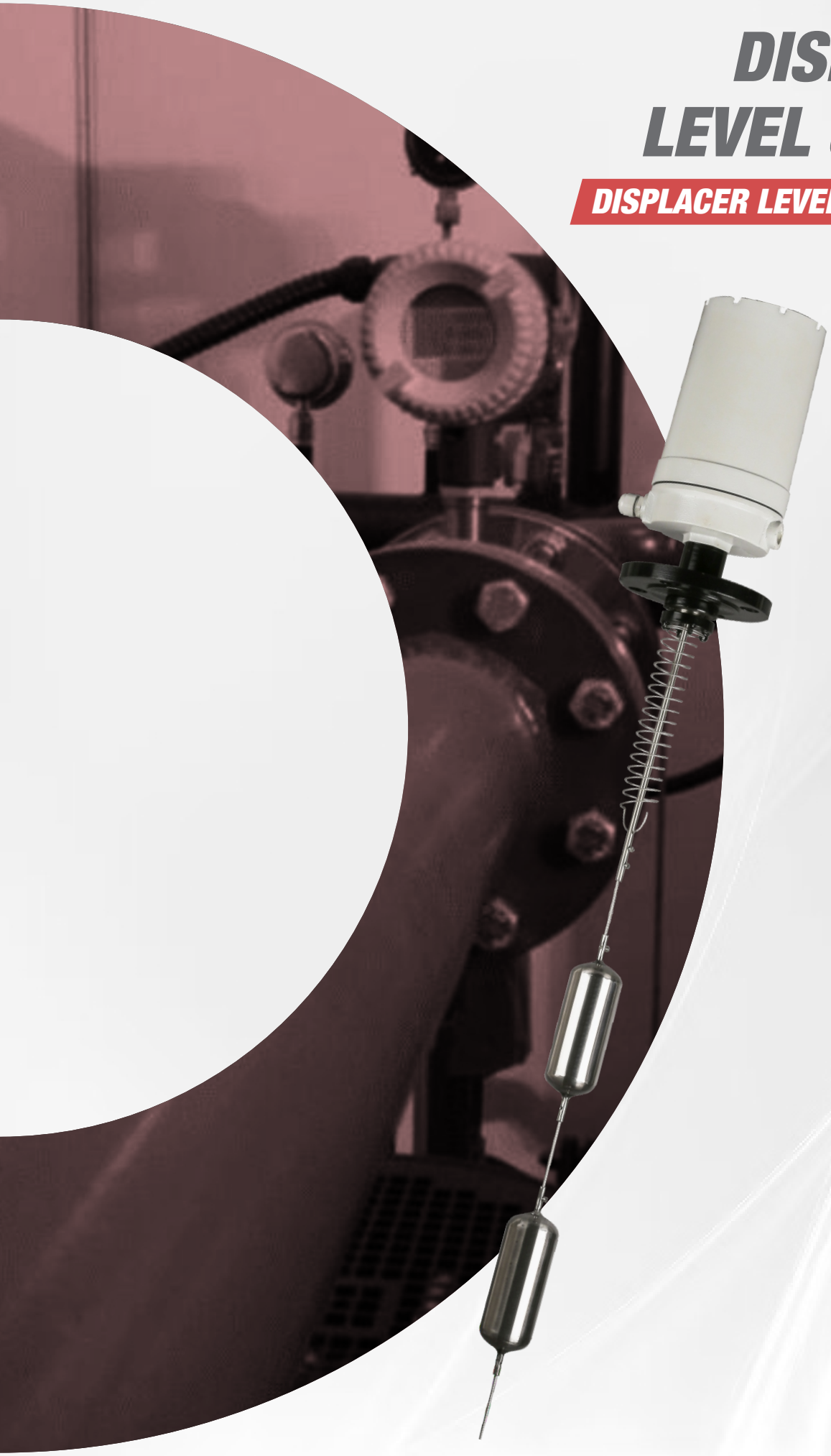
DISPLACER LEVEL SWITCH

DISPLACER LEVEL SWITCH SERIES



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Product Description

Displacer Type Level Switch have earned a long-time reputation for their high quality, rugged construction and reliable performance under the most demanding applications. All float level switches are individually built with strict attention to detail to meet the exact specifications of your process.

"FLOWTECH" Displacer Type Level Switch works on Force Balance Principle. Displacer is suspended by a spring. The Displacer is suspended by spring for effective performance.

When liquid level rises and Covers the displacer, it becomes lighter and the spring relaxes. This causes a small upward movement of the rod assembly inside the casing. This activates the magnetically operated micro switch.

Magnetically linked float & switch design provides a glandless Connection & ensure a Leak free design. Such switches can handle liquids with have specific gravity as low **as 0.5.**

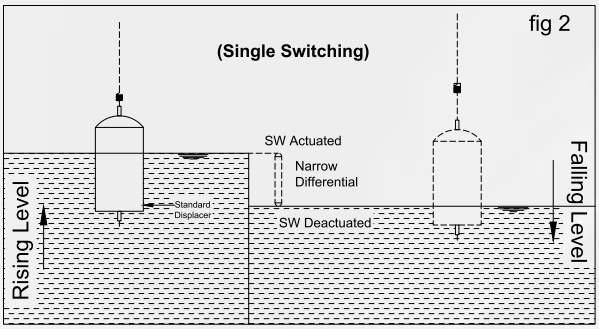
Displacer Type Level Switch

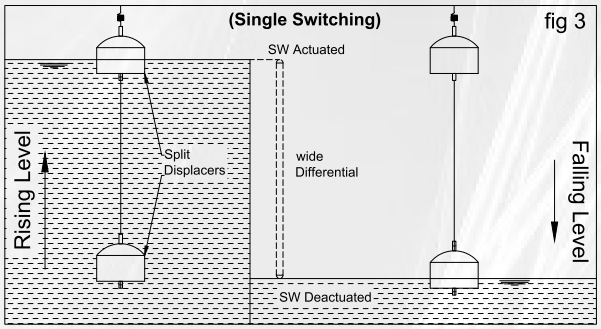
Design Feature :

- Mounting : Min. 50 NB to 300 NB.
- Rugged, Industrial level switches specifically designed for versatility of application.
- Stainless steel switching mechanisms – no aluminium or brass.
- High pressure capability.
- Wide variety of agency approvals.
- Versatile switching mechanisms for retro-fit situations.
- Ideal for Deep tank or Sump for low alarm.
- Pressure : Vacuum to 40 Kg/Cm^2
- Two / Four displacers available for pump control.
- Suitable for high temperature.
- Level Height up to 20 Meters.

Construction & Operation

A single standard or two split displaces are suspended from a wire rope and connected to a coupler rod, carrying an actuator moving within a non-megnetic barrier tube via a compression spring (fig 1). Initially when the displacer is not immersed in liduid, the sprig is in compressed condition due to weight of displacer so that the actuator is outside the magnetic field at position P1.





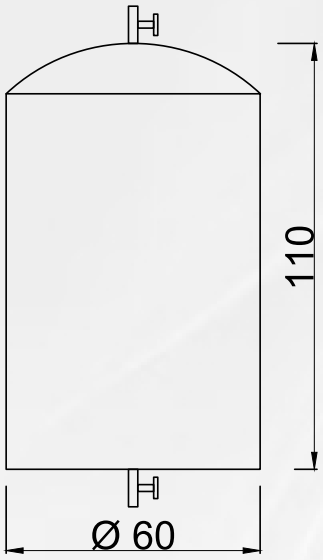
During rising level, the displacer gets immersed in liquid, undergoes weight loss (Archimedes Principle) causing and upward motion of the coupler rod , which makes the spring assume its original status and move the actuator to position P2 within the magnetic field, resulting in actuation of micro switches to provide change over contacts.

Narrow differential (nd) is achieved by using one standard displacer along with one switch carriage (fig 2) and wide differential (wd) is achieved by using two split displacer along with one switch carriage (fig 3). Narrow differential is fixed, however wide differential can be modified by varying the distance between split displacer.

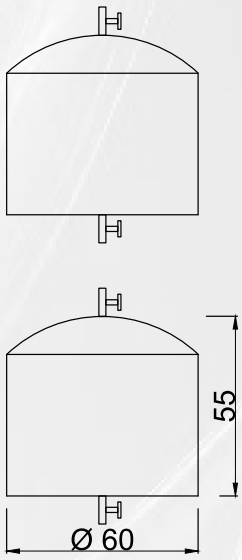
Technical Specifications

Measuring Range	500 to 15000mm
Enclosure	Cast Al, WP IP66 or Cast Al, Ex d Gr IIC T6, IP66 or Cast Al, ATEX Exd Gr IIC T6, IP66
Conduit Connection	1 no. x 3/4" ET Cable Gland (WP) or 1/2" NTP DC Cable Gland (Exd) Brass
Switch Carriage	Microswitch (2 nos) or Microswitch (2 nos) in hermetically sealed casing (Config. A, B, C, D, & F)
Switch Contacts	2 x SPDT (DPDT) rated for 5A, 250VAC
Optg. Differentials	Refer Table-1 on page 5
Terminals	Suitable for 1.5 mm² cable conductor
Wire Rope	SS 304, SS316, SS316L, PP or PTFE
Displacer	Ø 60 x SS304, SS316, SS316L, PP. PVDF (config. E) or PTFE (config. A, B, C, D & F)
Displacer Type	Standard or Split (fig. 4a & b)
Spring MOC	SS 316, SS316L or PTFE/ECTFE ctd SS316
Process Flange	CS, CS ASTM A105, SS304, SS316, SS316L, PP or PTFE with steel cladding
Temperature	- 20 to 70°C (PP), 100°C (PVDF), 200°C (metallic) - Standard 300°C with radiating fins - High temp
Max. Test Pressure	Vacuum to 10 kg/cm² (metallic), 2 kg/cm² (PP/PTFt/PVDF) or High Pressure upto 100 kg/cm² for metallic (optional)
Min. t SG	0.8 or Low SG upto 0.5 is available on demand

(a) Standard Displacer



(b) Split Displacers(Pair)



Accessories

Perforated Stillwell : 65 NB x CS, SS304, SS316, SS316L or PP

External Chamber : 80 NB x CS, SS304,SS316,CS ASTM A106

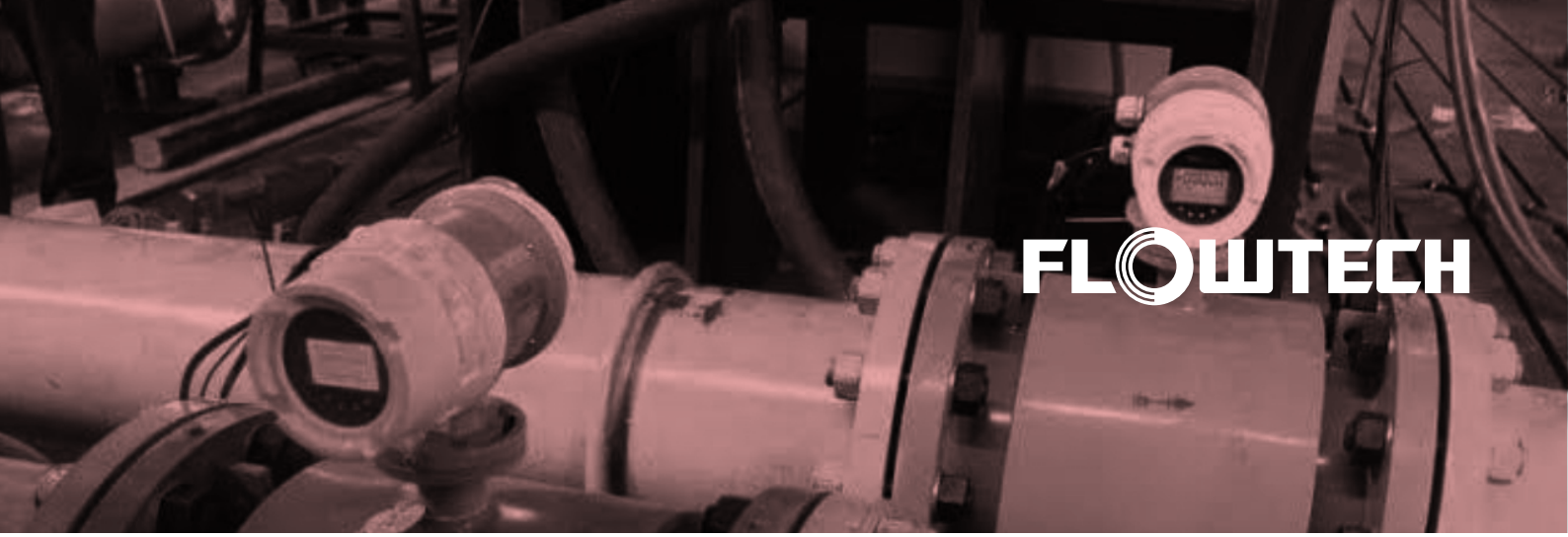
Table 01 :

OPERATING DIFFERENTIALS FOR SIX CONFIGURATIONS

Configurations	No. of switch Carriage	No. of Displacer	Displacer Type	Differential for SG 1
A	1	1	Standard	Narrow (40 ± 5mm)
B	1	2	Split	Wide
C	2	2	Standard	Narrow (40 ± 5mm)
D	2	3	1 Standard + 1 Split	Narrow (40 ± 5mm) wide
E	3	3	Standard	Narrow (60 ± 5mm)
F	2	4	Split	Wide

*Differential is inversely proportional to SG of Liquid

Applications/Service



Product Ordering Information

Order Code for Displacer Level Switch Model

Configuration (Switch Carriage x Displacer)	Code	Description
	A	One to One (Standard)
	B	One to Two (Split)
	C	Two to Two (Standard)
	D	Two to Three(Standard+Split)
	E	Three to Three (Standard)
	F	Two to Four (Split)

Enclosuer X Area Classification	Code	Description
	AL 1	Aluminum Die Cast x Waterproof
	AL 2	Aluminum Die Cast x Waterproof

Displacer MOC	Code	Description
	1	SS 304
	2	SS 304 L
	3	SS 316
	4	SS 316 L
	5	PP
	6	PVDF
	7	PTFE
	OT	Others (Hastalloy,Titanium, etc)

Process Connection Type	Code	Description
	F	Flange End
	TC	Tri-Clover Joint
	T	Threaded
	OT	Others

Process Connection MOC	Code	Description
	1	PP
	2	SS 304
	3	SS 316
	4	MS
	OT	Others

Displacer Wire Rope/Probe MOC	Code	Description
	1	SS 304
	2	SS 316
	3	SS with PTFE coating
	4	PP
	OT	Others

Magnetic Switch	Code	Description
	1	Micro Switch (1 SPDT)
	2	Micro Switch (2 SPDT)

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