

KEMPION



ISO 9001
Certified Company

Solenoid Metering Pumps

For Chemical Dosing by Electronic Control

SP-D Deluxe Display



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Progressed by Experience
& New Technology

SOLENOID METERING PUMPS SP



■ Features

- Easy and precise flow control with LCD display
- Mounting the Protection Cover for Control Panel
- Prevent damage from overload by built-in Thermal Protection
- The operation status can be checked with Status Lamp(LED)
- Sealing and Accuracy are improved by double check Valve
- Can cope with difficult environments by robust IP65 class and casing material of chemical resistance
- Various auto-control function (Option)
 - Ratio Control by input signal of PULSE
 - Ratio Control by input signal of 4 ~ 20mA
 - Alarm for Low Level & Signal Error
 - Remote START & STOP

■ Applications

- Used for injection of Boiler Chemical, Chlorine Disinfectants, Food Additives, and used for dosing chemicals in various industrial fields including physico-chemical fields, semiconductor device, water treatment, waste water treatment fields, etc.

● Easy & Safe Air Vent Valve



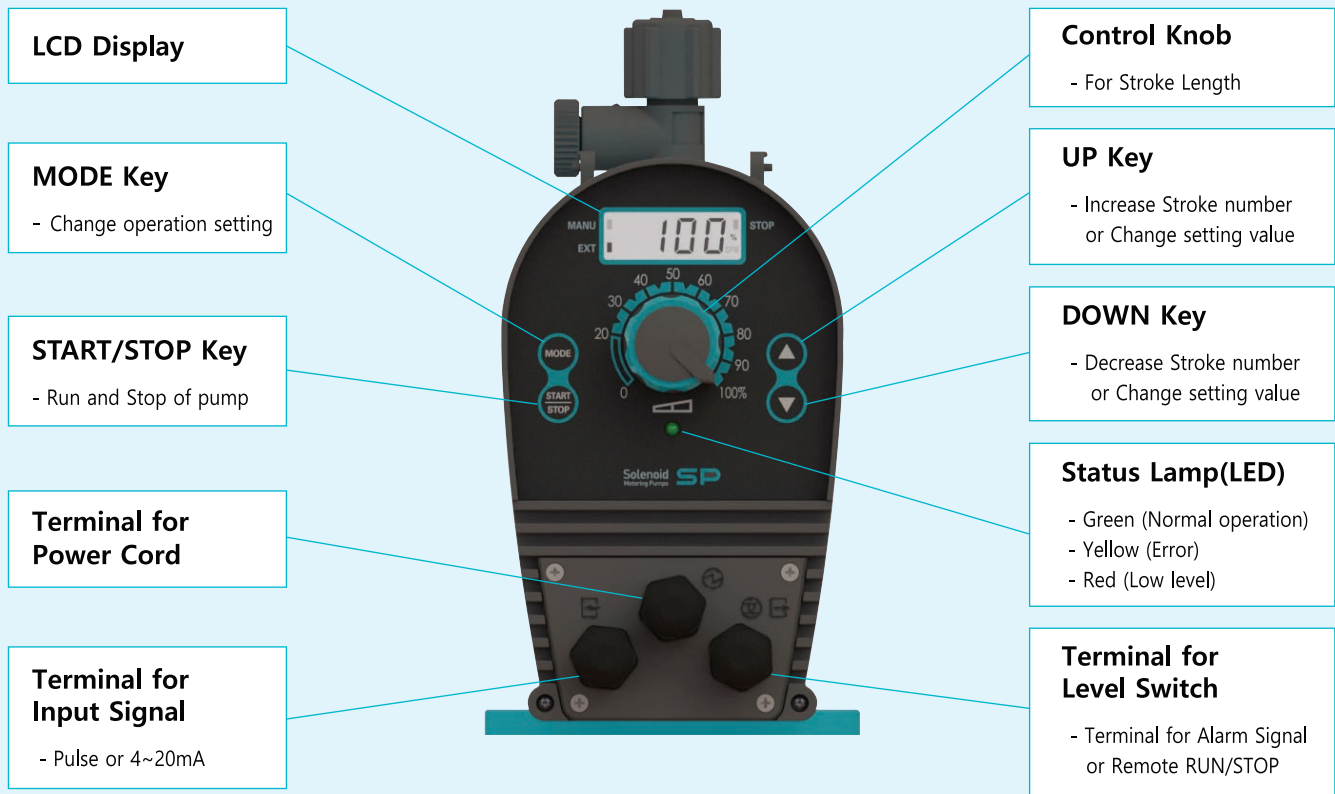
- Prevent Gas Lock Phenomenon Support priming

● Relief Valve (Option)

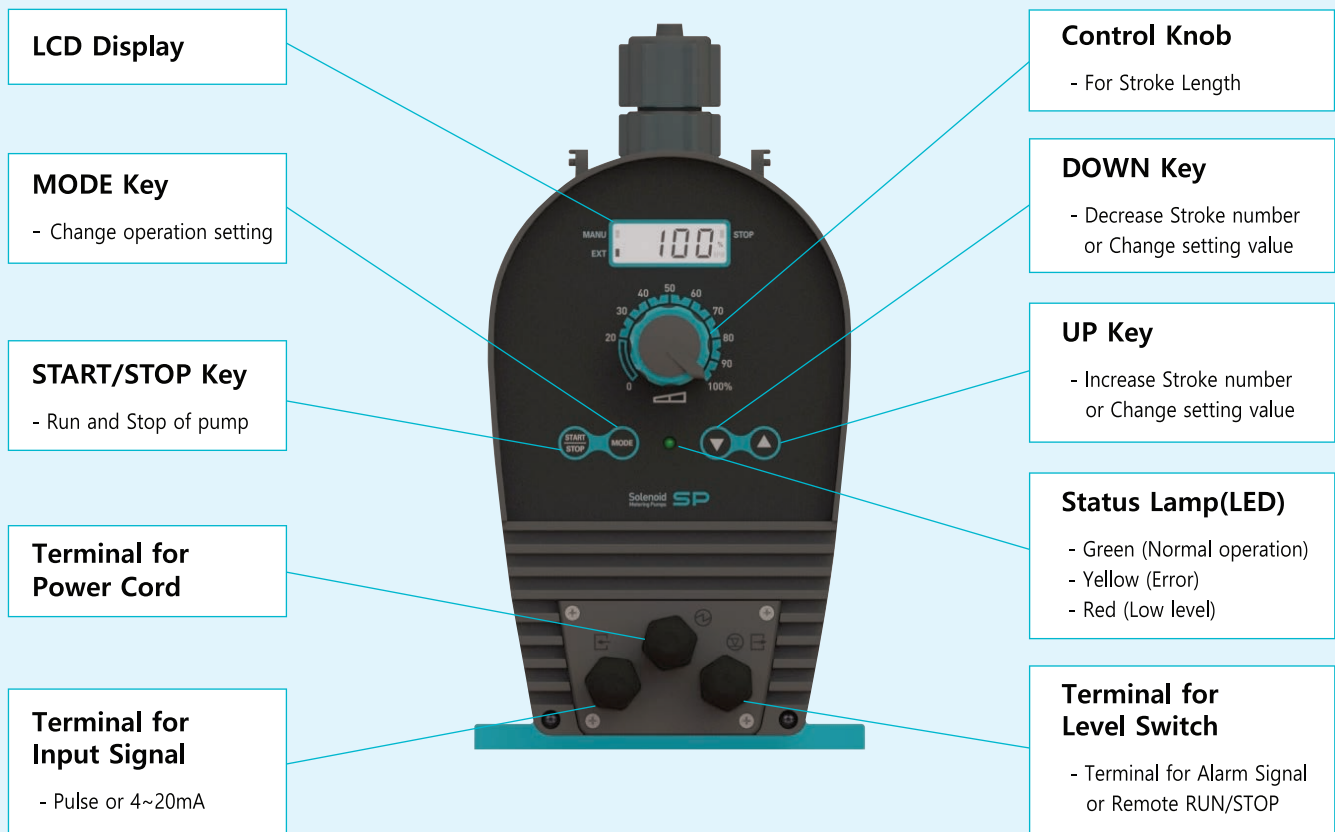


- When over pressure, valve is automatically opened and pump & piping can be protected.
- Function of Air Vent Valve is included

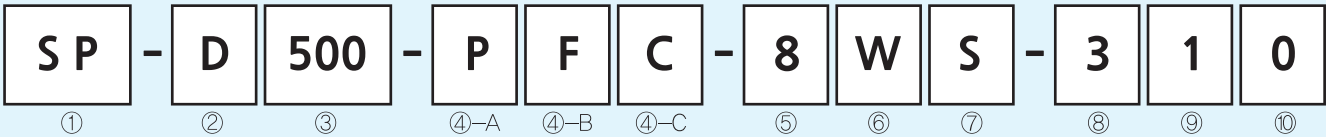
■ Control Panel - SP-D50~D500



■ Control Panel - SP-D300H~D1000



Model Code



- ① Series Name

SP Series
- ② Control Panel Type

D : Deluxe Display
- ③ Nominal Capacity

500 : 500mL/min (In case of 500H, "H" means High Pressure type)
- ④ Liquid End Material

A - Pump Head P : PP F : PVDF
B - Ball Seat F : FKM E : EPDM T : PTFE
C - Check Ball C : CERAMIC S : STS316
- ⑤ Hose Standard

1 : $\varnothing 4 \times \varnothing 6$ (PTFE) 2 : $\varnothing 4 \times \varnothing 9$ (Braided PVC) 3 : $\varnothing 6 \times \varnothing 8$ (PE, PTFE)
4 : $\varnothing 6 \times \varnothing 11$ (Braided PVC) 6 : $\varnothing 8 \times \varnothing 12$ (Braided PVC) 7 : $\varnothing 8 \times \varnothing 10$ (PTFE)
8 : $\varnothing 9 \times \varnothing 12$ (PE) 9 : $\varnothing 10 \times \varnothing 12$ (PTFE) A : $\varnothing 12 \times \varnothing 18$ (Braided PVC)
- ⑥ Valve Structure

W : Standard V : High Viscosity
※ In case of the valve for high viscosity, spring is installed in the valve.
- ⑦ General Specification

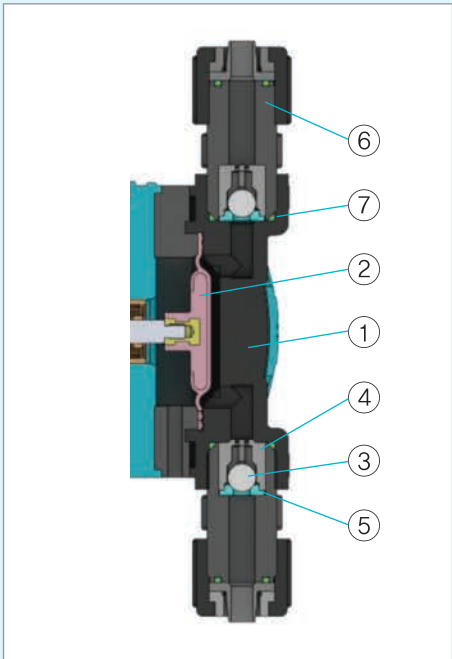
S : Standard B : Boiler F : Relief Valve G : Boiler + Relief Valve
※ In case of Boiler type, discharge hose is nylon and the body of Anti-siphon Check Valve is PPS.
※ Relief Valve is applied only to SP-D50, D100 & D200.
- ⑧ Control Specification

3 : PULSE (or 4~20mA) + Add. Func.(1) 4 : PULSE (or 4~20mA) + Add. Func.(2)
※ Add. Func.(1) : Input of Level Switch (or remote START/STOP)
※ Add. Func.(2) : Input of Level Switch, Remote START/STOP, & Output of Alarm
- ⑨ Power Supply

1 : AC220V (198~242V) 2 : AC240V (216~264V)
※ Common data : 1 Phase 50/60Hz
- ⑩ Power Cord

0 : 2m of power cord without Plug 1 : 2m of power cord with Plug

Liquid End Material



Type Part		PFC				PFS		PEC		FTC		
① Head		PP								PVDF		
② Diaphragm		PTFE(+EPDM)										
③ Check Ball		CERAMIC		STS316		CERAMIC						
④ Ball Guide		PP								PVDF		
⑤ Ball Seat		FKM				EPDM				PTEE		
⑥ Joint		PP								PVDF		
⑦ O-ring		FKM				EPDM				FKM(ETP)		
Hose	Standard	Discharge : PE										PTFE
		Suction & Air : Transparent PVC										
		Discharge & Suction : Braided PVC										
	Air : Transparent PVC											
	Boiler	Discharge : NYLON										
		Suction & Air : Transparent PVC										

■ Specifications

Model		SP-D50	SP-D100	SP-D200	SP-D300	SP-D500
Spec.						
Max. Capacity (mL/min)		50	105	200	370	580
Max. Discharge Pressure (bar)		20	10	6	3	2
Stroke Rate (SPM)		1~240				
Stroke Length (mm)		1.0 (40~100%)	1.5 (20~100%)			
Hose	Suction・Discharge	Ø4×Ø6, Ø4×Ø9	Ø6×Ø8, Ø6×Ø11		Ø8×Ø12, Ø8×Ø10, Ø9×Ø12	
	Air Vent	Ø4×Ø6				—
Self-priming (m)		1.5	2			
Viscosity Limit (mPa・s)	Standard	100	200		100	
	High Viscosity	500	800		500	400
Weight (kg)	PP Material	3.9				4.0
	PVDF Material	4.0				4.1
Operation Temperature		Ambient Temperature 0~40℃ Liquid Temperature 0~50℃				
Electrical Data		Average Power Consumption (W)	Rated Current (A)	Protection Class	Insulation Class	
		30	0.9	IP65	F	

Model		SP-D300H	SP-D500H	SP-D700	SP-D1000
Spec.					
Max. Capacity (mL/min)		290	500	780	1100
Max. Discharge Pressure (bar)		10	7	4	2.5
Stroke Rate (SPM)		1~240			
Stroke Length (mm)		1.5 (20~100%)			
Hose	Suction・Discharge	Ø8×Ø10, Ø8×Ø12, Ø9×Ø12		Ø10×Ø12, Ø12×Ø18	
	Air Vent	Ø4×Ø6	—		
Self-priming (m)		2			
Viscosity Limit (mPa・s)	Standard	100			
	High Viscosity	500	400	500	400
Weight (kg)	PP Material	9.0	9.1	9.2	
	PVDF Material	9.1	9.2	9.4	
Operation Temperature		Ambient Temperature 0~40℃		Liquid Temperature 0~50℃	
Electrical Data		Average Power Consumption (W)	Rated Current (A)	Protection Class	Insulation Class
		70	1.3	IP65	F

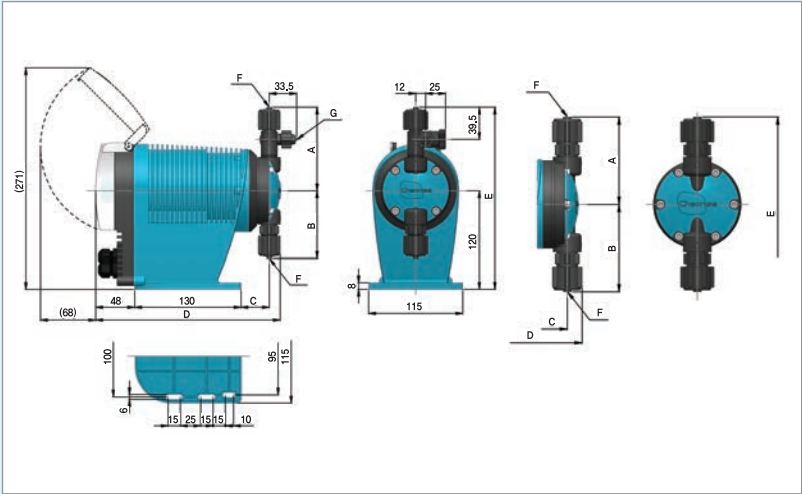
Note1) Repeatability is $\pm 2\%$ F.S.(Full Scale) and noise is below 75dB.

Note2) Setting pressure of Relief Valve is $\pm 10\%$ of max. discharge pressure.

Note3) Specifications can be changed for improvement without prior notice.

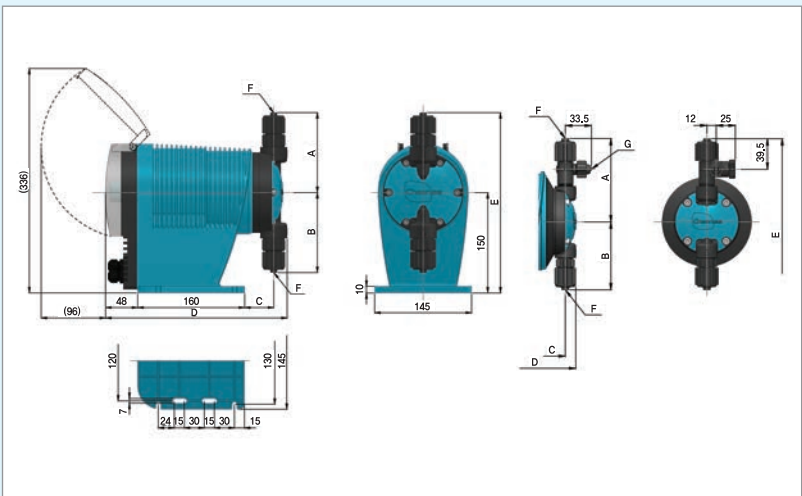
■ Dimension

● SP-D50~D500



Model Dim.	SP-D50	SP-D100	SP-D200	SP-D300	SP-D500
A	99	101	102,5	107,5	99,5
B	79	81	82,5	87,5	99,5
C	33,5	33,5	35	35	38
D	226,5	226,5	228	228	235
E	219	221	222,5	227,5	219,5
F	Ø4×Ø6 Ø4×Ø9	Ø6×Ø8 Ø6×Ø11		Ø8×Ø12 Ø8×Ø10 Ø9×Ø12	
G	Ø4×Ø6				—

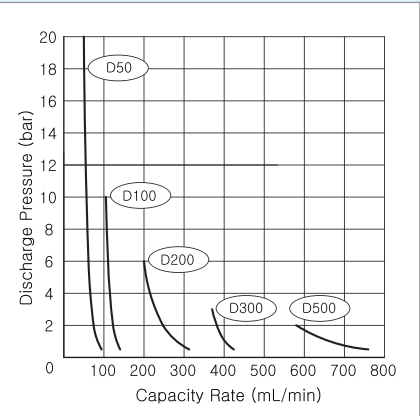
● SP-D300H~D1000



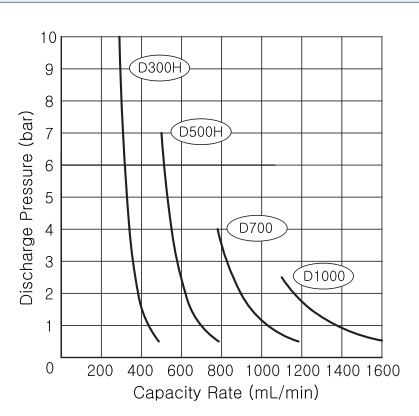
Model Dim.	SP-D300H	SP-D500H	SP-D700	SP-D1000
A	107,5	99,5	113,5	119,5
B	87,5	99,5	113,5	119,5
C	37	40	44	44
D	260	267	272	272
E	257,5	249,5	263,5	269,5
F	Ø8×Ø12 Ø8×Ø10 Ø9×Ø12		Ø10×Ø12 Ø12×Ø18	
G	Ø4×Ø6	—		

■ Performance Curve

● SP-D50~D500



● SP-D300H~D1000



Note) Performance curves can be somewhat different accordance with application of job site.

■ Accessories

● Anti-siphon Check Valve



It is installed at the end of discharge hose and prevents overfeeding, flowing backward, & siphon phenomenon.

● Level Switch (Option)



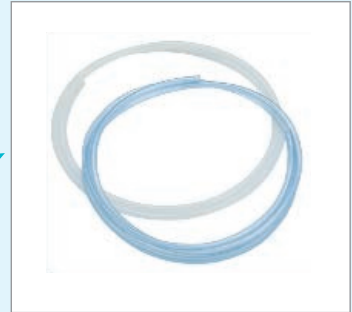
When liquid level in tank is low, it generates alarm signal.

● Strainer Foot Valve



It is installed at the end of suction hose and prevents foreign substance & flow backward.

● Hose



Suction Hose 1m,
Discharge Hose 2m,
Air Vent Hose 1m

● Liquid Tank (Option)



Model	Volume(L)	Diameter	Height
SPN-50L	50~65	420	580
SPN-100L	100~120	520	690
EN-200	200	590	860



SP-D