

Corrigendum-01 dt.29.11.2023**EVALUATION CRITERIA WITH MARKS FOR 2 PART TENDER FOR GAS LINE WORK OF ABSL-III LAB**

Sl No	Technical Evaluation Criteria	Evaluation marks
1	<p>CO2 and CO4 Manifold (1 + 1):</p> <p>Supply, Installation, testing and commissioning (SITC) of CO2 Gas Manifold system to house one working + one standby standard CO2 cylinders. The manifold shall be made out with well finished rigid MS support structure using square pipes of size min. 50mm X 3mm thickness . The manifold shall have a suitably mounted SS board of min 304 Grade, 3 mm thick and sufficiently sized, to house the Isolator Valves, On-board manifold piping, autochange over set-up, header pipe line, main isolator and safety pressure relief valve etc. Manifold should have rack valve for each cylinder, master pressure gauges of 4" diameter for each bank to indicate bank pressure and line pressure, stainless steel high pressure non-return valve, master filter, double-stage cylinder regulators with isolation valve and cylinder mounting stand with appropriate fittings. Each cylinder shall have its own dedicated space with easy cylinder replacement provision and its own SS chain link holding system. The manifold system and the components used therein shall be rated for 250 bar pressure rating. The manifold system shall be floor/ wall mounted as per standard practice with sufficient grouting/fixing arrangements. The manifold system shall be designed to match the site requirements.</p> <p>NOTE: SITC of Approved make interconnecting tubing for the items / equipments mounted on the Manifold system with suitable size SS 316 tubes (¼" and ½" dia.) is covered under the scope of this item. This includes all the compression connectors, end caps and tubing for pressure relief valve, appropriate "T" and Union connectors, and its outlet connection to building's external atmosphere . The P&ID of the manifold should be submitted.</p> <p>SITC of SS 316 CO2 ,CO4Gas in-line filter, 7 micron, with end compression connector, bull nose adaptor matching to the application / usage, 250 Bar rated. The inline filter should be compatible to connect with direct cylinder hose pipe.</p> <p>SITC of 1m long, 250 Bar rated, Flexible Teflon tube stub with SS external braiding with appropriate fittings and connectors to connect CO2 cylinder direct along with line filters.</p> <p>SITC of 250 Bar rated, SS 316 Ball Valve, with appropriate fittings and connectors.</p> <p>a. ¼" diameter</p> <p>b. ½" diameter</p>	20
2	<p>CO2 and CO4 FULLY AUTOMATIC CHANGEOVER REGULATOR with Electronic and manual Control option for the change over of Cylinder Banks: SITC of SS 316, Automatic Changeover regulator (primary), Diaphragm sensed & spring loaded, with preset flow, inlet pressure of 250 Bar and outlet pressure of 0 to 10 Bar with fitted Pressure gauges for inlet and one outlet readings, with end connectors, mounting bracket, complete. The changeover of Cylinder banks should be electronically controlled with appropriate pressure transmitters and diaphragm valves. The system should have redundancy for changeover regulation. The P& ID diagram of the auto-change over regulator should be submitted.</p> <p>SITC of SS316, Line Pressure Transmitter with Potential NO/NC contact for facilitating alarm generation on emptying of the cylinder, suitable for the specific application, with end compression connectors, and other required accessories. The Pressure Transmitter shall have standard set point for the specific application required. The system should have electronic controller to Monitor Cylinder and Line Pressure of each cylinder Banks. The system should generate audio/visual alarm for any deviation in set point pressure. The system should facilitate the connectivity for the Building Management System. The Line Pressure Transmitter and pressure indicating display should be mounted in gas manifold.</p> <p>SITC of SS316 Pressure relief safety valve with Alarm option for pressure relief in the system, set at 20 bar, on the outlet side of regulator. The valve shall have a potential free NO contact for utilization</p>	20

Corrigendum-01 dt.29.11.2023

	to generate Alarm in the event of actuation of pressure relief valve. The outlet shall be tubed out to building's external ambient as a safety measure.	
3	SITC of SS316 tubing system, Solid drawn, seamless, deoxidized, non- arsenical, half hard, tempered and degreased, rated for 250 Bar pressure, including all the required compression tube fittings / connectors, ferrule fittings, instrument pipe fittings etc ,as required at site and as required for the application to complete the work. Each tube line shall be clamped with appropriate size clamps, mounted on GI Slotted rails, with all the required fasteners. The entire tubing system shall be mounted on the wall / from the ceiling with screw rods and GI rails with expansion bolts / grouting as per standard practice. Gas tubing lines shall not sag and supporting shall be provided in intervals of less than 1.5m distance. The GI rails should be capable to hold 6 no's of 1/2" tubing in parallel for future purpose. The formation and installation of the entire tubing system should be properly mounted and aesthetically finished. Each tubing line shall carry permanent labelling and directional flow marking and be suitably color coded for the application. Work shall be complete in all respects including thorough degreasing and clearing of all particulate matter.	10
	a. SS 316, 1/2" diameter	
	b. SS 316, 3/4" diameter	
4	SITC of SS 316, CO2, CO4 and Compressed air gas secondary regulator, Diaphragm sensed & spring loaded, with preset flow rate. The regulator should operate at 0-20Bar Inlet and outlet pressure of 0 to 10 Bar fitted Pressure gauges for inlet and outlet pressure readings, mounting brackets, complete. The Regulator should have a 1/4" single stage with double gauge to indicate line pressure and outlet pressure, safety relief valve. The inlet should have double ferrule compression fitting and outlet should have universal nipple fitting to connect 6mm to 12mm hose fitting.	15
	SITC of 500 Watt, 230 Volt Centralized heater module suitable for CO2 gas line system with inbuilt heater ON/OFF control, indication for 250 Bar line pressure with end compression connectors. The CO2 heater should be mounted in gas manifold.	
5	All the joints and tapings in the tubing lines of pressurized gas system shall have to be done mainly using orbital welding and for some places where welding is practically not possible, compression tube fittings can be used of approved make.	10
	All the connectors and joints must be Teflon tape/glue free.	
6	The Vendor should have executed gas line work in Bio safety labs (BSL-II and above). The work completion certificate should be submitted	10
	3. All the systems shall be pressure tested minimum 1.5 to 2 times the working pressure, which shall be witnessed by inStem Engineers. Leaks, if any, shall be arrested and the system shall be subjected for standard test once again. A test certificate shall be issued after successful test for each section of tubing and whole system. The entire system should be tested with helium gas for leakage testing, with pressure lock period of 12 hours	
7	All the items used, works carried out and the testing shall be confirming to the latest and relevant standards of the industry. The items should be CE/ISO Certified	10
	The equipment and materials used shall be of approved make and BSL-III and ABSL-III compliant.	
8	Vendors should compulsorily visit the site to understand the requirement before they quote.	5
	Total	100

Financial Bid will be opened for technically qualified Bidders only.

Technical evaluation will be carried out and those Bidders who score 70% in each attribute and 75% overall will qualify for Price Bid opening. Thereafter, Financial proposal shall be evaluated. The Commercially LOWEST BIDDER shall be the first preferred Bidder for award of Order.

Bidders should quote for all the points as per the NIT specifications covered in the Technical Evaluation Criteria (i.e., with and without marks)

The Bid will be treated as not complied if the above condition is not fulfilled.