WRS

www.wrsdosing.com

MECHANICAL DIAPHRAGM DOSING PUMP

MG, MA, MB MODELS

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.

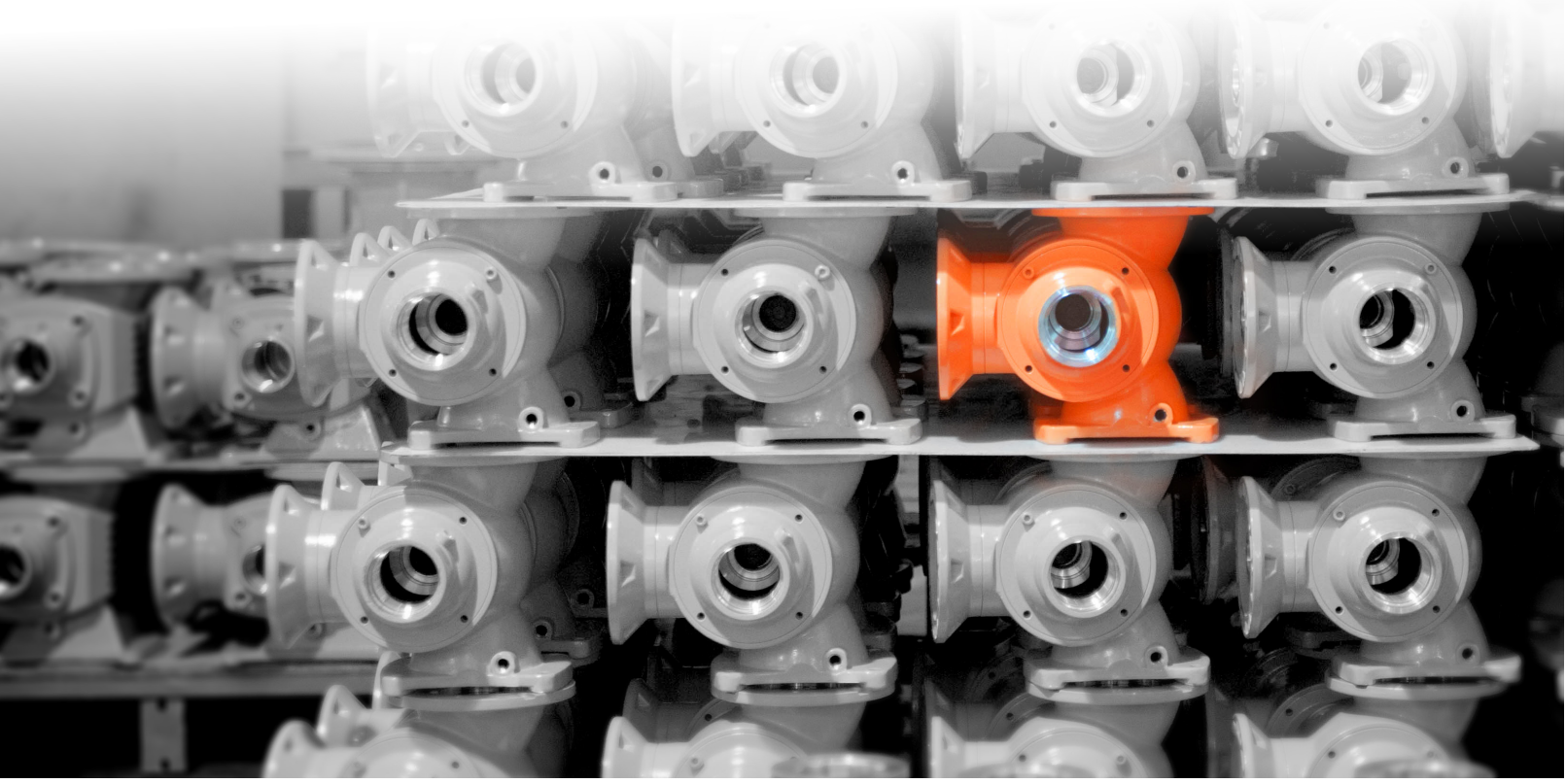
WRS has been committed to the continuous improvement of the brand, using simpler design and easier application to solve the more complex process of fluid addition. Each part is carefully designed, each process is refined, and each finished product is strictly tested, always striving for a perfect product. 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.



PRODUCT OVERVIEW:

The mechanical diaphragm pump is a leak-free precision dosing pump driven by a motor and with a diaphragm seal on the hydraulic end. It is easy to install, easy to operate, durable, and provides a high level of process quality for continuous dosing in simple dosing tasks.

Strust MG

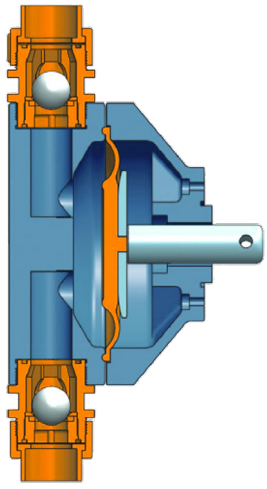
An economical pump with compact structure, convenient installation, and high performance, suitable for various water treatment and chemical process dosing connection and dosing. Driven by an eccentric cam mechanism, it runs stably and low noise, and has a lubricating oil-free design at the transmission end.

Strust MA and Strust MB

The motor drives the worm gear through a direct drive, and the rotational motion is converted into reciprocating linear motion under the action of the crank-connecting rod mechanism. The slide rod is directly connected to the diaphragm, pushing & pulling the diaphragm back and forth, causes the check valves on the pump head open and closes at the same time. Which complete the suction and discharge purpose and achieve the function of conveying liquid. Exquisite structural design, precise CNC machining, and high-quality material selection meet the needs of various strict process flows. The MA & MB series are the perfect choice for conveying highly corrosive, highly toxic chemicals.

HIGHLIGHTS

- High Dosing Accuracy
- Chemical Resistant Built
- Highly Robust Design
- IP55 Protection
- No Air Lock Design
- No Damage To Liquid
- High Durability and Less Maintenance



COMPARISON TABLE

		MG	MA	MB
Performance Range	Flowrate (Lph)	15 - 150	15-500	250 - 2000
	Pressure	10 - 3	10 - 5	10 - 3
Lubrication	Oil Lubricated Design	-	√	√
	Greese Lubracated Design	√	-	-
Power Option *1	380V	√	√	√
	220V	√	√	√
	50Hz	√	√	√
	60Hz	√	√	√
	Single phase	√	√	√
	Three phase	√	√	√
Flowrate control	Manual stroke length control. (0-100%)	√	√	√
	Electric stroke length actuator *2	-	-	√
Motor Type *1	Standard motor	√	√	√
	Variable speed motor	-	√	√
	Explosion proof motor (Exd IIB T4)	-	√	√
	Variable speed & Explosion proof motor (Exd IIB T4)	-	√	√
Diaphrag rupture sensor *2	Diaphrag rupture sensor	-	√	√

**Note 1: Power option and motor type shows the standard options available. Other parameters can be request.*
**Note 2: Show as optional item. Not included in standard purchase.*

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COMPARISON TABLE

**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.*

IDENTIFICATION CODE MG

Example	MG	0150	P	Q	1	N
Category	Model	Flowrate	Fluid-End Material	Connection Method	Power Required	Plug Type

Category	Description		
Model	MG - Up to 150 LPH		
Flowrate	0015 ... 0150 - 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 - 380V 50Hz 3 Phase	2 - 220V 50Hz 1 Phase	X – Customized Voltage
Plug Type *Only for 220V.	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.*

TECHNICAL DATA MG

MG Models		0015	0025	0040	0060	0080	0100	0120	0150
Max. Flowrate (50 Hz)	Lph	15	25	40	60	80	100	120	150
Max. Pressure	Bar	10	10	7	6	5	4	4	3
Stroke Per Minute	spm	100	100	150	100	100	150	150	150
Stroke Length	mm	2	3	3	4	5	4	5	6
Diaphragm Size	mm	65	65	65	84	84	84	84	84
Standard Material Connection Method	PVC	Hose Compression 6*9mm			DN 15 Socket				
	PVDF				RC 1/2" Inner Thread				
	SS316L	Bevel End Welding Tube 10*16mm							
Power Consumption	watt	60							
Standard Power Supply Required		380V / 50Hz *Changeable upon request							
IP / Insulation / IE Rating		IP 55 / F / IE3							
Flowrate Adjustment Range		0-100% (*Notes: is recommended to operate from 30-100% of the design flowrate to ensure 1% accuracy.)							
Flowrate Adjustment Method		Stroke length adjustable knob.							
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	˚C	PVC: -10 to +40 ; PVDF/SS316L: -10 to +50 (No Freezing Allowed) (Outside standard range, please consult with representative.)							
Ambient Temperature	˚C	Operating: -10 to +45, Storage: -10 to +50							

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	PTFE	PTFE	SS316L
	Ball	Ceramic	Ceramic	Ceramic
Seal		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		EPDM	PTFE	
Spring		SS316L / Hastelloy	SS316L / Hastelloy	
Stabilizing Weight		Ceramic	Ceramic	
Flexible Tube		PE	PE	
Others				
Pump Body	MG	Aluminum Alloy		

DIMENSION & WEIGHT		PVC	PVDF	SS316L
MG	Net Weight (kg)	9	9	10
	Gross Weight (kg)	10	10	11
	Packing Dimension (mm)	325 x 245 x 330		

IDENTIFICATION CODE MA & MB

Example	MA	0150	P	Q	1	1
Category	Model	Flowrate	Fluid-End Material	Connection Method	Power Required	Motor Type

Category	Description		
Model	MA - Up to 500 LPH MB - Up to 2000 LPH		
Flowrate	0015 ... 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 - 380V 50Hz 3 Phase	2 - 220V 50Hz 1 Phase	X – Customized Voltage
Motor Type	0 - No Motor 1 - Standard Motor 2 - Variable Speed Motor	3 - Explosion proof Motor Exd IIB T4 4 - Variable Speed and Explosion proof Exd IIB T4 Motor	X - Customized Motor

**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 FOR MA & MB MODELS

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		Stroke length adjustable knob. Optional Variable Speed Motor for stroke speed adjustment.
Steady State 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	55 (Subject to motor IP rating)

**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.*

TECHNICAL DATA



MA Models		0015	0025	0040	0060	0080	0120	0180	0250	0320	0400	0500
Max. Flowrate (50Hz)	Lph	15	25	40	60	80	120	180	250	320	400	500
Max. Pressure	Bar	10	10	10	8	8	8	8	7	7	5	5
Stroke Per minute	spm	48	48	48	48	96	96	96	96	144	144	144
Stroke Length	mm	4	6	4	6	4	6	6	8	6	8	9
Diaphragm Size	mm	65		95				112				
Standard Material Connection Method	PVC	Hose C. 6*9mm		DN 15 Socket							DN 20 Socket *1	
	PVDF	RC 1/2”						RC 3/4”				
	SS316L	BE Tube 10*16mm						BE Tube 15*22mm				
Power Consumption	kW	0.37										
Standard Power Supply Required		380V / 50Hz *Changeable upon request										
IP / Insulation / IE Rating		IP 55 / F / IE3										

Notes 1: Discharge as DN15 discharge check valve with DN20 adapter.Suction as DN20 check valve.



MB Models		0250	0320	0500	0680	0760	1000	1200	1600	1800	2000
Max. Flowrate (50Hz)	Lph	250	320	500	680	760	1000	1200	1600	1800	2000
Max. Pressure	Bar	10	10	10	7	5	4	4	3	3	3
Stroke Per Minute	spm	48	48	96	96	144	144	96	144	144	144
Stroke Length	mm	8.8	11.4	8.8	11.4	8.8	11.4	13	11.4	13	14
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			1.5
Standard Power Supply Required		380V / 50Hz *Changeable upon request									
IP / Insulation / IE Rating		IP 55 / F / IE3									

STANDARD MATERIAL TABLE

MA Models		P	F	S
Pump Head Material		PVC	PVDF	SS316L
Diaphragm		PTFE Composite	PTFE Composite	PTFE Composite
Inlet & Outlet Valve	Body	PVC	PVDF	SS316L
	Seat	0015 - 0025: PTFE 0040 - 0150: PE	0015 - 0025: PTFE 0040 - 0150: PVDF	SS316L
	Ball	Ceramic	Ceramic	Ceramic
Seal		EPDM	PTFE	PTFE
Pump Body		Aluminum Alloy		
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		EPDM	PTFE	
Spring		SS316L / Hastelloy	SS316L / Hastelloy	
Stabilizing Weight		Ceramic	Ceramic	
Flexible Tube		6x9mm PE	6x9mm PE	

MB Models		P	F	S
Pump Head Material		PVC	PVDF	SS316L
Diaphragm		PTFE Composite	PTFE Composite	PTFE Composite
Inlet & Outlet Valve	Body	PVC	PVDF	SS316L
	Seat	0250 - 1000: FKM 01200 - 2000: PE	PVDF	SS316L
	Ball	Ceramic	Ceramic	Ceramic
Seal		EPDM	PTFE	PTFE
Pump Body		Aluminum Alloy		

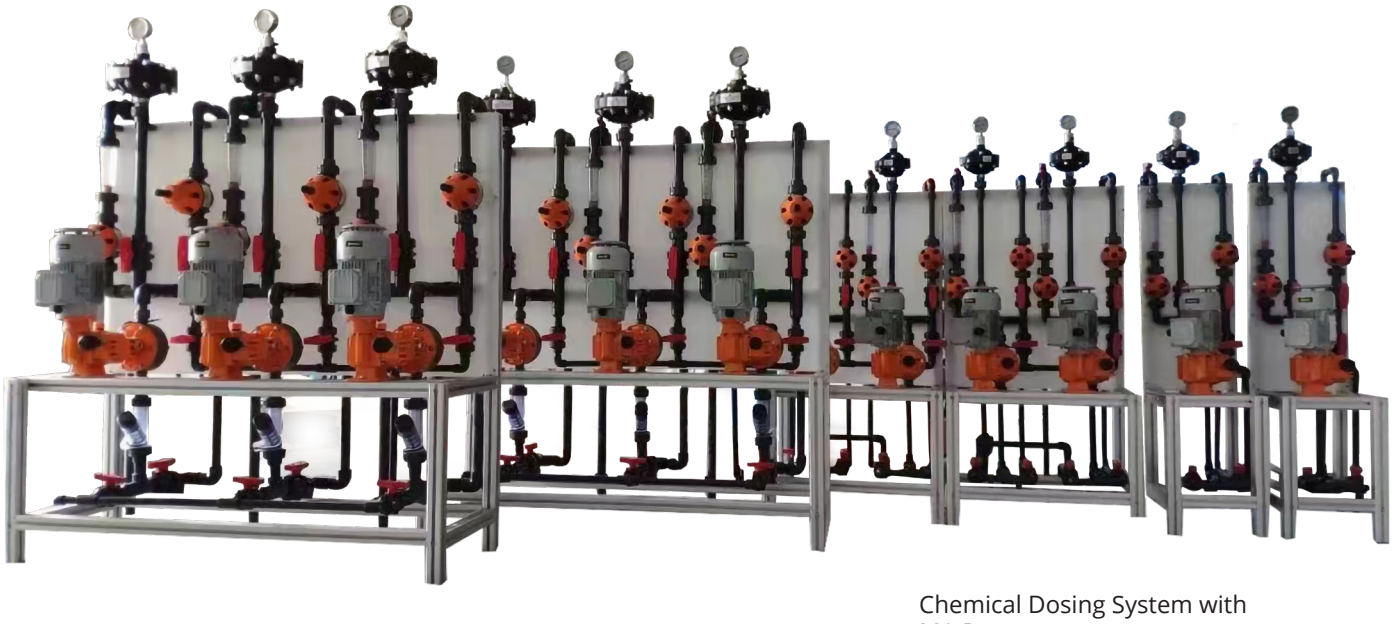
PACKING DIMENSION & WEIGHT

Pump Head Material		PVC	PVDF	SS316L
MA	Net Weight (kg)	14	14	17
	Gross Weight (kg)	17	17	20
	Packing Dimension (mm)	370 x 300 x 460		
MB	Net Weight (kg)	34	34	39
	Gross Weight (kg)	38	38	43
	Packing Dimension (mm)	470 x 370 x 640		

COMPLETE CHEMICAL DOSING SYSTEM

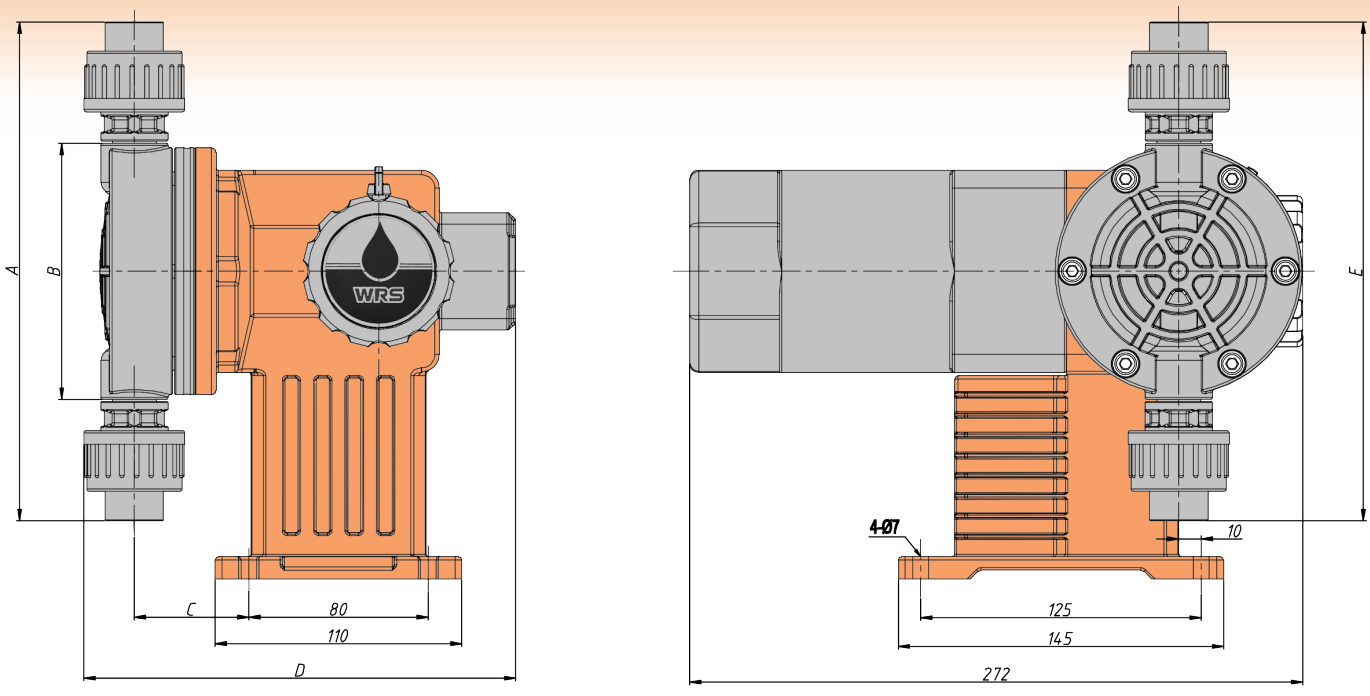
Chemical Dosing System with MB Pumps

Despite just being a pump manufacturer. WRS supplies a comprehensive selection of chemical dosing systems from small to large-scale applications within disinfection, flocculation, and pH adjustment. 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.

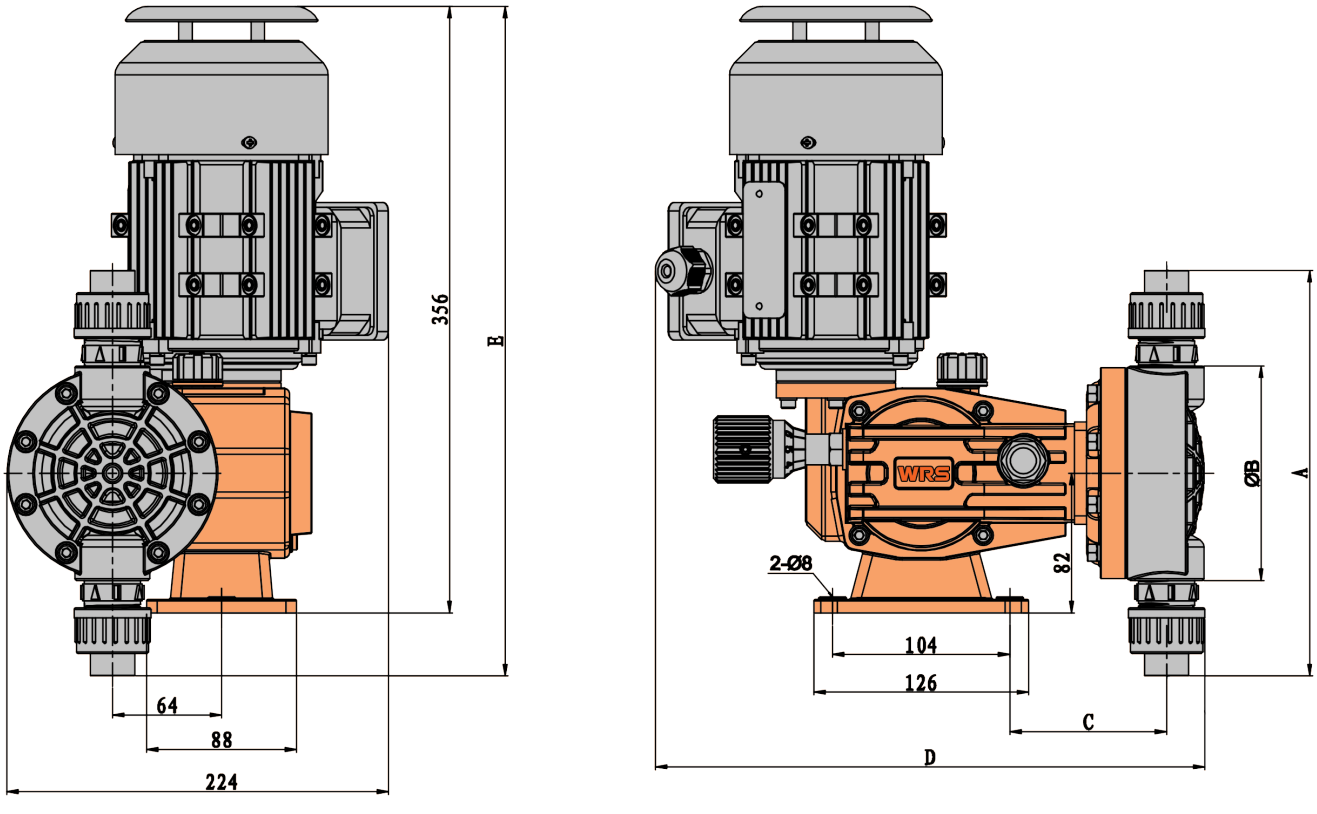


Chemical Dosing System with MA Pumps

MG DIMENSION:

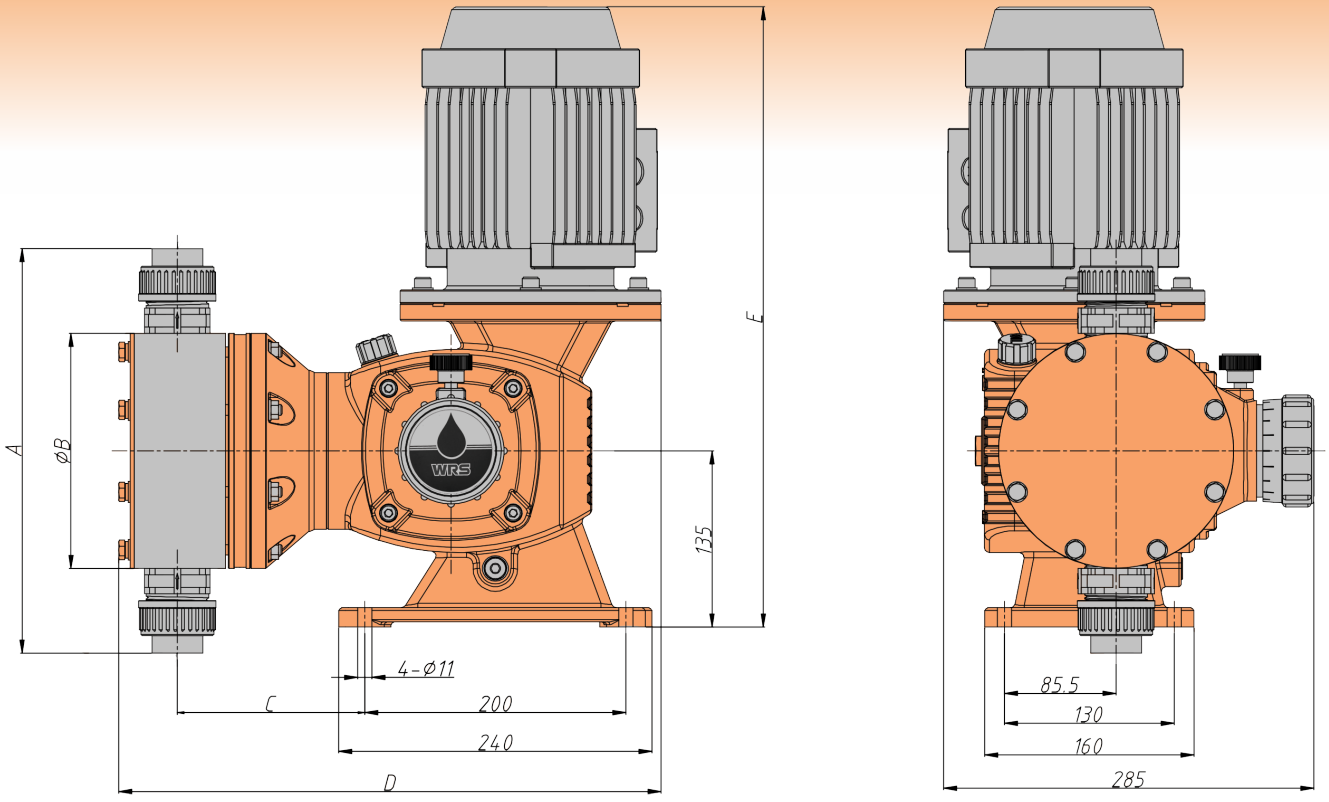


MA DIMENSION:



*Notes: All three drawings are in PVC pump head with socket connection. Detailed drawing of other material and connection are available upon request.

MB DIMENSION:



MG	MATERIAL	A	B	C	D	E
0015 - 0040	PVC	188	90	50	183	225
	PVDF	220	90	50	191	247
	SS316L	230	90	52	187	252
0060-0150	PVC	222	110	52	193	248
	PVDF	234	110	52	193	254
	SS316L	256	110	51	192	265

MA	MATERIAL	A	B	C	D	E
0015-0025	PVC	188	90	84	303	362
	PVDF	220	90	84	307	384
	SS316L	230	90	86	310	390
0040-0120	PVC	238	124	92	320	393
	PVDF	203	124	94	325	375
	SS316L	270	142	86	310	390
0180-0500	PVC	256	140	92	320	402
0180-0320	PVDF	223	140	96	327	385
0400-0500		232	140	96	327	390
0180-0500	SS316L	300	140	93	320	425

MB	MATERIAL	A	B	C	D	E
0250-1000	PVC	310	180	143	416	475
	PVDF	273	180	144	414	525
	SS316L	280	180	135	390	475
1200-2000	PVC	410	220	153	431	511
	PVDF	342	220	150	437	560
	SS316L	368	220	139	401	511

Local Representative:

Main Office:
WRS PTE LTD
60 Paya Lebar Road, #11-37 Paya Lebar Square, Singapore 409051

Factory:
ZHEJIANG WRS MACHINERY EQUIPMENT CO., LTD
501, Building 2 New World Wealth Center, 108 Shixin North Rd, Xiaoshan District, Hangzhou City, Zhejiang Province, China

Website: https://www.wrsdosing.com

ISO9001:2015
ISO14001:2015
ISO45001:2018

LL-C Certification