

OIL INDIA LIMITED

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ANNEXURE-I

Tender No. : KID4912P08/08
Tender Date : 16.04.2007

Item No./ Mat. Code	Material Description	Quantity	UOM
10 0C000454	<p>CHEMICAL (METHANOL) DOZING PUMPS FOR GAS COMPRESSOR STATIONS (ZONE 1 & 2 HAZARDOUS AREA AND GROUP IIA & IIB TYPE GAS APPLICATION)</p> <p>Chemical dozing pump suitable for injecting Methanol, plunger type complete with FLP electric motor & FLP starter (both DGMS approved) and accessories etc. as per details given below:</p> <p>FLUID TO BE HANDLED: Methanol at 20 to 70 degree Centigrade having following physical & chemical properties: -Molecular Formula: CH₃OH -Physical State: Liquid -Appearance: clear, colorless -Odor: alcohol-like - weak odor -Molecular Weight:32.04 -Viscosity: 0.6 at 20°C -Specific Gravity, 20°C/20°C: 0.7924 -Vapor Pressure: 97.7 mm Hg (20°C) -Boiling Point: 64.5 deg C @ 760.00mm Hg -Freezing/Melting Point:(-)97.7 deg C -Autoignition Temperature: 464 deg C -Flash Point: 11 deg C -No solid content</p> <p>Details of Pump : Type : Single acting, plunger type Rated capacity : 3 liters / Hr. Flow variation : 10% -100% of rated capacity Metering Accuracy : +/- 1% of pump output at any single setting of flow variation. Working pressure : 106 Kg./ cm². Suction : Positive . SRV setting at : 10 % above WP. Plunger diameter : Manufacturers' standard to suit flow variation & metering accuracy. Pump speed : Manufacturers' standard to suit flow variation & metering accuracy. Stroke length : Manufacturers' standard to suit flow variation & metering accuracy. Duty : Continuous operation. Flow Rate Adjustment : Manual</p> <p>Materials (MOC) : All wetted parts of pump must be of AISI-316.</p> <p>SIZE : Suction : 15 mm (1/2") NB NPT (Female)</p>	10	NO

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	<p>Delivery : 08 mm (1/4") NB NPT (Female)</p> <p>EACH PUMP SET MUST BE COMPLETE WITH THE FOLLOWING COMPONENTS / PARTS:</p> <p>i) Coupling, Coupling Guard, Base Plate , Foundation bolt etc.. Pump & Motor shall be unitized on a common M.S. foundation skid through flexible coupling .</p> <p>ii) Pressure Relief Valve in SS & Back Pressure Valve in SS.</p> <p>iii) Suction strainer in SS.</p> <p>iv) Pulsation Dampeners.</p> <p>v) Spare parts kit for 2 years normal operation.</p> <p>vi) Calibration pots.</p> <p>vii) Operation & Maintenance manual & part list including prices along with the drawing.</p> <p>FLP MOTOR FOR PUMP :</p> <p>Type: Squirrel cage, induction motor, 415V, 3-phase, Horizontal foot mounted.</p> <p>H.P.: Suitable for above pump but not less than 0.75 KW (1 HP)</p> <p>Type of enclosure: TEFC, Flame Proof as per IS-2148, with degree of protection IP-55.</p> <p>Classification: Zone 1 & 2 Hazardous area for Group-IIA & IIB type gas. (Motor to be certified by CMRI & approved by DGMS. DGMS Logo must be embossed on the body of the offer.)</p> <p>RPM: Suitable for chemical dozing by pump quoted but not more than 1400.</p> <p>Rating: Continuous .</p> <p>Insulation: NEMA Temperature Tolerance Class-F.</p> <p>Starting: DOL</p> <p>Make: Kirloskar / Crompton Greaves / NGEF / Bharat Bijli / Siemens .</p> <p>Terminal Box: FLP double entry terminal box with Six nos. of studs for cable termination/ connection and two no FLP double compression cable glands (3½ X 16 mm2) suitable for gas group IIA & IIB used in Oil mines should be provided on the motor terminal box for cable entry.</p> <p>Glands: Adequate nos of FLP glands (depending on type of starter) as per cable size shall be fitted in terminal box of the FLP motor. The FLP glands shall be double compression type and suitable for installation in Zone 1 & 2 hazardous area and Group IIA and IIB type gas. The glands shall be certified by Govt. of India, Central Mining Research Institute, Dhanbad, India (CMRI).</p> <p>Paint: entire motor should be painted with epoxy grey paint.</p> <p>Statutory requirement: Motor terminal box and gland should be certified by CMRI and approved by DGMS for use in Hazardous area in Gas group IIA & IIB of Oil Mines.</p> <p>Earthing: two nos. of earth points must be provided on the motor frame and one no inside the terminal box.</p> <p>Cooling: Bidirectional cooling fan at NDE</p> <p>Switching: 15 Cold Starts /Hr.</p> <p>Ambient conditions: 40 deg C (Max), 150 mtr altitude & 95% (max) relative humidity.</p> <p>SPECIFICATION OF DOL STARTER (FLP) :</p>		

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	<p>Suitable flame proof DOL starter for the offered motor complete with followings specifications:</p> <p>Starter shall be FLP type suitable for installation in Zone-1 & 2 hazardous area and Group IIA and IIB type gas in OIL Mine. The FLP starter shall be certified by Govt. of India, Central Mining Research Institute, Dhanbad, India (CMRI) and approved by Govt. of India, Director General of Mines Safety (DGMS) for use in above area of OIL Mines.</p> <p>Type: Starter shall be 3 phase suitable for squirrel cage, AC Induction Motor Rating: As per motor size. Enclosure: TEFC with Degree of protection IP-55. material: CI/LM6. Standards: IS-2148, 13947. Voltage: 415 ± 6% volts, 3 Phase, 50HZ, AC supply and should withstand high voltage fluctuation. Freq.: 50 Hz +- 3% Ambient conditions: 40 deg C (Max), 150 mtr altitude & 95% (max) relative humidity. Terminal Box: Cable termination box with brought out terminals suitable for terminating PVCA copper cables of proper size as per rating of starter. Glands: Adequate nos of FLP glands (depending on type of starter) as per cable size shall be fitted in terminal box of the FLP/non FLP starter for incoming and outgoing cables. The FLP glands shall be double compression type and suitable for installation in Zone 1 hazardous area and Group IIA and IIB type gas. The glands shall be certified by Govt. of India, Central Mining Research Institute, Dhanbad, India (CMRI). Gland size shall be confirmed after getting the motor rating. Earthing: Two nos of earthing studs to be provided on both sides of the starter. Earthing system for the motor shall be as per the IS: 3043. Mounting: Suitable mounting arrangement shall be provided on the frame for fixing the starter. Markings: Name plate details with name of manufacturer, rated voltage, other technical details, CMRI certification details, DGMS approval details for Zone-1 & 2, Gas Group IIA & IIB, DGMS mark as per approval. Make: Crompton Greaves/Baliga/FCG/ Flexpro.</p> <p>Starter Component details:</p> <p>Following components shall be fitted inside the starter.</p> <ul style="list-style-type: none"> - Combination fuse switch disconnecter unit with HRC fuses. Make: L&T/ Siemens. - Power contactor(s). AC3 current rating of Power contactor for starter should ensure long contactor life. Make: L&T/ Siemens. - All fuses shall be HRC, tubular type with bolted connections. - Suitably rated bimetallic thermal overload relay with AUTO/ MANUAL reset. Make: L&T/ Siemens. - One earth leakage relay with adjustable current and time setting, 0-500mA, 0- 500ms. Adjustable from outside without opening the enclosure. Make: Legrand/Prayog. - Electronic timer for Y/D delay (in case of Y/D starter). - Set of Start /Stop push buttons. - Set of suitably rated brought terminals for all cable connections. - Two nos. contactor and two nos. overload relay shall be supplied with each 		

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	<p>starter.</p> <p>General Notes on Starter:</p> <ol style="list-style-type: none"> 1. Frame size & make of the offered starter must be mentioned in the offer. 2. The FLP starter and the FLP gland(s) must be suitable for installation in Zone 1 hazardous area with Group IIA and IIB type gas in OIL Mines. 3. Starter must be certified by Govt. of India, Central Mining Research Institute, Dhanbad, India (CMRI) and approved by Govt. of India, Director General of Mines Safety (DGMS) for installation in above area of OIL Mines. 4. The DGMS mark, approval no. and gas group IIA/IIB are required to be mentioned in permanent manner on the equipment name plate as mentioned in DGMS approval. Please confirm. 5. Copies of CMRI certification and DGMS approval for the starter as well as the glands must be furnished with the offer. Without these documents the offer shall NOT be considered for evaluation. 6. Point nos. 2,3,4,5 as mentioned above shall also be applicable in case the starter is not of Indian origin. 7. Bidder must categorically mention that their offer complies with all the features mentioned in the specification & all the relevant documents required as per above points are enclosed in their offer. 8. Guarantee certificate, DGMS approval certificate is required to be submitted with the starter. 		
20 0C000001	<p>ACCESSORIES FOR ABOVE CHEMICAL (METHANOL) DOZING PUMPS</p> <ol style="list-style-type: none"> i) Coupling complete with Spider - 10 sets. ii) Pressure Relief Valve in SS - 10 sets iii) Back Pressure Valve in SS- 10 sets iv) Suction strainer in SS - 20 sets v) Pulsation Dampeners - 6 sets vi) Plunder packings - 20 sets vii) Suction & Discharge Seat & Valve- 20 sets viii) Calibration pots - 10 sets ix) FLP motor same as unitized with the pump set - 10 sets. x) DOL Starter same as unitized with the pump set with all the components- 10 sets. xi) Power contactor of the same make used in the Starter- 10 Nos. xii) Bimetallic thermal overload relay for Starter of same make - 10 Nos. <p>Note : Bidder to quote unit rate of above accessories individually and also to indicate the part Nos. against each item.</p>	1	NO

Special Notes : 1) Quotation must be accompanied by product catalogue, detailed drawing, and specification of the materials for each item in triplicate.
2) Detail description of the FLP Electric Motor and Starter with Control Panel wiring details, Model Mo. & part / stock no. must be specified in the quotation.
3) Recommended spares parts list with 2 years normal operation must be provided along with the quotation.

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- 4) Pump must be guaranteed for trouble free operation for at least 12 months from the date of commissioning or 18 months from the date of dispatch.
- 5) Bidder must submit the copies of CMRI & DGMS certificate of offered FLP Motor & Starter along with the quotation.
- 6) Any deviation from the NIT must be specifically mentioned in quotation by the bidder.
- 7) A laminated electrical single line diagram to be enclosed with the offer.
- 8) Successful Bidder will be required to take approval from OIL for the Dimensional drawing, Foundation drawing and general arrangement drawing showing all the accessories.
- 9) OIL may carry out pre-dispatch inspection of the materials at bidders' worksite. For this bidder shall have to inform OIL well in advance before dispatch of materials.