



# VSAN

## MAGNETIC FLOAT SWITCH



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VSAN SENSORS PVT. LTD.



An ISO 9001:2015 Company





## Principle :

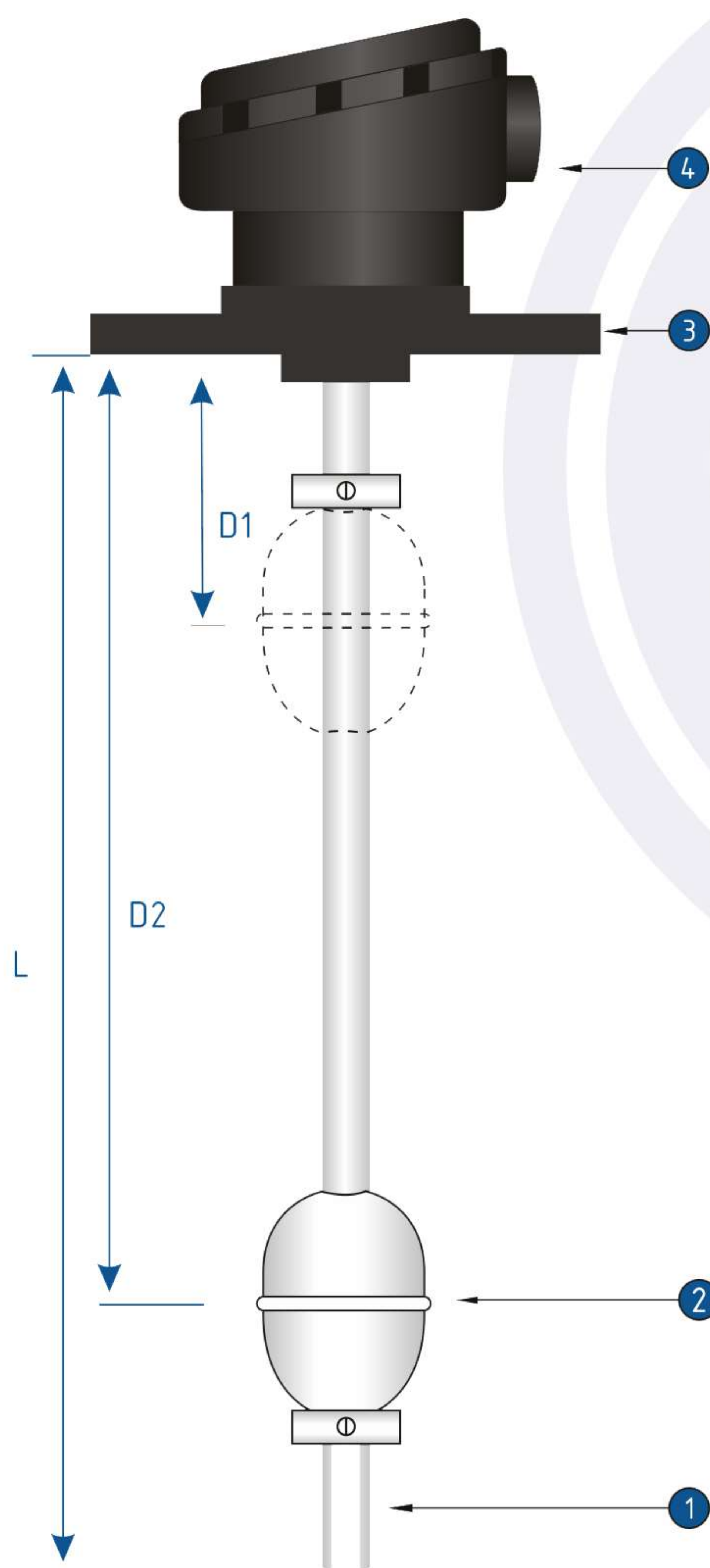
The Magnetic float Switch consists of non-abrasive Float carrying permanent magnet and non-ferrous stem carrying one, two or multiple reed switches. The float glides along the stem and when the float nears the vicinity of reed switch the magnetic field of permanent magnet forces the contact to close, thereby completing the external electrical circuit.

## Applications :

Due to simple design, reliability and with only one moving part i.e., Magnetic Float, it finds application in various liquids where accurate and repeated liquid level control is called for.

This type of float switches are suitable for Storage Tanks, Utility Tanks, Process Tanks, Hydraulic Power Pack, Centralised Lubrication System, Fuel Tanks, Cooling Tower, Textile, Pharmaceuticals and special purpose machines.

## Construction



- 1 - Stem
- 2 - Float
- 3 - Mounting Flange
- 4 - Enclosure

**Stem :** Non magnetic, Non corrosive, SS 304 / SS 316  
For special applications : PP, PVC on request

**Float :** NL : ø34mm Nylon foam float.  
S4 : ø40 SS 316 Cylindrical Float.  
S5 : ø52mm SS 316 Spherical Float  
S6 : ø68 SS 316 Spherical Float  
PP : ø50 PP

Suitable for Water, Oil, Chemicals,  
Solvents, Diesel, Food grade,  
Pharmaceuticals. etc.,

**Mounting :** Level Switch comes with either Flanged or Threaded Mounting

### Flange :

F1 : ø75mm OD, 60mm PCD, ø6.6mm 4 mounting holes for PU Foam float  
F2 : ø100mm OD, 80mm PCD, ø8.8mm 4 mounting holes  
for ø45 & ø52 SS 316 float  
F3 : Std. Table flanges (ANSI, BS, DIN), specify size  
F4 : Special (Drawing to be provided by customer)

### Threaded :

T1 : 1½" BSPM for Nylon Foam Float  
T2 : 2" BSPM for ø45 & ø52 SS 316 Float  
T3 : Special (Drawing to be provided by customer)

### Flange Material :

MS : Mild Steel  
S1 : SS 304  
S2 : SS 316  
S3 : Special (consult factory for material)

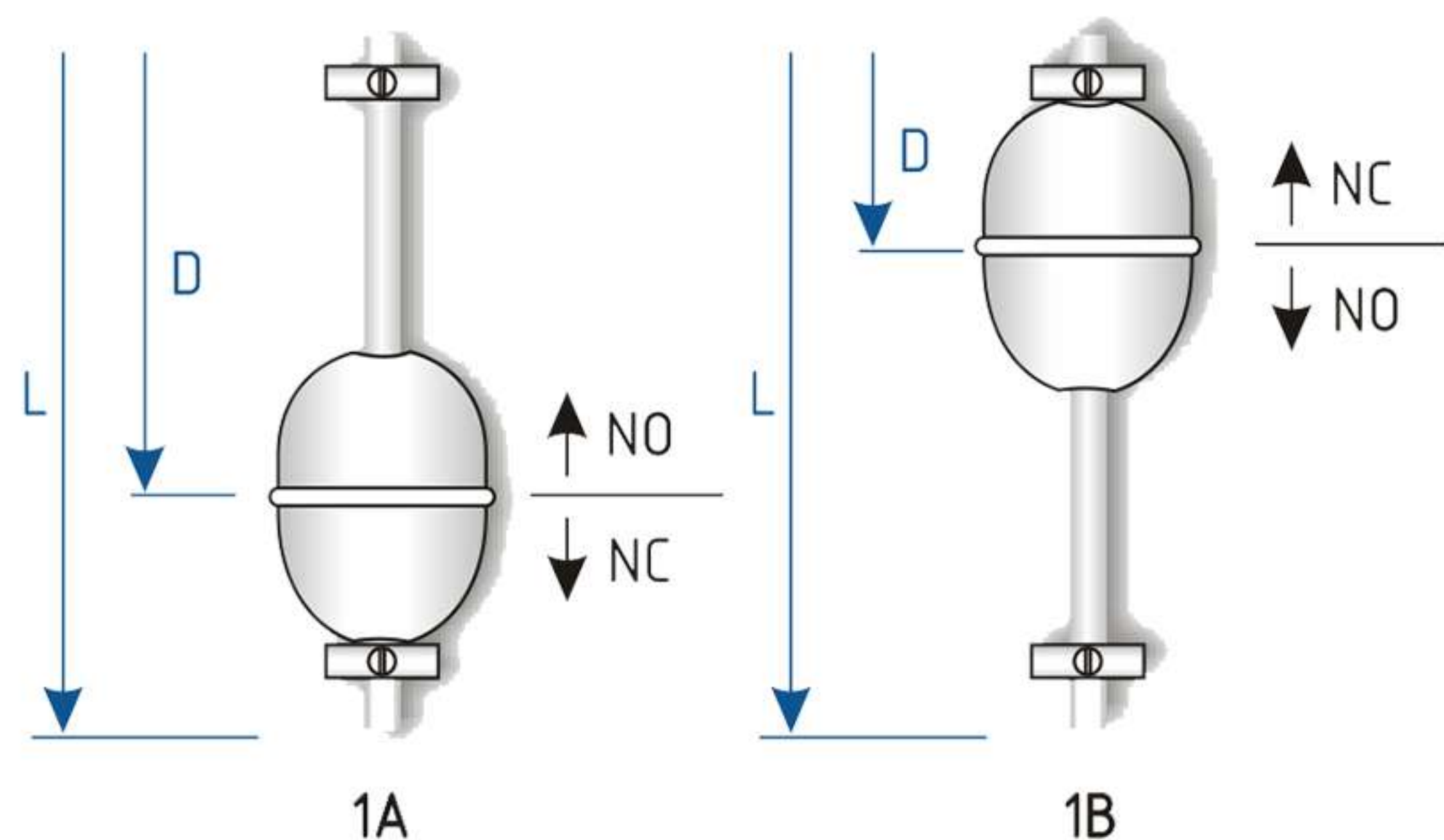
### Enclosure :

DC : Din Solenoid Connector made of polyimide suitable for indoor small tank mountings  
WP : Weatherproof made of cast Aluminum suitable for High temperature, Large Tanks and Open environment  
FP : Flameproof made of Cast Aluminum suitable for Exd1, group II A and II B as per IS : 2148  
IP : IP 68 gland & cable for underwater application  
SP : Special enclosures (Drawing to be provided by customer)





## Levels



### Single Level

Single Level float Switch is used for either High Level or Low Level sensing  
The different output logic is as below

1A : The contact is Normally Open when liquid level is above the set level and closes on reaching the set level.

1B : The contact is Normally Open when liquid level is below the set level and closes on reaching the set level.

D : minimum 50mm  
L : D + 50mm

### Two Level

Two Level float Switch is used for High Level & Low Level sensing.

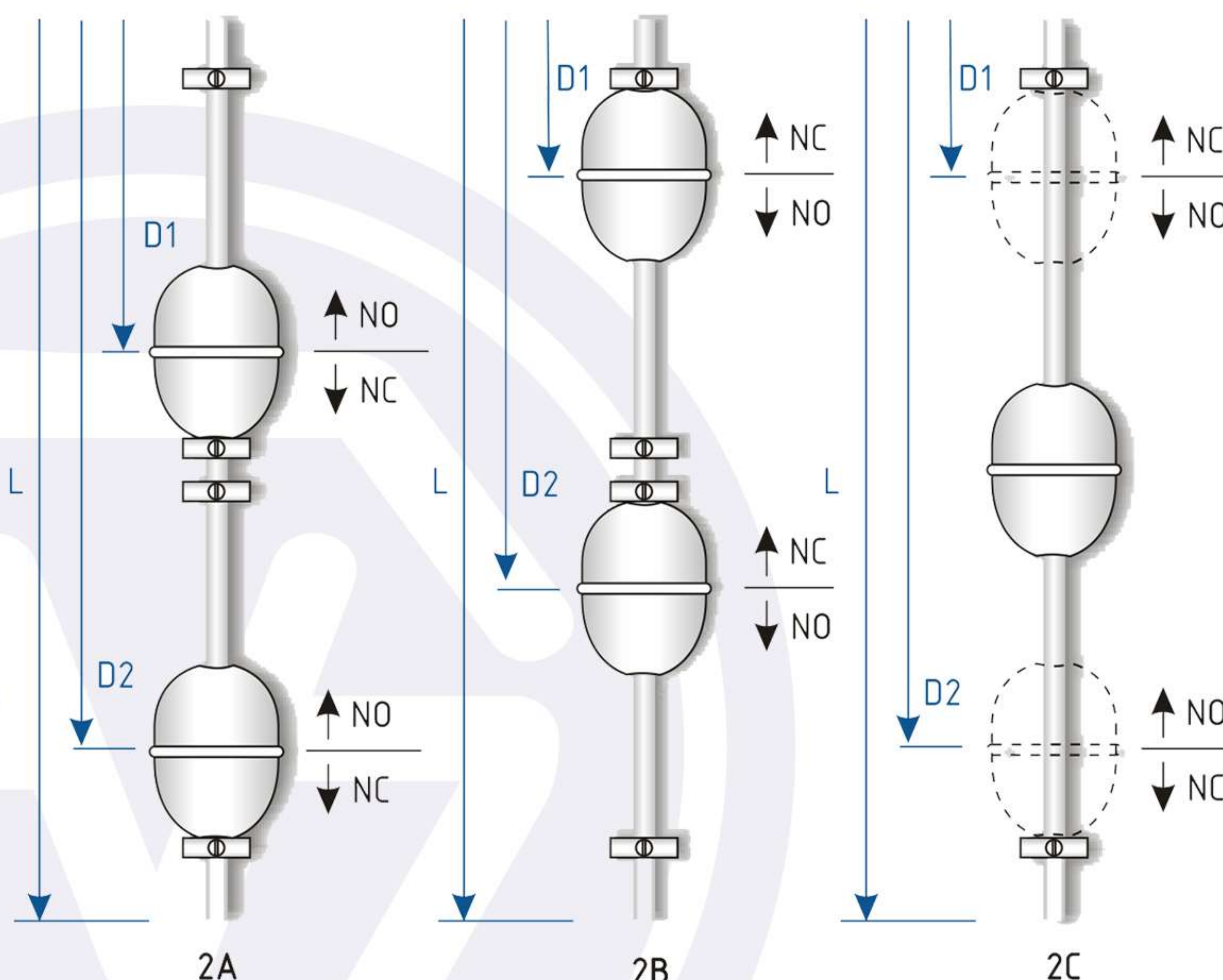
The different output logic is as below

2A : The contact of both High & Low is Normally Open when liquid level is above the set level and closes on reaching the respective set level.

2B : The contact of both High & Low is Normally Open when liquid level is below the set level and closes on reaching the respective set level.

2C : The contact of both High & Low is Normally Open. Low level reed contact Closes on liquid reaching low level & Opens once liquid raises above low level. Similarly High level reed contact Closes on liquid reaching High level & Opens once liquid level falls below High level.

D1 : minimum 50mm  
D2 : maximum (L-50)mm  
Minimum distance between D1 & D2 75mm  
L : D2 + 50mm



### Multiple Level

Multi Level float Switch is used for multiple level sensing  
The different output logic is as below

NA : The contact of all the level is Normally Open when liquid level is above the respective set level and closes on reaching the set level.

ND : Same as above with Single Float. Special Latch type reed switch is used for this (with ø52 & ø68 float only)

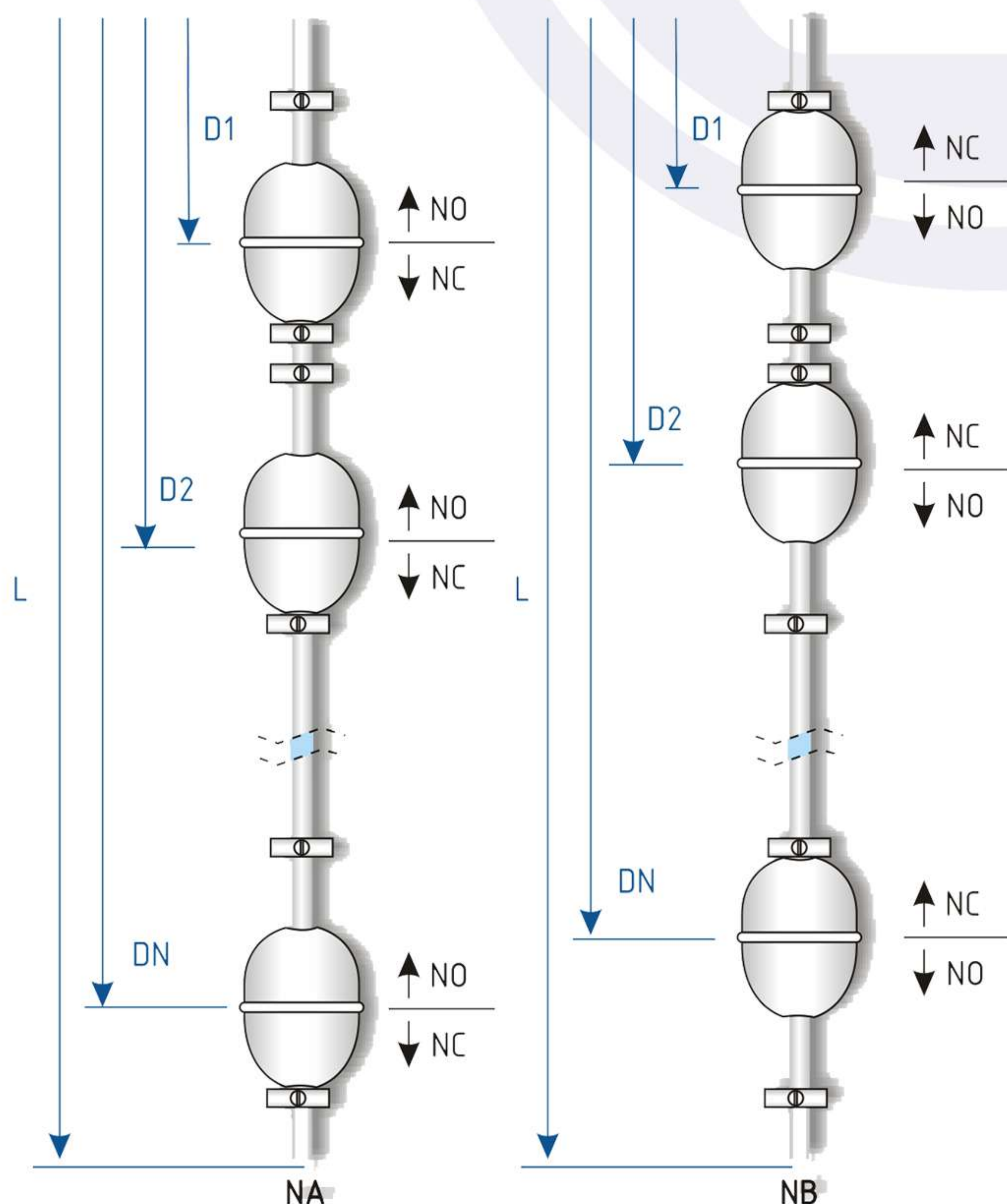
NB : The contact of all the level is Normally Open when liquid level is below the respective set level and closes on reaching the set level.

NE : Same as above with Single Float. Special Latch type reed switch is used for this (with ø52 & ø68 float only)

**N Stands for number of levels**

Maximum of Ten Set points is possible in a single level Switch

D1 : minimum 50mm  
DN : maximum (L-50)mm  
Minimum distance between each levels - 75mm  
L : DN + 50mm



**Note : The above types are for SPST contact only.**





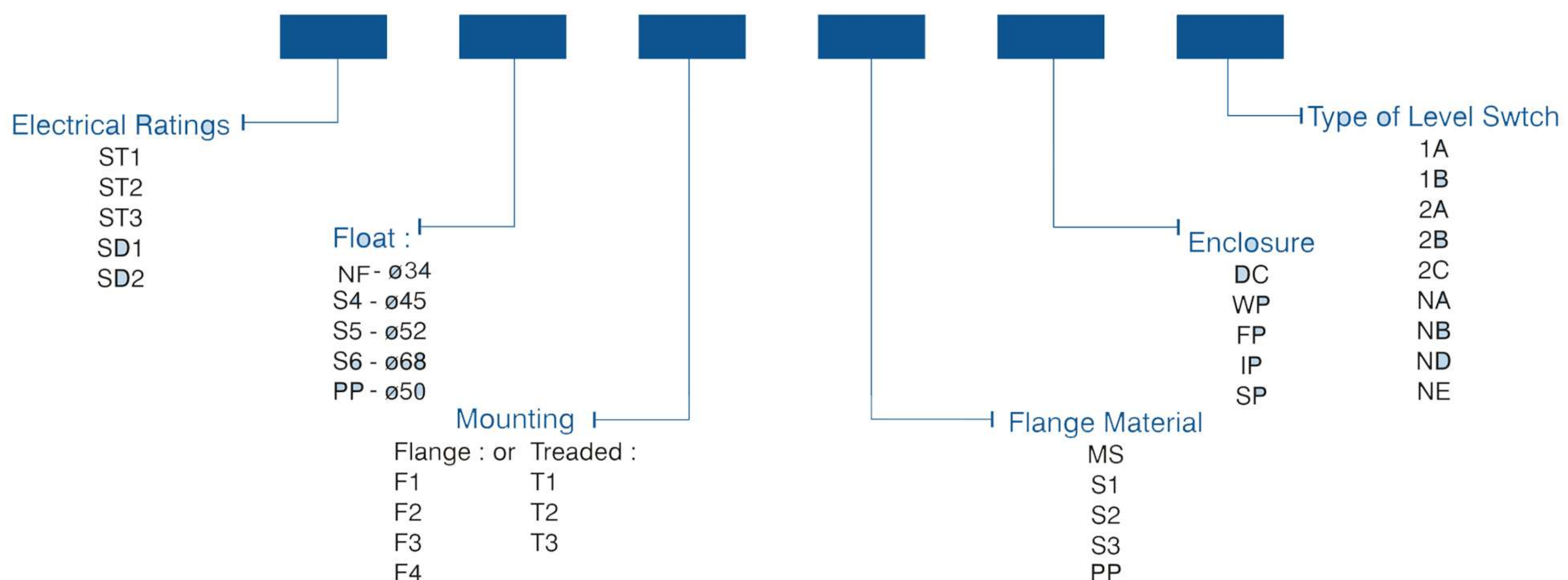
### Technical Specification

	ø34 X 36 Nylon Foam Float	ø40 SS 316 Float	ø52 SS 316 Float	ø68 SS 316 Float	ø50 PP Float
Temperature	0° C to + 80°C	-25° C to + 125°C			0° C to + 80°C
Pressure Max.	Atmospheric	20 kg/cm²			2 kg/cm²
Stem Size	12.7 mm			16 mm	20mm
Flange Size	OD 75mm PCD 60mm	OD 100mm PCD 80mm		2 ½” Table D	OD 100mm PCD 80mm
Max. Length	3000mm			5000mm	3000mm
Accuracy	± 2mm			± 5mm	± 5mm
Set Point	1 to 10				

### Electrical Specification

Type	Maximum Switching Voltage	Maximum Switching Current	Contact VA	Contact Form
ST1	200V DC 125V AC	0.5 A	15 VA	SPST Normally Open
ST2	300V DC 240V AC	0.7 A	70 VA	SPST Normally Open
ST3	300V DC 240V AC	3 A	100 VA	SPST Normally Open
SD1	24V DC 24V AC	0.1 A	3 VA	SPDT 1NO + 1NC
SD2	240V DC 240V AC	1.5 A	50 VA	SPDT 1NO + 1NC

### ORDERING INFORMATION



#### Order Example :

ST1 NF F1 MS DC 2C : Magnetic Level Switch with 200V DC Switch Rating, Nylon Float, ø75 standard MS Flange, Din Std. Connector, Two level with single Float. Also specify Length of Level Switch, High Level distance, Low Level distance with respect to tank top.

#### Contact Protection Methods :

We recommend R-C Network for alternating current circuit and clamping diode for Direct Current circuit to protect the contact of Reed Switches.

Since continuous development is our policy, the above specifications & details may change without prior notice

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