

## Technical Specification

### Description of item: High Pressure Triplex Plunger Pump for Hydraulic Testing of BTPGLN/Tank .

#### 1. SCOPE OF SUPPLY

The specification covers supply and commissioning of High Pressure Triplex Plunger Pump for Hydraulic Testing of BTPGLN/Tank wagons (Railways). The scope of supply will also include other accessories i.e. Electric motor, pressure relief valve ,Pulstation Dampner,Pressure Gauge, pump pulley ,motor pulley ,belts, Belts guards ,fabricated frame with trolley tank capacity 150 liters . Automatic Shut off Arrangement at 22 Kg/cm<sup>2</sup>, Starter , so it is fully operational the pump when installed and connected to power supply . 150 -200 Liter cap tank should be mounted on trolley with solid rubber wheels.

#### 2. PURPOSE FOR WHICH REQUIRED & BASIC DESIGN FEATURES.

##### 2.1 Capability –The High Pressure Triplex Plunger Pump

For effective controls of the pump, necessary control equipment such as indicator, gauges, and switches at the control panel should be easily accessible to the operator.

2.2.1 All safety devices so as to provide complete protection to the operator and the pump from all possible failures. Full description and explanation of all the safety features provided must be given in the offer.

2.2.2 Pump should be dynamically balanced and heavy duty ball/roller bearing preferably FAG/SKF should be used on both ends .

2.2.3 Pump should be suitable to develop pressure on **LPG** tank wagons ( Railways) having volumetric **capacity 78.92 Cu.meter** .

2.2.4 Detailed technical parameters is given below—

#### TECHNICAL PARAMETERS

Discharge Pressure	:	0-40 Kg/cm <sup>2</sup>
Suction pressure	:	Flooded
Capacity in LPM (rated )	:	3850 LPH
Stroke length	:	50
Suction / delivery stroke per minute	:	200
Connection in BSP-	:	½ ' BSP discharge. 1' suction
Cylinder	:	Forged C.S/ 316SS
Plunger	:	316 SS-Hard face (45-50 HRC)
Gland Packing	:	PTFE- Anamide /Cheveron type
Connecting rod	:	Carbon Steel (forged)

Main body	:	FG-260
Crank Shaft	:	Austempered
H.P. /Speed	:	7.5 / 960
V/Hz/Ph	;	415/ 50 /3
Crank Shaft	:	Austempered ductile Iron Suitable for high fatigue strength & rotation Torsion

### **3. Commissioning:**

Commissioning of hyd pump would be done under the supervision/direction of firm's Engineer. The contractor or his agent shall also demonstrate the performance of the pump.

### **4. Warrantee:**

As per Railway's General Condition of Contract ..

### **5. SPARES.**

Spares for 2 years normal maintenance to cover the complete range of mechanical and electrical equipment, on double shift working basis should be separately quoted and be supplied with the machine . A complete catalogue giving the part list number of each component and assembly drawing should also be provided with machine in duplicate.

### **6 .SPECIAL FEATURES.**

Special features incorporated into the machine, if any shall be indicated separately by the tenderer, clearly indicating the advantages of these features.

### **7. DEVIATIONS**

The tenderer may propose minor deviations from this specification giving suggested alternative design in order to reduce initial or recurring cost or to improve reliability, quality and safety operation. The tenderer in such an eventuality shall clearly indicate details of the deviations and reasons thereof.

### **8. INSPECTION OF EQUIPMENT.** As per Railway's General Condition of Contract ..

**9.**The above technical parameters are approximate and minor variation can be considered for acceptance .

Other terms and condition shall be as per standard clauses for purchase by West- Central Railway.

SSE-LPG

Dy CME ( P)