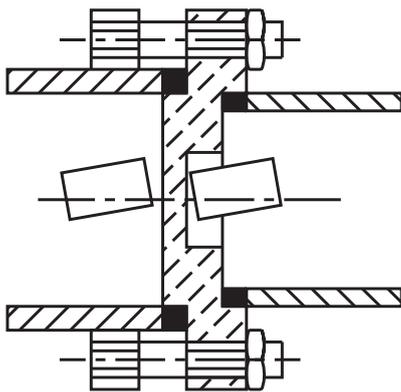




Magnetic Float Switch (Side Mounted)  
Series 137-EA/EY



**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.

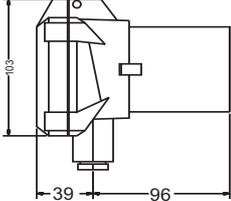
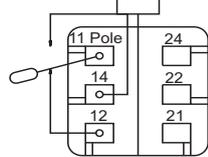
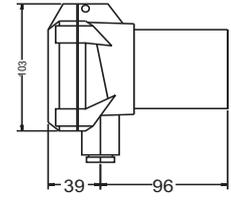
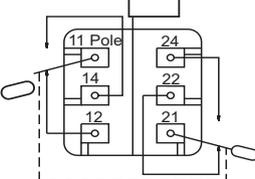
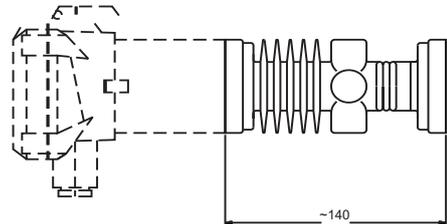
**FEATURES:**

- 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

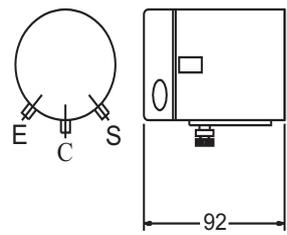
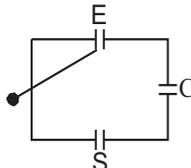
**SWITCH MODULES:**

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 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 67	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 67	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 67	0° C to 70°C	-20°C to 300°C

- Operating pressure : 30 Kg/cm<sup>2</sup> (wet side)
- Contact rating : 5 A @230 VAC Resistive (standard)
- Special execution on request: 1)Operating temperature up to 300°C 2)Contact rating 10A@ 230VAC
- 3)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

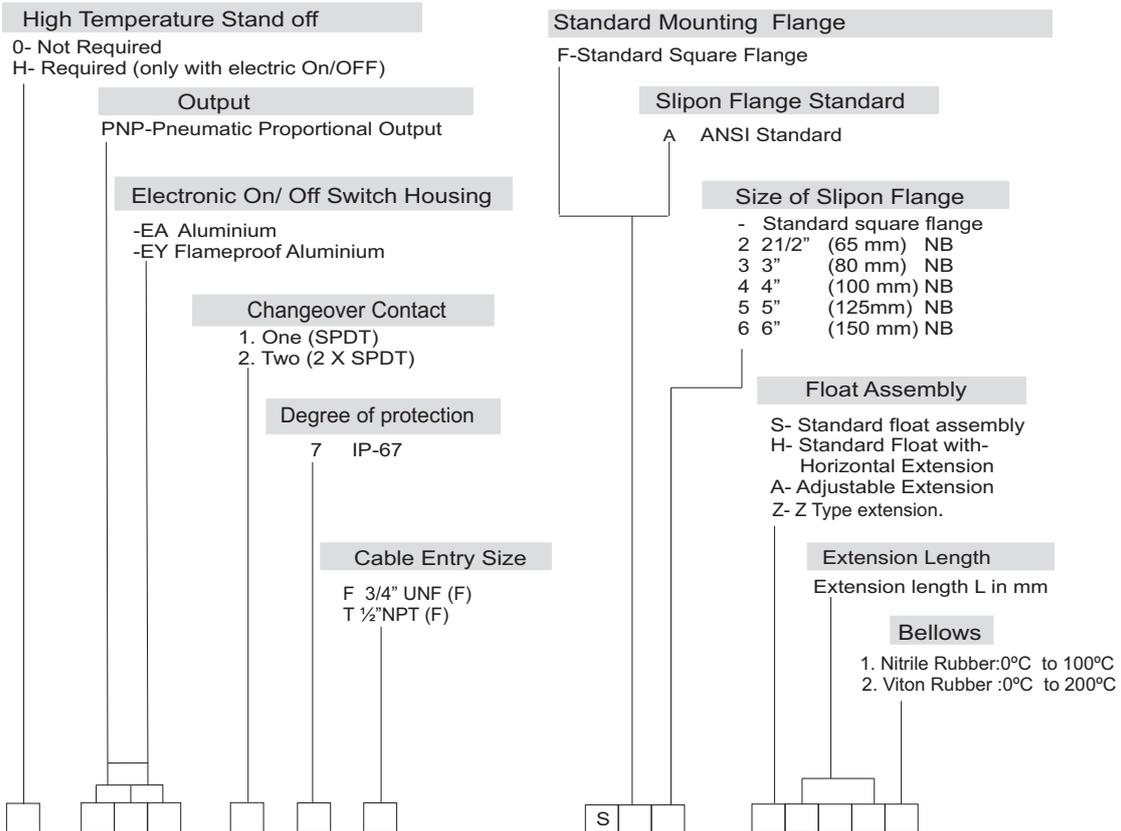
## FLANGE MODULES:

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	7	F	S	A	4	S	3	0	0	-
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Float switch with Electric ON/OFF, enclosure of aluminium with high temperature standoff having IP 67 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	7	T	S	A	1	Z	2	0	0	1
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Float switch with Electric ON/OFF, aluminium housing with IP 67 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:

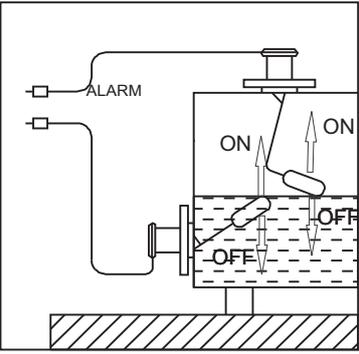
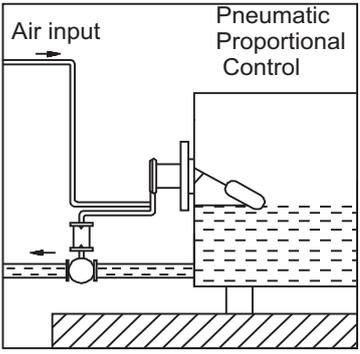
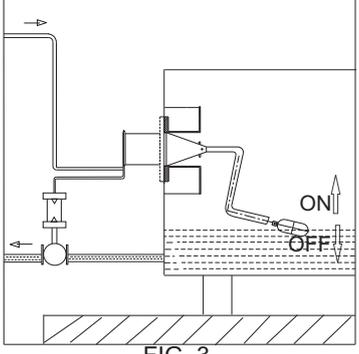
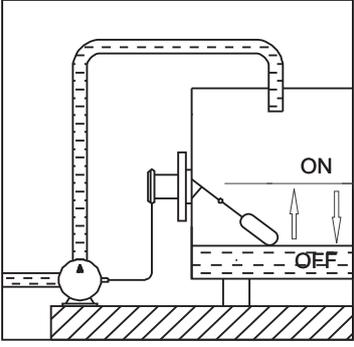
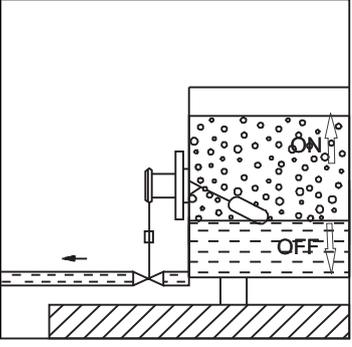
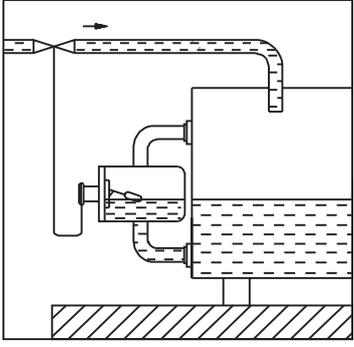
Type selection depending on :

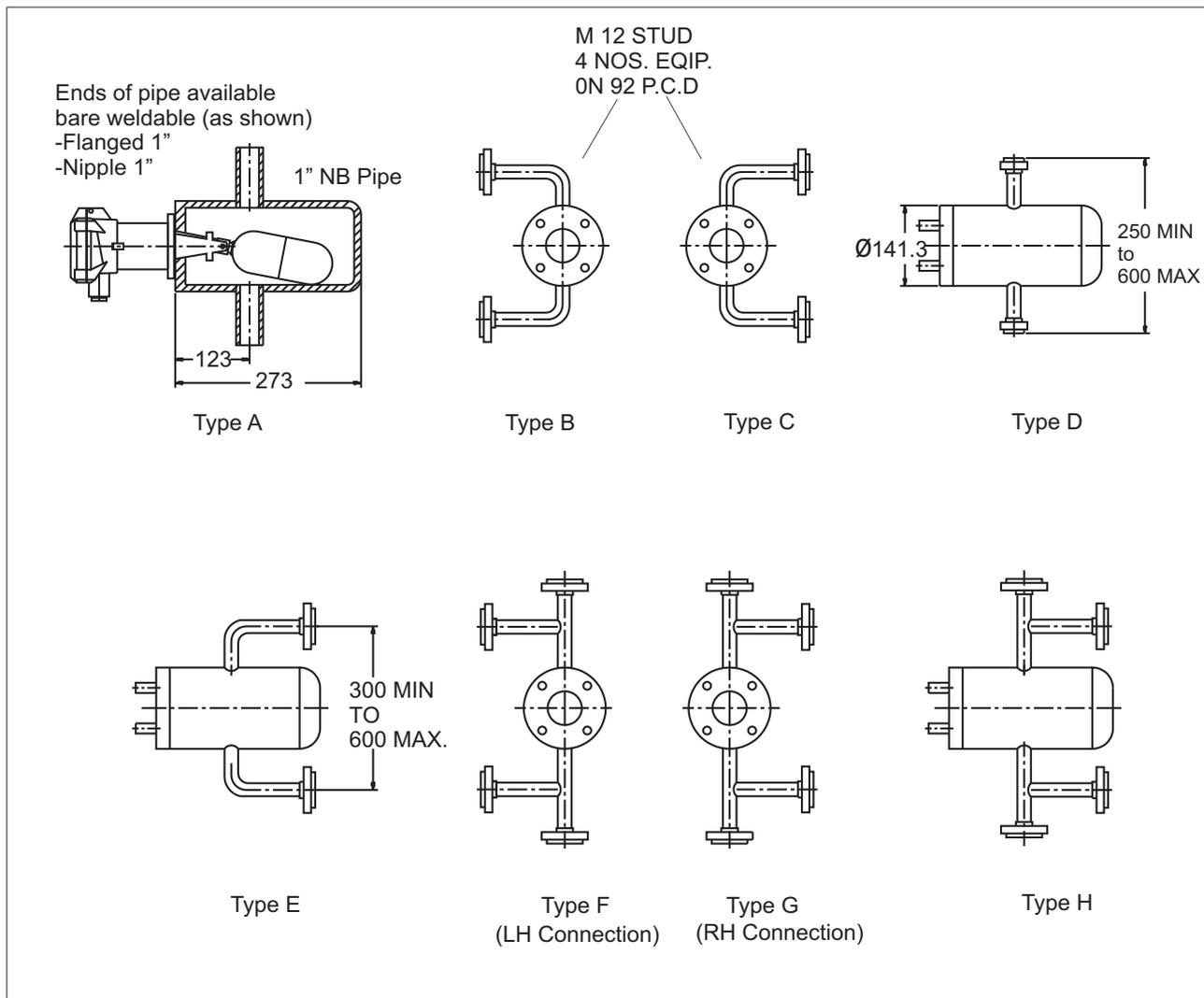
- Mounting position
- Level differential required
- Output of switch module

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)												
				Variable with extension Length L = 990mm max.													
				For 'H' total length with extension - L+221mm (from mounting face)													
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"> <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>		Code	Length	-000	Without extension	-080	80mm	-180	180mm	-280	280mm		
Code	Length																
-000	Without extension																
-080	80mm																
-180	180mm																
-280	280mm																
				For 'A' total length with extension - L+278mm (from mounting face)													
Z	Z type extension (to lower tripping point below mounting)		Horizontal	O.D Operating differential +/- 10 Extension Length LTP Lower Trip Point +/- 25mm  <table border="1"> <thead> <tr> <th>L</th> <th colspan="2">LTP @ SG = 1.0 - O.D</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>116</td> <td>41</td> </tr> <tr> <td>200</td> <td>216</td> <td>45</td> </tr> <tr> <td>300</td> <td>316</td> <td>49</td> </tr> </tbody> </table>		L	LTP @ SG = 1.0 - O.D		100	116	41	200	216	45	300	316	49
L	LTP @ SG = 1.0 - O.D																
100	116	41															
200	216	45															
300	316	49															
				Minimum 560mm													
S	Standard with Bellows		Horizontal	For Float Travel & Operating Differential Refer Application Note													

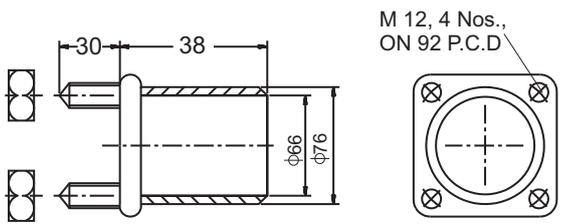
Material Of Construction for Wetside Components: AISI 316 Stainless Steel

**APPLICATION EXAMPLES:**

HIGH/LOW ALARMS	STANDARD HORIZONTAL MOUNTING	CONTROL WITH 'Z' TYPE LEVEL SWITCH
 <p style="text-align: center;">FIG 1</p>	 <p style="text-align: center;">FIG. 2</p>	 <p style="text-align: center;">FIG. 3</p>
CONTROL PUMPS OR VALVES WITH ADJUSTABLE DIFFERENTIAL	INTERFACE CONTROL	EXTERNALLY MOUNTED FLOAT SWITCH IN CHAMBER
 <p style="text-align: center;">FIG. 4</p>	 <p style="text-align: center;">FIG. 5</p>	 <p style="text-align: center;">FIG. 6</p>
<p>Minimum information required to quote -</p> <ol style="list-style-type: none"> <li>1) Sketch giving details of installation</li> <li>2) Application details <ul style="list-style-type: none"> <li>Fluid</li> <li>Operating pressure Kg/cm<sup>2</sup></li> <li>Operating temp. °C</li> <li>Minimum density Kg/dm<sup>3</sup></li> <li>Tank material</li> <li>Switch mounting position Horizontal/Vertical</li> </ul> </li> <li>3) Switch module <ul style="list-style-type: none"> <li>Electric/Pneumatic proportional</li> <li>Switch housing AISI 316. Aluminium LM6.</li> <li>Contact rating 5 A/10A, 1 C/o / 2 C/o</li> <li>Degree of protection IP 67</li> <li>High temp. stand off. Yes/No.</li> </ul> </li> <li>4) Flange module <ul style="list-style-type: none"> <li>Standard square flange/slip on flange</li> <li>Slip on flange material</li> <li>Nozzle size 2 1/2" NB to 6" NB</li> </ul> </li> <li>5) Float module <ul style="list-style-type: none"> <li>Std./Hori. extn./Ver. extn./Adj. extn./Ball type float</li> <li>Operating differential mm.</li> <li>Extension length horizontal</li> <li>Extension length vertical</li> </ul> </li> <li>6) Accessories (optional) <ul style="list-style-type: none"> <li>Counter flange standard/extended</li> <li>Material of counter flange CS/SS316</li> <li>Float chamber type</li> <li>Float chamber material</li> </ul> </li> </ol>		



**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-R09 LF\_MagFloatSwitch\_137EAEY

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**Level Switches:** Float, Displacer, Capacitance, Conductivity, Vibration, Rotary Paddle  
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