

SCOPE OF WORK

Title of Unit : Solenoid Valve
Specification Drawing Number : PRV02-02.00.00.00 Mod No. 00

DEVELOPMENT OF SOLENOID VALVE

It includes Design, Fabrication and Carry out Acceptance Test of the Solenoid Valve. Supply of 5 number of valves for assembly with PRSOV. CSIR-CMERI will carry out Form-Fit-Functionality Testing along with PRSOV.

Specification drawing showing mounting flange dimensions attached with this document. Acceptance Test requirements attached in Annexure I. In addition, inputs related to qualification criteria of PRSOV (Annexure II) also attached for design guidance of the Solenoid Valve.

DETAIL SCOPE OF WORK

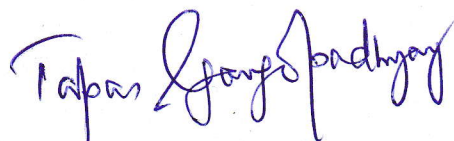
- Design Solenoid Valve as per CSIR-CMERI specification
- Develop necessary Jigs & Fixtures and test set-up for acceptance testing
- Mention CSIR-CMERI drawing number (PRV02-02.00.00.00 Mod No. 00) in Hical assembly drawing as reference
- Submit BOM and set of drawings to CSIR-CMERI for approval
- Fabricate Solenoid Valve using aviation grade materials
- Carryout acceptance tests
- Supply 5 (five) number of Solenoid Valve along with all the associated test reports
- Provide Certificate of Conformance stating that the item has been produced as per approved design

TERMS & CONDITION

1. Hical will do Design of Solenoid Valve as per the RFQ of CSIR-CMERI. Additionally they will also develop necessary Jigs & Fixture and Test Set-up for acceptance testing.
2. Provide Bill of Material (BOM) along with set of drawings to CSIR-CMERI for design approval, under the NDA between two organizations.

DELIVERY

1. Supply 5 (five) number of valves (including Plug, MIL-DTL-38999 Series 3, P/N: D38999/26FA98SN)
2. All associated test reports
3. Certificate of Conformance for stating that the item has been produced as per approved design
4. Delivery within 24-28 weeks



Annexure I

Acceptance Test Procedure of Solenoid Valve for 2" Pressure Reducing and Shut-off Valve (PRSOV)

Title of Unit : Solenoid Valve
Specification Drawing Number : PRV02-02.00.00.00 Mod No. 00

It consists of tests required to achieve necessary product quality. Hical can define more tests, if required to ensure a successful design.

1. COIL TESTING

- 1.1. DC Coil Resistance
- 1.2. Inductance
- 1.3. Insulation Resistance
- 1.4. Surge

2. SOLENOID TESTING

- 2.1. Pull Force
Draw curves for Force (Newton) vs. Air gap (mm) for each current value (A).
- 2.2. Pull-In & Dropout
Determine pull-in and dropout voltage at room temperature.
- 2.3. Response Time
Draw solenoid pull-in, dropout response time at 18 VDC, 28 VDC and 30.3 VDC, at room temperature.

3. SOLENOID VALVE TESTING

- 3.1.1. Valve Leakage
- 3.1.2. Air Flow Test
- 3.2.1 Flow from Inlet to Outlet
- 3.2.2 Flow from Outlet to Ambient
- 3.3 Minimum Operating Voltage (Pull-in & Dropout)
- 3.4 Response Time

Tapas Gangopadhyay