KEMPION

ISO9001 CE GOOD DESIGN

# Solenoid
## Metering Pumps

For Chemical Dosing by Electronic Control

## SP-B Basic & Manual


www.solpump.co.kr

SP

## Effective Solution

# SOLENOID METERING PUMPS

GOOD DESIGN

## ■ Features

- Precise injection and flow control by the dual control of Stroke Length & Stroke Numbers
- 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
- 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.

## ■ 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, wast water treatment fields, & etc.

## ■ Control Panel

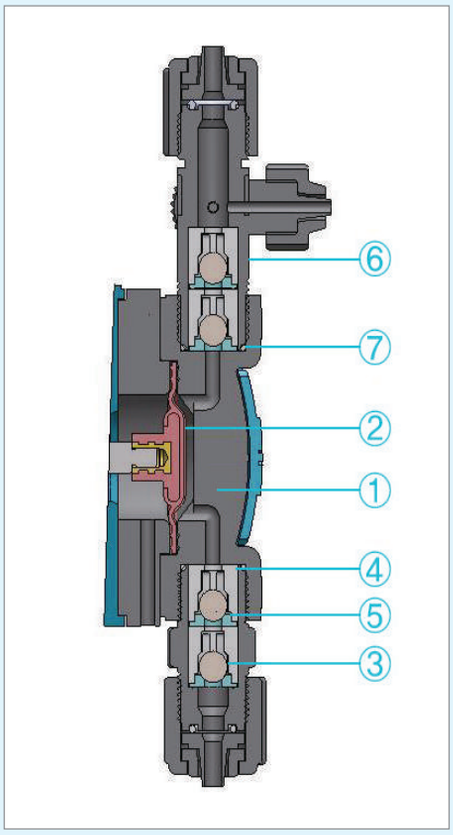

Status Lamp(LED)
- No Light: Power OFF
- Lighted Green : Power On
- Flickered Green : Normal Operation

Cable Socket for Power

Control Knob
for Stroke Length

Control Knob for Stroke
Number and Power
ON-OFF Switch

## ■ Liquid End Material




| Part Name \ Type | | PFC | PFS | PEC | FVC | FTC |
|---|---|---|---|---|---|---|
| ① Head | | PP | | | PVDF | |
| ② Diaphragm | | PTFE | | | | |
| ③ Check Ball | | CERAMIC | SS316 | CERAMIC | | |
| ④ Ball Guide | | PP | | | PVDF | |
| ⑤ Ball Seat | | FKM | | EPDM | FKM (ETP) | PTFE |
| ⑥ Joint | | PP | | | PVDF | |
| ⑦ O-ring | | FKM | | EPDM | FKM (ETP) | |
| Hose | Standard | Discharge: PE, Suction: Transparent PVC | | | PTFE | |
| | | Braided PVC | | | | |
| | Boiler | Discharge: NYLON, Suction: Transparent PVC | | | | |

- EPDM : Ethylene propylene diene monomer rubber
- FKM : Fluoro rubber
- FKM(ETP) : Fluoro rubber of ETP type
- PE : Polyethylene
- PP : Polypropylene
- PPS : Polyphenylene sulfide
- PTFE : Polytetrafluoroethylene
- PVC : Polyvinyl chloride
- PVDF : Polyvinylidene fluoride

## ■ Model Code

| SP | - | B | 30 | - | P | F | C | - | 1 | W | S | - | 1 | 1 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ① | | ② | ③ | | ④–A | ④–B | ④–C | | ⑤ | ⑥ | ⑦ | | ⑧ | ⑨ | ⑩ |

| | |
|---|---|
| ① Series Name | SP Series |
| ② Control Panel Type | B: Basic & Manual |
| ③ Nominal Capacity | 30: 30mL/min (In case of 30H, "H" means High Pressure Type) |
| ④ Liquid End Material | A-Pump Head P: PP F: PVDF<br>B-Ball Seat F: FKM E: EPDM V:FKM(ETP) T: PTFE<br>C-Check Ball C: CERAMIC S: SS316 |
| ⑤ Hose Standard | 1: Ø4×Ø6 2: Ø4×Ø9(Braided PVC) 3: Ø6×Ø8 4: Ø6×Ø11(Braided PVC) 5: Ø5×Ø8 |
| ⑥ Valve Structure | W: Standard (0~70mPa·s) V: High Viscosity (70~700mPa·s)<br>※ 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<br>※ In case of Boiler type, discharge hose is nylon and the body of Anti-siphon Check Valve is PPS.<br>※ In case of SP-200, Relief Valve can not be used. |
| ⑧ Control Specification | 1: Manual |
| ⑨ Power Supply | 1: AC220V (198~242V) 2: AC240V (216~264V) 3: AC115V (104~127V) ※ Common data:1 Phase 50/60Hz |
| ⑩ Power Cord | 0: 2m of power cord without Plug 1: 2m of power cord & Plug |

## ■ Specifications ( I )

| Spec. \ Model | | SP–B30 | SP–B50 | SP–B70 | SP–B100 | SP–B200 |
|---|---|---|---|---|---|---|
| Max. Capacity (mL/min) | | 25 | 55 | 70 | 135 | 240 |
| Max. Discharge Pressure (bar) | | 14 | 8 | 6 | 3.5 | 2 |
| Stroke Rate (SPM) | | 240 | | | | |
| Stroke Length (mm) | | 1.0 (40~100%) | | | | |
| Hose | Suction · Discharge | Ø4×Ø6, Ø4×Ø9 | | Ø6×Ø8, Ø6×Ø11, Ø5×Ø8 | | |
| | Air Vent | Ø4×Ø6 | | | | |
| Self–priming (m) | | 1 | 1.5 | | | 2 |
| Viscosity Limit (mPa·s) | Standard | 50 | | 70 | | |
| | High Viscosity | 300 | | 700 | 600 | 400 |
| Weight (kg) | PP Material | 1.9 | | | 2 | |
| | PVDF Material | 2 | | | 2.1 | |
| Operation Temperature | | Ambient Temperature 0~40℃ Liquid Temperature 0~50℃ | | | | |

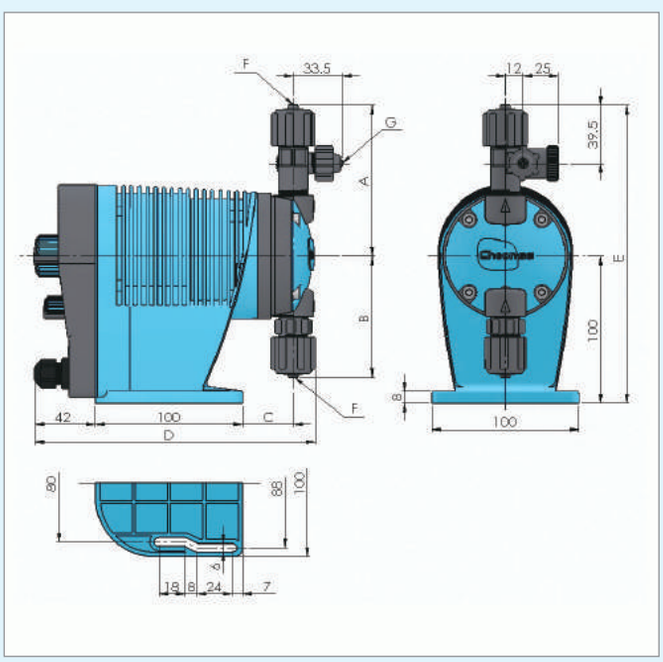
| Electrical Data | Average Power Consumption (W) | Rated Current (A) | Protection Class | Insulation Class |
|---|---|---|---|---|
| | 15 | 0.4 / 0.7 (115V) | IP65 | F |

Note1) Repeatability is ±2%F.S.(Full Scale) and noise is within 70dB.
Note2) Setting pressure of Relief Valve is ±10% of max. discharge pressure.
Note3) Specifications can be changed for improvement without prior notice.

## ■ Specifications ( II )

| Spec. \ Model | | SP-B30H | SP-B50H | SP-B70H | SP-B100H |
|---|---|---|---|---|---|
| Max. Capacity (mL/min) | | 30 | 55 | 75 | 130 |
| Max. Discharge Pressure (bar) | | 16 | 12 | 8 | 5 |
| Stroke Rate (SPM) | | 240 | | | |
| Stroke Length (mm) | | 1.0 (40~100%) | | | |
| Hose | Suction · Discharge | Ø4×Ø6, Ø4×Ø9 | | Ø6×Ø8, Ø6×Ø11, Ø5×Ø8 | |
| | Air Vent | Ø4×Ø6 | | | |
| Self-priming (m) | | 1 | 1.5 | | |
| Viscosity Limit (mPa·s) | Standard | 50 | | 70 | |
| | High Viscosity | 300 | | 700 | 600 |
| Weight (kg) | PP Material | 2.4 | | | 2.5 |
| | PVDF Material | 2.5 | | | 2.6 |
| Operation Temperature | | Ambient Temperature 0~40℃ Liquid Temperature 0~50℃ | | | |
| Electrical Data | | Average Power Consumption (W) | Rated Current (A) | Protection Class | Insulation Class |
| | | 17 | 0.5 / 0.8 (115V) | IP65 | F |

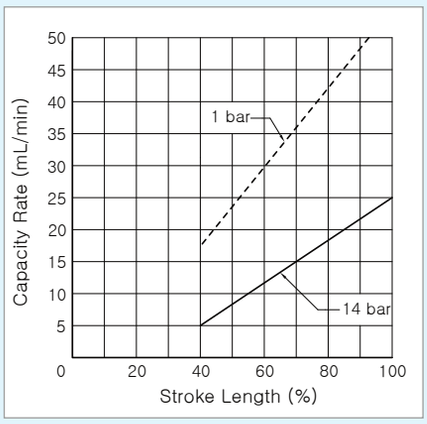
## ■ Dimension



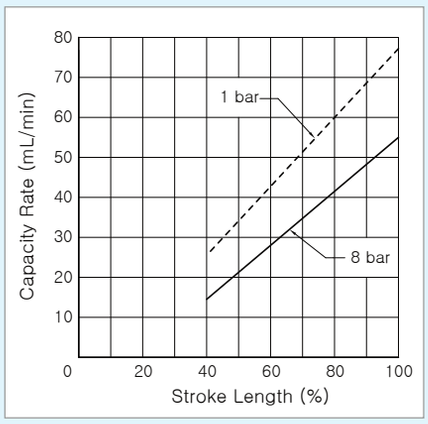

| Dimension \ Model | SP-B30 SP-B30H | SP-B50 SP-B50H | SP-B70 SP-B70H | SP-B100 SP-B100H | SP-B200 |
|---|---|---|---|---|---|
| A | 96.5 | 99 | 101 | 102.5 | 107.5 |
| B | 76.5 | 79 | 81 | 82.5 | 87.5 |
| C | 33.5 | 33.5 | 33.5 | 35 | 35 |
| D | 190.5 | 190.5 | 190.5 | 192 | 192 |
| E | 196.5 | 199 | 201 | 202.5 | 207.5 |
| F | Ø4×Ø6, Ø4×Ø9 | | Ø6×Ø8, Ø6×Ø11, Ø5×Ø8 | | |
| G | Ø4×Ø6 | | | | |

## ■ Performance Curve

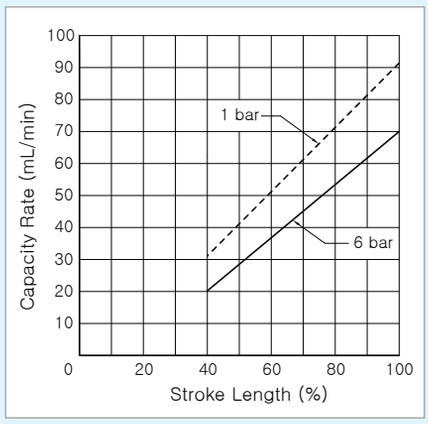
● SP-B30



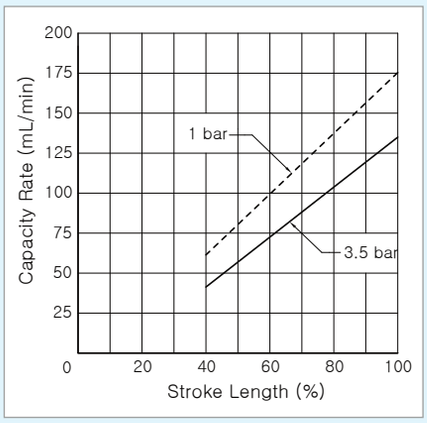

● SP-B50



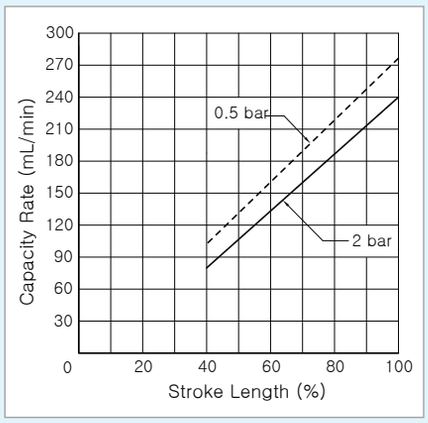

● SP-B70



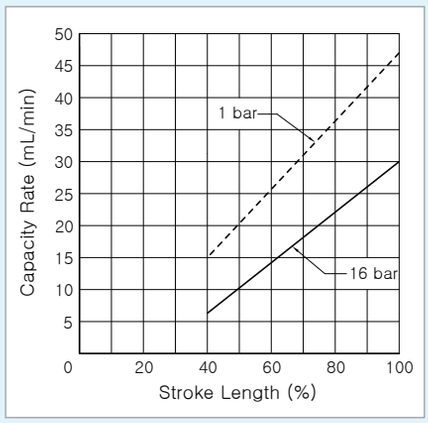

● SP-B100



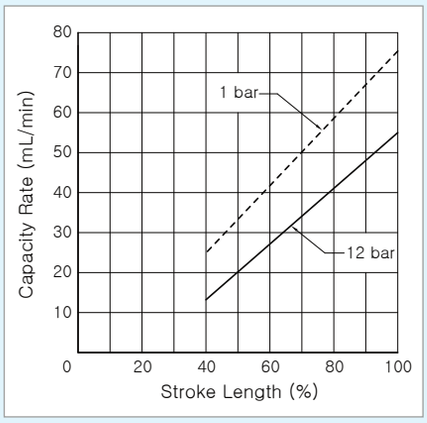

● SP-B200



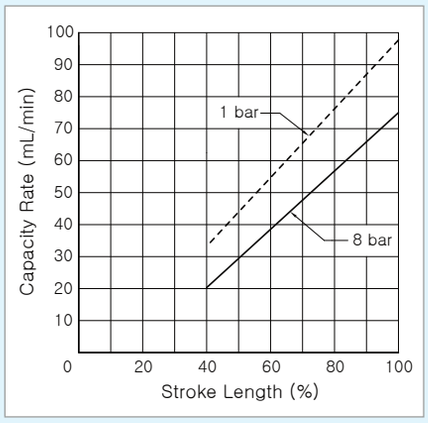

● SP-B30H



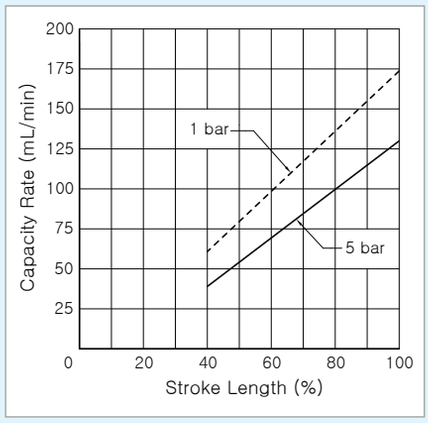

● SP-B50H




● SP-B70H




● SP-B100H



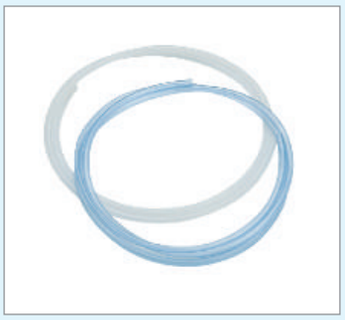

Note) Performance curves can be somewhat different accordance with application of job site.

## ■ Accessories

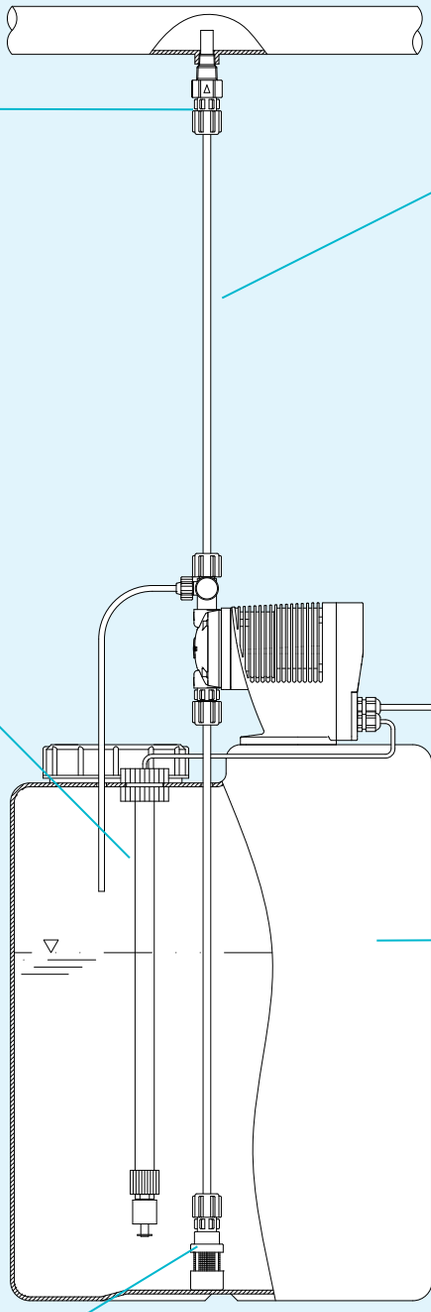
● Anti-siphon Check Valve

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

● Hose



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



● Level Switch (Option)

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

● 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 |

● Strainer Foot Valve

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

# Solenoid Metering Pumps SP

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