ISO 9001/14001

Magnetic Float Type Level Switch (Horizontal Float Type)

Model : SFM/SHM

SeoJin Instech Co., Ltd.

www.seojin.biz

SFM (Reed Switch)

Mini Magnetic Float Type Level Switch

Hydraulic Equipment.
Lubricating Oil and Coolant Tanks

Introduction

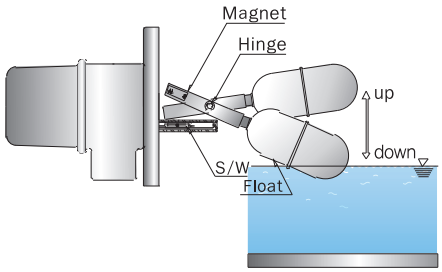
SFM series float type liquid level switch made by Seojin Instech is intended for mounting on the sidewall of a tank.
This product is sturdy, switching action is definite, and it is easy to be installed and maintained.

Features

- Small size
- Simple installation
- Wide adaptability
- Can be activated at the boundary of two liquids (SFM-16)

Principle

When the float is tilted upward by the rising liquid level, the magnet attached to the end of the body actuates the reed switch.

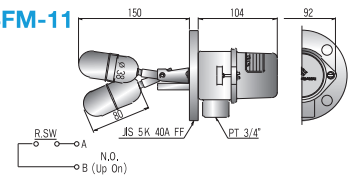


Specifications

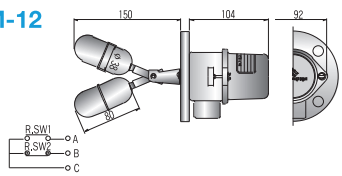
Type		SFM-11	SFM-12	SFM-13	SFM-14	SFM-16
Switch Rating		300V AC/350V DC, 0.5A / 50W,70VA				
Operating Temperature		10 ~ +120℃				10 ~ +80℃
Operating Pressure		5kgf/cm²		5kgf/cm²	5kgf/cm²	
Switch		Reed Switch				
Output		1SPST	1SPDT	1SPST		
S.G		0.7				
Actuation Angle		9 ~ +23°	±23°	9° ~ +23°		
Mounting Standard		JIS 5K 40A FF		PT 1½″	JIS 5K 40A FF	
Material	Sensing part	304SS / 316LSS				304SS / NBR Float
	Housing part	ADC (IP65)				

Dimensions

SFM-11



SFM-12



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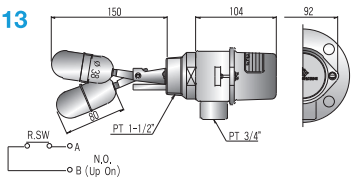
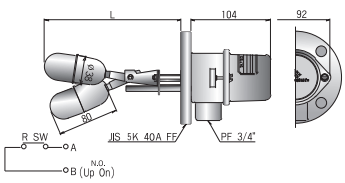
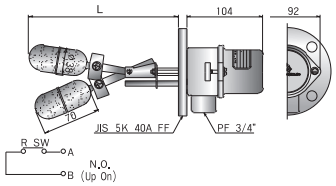


SFM-14



SFM-16



※1

※1. SFM-16 can be activated at the boundary of two liquids

Mini Magnetic Float Type Level Switch (Reed Switch Type)

SFM -	11	A	1	A	1

CONDUIT CONNECTION
1 = PF 3/4″ (Std.)
2 = PT 3/4″
3 = PF 1/2″
4 = PT 1/2″
5 = NPT1/2"
6 = NPT3/4"
OP = etc.

MOUNTING SIZE
A = JIS 5K 40A Flange (SFM 11, 12, 14, 16, Std.)
B = PT 1 1/2″ (SFM-13 Std.)
C = JIS 10K 40A Flange
OP=etc.

MEASURING PART LENGTH
1 = 150 mm : SFM - 11, 12 (Std.)
2 = 150 mm : SFM - 13 (Std.)
3 = 151~ 300 mm (Max.) : SFM - 14, 16

WET PART MATERIAL
A = 304SS (Std.)
B = 316LSS

FUNCTION
11 = 1 SPST (Std.)
12 = 1 SPDT (Std.)
13 = 1 SPST (Std.)
14 = 1 SPST Extension type (Max. 300 mm)
16 = 1 SPST Boundary detection type (Max. 300mm)

Float Opening

Float (Min. I.D)
SFM - 11, 12, 13, 16 : 41mm
SFM - 14 : 44mm

Nozzle Length

From float to tank (Max. Distance : L)
SFM - 11, 12, 13, 16 : 160 mm
SFM - 14 : 60 mm + ″A″
″A″ Value means a distance of extended part

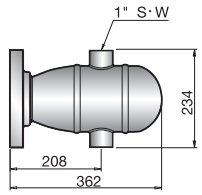
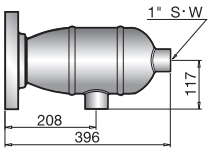
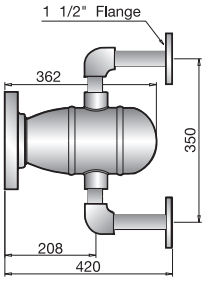
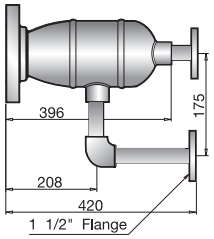
Pipe Opening

Pipe(Min. I.D)
SFM - 11, 13, 14 : 120mm
SFM - 12, 16 : 130mm

Orientation

Opening for electrical conduit should face down

Table for Chamber Selection

A	B	C	D
			

Ordering Information

■ Horizontal Mini Magnet Type Float Level Switch

SHM-100	A	1	A	1	A	1

CONDUIT CONNECTION
1 = PF 3/4˝ (Std.)
2 = PT 3/4˝
3 = PF 1/2˝
4 = PT 1/2˝
5 = NPT1/2"
6 = NPT3/4"
OP=etc.

ENCLOSURE
A = Weather proof (Std.)
B = Explosion proof
(Ex d IIC T6 / IP65)

MEASURING PART LENGTH
1 = 200 mm (Std.)
2 = 201 ~ 300 mm
3 = 301 ~ 400 mm (Max.)

MOUNTING SIZE
A = JIS 5K 65A Flange (Std.)
B = JIS 10K 65A Flange
OP = etc.

PROCESS TEMPERATURE
1 = -20 ~ + 120℃ (Std.)
2 = -20 ~ + 230℃

WET PART MATERIAL
A = 304SS (Std.)
B = 316LSS

■ Chamber

SHM -100CH	A	1	# # # #

CHAMBER SCH#
(Pressure Rate)

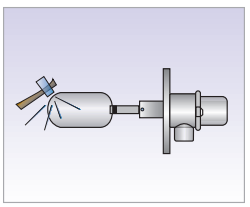
CHAMBER PARTS MATERIAL
1 = Carbon Steel (A105)
2 = 304SS
3 = 316LSS
OP = etc.

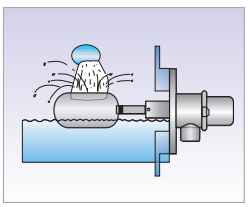
TYPE OF CHAMBER
A = Top Bottom (Socket Weld type)
B = Side Bottom (Socket Weld type)
C = Side Side (1) (Flange type)
D = Side Side (2) (Flange type)
OP = etc.

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

Precaution

- Avoid dropping or shocking the Level Switches (Fig.1)
- Do not install the switches near a drain outlet or a feed-water inlet to avoid malfunction due to chattering (Fig. 2)
- Installation near a strong magnetic field should be avoided to prevent malfunction (Fig. 3)
- This type of Level Switch should not be used for liquids containing iron particles or other strongly magnetic material. The Switches must be cleaned frequently if the liquid has high viscosity or contains floating material (Fig. 4)


(fig. 1)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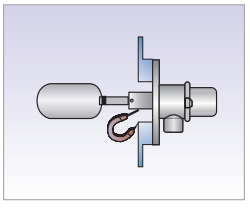
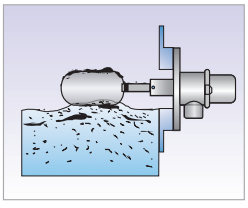

(fig. 3)


(fig. 4)

SHM-2000

Vertical Magnetic Float Type Level Switch

Introduction

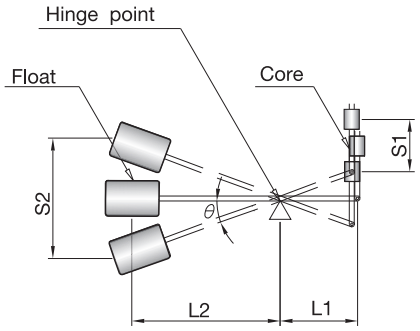
The float and body of this model rotates around a single point to induce a vertical linear displacement to a mechanism to actuate a heatproof micro-switch.

Features

- Liquid level control for high temperature and/or high pressure systems.(350℃ 100 bar)
- For control of levels in turbine service tanks of electric power plants.
- For control of boiler feed-water and other pressure vessels.
- For control of levels in oil tanks and petrochemical processing plants.
- A variety of mounting chambers are available.
- Simple installation.
- Selectable of installation chambers.

Principle

The range of linear core movement is determined by selecting the rotating angle of the float and lengths, L1 and L2, to actuate the micro-switch, which controls the power to pump or drain equipment.



Specifications

SHM-2000 Type		Std.	Explosion Proof
Contact Capacity		125V AC, 15A / 250V AC, 5A	
Switch		Heat-proof Micro Switch	
Process Temperature	Sensing Part	-25 ~ +350℃ (Max.)	
	Housing Part	-25 ~ 120℃	-20 ~ 60℃
Operating Pressure		10kgf/cm² (Max.)	
Output		1SPDT, 1DPDT	
Specific Gravity		0.6(Min.)	
Actuation Angle		±6°	
Mounting Standard		JIS 10K 80A FF (Std.), Option for other	
Material	Sensing Part	304SS / 316LSS	
	Body Part	304SS / 316SS / Carbon Steel	
	Housing Part	ADC, Cast Aluminum	
Enclosure Class		Weather proof	Explosion proof (Ex d IIC T6, IP65)

Dimensions

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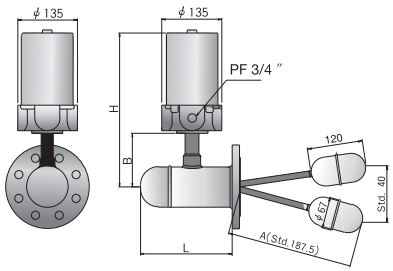

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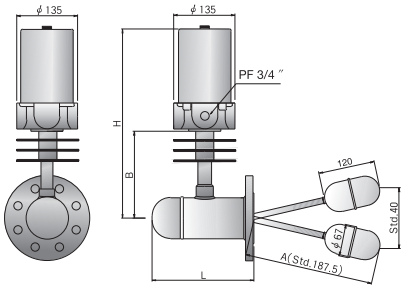

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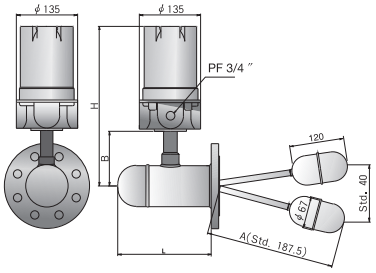

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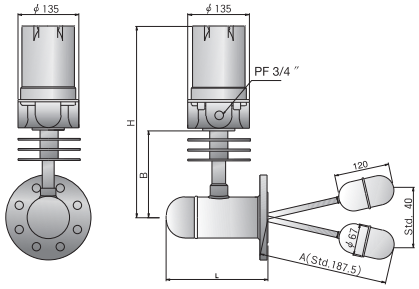
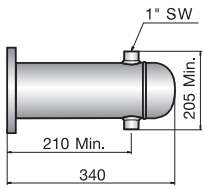
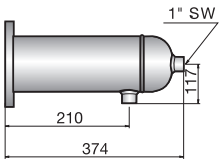
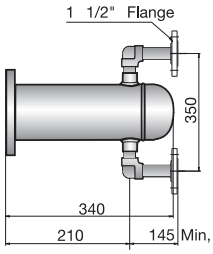
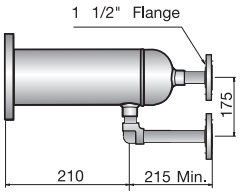
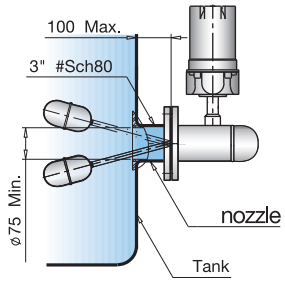


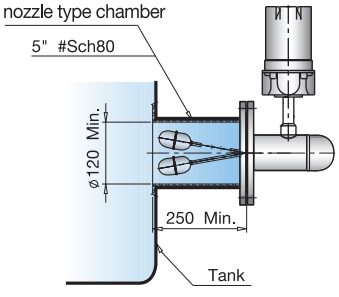
Table for Chamber Selection

A	B	C	D
			

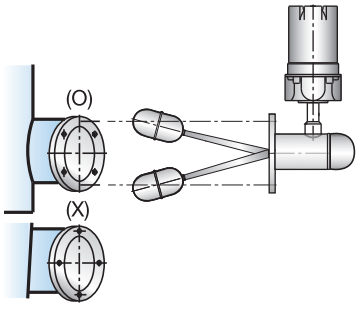
Installation Requirement



When using a nozzle



When using a chamber



The centerline of bolt holes should line up with the vertical centerline of the flange.

Ordering Information

Vertical Magnetic Float Type Level Switch

SHM-2000	A	1	A	1	A	1

CONDUIT CONNECTION
1 = PF 3/4″ (Std.)
2 = PT 3/4″
3 = PF 1/2″
4 = PT 1/2″
5 = NPT1/2"
6 = NPT3/4"
OP=etc

ENCLOSURE
A = Weather proof (C.S Cover Std.)
B = Explosion proof (Ex d IIC T6 / IP65)

OUTPUT
1 = 1 SPDT
2 = 1 DPDT

MOUNTING SIZE
A = JIS 10K 80A FF Flange(Std.)
B = JIS 10K 100A FF Flange
C = ANSI 3″ 150lb RF Flange
D = ANSI 4″ 150lb RF Flange
E = JIS & ANSI 5″ (Chamber type only)
OP = etc.

PROCESS TEMPERATURE
1 = -25 ~ +150℃
2 = -25 ~ +230℃
3 = -25 ~ +350℃

WET PART MATERIAL
A = 304SS
B = 316LSS
C = Carbon Steel
OP = etc.

CHAMBER

SHM-2000CH	A	1	# # # #

CHAMBER SCH# (STD. 5″/125A)
(Pressure Rate)

CHAMBER PARTS MATERIAL
1 = Carbon Steel
2 = 304SS
3 = 316LSS
OP = etc.

TYPE OF CHAMBER
A = Top Bottom (Socket weld type)
B = Side Bottom (Socket weld type)
C = Side Side(1) (Flange type)
D = Side Side(2) (Flange type)
OP = 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