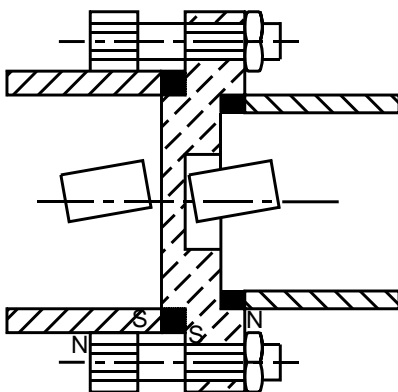




**OPERATING PRINCIPLE:**



The float movement of the level switch is transmitted through a solid non magnetic wall by the repulsion of like magnetic poles. This ensures that the float magnet imparts a snap action to the electric or pneumatic switch elements. 'S.B.E.M.' level switches are absolutely leak proof & not subject to material fatigue due to gland less design.

**FEATURES:**

- Modular construction ...
  1. Switch module.
  2. Flange module.
  3. Float module.This means it gives flexibility with unlimited switch combinations to suit individual needs.
- Available in Electric On/Off and pneumatic proportional.
- Electric Switch available in Flameproof version also.
- Available with fixed or adjustable differential.
- High temperature version available.
- All wetted parts in stainless steel.
- Different types of Float Chambers available. For details refer LF-137-0804

## SWITCH MODULES:

Type selection depending on application :

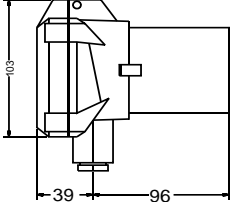
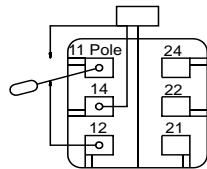
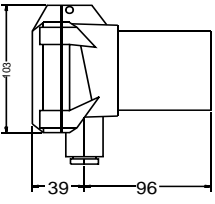
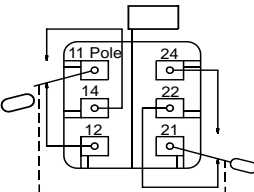
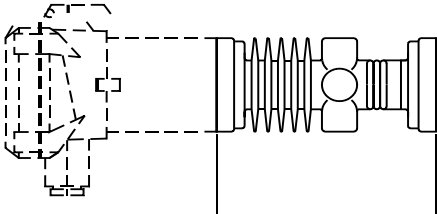
Output required : electric or pneumatic

Required action / function : Alarm annunciator, Motor starter or Pneumatic Proportional valves

Type of enclosure to meet environmental conditions

Flame Proof or Weather Proof: IP 65 / IP 67

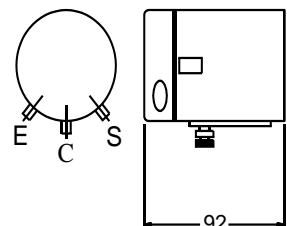
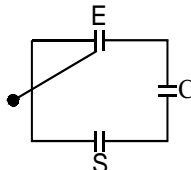
Max. operating temperature inside vessel / tank for high temperature stand off

Type Code	Output		Terminal Configuration.	Enclosure Material of Construction	Degree of Protection	Max. Ambient temp.	Max. Operating temp.
EA	Electric ON/OFF.		C/O contact position with 1 microswitch 	Die cast Aluminium	IP 65	0° C to 70°C	0° C to 180°C
EY	Electric On/Off Flameproof		C/O contact position with 2 microswitches 	Die cast Aluminium grade LM 6	IP 65	0° C to 70°C	0° C to 180°C
H	High Temp Stand-off with Electric ON/OFF.			For high temp. stand off sleeve-Cast Aluminium	IP 65	0° C to 70°C	-20°C to 300°C

Operating pressure : 30 Kg/cm<sup>2</sup> (wet side)

Contact rating : 5 Amps 230 VAC Resistive, (standard)

Special execution on request: 1)IP 67 2)Operating temperature up to 300° C 3)Contact rating 10A@ 230VAC 4)Silicon bellows

Type Code	Output		Input/Output Diagram and Pressure Ratings	Enclosure Material Of Construction	Max Ambient Temp	Max Operating Temp
PNP	Pneumatic Proportional		E - Exhaust Port S - Input Port 1.4 Kg/cm <sup>2</sup> air pressure C - Controlled output port 0.2 to 1.0 Kg/cm <sup>2</sup> 	Aluminium	0-70°C	0-300°C

Supply connections : Std. 1/8" NPT (female), Optional 1/4" NPT (male/female), 1/4" BSP (male/female) with adaptors. Instrument quality air supply is essential for PNP switch modules. For more details on PNP switch controller refer LF-137-0808

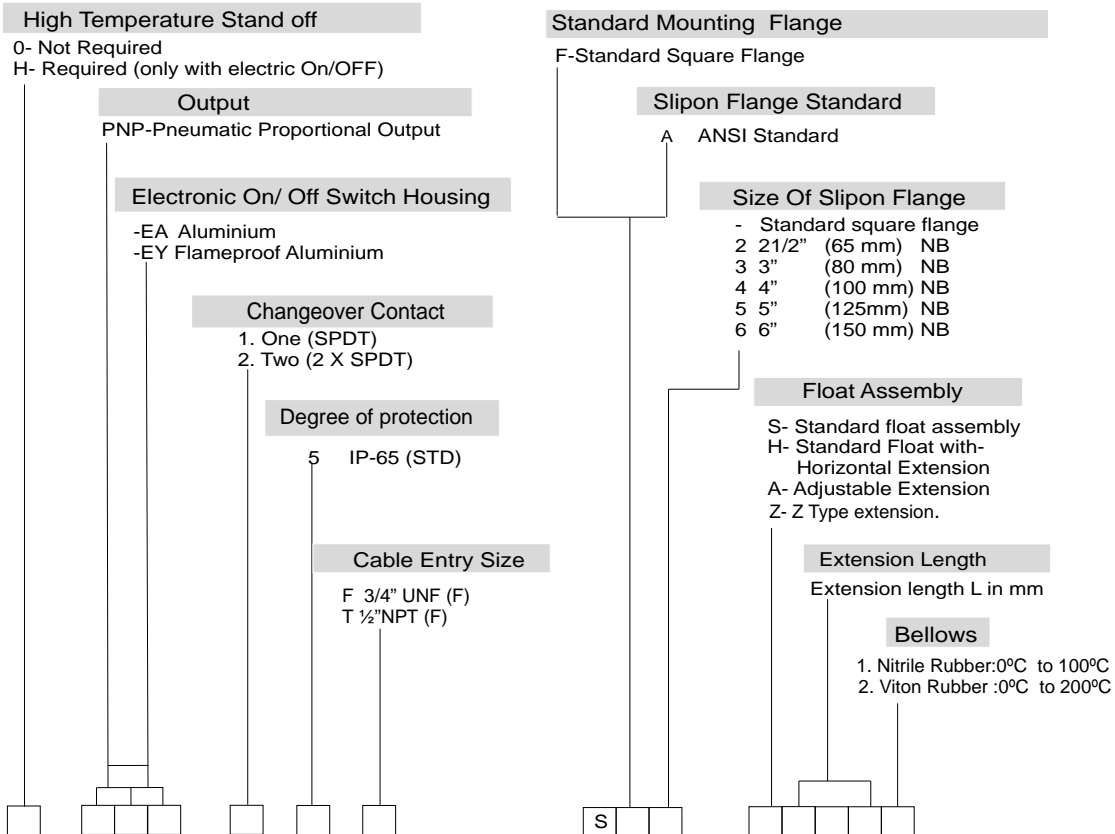
## FLANGE MODULES:

Type selection depending on :

- Standard mounting flange
- Flange / nozzle mounting to ANSI.

Tank Code	Type		Material Of Construction	Mounting Details
SF	Standard mounting square flange	<p>4 Holes <math>\varnothing</math> 14 on 92 PCD</p> <p>Mounting Face</p> <p>Bore <math>\varnothing</math> 66 Min</p>	Stainless steel casting AISI 316	Direct mounting tank opening Min. $\varnothing$ 66 mounting holes to suit - M 12/1/2" BSW
SA	Slip on flange to suit side and top	<p>Bore <math>\varnothing</math> 66 Min</p> <p>L mm</p>	a - sealing flange (fabricated) AISI 316 b - slip on flange. carbon steel passivated sealing flange.	Slip on flange nozzle mounting range 2 1/2" NB to 6" for ANSI, NB L max. 2 1/2", 3" 70 4", 5" 80 6" 90

## ORDERING CODE:



## ORDERING EXAMPLES MODULE CODES

1. Model Code: H - E | A 2 5 F S A 4 S 3 0 0 -

Float switch with Electric ON/OFF, enclosure of aluminium with high temperature standoff having IP 65 degree of protection with 2 changeover contacts & 3/4" UNF Cable entry. Standard Square Flange, with a Standard Float Assembly & Extension Length L= 300mm.

2. Model Code: - - E | A 2 6 T S A 1 Z 2 0 0 1

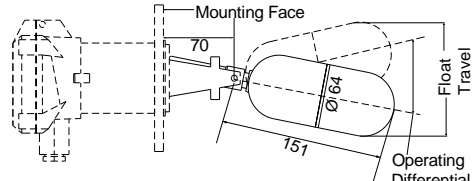
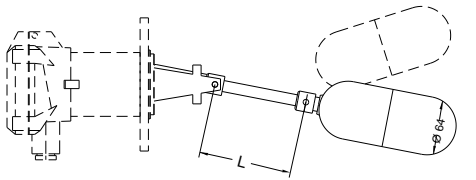
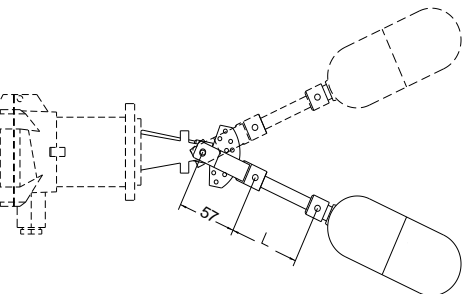
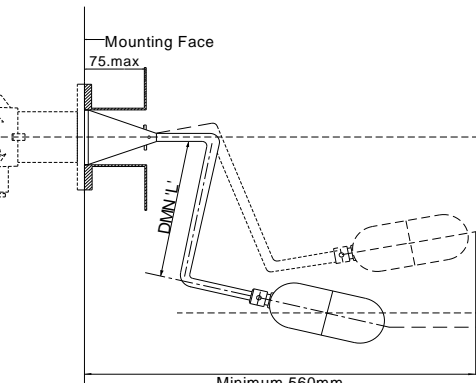
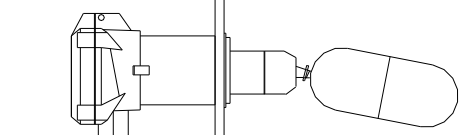
Float switch with Electric ON/OFF, aluminium housing with IP 65 degree of protection with 2 changeover contacts & 1/2" NPT Cable entry. 6" ANSI slip on flange, with a Z-type Float Assembly & extension length=200mm with nitrile rubber bellows.

3. For PNP Model Code please refer LF-137-0808

## FLOAT MODULES:

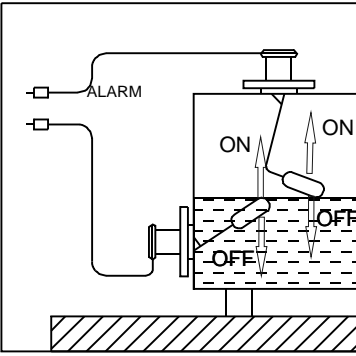
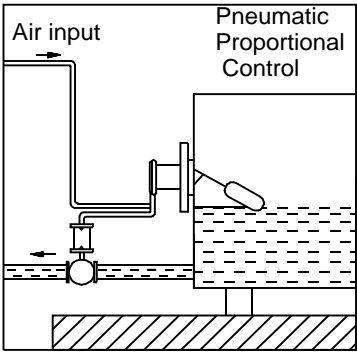
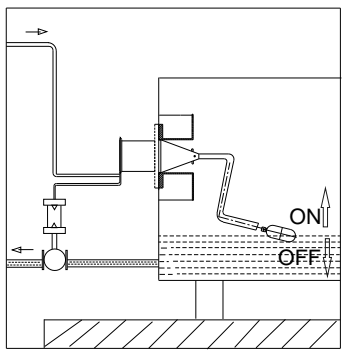
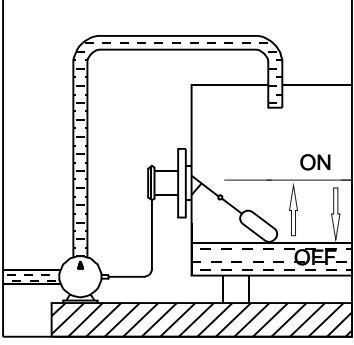
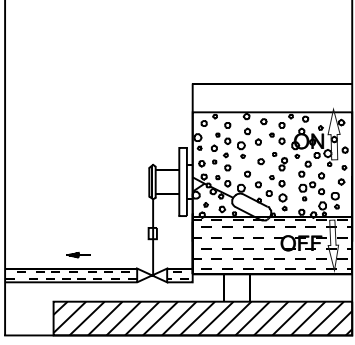
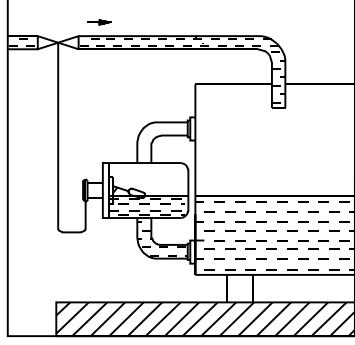
Type selection depending on :

- Mounting position
- Level differential required
- Output of switch module

Type Code	Type		Switch Orientation	Float Travel in mm	Operating Differential						
					Liquid Density (Min) - 0.7 Kg/dm <sup>3</sup>						
					Operating differential values are referred to Liquid Density=1						
S	Standard Float Assembly		Horizontal	117 total	With On/Off Switch module 12mm total						
H	Horizontal		Horizontal	600 max	247 max. With L=990mm (0.25 X L approx)						
A	Adjustable Differential extension		Horizontal with On/Off switch modules only	Adjustable 160-790 (approx.)	Adjustable 35-555 (approx.)						
				Std. Extension Lengths <table border="1" style="font-size: small;"> <thead> <tr> <th>Code</th> <th>Length</th> </tr> </thead> <tbody> <tr> <td>-000</td> <td>Without extension</td> </tr> <tr> <td>-080</td> <td>80mm</td> </tr> <tr> <td>-180</td> <td>180mm</td> </tr> <tr> <td>-280</td> <td>280mm</td> </tr> </tbody> </table> For 'A' total length with extension - L+278mm (from mounting face)		Code	Length	-000	Without extension	-080	80mm
Code	Length										
-000	Without extension										
-080	80mm										
-180	180mm										
-280	280mm										
Z	Z type extension (to lower tripping point below mounting)		Horizontal	O.D Operating differential +/- 10 Extension Length LTP Lower Trip Point +/- 25mm							
S	Standard with Bellows		Horizontal	For Float Travel & Operating Differential Refer Application Note							

Material Of Construction for Wetside Components: AISI 316 Stainless Steel

**APPLICATION EXAMPLES:**

<p>HIGH/LOW ALARMS</p>	<p>STANDARD HORIZONTAL MOUNTING</p>	<p>CONTROL WITH 'Z' TYPE LEVEL SWITCH</p>
 <p>FIG 1</p>	 <p>FIG. 2</p>	 <p>FIG. 3</p>
<p>CONTROL PUMPS OR VALVES WITH ADJUSTABLE DIFFERENTIAL</p>	<p>INTERFACE CONTROL</p>	<p>EXTERNALLY MOUNTED FLOAT SWITCH IN CHAMBER</p>
 <p>FIG. 4</p>	 <p>FIG. 5</p>	 <p>FIG. 6</p>

Minimum information required to quote -

**1) Sketch giving details of installation**

**2) Application details**

- Fluid \_\_\_\_\_
- Operating pressure Kg/cm<sup>2</sup> \_\_\_\_\_
- Operating temp. °C \_\_\_\_\_
- Minimum density Kg/dm<sup>3</sup> \_\_\_\_\_
- Tank material \_\_\_\_\_
- Switch mounting position Horizontal/Vertical \_\_\_\_\_

**3) Switch module**

- Electric/Pneumatic proportional \_\_\_\_\_
- Switch housing AISI 316. Aluminium LM6. \_\_\_\_\_
- Contact rating 5 A/10A, 1 C/o / 2 C/o \_\_\_\_\_
- Degree of protection IP 65 / IP 67 \_\_\_\_\_
- High temp. stand off. Yes/No. \_\_\_\_\_

**4) Flange module**

- Standard square flange/slip on flange \_\_\_\_\_
- Slip on flange material \_\_\_\_\_
- Nozzle size 2 1/2" NB to 6" NB \_\_\_\_\_

**5) Float module**

- Std./Hori. extn./Ver. extn./Adj. extn./Ball type float \_\_\_\_\_
- Operating differential mm. \_\_\_\_\_
- Extension length horizontal \_\_\_\_\_
- Extension length vertical \_\_\_\_\_

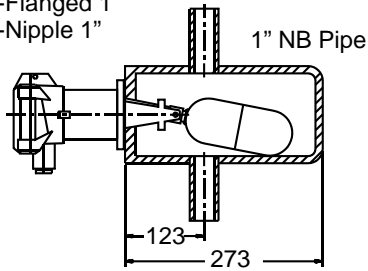
**6) Accessories (optional)**

- Counter flange standard/extended \_\_\_\_\_
- Material of counter flange CS/SS316 \_\_\_\_\_
- Float chamber type \_\_\_\_\_
- Float chamber material \_\_\_\_\_

# FLOAT CHAMBERS (FOR EXTERNAL MOUNTING)

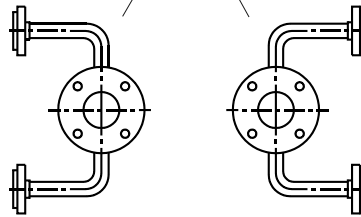
FOR DETAILS REFER LF-137-0804

Ends of pipe available  
bare weldable (as shown)  
-Flanged 1"  
-Nipple 1"



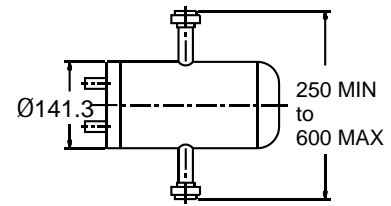
Type A

M 12 STUD  
4 NOS. EQIP.  
ON 92 P.C.D

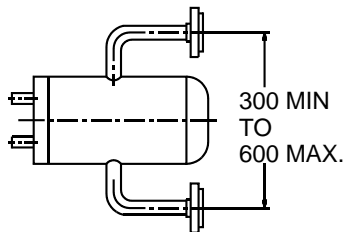


Type B

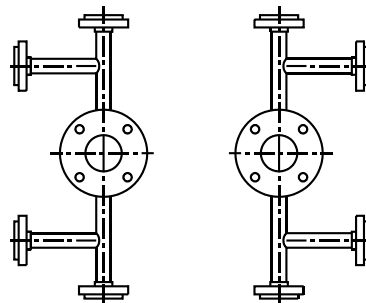
Type C



Type D

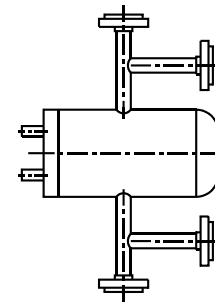


Type E



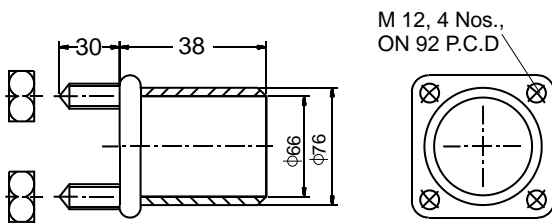
Type F  
(LH Connection)

Type G  
(RH Connection)

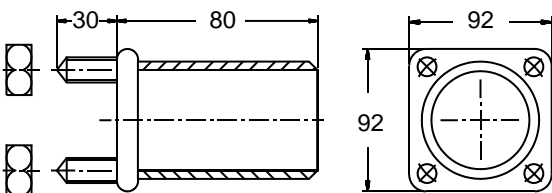


Type H

## MOUNTING ACCESSORIES:



- A. Counter flange extended - (weldable)  
Matl. : AISI - 316/CS painted  
Construction : fabricated.  
-To facilitate welding of counter flange on tank,  
provide  $\varnothing 77$  hole on the tank.



- B. Counter flange extended - (weldable)  
Matl. : AISI - 316/CS painted  
Construction : fabricated.  
To facilitate welding of counter flange on thick coated  
tank, provide  $\varnothing 77$  hole on the tank.

\*\*\* Continuous developments may necessitate changes without notice.

LF-137- 0807 R08 07/10



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