



ANNEXURE-D

FOR INSTRUMENT AIR COMPRESSORS

Project #	061-001-ED-159
Document #	061-001-159-RFQ-004
Prep/Chk. By	WA
Date:	14-05-2024
Rev No.	2

Project	Development of Feasibility Study of LPG Testing Laboratory at Taftan
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S. No	Description	Qty	Unit	Rate (USD)	Amount (USD)
	The job includes the supply of Instrument Air compressors for the LPG laboratory testing at Taftan, Balochistan.	02	Nos.		
1.00	GENERAL				
	A Package Unit consisting of two instrument air screw compressors with instrument air dryer, receiver, interconnected pipings and general instrumentation. All items shall be supplied Skid Mounted.				
2.00	PROCESS REQUIREMENTS AND PROCESS DESIGN DATA				
	The design requirements for the instruments air compressor & instrument air dryer are as follows:				
2.10	Instrument Air Compressor				
	Applicable Standard : Manufacture's Standard Normal Suction Capacity : 10 SCFM Design Suction Capacity : 25 SCFM Inlet Dry Bulb Temperature : 120°F (Max.) Average Barometric Pressure : 14.7 Psia Normal Discharge Pressure : 131 psig Max. Discharge Pressure : 145 psig Normal Discharge Temperature : 135°F Note: Capacity is based on a normal loss of 10 SCFM over the Dryer for heat less regeneration. The Supplier shall increase or decrease the compressor capacity accordingly if more or less air is required for Dryer regeneration The instrument air required is based on preliminary size basis and actual capacity is to be varified by the supplier.	02	Nos.		
2.20	Instrument Air Dryer				
	Number of dryer vessels : 2 Drying agent : Desiccant (Pachinery/Alcoa activated alumina or Eq.) Regeneration type : Heatless Normal dryer feed flowrate : 10 SCFM Maximum dryer feed flowrate : 25 SCFM Normal dryer feed temperature : 135°F Normal dryer feed pressure : 131 psig Maximum dryer feed pressure : 145 psig Maximum feed oil content : 1 wppm Min. instrument air pressure : 105 psig (At the edge of Skid) Normal Instrument air pressure : 115 psig Dew point temp. specification : -40°F Normal Instrument air flowrate : 10 SCFM	2	Nos.		



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S. No	Description	Qty	Unit	Rate (USD)	Amount (USD)
	Max. allowable solids particle size in instrument air product : 30 microns (Specification for desiccant dusting)				



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3.00	PACKAGE UNIT REQUIREMENTS AND SCOPE OF SUPPLY				
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	<p>The Supplier should allow for the following items within the package unit:</p> <p>Two instrument air compressors screw type.</p> <p>Compressor motor (380V/3 Phase/50Hz,hazardous area classification Class-1,Division 2.Group.C and D location will be Pakistan)</p> <p>Oil coalescer and oil removal from compressed air of oil lubricated compressor.</p> <p>Surge control on compressor (automatic blow off, suction pressure control, etc. - Supplier to advise on the preferred method for the type of compressor selected). On/Off pressure switch control is not permitted.</p> <p>Compressor intercooler (if more than one stage) and aftercooler. Oil cooler must be included.</p> <p>Dryer switching valves</p> <p>Exhaust silencer on regeneration vent.</p> <p>Two dryer pressure vessels.</p> <p>First load of dessicant for both dryers.</p> <p>Interconnecting piping for compressor and dryer package components. Termination piping at skid edge shall be flanged. Connection flange bolts, nuts and gasket are to be provided.</p> <p>2" flanged connection at skid edge for connection to the instrument air receiver.</p> <p>One common trip alarm contact for connection for local control system. Compressor trip alarm and low pressure alarm should be transmitted to manager room.</p> <p>Package should include Instrument Air Receiver up stream of the dryer package.</p> <p>Minimum recommended spares for two year of operation. Price shall be supplied separately. Spares shall be recommended for the compressor and dryer systems where necessary.</p> <p>One month training of staff for operation & maintenance at your facility shall be quoted separately.</p> <p>Dryers and interconnecting piping are to be insulated where the temperature exceeds 140°F for personnel protection.</p> <p>For compressor (oil lubricated), ensure high temp. trip provided on the discharge of the compressor to safeguard against combustion of accumulated carbon on internal piping (known to occur in industry)</p> <p>Operating and maintenance manual. Manual must include component part numbers and drawings where applicable.</p> <p>Instrumentation termination/interconnection drawings.</p> <p>Transformer for power supply to instrumentation if required.</p> <p>All equipment shall be provided on one structure steel skid assembly.</p>	2	Nos.		
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	TOTAL (USD)				
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1	All prices shall be CNF Karachi				
2	All technical details (Operation & Maintenance) must be provided with the proposal.				
3	Quotation shall be provided with Two (2) years operational spares with guaranties.				
4	Transportation to site at Taftan Border (Pak.-Iran) border.				