Motor-Driven
Dosing Pumps

Product Overview

		Kosmo MM2	Kosmo MM1	Spring PS2	Spring PS1	Spring MS1	Spring MSV	Spring with Elektra
								
Performance	Flow rate range [l/h]	80 - 2,300	9 - 530	2.5 - 1,000	1.5 - 304	5.5 - 1,200	10 - 120	1.5 - 1,000
	Pressure [up to - bar]	10	12	100	20	16	5	20
Installation Mode	On the base	•	•	•	•	•	•	•
	Bracket for base			•	•	•		•
	Bracket for tank			•	•	•		•
Motor	3 phase	•	•	•	•	•	•	•
	1 phase			•	•	•	•	
	Servoventilated	•	•	•	•	•	•	
Stroke Length Regulation	Manual	•	•	•	•	•	•	•
	Electric actuator			•	•	•		
Pump Head (FPM and EPDM seals)	PVC			•	•	•		•
	PP					•		•
	PVDF	•	•			•	•	•
	SS316L	•	•	•	•	•	•	•
Special Pump Head	SS316L NBR + PTFE piston seals			•				
Proportional Dosing	External signal							•
Communication	Wi-Fi							•
	Modbus							•

For precision, consistency and reliability, choose Kosmo

A range of electric motor-driven pumps with mechanical diaphragm liquid ends and mechanical return aimed at delivering exceptional performance across a wide range of flow and pressure environments.

A wide range of applications

Suitable for a wide range of applications including a variety of water-treatment processes, Kosmo can be effectively used in any of the following:

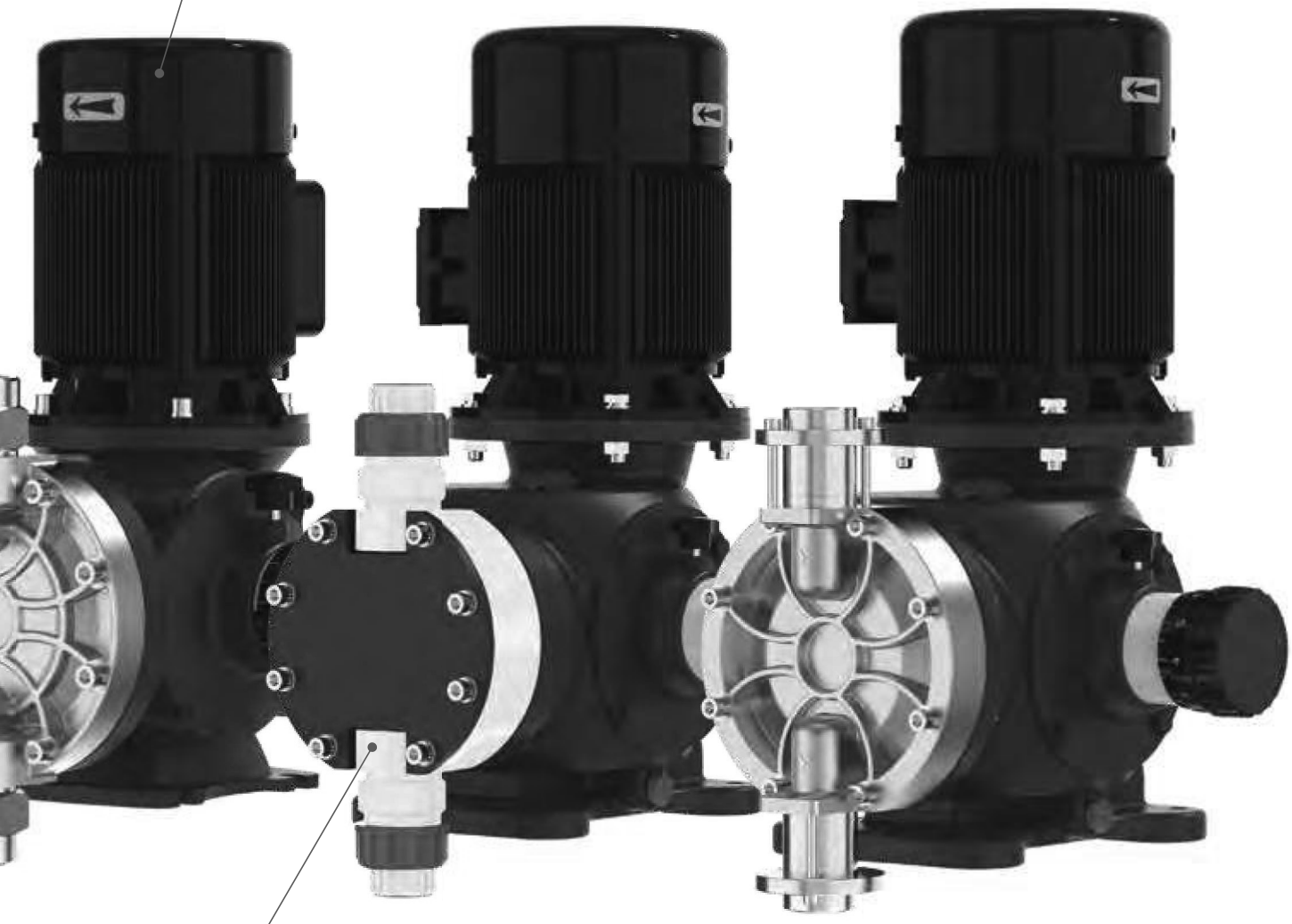
- **Potable water treatment** (injection of coagulants, flocculating agents, sodium hypochlorite, lime slurry, acid, bases, caustic soda, activated carbon and more)
- **Domestic or industrial** wastewater treatment, boiler feed water and cooling water
- **Chemical treatment, electrolytic** (electro-plating) treatments: addition of degreasing agents, cleaning agents, nickel electroplating and chemical nickel plating, copper plating and tinning

Features & benefits

Ideal for prolonged, continuous usage

As with all SEKO pumps, Kosmo is designed using materials chosen for their robustness and chemical compatibility and is conceived to work for long periods of continuous operation thanks to the benefits derived from its variable eccentric system. SEKO's Kosmo PTFE diaphragm is directly linked to the mechanism's moving parts meaning Kosmo can easily deal with high suction head conditions.

All components feature permanent lubrication, using ball bearings for the principal moving parts to help prevent overheating and extend the pump's life, with the added benefit of quiet running.



Ideal when you need high flow rates at medium/low discharge pressures

The Kosmo range comprises two principal models, MM1 and MM2, and is designed to be compact and robust. Kosmo offers great performance across a wide range of flow rates as low as 9 l/h up to 2,300 l/h. This makes Kosmo ideal for low discharge pressures in applications such as water treatment, food production and clean-in-place.

Kosmo MM2

Mechanical-return diaphragm dosing pump

- Flow rate range: 80 - 2,300 l/h, up to 10 bar
- Wetted parts: SS316L, PVDF, PTFE, FPM, EPDM and Ceramic

- Among the Kosmo pump range, the MM2 series pumps provide superior dosing performance, making them suitable for the most demanding applications. Constructed in hard-wearing metal with a cast-aluminium housing, Kosmo MM2 can handle the largest output with flow rates as high as 2,300 l/h, at pressures up to 10 bar.
- As with all SEKO pumps Kosmo is designed using materials chosen for their robustness and chemical compatibility and is conceived to work for long periods of continuous operation thanks to the benefits derived from its variable eccentric system. SEKO's Kosmo PTFE diaphragm is directly linked to the mechanism's moving parts, meaning Kosmo makes use of the motor's power both in the suction and delivery phases which allows it to deal with high suction head conditions.
- All components feature permanent lubrication, using ball bearings for the principal moving parts to help prevent overheating and extend pump life with the added benefit of quiet-running operation.

Specification

Model	Diameter [mm]	Stroke length [mm]	Frequency [stroke/1']	Flow rate [l/h]	Max pressure [bar]	Connections SS316L	Connections PVDF	Motor/3ph [kW/pole]	Weight [kg]	Packing size L x W x H [mm]
			43	80						
	124	7	131	250						
				450						
		8								
	140			600	7					700 x 500 x 750
						BSPf 1"	BSPf 1"		60	
	157	9		1,000						
			131	1,600				0.75/4		
	179	15				BSPf 1 ½"	BSPf 1 ½"		68	
			175	2,300				1.1/4		

Kosmo MM2 key code

Model

M Diaphragm Pump

Mechanism type

M2 Mechanical return (large mechanism)

Stroke length [mm]

F	7
G	8
H	9
I	15

Diaphragm diameter [Ø mm]

124	124
140	140
157	157
179	179

Stroke/1'	(With 4-pole motor)	Ratio
D	43	32:1
E	86	32:2
F	131	32:3
G	175	32:4

Pump head	Body	Balls	Diaphragm	Seat	O-Ring
21	SS316L	SS316L	PTFE	SS316L	FPM
24	SS316L	SS316L	PTFE	SS316L	EPDM
41	PVDF	Ceramic	PTFE	PVDF	FPM
44	PVDF	Ceramic	PTFE	PVDF	EPDM

Motor power	kW	Supply	Size
0		Without motor	
C	0.55	230 - 400 Vac	80-B5
D	0.75	230 - 400 Vac	80-B5
E	1.1	230 - 400 Vac	90S-B5

Motor poles/phases

0	Without motor
2	2/3
4	4/3

Optional

0	Standard
S	Servoventilated

Customisation

000	Standard

M	M2	G	124	G	24	C	4	0	000

Kosmo MM1

Mechanical-return diaphragm dosing pump

- Flow rate range: 9 - 530 l/h, up to 12 bar
- Wetted parts: SS316L, PVDF, PTFE, FPM, EPDM and Ceramic

- Featuring characteristics and functions very similar to those of the MM2 models, the MM1 systems of the Kosmo range have smaller dimensions and can be used effectively where the required flow rates are lower, but it is necessary to work at slightly higher pressures. In fact, these pumps can handle flow rates of up to 530 l/h and can work at pressures up to 12 bar.
- These models are manufactured from materials that deliver superior robustness and chemical compatibility and are designed to operate continuously for long periods, thanks in part to the benefits of the variable eccentric system. The PTFE diaphragm is directly connected to the mechanism and this allows the pump to exploit the power of the motor both in suction and delivery phases, allowing it to work even in high suction head conditions.
- All components benefit from permanent lubrication, using ball bearings for the principal moving parts that help prevent overheating and extend pump life with the added benefit of quiet running.

Specification

Model	Diameter [mm]	Stroke length [mm]	Frequency [stroke/1']	Flow rate [l/h]	Max pressure [bar]	Connections SS316L	Connections PVDF	Motor/3ph [kW/pole]	Weight [kg]	Packing size L x W x H [mm]
	65	2	116	9	12	BSPf ¼"	8x12 PE hose	0.25 / 4	16	450 x 300 x 550
	96	4	78	53	10	BSPf ¾"	DN 10			
	124	6.4	156	170	7	BSPf ¾"	DN 20			
	140	7.4		340	5	BSPf 1"	DN 25			
				530						

Kosmo MM1 key code

Model									
M	Diaphragm pump								
Mechanism type									
M1	Mechanical return (small mechanism)								
Stroke length [mm]									
A	2								
C	4								
D	6.4								
E	7.4								
Diaphragm diameter [Ø mm]									
065	65								
096	96								
124	124								
140	140								
Stroke/1'	(With 4-pole motor)	Ratio							
A	58	24:1							
B	78	18:1							
C	116	12:1							
Pump head		Body	Balls	Diaphragm	Seat	O-Ring			
21		SS316L	SS316L	PTFE	SS316L	FPM			
24		SS316L	SS316L	PTFE	SS316L	EPDM			
41		PVDF	Ceramic	PTFE	PVDF	FPM			
44		PVDF	Ceramic	PTFE	PVDF	EPDM			
Motor power		kW	Supply	Size					
0			Without motor						
A		0.25	230 - 400 Vac	71-B5					
B		0.37	230 - 400 Vac	71-B5					
Motor poles/phases									
0	Without motor								
2	2/3								
4	4/3								
Optional									
0	Standard								
S	Servoventilated								
Customisation									
000	Standard								

M	M1	C	096	B	41	A	4	0	000

Spring series: Robust and reliable motor-driven dosing for water and industry

Featuring a spring return mechanism in an aluminium housing, these pumps always deliver robust, affordable and efficient power.

- SEKO's entry-level offering in motor-driven pumps is the Spring series, a range of pumps based on the spring return principle. Three sizes of mechanism and a wide selection of models with varying performance profiles allow the user to find the appropriate solution for almost any application, offering accurate dosing under varying pressure conditions.
- Available both in plunger piston and mechanically actuated diaphragm versions, SEKO's Spring pumps can be used almost universally in low-pressure applications and guarantee, in the membrane version, a zero-leakage dosing solution. Meanwhile, these systems offer flexibility in stroke length and motor speed, and can be coupled in various combinations.

A wide range of applications

Suitable for a wide range of applications including a variety of water-treatment processes, Spring can be effectively used in any of the following:

- **Chemical treatment, electrolytic** (electro-plating) treatments: addition of degreasing agents, cleaning agents, nickel electroplating and chemical nickel plating, copper plating and tinning
- **Potable water treatment** (injection of coagulants, flocculating agents, sodium hypochlorite, lime slurry, acid, bases, caustic soda, activated carbon and more)
- **Domestic or industrial** wastewater treatment, boiler feed water and cooling water

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 PS2

Spring-return plunger piston dosing pump

- Flow rate range: 40 - 1,000 l/h, up to 20 bar
- Wetted parts: SS316L, PVC, PTFE, FPM, EPDM and Ceramic

- The PS2 series of piston dosing pumps offers multiple combinations of pump head, motor power and stroke lengths that enable it to be arranged in several hydraulic configurations, making the range suitable for multiple applications.
- PS2 pumps have a spring-return mechanism in a robust aluminium housing, and each model can be configured with two different stroke rates. To adjust the flow rate of the pump, the stroke length can be adjusted manually or even automatically, by using the Aktua kit controlled by a 4 - 20 mA signal or by a pulse-emitting water meter.
- PS2 pumps are available with a 3-phase or a single-phase electric motor, both with IP55 protection.

Specification

Model	Diameter [mm]	Stroke length [mm]	Frequency [stroke/1']	Flow rate [l/h]	Max pressure [bar] SS316L	Max pressure [bar] PVC	Connections SS316L	Connections PVC	Motor [kW/pole]	Weight [kg] SS316L	Weight [kg] PVC	Packing size L x W x H [mm]
	25		58	40	20	10	BSPf ⅜"	BSPf ⅜"	0.25/4 (T4)	15.5	14.5	
			116	80								
	30		58	55	20	10	BSPf ⅜"	BSPf ⅜"	0.25/4 (T4)	15.5	14.5	
			116	112								
	38		58	90	20	10*	BSPf ½"	BSPf ½"	0.37/4 (U4)	18.5	15.5	
			116	180								520 x 350 x 590
	48		58	140	20	10	BSPf ½"	BSPf ½"	0.55/4 (D4)	18.5	15.5	
			116	284								
	54	25	58	40	15	10	BSPf ½"	BSPf ½"	0.55/4 (D4)	20.5	16.0	
			116	80								
	64		58	250	10	10	BSPf ¾"	BSPf ¾"	0.75/4 (F4)	21.5	16/5	
			116	505								
	76		58	365	7	7	BSPf 1"	BSPf 1"	0.75/4 (F4)	28.5	18.5	
			116	730								650 x 300 x 560
	89		58	495	5	5	BSPf 1"	BSPf 1"	0.75/4 (F4)	30.5	19.0	
			116	1,000								

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

Spring PS2 key code

Model									
P	Piston pump								
Mechanism type									
S2	Spring return								
Stroke length [mm]									
E	25								
Piston diameter [Ø mm]									
025	25								
030	30								
038	38								
048	48								
054	54								
064	64								
076	76								
089	89								
Stroke/1'		Ratio							
A	58	24:1							
C	116	12:1							
Pump head	Body	Balls	Piston	Seat	Sealings				
21	SS316L	SS316L	SS316L	SS316L	FPM				
24	SS316L	SS316L	SS316L	SS316L	EPDM				
31	PVC	Ceramic	Ceramic	PTFE	FPM				
34	PVC	Ceramic	Ceramic	PTFE	EPDM				
Motor type	kW	Supply		Size					
S0	Without motor								
T4	0.25 - 3ph	230 - 400 Vac, 50/60 Hz		71-B5					
U4	0.37 - 3ph	230 - 400 Vac, 50/60 Hz		71-B5					
D4	0.55 - 3ph	230 - 400 Vac, 50/60 Hz		80-B14					
E4	0.75 - 3ph	230 - 400 Vac, 50/60 Hz		80-B14					
Z4	0.37 - 1ph	230 Vac, 50 Hz		71-B5					
L4	0.55 - 1ph	230 Vac, 50 Hz		80-B14					
M4	0.75 - 1ph	230 Vac, 50 Hz		80-B14					
N4	1.1 - 1ph	230 Vac, 50 Hz		71-B14	With breaker torque				
Stroke regulation									
0	Manual with adjustment knob								
L	Automatic, with linear actuator of Aktua series								
Customisation									
0	Standard								
H	High pressure								
Optional									
0	Standard								
2	(S0 - without motor) + adapter kit								

P	S2	E	038	C	21	U4	0	0	0

Spring PS2 HP

Spring plunger piston dosing pump for high pressure

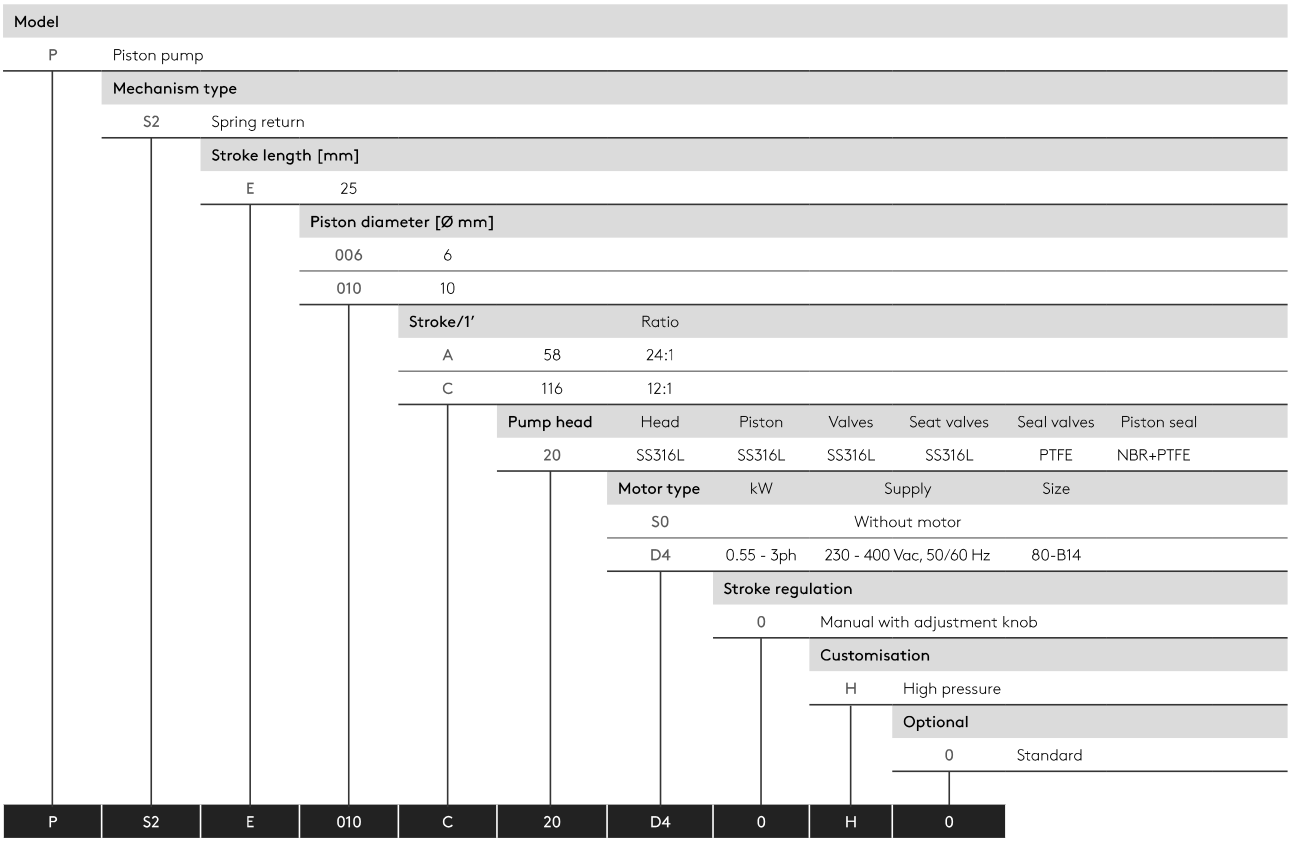
- Flow rate range: 2.5 - 12 l/h, up to 100 bar
- Wetted parts: SS316L, PTFE, NBR

- The PS2 HP series of high-pressure piston dosing pumps can adapt to a large number of applications. Like other variants in the Spring pump series, PS2-HP has a spring-return mechanism in a sturdy aluminium housing but is equipped with special pump bodies, expressly recommended for high-pressure applications that allow this range to dose with backpressures up to 100 bar.
- This model has two stroke rates. Stroke lengths can be set manually with a knob. To achieve the given performance, these pumps need to be actuated by a 3-phase motor, provided with an IP55 protection classification.
- Spring PS2 HP has been designed for use in applications requiring an economic and practical solution for dosing small amounts of product at high pressure, up to 100 bar: in a boiler, for example.

Specification

Model	Piston 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]
PS2E006A20D40H0	6	25	58	2.5	100	BSPm ¼"	0.55/4 (D4)	10	435 x 295 x 520
PS2E006C20D40H0			116	5					
PS2E010A20D40H0	10		58	6					
PS2E010C20D40H0			116	12					

Spring PS2 HP key code



Spring PS1

Spring-return plunger piston dosing pump

- Flow rate range: 1.5 - 304 l/h, up to 20 bar
- Wetted parts: SS316L, PVC, PTFE, FPM, EPDM and Ceramic

- The PS1 series is designed for applications that require lower flow rates than the PS2 series while offering multiple combinations of pump head, motor power and piston stroke length. This achieves multiple hydraulic characteristics for adapting to a large number of applications.
- Like PS2, each model can be configured with two different stroke rates and is available with 3-phase or single-phase motors, both with IP55 protection.
- Versions with a 12 Vdc motor are available that achieve flow rates between 34 and 350 l/h at pressure up to 20 bar.

Specification

Model	Diameter [mm]	Stroke length [mm]	Frequency [stroke/1′]	Flow rate [l/h]	Max pressure [bar] SS316L	Max pressure [bar] PVC	Connections SS316L	Connections PVC	Motor [kW/pole]	Weight [kg] SS316L	Weight [kg] PVC	Packing size L x W x H [mm]
	6		58	1.5	20	10	BSPf ¼"	BSPf ¼"	0.18/4 (A4)	10.0	8.5	
			116	3								
	11		58	5	20	10*	BSPf ¼"	BSPf ¼"	0.18/4 (A4)	10.0	8.5	
			116	10								
	17		58	11	20	10*	BSPf ⅜"	BSPf ⅜"	0.18/4 (A4)	10.0	8.5	435 x 295 x 520
			116	22								
	25		58	25	20	10*	BSPf ⅜"	BSPf ⅜"	0.18/4 (A4)	10.0	8.5	
			116	50								
	30	25	58	35	20	10*	BSPf ⅜"	BSPf ⅜"	0.25/4 (B4)	11.5	10.0	
			116	70								
	38		58	55	17	10*	BSPf ⅜"	BSPf ⅜"	0.25/4 (B4)	13.0	10.0	
			116	110								
	48		58	85	10	10	BSPf ½"	BSPf ½"	0.25/4 (B4)	13.0	10.0	
			116	170								520 x 350 x 590
	54		58	110	8	8	BSPf ½"	BSPf ½"	0.25/4 (B4)	15.0	10.5	
			116	220								
	64		58	152	6	4	BSPf ¾"	BSPf ¾"	0.25/4 (B4)	16.0	15	
			116	304								

* Available with special Enforced Pump Head for use up to 20 bar

Spring PS1 key code

Model	
P	Piston pump

Mechanism type	
S1	Spring return

Stroke length [mm]	
D	15

Piston diameter [Ø mm]	
006	6
011	11
017	17
025	25
030	30
038	38
048	48
054	54
064	64

Stroke/1'		Ratio
A	58	24:1
C	116	12:1

Pump head	Body	Balls	Piston	Seat	Sealings
21	SS316L	SS316L	SS316L	SS316L	FPM
24	SS316L	SS316L	SS316L	SS316L	EPDM
31	PVC	Ceramic	PTFE	PTFE	FPM
34	PVC	Ceramic	PTFE	PTFE	EPDM

Motor type	kW	Supply	Size
S0		Without motor	
A4	0.18 - 3ph	230 - 400 Vac, 50/60 Hz	63-B14
B4	0.25 - 3ph	230 - 400 Vac, 50/60 Hz	71-B14
H4	0.25 - 1ph	230 Vac, 50 Hz	71-B14
I4	0.37 - 1ph	230 Vac, 50 Hz	71-B14

Stroke regulation	
0	Manual with adjustment knob
L	Automatic with linear actuator of Aktua series

Customisation	
0	Standard
H	High pressure

Optional	
0	Standard
2	(S0 - without motor) + adapter kit

P	S1	D	011	C	31	A4	L	0	0

Spring MS1 AVS

Spring-return diaphragm pump with Assisted Vacuum System®

- Flow rate range: 450 - 1,200 l/h, up to 4.5 bar
- Wetted parts: SS316L, PVC, PP, PVDF, PTFE, FPM, EPDM and Ceramic

- The AVS (Assisted Vacuum System®) is a technical solution patented by SEKO that helps overcome the typical functional limitations of pumps with a spring return. Using this mechanism allows pump performance to be improved by allowing dosing frequency to be raised (stroke/min) without compromising diaphragm lifespan.
- Thanks to AVS, Spring MS1 AVS can reach a flow rate of 1,200 l/h while keeping noise and mechanical stress at a reduced level. Each model can be configured with two different stroke rates and is supplied with a three-phase 2-pole electric motor with IP55 protection.

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	Other	
MS1C138H**W2000	138	6	156	450	4.5	BSPF 1"	0.55/2 (W2)	18.5	12.5	520 x 350 x 590
MS1C138Q**W2000			232	750				18.5	12.5	
MS1C165Q**W2000	165		232	1,200	2			22.0	13.5	

Spring MS1 AVS key code

Model

M Diaphragm pump

Mechanism type

S1 Spring return

Stroke length [mm]

C 6

Diaphragm diameter [Ø mm]

138 138

165 165

Stroke/1'		Ratio
H	156	18:1
W	232	12:1

Pump head	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

Motor type	kW	Supply	Size
S0		Without motor	
W2	0.55 - 3ph	230 - 400 Vac, 50/60 Hz	71-B14
Y2	0.55 - 1ph	230 Vac, 50 Hz	71-B14

Stroke regulation

0 Manual with adjustment knob

L Automatic with linear actuator of Aktua series

Customisation

0 Standard

Optional

A AVS - Assisted Vacuum System®

M	S1	C	165	W	51	W2	0	0	A

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] SS316L	PP/ PVC	PVDF	Connections SS316L	Other	Motor [kW/pole]	Weight [kg] SS316L	Other	Packing size L x W x H [mm]
			58	5.5									
	64		78	8						0.18/4 (A4)			
			116	11									
		2	58	20									
	94		78	26						0.18/4 (A4)			
			116	40									
			58	60									
	108	4	78	80						0.18/4 (A4)			520 x 350 x 590
			116	120									
			58	155				BSPf ¼"	BSPf ¼"				
	138		78	220						0.37/4 (C4)			
			116	310				BSPf 1"	BSPf 1"				
		6	58	230									
	165		78	330	5	5	5			0.37/4 (C4)			
			116	500	3	3	3						

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

Spring MS1 key code

Model									
M	Diaphragm pump								
Mechanism type									
S1	Spring return								
Stroke length [mm]									
A	2								
B	4								
C	6								
Diaphragm diameter [Ø mm]									
064	64								
094	94								
108	108								
138	138								
165	165								
Stroke/1'		Ratio							
A	58	24:1							
B	78	18:1							
C	116	12:1							
Pump head	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				
Motor type	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						
Stroke regulation									
0	Manual with adjustment knob								
L	Automatic with linear actuator of Aktua series								
Customisation									
0	Standard								
H	High pressure								
Optional									
0	Standard								
2	(S0 - without motor) + adapter kit								

M	S1	B	094	A	51	C4	0	0	0

Spring MSV

Spring-return diaphragm dosing pump

- Flow rate range: 10 - 120 l/h, up to 5 bar
- Wetted parts: SS316L, PVDF, PTFE, FPM, EPDM and Ceramic

- MSV pumps are the latest addition to the Spring range. These diaphragm dosing pumps are designed to ensure reliable and effective long-term dosing of chemicals at an affordable cost. They feature motorised mechanisms with high-performance, high-efficiency motors, mounted vertically over their PP casing to save space, especially where pumps are installed adjacent to one another.
- Thanks to its double-camshaft mechanical structure, the pump offers high levels of stability while maintaining quiet operation and exceptionally accurate flow rates.
- Adaptable to a wide range of uses, Spring MSV stands as an excellent compromise between cost and a high dosing accuracy across a wide variety of liquids, sludge and chemicals.

Specification

Model	Diameter [mm]	Stroke length [mm]	Frequency [stroke/1']	Flow rate [l/h]	Max pressure [bar] SS316L	Max pressure [bar] PVDF	Connections SS316L	Connections PVDF	Motor [kW/pole]	Weight [kg]	Packing size L x W x H [mm]
			26	10							
			43	20							
		4.2	86	40							
	70		130	60			BSPf ⅜"	8x12	0.06/4 (XD)	9.5	370 x 280 x 470
		5	144	90							
		6.8	144	120	3	3					

Spring MSV key code

Model

M Diaphragm pump

Mechanism type

SV Spring return [vertical motor]

Stroke length [mm]

I 4.2
F 5
H 6.8

Diaphragm diameter [Ø mm]

070 70

Stroke/1'

M 130
N 86
O 43
P 26
R 144

Pump head	Body	Balls	Diaphragm	O-Ring
21	SS316L	SS316L	PTFE	FPM
24	SS316L	SS316L	PTFE	EPDM
41	PVDF	Ceramic	PTFE	FPM
44	PVDF	Ceramic	PTFE	EPDM

Motor type	kW	Supply
XT	0.06 - 3ph	230 - 400 Vac, 50/60 Hz
XD	0.06 - 1ph	230 Vac, 50 Hz

Stroke regulation

0 Manual with adjustment knob

Customisation

0 Standard

Optional

0 Standard

M	SV	I	070	N	21	XD	0	0	0

Spring with Elektra

Spring pumps with electronic control for proportional dosing

SEKO has harnessed the power of data on demand and the Internet of Things (IoT) to connect its pump users to their equipment like never before with Elektra, a revolutionary controller that provides invaluable live and historical data on demand from any location worldwide.

Currently available for use with the Spring series of motor-driven pumps, Elektra uses a built-in web server to give water-treatment application managers the power to remotely monitor and adjust key pump parameters such as chemical dosage and flow rate via PC, laptop, tablet or smartphone.

This offers vast potential for precise digital dosing, process optimisation and cost control in a vast range of applications.

SEKO brings IoT to mechanical chemical dosing

Features & benefits

Digital control

- **Multiple operating modes** – timed, batch, manual, proportional from analogue or digital signals: 1:N, N:1
- **Intelligent graphic display** – shows red, yellow or green backlight, according to the current operating function
- Electronic control unit interface **can be fixed in multiple positions** to facilitate operation/installation

IoT connection

- **Remote programming and monitoring of** the pump via any internet-connected device including smartphone, tablet or PC
- **Wireless local connection to the pump** is possible even if there is no Wi-Fi at the installation site
- **Data on demand** grants secure remote data management and programming of the pump via the SekoWeb portal or app, from any location worldwide
- **Real-time and historic data available 24/7** directly to any smart device or PC, including alarms to help drive **effective maintenance planning** and rapid technical intervention

Advantages of the Spring series

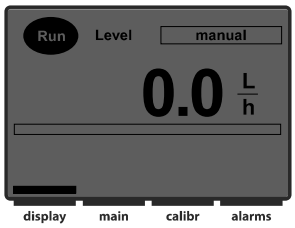
- **Includes a broad range of hydraulic configurations,** reaching high flow rates up to 1,000 l/h, and backpressure up to 20 bar
- **Wide range of applications –** suitable for high-viscosity chemical applications
- **Exceptionally low operating costs** due to the outstanding ease of programming coupled with low maintenance requirement
- **Energy-efficient** motors plus a wide range of materials available for superior chemical compatibility

Spring with Elektra

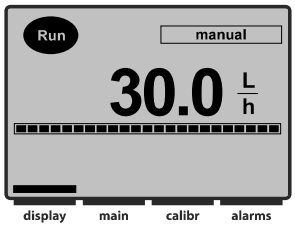
Motor-driven pumps with spring return, electronic control and IoT

Smart graphic display

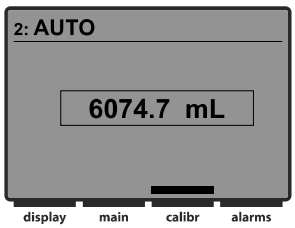
Offers not only a graphic intuitive interface, but also changes colour according to operating function.



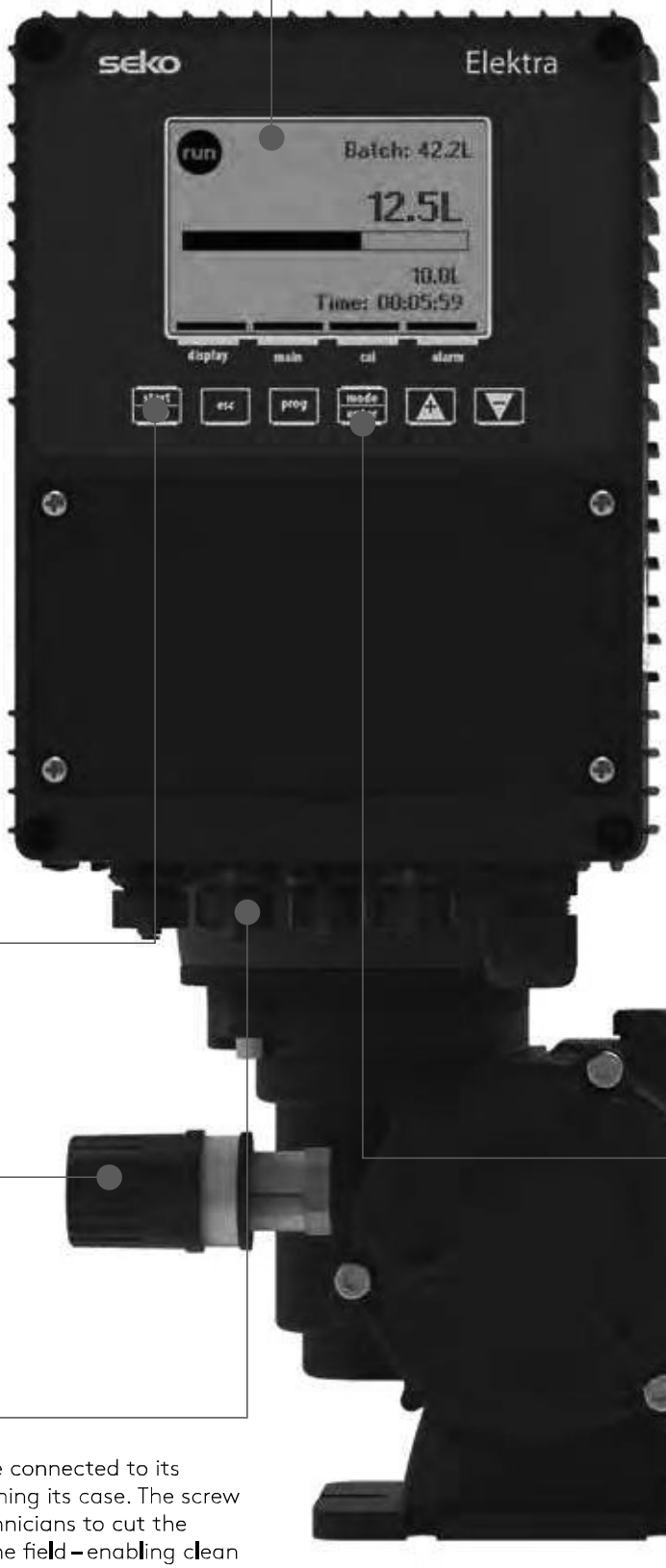
Red - shows alarm mode



Yellow - shows the control unit is connecting to a smart device



Green - shows after the successful completion of a calibration process



Simple fast programming

Elektra's controller allows quick and easy programming from any smart device or laptop, both remotely as well as from the display.

Manual adjustment of stroke length

Provides the ultimate in accuracy when combined with the digital dosing of Elektra's controller.

External connectors

Elektra's external connectors allow the pump to be connected to its accessories and signals from the field without opening its case. The screw terminals available in the plugs supplied allow technicians to cut the connection cables to the right length, directly in the field – enabling clean installations without the need for special tools or excess wiring.

Spring with Elektra technical features

Like all Spring pumps, those equipped with Elektra are based on a spring-return mechanism housed in a sturdy aluminium case, and always provide robust, and effective power. Elektra enhances these benefits by allowing users to link the dosage to signals from the field, and monitor and to programme the pump both locally and via the internet through any smart device or PC.

Hydraulic characteristics

Model	Flow rate [l/h]	Max pressure [bar]	Frequency [stroke/1']	Stroke length [mm]	Diaphragm diameter [mm]	Ingress protection rating
MS1A/B/C Diaphragm pump	up to 500	up to 16	1 - 116	2/4/6	up to 165	IP55
PS1 D Piston pump	up to 304	up to 20	1 - 116	15	up to 64	IP55
PS2 E Piston pump	up to 1,000	up to 20	1 - 116	25	up to 89	IP55

Spring with Elektra key code

Motor type	kW [3ph]	Size
AE	0.18	63-B14
BE	0.25	71-B14
CE	0.37	71-B14
DE	0.55	80-B14
EE	0.75	80-B14
TE	0.25	71-B5
UE	0.37	71-B5

Optional	
N	Elektra - Wi-Fi connection

M	S1	A	094	A	51	CE	0	0	N

Multiple operating modes

- Manual
- Batch
- Timed
- Proportional to mA
- Proportional to V
- PPM
- Proportional to pulses

Spring with Elektra

Motor-driven pumps with spring return, electronic control and IoT

Data on demand

In a world that is increasingly connected, Elektra brings the benefits of data on demand, essential to running an efficient operation across potentially complex installations. Designed to manage operating costs of plants and installations that are continuously under financial pressure, Elektra helps improve cost management and provides peace of mind driven by the knowledge of consistently precise dosing and control.

Direct connection

Even if there is no Wi-Fi network at the installation site, the technician present can connect directly with their smartphone, tablet or PC to Elektra's built-in Wi-Fi hub in order to programme the pump and check its status.

Remote connection via the internet

Where there is a Wi-Fi network, Elektra can use the same communication module integrated in its controller to connect to the internet and exchange data with the cloud, thus allowing the pump to be managed remotely from anywhere in the world, through the portal or the SekoWeb app. Qualified technicians will therefore be able to quickly obtain historical and real-time data on the operation of the pump and be notified in the event of alarms or warnings generated by the system. This allows scheduled maintenance to be planned and reported anomalies to be actioned immediately by remotely reprogramming the pump's dosing parameters.

Elektra web interface

Whether you are operating locally or remotely, the Elektra web interface provides the operator with:

- **Instant values:** displays overview of the real-time status of the system including pump operating mode, pump status and alarm status.
- **Graphs and levels:** displays the time graphs of the several pump parameters chosen for monitoring by the user.
- **Alarms:** displays the active alarms. If the pump has been registered in the portal and is being accessed through SekoWeb, it is possible to view the log of all the received alarms with date, time and type.
- **General settings:** a section where the user can set the operating mode of the pump and adjust dosing parameters.
- **Statistics/counters:** provides an overview of the statistics of the system under control.
- **Advanced settings:** available only to users with appropriate permissions, this allows them to set other advanced device parameters and to stop, start and pause the pump remotely.
- When accessing the local pages of the internal webserver, further sections are available for updating pump firmware and setting network parameters, such as the password of the Wi-Fi network, needed to connect the device to the internet.

Modbus RTU over RS485 serial port

Modbus standard protocol means cross-device connection and communication, allowing the user to create a wired network of standard Modbus devices. Elektra can become part of bigger plant, made of several industrial devices, all controlled by a local controller such as a PC or PLC.

Wi-Fi for a direct connection and connecting online

Elektra's integrated Wi-Fi interface allows both local direct connection to the pump's internal programming webpages from any smart device, and the connection of the pump to a Wi-Fi network available in the plant, to allow the pump to be monitored and programmed remotely via the internet, through the SekoWeb portal or app.