

Smoothy
Metering Pumps

PDS



The more pure water
The more safe chemicals
The more precise plant

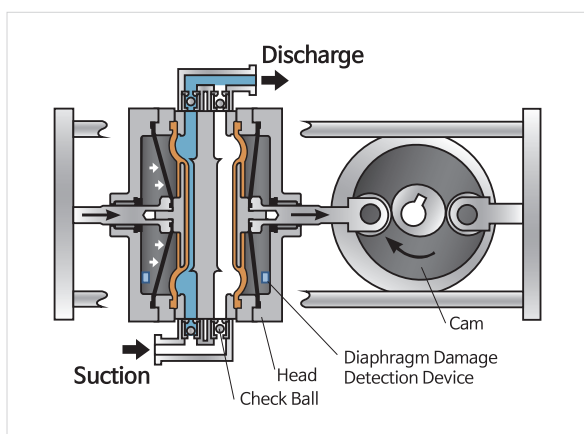
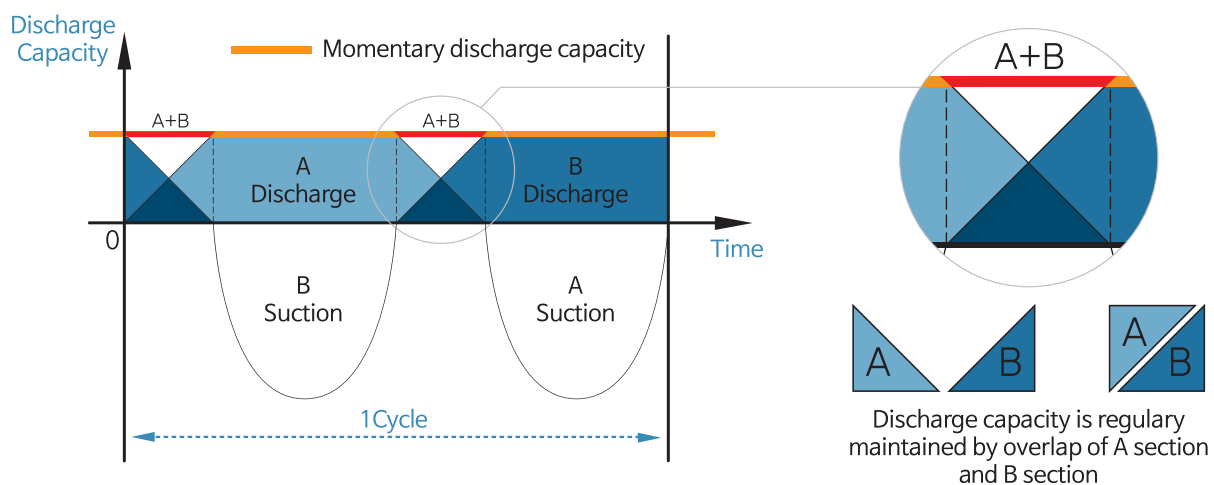
KEMPION always is with the more good environment

Smoothy Metering Pumps PDS

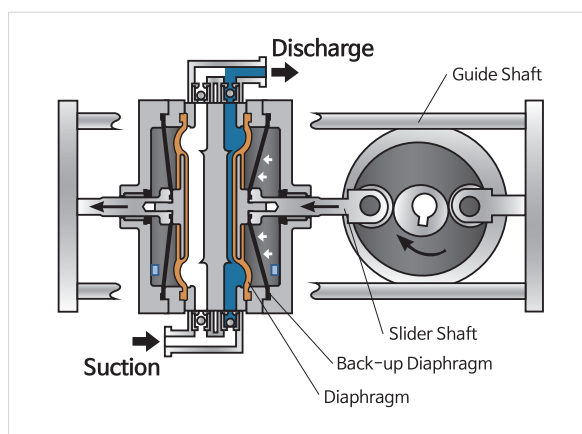
Available up to maximum 20,000mPa·s
Diaphragm Damage Detection Device is standard
Attaching BLDC Motor of high control ability
Pulse rate within $\pm 3\%$



Operation principle

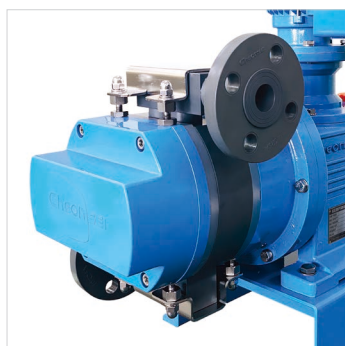


A Discharge



B Discharge

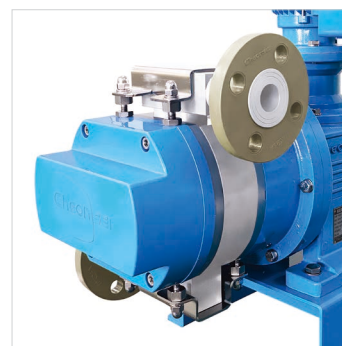
Material & Connection Example



PVC Flange Type



SSC14 Clamp Type



PVDF Flange Type

Model Code

PDS -
 10 -
 S S -
 F W S -
 1 2

① Capacity

1 : 1.2 L/min 3 : 2.5 L/min
5 : 5.5 L/min 10 : 10.5 L/min

② Liquid End Material

(a) Head

S : SSC14 P : PVC
F : PVDF

(b) Check ball

S : STS316 C : CERAMIC

④ Connection

F : Flange C : Clamp
X : Special

⑤ Viscosity

W : Standard V : High viscosity

⑥ Power Supply (BLDC)

S : 3Ø 380~480V X : Special
A : 3Ø, 1Ø 200~240V

⑦ Option

0 : Excluded
1 : Diaphragm Damage Detection Device

⑧ Remote control type of discharge capacity

0 : Inverter
2 : BLDC M/C UNIT (AUTO)
3 : BLDC M/C UNIT (MANU)

Specifications

Specifications		PDS-1	PDS-3	PDS - 5	PDS - 10	
Max. Capacity		L/min (L/h)	1.2 (72)	2.5 (150)	5.5 (330)	10.5 (630)
Max. Discharge Pressure		MPa(bar)	0.5(5)			
Pulse Rate(F/S)		%	± 3.0			
Connection	FLANGE (Standard)	Discharge	KS10K15A		KS10K25A	
		Suction			KS10K25A	KS10K40A
	FLANGE (High Viscosity)	Discharge	KS10K15A		KS10K25A	
		Suction			KS10K40A	
	CLAMP (Standard)	Discharge	1.5S 20A		1.5S 25A	
		Suction			1.5S 25A	1.5S 32A
	CLAMP (High Viscosity)	Discharge	1.5S 20A		1.5S 25A	
		Suction			1.5S 32A	
Max. Liquid Temp		℃	SS, FC : 0~80℃ / PC : 0~50℃ / Ambient temperature : 0~40℃			
Max. Viscosity		mPa·s	20,000			
BLDC M/C UNIT	Motor		0.25kW / FR63			0.55kW / FR71
			8 Poles Brushless DC / Max RPM : 1750 / Insulation Class : F / IP55			
			TENV(Totally Enclosed, Non-Ventilated)			
	Driver	Power Supply	200V Class : 1Ø, 3Ø AC200~240V / 400V Class : 3Ø AC380~480V			
		Input Signal	REMOTE : Remote input signal 4~20mA, LOCAL : Adjustable with Keypad			
			Remote RUN/STOP			
		Output Signal	ISOLATED 4~20mA/Operating & Over Current (Err) Relay Contact Output			
Control Range	10~100% of Max. RPM (※for inverter 20~100% of Max. RPM)					
Other Functions		RATIO Operation (Setting Range : 0~100% of remote input signal) / IP55				
Weight		kg	42	42	48	56
Painting			Munsell No 0.6PB 4.8/10.6 (The color of the motor is manufacturer standard.)			

Note) 1. Maximum capacity is tested under standard status(room temperature, clean water).

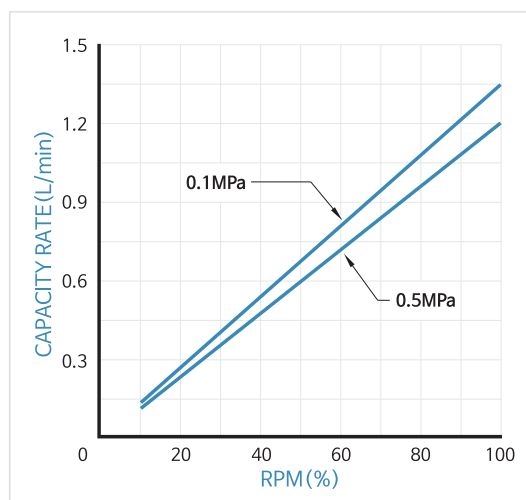
2. Weight is based on flange(SS Type) connection & BLDC M/C UNIT.

3. The Specifications and design above could be changed for improvement without prior notice.

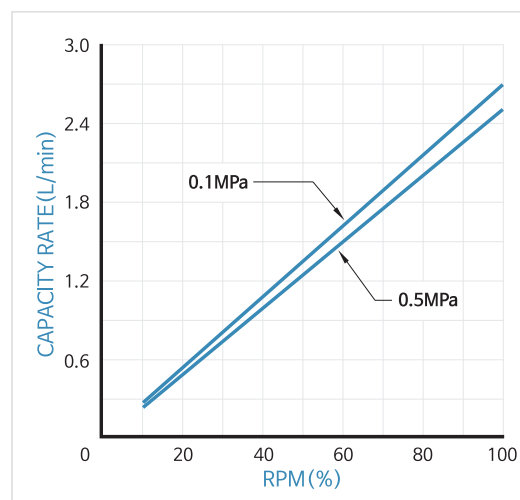
4. Please refer the instruction manual enclosed separately for BLDC M/C UNIT operation.

Performance Curve

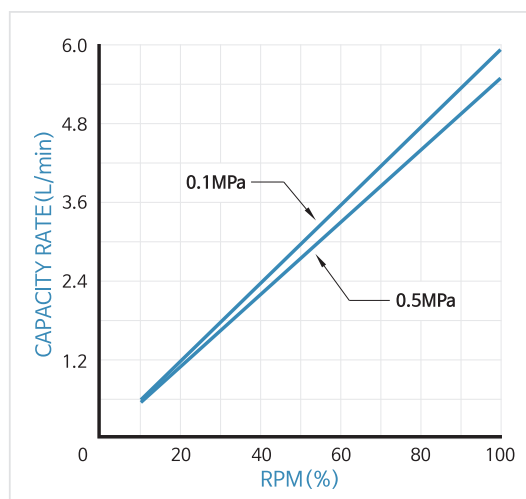
• PDS-1



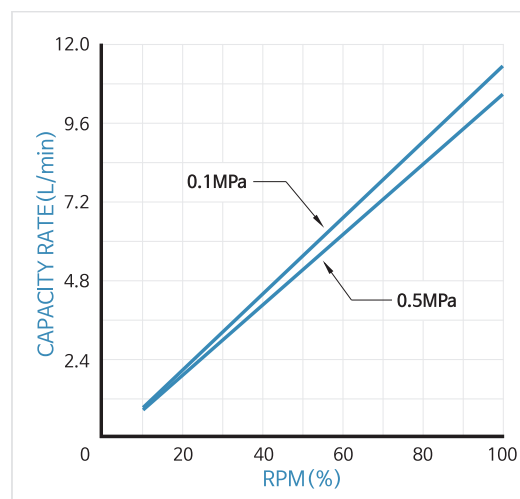
• PDS-3



• PDS-5



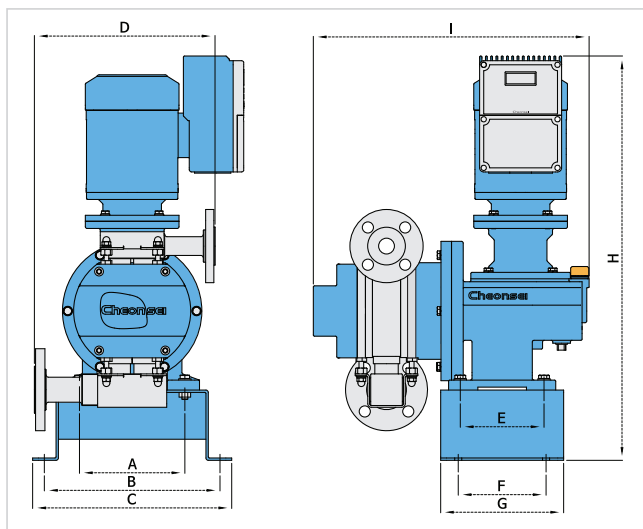
• PDS-10



Liquid End Material

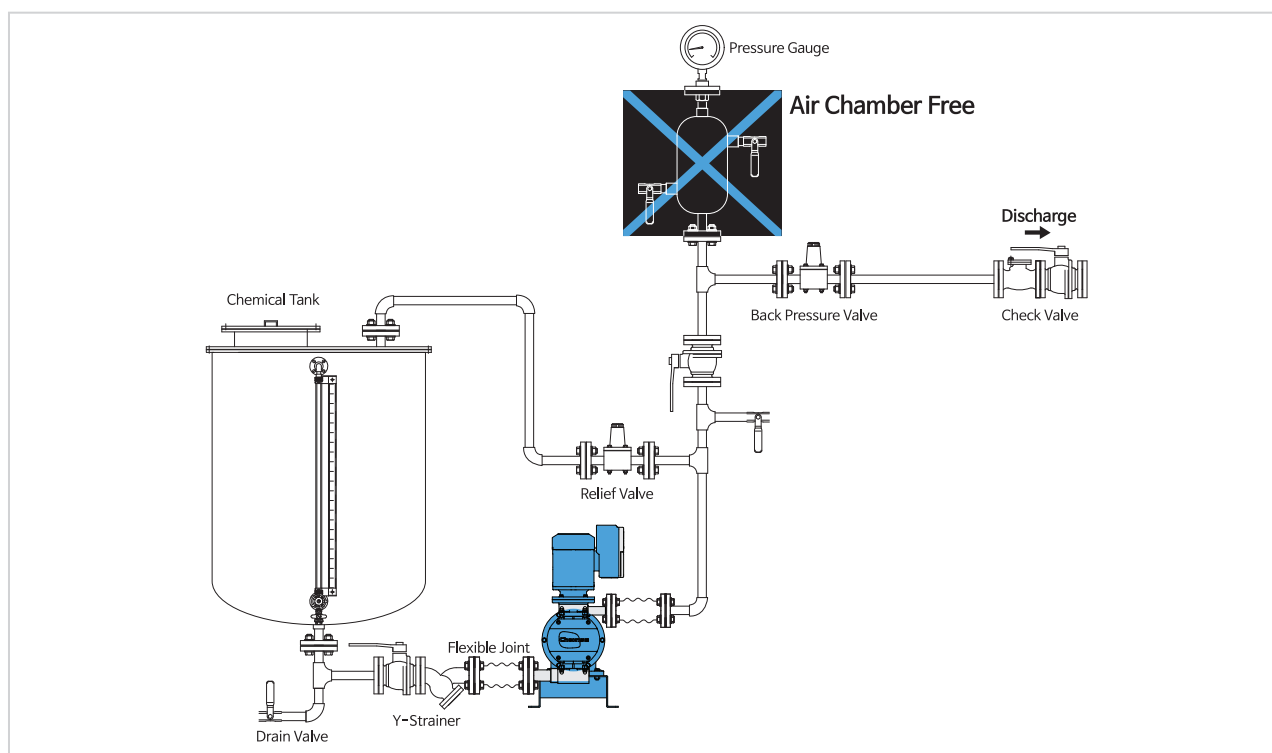
Parts Name	PC	FC	SS
Head	PVC	PVDF	SSC14
Diaphragm	PTFE	PTFE	PTFE
Check ball	CERAMIC	CERAMIC	STS316
Ball guide	PVC	PVDF	STS316
Ball stopper	PVC	PVDF	STS316
Joint	PVC	PVDF	STS316(SSC14)
O-ring, Packing	FKM	FEP(+SIL)	FEP(+SIL)

Dimensions



Size	PDS-1,3	PDS-5	PDS-10
A	180	180	180
B	300	300	300
C	340	340	340
D	235	283	308.5
E	143	143	143
F	150	150	150
G	210	210	210
H	620	620	690
I	450.5	470	470

Piping Diagram of KEMPION Smoothy Metering Pumps



Possible to achieve production process with high quality

It is possible to find automatic process and defeat rate can be lowered, owing to immediate discharge response when stop & start.



No need for Air Chamber

Because it removes the origin of pulsation by operating method of constant velocity cam, Air Chamber is not necessary.



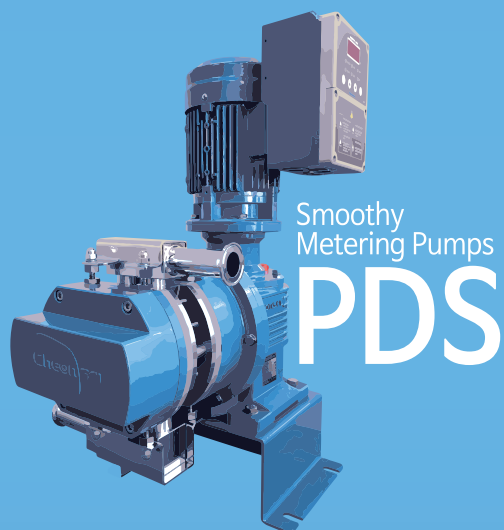
Cost and space can be reduced by simplified piping installation

It is economical because length of piping can be shortened and installation place can be easily secured by no need for Air Chamber & Back Pressure Valve.



Easy maintenance

KEMPION Smoothy Metering Pumps using constant velocity cam provides convenience for maintenance. Because it does not need to fill up air for the function maintenance of Air Chamber.



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