



LEVEL MEASUREMENT & CONTROL SOLUTIONS

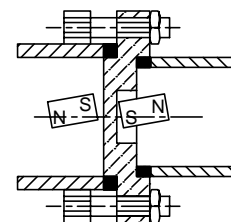
MAGNETIC FLOAT SWITCH, SERIES 137



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.
- ❑ Available with fixed or adjustable differential.
- ❑ High temperature version available.
- ❑ All wetted parts in stainless steel.
- ❑ Different types of Float Chambers available.

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.

1 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.
ES	Electric ON/OFF		C/O contact position with one microswitch 	Stainless steel AISI 316	IP 65	0-80°C	0-200°C
EA	Electric ON/OFF				IP 67	0-80°C	0-200°C
EX	Electric ON/OFF flame proof to Group II A & II B as per IS-2148		C/O contact position with two microswitches 	Stainless steel AISI 316	IP 65	0-70°C	0-200°C
EY					IP 67	0-70°C	0-200°C
H	High temp. stand off with electric ON/OFF			For high temp. stand off sleeve-cast aluminium Grade LM 6	IP 65	0-70°C	-20 to 300°C
					IP 67	0-70°C	-20 to 300°C

Operating pressure : 30 Kg/cm² (wet side)
 Contact rating : 5 Amps 230 VAC Resistive, (standard)
 CCE certificate no. : R(1) 136/SB ELECTRO-MECHANICAL Dated - 19/03/97.
 CMRS Certificate no. : V/1/1/501 Dated - 30/07/91.

Gasket : AFR

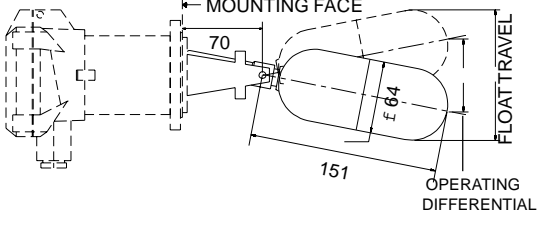
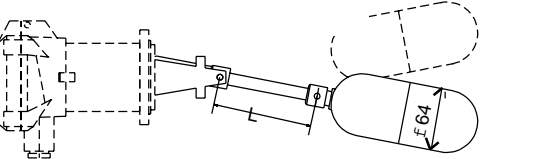
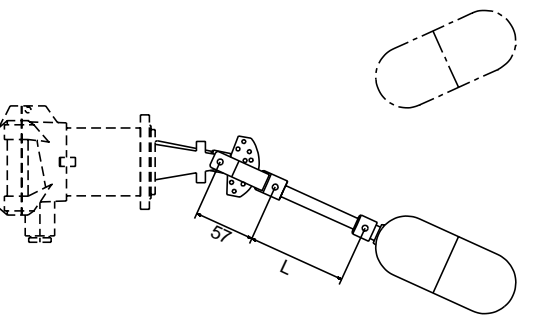
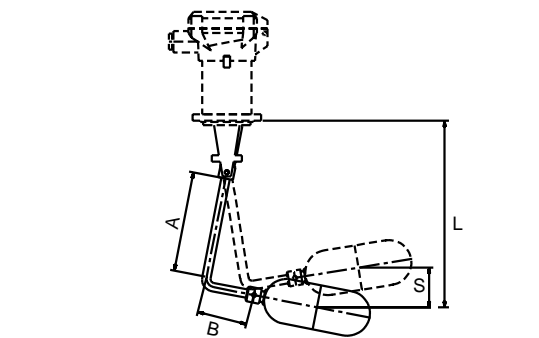
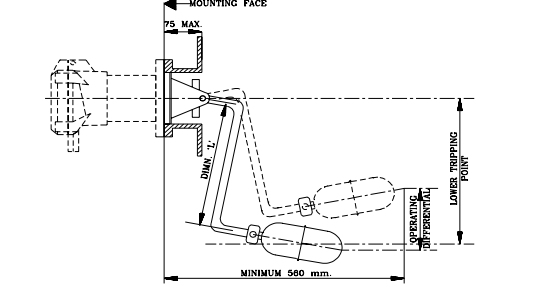
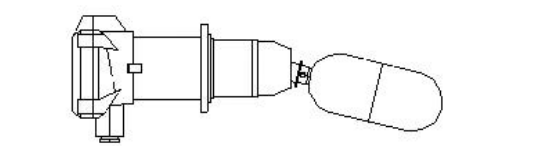
Type Code	Output		Input / Output diagram and pressure ratings	Enclosure material of construction	Max. ambient temp.	Max. operating temp.
PNP	Pneumatic Proportional		E - Exhaust Port S - Input Port 1.4 Kg/cm ² air pressure C - Controlled output port 0.2 to 1.0 Kg/cm ² 	Aluminium	0-70°C	0-300°C

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

3 FLOAT MODULES

Type selection depending on :

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

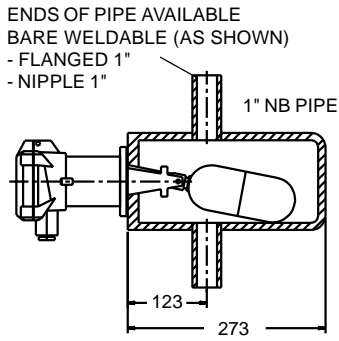
Type Code	Type		Switch Orientation	Float Travel	Operating Differential
S	Standard float assembly		Horizontal	117 total	With ON-OFF switch module 12 mm total with pneumatic proportional switch + 20 mm - 15 mm
H	Horizontal		Horizontal	600 max.	247 max. with L = 990 mm (0.25 x L approx.)
				Variable with extension Length L = 990 mm max.	
A	Adjustable differential extension		Horizontal with oN-OFF switch modules only	Adjustable 160-790 (approx.)	Adjustable 35-555 (approx.)
				Std. extension length - L Code Length -000 Without extn. -080 80 mm. -180 180 mm. -280 280 mm.	
V	Vertical extension with standard float assembly		Vertical	Operating differential S - min. 20, Max. 260 Distance of liquid level from mounting face - L L - min. 200, max. 800 A + B = max. 1000 A/B < 4 A > S + 100 B = S x 2.62 (approx.) B = min 50	
Z	Z Type extension [to lower tripping point below mounting]		Horizontal	OD operating differential +/-10 Extension length LTP Lower tripping point +/-25 mm L LTP @ SG = 1.0 - O.D. 100 116 41 200 216 45 300 316 49	
S / H / V	Standard / Horizontal / Vertical Ext. With Bellows		Horizontal / Vertical	For float travel & operating differential refer application note.	

Material of construction - AISI 316 stainless steel
 Numerical values are in mm.
 Operating differential values are referred to liquid density = 1

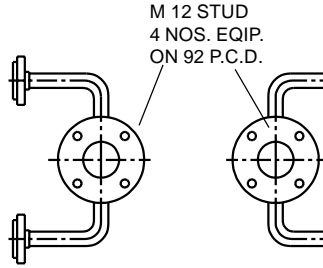
Minimum liquid density - 0.7 kg/dm³
 For 'H' total length with extension - L + 221 mm (from mounting face)
 For 'A' total length with extension - L + 278 mm (from mounting face)

FLOAT CHAMBERS (FOR EXTERNAL MOUNTING)

FOR DETAILS REFER LF-137-0804



TYPE A



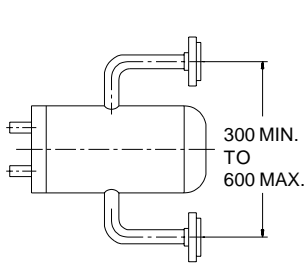
TYPE B

TYPE C

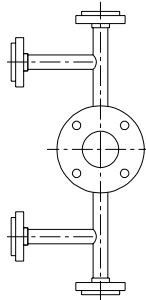
± 141.3

250 MIN.
TO
600 MAX.

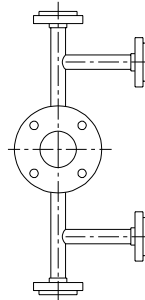
TYPE D



TYPE E



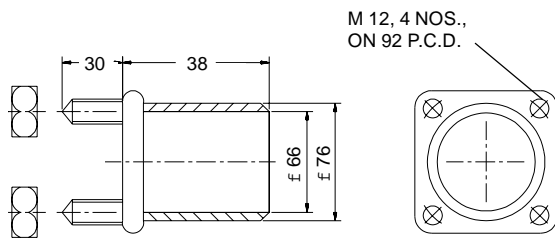
TYPE F
(LH connection)



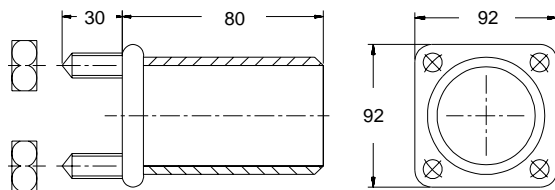
TYPE G
(RH connection)

TYPE H

MOUNTING ACCESSORIES



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

*** Continuous developments may necessitate changes without notice.

LF-137-0807 R04

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SBEM Pvt. Ltd.



39, Electronic Co-Operative Estate, Pune-Satara Road, Pune - 411 009 (INDIA)

Tel. - 91-20-4220505, 4223375 Fax - 91-20-4215670

Email - sbemsales@sbem.co.in, sbemsales@vsnl.com

Works : Bibwewadi Industrial Estate, 691/A/2, Pune-Satara Road, Pune-411 037(India) Email : mfg@sbem.co.in

Office : MUMBAI

Tele. : 91-22-5222824, 5242520

Fax : 91-22-5230236

Email : mumbai@sbem.co.in

CHENNAI

91-44-4452235, 4412947

91-44-4412947

chennai@sbem.co.in

NEW DELHI

91-11-6560647, 6969679

91-11-6969679

newdelhi@sbem.co.in