# Fuel Consumption Measurement System

About-

Fuel Consumption measurement System(FCS) is a self-contained SKID housing Fuel Tank, Tank Weighing System (TWS) of Mettler Toledo (Model No. IND 570), Fuel Tank Filling Pumps/Flame Proof Motor, Temperature Sensors (RTD), Shell & Tube Type Heat Exchangers for cooling of Fuel and a Control Panel (CP) for user to interact with the system.

All electronic/software controls & communication interaction with the FCS SKID is through this CP.

Technical Specification-

- Flame Proof ELECTRIC MOTOR : 1.5KW, 1440 RPM,Three PHASE, 4 POLE, 50HZ
- Fuel Filter: Filtration :10 Micron(absolute), with electronic Clogging Indicator.
- Fuel tank(material ss-304): 150 ltr fuel tank
- Temperature sensor (rtd): range: 0 to 100 degree c
- Shell & Tube Type Heat Exchanger: Fuel Line Pressure Drop 0.01 Bar.
- Refregirated water chiller : Three phase refrigerated air cooled chiller
- Ms Sheet Metal Box For Control Panel: 600h X 600w X 350d (Sheet Metal Enclosure With 600x600x350 Mm
- Power Supply: 220/4.2a,24v,Dc
- Panel Light: Panel Light
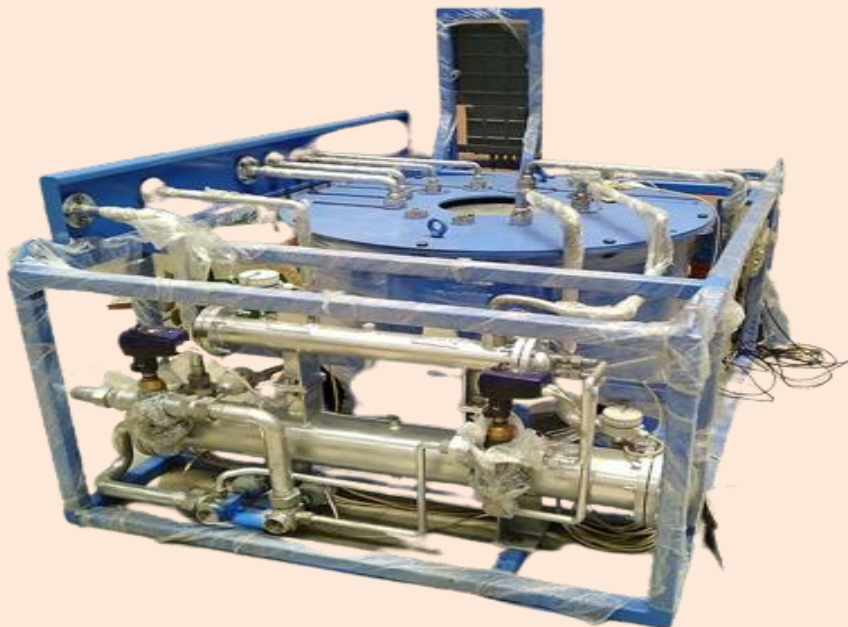
Application-

It is used to test the fuel consumption of locomotives .SS Tank of 150 Litres supplies the fuel to the TEST ENGINE through pump & filtration system.

Key Features-

- Filter Clogging Indicator Switch (6.0) which indicates that the Filter is clogged
- Tank Weighing System comprising of 4 Load Cells, Flameproof Junction Box & IND 570 Indicator
- Temperature Sensors installed to monitor the temperature of chilled water as well as the fuel.
- Ball Valve at the suction of the Fuel Tank Filling Pump is MANUAL and has a limit switch which tells that this Valve is Open
- Float Switches get activated in case of Fuel Tank overfill or Fuel Tank over flow
- PLC Controller is connected with Temperature Sensors, Limit Switches on Valves and Filter Clogging Indicator Switches on filters and also Float Switched.
- PLC Controller is also connected with Chiller through RS485
- The HMI on control panel will always show the current status (Open/Close, On/Off) of all components in the Fuel Circuit.