

# FR37x Fuel Level Sensor with Feed & Return



The **FR37x** range of Fuel Level Sensors are equipped with fuel feed and return pipes, removing the need for additional fuel extraction and filling connections and simplifying the fuel tank assembly and installation. Rochester Sensors capacitance technology means no moving parts and, as a result; improved accuracy and reliability compared to mechanical alternatives. This range has a modular design enabling a great deal of flexibility to provide customers with options to suit specific applications. In addition to the sensor probe length, fuel system designers can specify:

- Resistive output range
- Level alarm height
- 5- or 6-hole SAE mounting
- Feed and return tube lengths and designs
- Inlet and outlet connector types & sizes
- Breather type
- Suction port fuel filter
- Electrical connection type



## SPECIFICATION

### Liquid Types

Liquids compatible with construction on materials, typically fuels, oil and water.

### Dimensions

**Length:** Min. 150 mm, Max. 1,200 mm.  
**Mounting:** 5 or 6-hole SAE.  
**Weight:** 0.55 Kg (gauge length of 300 mm).

### Materials

**Header:** Die-cast zinc alloy.  
**Wetted Materials:** Stainless steel, polypropylene, Viton™, PTFE.  
**Fuel Connectors:** Brass.  
**Feed & Return Tubes:** Aluminium.

### Electrical

**Supply Voltage:** 9-36 VDC.  
**Supply Current:** 15 mA@12 VDC.  
**Supply Protection:** Over voltage 80 VDC for 2 minutes. Reverse polarity.  
**Connections:** 4-off 500mm long 18 AWG XLPE leads:

Red	Supply, V+
Black	Ground (0 V)
Green	Resistive output
White	Switch to ground

### Output

**Resistive:** Any values between 0-501Ω ( 3Ω steps).  
**Resolution:** 3Ω.  
**Max. dissipation:** 250 mW.  
**Alarm Output:** Switch to ground. Max 100mA. High or low level between 7% and 90% of active gauge length. Default setting: Low level alarm at 12% of active gauge length.

### Environmental Ratings

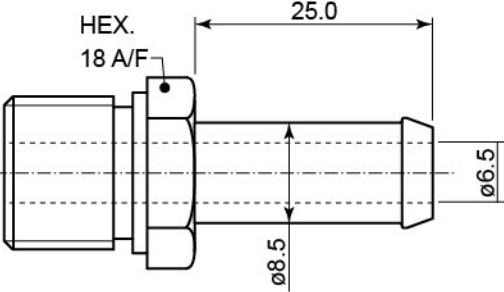
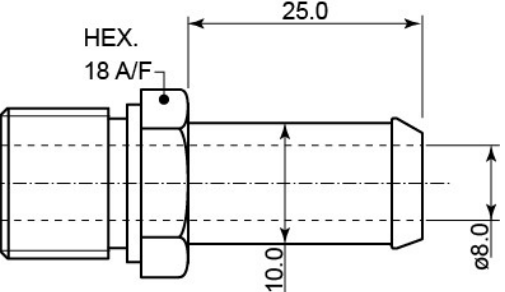
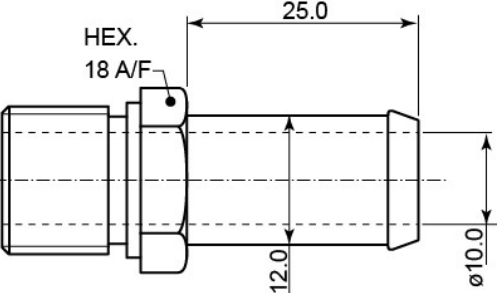
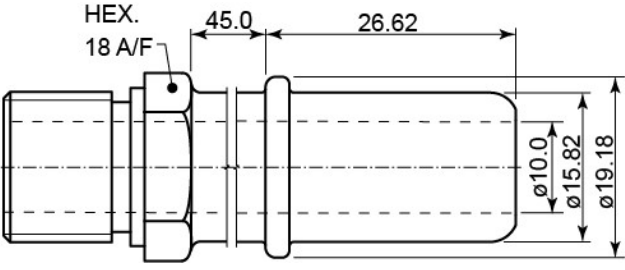
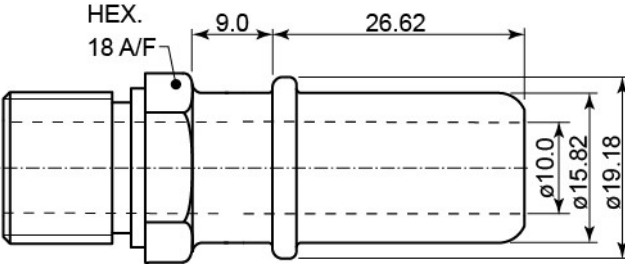
Disgned to meet:

**Ingress** IP67.  
**Operating temp:** -40 °C to 85 °C.  
**Max tank pressure:** 1 bar.  
**EMC:** Type approval in accordance with EN ISO 13766:2006  
**Vibration:** 500mm sensor to be type tested to 1.88 Grms BS EN 60068-2.4:1995  
**Shock:** 500 m·s<sup>-2</sup>, 11 ms, BS EN 60068-2-27:1993.



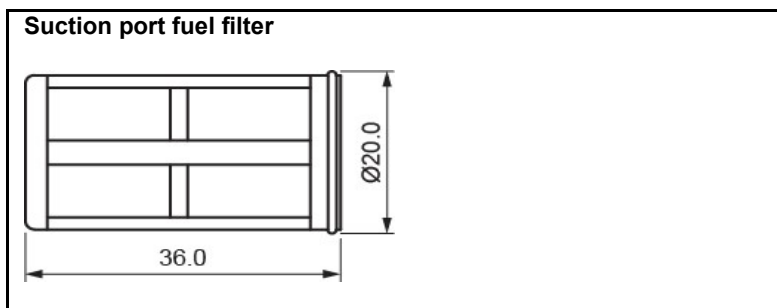
## Options

### Fuel inlet/outlet:

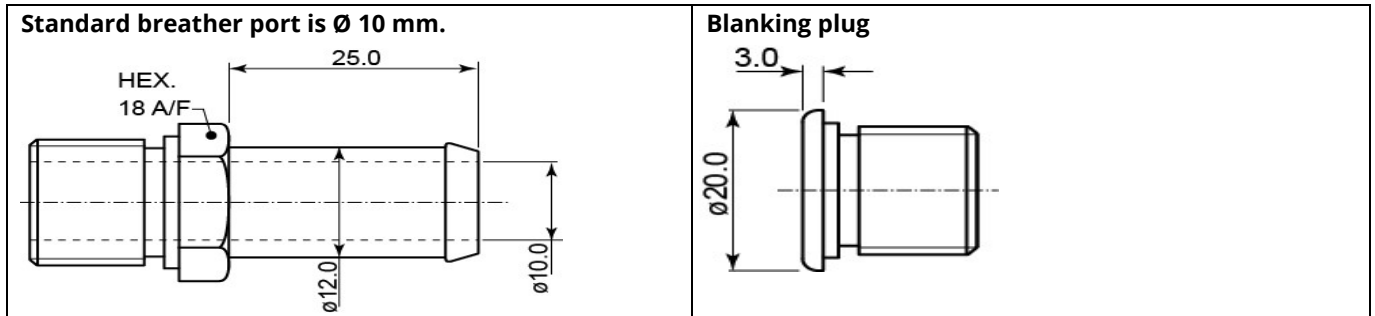
<p><b>Ø 6.5 mm</b></p> 	<p><b>Ø 8 mm</b></p> 
<p><b>Ø 10 mm</b></p> 	
<p><b>Ø 10 mm J2044 - Engine Supply</b></p> 	<p><b>Ø 10 mm J2044 - Engine Return</b></p> 
<p><b>Bespoke</b> Other fittings with M16x1.5 thread and suitable sealing can be accommodated.</p>	

**Electrical connector:** The FR37x can be supplied with any suitable style of plug or receptacle.

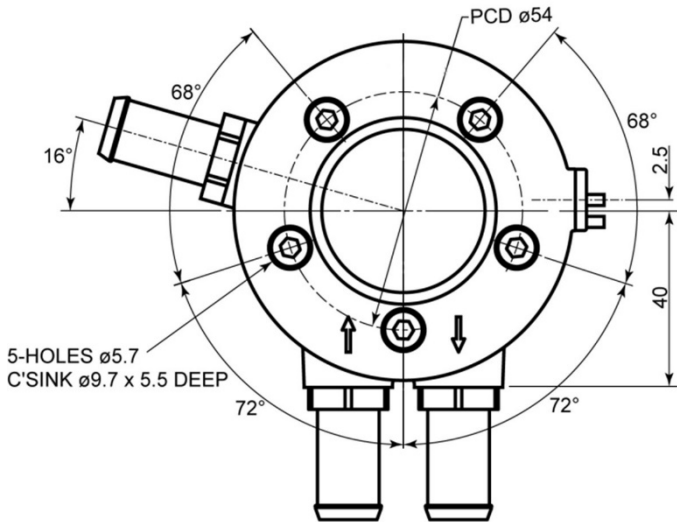
**Fuel filter:** Fuel filter – 50 micron nylon mesh in white PE (polyethylene) housing



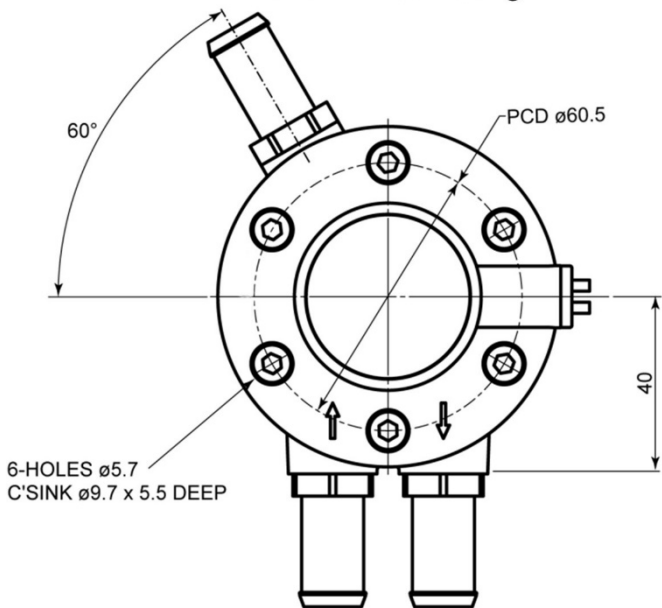
**Breather:** Breather (standard shown below or specify any of the above inlet/outlet fittings) or blanking plug:



**Installation drawings:**



**SAE 5-Hole Mounting**



**SAE 6-Hole Mounting**

