



# Techtrol

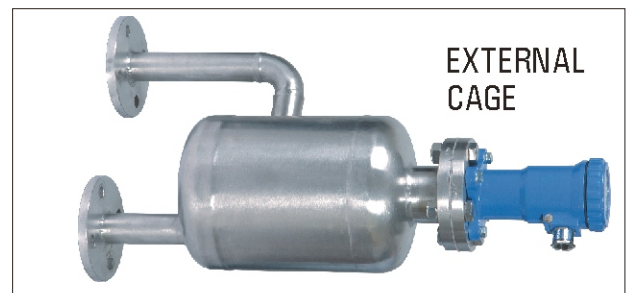
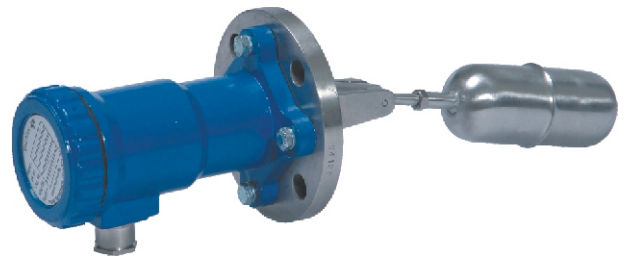
## SINCE 1984

# MAGNETIC FLOAT OPERATED, PIVOTED LEVEL SWITCH - FPS

It is an economical, maintenance free and reliable device used for high, low or intermediate point level switching. It is ideal for tanks with inaccessible tops or bottoms and where insertion depths of top mounted models are exceeded.

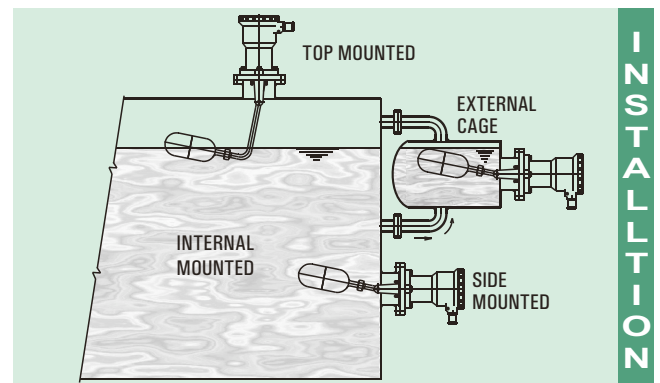
### CONSTRUCTION & OPERATION :

Compact & rugged construction consisting of a free moving pivoted float assembly and a switch enclosure in non-magnetic material to achieve undisturbed magnetic flux. It employs dual magnets, one carried by the float arm and other by the contact carriers housed in the switch enclosure. A change in liquid level brings the like poles of dual magnets opposite to each other and resulting repulsion force ensures a changeover of contacts with snap action. The magnetic transmission is glandless, leaving no scope for leakages from vessel into switch housing. These switches are manufactured in various materials, enclosures & special features to suit broad range of media / applications. They are designed to provide high repeatability and to minimise effects of shock, vibration & pressure.



### INSTALLATION :

Mounted internally or externally through a chamber. External mounting is resorted to, where space is a limiting factor or mechanical devices like stirrers operate within the tank. Besides, in applications like boilers, reaction kettles etc., with external mounting, isolating is possible for regular servicing. The switch is normally side-mounted, however for applications like slurry, top installation is preferred. The switch can be wired directly "to make or break electrical circuits", of burners, heaters, motor-pumps, alarms and other such electrically operated devices.



### SPECIFICATIONS :

Installation	: Normally side / top for special applications
Switching enclosure	: Cast AL, Weatherproof to IP 56 / IP 65 or Ex-proof for gr IIA & IIB or IIC
Conduit connection	: Brass, 3/4" ET / 1/2" NPT
Float	: SS 304 / SS 316 / PP / PVDF coated
Min. Sp. gravity	: 0.6 depending upon float material and dimensions
Process Connection	: Flanged or Screwed
Switch Element	: Micro switch (max temp -150°C and 250°C)
Switching Capacity	: 5 A@230V AC
Switching differential	: Fixed 15 ± 5mm Adjustable between 20 & 300 mm depending upon float, trim length & cam positioning
Repeatability	: ±1 mm
Load / Insulation	: Resistive / 150 megaohms at 500V DC
Max temp	: Upto 250°C and high temp. model upto 350°C
Max pressure	: Upto 20 kg / cm <sup>2</sup> at ambient temp (contact factory for pressure more than 20kg/cm <sup>2</sup> )
Finish	: Regular / Sanitary
Special features	: Adjustable differential, L / Z cranked trims, High temp. Construction, Beam construction. Custom built assemblies can be provided for specific applications.

### Accessories : (Optional)

1. External cage in various materials & process connections to house various level switches, if required.
2. Counter flange with nuts, bolts and gasket.

**APPLICATIONS :** Fuel oil tank control, boiler feed water drum control, cooling tower lubrication/ cooling/ filtration systems, paint shops, water/ waste water treatment plants, food/ drug/ pharmaceuticals/ petrochemicals plants, separation plants, sealing liquid level control for generators, etc.

**Model Identification : FPS**

**Enclosure**

- Cast Al weatherproof as per IP - 56 ——— **I**
- Cast Al weatherproof as per IP - 65 ——— **J**
- Cast Al ex - proof for Gr. IIA & IIB ——— **E**
- Cast Al ex - proof for Gr. IIC ——— **F**
- Non - std. ——— **O**

**MOC (Float / Process connection)**

- SS304 ——— **N**
- SS316 ——— **S**
- PP ——— **P**
- PVDF Coated ——— **T**
- Non - std. ——— **O**

**Float x Process connection combine**

- 50mm Ø x 120 OD x 92 PCD flange ——— **1**
- 60mm Ø x 120 OD x 92 PCD flange ——— **2**
- 50mm Ø x 2" NB, BS-10 T 'D' flange ——— **3**
- 60mm Ø x 2½" NB, BS-10 T 'D' flange ——— **4**
- 75mm Ø x 3" NB, BS-10 T 'D' flange ——— **5**
- Non - std. ——— **0**

**Switch type x Capacity (5A, 230V AC)**

- Micro (1 C/O)-150°C ——— **1**
- Micro (2 C/O)-150°C ——— **2**
- Micro (1 C/O)-250°C (350°C for high temp. const) ——— **3**
- Micro (2 C/O)-250°C (350°C for high temp. const) ——— **4**
- Non - std. ——— **0**

**Finish**

- Regular ——— **R**
- Sanitary ——— **S**

**Sp. features**

- Adjustable differential (for regular finish only) ——— **A**
- Cranked trim with top mtg. ——— **L**
- Extended trim with side mtg. ——— **X**
- Cranked trim with side mtg. ——— **Z**
- High-Temp construction (for regular finish only) ——— **T**
- Beam construction (for regular finish only) ——— **B**
- Non - std. ——— **O**
- None ——— **W**

**Accessories**

- None ——— **W**
- External cage ——— **C**
- Counter flange with nuts / bolts & gasket ——— **F**
- Non - std. ——— **O**

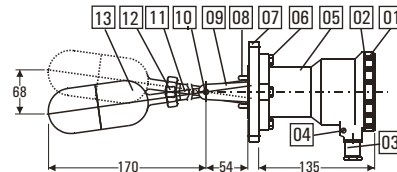
**Ordering Information :**

Specify Liquid, Sp. Gr., Viscosity and Optg. Temp. & Pressure.

\* For Sp. features : Specify "L" for extended trim (Max. 500 mm.)

01) Terminal cap	05) Switch housing	09) Bracket	13) Float
02) Gasket	06) Bolts	10) Pivot pin	14) Cam
03) Conduit connection	07) Process connection	11) Trim	15) Stopper pin
04) Earthing screw	08) Stopper	12) Float lock nut	16) Counter weight

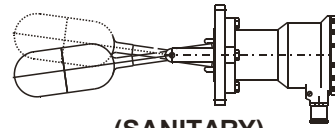
**FINISH**



**SPDT TERMINALS**

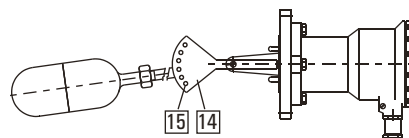


**(REGULAR)**

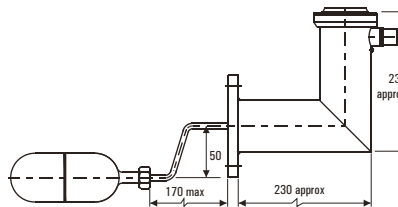


**(SANITARY)**

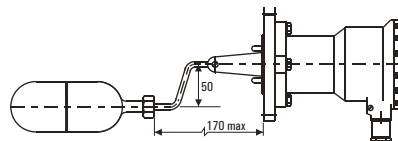
**SPECIAL FEATURES**



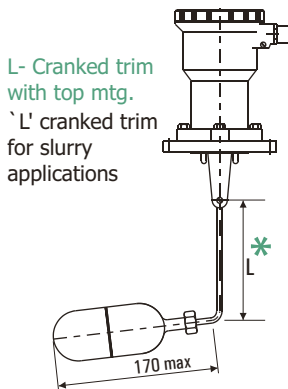
**A- Adjustable differential**  
Adjustable differential by locating float trim at various fixed angles with the help of cam & stopper pin



**T- High-temp construction**  
High-temp. construction ( `L' shaped) to extend distance between process fluid and switch elements for high temperature applications

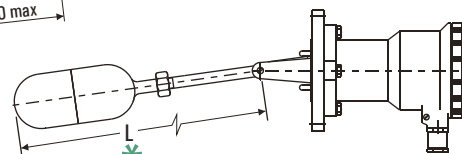
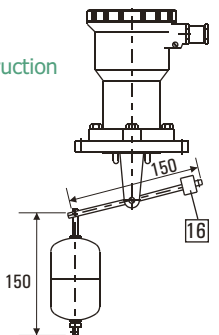


**Z- Cranked trim with side mtg.**  
`Z' cranked trim for slurry applications



**L- Cranked trim with top mtg.**  
`L' cranked trim for slurry applications

**B- Beam construction**  
Beam construction operates like a see-saw, thus permitting adjustments of preset levels & switching differential at site



**X) Extended trim with side mtg.**

ALL DIMENSIONS ARE IN mm. EXCEPT SPECIFIED.

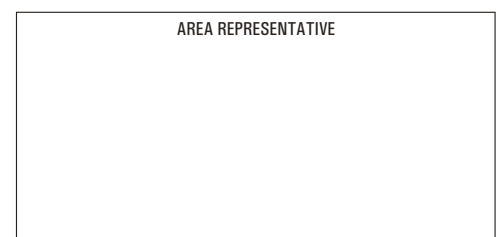
**PUNE TECHTROL PVT LTD**

**Regd. Office & Works**

'S' 18, MIDC, Bhosari, Pune : 411026 India  
Tel : +91-20-27129298, 27121052, 27128055, 56111996/7  
Fax : +91-20-27121663  
E mail : techtrol@pn2.vsnl.net.in  
Web : www.punetechtrol.com

**Service Centre**

20 / 21, Parshwanath Industrial Co-op. Society, Bhosari, Pune - 411026 India  
Tel : +91-20-56113565



Techtrol's Level Measurement & Control Instruments and Systems For Liquids & Solids

**LEVEL GAUGES | LEVEL SWITCHES | LEVEL 'X' MITTERS | ULTRASONIC & RADAR | Water Ingress Detection System for Bulk Carriers**