





Vertical Float Type Level Switch

Model: SMC-7 Series



SMC-7 Series

Vertical Float Type Level Switch



Features

- Can be used for vessel under high pressure and temperature
- Designed to ASME B31.1
- Weather proof
- Explosion-proof & Frame-proof
- Unique and reliable : Snap acting switch mechanism
- Vibration resistant eliminates fake trips by special spring
- A wide variety of chambers can be used.
- Multiple switches can be assembled in a unit for economical purpose.
- Weld procedures approved to KEPIC MQ and ASME IX
- Material certification to ASTM, ASME, JIS, KS Standards
- Qualified to IEEE 323-2003, and IEEE344-2004
- Applicable to hermetical seal type snap action switch

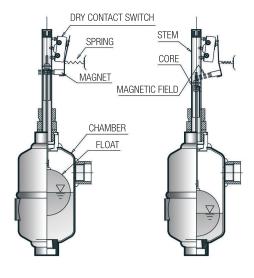


Fig.1. Switch Connected

Fig.2. Switch Released

Operation

The electric contact switch operates as per the principle of magnetism, and the electric contact switch is normally relay-off "position because of tension spring.

There is magnetic steel on the edge of Float's Rod, and this magnetic steel sticks to magnet installed inside the housing when the level goes up as Fig. 1.

At this time, electric contact switch turns on because the switch designed to "relay-on" when the magnet sticks to magnetic steel of the Float s Rod.

When the level goes down such as Fig. 2, on the contrary, the Float goes down and accordingly the magnetic steel on the Float s edge goes down.

Therefore, the magnetic steel detaches from the magnet and the switch is returning to "relay-off" position due to tension spring.



Introduction

This product is a unique level switch as a critical Process Instrument covering high pressure and high temperature. Chamber material for this product is not only carbon steel, but also many variety steel materials including 316LSS and 304SS.

This product has been produced for suitable in water and boiler control process, meeting various industrial standards and requirements to solve erroneous causes that have occurred in conventional industrial fields.

The customizing for this product is possible for specific operational condition and anti-corrosion. Please contact our sales staff if you have any special design for this product.

Approvals

ATEX (ATmosphere EXplosibles)
Approval INERIS11ATEX0003X
Explossion proof Ex d IIC T6
(-20° < AMB < 60° C)

KOSHA (The Korea Occupational Safety and Health Agency) -Approval Explosion proof Ex d IIC T6 (-20°C \leq AMB \leq 60°C)

General Area, Weather proof type IP67

TÜV- Approval

 $\textbf{(}\textbf{ \in } \textbf{ Certificate}$

EN-61010-1-2001

KTL (Korea Testing Laboratory)- Tested to verify the requirements of Nuclear Power Plant Quality Standards.

IEC Pub.60068 Basic Environmental Testing Procedures

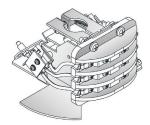
KEPIC Certificate of Registration MN-125 & EN-255

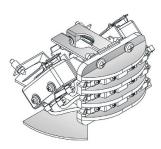
ISO 9001:2008 / ISO 14001/2004

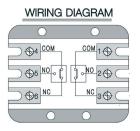
Seojin Instech has been assessed and approved by CREBIZ QM against ISO 9001: 2008 for the design, development, assembly and recalibration of precision instruments and systems for the measurement and indication of electrical signals and, level, flow and water/steam systems.

Quality Assurance

With over 35 year worldwide experience in the Thermal power plant, nuclear power plant and petro-chemical industries, Seojin Instech is able to accommodate testing, surveying and documentation requirements as specified at the time of order. Inspection by customers or nominated inspection agencies can be arranged.







■ Where the product is produced with the cooling fin, the maximum allowable temperature of pressurized liquid process is up 550°C. Except that the specific gravity shall be beyond 0.6.

Technical Specifications

Least Specific Gravity of Process: 0.6

Snap Acting Switch Assembly

- Switching Type : Snap Acting Switch, Dry Contact Type

- Contact(Output): 1 SPDT, 2 SPDT, 1 DPDT

- Accuracy: ±1mm,

- Maximum Applicable Temperature: 400°C

- Body Material : 304SS

- Terminal Material : Pure Ceramic

Chamber

- Made According to ASME B31.1,KEPIC MGE.

- Material : CS(Std.), 304SS, 316SS (or 316LSS), etc.

Float

Material: 316LSS(Std.), MonelFloat Specific Gravity: Minimum 0.4

- Size : SMC-73 : OD 90mm, SMC-75 : OD 110mm,

- Maximum Temperature of Process Liquid : 550°C

- Maximum Pressure of Process : SMC-73 : 46Bar, SMC-75 : 70Bar

- Hydrostatic Test Pressure :

SMC-73: 70Bar, SMC-75: 105Bar

Switch Assembly

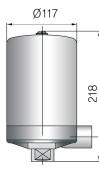
► Snap Acting Switch Assembly Chart

Type (Model)	SM1S	SM1D	SM2S	SM2D	SM3S	SM3D	SM4S	SM4D	SM5S	SM5D
Action	SPDT / DPDT		SPDT / DPDT		SPDT / DPDT		SPDT / DPDT		SPDT / DPDT	
Max. process liquid temp.(Note1)	120℃		450℃		450℃		550°C		550℃	
Micro switch operating Temperature range	- 25 ~ 80℃		- 54 ~ 200℃		- 54 ~ 204℃		- 65 ~ 260℃		- 65 ~ 400℃	
Voltage & Current	250V AC 10A		250V AC 5A		250V AC 15A		115V AC 1A		250V AC 1A	
	125V DC 0.6A		125V DC 0.5A		125V DC 1A		28V DC 3A		30V DC 1A	
Remark							Hermetical seal			
Max. process temp. when applied (3ea) A chamber equipped with cooling fin. (5ea)			350℃		350℃		450℃		450℃	
			450℃		450℃		550℃		550℃	

Note (1) It may only apply into the ambient temperature less than 60° C

Switch Enclosure

Type (Model)	Mat	erial	Specification	Dimension	Conduit entries	
	Cover	Base	for Protection	Difficusion		
А	C.S + Epoxy coating	AC2B	NEMA 4x	Ø117 x 218H	3/4" PF	
			IP65	Ø117 X 218H		
В	ADC12	ADC12	NEMA 4x / IP67	Ø150 x 255H	3/4" PF	
			Ex d IIC T6	Ø 100 X 200H		







TYPE B

Switch Action Indicator

The product is designed either as a model of the extremely lowest power consumption, or only activated when it is contacted in the switch. Either may be it not only operated by a separated power source in the site but also by an independent power source (dry cell).

It has been proved against high-thermal impact by structuring with stainless steel body, laminating with polycarbonate resin combined with radiation component.

Body Material : Stainless Steel, Polycarbonate

Range of Power Voltage : 5~24V DC Ambient Temp. : -5~60℃

Continuous Running Time(at 25°C) by Battery : 144hr

* 8 month life time for event action condition Protection : NEMA 4 / IP67

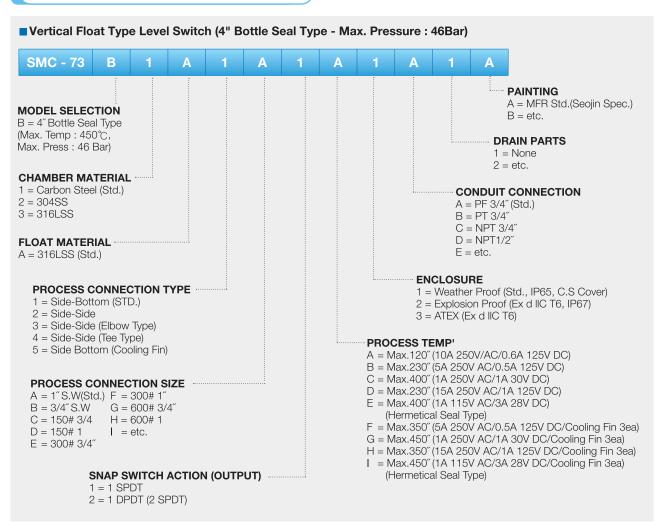
Installation : 1" NPT



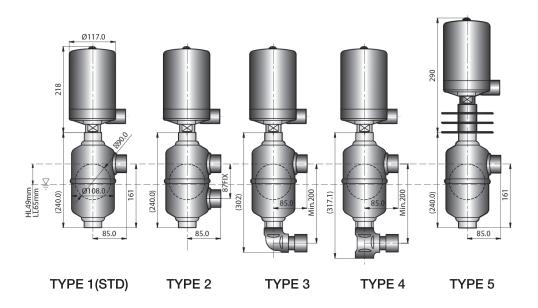
SMC-73B

4" Bottle Seal Type

Ordering Information



■When placing an order, selected ordering number should be indicated on the purchase order sheet.

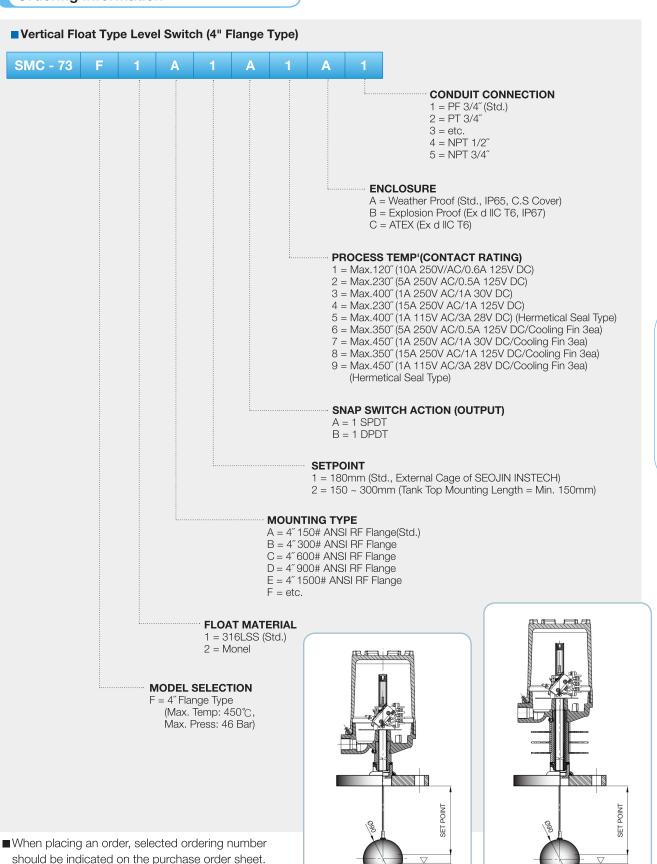


■ C to C of SMC-73B is fixed like the above length.

SMC-73F

4" Flange Type

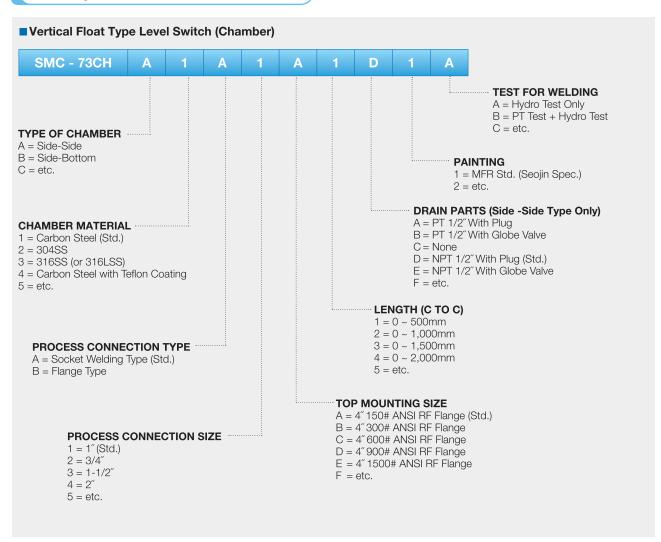
Ordering Information



SMC-73CH

4" Chamber

Ordering Information



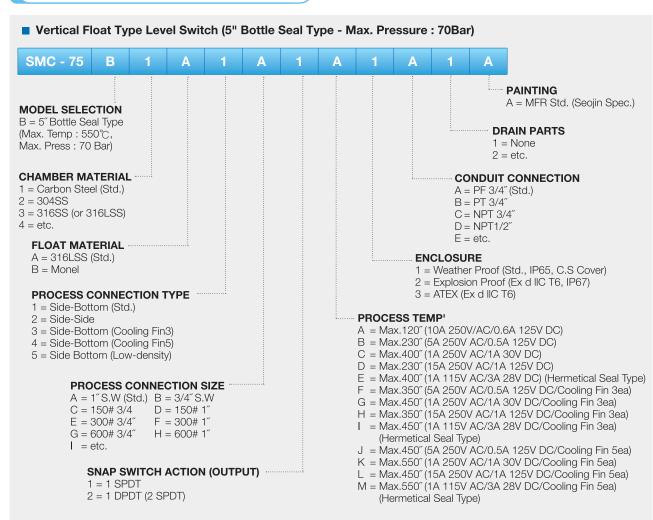
■ When placing an order, selected ordering number should be indicated on the purchase order sheet.

SIDE-BOTTOM (SW) SIDE-BOTTOM(FLANGE) SIDE-SIDE (SW) SIDE-SIDE (FLANGE)

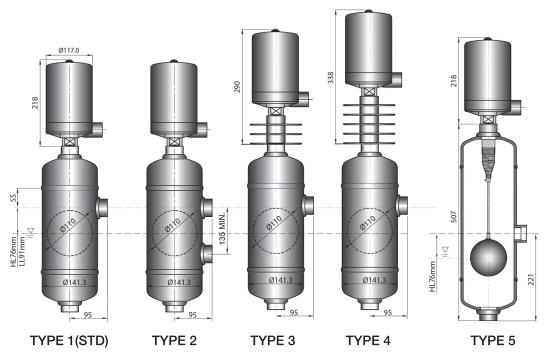
SMC-75B

5" Bottle Seal Type

Ordering Information



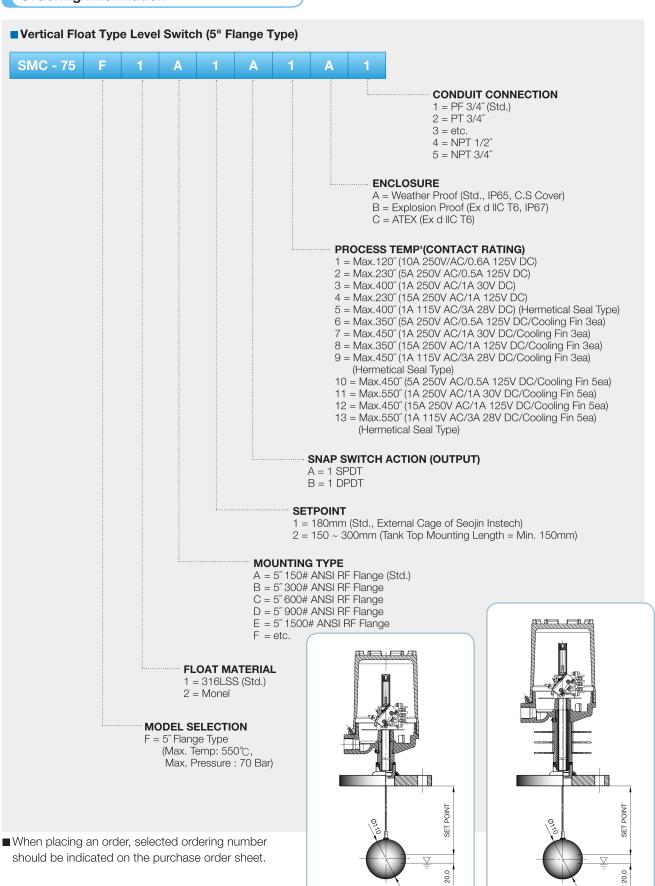
■When placing an order, selected ordering number should be indicated on the purchase order sheet.



SMC-75F

5" Flange Type

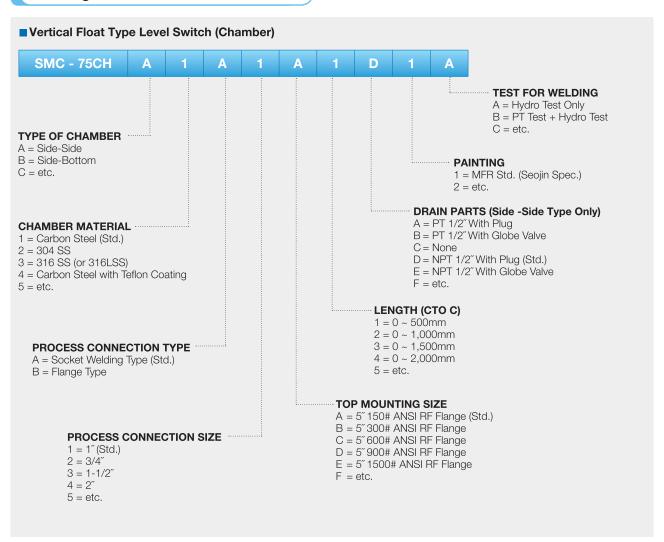
Ordering Information



SMC-75CH

5" Chamber

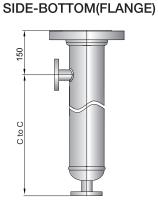
Ordering Information

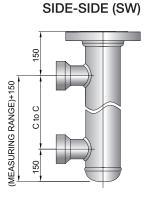


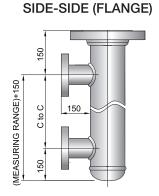
■ When placing an order, selected ordering number should be indicated on the purchase order sheet.

C to C

SIDE-BOTTOM (SW)







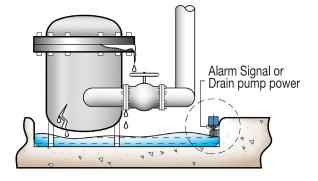
SMC-71

Flood Level Switch to Detect Leaks or Spills



Features

- Can be used to detect leaks or spills from valves, vessels, and pipe lines in plant.
- Designed to ASME B31.1
- Explosion-proof & Weather proof
- Unique and reliable; Snap acting switch mechanism
- Vibration resistant-eliminates spurious trips by special spring
- Multiple switches can be assembled in a unit for economical purpose.
- Weld procedures approved to KEPIC MQ and ASME IX
- Material certification to ASTM, ASME, JIS, KS Standards
- Qualified to IEEE 323-2003, and IEEE344-2004
- Applicable to hermetical seal type snap action switch



Approvals

KOSHA (The Korea Occupational Safety and Health

Agency)- Approval Explosion proof Ex d IIC T6 (-20 $^{\circ}$ C) \leq AMB \leq 60 $^{\circ}$ C)

General Area, Weather proof Type IP65

TÜV- Approval

C € Certificate

EN-61010-1-2001

KTL (Korea Testing Laboratory)- Tested to verify the requirements of Nuclear Power Plant Quality Standards.

IEC Pub. 60068 Basic Environmental Testing Procedures.

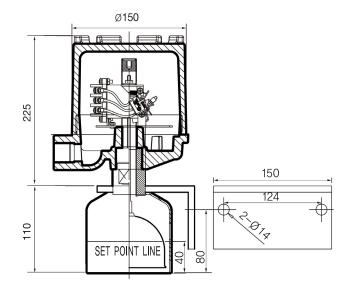
KEPIC Certificate of Registration

MN-125 & EN-255

ATEX (ATmosphere EXplosibles)

Approval INERIS11ATEX0003X

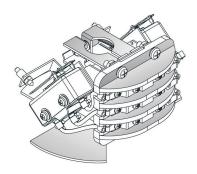
Explossion proof Ex d IIC T6 (-20°C < AMB < 60°C)



Quality Assurance

With over 35 year worldwide experience in the thermal power plant, nuclear power plant and petro-chemical industries, Seojin Instech is able to accommodate testing, surveying and documentation requirements as specified at the time of order.

Inspection by customers or nominated inspection agencies can be arranged.



WIRING DIAGRAM SW2 SW1 COM 1 COM 1

Technical Specifications

General Technical Specifications

Least Specific Gravity of Process: 0.6

Snap Acting Switch Assembly

- Switching type : Snap Acting Switch,

Dry Contact Type

- Contact(Output) : 1 SPDT, 1 DPDT

- Precision : ±1mm
- Body Material : 304SS
- Terminal Material : Pure Ceramic

Chamber

- Made According to ASME B31.1,KEPIC MGE - Material : C.S(Std.), 316SS, etc.

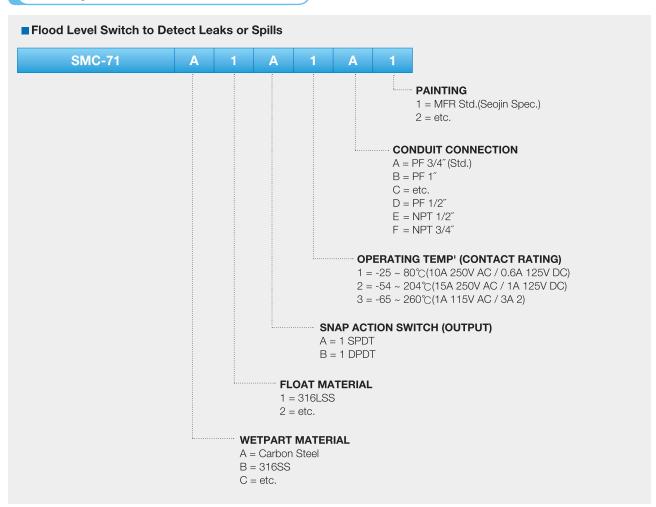
Float

- Material : 316SS(Std.)
- Float Specific Gravity : Minimum 0.4
- Size : OD 90mm
- Maximum Temperature : 250°C

Switch Assembly

Type (Model)	SM1S	SM1D	SM3S	SM3D	SM4S	SM4D
Action	SPDT / DPDT		SPDT / DPDT		SPDT / DPDT	
Operating Temperature Range	- 25 ~ 80℃		- 54 ~ 204℃		- 65 ~ 260℃	
Voltage & Current	250V AC 10A		250V AC 15A		115V AC 1A	
voltage & Current	125V DC 0.6A		125V DC 1A		28V DC 3A	
Remark					Hermetical Seal	

Ordering Information



■When placing an order, selected ordering number should be indicated on the purchase order sheet.

