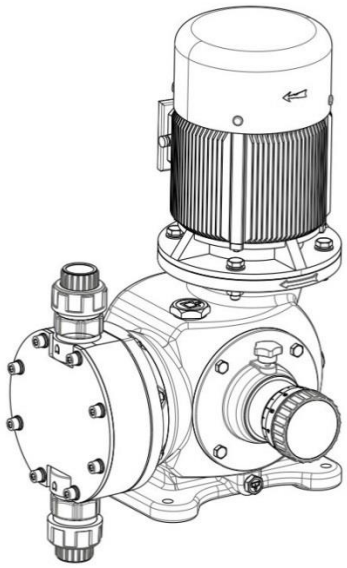
Mechanical Diaphragm Pump
Kosmo MM1 Series



1. Main technical characteristics

- Flow Rate up to 530 l/h
- Pressure up to 12 bar
- Mechanically actuated PTFE diaphragm
- Flow rate adjustment from 0 to 100%
- Stroke Rate: 58 / 78 / 116 / 156 strokes/minute
- Stroke Length: 2 / 4 / 6.4 / 7.4 mm
- Diaphragm Diameter: 65 / 96 / 124 / 140 mm
- Motor: 0.25 / 0.37 kW
- Maximum temperature of pumped liquid: 40 °C
- Range of ambient temperature: 5 ÷ 55 °C
- Stroke adjustment with locking system
- Enclosure Protection Class: IP55
- Material of Pump Head:
  - SS 316L
  - PVDF

2. General features

- The Kosmo Series dosing pumps offer a high level of reliability with outstanding value for applications up to 12 Bar and flow rates up to 530 l/h.
- A range of dosing pumps that are compact, lightweight, robust and simple designed for low discharge pressures, durability and cost effectiveness, mainly used in water treatment and in the food industry in clean-in-place applications. Designed to provide reduced overall operating costs over time, the mechanically-actuated PTFE diaphragm increases diaphragm life by eliminating the stresses inherent in most pump designs.
- Kosmo models are multipurpose pumps and can handle all known reagents. They are recommended for continuous service and can run dry without any damage to the pump.
- Kosmo pumps incorporate a variable eccentric system minimizing pulsation and shock.
- Kosmo dosing pumps consists of durable, metallic housing designed to withstand tough environments and suitable for a large number of industrial uses other than water treatment, such as the injection of reagents at medium pressure.
- Kosmo pumps have an adjustment of flow rate while running or stopped from 0 to 100%, with a maximum temperature of pumped liquid up to 40 °C aimed at delivering exceptional performance across a wide range of flow and pressure environments.

3. Codification

KOSMO - KEY TO MODEL NUMBER

Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10	Field 11	Field 12
M	M1	A	065	C	21	A	4	0	0	0	0

Field 1	model
Field 2	mechanism type
Field 3	stroke lenght
Field 4	diameter
Field 5	stroke/min
Field 6	pump head
Field 7	motor power
Field 8	motor type
Field 9	customization
Field 10	market
Field 11	stroke reg.
Field 12	optional

Field 1	**model**					
	M	**Mechanical Return DIAPHRAGM**				
Field 2	**mechanism type**					
	M1	M1 Mechanical return		MM1		
	M2	M2 Mechanical return		MM2		
Field 3	**stroke lenght**	**Stroke lenght [mm]**				
	A	2		MM1		
	C	4		MM1		
	D	6.4		MM1		
	E	7.4		MM1		
	F	7		MM2		
	G	8		MM2		
	H	9		MM2		
	I	15		MM2		
Field 4	**diameter**	**Diaphragm [mm]**				
	065	65		MM1		
	096	96		MM1		
	124	124		MM1 / MM2		
	140	140		MM1 / MM2		
	157	157		MM2		
	179	179		MM2		
Field 5	**stroke/min**	**Strokes / minute**				
	A	24:1	58	MM1		
	B	18:1	78	MM1		
	C	12:1	116	MM1		
	D	32:1	43	MM2		
	E	32:2	86	MM2		
	F	32:3	131	MM2		
	G	32:4	175	MM2		
Field 6	**pump head**	**DIAPHRAGM - Standard Execution**				
		head	**diaphragm**	**valve**	**seat**	**O-Ring**
	21 / 24	SS316L	PTFE	SS316L	SS316L	FPM / EPDM
	41 / 44	PVDF	PTFE	CERAMIC	PVDF	FPM / EPDM
Field 7	**motor power**	**kW**	**supply**		**phase**	**size**
	0	Without motor				
	A	0.25	230/400 Vac		3	71-B5/ MM1
	B	0.37	230/400 Vac		3	71-B5/ MM1
	C	0.55	230/400 Vac		3	80-B5/ MM2
	D	0.75	230/400 Vac		3	80-B5/ MM2
	E	1.10	230/400 Vac		3	90S-B5/ MM2

Using the 60 Hz 3phases motor the performances of the pumps will be as follows:
Pressure: -20% - Flow Rate: +20%

Field 8	**motor type**		
	0	Without motor	
	2	2/3	
	4	4/3	230/400Vac, 50/60Hz, TEFC (Totally Enclosed Fan-Cooled)
	6	6/3	
	3	2/1	
	5	4/1	230Vac, 50Hz, TEFC (Totally Enclosed Fan-Cooled)
	7	6/1	
Field 9	**customization**		
	0	Standard (or without motor)	
	I	Inverter	
	S	Forced Ventilation	
	X	Flame-Proof (Exd II B T4)	
	V	Flame-Proof (Exd II B T4) + Forced Ventilation	
Field 10	**market**		
	0	Standard	
	6	Asian market	
	7	Brasilian market	
	8	Chinese market	
Field 11	**stroke reg.**		
	0	Manual	
	A		
Field 12	**optional**		
	0	Standard	
	A		

4. Specification

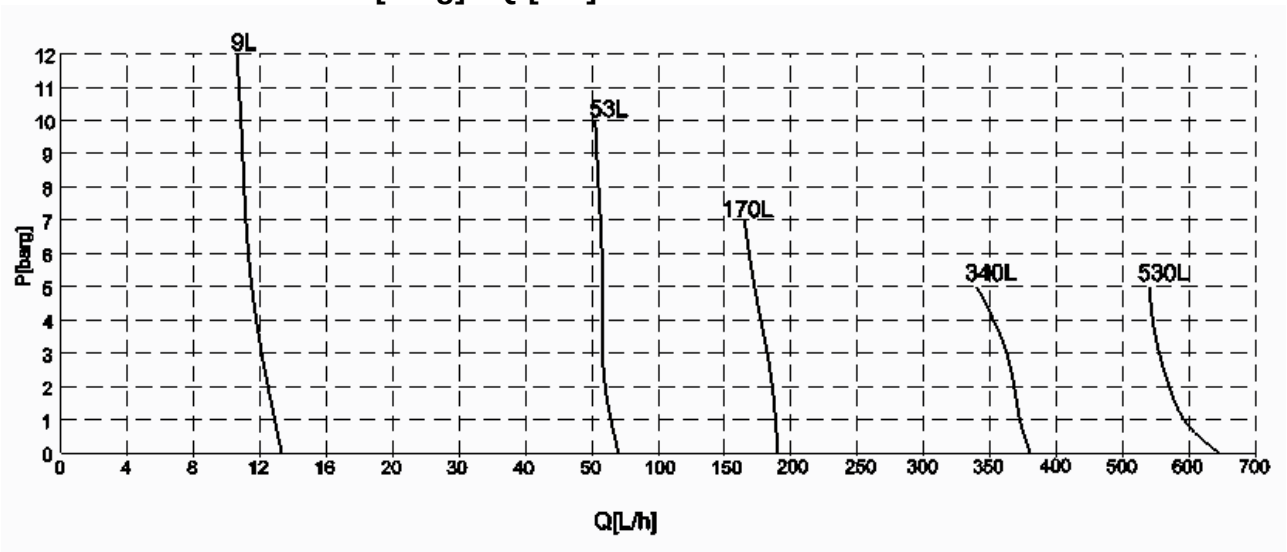
KOSMO MM1 Series -EQUIPPED WITH STANDARD MOTOR										
Model	Diameter (mm)	Stroke Length (mm)	Stroke Rate	Flow Rate [l/h]	Max Pressure (bar)	Connections		Motor	Gross Weight (Kg)	Cardboard box L W H (mm)
						SS316L	PVDF	kW/pole	SS316L / PVDF	SS316L / PVDF
MM1A065C**A40000	65	2	116	9	12	BSPf 1/4"	8*12 PE hose	0.25/4	16	450 X 300 X 550
MM1C096B**A40000	96	4	78	53	10	BSPf 3/8"	DN10			
MM1D124B**B40000	124	6,4	78	170	7	BSPf 3/4"	DN20	0.37/4	20	
MM1D124B**B20000			156	340	5			0.37/2		
MM1E140B**B20000	140	7,4		530		BSPf 1"	DN25	0.37/2		

1) (**) Available wetted parts: SS316L (code 21; 24) and PVDF (code 41; 44) ;
2) In addition to the STD motor, it can be equipped with VSD motor (Variable Speed Drive) or Flame-Proof motor (Exd II B T4);
3) Tested with water @ 20°C, @ 50 Hz; multiply by K=1.2 for flow rate values @ 60Hz.

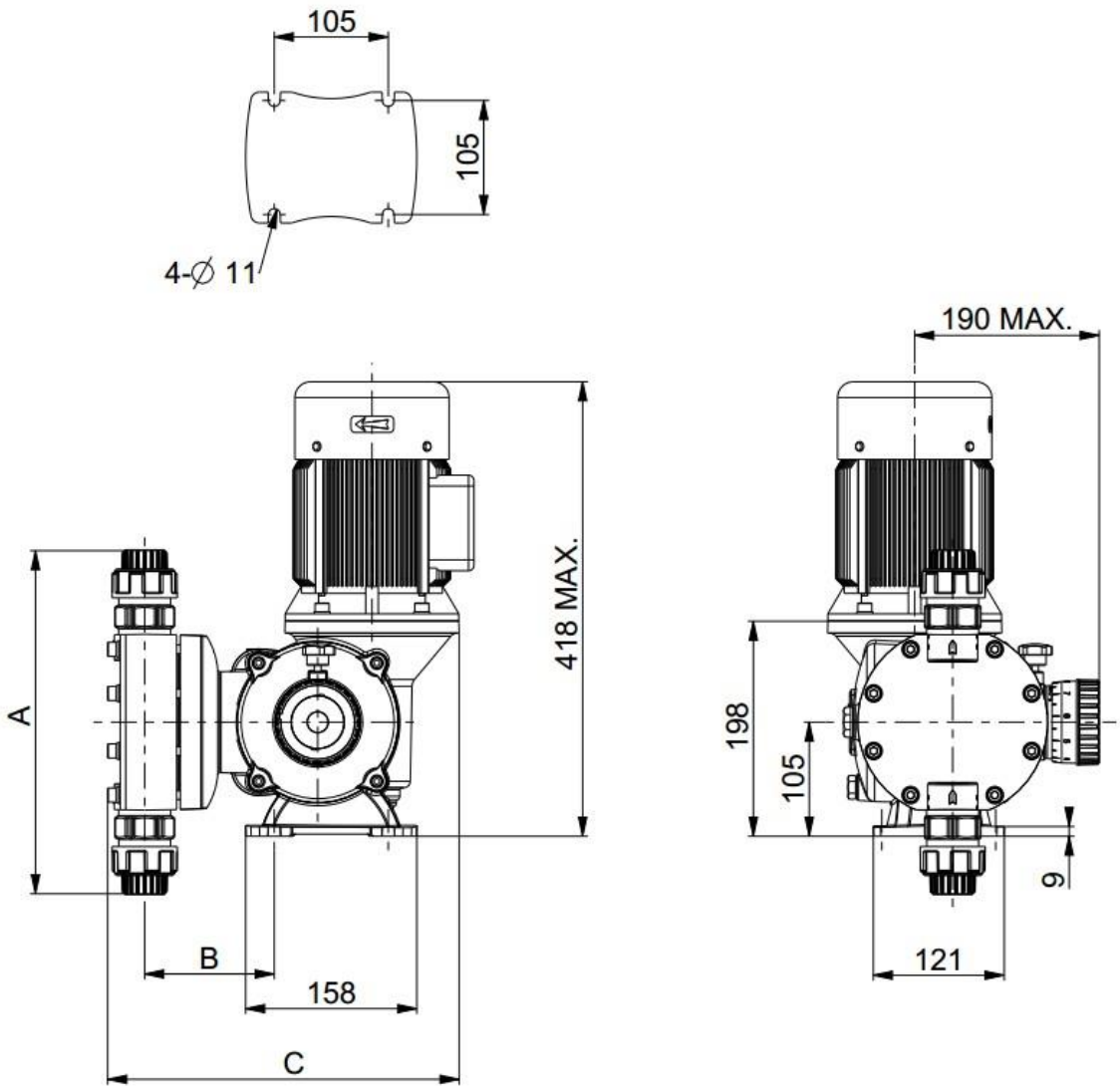
5. Liquid End Material

Material	Liquid End Body			
	21	41	24	44
Pump Head	SS 316L	PVDF	SS 316L	PVDF
Diaphragm	PTFE		PTFE	
Seal	FPM		EPDM	
Ball	SS 316L	Ceramic	SS 316L	Ceramic
Ball Seat		PTFE		PTFE

6. Performance curve P [barg] - Q [L/h]



7. Installation Drawing



MM1 Pump Head Material	Diaphragm dia. 65mm				Diaphragm dia. 96mm				Diaphragm dia. 124mm				Diaphragm dia. 140mm			
	Connection	A	B	C	Connection	A	B	C	Connection	A	B	C	Connection	A	B	C
PVDF	8 x 12 PE hose	166	104	303	BSPf 3/8"	222	108	301	BSPf 3/4"	293	118	322	BSPf 1"	316	119	323
SS316L	BSPf 1/4"	175	108	294	BSPf 3/8"	167	107	293	BSPf 3/4"	216	113	306	BSPf 1"	251	120	319

8. Painting requirements

The anti-corrosion painting process for dosing pump applications requires an entire coating thickness of between 0.06mm and 0.20mm.