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α -Dose Series MAD Metering Pump

SUNRELAND INDUSTRIAL EQUIPMENT (SUZHOU) CO., LTD.



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Our company focuses on the production of pumps, valves, mixers, analytical instruments and other industrial products. The company adopts international advanced technology, providing clients first-class products and services according to the international standards.

α -Dose Series Mechanically Actuated Diaphragm metering pumps

are a branch of our products, they are widely used in water treatment process such as municipal tap water, swimming pools, urban sewage, industrial effluent and kinds of chemical dosing, etc.

Typical Applications

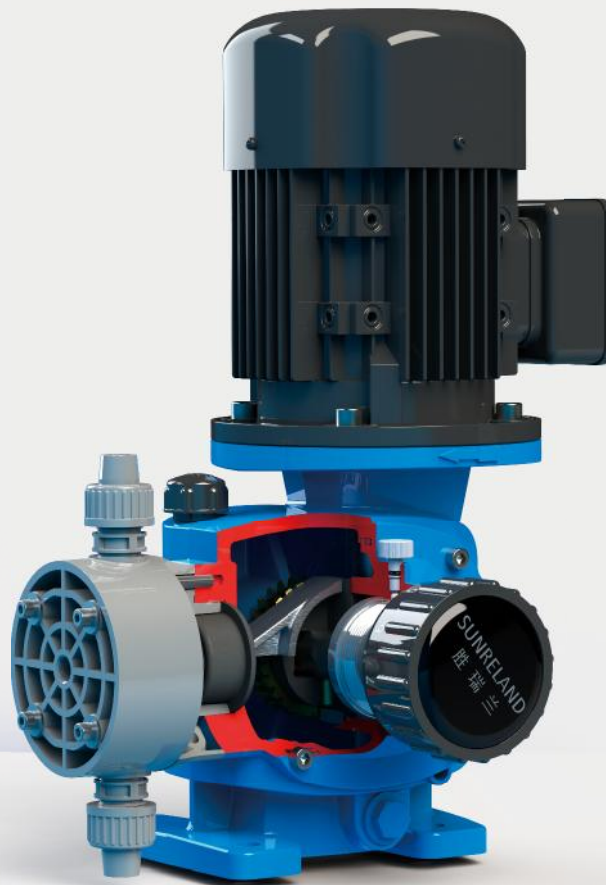
- pH adjustment
- Flocculating
- Polymer
- Hypochlorite disinfectants
- Dyes and ink
- catalyst

Technical Specification

- .Flow rate: 2~4900 L/h
- .Max. discharge pressure: 10 Bar
- .Turndown Ratio: 10:1
- .Stability accuracy: $\pm 2\%$
- .Max. suction lift head: 3m
- .Max. suction pressure: 2 Bar
- .Max. liquid temperature: 45°C
- .Max. viscosity: up to 1200cP

Liquid End Features

- . LE material: PP; PVC; PVDF; 316SS
- . Diaphragm material: PTFE
- . Ball check material: Glass; Ceramic; 316SS
- . Special designed valve seat to ensure no leakage whether the pump running or stopping
- . Variety of critical applications of pump head configuration:
high viscosity, pulp, concentrated sulfuric acid, sodium hypochlorite, etc
- . Self-cleaning check valve structure



Drive Unit Features

- . Variable eccentric adjustment stroke length to smooth pulsation impact of flow rate.
- . Robust structure design suitable for pulse impact and harsh operating conditions
- . Sliding bearing and high intensity wearable worm gear ensure stable long-term operation.

Adjustment Options

- Manual Adjustment:** whether the pump running or stopped
 - . Minimum adjustment scale is 1%
- Electric Stroke Controller:** external control signal adjust stroke length
 - . Power Supply: 220V-50Hz, 1 phase
 - . Input Signal: 4-20mA
 - . Output Signal: 4-20mA/1-5V feedback signal.
- Frequency Inverter:** external control signal, adjust stroke speed
 - . 220V-50Hz, 1phase /380V-50Hz, 3phase
 - . Input Signal: 4-20mA

α-Dose series metering pumps' code and performance



Frame

Code	Description
MB	MB α-Dose series , MB frame
MC	MC α-Dose series , MC frame

Capacity

Code	Description				
	Real Q LPH@P _{max}	Speed SPM	Pressure P _{max} (bar)	Motor Power kW	Connections
MB0002	2.4	37	10	0.25 ¹⁾	PP: 1/2"NPT M PVC: 1/2" NPT M 6x12 tube PVDF: 1/2" NPT M 316SS: 1/2" NPT F
MB0005	4.7	75			
MB0010	9.5	149			
MB0016	17	75			
MB0025	26	75			
MB0050	52	149			
MB0090	90	75	7	0.25 0.37 ¹⁾	PP: 1/2NPT F PVC: 1/2" NPT F 6x12 tube PVDF: 1/2" NPT F 316SS: 1/2" NPT F
MB0125	126	75			
MB0180	178	149			
MB0250	252	149			
MB0330	330	149	5	0.37 ¹⁾	316SS: 1/2" NPT F
MB0420	420	149			
MB0500	500	178			
MC0170	170	73	10	0.55 0.75 ¹⁾	PP: 1/2NPT F PVC: 1/2" NPT F PVDF: 1/2" NPT F 316SS: 1/2" NPT F
MC0260	260	111			
MC0340	340	146			
MC0430	430	183			
MC0480	477	146	7	0.75 1.1 ¹⁾	PP/PVC/PVDF: 1/2" NPT F 316SS: 1/2" NPT M
MC0600	600	183			
MC0750	738	111	4.5	1.1 1.5 ¹⁾	PP/PVC/PVDF/316SS Suc: 1-1/2" NPT Dis: 1" NPT
MC1000	965	146			
MC1200	1214	183			
MC1300	1310	146	3.5	1.1 1.5 ¹⁾	PP/PVC/PVDF: 1-1/2" NPT F 316SS: 1-1/2" NPT M
MC1700	1650	183			
MC2400DX ²⁾	2400	183	4.5	1.5	Please Consult factory
MC3600TX ²⁾	3600	183		2.2	
MC5000TX ²⁾	4900	183		3.0	

1), This power could be used for both constant and varied frequency, but for 5-50Hz varied frequency, please use speed variable motor.

2), DX is duplex pump, TX is triplex pump.

Liquid End

Code	Description
B	PP LE
P	PVC LE
S	316 LE
F	PVDF LE
V	High Viscosity (PVC LE)

Connection

Code	Description
N	Standard
X	Special consult factory

Main materials of liquid end

· MB0002-MB0050

Wet parts	Head	Valve	Valve seat	Ball	Diaphragm	Seal ring	Connection
PP	PP	PVDF	AFLAS	Ceramic	PTFE	Viton	PP
PVDF	PVDF	PVDF	PVDF	Ceramic	PTFE	PTFE cover	PVDF
316SS	316SS	316SS	316SS	316SS	PTFE	Viton	316SS

· MB0090-MB0500

Wet parts	Head	Valve	Valve seat	Ball	Diaphragm	Seal ring	Connection
PP	PP	PP	PP	Glass	PTFE	Viton	PP
PVDF	PVDF	PVDF	PVDF	Ceramic	PTFE	PTFE cover	PVDF
316SS	316SS	316SS	316SS	316SS	PTFE	Viton	316SS

· MC0170-MC1200

Wet parts	Head	Valve	Valve seat	Ball	Diaphragm	Seal ring	Connection
PP	PP	PP	PP	Ceramic	PTFE	Viton	PP
PVDF	PVDF	PVDF	PVDF	Ceramic	PTFE	PTFE cover	PVDF
316SS	316SS	316SS	316SS	316SS	PTFE	Viton	316SS

Accessories

Pressure relief valve, back pressure valve, dampener and strainer are available, relief valve is necessary.

Standard motor performance

Power: 380V-50Hz-3ph/220V-50Hz-1ph

Protection: IP55 Isolation: F

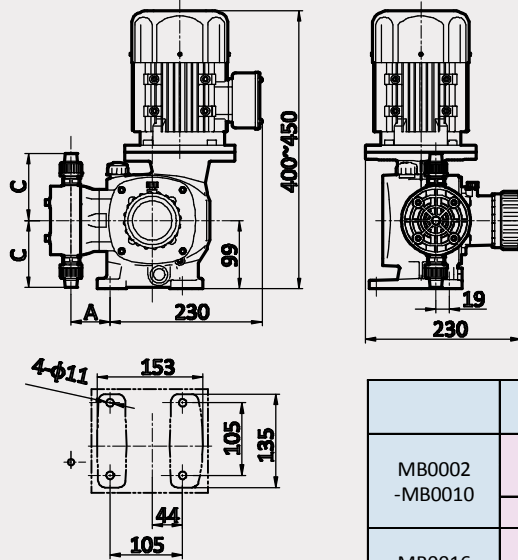
Special IEC motors are available.

Standard Interface Configuration Table

	MB0002~0050			MB0090~0500			MC0170~0430		
	PP	PVDF	316SS	PP	PVDF	316SS	PP	PVDF	316SS
6x12 tube									
1/2" NPT M									
1/2" NPT F									
	MC0480~0600			MC0750~1200			MC1300~1700		
	PP	PVDF	316SS	PP	PVDF	316SS	PP	PVDF	316SS
1" NPT M						D ¹⁾			
1" NPT F				D ¹⁾	D ¹⁾				
1-1/2" NPT M						S ¹⁾			
1-1/2" NPT F				S ¹⁾	S ¹⁾				

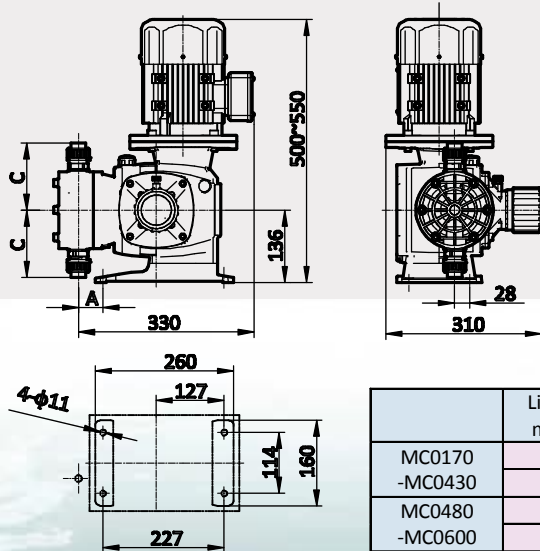
1), S: for suction, D: for discharge.

α-Dose Series MAD metering pump outline drawing



MB frame metering pump

	Liquid End materials	Suc. & Dis. Connections	C	A
MB0002 -MB0010	Plastic	1/2" NPTM	72	56
	Metal	1/2" NPTF	108	56
MB0016 -MB0050	Plastic	1/2" NPTM	72	56
	Metal	1/2" NPTF	102	56
MB0090 -MB0500	Plastic	1/2" NPTF	127	105
	Metal	1/2" NPTF	131	105



MC frame metering pump

	Liquid End materials	Suc. & Dis. Connections	C	A
MC0170 -MC0430	Plastic	1/2" NPTF	125	93
	Metal	1/2" NPTF	130	93
MC0480 -MC0600	Plastic	1" NPTF	144	102
	Metal	1" NPTM	181	106
MC0750 -MC1200	Plastic	1-1/2" & 1" NPTF	188	124
	Metal	1-1/2" & 1" NPTM	200	128
MC1300 -MC1700	Plastic	1-1/2" NPTF	210	124
	Metal	1-1/2" NPTM	205	128

Spare Parts & Accessories

Spare part Kits The kits include all easy-damaged items; it can help users to shorten the equipment maintenance time to fasten the speed to resume the production. If us the repair kits & spare items are used to do preventive maintenance, a long-term stable operation can be ensured.

Back-pressure Valve Installing the back-pressure valve can prevent a flow-through condition resulted from a smaller differential pressure between the import and expert of a metering pump so as to ensure the measuring accuracy of metering pump. Usually the factory set pressure is 2 Bar.

Safety Valves The safety valves can avoid damage of equipment or pipeline damage due to system over pressured. Once the pipe valve is closed or blocked, the system may be over pressured.

Pulsation Dampeners is a system accessory matched with the reciprocating pump. It can reduce the impact from the pulsating flow to the pipeline system, and the influence of flow pulsation change on the chemical reaction. By installing pulsation dampeners in the pipeline of a metering pump export, the pulsating changes can be controlled in plus or minus 5%, or even a smaller range.

Calibration Columns is used in field of metering pump for flow calibration, thus obtains with the flow/stroke relationship corresponding to the actual system and actual medium. The selection of calibration column volume is no less than the 30 seconds rated flow of the metering pump.

Y- Filter is installed on the metering pump inlet line. It is used for filtering flow across from material to prevent external impurities and particles into the metering pump, guaranteeing the accuracy of metering pump and normal work.



Package



SC45 conductivity controller can be used together with the metering pump as a close-loop control system to improve water quality through controlling the liquid conductivity to reduce the content of metal ions in the solution, and it is widely used in circulating water treatment system.

SP50 pH controller can be used together with the metering pump as a close-loop control system to satisfy the control demand through adjusting solution pH values, and it is widely used in systems such as municipal water treatment system and sewage treatment system.

The SR50 ORP Controller can be used together with the metering pump as a close-loop control system to satisfy the control requirements of the set value through adjusting liquid oxidation reduction value, and it is widely used in systems such as pool water treatment.



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