consumption	kW	0.5				
Standard Power Supply Required		220V 50Hz/60Hz				

EMB Models		0250	0320	0500	0680	0760	1000	1200	1600	1800	2000
Max. Flowrate	Lph	250	320	500	680	760	1000	1200	1600	1800	2000
Max. Pressure	Bar	10	10	10	7	5	4	4	3	3	3
Diaphragm Size	mm	148						185			
Standard Material Connection Method	PVC	DN 25 Socket						DN40 Socket			
	PVDF	RC 1" Inner Thread						RC 1 1/2" Inner Thread			
	SS316L	RC 1" Inner Thread						RC 1 1/2" Inner Thread			
Power Consumption	kW	0.75						1.1			
Standard Power Supply Required		220V 50Hz/60Hz									

Notes:
1) Performance Data are tested based on water at 20˚C, fully primed and at maximum back pressure. Actual flowrate may differ in actual setup, depending on your system back pressure, pumping fluid and piping design.
2) Standard models with hose ccompression method comes with accessories: PE Hose, Injection Valve, Bleed Valve, Foot Valve & Ceramic Weight.
3) Discharge as DN15 discharge check valve with DN20 adapter.Suction as DN20 check valve.

PACKING DIMENSION & WEIGHT

Pump Head Material		PVC	PVDF	SS316L
EMG	Net Weight (kg)	8.5	8.5	9.5
	Gross Weight (kg)	10	10	11
	Packing Dimension (mm)	325 x 245 x 330		
EMA	Net Weight (kg)	32	32	34
	Gross Weight (kg)	35	35	37
	Packing Dimension (mm)	430 x 320 x 500		
EMB	Net Weight (kg)	40	40	42
	Gross Weight (kg)	44	44	47
	Packing Dimension (mm)	470 x 370 x 640		

MATERIAL TABLE

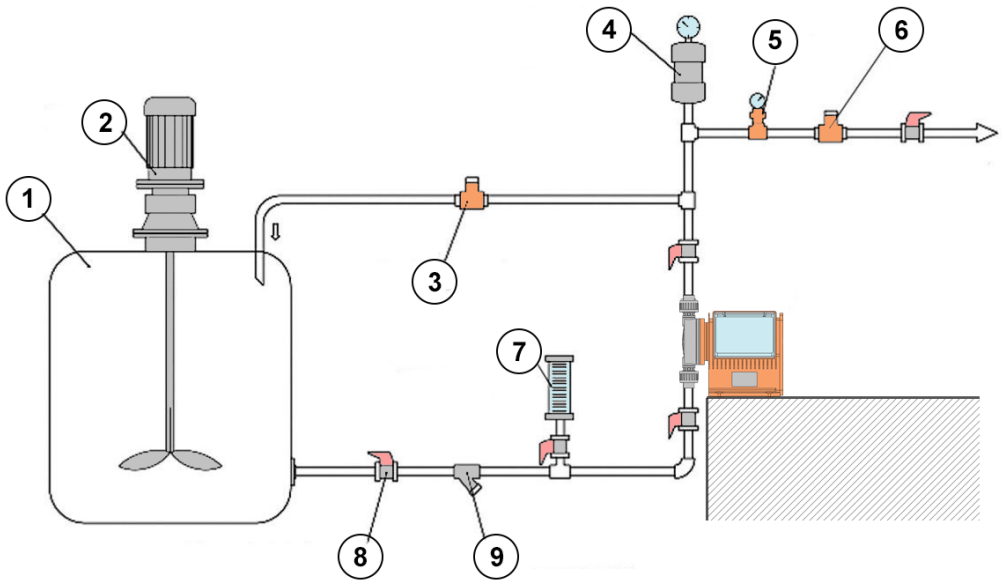
Material Code		P	F	S
Pump Fluid End:				
Pump Head Material		PVC	PVDF	SS316L
Diaphragm		PTFE Composite	PTFE Composite	PTFE Composite
Inlet & Outlet Valve	Body	PVC	PVDF	SS316L
	Seat	0008 - 0150 : PTFE 0250 - 1000 : FKM 1200 - 2000 : PP	0008 - 0150 : PTFE 0250 - 2000 : PVDF	SS316L
	Ball	Ceramic	Ceramic	Ceramic
Seal		0008 - 0040 : FKM 0060 - 2000 : EPDM	PTFE	PTFE
Standard Accessories (*Not all models come with accessories, only available on standard models with hose connection)				
Injection Valve, Foot Valve, Bleed Valve	Body	PVC	PVDF	No accessories included for Stainless Steel pump head.
	Seat	PTFE	PTFE	
	Ball	Ceramic	Ceramic	
Seal		FKM	FKM	
Spring		SS316L / Hastelloy	SS316L / Hastelloy	
Stabilizing Weight		Ceramic	Ceramic	
Flexible Tube		PE	PE	
Others				
Pump Body	EMG	Reinforced Nylon		
	EMA	Aluminum Alloy		
	EMB	Aluminum Alloy		

Customizable Support

There are countless of application with different parameters requirements. With the NEW Eignal series pump, WRS team are now able to design specific flowrate or control functions to match your project requirements.

COMPLETE CHEMICAL DOSING SYSTEM

Despite just being a pump manufacturer. WRS supplies a comprehensive selection of chemical dosing systems from small to large-scale applications within disinfection, flocculation, pH adjustment and more. Our engineers have expertise in proposals regarding “plug and pump” including complete packages. We manufacture chemical dosing systems with custom-made solutions that are intended to produce available dosing technology in complete packages. Fully customizable chemical dosing systems offer a wide range of capacities to meet various chemical treatment applications. Each system includes the chemical dosing pump and polyethylene chemical tank, along with the necessary hoses and fittings for the pump.



1 - Chemical Tank
2 - Mixer
3 - Safety Valve
4 - Pulsation Dampener
5 - Pressure Gauge
6 - Back Pressure Valve
7 - Calibration Column
8 - Ball Valve
9 - Y-Strainer

COMMON ACCESSORIES

Back Pressure Valve / Safety Relief Valve
A back-pressure valve is a type of control valve that holds pressure on production vessels such as separators, treaters, and free water knockouts and releases upstream pressure when a designated set point is reached. A safety device designed to protect a pressurized system during an overpressure event. Overpressure would cause pressure in a system to burst or leakage.

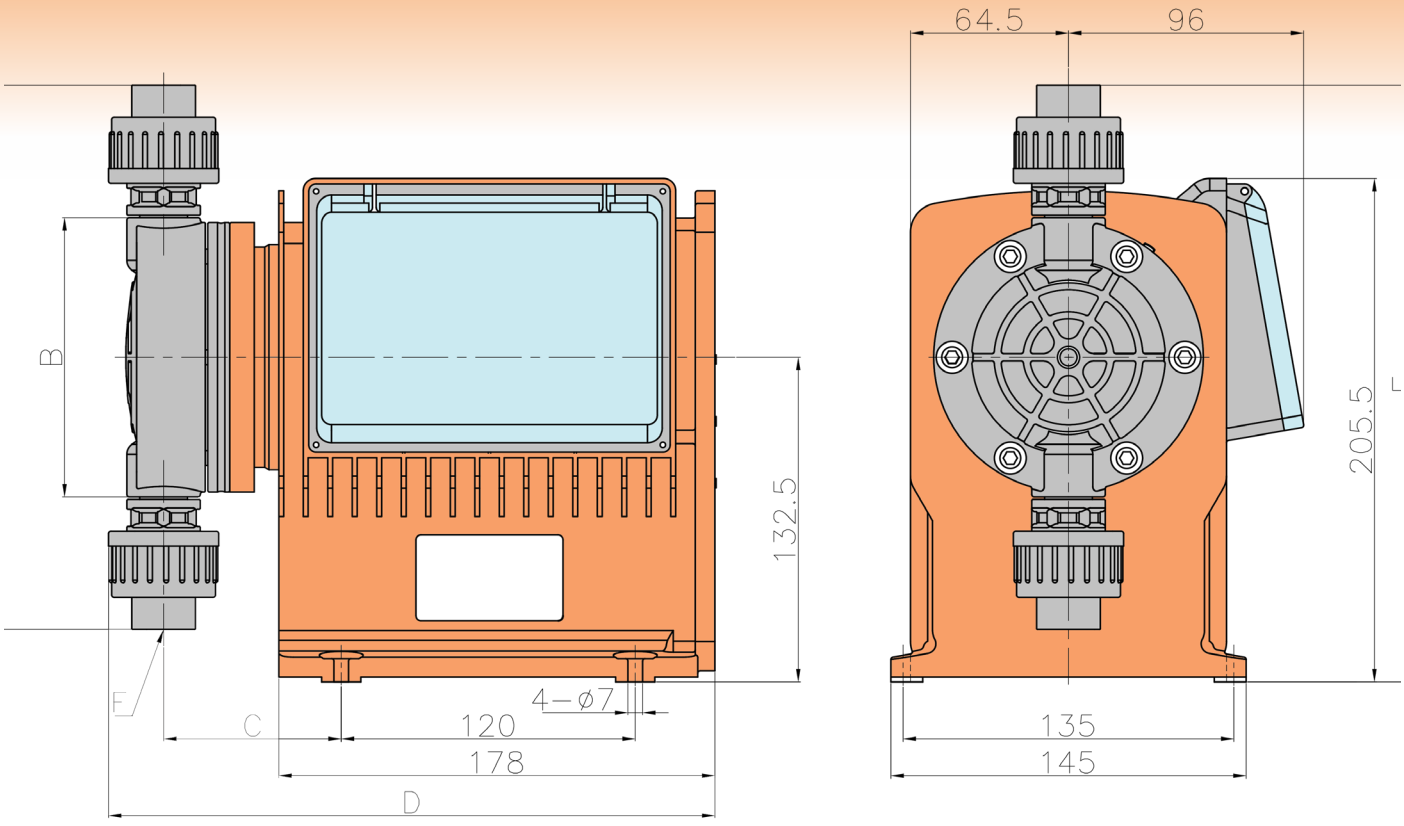
Pulsation Dampener
The most efficient way to remove pressure variations on the discharge of the pump. The pulsation dampener works actively to minimise the pulsations. This greatly improves the system and the pump lifespan.

Pressure Gauge
Allow user to monitor the performance of the system. Alternatively, user may install pressure gauge with signal transmission to further enhance the functionality of the system.

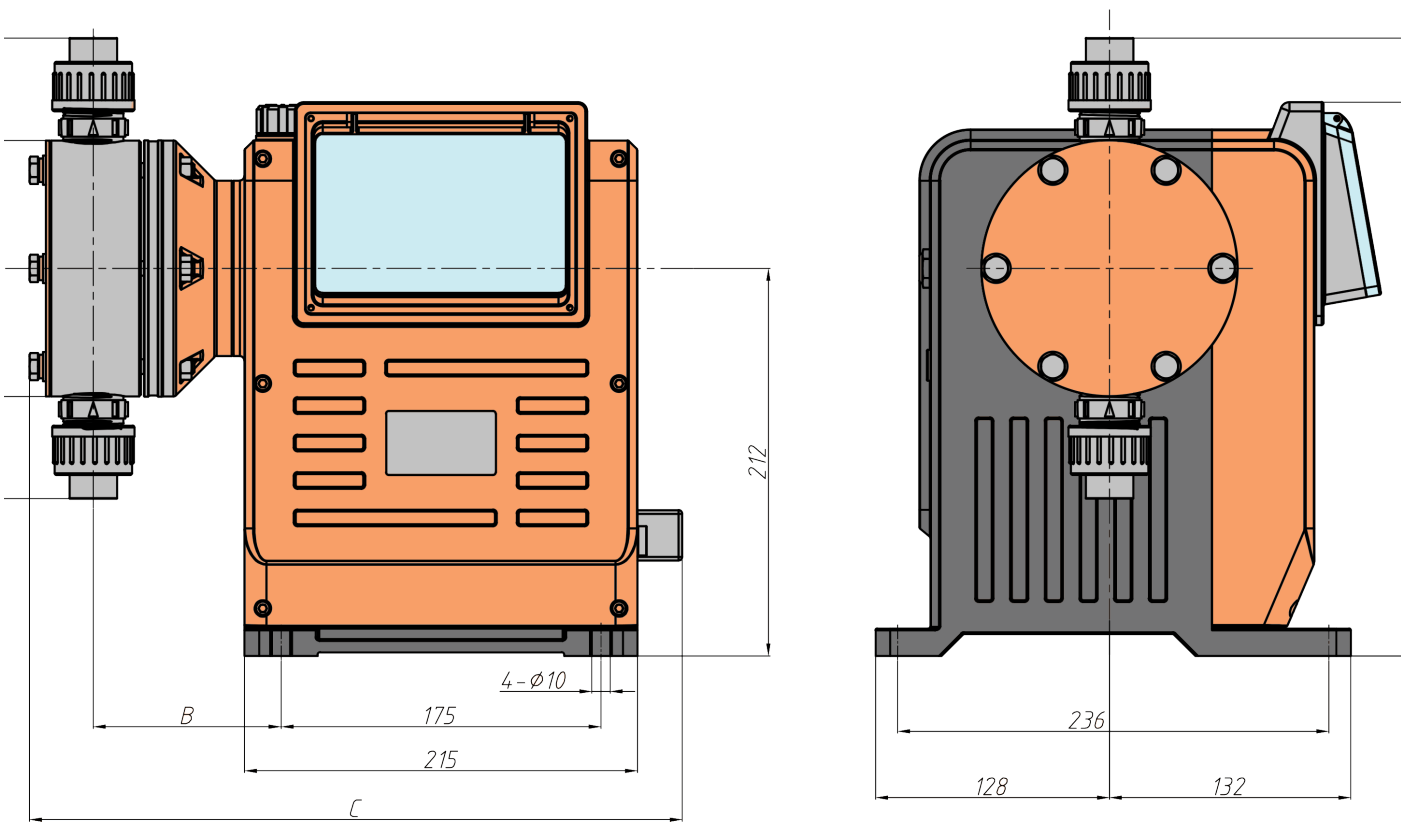
Y-Strainer
Filter our solids and particles before entering the pump. Solids and particles may cause choke or damage to the diaphragm. Always have a filter before the pump.

Calibration Column
A quick and convenient way to measure or verify pump flow rates, chemical dosing, or chemical feed systems with higher accuracy. Designed for precise, efficient testing with a variety of installation options.

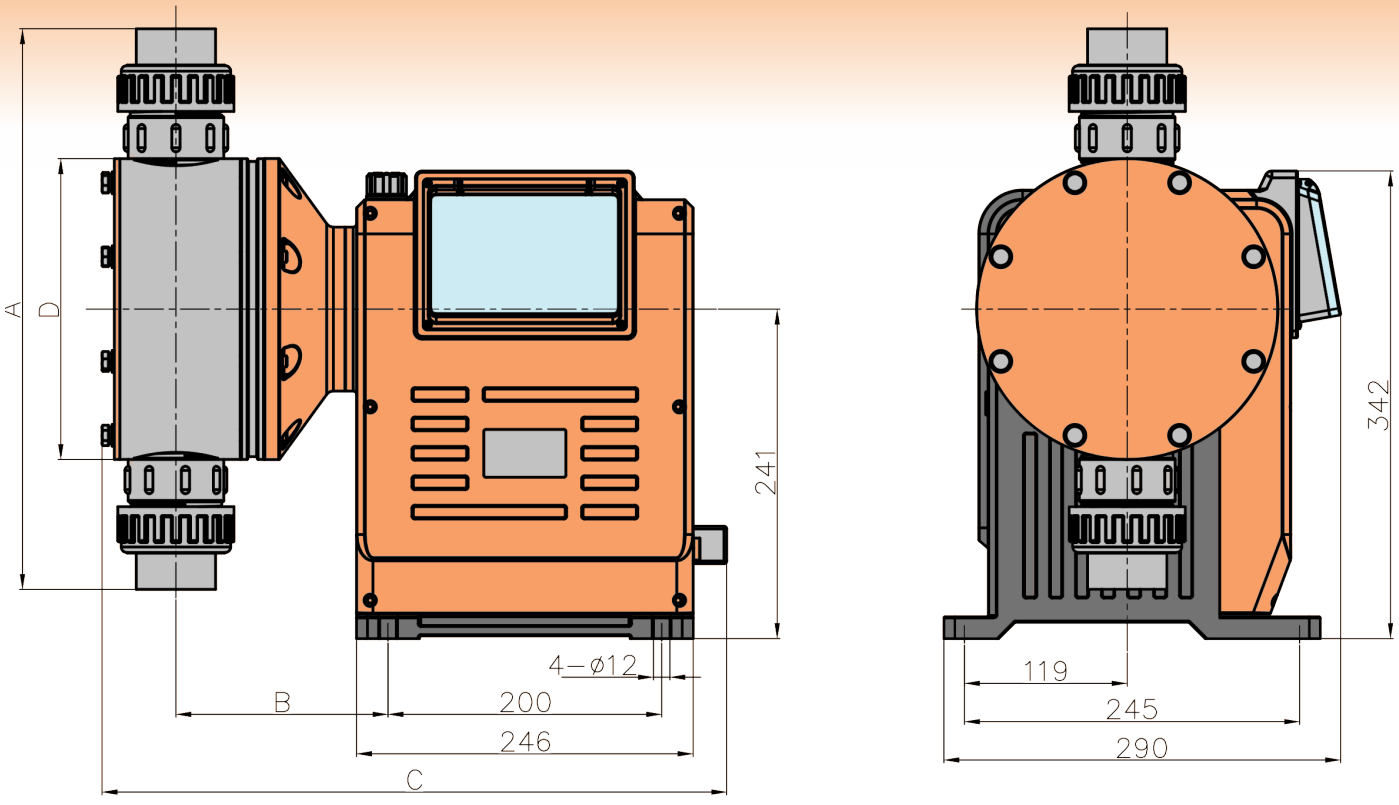
EMG DIMENSION:



EMA DIMENSION:



EMB DIMENSION:



EMG	MATERIAL	A	B	C	D	E
0008 - 0040	PVC	188	94	63.5	237.5	258
	PVDF	220	94	63.5	245.5	280
	SS316L	230	90	66.5	242.5	285
0060-0200	PVC	222	114	65.5	247.5	281
	PVDF	234	114	65.5	247.5	287
	SS316L	256	110	65.5	247.5	298

EMA	MATERIAL	A	B	C	D
0180 - 0500	PVC	252	103	357	338
	PVDF	217	101	356.5	320.5
	SS316L	306	100	340	365

EMB	MATERIAL	A	B	C	D
0250 - 1000	PVC	312	142	435	180
	PVDF	286	142	447	180
	SS316L:	276	136	404	180
1200 - 2000	PVC	410	155	456	220
	PVDF	340	151	473	220
	SS316L	368	142	420	220

Local Representative:

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Website: https://www.wrsdosing.com

ISO9001:2015
ISO14001:2015
ISO45001:2018

LL-C Certification