

1. Main technical characteristics

- Flow Rate up to 2.300 l/h
- Pressure up to 10 bar
- Mechanically actuated PTFE diaphragm
- Flow rate adjustment from 0 to 100%
- Stroke Rate: 43 / 86 / 131 / 175 strokes/minute
- Stroke Length: 7 / 8 / 9 / 15 mm
- Diaphragm Diameter: 124 / 140 / 157 / 179 mm
- Motor: 0.55 / 0.75 / 1.1 kW
- Maximum temperature of pumped liquid: 40 °C
- Maximum ambient temperature: 55 °C
- Stroke adjustment with locking system
- Enclosure Protection Class: IP55
- Material of Pump Head:
 - **Hastelloy C2000**
 - **PVDF**

2. General features

- The Kosmo Series dosing pumps offer a high level of reliability with outstanding value for applications up to 10 Bar and flow rates up to 2.300 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.

4. Specification

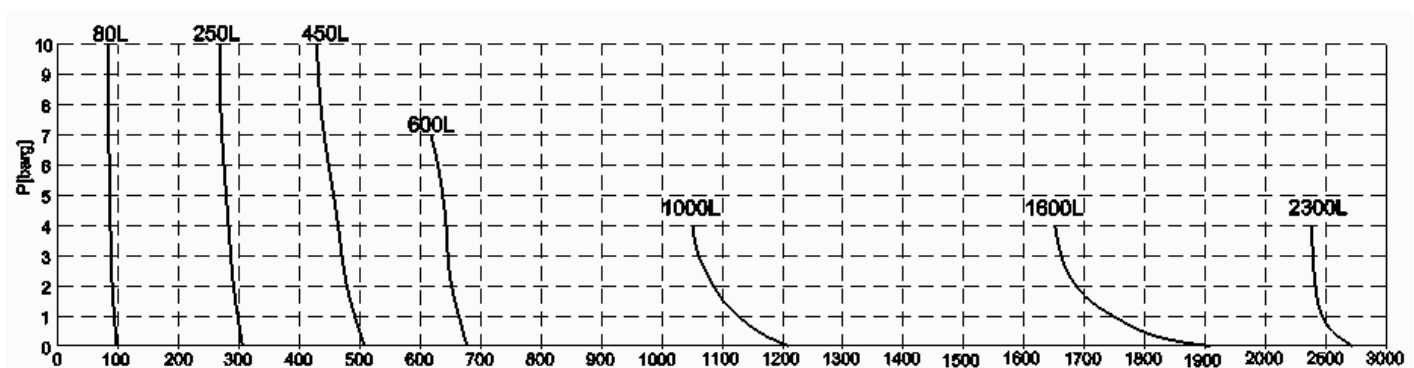
KOSMO MM2 Series - EQUIPPED WITH STANDARD MOTOR										
Model	Diameter (mm)	Stroke Length (mm)	Stroke Rate	Flow Rate [l/h]	Max Pressure (bar)	Connections		Motor kW/pole	Gross Weight (Kg)	Wooden Box L W H (mm)
						Hastelloy C2000	PVDF		Hastelloy/PVDF	Hastelloy / PVDF
MM2F124D**C40000	124	7	43	80	10	BSPf 3/4"	BSPf 3/4"	0.55/4	56	700 X 500 X 750
MM2F124F**C40000			131	250						
MM2G124G**C40000		8	450							
MM2G140G**C40000	140		175	600	7	BSPf 1"	BSPf 1"	60		
MM2H157G**C40000	157	9	1.000	4	BSPf 1 1/2"	BSPf 1 1/2"	0.75/4	68		
MM2I179F**D40000	179	15	131						1.600	
MM2I179G**E40000			175						2.300	

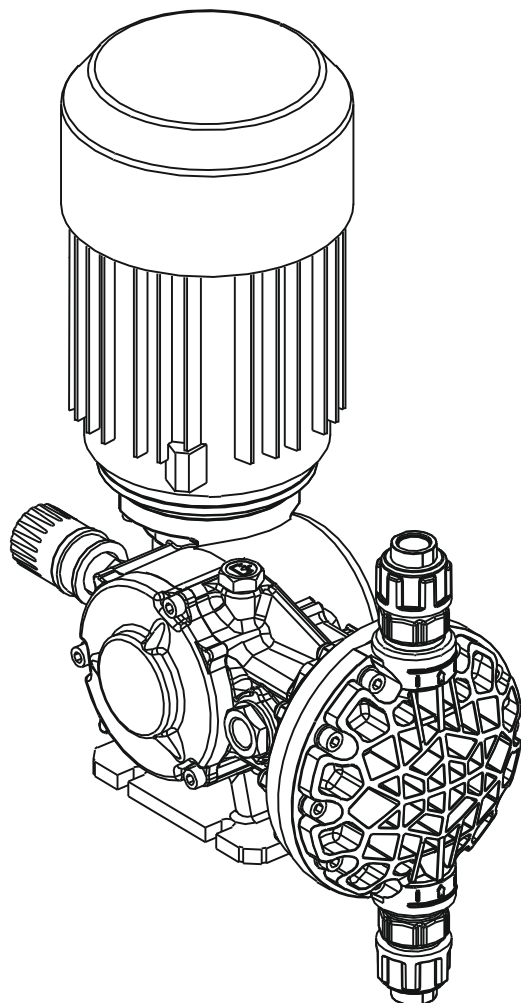
- 1) (**) Available wetted parts: Hastelloy C2000 (21/24) and PVDF (41/44) ;
- 2) In addition to the STD motor, it is also can be equipped with VSD motor (Variable Speed Drive) or Flame-Proof motor (Exd IIB T4);
- 3) Tested with water @ 20°C @ 50 Hz; Flow rate values with motor at 50Hz. Multiply by 1.2 for 60 Hz.

5. Liquid End Material

Material	Liquid End Body			
	21	41	24	44
Pump Head	Hastelloy	PVDF	Hastelloy	PVDF
Diaphragm	PTFE		PTFE	
Seal	FPM		EPDM	
Ball	Hastelloy	Ceramic	Hastelloy	Ceramic
Ball Seat	C2000	PTFE	C2000	PTFE

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





Technical characteristics

- Flow rates: from 5.5 to 500 l/h
- Max Pressure: up to 10 bar (145 psi)
16 bar in ENFORCED configuration
- Motor:
 - 0.18 kW - 3 ph (IP55)
 - 0.25 kW - 1 ph (IP55)
 - 0.37 kW - 3 ph or 1 ph(IP55)
 - 0.55 kW - 1 ph (IP55)
- Stroke rate: 58 – 78 – 116 strokes/minute
- Stroke length: 2 – 4 – 6 mm
- Diaphragm diameter: from 64 to 165 mm
- Pump head:
 - Hastelloy C2000
 - PP
 - PVC
 - PVDF
- Max. dosing temperature:
 - Hastelloy C2000 40° C
 - PP 40° C
 - PVC 40° C
 - PVDF 40° C
- Range of ambient temperature of use:
 - 5 ÷ 40° C

CPVC material selected

Seko mechanical diaphragm pump MS1 Series has a wide range product. MS1 Series performances cover s from 5.5 to 500 l/h with a back pressure up to 10 bar (in standard configuration, 16 bar for 064 and 094 models in “ENFORCED” configuration) having several configurations available for the pump head and power, in order to have the characteristics most suitable for processes where required.

MS1pumps have a spring return mechanism into an aluminum housing.

Each model has 3 values of stroke rate, which can be set manually or automatically using a linear actuator which accepts a signal 4 – 20 mA. Moreover they can be supplied with a 3 phases or 1 phase electric motor with protection class IP55.

DOSING PUMP

SPRING SERIES – MS1 – Mechanical diaphragm pump

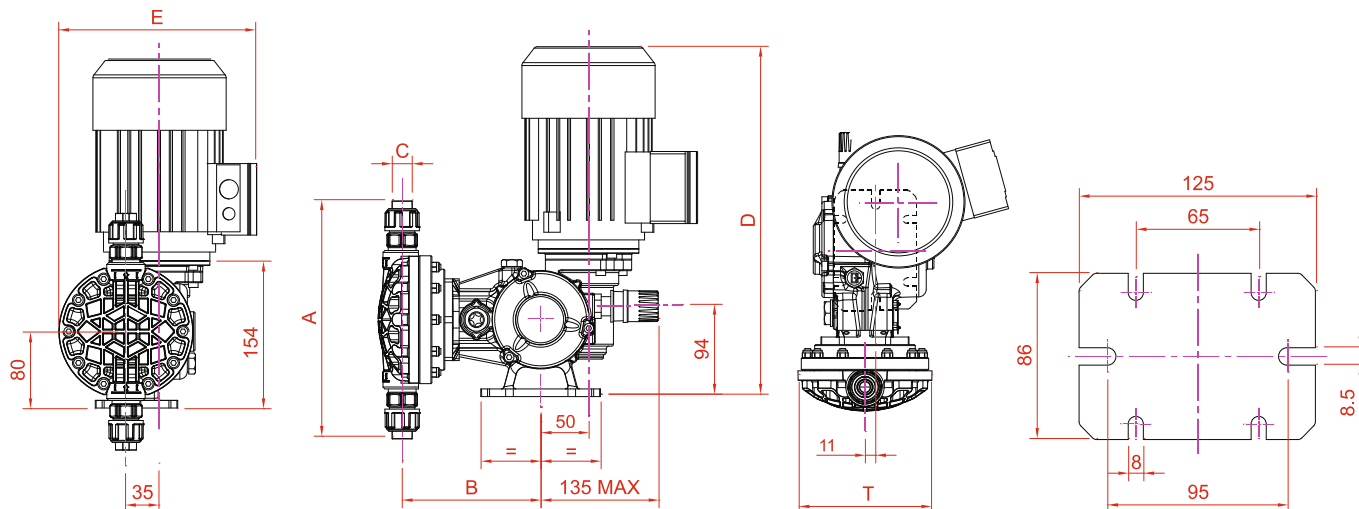


HYDRAULIC CHARACTERISTICS

Pump Model	Diaphragm Diameter [mm]	Stroke/min	Flow rate		Max back pressure				Suction/Discharge Connection		Electric Motor 50 Hz 3 phases [kW]
					bar		p.s.i.				
			l/h	gl/h	Hastelloy C2000	PP/PVC	Hastelloy C2000	PP/PVC	Hastelloy C2000	PP/PVC	
M S 1 A 0 6 4 A	64	58	5.5	1.45	16	10*	232	145*	1/4" G F	1/4" G F	0,18 (A4)
M S 1 A 0 6 4 B		78	8	2.12							
M S 1 A 0 6 4 C		116	11	2.91							
M S 1 A 0 9 4 A	94	58	20	5.59	16	10*	232	145*	3/8" G F	1/4" G F	0,18 (A4)
M S 1 A 0 9 4 B		78	26	6.88							
M S 1 A 0 9 4 C		116	40	10.58							
M S 1 B 1 0 8 A	108	58	60	15.87	10	10	145	145	3/8" G F	3/8" G F	0,18 (A4)
M S 1 B 1 0 8 B		78	80	21.16							
M S 1 B 1 0 8 C		116	120	31.75							
M S 1 C 1 3 8 A	138	58	155	41	7	7	101	101	3/4" G F	3/4" G F	0,37 (C4)
M S 1 C 1 3 8 B		78	220	58.2							
M S 1 C 1 3 8 C		116	310	82					1" G F	1" G F	
M S 1 C 1 6 5 A	165	58	230	60.85	5	5	72.5	72.5	1" G F	1" G F	0,37 (C4)
M S 1 C 1 6 5 B		78	330	87.30							
M S 1 C 1 6 5 C		116	500	132.3							

* Available with special reinforced pump head for use with pressure up to 16 bar - 14" Field (Optional) in the Key Code identified by "H"

DIMENSIONS



Materiale testata Liquid end material	Diametro membrana Diaphragm diameter	A[mm]	B[mm]	C (BSP)	T[mm]	Three phase motor				Single phase motor			
						Motore 4P Motor 4P [kW]	Gr. motore Motor Size	D [mm]	E [mm]	Motore 4P Motor 4P [kW]	Gr. motore Motor Size	D [mm]	E [mm]
AISI 316 (21)	65	192	144	1/4" f	98	0.18	63 B14	333	240	0.25	71 B14	371	343
	94	172	146	3/8" f	118	0.25	71 B14	371	250	0.37	71 B14	371	346
	108	213	148	3/8" f	138	0.37	71 B14	371	265	0.55	80 B14	396	379
	138	261	158	3/4" f - 1" f	168	0.37	71 B14	371	265	0.55	80 B14	396	394
	165	297	165	1" f	188	0.37	71 B14	371	265	0.55	80 B14	396	414
PP (51) PVC (31) PVDF (41)	65	239	149	1/4" f	98	0.18	63 B14	333	240	0.25	71 B14	371	348
	94	242	144	3/8" f	124	0.25	71 B14	371	250	0.37	71 B14	371	351
	108	250	147	3/8" f	142	0.37	71 B14	371	265	0.55	80 B14	396	385
	138	347	159	3/4" f - 1" f	166	0.37	71 B14	371	265	0.55	80 B14	396	406
PP (51)	165	375	172	1" f	195	0.37	71 B14	371	265	0.55	80 B14	396	416
PVC (31), PVDF (41)	165	375	172	1" f	195	0.37	71 B14	371	265	0.55	80 B14	396	414