



ISO 9001/14001

ATEX



# Vertical Float Type Level Switch

Model : SMC-7 Series



**SeoJin Instech Co., Ltd.**

[www.seojin.biz](http://www.seojin.biz)

# 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

### 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.

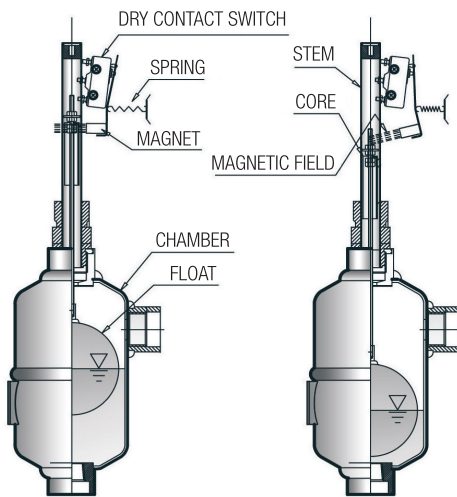


Fig.1. Switch Connected

Fig.2. Switch Released



## 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

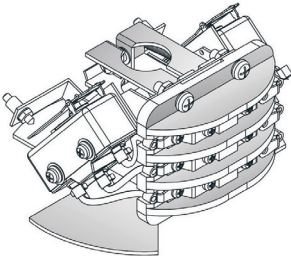
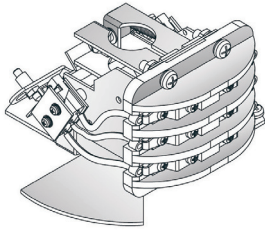
KOSHA (The Korea Occupational Safety and Health Agency) -Approval Explosion proof Ex d IIC T6  
 (-20°C ≤ AMB ≤ 60°C)  
 General Area, Weather proof type IP67  
 TÜV- Approval  
 CE Certificate  
 EN-61010-1-2001  
 KTL (Korea Testing Laboratory)- Tested to verify the requirements of Nuclear Power Plant Quality Standards.  
 IEC Pub.60068 Basic Environmental Testing Procedures  
 KEPIC Certificate of Registration  
 MN-125 & EN-255

## ISO 9001:2008 / ISO 14001/2004

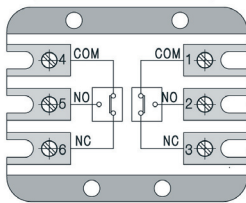
Seojin Instech has been assessed and approved by ICR QM against ISO 9001 : 2015 for the design, development, assembly and recalibration of precision instruments and systems for the measurement and indication of electrical signals and, level, flow and water/steam systems.

## 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.



WIRING DIAGRAM



- 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 :  $\pm 1\text{mm}$ ,
- 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.), Monel
- Float 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. <sup>(Note1)</sup>	120°C		450°C		450°C		550°C		550°C	
Micro switch operating Temperature range	- 25 ~ 80°C		- 54 ~ 200°C		- 54 ~ 204°C		- 65 ~ 260°C		- 65 ~ 400°C	
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	Note (2)		Note (3)		Note (4)		Hermetical seal		Note (5)	
Max. process temp. when applied A chamber equipped with cooling fin.	3ea			350°C		350°C		450°C		450°C
	5ea			450°C		450°C		550°C		550°C

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

**Note (2)** Available With Process Temp' of Ordering Information A Only

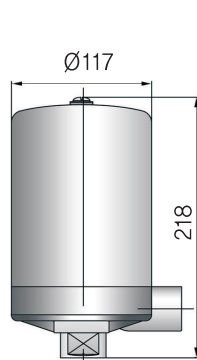
**Note (3)** Available With Process Temp' of Ordering Information B,F,J Only

**Note (4)** Available With Process Temp' of Ordering Information D,H,L Only

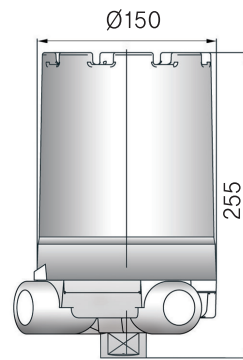
**Note (5)** Available With Process Temp' of Ordering Information C,G,K Only

## Switch Enclosure

Type (Model)	Material		Specification for Protection	Dimension	Conduit entries
	Cover	Base			
A	C.S + Epoxy coating	AC2B	NEMA 4x	Ø117 x 218H	3/4" PF
			IP65		
B	ADC12	ADC12	NEMA 4x / IP67	Ø150 x 255H	3/4" PF
			Ex d IIC T6		



TYPE A



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°C  
 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

#### Vertical Float Type Level Switch (4" Bottle Seal Type - Max. Pressure : 46Bar)

SMC - 73 B 1 A 1 A 1 A 1 A 1 A

#### MODEL SELECTION

B = 4" Bottle Seal Type  
(Max. Temp : 450°C,  
Max. Press : 46 Bar)

#### CHAMBER MATERIAL

1 = Carbon Steel (Std.)  
2 = 304SS  
3 = 316LSS

#### FLOAT MATERIAL

A = 316LSS (Std.)

#### PROCESS CONNECTION TYPE

1 = Side-Bottom (STD.)  
2 = Side-Side  
3 = Side-Side (Elbow Type)  
4 = Side-Side (Tee Type)  
5 = Side Bottom (Cooling Fin)

#### PROCESS CONNECTION SIZE

A = 1" S.W(Std.) F = 300# 1"  
B = 3/4" S.W G = 600# 3/4"  
C = 150# 3/4 H = 600# 1  
D = 150# 1 I = etc.  
E = 300# 3/4"

#### SNAP SWITCH ACTION (OUTPUT)

1 = 1 SPDT  
2 = 1 DPDT (2 SPDT)

#### PAINTING

A = MFR Std.(Seojin Spec.)  
B = etc.

#### DRAIN PARTS

1 = None  
2 = etc.

#### CONDUIT CONNECTION

A = PF 3/4" (Std.)  
B = PT 3/4"  
C = NPT 3/4"  
D = NPT1/2"  
E = etc.

#### ENCLOSURE

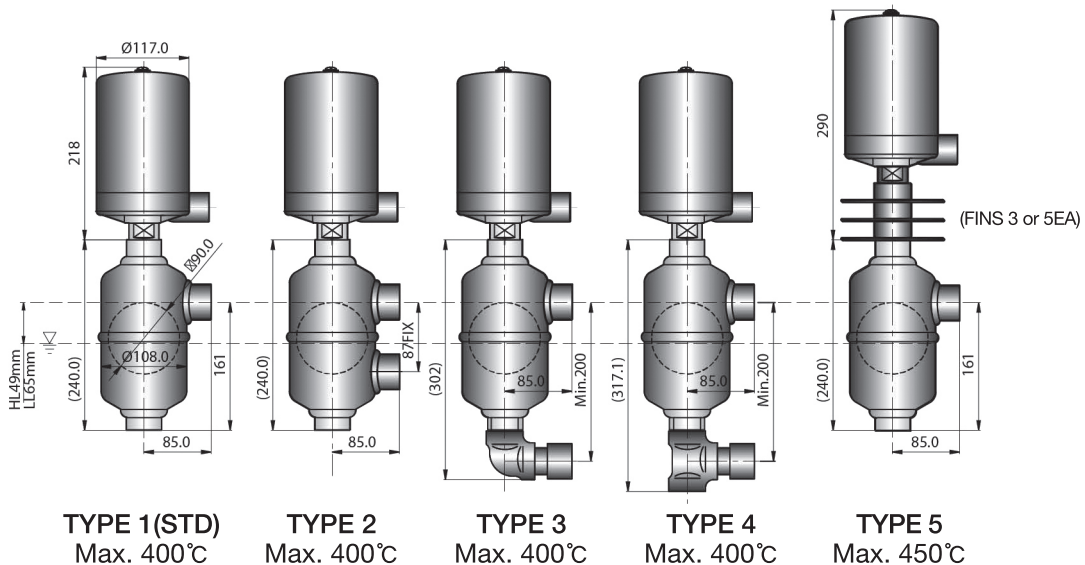
1 = Weather Proof (Std., IP65, C.S Cover)  
2 = Explosion Proof (Ex d IIC T6, IP67)  
3 = ATEX (Ex d IIC T6)

#### PROCESS TEMP' (Switch Assembly)

A = Max.120" (10A 250V/AC/0.6A 125V DC)  
B = Max.230" (5A 250V AC/0.5A 125V DC)  
C = Max.400" (1A 250V AC/1A 30V DC)  
D = Max.230" (15A 250V AC/1A 125V DC)  
E = Max.400" (1A 115V AC/3A 28V DC)  
(Hermetical Seal Type)  
F = Max.350" (5A 250V AC/0.5A 125V DC/Cooling Fin 3ea)  
G = Max.450" (1A 250V AC/1A 30V DC/Cooling Fin 3ea)  
H = Max.350" (15A 250V AC/1A 125V DC/Cooling Fin 3ea)  
I = Max.450" (1A 115V AC/3A 28V DC/Cooling Fin 3ea)  
(Hermetical Seal Type)  
J = Max.450" (5A 250V AC/0.5A 125V DC/Cooling Fin 5ea)  
K = Max.550" (1A 250V AC/1A 30V DC/Cooling Fin 5ea)  
L = Max.450" (15A 250V AC/1A 125V DC/Cooling Fin 5ea)  
M = Max.550" (1A 115V AC/3A 28V DC/Cooling Fin 5ea)  
(Hermetical Seal Type)

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

#### Process Connection Type



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

# SMC-73F

4" Flange Type

## Ordering Information

### Vertical Float Type Level Switch (4" Flange Type)

SMC - 73 F 1 A 1 A 1 A 1

#### CONDUIT CONNECTION

- 1 = PF 3/4" (Std.)
- 2 = PT 3/4"
- 3 = etc.
- 4 = NPT 1/2"
- 5 = NPT 3/4"

#### ENCLOSURE

- A = Weather Proof (Std., IP65, C.S Cover)
- B = Explosion Proof (Ex d IIC T6, IP67)
- C = ATEX (Ex d IIC T6)

#### PROCESS TEMP'(CONTACT RATING)

- 1 = Max.120° (10A 250V/AC/0.6A 125V DC)
- 2 = Max.230° (5A 250V AC/0.5A 125V DC)
- 3 = Max.400° (1A 250V AC/1A 30V DC)
- 4 = Max.230° (15A 250V AC/1A 125V DC)
- 5 = Max.400° (1A 115V AC/3A 28V DC) (Hermetical Seal Type)
- 6 = Max.350° (5A 250V AC/0.5A 125V DC/Cooling Fin 3ea)
- 7 = Max.450° (1A 250V AC/1A 30V DC/Cooling Fin 3ea)
- 8 = Max.350° (15A 250V AC/1A 125V DC/Cooling Fin 3ea)
- 9 = Max.450° (1A 115V AC/3A 28V DC/Cooling Fin 3ea) (Hermetical Seal Type)

#### SNAP SWITCH ACTION (OUTPUT)

- A = 1 SPDT
- B = 1 DPDT

#### SETPOINT

- 1 = 180mm (Std., External Cage of SEOJIN INSTECH)
- 2 = 150 ~ 300mm (Tank Top Mounting Length = Min. 150mm)

#### MOUNTING TYPE

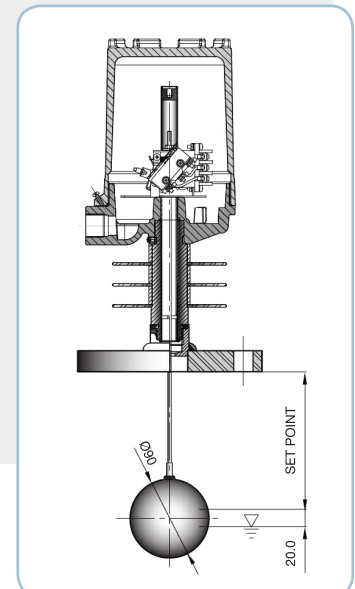
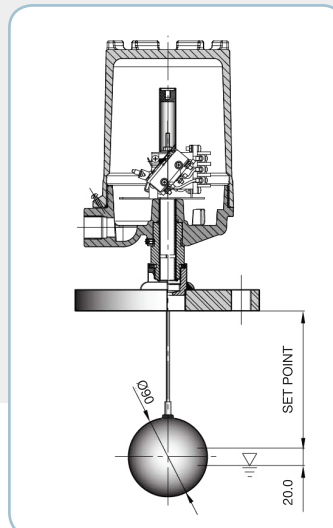
- A = 4" 150# ANSI RF Flange(Std.)
- B = 4" 300# ANSI RF Flange
- C = 4" 600# ANSI RF Flange
- D = 4" 900# ANSI RF Flange
- E = 4" 1500# ANSI RF Flange
- F = etc.

#### FLOAT MATERIAL

- 1 = 316LSS (Std.)
- 2 = Monel

#### MODEL SELECTION

- F = 4" Flange Type  
(Max. Temp: 450°C,  
Max. Press: 46 Bar)



SMC-73F 4" Flange Type

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

# SMC-73CH

4" Chamber

## Ordering Information

### Vertical Float Type Level Switch (Chamber)

SMC - 73CH A 1 A 1 A 1 D 1 A

#### TYPE OF CHAMBER

A = Side-Side  
B = Side-Bottom  
C = etc.

#### CHAMBER MATERIAL

1 = Carbon Steel (Std.)  
2 = 304SS  
3 = 316SS (or 316LSS)  
4 = Carbon Steel with Teflon Coating  
5 = etc.

#### PROCESS CONNECTION TYPE

A = Socket Welding Type (Side-Bottom)  
B = Flange Type (Side-Bottom)  
C = Socket Welding Type (Side-Side)  
D = Flange Type (Side-Side)

#### PROCESS CONNECTION SIZE

1 = 1" (Std.)  
2 = 3/4"  
3 = 1-1/2"  
4 = 2"  
5 = etc.

#### TEST FOR WELDING

A = Hydro Test Only  
B = PT Test + Hydro Test  
C = etc.

#### PAINTING

1 = MFR Std. (Seojin Spec.)  
2 = etc.

#### DRAIN PARTS (Side -Side Type Only)

A = PT 1/2" With Plug  
B = PT 1/2" With Globe Valve  
C = None  
D = NPT 1/2" With Plug (Std.)  
E = NPT 1/2" With Globe Valve  
F = etc.

#### LENGTH (C TO C)

1 = 0 ~ 500mm  
2 = 0 ~ 1,000mm  
3 = 0 ~ 1,500mm  
4 = 0 ~ 2,000mm  
5 = etc.

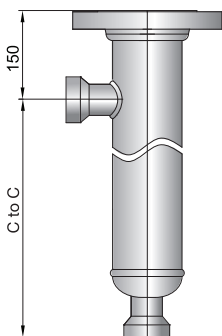
#### TOP MOUNTING SIZE

A = 4" 150# ANSI RF Flange (Std.)  
B = 4" 300# ANSI RF Flange  
C = 4" 600# ANSI RF Flange  
D = 4" 900# ANSI RF Flange  
E = 4" 1500# ANSI RF Flange  
F = etc.

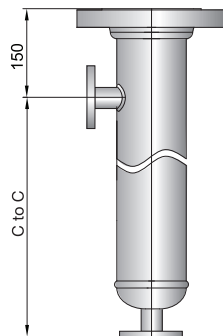
■ When placing an order, selected ordering number should be indicated on the purchase order sheet.

### Process Connection Type

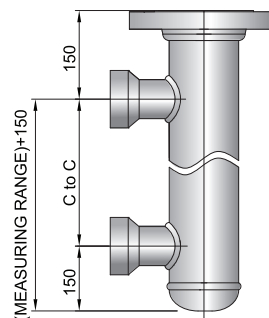
Type A  
SIDE-BOTTOM (SW)



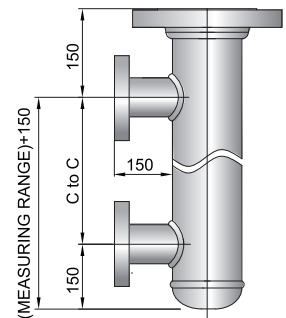
Type B  
SIDE-BOTTOM (FLANGE)



Type C  
SIDE-SIDE (SW)



Type D  
SIDE-SIDE (FLANGE)





# SMC-75B

## 5" Bottle Seal Type

### Ordering Information

#### Vertical Float Type Level Switch (5" Bottle Seal Type - Max. Pressure : 70Bar)

SMC - 75 B 1 A 1 A 1 A 1 A 1 A

#### MODEL SELECTION

B = 5" Bottle Seal Type  
(Max. Temp : 550°C,  
Max. Press : 70 Bar)

#### CHAMBER MATERIAL

1 = Carbon Steel (Std.)  
2 = 304SS  
3 = 316SS (or 316LSS)  
4 = etc.

#### FLOAT MATERIAL

A = 316LSS (Std.)  
B = Monel

#### PROCESS CONNECTION TYPE

1 = Side-Bottom (Std.)  
2 = Side-Side  
3 = Side-Bottom (Cooling Fin3)  
4 = Side-Bottom (Cooling Fin5)  
5 = Side Bottom (Low-density)

#### PROCESS CONNECTION SIZE

A = 1" S.W (Std.) B = 3/4" S.W  
C = 150# 3/4 D = 150# 1"  
E = 300# 3/4" F = 300# 1"  
G = 600# 3/4" H = 600# 1"  
I = etc.

#### SNAP SWITCH ACTION (OUTPUT)

1 = 1 SPDT  
2 = 1 DPDT (2 SPDT)

#### PAINTING

A = MFR Std. (Seojin Spec.)  
B = etc.

#### DRAIN PARTS

1 = None  
2 = etc.

#### CONDUIT CONNECTION

A = PF 3/4" (Std.)  
B = PT 3/4"  
C = NPT 3/4"  
D = NPT1/2"  
E = etc.

#### ENCLOSURE

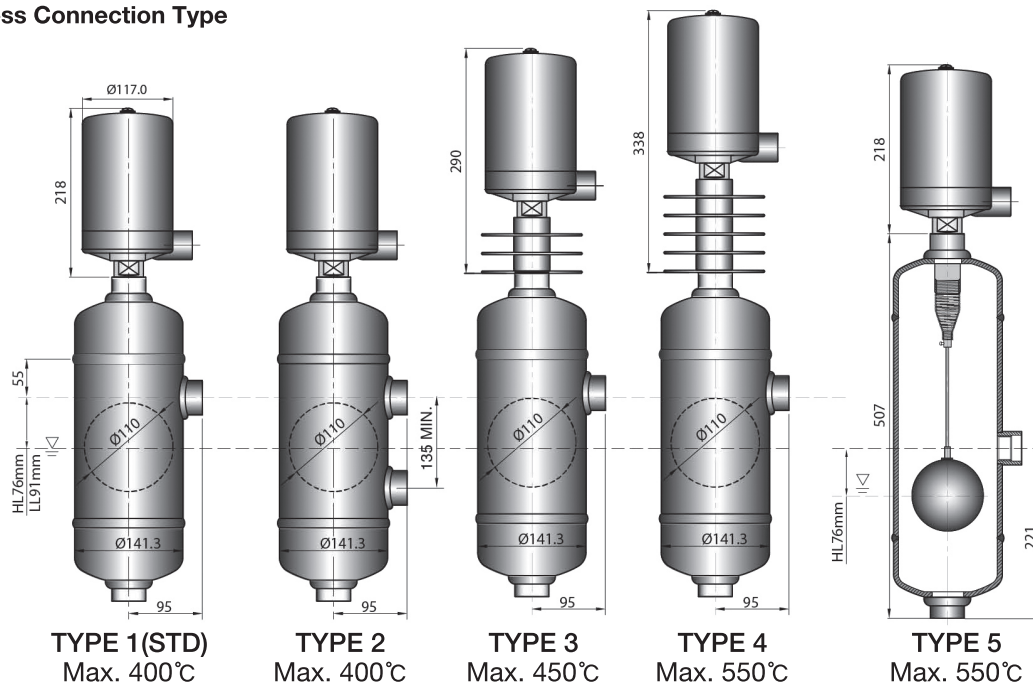
1 = Weather Proof (Std., IP65, C.S Cover)  
2 = Explosion Proof (Ex d IIC T6, IP67)  
3 = ATEX (Ex d IIC T6)

#### PROCESS TEMP' (Switch Assembly)

A = Max.120" (10A 250V/AC/0.6A 125V DC)  
B = Max.230" (5A 250V AC/0.5A 125V DC)  
C = Max.400" (1A 250V AC/1A 30V DC)  
D = Max.230" (15A 250V AC/1A 125V DC)  
E = Max.400" (1A 115V AC/3A 28V DC) (Hermetical Seal Type)  
F = Max.350" (5A 250V AC/0.5A 125V DC/Cooling Fin 3ea)  
G = Max.450" (1A 250V AC/1A 30V DC/Cooling Fin 3ea)  
H = Max.350" (15A 250V AC/1A 125V DC/Cooling Fin 3ea)  
I = Max.450" (1A 115V AC/3A 28V DC/Cooling Fin 3ea) (Hermetical Seal Type)  
J = Max.450" (5A 250V AC/0.5A 125V DC/Cooling Fin 5ea)  
K = Max.550" (1A 250V AC/1A 30V DC/Cooling Fin 5ea)  
L = Max.450" (15A 250V AC/1A 125V DC/Cooling Fin 5ea)  
M = Max.550" (1A 115V AC/3A 28V DC/Cooling Fin 5ea) (Hermetical Seal Type)

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

#### Process Connection Type



C to C of SMC-75B is fixed like the above length.

# SMC-75F

5" Flange Type

## Ordering Information

### Vertical Float Type Level Switch (5" Flange Type)

SMC - 75 F 1 A 1 A 1 A 1

#### CONDUIT CONNECTION

- 1 = PF 3/4" (Std.)
- 2 = PT 3/4"
- 3 = etc.
- 4 = NPT 1/2"
- 5 = NPT 3/4"

#### ENCLOSURE

- A = Weather Proof (Std., IP65, C.S Cover)
- B = Explosion Proof (Ex d IIC T6, IP67)
- C = ATEX (Ex d IIC T6)

#### PROCESS TEMP'(CONTACT RATING)

- 1 = Max.120° (10A 250V/AC/0.6A 125V DC)
- 2 = Max.230° (5A 250V AC/0.5A 125V DC)
- 3 = Max.400° (1A 250V AC/1A 30V DC)
- 4 = Max.230° (15A 250V AC/1A 125V DC)
- 5 = Max.400° (1A 115V AC/3A 28V DC) (Hermetical Seal Type)
- 6 = Max.350° (5A 250V AC/0.5A 125V DC/Cooling Fin 3ea)
- 7 = Max.450° (1A 250V AC/1A 30V DC/Cooling Fin 3ea)
- 8 = Max.350° (15A 250V AC/1A 125V DC/Cooling Fin 3ea)
- 9 = Max.450° (1A 115V AC/3A 28V DC/Cooling Fin 3ea) (Hermetical Seal Type)
- 10 = Max.450° (5A 250V AC/0.5A 125V DC/Cooling Fin 5ea)
- 11 = Max.550° (1A 250V AC/1A 30V DC/Cooling Fin 5ea)
- 12 = Max.450° (15A 250V AC/1A 125V DC/Cooling Fin 5ea)
- 13 = Max.550° (1A 115V AC/3A 28V DC/Cooling Fin 5ea) (Hermetical Seal Type)

#### SNAP SWITCH ACTION (OUTPUT)

- A = 1 SPDT
- B = 1 DPDT

#### SETPOINT

- 1 = 180mm (Std., External Cage of Seojin Instech)
- 2 = 150 ~ 300mm (Tank Top Mounting Length = Min. 150mm)

#### MOUNTING TYPE

- A = 5" 150# ANSI RF Flange (Std.)
- B = 5" 300# ANSI RF Flange
- C = 5" 600# ANSI RF Flange
- D = 5" 900# ANSI RF Flange
- E = 5" 1500# ANSI RF Flange
- F = etc.

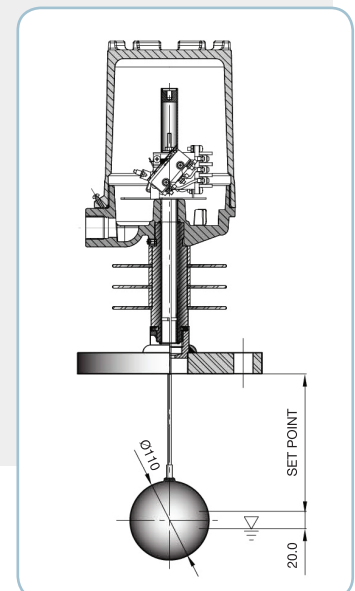
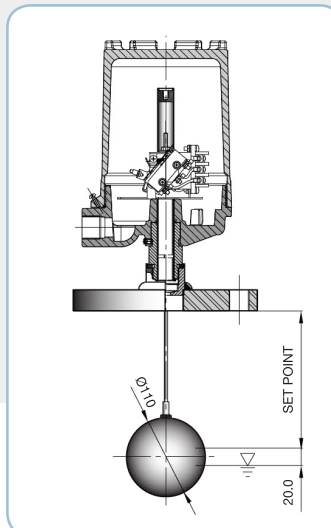
#### FLOAT MATERIAL

- 1 = 316LSS (Std.)
- 2 = Monel

#### MODEL SELECTION

- F = 5" Flange Type  
(Max. Temp: 550°C,  
Max. Pressure : 70 Bar)

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



# SMC-75CH

5" Chamber

## Ordering Information

### Vertical Float Type Level Switch (Chamber)

SMC - 75CH   A   1   A   1   A   1   D   1   A

#### TYPE OF CHAMBER

A = Side-Side  
B = Side-Bottom  
C = etc.

#### CHAMBER MATERIAL

1 = Carbon Steel (Std.)  
2 = 304 SS  
3 = 316 SS (or 316LSS)  
4 = Carbon Steel with Teflon Coating  
5 = etc.

#### PROCESS CONNECTION TYPE

A = Socket Welding Type (Side-Bottom)  
B = Flange Type (Side-Bottom)  
C = Socket Welding Type (Side-Side)  
D = Flange Type (Side-Side)

#### PROCESS CONNECTION SIZE

1 = 1" (Std.)  
2 = 3/4"  
3 = 1-1/2"  
4 = 2"  
5 = etc.

#### TEST FOR WELDING

A = Hydro Test Only  
B = PT Test + Hydro Test  
C = etc.

#### PAINTING

1 = MFR Std. (Seojin Spec.)  
2 = etc.

#### DRAIN PARTS (Side -Side Type Only)

A = PT 1/2" With Plug  
B = PT 1/2" With Globe Valve  
C = None  
D = NPT 1/2" With Plug (Std.)  
E = NPT 1/2" With Globe Valve  
F = etc.

#### LENGTH (CTO C)

1 = 0 ~ 500mm  
2 = 0 ~ 1,000mm  
3 = 0 ~ 1,500mm  
4 = 0 ~ 2,000mm  
5 = etc.

#### TOP MOUNTING SIZE

A = 5" 150# ANSI RF Flange (Std.)  
B = 5" 300# ANSI RF Flange  
C = 5" 600# ANSI RF Flange  
D = 5" 900# ANSI RF Flange  
E = 5" 1500# ANSI RF Flange  
F = etc.

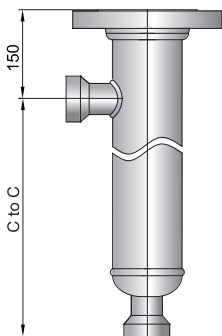
SMC-75CH 5" Chamber

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

### Process Connection Type

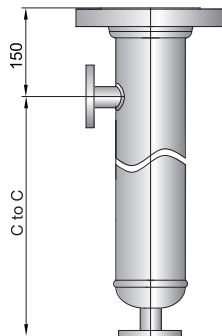
Type A

SIDE-BOTTOM (SW)



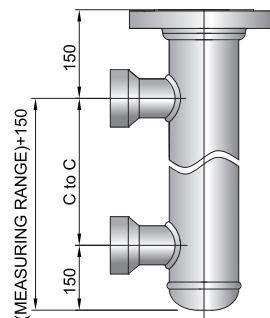
Type B

SIDE-BOTTOM (FLANGE)



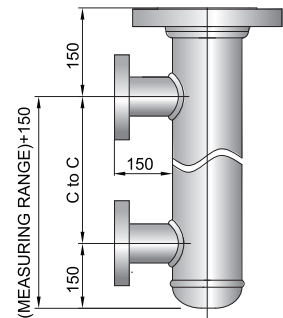
Type C

SIDE-SIDE (SW)



Type D

SIDE-SIDE (FLANGE)



# SMC-73G

Tiny Bottle Flange type

SMC-71



## Features

- Tiny Bottle Flange type
- Suitable for use in narrow or space-constrained applications.
- Cast CS/ SS chambers
- Easy inspection of float chamber through removable head
- Multiple switch capability
- Can be used for vessel under low pressure and temp
- Designed to ASME B31.1
- Weather proof
- Explosion-proof & Flame-proof
- Easy Maintenance With Flange Type Chamber

## Technical Specifications

- Maximum Temperature : 230°C
- Maximum Pressure : 30 bar
- Least Specific Gravity of Process : 0.6
- Snap Acting Switch Assembly
  - Switching Type : Snap Acting Switch, Dry Contact
  - Contact(Output) : 1SPDT, 1DPDT
  - Accuracy : ±1.0mm
  - Switch Assembly Body Material : 304SS
  - Terminal Material : Phenol Resin
- Chamber
  - Made According to ASME B31.1, KEPIC MGE
  - Material : C.S, Stainless Steel
- Float
  - Material : 316LSS(Std)
  - Float Specific Gravity : Minimum 0.4
  - Size : OD 75mm

## Switch Assembly

Type (Model)	SM1S	SM1D	SM2S	SM2D
Action	SPDT/DPDT		SPDT/DPDT	
Max. process liquid temp.	120°C		230°C	
Micro switch operating Temperature range	- 25 ~ 80°C		- 54 ~ 200°C	
Voltage & Current	250VAC 10A		250VAC 5A	
	125VDC 0.6A		125VDC 0.5A	

## Ordering Information

### Vertical Float Level Switch(Tiny Bottle Flange type - Max. Pressure : 30Bar)

SMC - 73 G 1 A 1 A 1 A 1 A 1 A

#### MODEL SELECTION

G = Cast Iron Type  
(Max. TEMP. : 230°C ,  
Max. Press. : 30Bar)

#### CHAMBER MATERIAL

1 = Carbon Steel (Std.)  
2 = Stainless Steel (304SS)  
3 = Stainless Steel (316SS)

#### FLOAT MATERIAL

A = 316LSS (Std.)

#### PROCESS CONNECTION TYPE

1 = Side-Bottom / Weather Proof  
2 = Side-Bottom / Explosion Proof  
3 = Side-Side(With Tee) / Weather Proof  
4 = Side-Side(With Tee) / Explosion Proof

#### PROCESS CONNECTION SIZE

A = NPT 1" (Std.)  
B = etc.

#### SNAP SWITCH ACTION (OUTPUT)

1 = 1 SPDT  
2 = 1 DPDT

#### PAINTING

A = MFR Std.  
B = None  
C = etc.

#### DRAIN PARTS

1 = None  
2 = etc.

#### CONDUIT CONNECTION

A = PF 3/4"  
B = PT 3/4"  
C = NPT 3/4"  
D = NPT 1/2"  
E = etc.

#### ENCLOSURE

1 = Weather Proof (Std. IP65, C.S COVER)  
2 = Explosion Proof (Ex d IIC T6, IP67)

#### PROCESS TEMP'

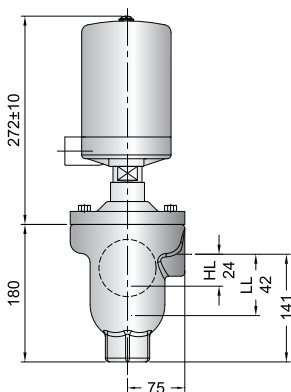
A = Max. 120°(10A 250VAC / 0.6A 125VDC)  
B = Max. 230°(5A 250VAC / 0.5A 125VDC)  
C = etc.

Tiny Bottle Flange type

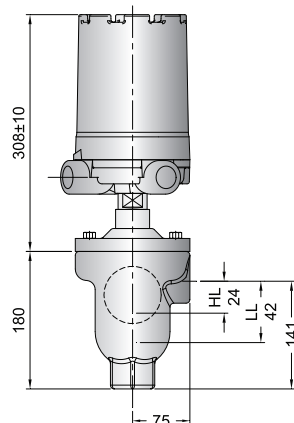
When placing an order, selected ordering number should be indicated on the purchase order sheet.

### Process Connection Type

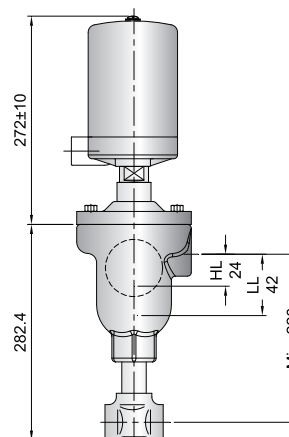
TYPE 1



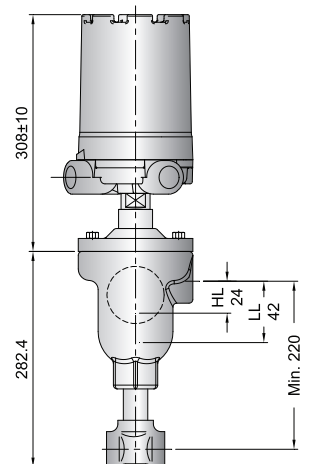
TYPE 2



TYPE 3

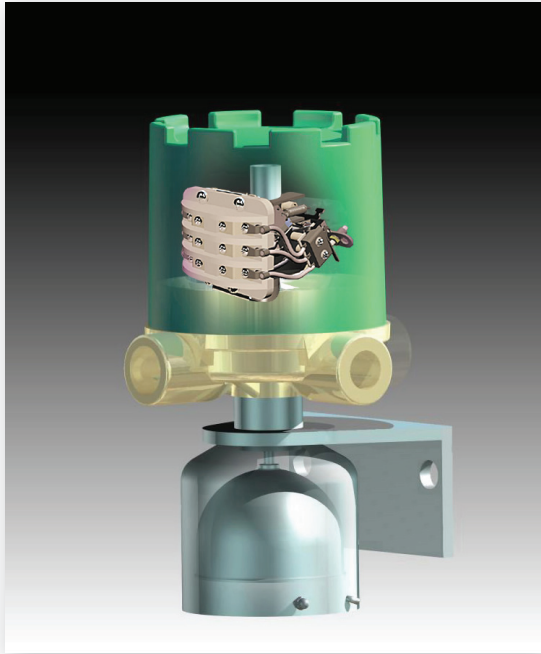


TYPE 4



# SMC-71

Flood Level Switch to Detect Leaks or Spills

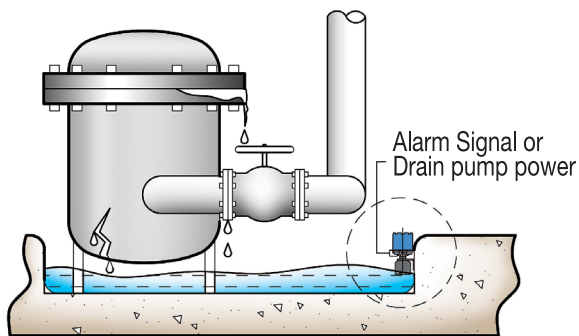


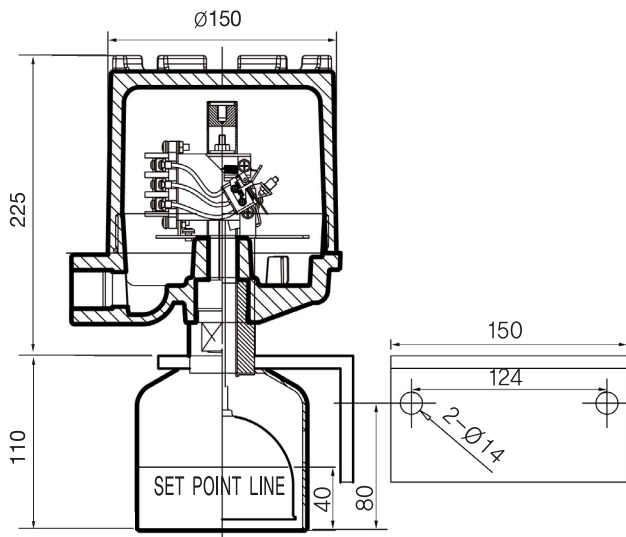
## Features

- 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°C ≤ AMB ≤ 60°C)  
General Area, Weather proof Type IP65
- TÜV- Approval  
CE 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

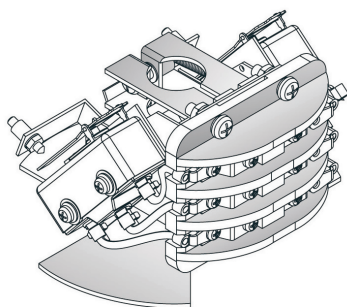




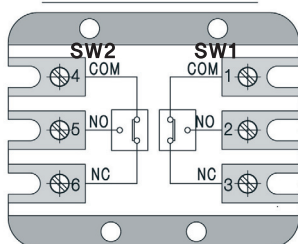
### Quality Assurance

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



### 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 :  $\pm 1$ mm

- 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°C		- 54 ~ 204°C		- 65 ~ 260°C	
Voltage & Current	250V AC 10A		250V AC 15A		115V AC 1A	
	125V DC 0.6A		125V DC 1A		28V DC 3A	
Remark					Hermetical Seal	

## Ordering Information

### ■ Flood Level Switch to Detect Leaks or Spills

SMC-71    A    1    A    1    A    1

#### PAINTING

1 = MFR Std.(Seojin Spec.)  
2 = etc.

#### CONDUIT CONNECTION

A = PF 3/4" (Std.)  
B = PF 1"  
C = etc.  
D = PF 1/2"  
E = NPT 1/2"  
F = NPT 3/4"

#### OPERATING TEMP' (CONTACT RATING)

1 = -25 ~ 80°C(10A 250V AC / 0.6A 125V DC)  
2 = -54 ~ 204°C(15A 250V AC / 1A 125V DC)  
3 = -65 ~ 260°C(1A 115V AC / 3A 2)

#### SNAP ACTION SWITCH (OUTPUT)

A = 1 SPDT  
B = 1 DPDT

#### FLOAT MATERIAL

1 = 316LSS  
2 = etc.

#### WETPART MATERIAL

A = Carbon Steel  
B = 316SS  
C = etc.

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



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■ Specifications subject to change without notice