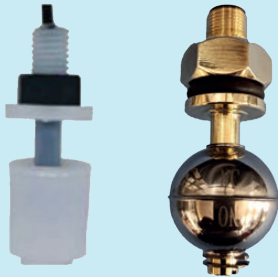
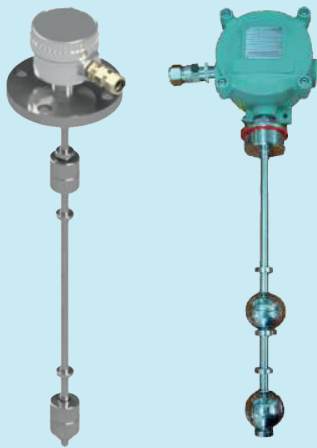




**FLOAT & DISPLACER
TYPE LEVEL SWITCHES**

INDEX

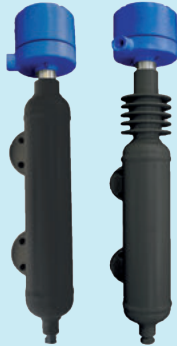
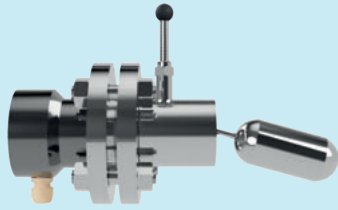


1.	VFS SERIES - VERTICAL MOUNTING MAGNETIC FLOAT LEVEL SWITCHES	5
1.1	CONSTRUCTION & OPERATION	5
1.2	GENERAL SPECIFICATIONS	6
1.3	ORDERING INFORMATION FOR VERTICAL MOUNTING FLOAT LEVEL SWITCHES	7
1.4	VERTICAL FLOAT LEVEL SWITCH INSTALLED IN A CHAMBER	8
1.5	ACCESSORIES	9

2.	MINI VERTICAL MOUNTING MAGNETIC FLOAT LEVEL SWITCHES – MVFS	10
2.1	APPLICATIONS	10

3.	MINI HORIZONTAL MOUNTING MAGNETIC FLOAT LEVEL SWITCHES - MHFS	14
3.1	APPLICATIONS	14
3.2	INSTALLATION MODES	14

4.	BEND VERSION MAGNETIC FLOAT LEVEL SWITCHES- BVFS	17
4.1	CONSTRUCTION AND OPERATION	17
4.2	GENERAL SPECIFICATIONS	18
4.3	ORDERING INFORMATION	18



INDEX

5.	HFS SERIES- HORIZONTAL MOUNTING MAGNETIC FLOAT LEVEL SWITCHES	20
5.1	CONSTRUCTION & OPERATION	20
5.2	INSTALLATION OPTIONS	20
5.3	ORDERING INFORMATION FOR HORIZONTAL MOUNTING MAGNETIC FLOAT SWITCHES	21
5.4	HORIZONTAL FLOAT LEVEL SWITCH INSTALLED IN A CHAMBER	22
5.5	ACCESSORIES	23

6.	EXTERNAL CHAMBER LEVEL SWITCHES- MLS	24
6.1	CONSTRUCTION AND OPERATION	24
6.2	INSTALLATION OPTIONS	24
6.3	GENERAL SPECIFICATIONS	25
6.4	ORDERING INFORMATION	25

7.	CABLE SUSPENDED FLOAT OPERATED LEVEL SWITCH – CFS	26
7.1	CONSTRUCTION & OPERATION	26
7.2	GENERAL SPECIFICATIONS	26
7.3	INSTALLATION MODES	27
7.4	ORDERING INFORMATION FOR CABLE SUSPENDED FLOAT OPERATED LEVEL SWITCH	27

8.	DISPLACER TYPE LEVEL SWITCHES - DLS	28
8.1	CONSTRUCTION & OPERATION	28
8.2	INSTALLATION OPTIONS	29
8.3	GENERAL SPECIFICATIONS	29
8.4	ORDERING INFORMATION FOR DISPLACER TYPE LEVEL SWITCHES	31
8.5	DLS WITH A SINGLE LEVEL DISPLACER IN A CHAMBER	32

FLOAT & DISPLACER TYPE LEVEL SWITCHES

Float & Displacer Type Level Switches are designed for long life and versatile applications in liquid level control using operating principles of Float /Displacer Mechanisms.

- Ideal for industrial applications such as pump control and high or low alarm duty on tanks and pressure vessels.
- Rugged, industrial level switches specifically designed for variety of applications.
- High Pressure and High Temperature application capabilities in different models.
- Wide variety of internationally accepted Agency Approvals for Safe Use.
- Versatile switching mechanisms for retro-fit situations.

PRODUCT VARIANTS INCLUDE

VFS Series	VERTICAL MOUNTING MAGNETIC FLOAT LEVEL SWITCHES
MVFS Series	MINI VERTICAL MOUNTING MAGNETIC FLOAT LEVEL SWITCHES
MHFS Series	MINI HORIZONTAL MOUNTING FLOAT LEVEL SWITCHES
BVFS Series	BEND VERSION TYPE MAGNETIC FLOAT LEVEL SWITCHES
HFS Series	HORIZONTAL MOUNTING MAGNETIC FLOAT LEVEL SWITCHES
MLS Series	EXTERNAL CHAMBER LEVEL SWITCHES
CFS Series	CABLE SUSPENDED FLOAT OPERATED LEVEL SWITCHES
DLS Series	DISPLACER TYPE MAGNETIC LEVEL SWITCHES

APPROVALS / CERTIFICATIONS



ISO - 9001- 14001-45001 Certified



Conformité Européenne



Pressure Equipment Directive
2014/68/EU



ATEX 2014/34/EU



IECEx Approved



ABS - Type Approved Product



CIMFR / PESO / CCOE

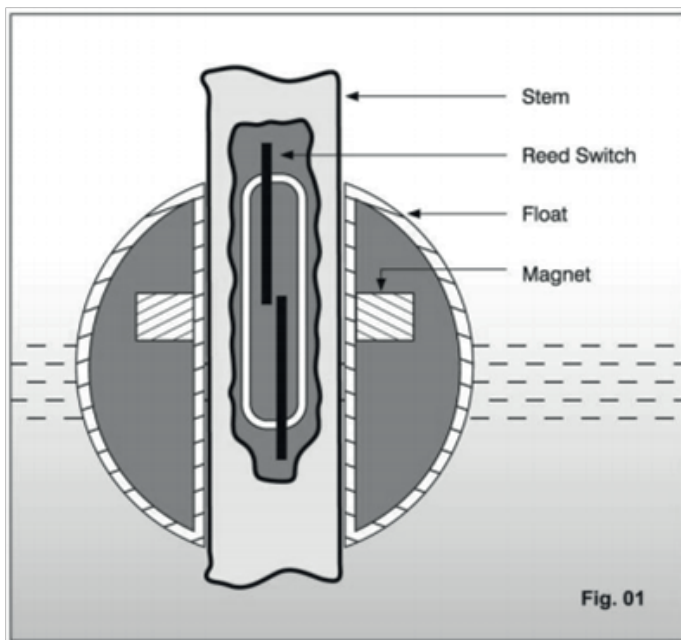
1. VFS SERIES - VERTICAL MOUNTING MAGNETIC FLOAT LEVEL SWITCHES

Vertical Float Switches are established and reliable technique in industry for single / multiple liquid level sensing and control in open or pressurized vessels. It offers trouble free service in conductive / non-conductive liquids under widely varying temperatures, pressures, liquid viscosity and corrosive conditions. Besides, it provides high repeatability and effects of shocks / vibrations are minimal.

1.1 CONSTRUCTION & OPERATION

Vertical mounting type float switches operate on below principle.

- **Use of magnetic Reed switch as sensing element.**
A float encircling a fixed stationary stem is equipped with powerful permanent magnets. As the float rises or lowers with liquid level the magnetic field generated by the magnet that is present within the float actuates a hermetically sealed reed switch mounted inside the stem. This in turn makes or breaks the contact of the reed switch. (Refer fig.01)



1.2 GENERAL SPECIFICATIONS

Enclosure	Cast Al., Weather-proof to IP 67, Ex-proof IP 66 to Gr. IIA, IIB & Gr.IIC, DIN Polyamide connector
Gland Connection	Brass, ¾" ET / ½" NPT/ M20 x 1.5
Guided Stem MOC	SS316 / SS304 / Brass / SS316L / PP
Float MOC x Size	SS316 x Ø28, Ø30, Ø41, Ø45, Ø52, Ø63 : SS316L x Ø52 : PU foam x Ø25, Ø35 : PP x Ø25, Ø46, PVDF x Ø48
Stem OD	Ø8, Ø12.7 in SS316 / SS304 / Brass / SS316L, Ø16 in PP
Operating Temperature	SS316 - float Ø52, Ø41 Up to 150°C, float Ø28, Ø30 Up to 100°C SS316L - float Ø52 up to 150°C , PU foam - float Ø25, Ø35 Up to 60°C, PP float Ø 25, Ø46 up to 60°C, PVDF: Ø48 up to 120°C.
Operating pressure max.	SS316 – float Ø52, Ø41 Up to 20Kg/cm², float Ø28, Ø30 upto 8Kg/cm², SS316L float dia. 52mm up to 40Kg/cm², PU foam - float Ø25, Ø35-Atmospheric, PP up to 5kg/cm², PVDF up to 5kg/cm².
Min. specific gravity	0.65
No. of floats	Single / Multiple (Max. 4) (More available on request)
Process connections	Flanged / Threaded / Triclover Flange special constructions as per application
Pre-set levels	1 to 4 (Factory set) (More available on request)
Switch type	Glass encapsulated hermetically sealed reed contacts
Switching capacity	SPST - 15VA / 100VA SPDT - 3VA / 50VA
Differential	Fixed (10 ± 2mm)
Accuracy / Repeatability	± 2mm / ± 1mm
Load	Resistive / Inductive
Insulation	100 Mega-Ohms at 500 VDC
Special Features	Intrinsically safe to Ex ia, Gr. IIA, IIB

1.3 ORDERING INFORMATION FOR VERTICAL MOUNTING FLOAT LEVEL SWITCHES

SPECIFY PART NO. → VFS **1** **2** **3** **4** **5**
 VFS
 Example: VFS **B** **A** **1** **S1** **1**

1	TERMINAL TYPE
A	Cable
B	DIN Polyamide (upto 2 levels)
C	Weather Proof IP 67/SS304
D	Weather Proof IP 67/Cast Al.
E	Ex. Proof IP 66 Gr IIA , IIB , IIC
F	Aluminium Junction Box
G	Polycarbonate Enclosure
O	Others

3	DIA. OF STEM WITH MATERIAL
1	Dia. 8mm - SS304
2	Dia. 12.7mm - SS304
3	Dia. 16.0mm - PP
4	Dia. 8mm - PP
5	Dia. 8mm - SS316
6	Dia. 12.7mm - SS316
7	Dia. 12.7mm - SS316L
O	Others

5	ELECTRICAL SPECIFICATIONS
1	SDN 102
2	SDN 104
3	SDN 202
4	SDN 204
↓	Refer table below

2	CONNECTION TYPE																														
	<table border="1"> <thead> <tr> <th>Size Of Flange</th> <th>Adapter</th> </tr> </thead> <tbody> <tr><td>A</td><td>Dia. 75mm-60mm PCD 0 ¼" BSP</td></tr> <tr><td>B</td><td>Dia. 75mm-65mm PCD 1 1" BSP</td></tr> <tr><td>C</td><td>Dia. 100mm-80mm PCD 2 1½" BSP</td></tr> <tr><td>D</td><td>2" #150 ANSI 3 2" BSP</td></tr> <tr><td>E</td><td>2 ½" #150 ANSI 4 2" NPT</td></tr> <tr><td>F</td><td>2 ½" BS 10 - E 5 3/8" BSP</td></tr> <tr><td>G</td><td>2" BS 10 - E 6 1/8" NPT</td></tr> <tr><td>H</td><td>1 ½" #150 ANSI O Others</td></tr> <tr><td>I</td><td>3" BS 10 - E</td></tr> <tr><td>J</td><td>3" #150 ANSI</td></tr> <tr><td>K</td><td>Dia. 45mm-38mm PCD</td></tr> <tr><td>L</td><td>Dia. 58.7mm-51mm PCD</td></tr> <tr><td>M</td><td>Square 92 x 92</td></tr> <tr><td>O</td><td>Others</td></tr> </tbody> </table>	Size Of Flange	Adapter	A	Dia. 75mm-60mm PCD 0 ¼" BSP	B	Dia. 75mm-65mm PCD 1 1" BSP	C	Dia. 100mm-80mm PCD 2 1½" BSP	D	2" #150 ANSI 3 2" BSP	E	2 ½" #150 ANSI 4 2" NPT	F	2 ½" BS 10 - E 5 3/8" BSP	G	2" BS 10 - E 6 1/8" NPT	H	1 ½" #150 ANSI O Others	I	3" BS 10 - E	J	3" #150 ANSI	K	Dia. 45mm-38mm PCD	L	Dia. 58.7mm-51mm PCD	M	Square 92 x 92	O	Others
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O	Others																														

Please Note:
 Flange / Adapter Material Available in variants of
 Stainless Steel / Mild Steel / Aluminium / Brass

4	FLOAT TYPE																																																				
	<table border="1"> <thead> <tr> <th>Type</th> <th>Material</th> <th>Float</th> <th>Stem</th> </tr> </thead> <tbody> <tr><td>S1</td><td>SS316</td><td>Dia. 28mm</td><td>Dia. 8mm</td></tr> <tr><td>S2</td><td>SS316</td><td>Dia. 30mm</td><td>Dia. 8mm</td></tr> <tr><td>S3</td><td>SS316</td><td>Dia. 41mm</td><td>Dia. 12.7mm</td></tr> <tr><td>S4</td><td>SS316</td><td>Dia. 52mm</td><td>Dia. 12.7mm</td></tr> <tr><td>S5</td><td>SS316L</td><td>Dia. 52mm</td><td>Dia. 12.7mm</td></tr> <tr><td>S6</td><td>SS316</td><td>Dia. 45mm</td><td>Dia. 12.7mm</td></tr> <tr><td>P1</td><td>PU</td><td>Dia. 25mm</td><td>Dia. 8mm</td></tr> <tr><td>P2</td><td>PP</td><td>Dia. 25mm</td><td>Dia. 8mm</td></tr> <tr><td>P3</td><td>PU</td><td>Dia. 35mm</td><td>Dia. 12.7mm</td></tr> <tr><td>P4</td><td>PP</td><td>Dia. 46mm</td><td>Dia. 16mm</td></tr> <tr><td>P5</td><td>PVDF</td><td>Dia. 48mm</td><td>Dia. 16mm</td></tr> <tr><td>S0</td><td>Others</td><td></td><td></td></tr> </tbody> </table>	Type	Material	Float	Stem	S1	SS316	Dia. 28mm	Dia. 8mm	S2	SS316	Dia. 30mm	Dia. 8mm	S3	SS316	Dia. 41mm	Dia. 12.7mm	S4	SS316	Dia. 52mm	Dia. 12.7mm	S5	SS316L	Dia. 52mm	Dia. 12.7mm	S6	SS316	Dia. 45mm	Dia. 12.7mm	P1	PU	Dia. 25mm	Dia. 8mm	P2	PP	Dia. 25mm	Dia. 8mm	P3	PU	Dia. 35mm	Dia. 12.7mm	P4	PP	Dia. 46mm	Dia. 16mm	P5	PVDF	Dia. 48mm	Dia. 16mm	S0	Others		
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ELECTRICAL SPECIFICATIONS

Model Type	SDN 102	SDN 104	SDN 202	SDN 204
Switching Voltage (Max.)	200 V DC 125 V AC	300 V DC 240 V AC	28 V DC 28 V AC	500 V DC 250 V AC
Switching Current (Max.)	0.5A	3A	0.25 A	1.5A
Contact Rating	15VA	100VA	3VA	50VA
Contact Form	SPST	SPST	SPDT	SPDT

- The REED contacts are potential free and the specified values are maximum threshold. Recommended voltage range is 12-36V DC.
- For Higher Rating Reed Switches - Please consult factory.

1.4 VERTICAL FLOAT LEVEL SWITCH INSTALLED IN A CHAMBER

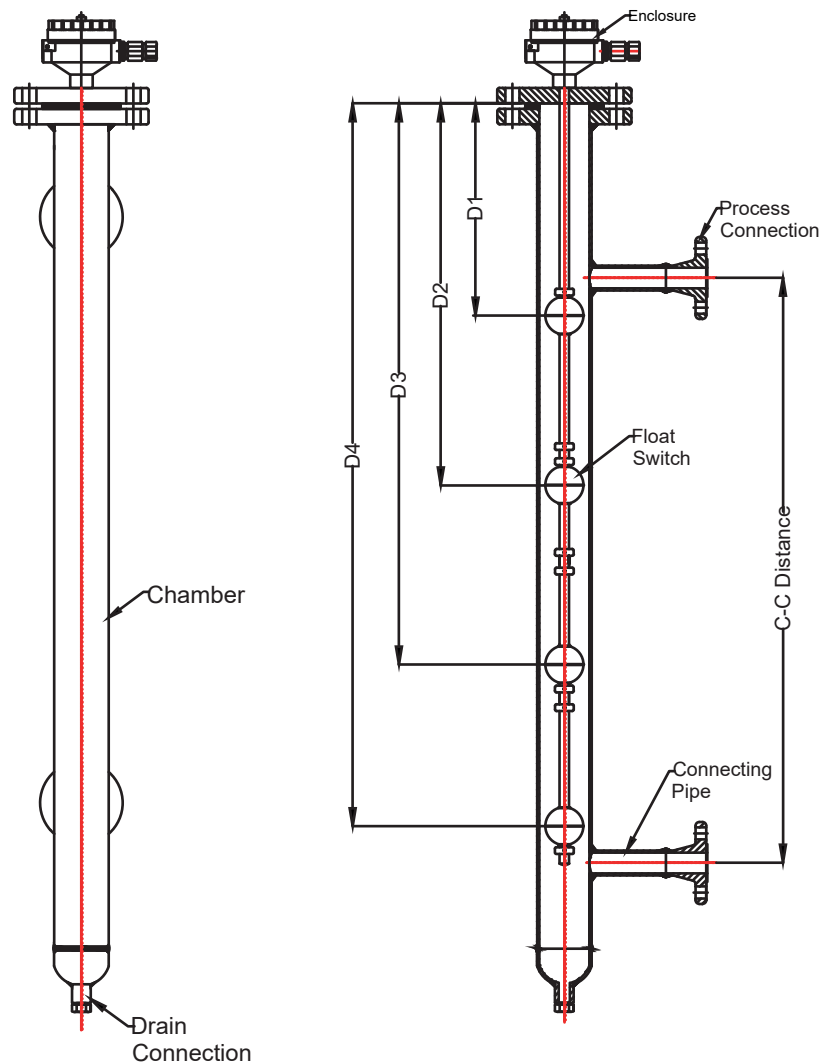
Wherever it is not possible or desirable to install Vertical Float switches directly onto the vessel, switches can be installed in an External Chamber. This arrangement gives smooth level control irrespective of turbulence in the process vessel and prevents accidental damages to the switch during shutdown or maintenance of the vessel. Chambers are used in applications which require isolations of process, High Pressure / High Temperature applications, Corrosive applications, Onshore / Offshore installations.

Main function of these chambers are:

- Level Measurement
- Interface Measurement / Control.

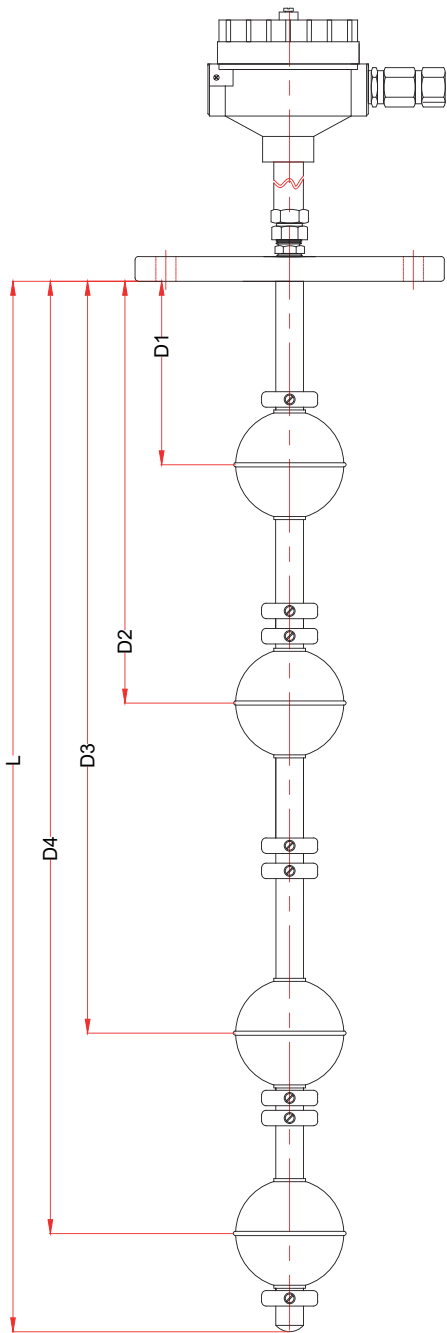
FEATURES

- Available for Low Pressure and High Pressure applications.
- Wide range of material of construction to suit different environmental conditions.
- Wide range of end connection types / sizes to choose from.
- A variety of chamber mounting arrangements provided to suit existing nozzles.

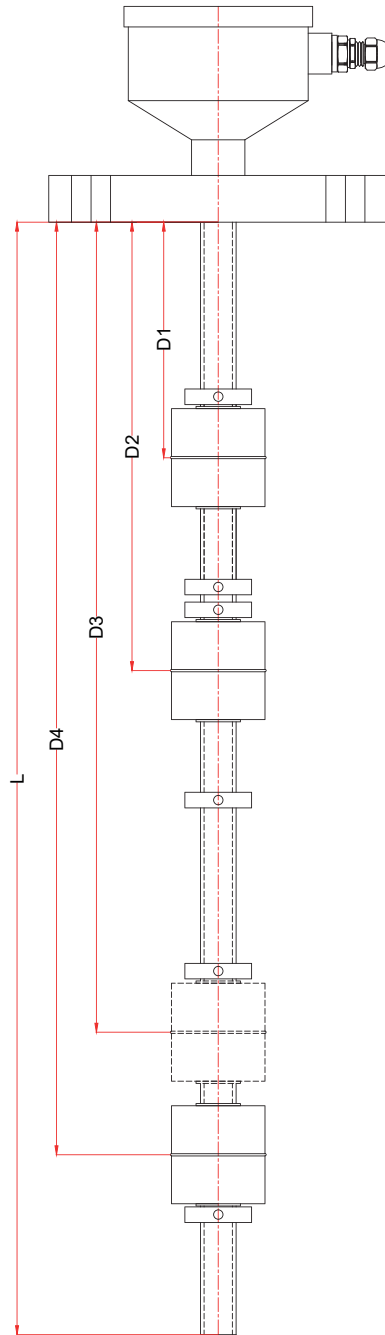


* For ordering Information of External Chamber refer External Chamber Catalog.

1.5 ACCESSORIES



VFS-Ferrule-Model



VFS-PTFE-Model



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