Displacer Float Level Switch

We are introducing our Displacer Float Level Switch uses a buoyant displacer that is suspended in liquid, rather than floating on the surface, and its operation is based on the buoyancy principle. As the liquid level rises, the displacer is submerged, increasing the buoyant force and reducing the tension on a spring assembly. This change actuates a microswitch to signal a high or low-level point, making it suitable for applications with foaming liquids or where a simple float switch is insufficient

Application :

Magnetic Level Switches are suitable for measurement of every application like Large Sumps & Fuel Tanks, Oil Sumps, Boiler Feed Water, Acid / Alkali Dosing Tanks in Waste Water / Sewage / Effluent Treatment.

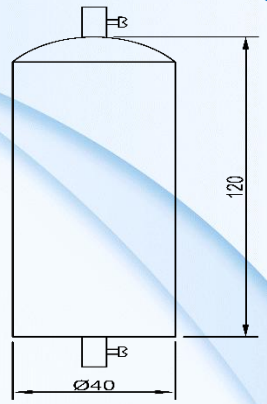
Construction & Working :

In Displacer Float Level Switch there are two types of switching methods i.e.. Narrow Differential (ND) & Wide Differential (WD) used for sensing the level. In Narrow differential (ND) is done by using standard displacer along with switch carriage and wide differential (WD) is done by using two split displacers along with switch carriage Narrow differential is fixed; however Wide differential can be modified by varying the distance between split displacers.

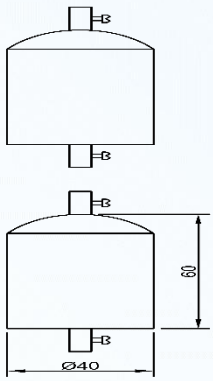
A single standard or two split displacers are suspended by a wire rope and connected to a piston rod, carrying an actuator moving within a non-magnetic barrier tube via a compression spring.

Initially when the displacer is not immersed in liquid, the spring is in compressed condition due to weight of the displacer so that the piston rod is outer of the magnetic field.

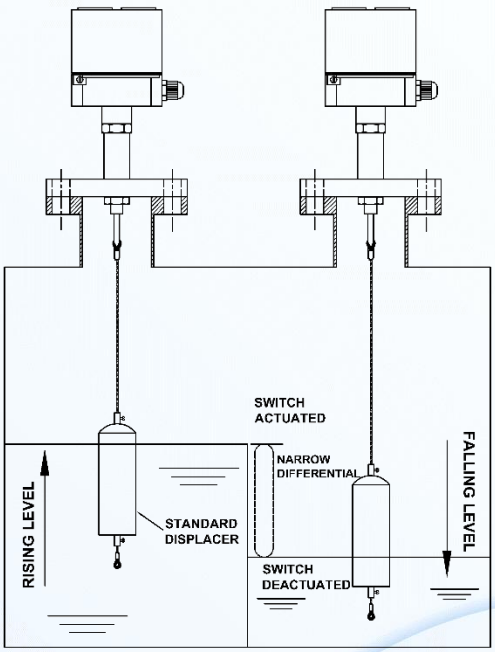
During rising level, the displacer gets immersed in liquid, undergoes weight loss causing an upward motion of the piston rod, which makes the spring take up its original status and move the piston rod upward within the magnetic field, resulting in actuation of micro switches to provide change over contacts.



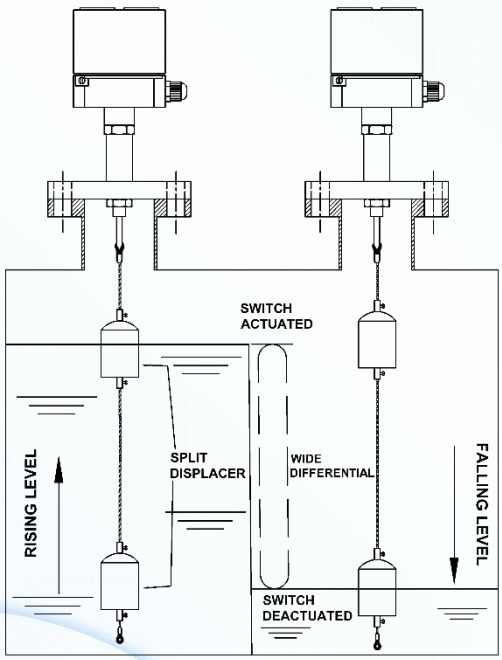
Standard Displacer



Split Displacer



Standard Displacer – Narrow Differential(ND)

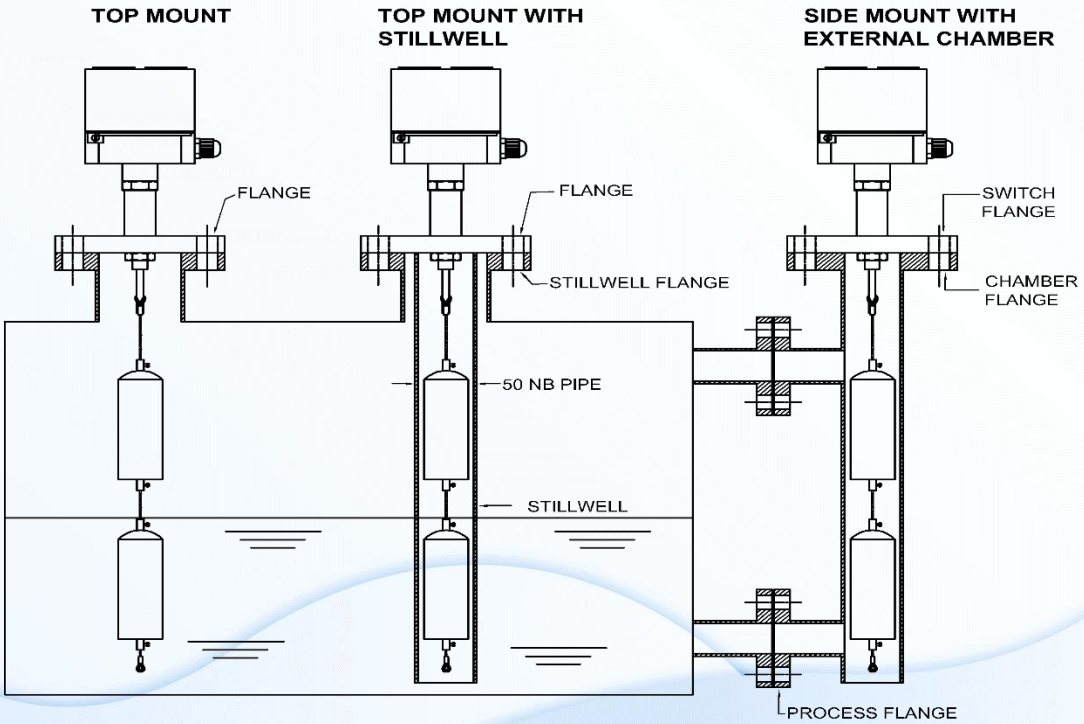


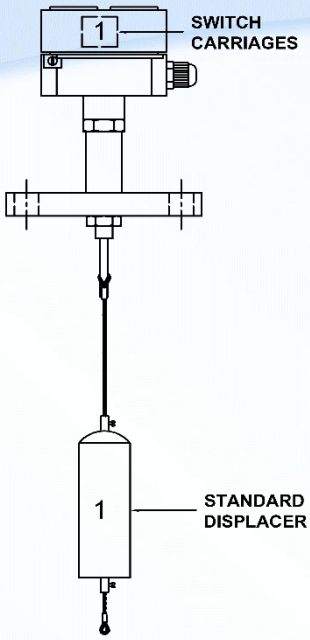
Split Displacer – Wide Differential (WD)

Technical Specifications :

Range	500 to 15000 mm
Enclosure	Cast Aluminium / Cast Aluminium Weatherproof / Cast Aluminium Flameproof.
Switch Contacts	Microswitches - 2 x SPDT (DPDT) rated for 5A, 250VAC.
Displacer Type	Standard Displacer or Split Displacer.
Displacer Size	Ø 40 x SS304, SS316, SS316L, PP , PVDF or PTFE.
Operating Differential	For Standard Displacer - Narrow Differential (ND) - 40 ± 5 mm / For Split Displacer - Wide Differential (WD) - Wide onsite settable.
Spring MOC	SS316, SS316L or PTFE coated on steel.
Wire Rope	SS304, SS316, SS316L, PP or PTFE .
Process Flange	CS, SS304, SS316, SS316L, PP or PTFE with steel cladding .
Temperature	-20 to 70°C (PP), 100°C (PVDF), 200°C (metallic). For High Temperature 300°C with radiating fins available on demand.
Max. Test Pressure	2 kg/cm2 (PP/ PTFE/ PVDF) / Vacuum to 20 kg/cm2 (metallic) For High pressure up to 100 kg/cm2 (metallic) available on demand.
Min. SG	0.8 or Low SG up to 0.5 is available on demand.

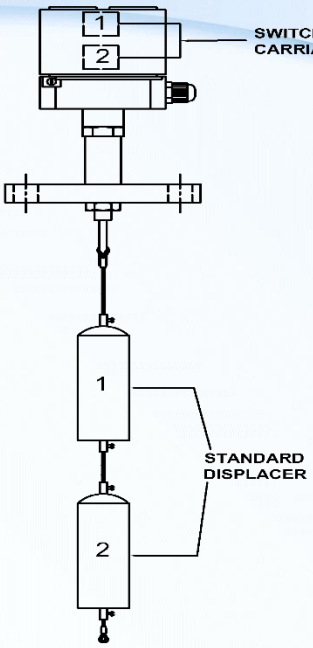
Tank Installation :





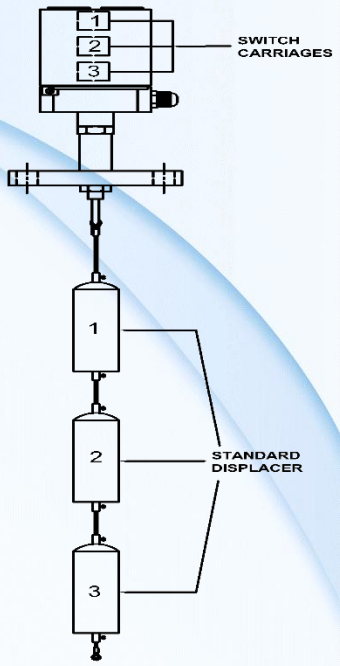
Model – S1

Single Switching X One Standard Displacer with Narrow Differential (ND)



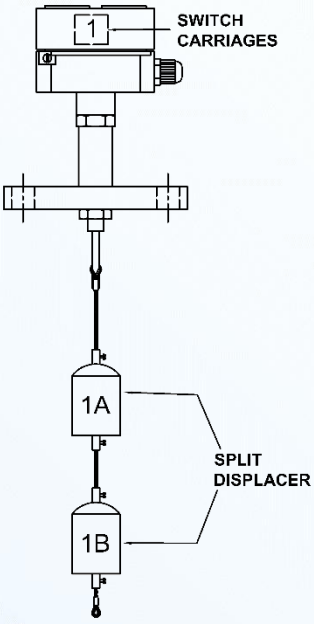
Model – S2

Dual Switching X Two Standard Displacers with Narrow Differential (ND)



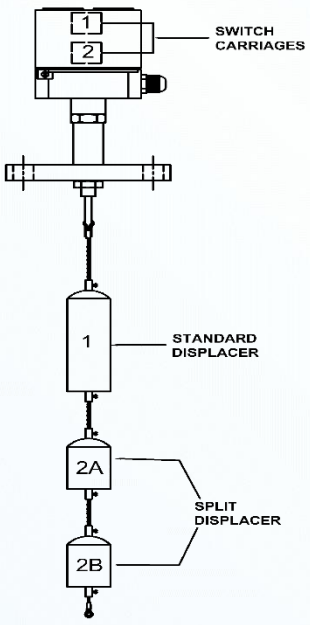
Model – S3

Triple Switching X Three Standard Displacers with Narrow Differential (ND)



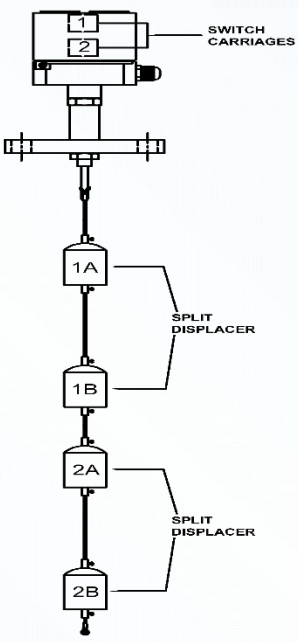
Model – T1

Single Switching X Two Split Displacers with Wide Differential (WD)



Model – ST1

Dual Switching X One Standard Displacer with Narrow Differential (ND) & Two Split Displacers with Wide Differential (WD)



Model – T2

Dual Switching X Four Split Displacers with Wide Differential (WD)

Model Identification

DFLS - | | | | | |

1. Length in mm

2.Enclosures	
Cast Aluminium	**AL**
Cast Aluminium Weatherproof	**WP**
Cast Aluminium Flameproof	**FP**

3.Process Connection Size	
1-1/2”	**A**
2”	**B**
2-1/2”	**C**
3”	**D**
4”	**E**
Other	**O**

4. Process Connection Type	
ASME 150# Flange	**1**
ASME 300# Flange	**2**
ASME 600# Flange	**3**
TABLE D Flange	**4**
Other	**0**

5. Process Connection Material	
CS	**H**
SS 304	**I**
SS 316	**J**
SS 316L	**K**
PP Cladding on CS	**L**
PTFE Cladding on CS	**M**
Other	**O**

6. Switch Carriage X Displacer	
One x One (Standard)	**S1**
Two x Two (Standard)	**S2**
Three x Three (Standard)	**S3**
One x Two (Split)	**T1**
Two x Three (Standard + Split)	**ST1**
Two x Four (Split)	**T2**
Other	**O**

7. Switch Type	
Micro Switch –SPDT 250 VAC/5A	**X**
Micro Switch –DPDT 250 VAC/5A	**Y**
Micro Switch in Hermetically Sealed Casing (DPDT)	**Z**
Other	**O**

8. Accessories	
Without	**W**
Stillwell	**S**
External Chamber	**C**
Other	**O**

536/2 , J Block , Bhosari MIDC,Pune-411026
Email : apsanindia@gmail.com / sales@apsanindia.com
Web : www.apsanindia.com
Ph. : 99221 44884 / 73507 83078

MAKE IN INDIA