

## Spring MS1

### Spring-return mechanical diaphragm dosing pump

- Flow rate range: 5.5 - 500 l/h, up to 16 bar
- Wetted parts: SS316L, PVC, PP, PVDF, PTFE, FPM, EPDM and Ceramic
- The MS1 series offers multiple combinations of pump head motors, stroke lengths and materials that allows operators the chance to select the optimal combination appropriate to the specific application in hand.
- Being membrane pumps, they represent an absolutely safe and leak-free solution to be used wherever chemical leaks, that are typical of plunger piston pumps, are not acceptable.
- To change the flow rate of the pump, the stroke length can be adjusted manually with a knob or even automatically by using the Aktua kit controlled by a 4 - 20 mA signal or by a pulse emitter water meter.
- Spring MS1 pumps can be supplied with a single or three-phase electric motor with IP55 protection, as well as with a DC motor working at 12 Vdc range that allows the pump to achieve flow rates between 23 and 620 l/h at pressure up to 16 bar.

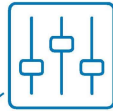
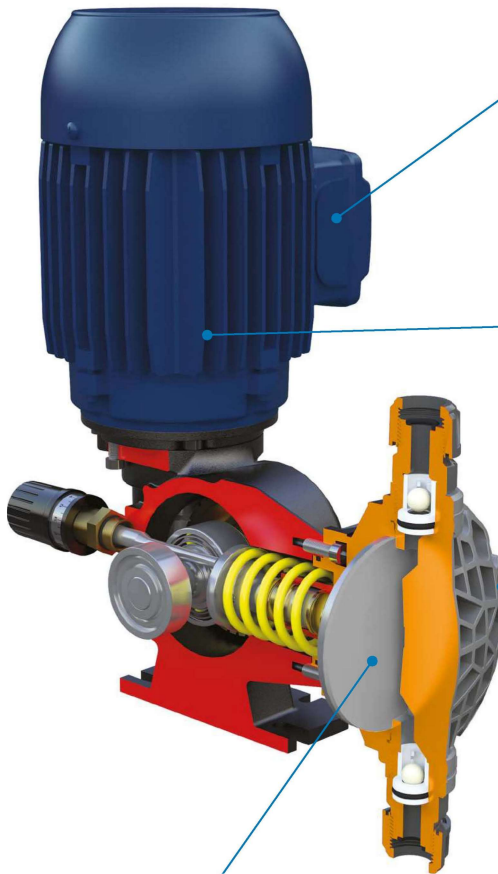


### Specification

Model	Diameter [mm]	Stroke length [mm]	Frequency [stroke/1']	Flow rate [l/h]	Max pressure [bar]			Connections		Motor [kW/pole]	Weight [kg]		Packing size L x W x H [mm]
					SS316L	PP/ PVC	PVDF	SS316L	Other		SS316L	Other	
MS1A064A**A4000	64	2	58	5.5	16	10	10	BSPf 1/4"	BSPf 1/4"	0.18/4 (A4)	10.5	8.5	520 x 350 x 590
MS1A064B**A4000			78	8									
MS1A064C**A4000			116	11									
MS1A094A**A4000	94	2	58	20	16	10*	10*	BSPf 3/8"	BSPf 1/4"	0.18/4 (A4)	11.0	8.5	
MS1A094B**A4000			78	26									
MS1A094C**A4000			116	40									
MS1B108A**A4000	108	4	58	60	10	10*	10*	BSPf 3/8"	BSPf 3/8"	0.18/4 (A4)	13.5	10.0	
MS1B108B**A4000			78	80									
MS1B108C**A4000			116	120									
MS1C138A**C4000	138	6	58	155	7	7	7	BSPf 3/4"	BSPf 3/4"	0.37/4 (C4)	18.5	12.5	
MS1C138B**C4000			78	220									
MS1C138C**C4000			116	310				5	230	5	5	BSPf 1"	
MS1C165A**C4000	58	230											
MS1C165B**C4000	78	330											
MS1C165C**C4000	116	500	3	3	3								

\* Available with special Enforced Pump Head for use up to 16 bar

# Features & benefits



## Optional extras

Almost all models are also available in the Elektra version which, thanks to integration with an inverter including 4 - 20 mA and pulse inputs, allows them to be managed with menus and functions typical of proportional dosing pumps



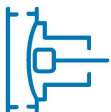
## Ultra-reliable Spring range

The Spring range includes a broad range of hydraulic configurations, reaching high flow rates up to 1,000 l/h, and back-pressure up to 20 bar



## Low operating costs

Due to the outstanding ease of programming coupled with low maintenance requirement



## Diaphragm options

Mechanical diaphragm in PTFE



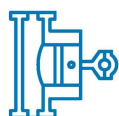
## Energy-efficient motors

A wide range of motors available to meet your application requirements



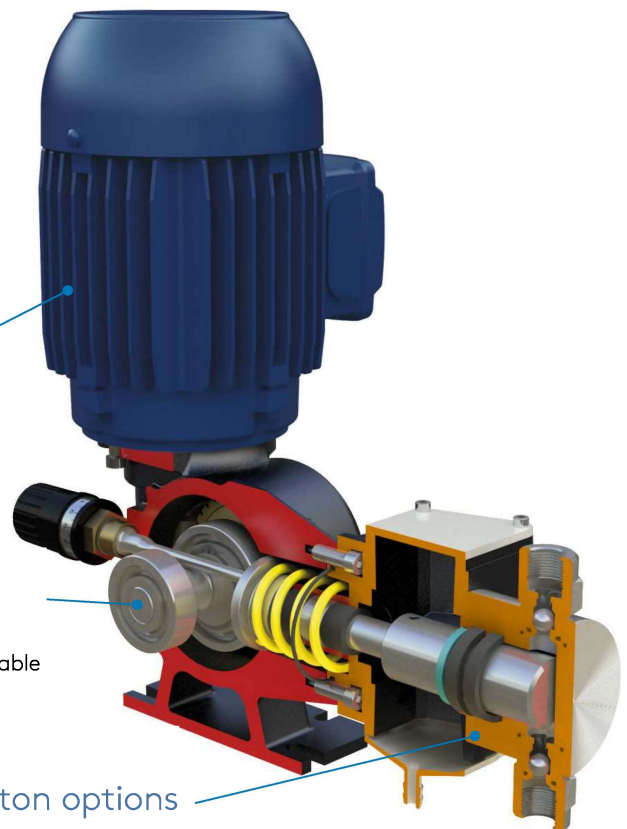
## Chemical applications

A wide range of materials available for superior chemical compatibility and suitable for high-viscosity chemical applications



## Piston options

Piston available as standard in SS316 or ceramic



# Spring MS1 key code

Model									
M	Diaphragm pump								
<b>Mechanism type</b>									
S1	Spring return								
<b>Stroke length [mm]</b>									
A	2								
B	4								
C	6								
<b>Diaphragm diameter [Ø mm]</b>									
064	64								
094	94								
108	108								
138	138								
165	165								
<b>Stroke/1' Ratio</b>									
A	58	24:1							
B	78	18:1							
C	116	12:1							
<b>Pump head</b>									
	Body	Balls	Diaphragm	Seat	O-Ring				
21	SS316L	SS316L	PTFE	SS316L	FPM				
24	SS316L	SS316L	PTFE	SS316L	EPDM				
31	PVC	Ceramic	PTFE	PTFE	FPM				
34	PVC	Ceramic	PTFE	PTFE	EPDM				
41	PVDF	Ceramic	PTFE	PTFE	FPM				
44	PVDF	Ceramic	PTFE	PTFE	EPDM				
51	PP	Ceramic	PTFE	PTFE	FPM				
54	PP	Ceramic	PTFE	PTFE	EPDM				
<b>Motor type</b>									
	kW	Supply			Size				
S0		Without motor							
A4	0.18 - 3ph	230 - 400 Vac, 50/60 Hz			63-B14				
C4	0.37 - 3ph	230 - 400 Vac, 50/60 Hz			71-B14				
H4	0.25 - 1ph	230 Vac, 50 Hz			71-B14				
L4	0.55 - 1ph	230 Vac, 50 Hz			80-B14				
<b>Stroke regulation</b>									
0	Manual with adjustment knob								
L	Automatic with linear actuator of Aktua series								
<b>Customisation</b>									
0	Standard								
H	High pressure								
<b>Optional</b>									
0	Standard								
2	(S0 - without motor) + adapter kit								
M	S1	B	094	A	51	C4	0	0	0