Appendix-I

Note: Vendor shall provide along with technical document the plan, sections, front view, side view & 3 dimensional drawings with all necessary details including Loading frame, Tank, Hydraulic assembly, Material, Connections, Stiffners, Anchoring details, Pedestal/foundation dimensions & details, etc.

Sr.No.	Name of the item with Specifications	Qty.
	Loading Frame with Tank and Hydraulic Assembly	
A	**Structural Loading Frame:** • Structural frame with following dimensions is to be fabricated: - Clear Height from Baseplate to Bottom of Top Reaction Beam : 2100 mm - Inside Clearance between Two Columns (Verticals) of Frame: 2000 mm - Maximum Height of Frame with Full Top Movement of Piston: 3150 mm • Material Grade: Confirming to IS 2062 (2011) • Load Reaction Capacity of Frame: 200 kN • Welded / bolted connection shall be designed to safely carry 200 kN loading from reaction frame • All the parts and connections are painted thoroughly with first class powder coating • Top Reaction beam shall be provided with height adjustment up to 800 mm with 50 mm adjustment interval • Stiffener plates/gusset plates/angles shall be provided at required places to ensure rigid connections and stability of the loading frame • Provision to attach cone assembly as mentioned in Section D(i) and Figs 2 & 3 (Attachment-1) with top reaction beam • Provision to firmly attach hydraulic piston assembly as mentioned in Section C and Fig. 2 (Attachment-1) with top reaction beam • The frame shall be tested to full capacity after installation as part of quality check by vendor • Provision of firmly anchored baseplate along with foundation pedestal is included as scope of work of vendor • Dimensional tolerance for frame: As per Indian Standard, IS:1852	01
B	**Tank:** • Tank inner dimensions: 1000 mm x 1000 mm x 1000 mm (one side made of at least 25 mm thick Perspex/Acrylic sheet) and remaining sides and bottom made of at least 12 mm thick Steel plate confirming to IS 2062 (2011)	01

	• Tank (Perspex / Acrylic sheet, Steel plates and all connections) shall be designed to resist lateral / vertical pressure for 200 kN vertical loading on filled material in tank without bending, buckling, cracking or joint failures • Provision of fixing additional plates for changing width of the tank in the direction parallel to Perspex Sheet/acrylic sheet at 200 mm intervals (refer Figs 1 & 2, Attachment-1) • Providing one additional Steel plate of at least 12 mm thickness confirming to IS 2062 (2011) of dimensions to facilitate proper fixing into the grooves made at each 200 mm intervals parallel to Perspex/ Acrylic Sheet to change width of the tank • All walls of tank shall openable type with bolted connection • Stiffener plates/ angles shall be provided at required places to ensure rigid connections and stability of the tank • Bottom of the tank shall consist of grooves to facilitate placement and adjustment of additional Steel Plate for changing width of the tank • Bottom of tank shall be elevated at least 100 mm from ground for allowing standard forklift placement of capacity 3 tonnes for movement of tank • All the parts (Except Perspex / Acrylic sheet) and connections are painted thoroughly with first class powder coating	
C	**Hydraulic Loading System** • Loading Capacity: At least 200 kN • Piston stroke: 750 mm • Front rectangular flange: 125 x 90 x 750 mm • Pump of capacity at least 0.9 liters per minute • Oil tank capacity: 25 liters • First fill of oil tank by vendor at no additional cost • Pump type: Preferably radial piston pump • Hydraulic system operation: Manual/Automatic type with precise forward, backward and hold control facility • Provision of oil flow control regulator for precise pressure control • Provision of sufficient number of oil seals at all required locations to facilitate leak proof oil flow during loading/displacement of piston • Provision of required spare oil seals for one time replacement by vendor at no additional cost • Provision of required tubing to facilitate oil flow to a distance of at least 10 m • Vendor shall provide calibration chart for oil flow versus applied pressure/load with 0.5% tolerance at maximum load	01

	• System calibration annually during warranty period at no additional cost • Power Supply: 3 phase, 420 V, 50 Hz • 3 years warranty for hydraulic system	

D	**<u>Other Accessories</u>**
	
	1. Cone: (Refer Attachment 1)
	  • 3 nos. of cones of height 100 mm, diameter 50 mm
	  • Cone apex angle: one cone each of 30°,45°,60°
	2. Cone Shaft (01 no.)
	  • Length of cone shaft: 650 mm
	  • Diameter of shaft: 50 mm
	3. Material for cone and cone shaft: Stainless steel, Grade 304 or better
	4. Material for items (5) to (7): Steel conforming to IS 2062 (2011)
	5. Circular steel plates of thickness 20 mm and diameter 100 mm (1 no.), 150 mm (1 no.), 200 mm (1 no.) and 300 mm (1 no.)
	6. Square Steel plates of thickness 20 mm and size 100 mm x 100 mm (1 no.), 150 mm x 150 mm (1 no.), 200 mm x 200 mm (1 no.) and 300 mm x 300 mm (1 no.)
	7. Steel spacers of size 100 x 100 x 100 (4 pieces), 100 x 100 x 300 (2 piece), 100 x 100 x 500 (2 piece) each with capacity to take 2.5 kN weight for adjustment of height of top reaction beam of frame
	8. Tool kit for all size bolts	