

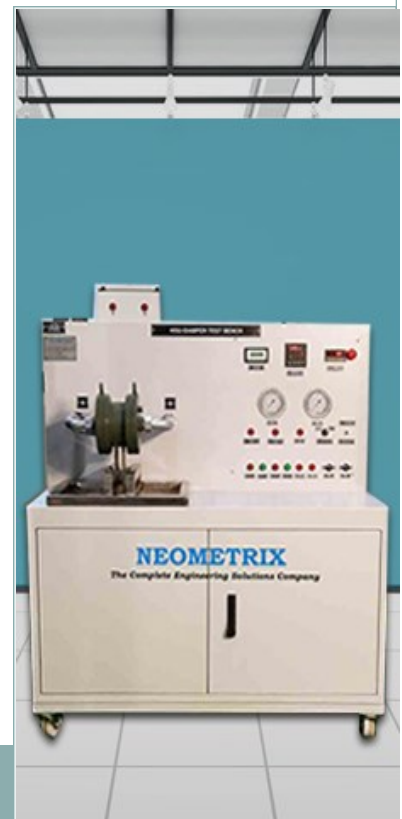


NEOMETRIX ENGINEERING PVT LTD

ABOUT

Neometrix Engineering (P) Limited is a Test Bench, Test Equipment, Test Rig design and manufacturing company based in Noida. In our 2 decades of operations we have supplied more than 400 test rigs at different establishments of defense, aviation, agriculture, nuclear, automobile and Private Defense industries.

The founders of the company are graduates from IIT Kanpur and the company remains very closely linked with IITs. We utilize the expertise available there as and when required. Neometrix is working with IIT professors on several consultancy projects. We take extensive consultancy support from IIT.



“Larsen & Turbo Ltd. (L&T Ltd) trusts in Neometrix Engineering”

Neometrix is very focused on Aviation and Railway industries and offers complete range of systems & services which can be of immense use to you. We specialize in Hydraulic/ Servo Hydraulic Test Rigs, Fuel System Test Rigs, Pneumatic System Test Rigs, Oxygen/ Special Gases system Test Rigs, Very High Pressure Systems, Electronic & Electrical Test Rigs. Our services include among others, the followings:

- State of the art Test Rig Design, Development, Fabrication, Installation, Commissioning, Training & Support.
- Refurbishment/ Up gradation of the Existing Test Rigs.
- Maintenance (AMC) contracts of Existing Test Rigs.
- Operations Contract for the Test Rigs.
- Setting up of complete Testing Infrastructure including civil infrastructure.

HYDRAULIC DAMPER TEST BENCH:

Damper test bench is a high performance test equipment to test the damper assembly of the main HSU unit.

The system is designed to check the Differential pressure creating capacity of the damper assembly.

Key Features:

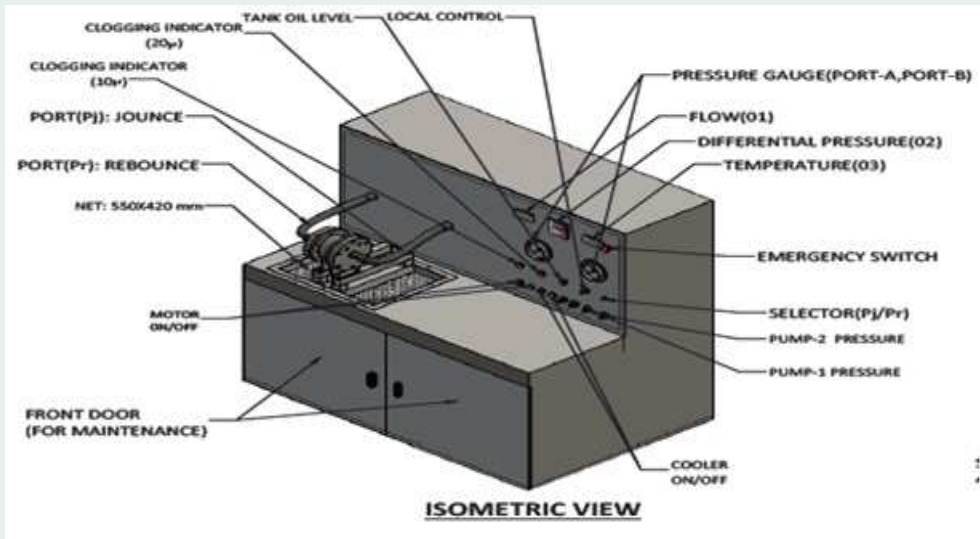
1. Single high performance drive is used to ensure the rotation of the motor is clockwise.
2. 40 HP motor with external gear pump arrangement of 110 lpm of flow each.
3. 200 liter oil storage tank.
4. Pilot operated direction control valve (ng25) is provided in the system to ensure proper connection of A to B
5. With ABB variable frequency drives with flow regulator to control the RPM to the motor and subsequently regulates the flow.

Applications:

The Damper assembly have the main purpose of creating differential pressure within the HSU unit. Damper assembly creates the partition between hydraulic oil filled in bottom part of main cylinder. It absorbs the shock and jerks of the K9 VAJRA Tank and ensure smooth rebound and jounce movement.



HYDRAULIC DAMPER TEST BENCH



Technical Specifications:

1. Damper system power pack.
2. 40 HP motor with external gear pump arrangement of 110 lpm of flow each.
3. 200 liter oil storage tank.
4. Rebound Flow (LPM) 60-200, Acceptable Pressure Drop Across Damper(bar) 76.4 - 33.3, 81.7 - 66.9, 93.7- 80.3.
5. High pressure filter of 10 micron
6. Jounce Flow (LPM) 50-200, Acceptable Pressure Drop Across Damper(bar) 72.8-23.5, 115.8-76.1, 117.2-100.4, 131.0-105.1

HSU TEST BENCH:

The objective of “ HYDRAULIC TEST EQUIPMENT FOR HSU” is to check the Strength and leaks of HYDRAULIC SUSPENSION UNIT.

The “ HSU TEST BENCH” is developed for testing the strength and leaks of HYDRO-PNEUMATIC SUSPENSION SYSTEM. This test involves mounting the integrated suspension unit over the HSU test bench. The high performance Servo-hydraulic actuator is used for static and dynamic mechanical testing of Hydro-pneumatic suspension units in highly accurate displacement control mode.

Key Features:

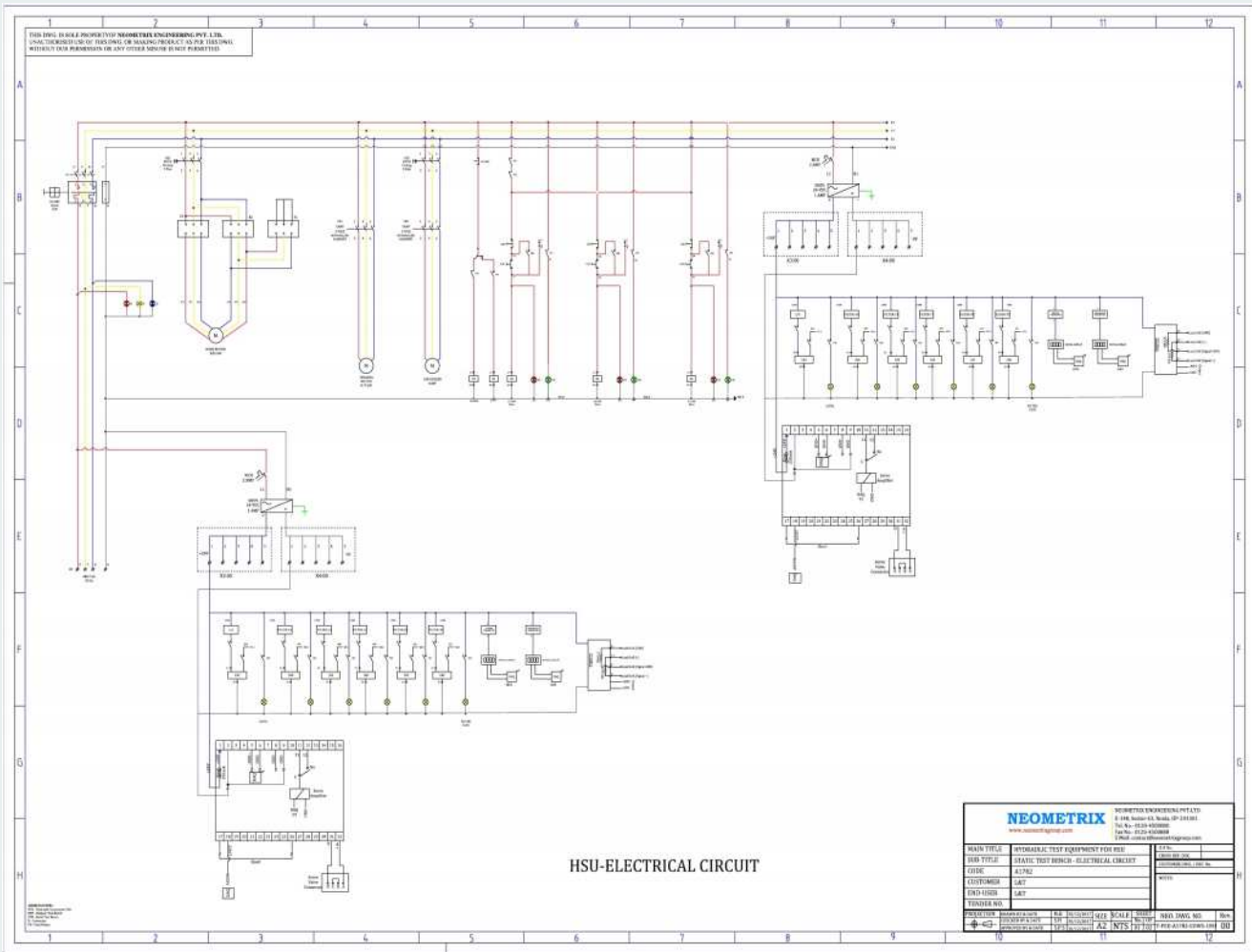
1. High performance Servo-hydraulic actuator is used for static and dynamic mechanical testing.
2. DAQ system to generate the graph.
3. In-built LVDT sensors for actuator displacement.
4. Lab-View software.
5. Tank top filter of 6 micron to filter oil regularly.

Applications:

1. Used for testing hydro- pneumatic suspension units
2. To measure static and dynamic load



HSU TEST BENCH



HSU Electrical Circuit

Technical Specifications:

1. Flame Proof ELECTRIC MOTOR : 1.5KW, 1440 RPM, Three PHASE, 4 POLE, 50HZ
2. Fuel Filter: Filtration :10 Micron(absolute), with electronic Clogging Indicator.
3. FUEL TANK(MATERIAL SS-304): 150 LTR FUEL TANK.
4. TEMPERATURE Sensor (RTD): RANGE: 0 TO 100 DEGREE C
5. Shell & Tube Type Heat Exchanger: Fuel Line Pressure Drop 0.01 Bar.
6. REFREGIRATED WATER CHILLER : Three phase refrigerated air cooled chiller
7. MS Sheet Metal BOX for Control Panel: 600H X 600W X 350D (SHEET METAL ENCLOSURE WITH 600X600 X350 mm
8. POWER SUPPLY: 220/4.2A,24V,DC

“GENERAL ELECTRIC CHOOSES NEOMETRIX”

Fuel Consumption Measurement System:

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.

Key Features:

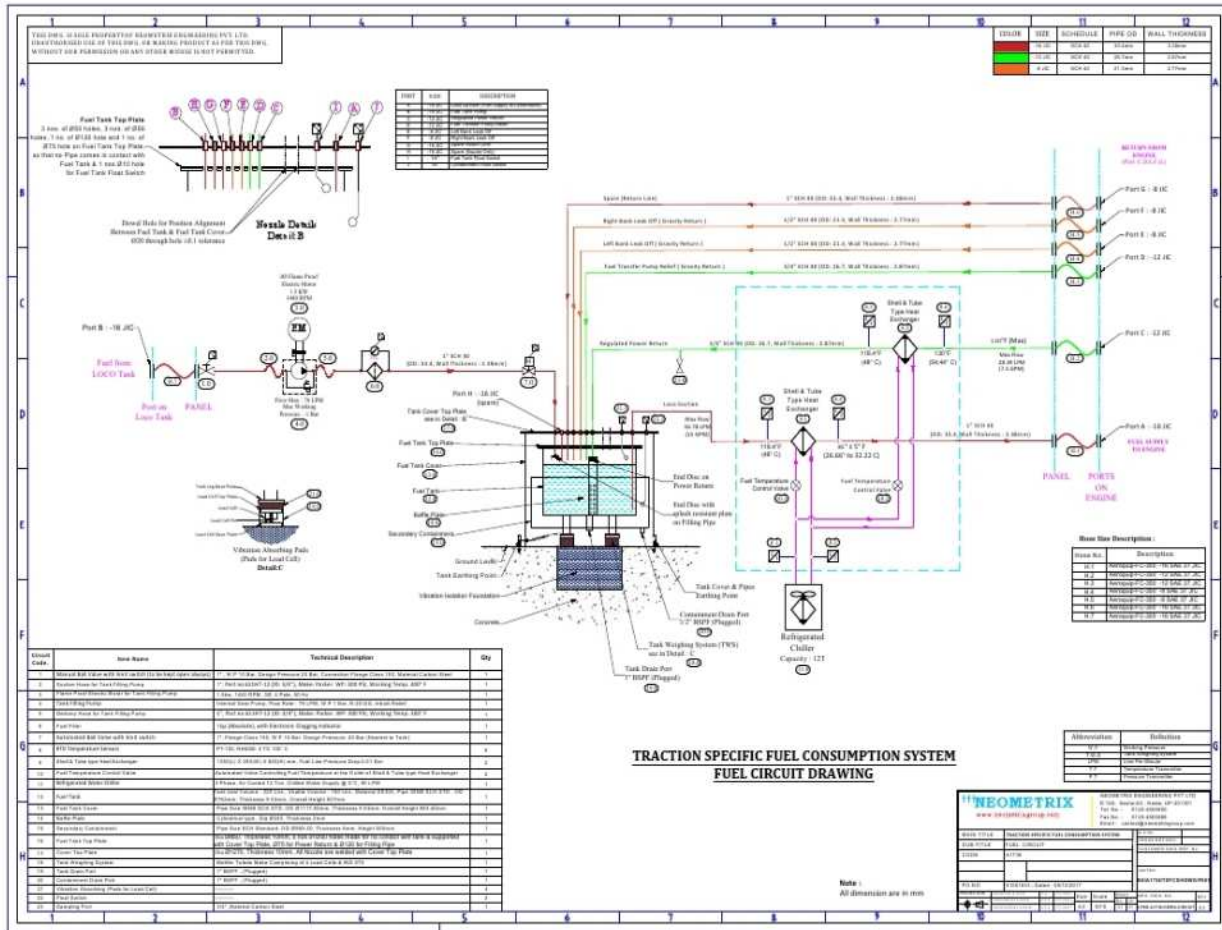
1. Filter Clogging Indicator Switch (6.0) which indicates that the Filter is clogged
2. Float Switches get activated in case of Fuel Tank overflow or Fuel Tank over flow
3. Tank Weighing System comprising of 4 Load Cells, Flameproof Junction Box & IND 570 Indicator
4. Temperature Sensors installed to monitor the temperature of chilled water as well as the fuel.
5. 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
6. PLC Controller is connected with Temperature Sensors, Limit Switches on Valves and Filter Clogging Indicator Switches on filters and also Float Switched.
7. PLC Controller is also connected with Chiller through RS485
8. The HMI on control panel will always show the current status (Open/Close, On/Off) of all components in the Fuel Circuit

Applications:

FUEL CONSUMPTION MEASUREMENT SYSTEM is a test bench to test the fuel consumption of locomotives .SS Tank of 150 Litres supplies the fuel to the TEST ENGINE through pump & filtration system.



Fuel Consumption Measurement System



Fuel Consumption Measurement System Electrical Circuit

Technical Specifications:

1. Flame Proof ELECTRIC MOTOR : 1.5KW, 1440 RPM, Three PHASE, 4 POLE, 50HZ
2. Fuel Filter: Filtration :10 Micron(absolute), with electronic Clogging Indicator.
3. FUEL TANK(MATERIAL SS-304): 150 LTR FUEL TANK.
4. TEMPERATURE Sensor (RTD): RANGE: 0 TO 100 DEGREE C

5. Shell & Tube Type Heat Exchanger: Fuel Line Pressure Drop 0.01 Bar.
6. REFREGIRATED WATER CHILLER : Three phase refrigerated air cooled chiller
7. MS Sheet Metal BOX for Control Panel: 600H X 600W X 350D (SHEET METAL ENCLOSURE WITH 600X600 X350 mm
8. POWER SUPPLY: 220/4.2A,24V,DC

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