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
- Piston diameter: from 6 to 64 mm
- Motor up to 0.25 kW – B14 – 3ph - 50/60 Hz
- Temperature of the working environment: 5 ÷ 40°C
- Maximum dosed liquid temperature:
  SS 316L 90 °C
  PVC 40 °C
- 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)
- 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 an optional device that can be currently applied to Spring pumps 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 motor pump with Elektra are reciprocating membrane or piston pumps; they use an asynchronous three phase motor with four poles. This type of motor can be speed controlled in order to regulate the strokes rate from 100% down to 0% using a variable speed drives for AC motors.
- A compact, lightweight, robust and simple pump series specifically designed for low discharge pressures, durability and cost effectiveness.
- Used in water treatment and industrial applications where a proportional dosing is requested, 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

ELEKTRA - KEY TO MODEL NUMBER

Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10
P	S1	D	054	C	21	CE	0	0	W

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	customization
Field 9	optional
Field 10	optional

Field 1	**model**	
model	P	Piston
	M	Membrane
Field 2	**mechanism type**	
type	S1	S1 Piston / Membrane
	S2	S2 Piston
Field 3	**stroke lenght**	Stroke lenght [mm]
stroke lenght	A	2 MS1A
	B	4 MS1B
	C	6 MS1C
	D	15 PS1D
	E	25 PS2E
Field 4	**diameter**	Diaphragm [mm]
Diaphragm	006	6 PS1
	011	11 PS1
	017	17 PS1
	025	25 PS1 / PS2
	030	30 PS1 / PS2
	038	38 PS1 / PS2
	048	48 PS1 / PS2
	054	54 PS1 / PS2
	064	64 MS1 /PS1 / PS2
	076	76 PS2
	089	89 PS2
	094	94 MS1
	108	108 MS1
	138	138 MS1
	165	165 MS1
Field 5	**stroke/min**	Strokes / minute
stroke/min	A	24:1 58 MS1 /PS1 / PS2
	B	18:1 78 MS1
	C	12:1 116 MS1 /PS1 / PS2

Field 6	**pump head**	DIAPHRAGM - Standard Execution				
		head	diaphragm/piston	valve	seat	O-Ring
Diaphragm	21 / 24	SS316L	PTFE	SS316L	SS316L	FPM / EPDM
	31 / 34	PVC	PTFE	CERAMIC	PTFE	FPM / EPDM
	41 / 44	PVDF	PTFE	CERAMIC	PTFE	FPM / EPDM
	51 / 54	PP	PTFE	CERAMIC	PTFE	FPM / EPDM
Piston	21 / 24	SS316L	SS316L	SS316L	SS316L	FPM / EPDM
	31 / 34	PVC	CERAMIC	CERAMIC	PTFE	FPM / EPDM

Field 7	**motor power**	kW	supply	phase	size
motor power	0	Without motor			
	AE	0.18	230/400 Vac	3	63-B14
	BE	0.25	230/400 Vac	3	71-B14
	CE	0.37	230/400 Vac	3	71-B14
	DE	0.55	230/400 Vac	3	80-B14
	EE	0.75	230/400 Vac	3	80-B14
	TE	0.25	230/400 Vac	3	71-B5
	UE	0.37	230/400 Vac	3	71-B5

Field 8	**customization**	
customization	0	
	6	
	7	
	8	
Field 9	**optional**	
opt.	0	
	A	
Field 10	**optional**	
opt.	0	
	W	WiFi Connection

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	
PS1D006A PS1D006C	6	58 116	1,5 3	0,40 0,79	20	10	290	145	1/4" Gf	1/4" Gf	0,18 (AE)
PS1D011A PS1D011C	11	58 116	5 10	1,32 2,64	20	10	290	145	1/4" Gf	1/4" Gf	0,18 (AE)
PS1D017A PS1D017C	17	58 116	11 22	2,90 5,81	20	10	290	145	3/8" Gf	3/8" Gf	0,18 (AE)
PS1D025A PS1D025C	25	58 116	25 50	6,60 13,21	20	10	290	145	3/8" Gf	3/8" Gf	0,25 (BE)
PS1D030A PS1D030C	30	58 116	35 70	9,25 18,49	20	10	290	145	3/8" Gf	3/8" Gf	0,37 (CE)
PS1D038A PS1D038C	38	58 116	55 110	14,53 29,06	17	10	247	145	3/8" Gf	3/8" Gf	0,37 (CE)
PS1D048A PS1D048C	48	58 116	85 170	22,45 44,91	10	10	145	145	1/2" Gf	1/2" Gf	0,37 (CE)
PS1D054A PS1D054C	54	58 116	110 220	29,06 58,12	8	8	116	116	1/2" Gf	1/2" Gf	0,37 (CE)
PS1D064A PS1D064C	64	58 116	152 304	40,15 80,31	6	4	87	58	3/4" Gf	3/4" Gf	0,37 (CE)

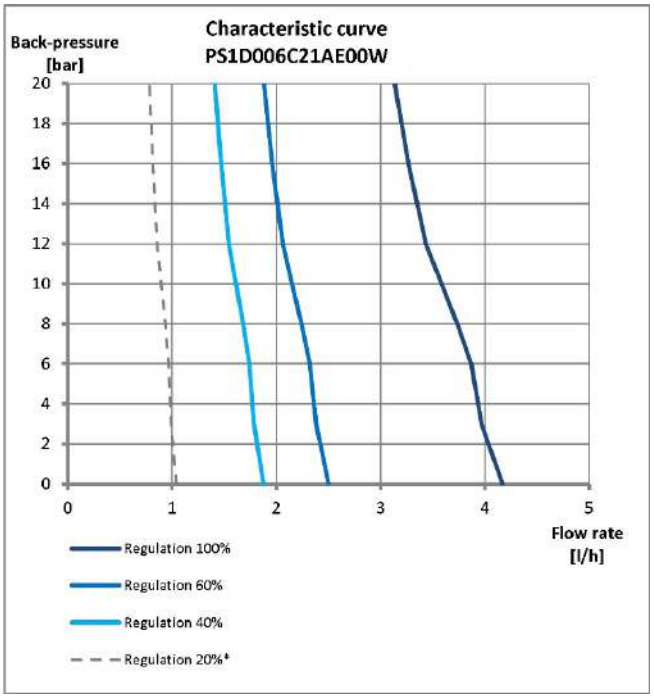
6. Liquid End Material

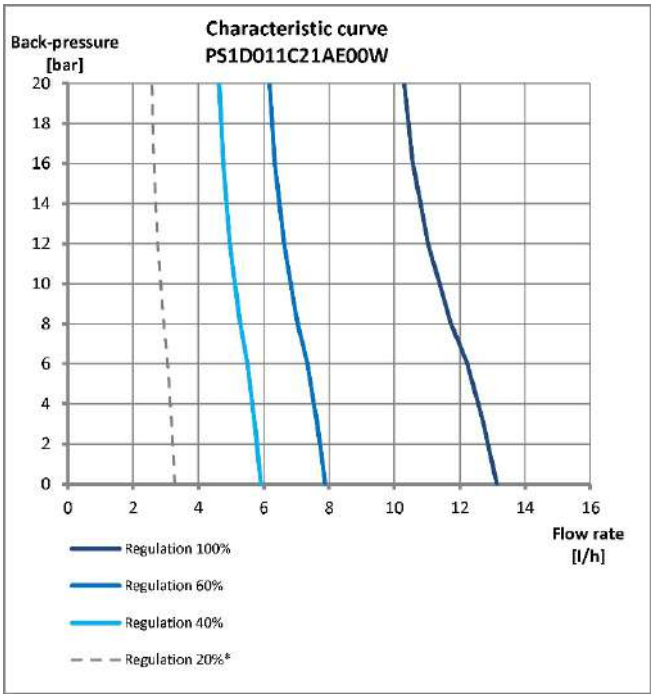
Material	Liquid End Body			
	21	31	24	34
Pump Head	SS 316L	PVC	SS 316L	PVC
Piston		Ceramic	Ceramic	Ceramic
Seal	FPM		EPDM	
Ball	SS 316L	Ceramic	SS 316L	Ceramic
Ball Seat		PTFE		PTFE

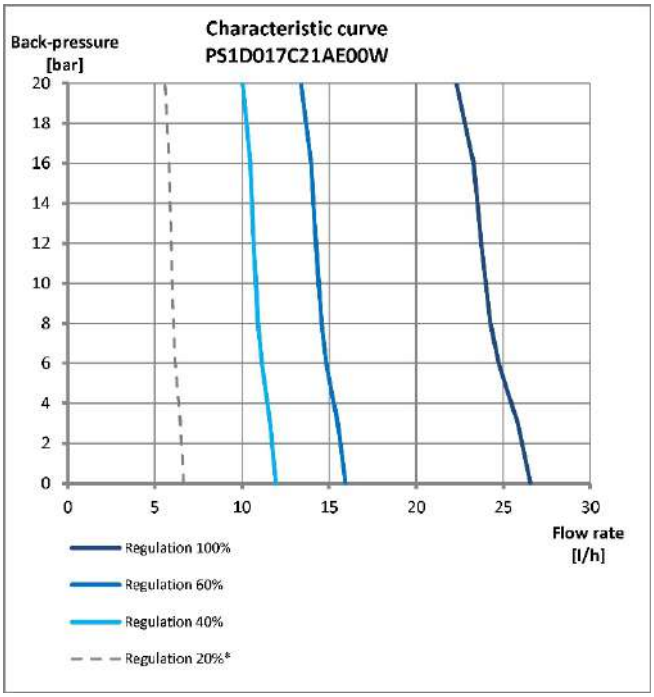
7. Painting requirements

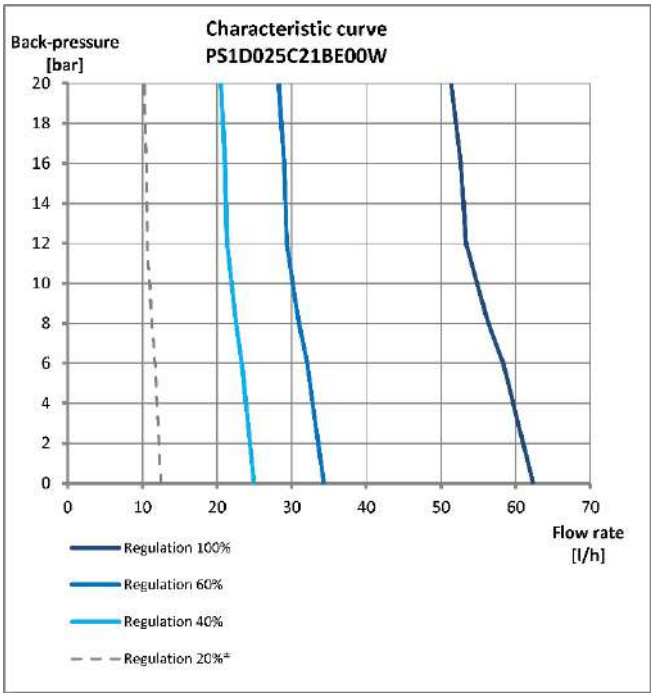
The anti-corrosion painting process for dosing pump applications requires an entire coating thickness of between 0.06mm and 0.20mm.

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

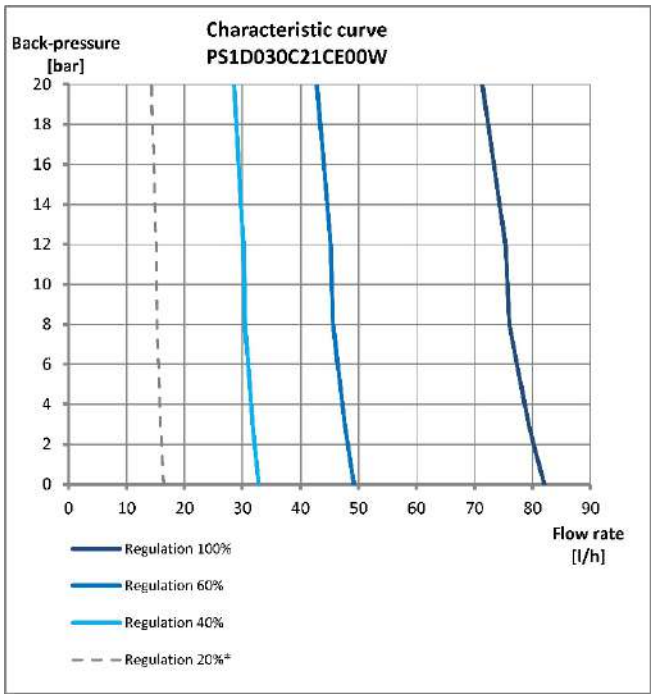


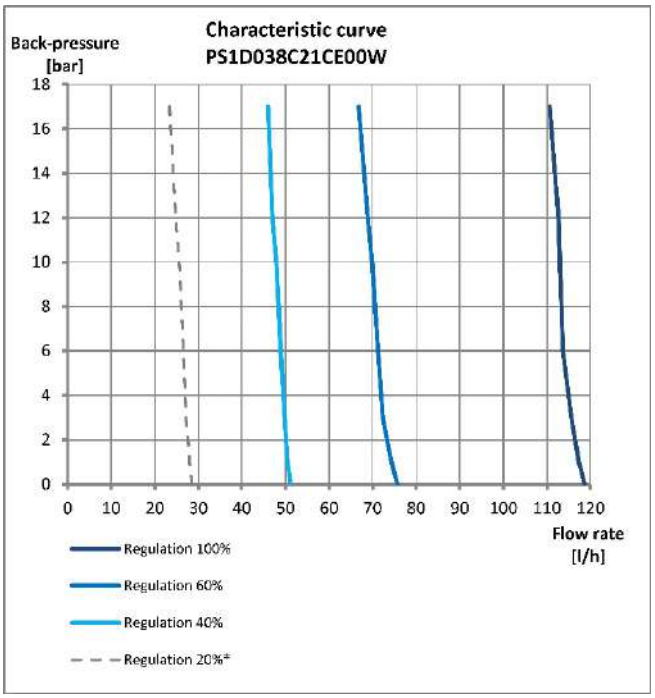


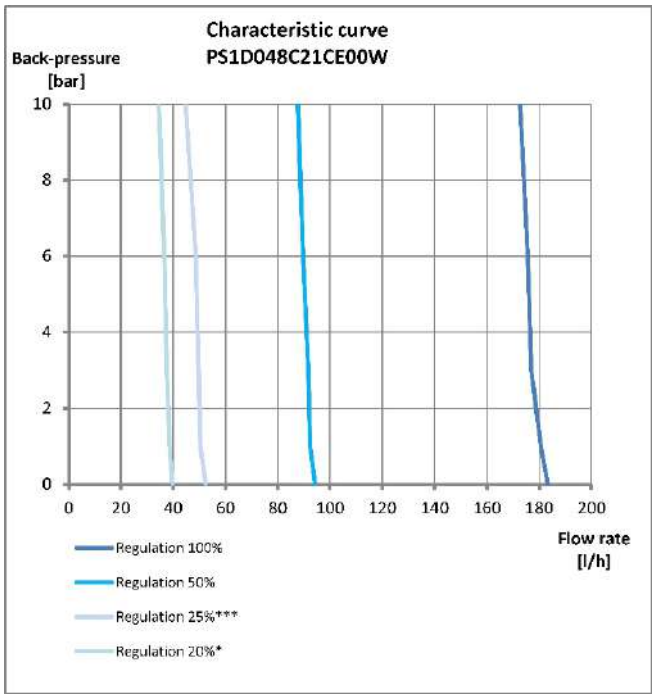


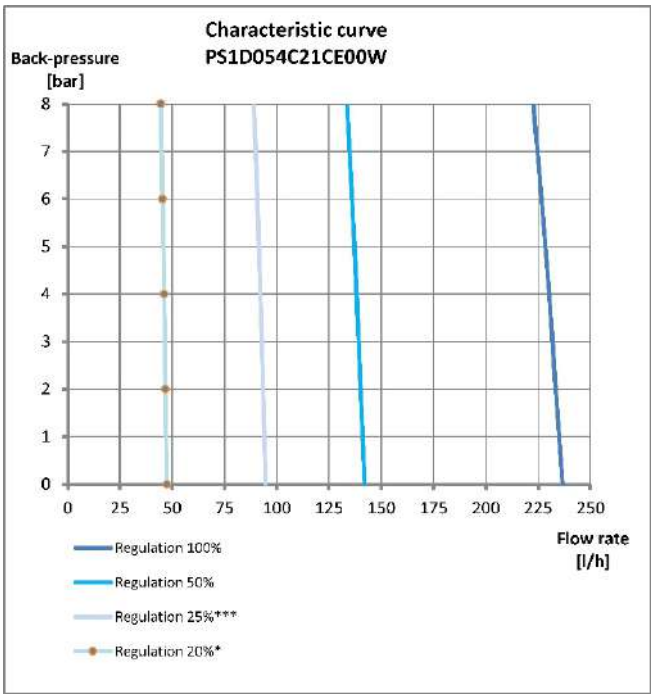


8. Performance curve P [bar] - Q [l/h]

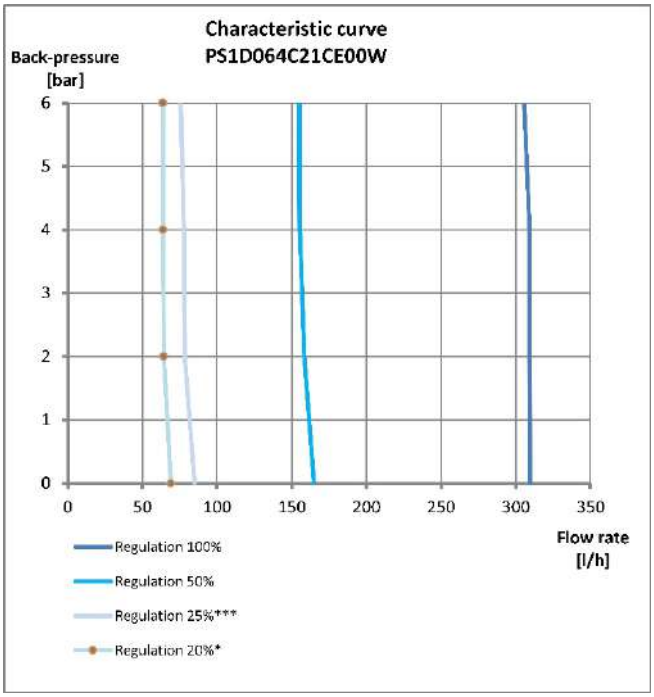








8. Performance curve P [bar] - Q [l/h]



9. Installation Drawing

All dimensions are in mm.