Spring Motor Driven Pumps with Elektra - PS1D



1. Main technical characteristics

- Flow Rate up to 304 l/h / Pressure up to 10 bar
- Mechanically return actuated by Spring
- Turn-down ratio 1:100
- Stroke Rate up to 116 strokes/minute
- Stroke Length: 15 mm
- Stroke length adjustment: manually using rotary dial in 1% increments
- Average repeatability is ± 2% in the 20 - 100% adjustment range under defined conditions and with correct installation
- Piston diameter: from 6 to 64 mm
- **Pump power supply voltage 230VAC, 50/60Hz**
- External quick connectors (for signal/communication cables) for improved operation safety
- Temperature of the working environment: 5 ÷ 40°C
- Maximum dosed liquid temperature:
  SS 316L 90 °C
  PVC 40 °C
- Hydraulic connection: up to Gf 3/4"
- Enclosure Protection Class: IP55
- Material of Pump Head: SS316/PVC

2. Electronic Motor Driver features

- WiFi connection with a built-in Web Server user friendly through a Web browser
- Intelligent Graphic LCD display with multicolor backlights
- Multiple operating modes (Manual | Batch | Timed | ppm | Analogue mA and V | Multiply 1: N | Divide N:1)
- Analogic Current 0/4-20 and 20-4/0 mA Input for proportional speed
- Analogic Voltage 0-10 V Input
- Digital Pulse Input 1 kHz for proportional dosing for water-meter pulse-sender
- Liquid Level Control Input (NO/NC)
- Remote Control pause/stop Input
- Analogic Current 4-20 mA Output
- Relay for remote alarm Output
- ModBus RS485 Protocol integrated on the main board

3. General features

- Spring Motor Pump with Elektra is the latest range of electric motor-driven pumps with mechanical diaphragm and piston liquid ends, using a spring mechanical return aimed at delivering exceptional performance across a wide range of flow and pressure.
- The Elektra controller is a digital device currently applied to Spring pump series, to bring connectivity to mechanical dosing with modern benefits of remote management and data on demand to operators.
- Spring motor pump with Elektra provide remote management and data on demand providing optimal technical and operating cost management.
- Spring series equipped with Elektra is a range of reciprocating membrane or piston pumps that use as drive an asynchronous three phase motor with four poles. Thanks to the ELEKTRA controller this type of motor can be speed controlled in order to regulate the strokes rate from 100% down to 0% using a variable speed drive for AC motors.

Technical data can be changed without notice.

- For short this series can be described as compact, lightweight, robust and simple pump range specifically designed for low discharge pressures, durability and cost effectiveness.
- Used in water treatment and industrial applications where a proportional dosing is a must, the mechanically-actuated PTFE diaphragm design extends diaphragm life by eliminating the stresses, thus the piston pump can be used for high-pressure applications.

4. Codification

Model

P	Piston pump

Mechanism type

S1	S1 Spring Mechanism

Stroke length [mm]

D	15

Piston diameter [Ømm]

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

Stroke regulation

0	Manual with adjustment knob

Customization

0	Standard

Optional

N	Elektra - Wi-Fi connection

P	S1	D	011	C	31	AE	0	0	N

5. Specification

Hydraulic Characteristics

Pump Model	Piston Diameter [mm]	Stroke/min	Flow rate		Max back pressure				Suction/Discharge Connection		Electric Motor 50/60 Hz 3 phases [kW]
					bar		p.s.i.				
			l/h	gl/h	SS 316	PVC	SS 316	PVC	SS 316	PVC	
P S 1 D 0 0 6 A	6	58	1,5	0,40	20	10	290	145	1/4" Gf	1/4" Gf	0,18 (AE)
P S 1 D 0 0 6 C		116	3	0,79							
P S 1 D 0 1 1 A	11	58	5	1,32	20	10	290	145	1/4" Gf	1/4" Gf	0,18 (AE)
P S 1 D 0 1 1 C		116	10	2,64							
P S 1 D 0 1 7 A	17	58	11	2,90	20	10	290	145	3/8" Gf	3/8" Gf	0,18 (AE)
P S 1 D 0 1 7 C		116	22	5,81							
P S 1 D 0 2 5 A	25	58	25	6,60	20	10	290	145	3/8" Gf	3/8" Gf	0,25 (BE)
P S 1 D 0 2 5 C		116	50	13,21							
P S 1 D 0 3 0 A	30	58	35	9,25	20	10	290	145	3/8" Gf	3/8" Gf	0,37 (CE)
P S 1 D 0 3 0 C		116	70	18,49							
P S 1 D 0 3 8 A	38	58	55	14,53	17	10	247	145	3/8" Gf	3/8" Gf	0,37 (CE)
P S 1 D 0 3 8 C		116	110	29,06							
P S 1 D 0 4 8 A	48	58	85	22,45	10	10	145	145	1/2" Gf	1/2" Gf	0,37 (CE)
P S 1 D 0 4 8 C		116	170	44,91							
P S 1 D 0 5 4 A	54	58	110	29,06	8	8	116	116	1/2" Gf	1/2" Gf	0,37 (CE)
P S 1 D 0 5 4 C		116	220	58,12							
P S 1 D 0 6 4 A	64	58	152	40,15	6	4	87	58	3/4" Gf	3/4" Gf	0,37 (CE)
P S 1 D 0 6 4 C		116	304	80,31							

6. Liquid End Material

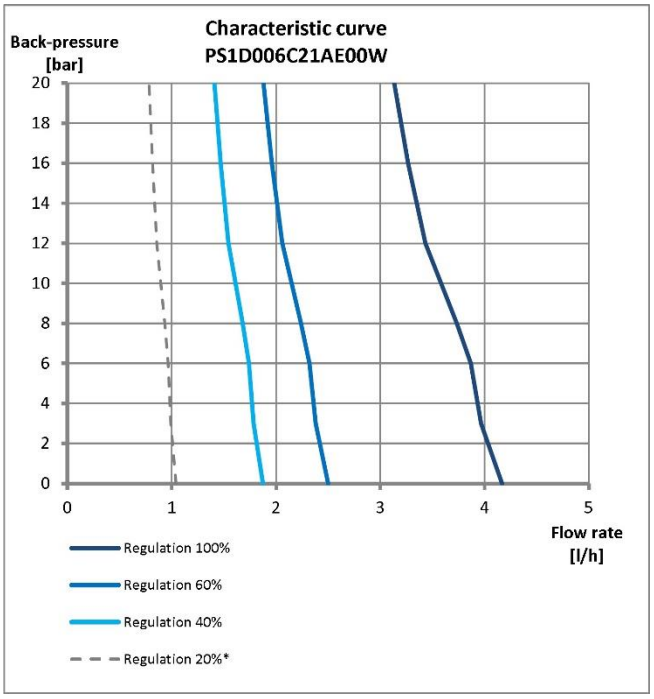
Material	Liquid End Body			
	21	31	24	34
Pump Head	SS 316L	PVC	SS 316L	PVC
Piston		Ceramic	Ceramic	Ceramic
Seal	FPM		EPDM	
Ball	SS 316L	Ceramic	SS 316L	Ceramic
Ball Seat		PTFE		PTFE

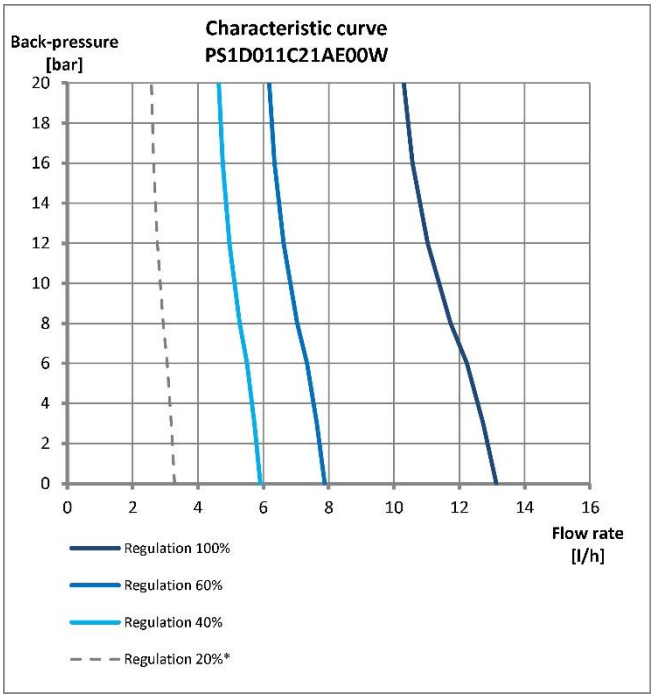
7. Painting requirements

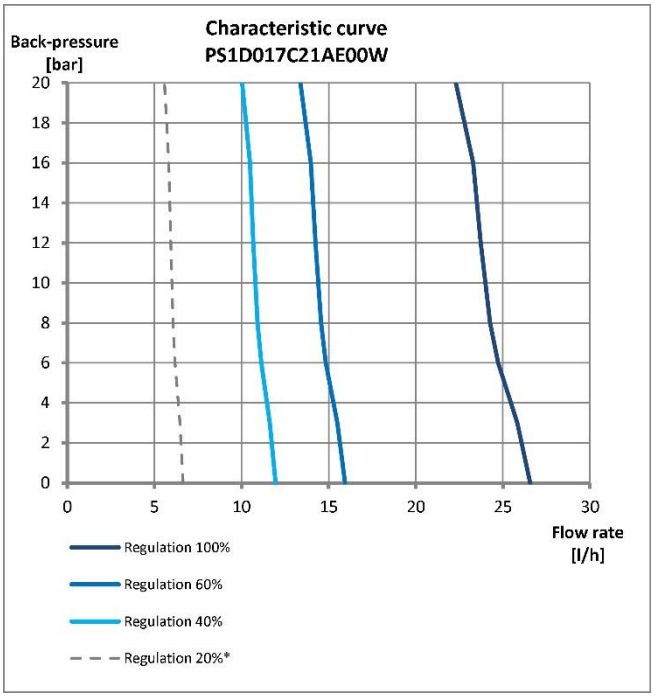
The anti-corrosion painting process for dosing pump applications requires an entire coating thickness of between 0.06mm and 0.20mm.

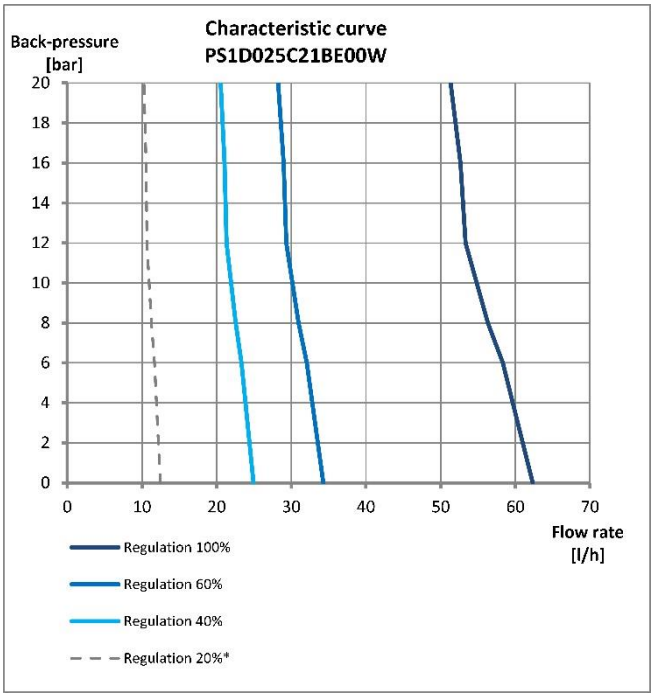
Technical data can be changed without notice.

8. Performance curve P [bar] - Q [l/h]

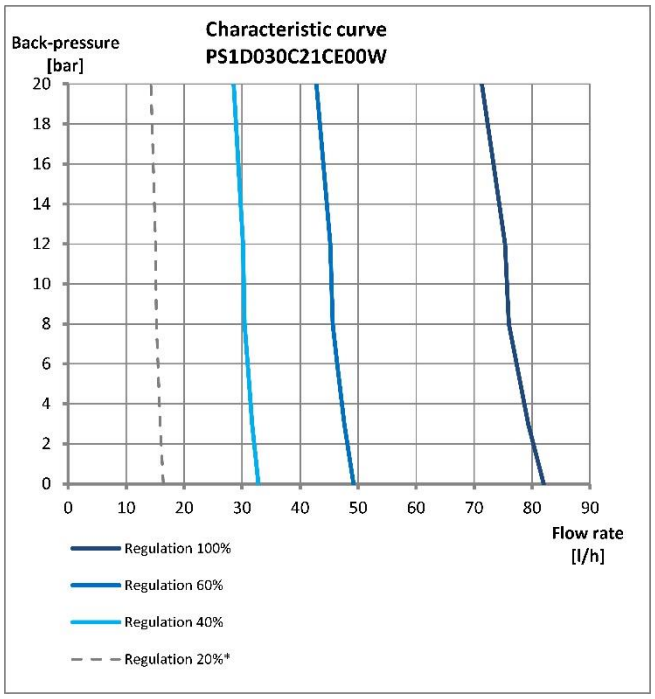


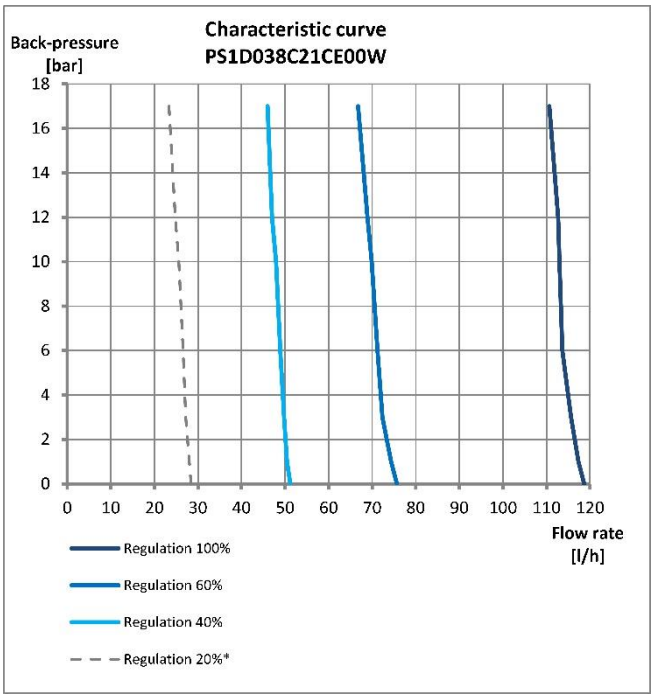


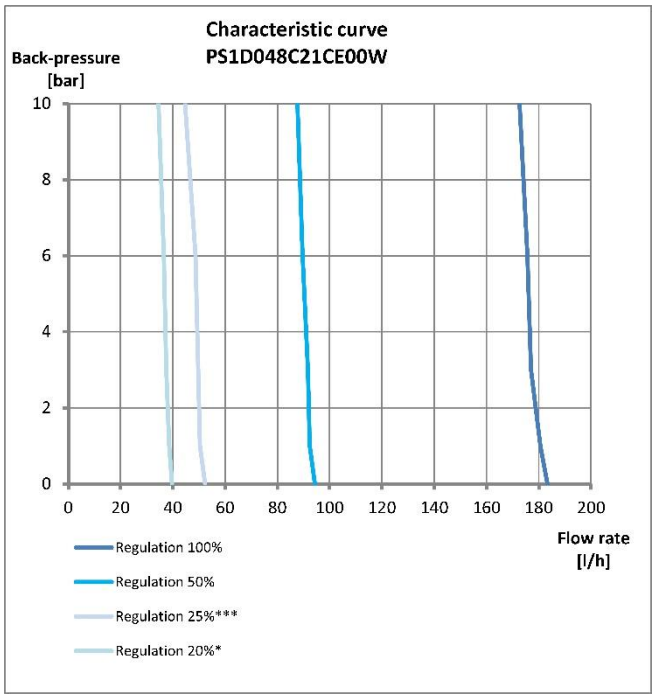


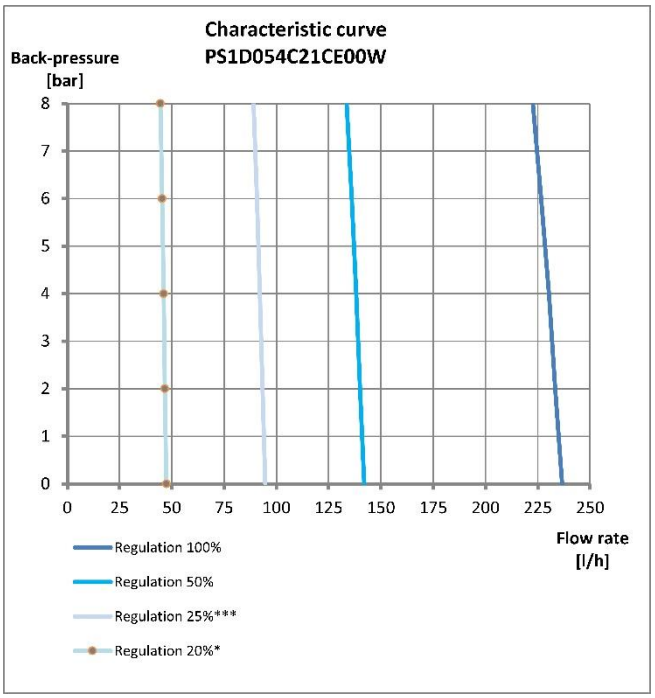


8. Performance curve P [bar] - Q [l/h]



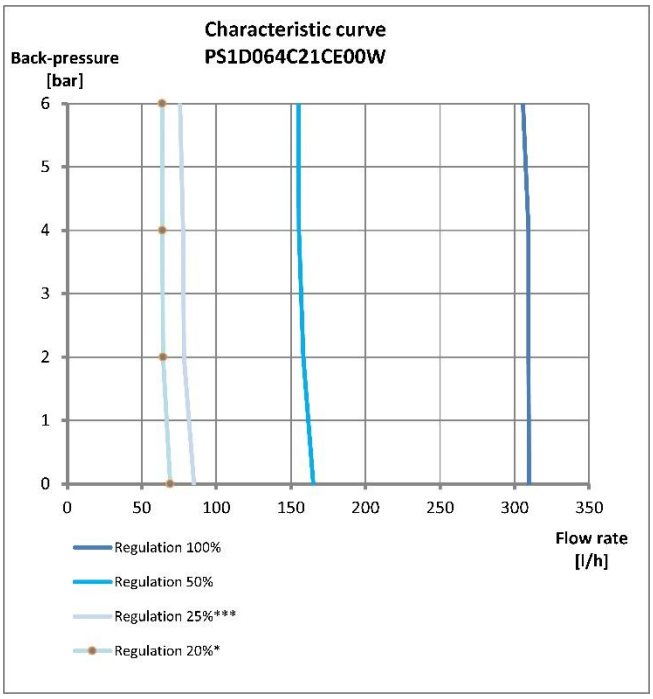






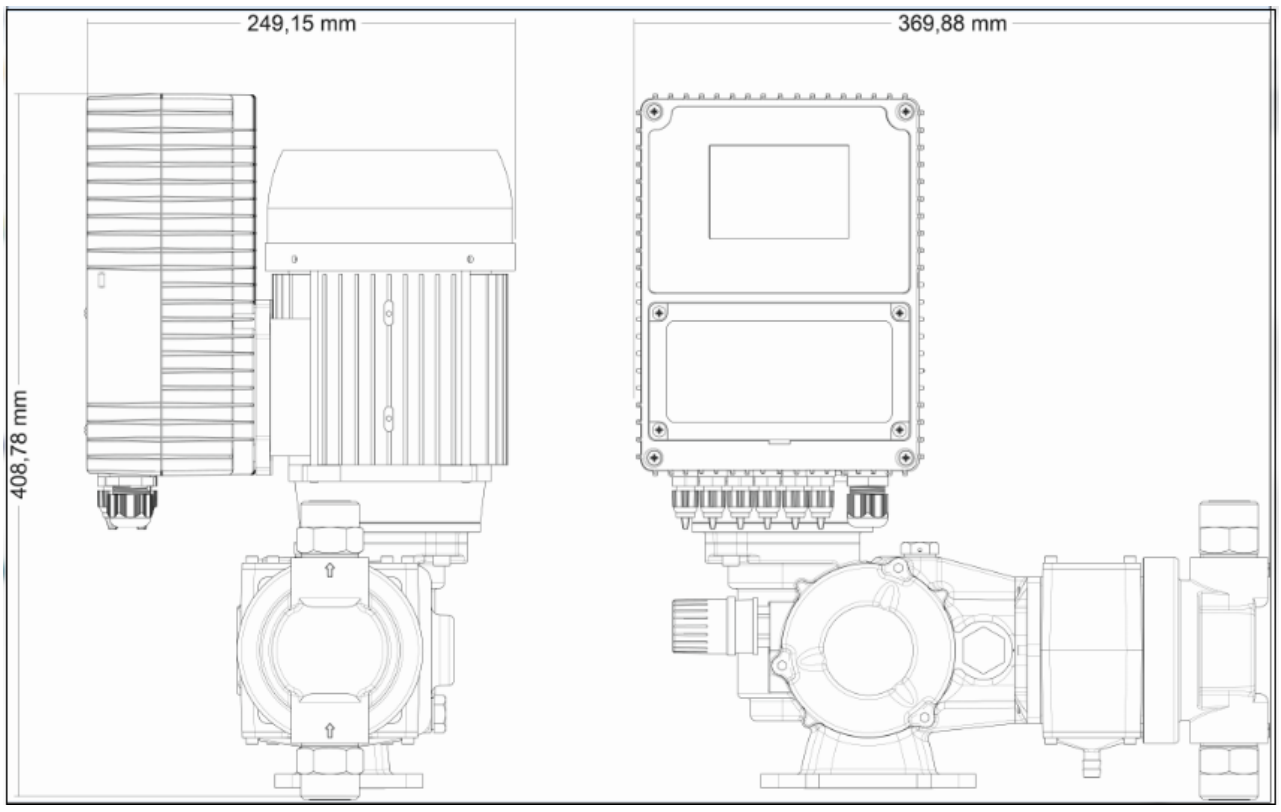
Technical data can be changed without notice.

8. Performance curve P [bar] - Q [l/h]



9. Installation Drawing

All dimensions are in mm.



Technical data can be changed without notice.
PS1D Spring pump with Elektra rev 5.0