



PCM Keep it moving

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Plunger Dosing Pumps P3 Series

Characteristics

- | | | |
|-----------------------|----------------------|---|
| - Maximum flow-rate | : 1960 l/h (simplex) | - Adjustable from 0 to 100 % |
| - Minimum flow-rate | : 3 l/h (simplex) | - Servo control of stroke length and speed available. |
| - Maximum pressure | : 350 Bar | - Multiplexing. |
| - Minimum temperature | : -10 °C | - Electric motor drive. |
| - Maximum temperature | : 150 °C | |
| - Precision | : ± 0.5 % | |



Advantages

▶ Of plunger design

- Regular doses.
- Flow accuracy and control.
- High self-priming capability.
- High pressure.

▶ Of design related to experience

- Simplicity and ruggedness.
- Positive (spring-loaded) fast and reliable valve closure.
- User safety by safety valve integrated into pumphead.
- Built-in emergency spare parts.

▶ Of PCM POMPES

- A network of skilled technical and sales people ready to advise you on selection and installation.
- Before and after-sales service.

The range

The PCM range of dosing pumps includes mechanical diaphragm dosing pumps, plunger pumps, systems with actuated valves and complete skids of integrated dosing systems.

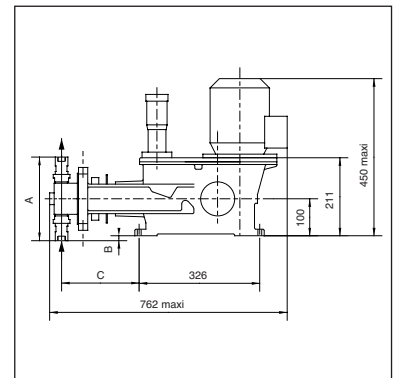


Materials

Pumphead code	Materials								Comments
	Plunger	Pumphead	Packing	Valve					
				housing	ball	seat	spring	gasket	
S	AISI 316L	AISI 316L	PTFE + KEVLAR	AISI 316L	AISI 316L	AISI 316L	AISI 316L	PTFE	Stainless steel
SA	AISI 316L	AISI 316L	Viton O-ring	AISI 316L	AISI 316L	AISI 316L	AISI 316L	PTFE	Food version stainless steel with AISI 316L lantern ring
SC	AISI 316L + Revetox	AISI 316L	PTFE + KEVLAR	AISI 316L	AISI 440	Tungsten carbide	AISI 316L	PTFE	Stainless steel for abrasive liquids
SR	AISI 316L	AISI 316L	PTFE + KEVLAR	AISI 316L	AISI 316L	AISI 316L	AISI 316L	PTFE	Stainless steel pumphead with heating jacket
SL	AISI 316L	AISI 316L	PTFE + KEVLAR	AISI 316L	AISI 316L	AISI 316L	AISI 316L	PTFE	Stainless steel with AISI 316L lantern ring

Overall dimensions

Plunger Ø in mm	Connections			Dimensions (mm)						Weight (kg)
	S, SC SL	SA	SR	A		B		C	D	
				S	SA	S	SA			Approximate
8 to 28	1/4" G female	3/8" G male	Consult PCM	160	120	20	40	/	/	70
36 to 56	1/2" G female	SMS ND 25		226	214	-13	-7	/	/	75
63 to 90	1" G female	SMS ND 51		300	322	-50	-61	/	/	80
95 to 105	1 1/4" G female	SMS ND 51		350	390	-75	-95	/	/	80



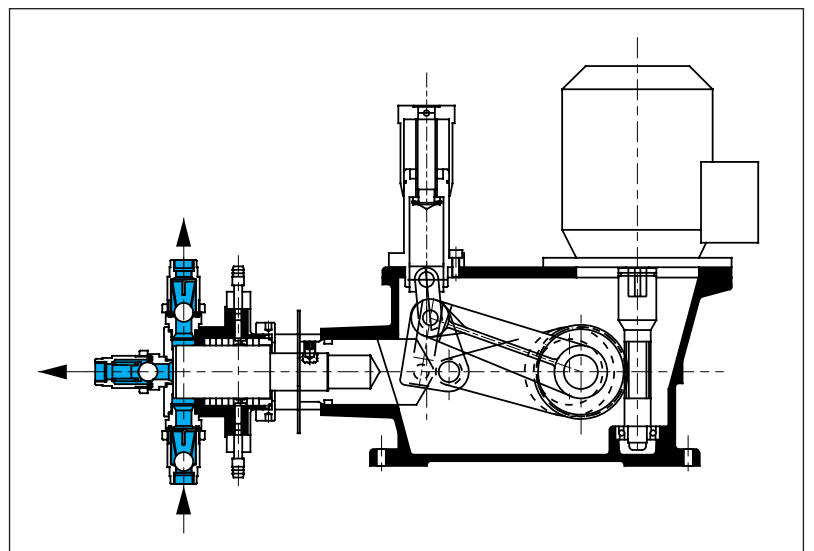
Construction

Pumphead

The pumphead includes the pumphead housing, a suction valve, a discharge valve and an optional safety valve (no available on food version). The valves are of the single-ball type with spring-loaded return. Construction details are given in the table **materials**.

Plunger

Construction details are given in the table **materials**. Sealing either by o-ring or PTFE packing rings.



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Performances

The max. pressures shown are for Simplex Pumps.
For Duplex Pumps, divide this figure by 1.2 and for Triplex by 1.35.

Materials :

- S : stainless steel
- SA : stainless steel, food version according to piston diameter, max. pressures between 3,5 and 15 bar
- Sc : stainless steel for abrasive liquids
- SR : stainless steel with heated dosing unit
- Sl : stainless steel in conformity with API specifications
- Z : special, on request

Plunger Ø in mm	Capacity per stroke cm ³	Speed in strokes/min	Flow-rate in l/h	Max pressure in bar for 1500 rpm motor			Connections (S)
				0.55 kW(E)	1.1 kW(H)	1.5 kW(K)	
105	260	130	1964	-	3	4.5	G 1 1/4" female
		100	1505	-	3.5	4.5	
		65	982	2	4.5		
		30	466	4.5			
95	213	130	1608	-	3.5	5.7	
		100	1232	1.5	4	5.7	
		65	804	2.5	5.7		
		30	381	5.7			
90	191	130	1443	2	6.2		
		100	1105	3	6.2		
		65	721	4.5	6.2		
		30	342	6.2			
80	151	130	1140	3	8		
		100	873	5	8		
		65	570	6	8		
		30	270	8			
72	122	130	922	4	9.5		
		100	707	6	9.5		
		65	461	7	9.5		
		30	219	9.5			
63	93.5	130	707	5	13		
		100	542	8	13		
		65	353	9.5	13		
		30	168	13			
56	73.9	130	558	7	16		
		100	428	12	16		
		65	279	16			
		30	132	16			
48	54.3	130	410	10	22		
		100	314	16	22		
		65	205	22			
		30	97	22			
42	41.6	130	314	12	28		
		100	240	21	28		
		65	157	28			
		30	74	28			
36	30.5	130	231	18	40		
		100	177	30	40		
		65	115	40			
		30	55	40			
28	18.5	130	140	27	65		
		100	107	48	65		
		65	70	65			
		30	33	65			
18	7.6	130	58	70	157		
		100	44	118	157		
		65	29	157			
		30	14	157			
12	3.4	130	26	160	350		
		100	20	265	350		
		65	13	350			
		30	6	350			
8	1.5	130	11	180	350		
		100	9	350			
		65	6	350			
		30	3	350			

Housing

The housing is rugged and made of FGL 250 cast iron. The design allows multiplexing.

Drive

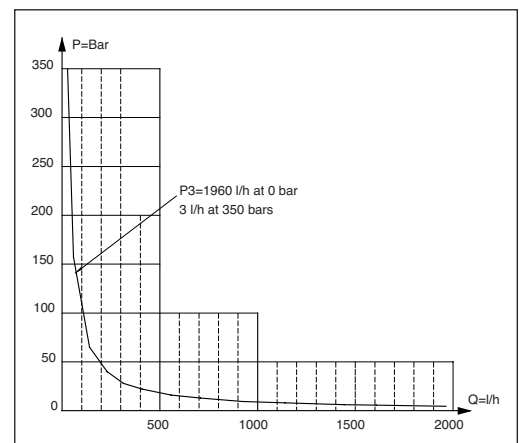
The drive systems used are mounted directly on the housing and feature a motor with IP55 protection.

Code	Motor version
M	Single-phase standard 220 V
T	Three-phase standard multi-voltage
A	Three-phase (EExdIIBT4)
E	Three-phase increased safety
F	Three-phase standard + clutch brake
W	No motor

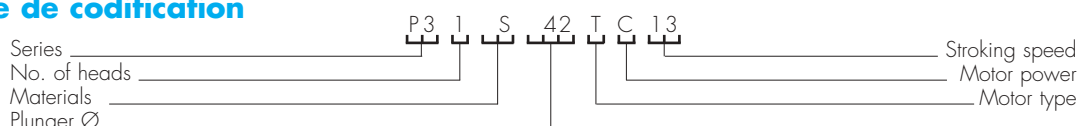
Stroke adjustment

Manual flow-rate adjustment is obtained by a micrometer screw with a vernier graduated as a percentage of the stroke. Servo adjustment is possible by electric or pneumatic servo-motor.

Performance diagram (simplex pump)



Exemple de codification



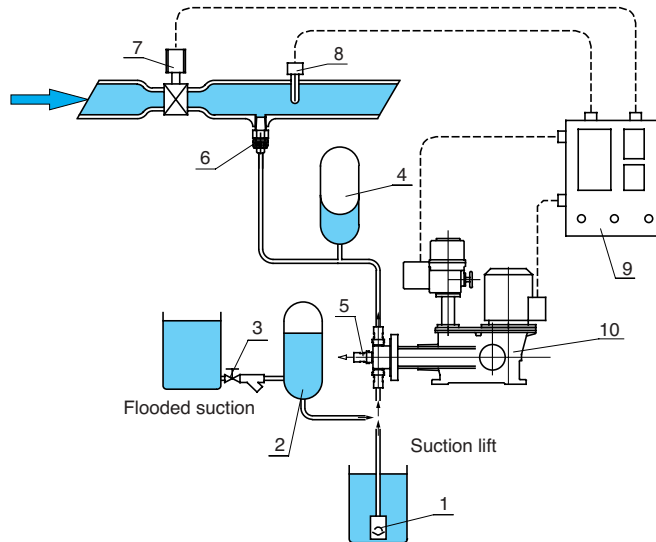


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Accessories



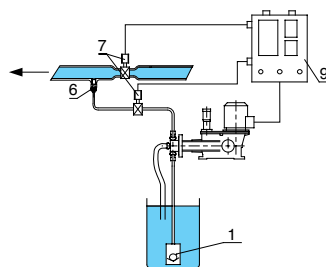
- 1- Foot valve / strainer
- 2- Suction pulsation damper
- 3- Flooded suction kit
- 4- Pulsation damper
- 5- Pressure relief valve

- 6- Injection fitting : calibrated valve
- 7- Flow-meter
- 8- PH probe
- 9- Control cabinet
- 10- Pump with servo-motor and variable speed motor

Basic applications

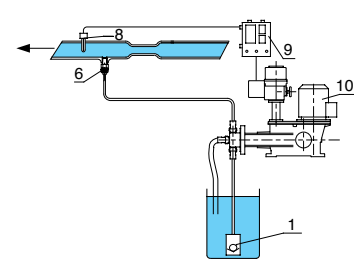
- Reagent injection
- Low and high temperature products
- High pressure
- Micro flow-rates
- Difficult suction tasks
- API 675 conformity
- High temperature CIP

Continuous dosing proportional to a variable flow in a closed loop



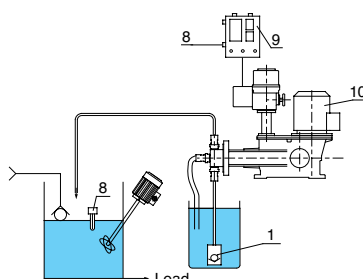
Typical case : Chemical, pharmaceutical or food preparation

Physical or chemical parametered dosing by on-line regulation in closed loop



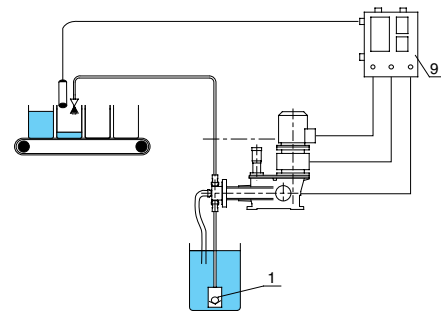
Typical case : pH regulation

Physical or chemical parametered dosing by batch regulation in closed loop



Typical case : Bath neutralization

Conditioning



Typical case : Filling jars