

1 GENERAL REQUIREMENT

1.1 GENERAL

This specification covers the requirement of design, manufacturing, testing, and packing of **Gas Oil Pumps**

Equipment	Qty.	Location	Tag No.
Gas Oil Pumps	2 sets	Outdoor	225-GP-001/002

1.2 COMPLIANCE WITH SPECIFICATION

The vendor shall supply in accordance with this material requisition, without any deviations and/or exceptions. The equipment and materials shall conform in all respects to a high standard of engineering and workmanship while not specifically covered by this material requisition.

1.3 LANGUAGE AND UNIT

All documents, drawings, data, quotation, contract and instruction books submitted by vendor shall be written in English language and the "SI" unit system and for following items the equivalent SI units shall be used in your documents:

- Pressure: (bar)
- Connection and fitting size: inch
- Flow rate:m3/hr

1.4 PLACE OF DELIVERY

Will be informed later by our commercial department.

1.5 TIME OF DELIVERY

Will be informed later by our commercial department.

1.6 WARRANTY AND GUARANTEE

In the event that within a period of eighteen (24) months from the date of commissioning or thirty six (36) month from the date of equipment delivery (which is earlier), any trouble should occur that is proved to be due to defective design, material and/or poor workmanship, prompt repair or replacement should be made free of charge including installation work at site.

1.7 DOCUMENT TRANSMITTAL

Technical documents should be sent directly to Design & Engineering Dept. by mail. Technical documents consist of any document for reviewing, approval, etc., during design work progress, and especially final documents such as final Drawing's, procedures, instructions, test reports etc.

Technical offer and/or technical matters should be sent to design & Eng. department, but commercial offer including necessary documents for customs, commercial duties and prices should be sent directly to our Commercial Dept.

In case of conflict between document relating to the inquiry or order, the following priority of documents (whichever is more stringent) realized by Owner/Purchaser shall govern:

- Conclusion of final Technical clarification sheets at inquiry stage with vendors
- This material requisition

	Document No. C047B-T432-001	Rev. A
Document Title: P.O.S. for Gas Oil Pump		Page: 5 of 13

1.8 PRODUCT LIABILITY

The Vendor is responsible for all “design, construction, shop testing and delivery of the equipment to the purchaser”. Any exception or addition to the specification shall be clearly stated by the vendor in his proposal. The Vendor shall be solely responsible for performance guarantee, ensuring that the system will meet all operational requirements and ensure safety of plant and personnel under all fault conditions. Any conflict between the specifications and regulatory body regulations, either for certificate or approval shall immediately be referred to the purchaser for approval.

1.9 INTERCHANGEABILITY & STANDARDIZATION

Wherever possible, all similar parts shall be interchangeable without needing any adjustments. All equipment parts and elements of mass production shall be standardized. These pieces of equipment parts and elements shall include flanges, bolts, nuts and threads, valves, gauges, electrical instruments and measuring devices, flow meters, primary, secondary and auxiliary relays, contactors, fuses, switches, lubricants etc.

1.10. All requested items (main and auxiliary equipment, activities...) by this material requisition shall be mentioned in vendor’s proposal clearly as vendor scope of supply. A P&ID on which all accessories are shown, should be enclosed. If it is not possible to supply some of the requested items due to the manufacturer experience some of them are not necessary, it should be stipulated in the vendor’s offer as deviation which to be reviewed by purchaser to approval.

1.11. All mentioned specifications for the main equipment and accessories in this material requisition (e.g. material, protection degree, operating range, painting, model number, allowable site temperature range, suitable area classification, ...) should be stipulated in the vendor proposal or if due to any reason it is not possible to meet the requirements of this material requisition, it should be mentioned as vendor deviation which to be reviewed by purchaser to approval.

1.12. In addition to the project specifications and documents listed in the attachment, the Codes and Standards stated in each specification together with any documents referred to therein shall apply. If not stated, the latest edition of the above Standards and Codes in force at time of Bid shall govern.

1.13 OTHERS

Details not mentioned in these specifications are to be decided in the approved drawings and the approved drawings shall be considered as a part of these specifications.

20 days will be required for approving the drawings from the date of receiving them. Since the final approval by our client is required to make the contract effective, the cooperation of the vendor to obtain this approval is kindly requested.

2 SPECIAL REQUIREMENTS

2.1 DOCUMENTS AND DRAWINGS

The vendor is requested to submit all the drawings and documents which have been mentioned on page 12 “**Documents & Drawings**”. A technical offer, including all the required documents & drawings at the proposed stage shall be submitted. Dead line for technical offer submission and commercial offer submission method will be specified by commercial department.

	Document No. C047B-T432-001	Rev. A	
Document Title: P.O.S. for Gas Oil Pump			Page: 6 of 13

2.2 TITLE OF DOCUMENTS

Name of our project (End user), Project No., Inquiry No. and Tag No. of equipment should be mentioned in title of all documents. Also please refer to our project number (Inquiry No.) in all of communications (**C047B-T432-001**). “Project name” has been mentioned in our material requisition title as follow:

2.3 SPARE PARTS AND SPECIAL TOOLS

The vendor is requested to send his recommended spare parts list and special tools list with his quotation.

2.3.1 Spare Part for Two years

The spare parts should be sufficient for Two (2) years operation of the equipment of any parts especially liable to wear and tear unless otherwise noted.

2.3.2 Erection and commissioning spare parts

The spare parts for erection and commissioning period shall be provided. The price of erection and commissioning spare parts shall be included in the price of the relevant equipment.

2.3.3 Special Tools

Special tools shall be provided for the maintenance and overhaul of the equipment and machineries. Price of special tools and commissioning spare parts shall be included in price of the relevant equipment.

2.4 PIPING

ASME standard shall be applied. ASME dimensions for flange and valves shall be used. All screwed pipe connections shall be in accordance with ANSI standard.

2.5 NAME PLATES AND CAUTION PLATES

A nameplate shall be securely attached at a readily visible location on the equipment and on any other major piece of auxiliary equipment.

Rotation arrows shall be cast-in or attached to each major item of rotating equipment at a readily visible location. Nameplates, caution and instruction plates shall be engraved with black letters in English, with SI unit system, except for pressure (bar). These plates shall be stainless steel, covered with cellophane tape for the temporary protection.

2.6 SCREW THREAD

Screw thread shall be in accordance with ASME metric screw thread.

2.7 GREASE NIPPLES

Where grease is applied, the following grease nipples shall be used.

Type:	Standard Button Head
Exposed to weather:	NPT ¼" Taper thread (ANSI/ASME) stainless steel.
Elsewhere:	NPT ¼" Taper thread (ANSI/ASME) Zinc coated steel.

2.8. Vendor shall confirm that all equipment and control instruments and accessories shall be designed and protected against the site conditions and will be in safe operating condition.

2.9 IDENTIFICATION MARKS

All materials, components and equipment shall be marked for construction identification with numbers which correspond with the part number of the appropriate drawing for erection works.

	Document No. C047B-T432-001	Rev. A	
Document Title: P.O.S. for Gas Oil Pump			Page: 7 of 13

2.10 PACKING

Packing shall be in accordance with the manufacturer's standard procedure.

2.11 RUST PREVENTION

Rust prevention procedure should be done based on manufacturer specification.

The protection shall secure the cargo in good condition against transportation up to the construction site and preserve the goods from corrosion in storage after the delivery to site.

2.12 PAINTING & PREPARATION

Painting and preparation shall be in accordance with the manufacturer's standard procedure.

2.13 INSPECTIONS AND TESTS

Equipment shall be inspected and tested in accordance with the vendor's standard test procedures. The inspections and performance tests certificate shall be submitted.

Manufacturing data report shall include, but not limited, to the followings:

- Material certification
- Inspection and test certification
- Sub-vendor manufacturing records
- test reports of auxiliaries
- Performance test report/certificate

The vendor shall be responsible for insuring all calibration and test equipment has valid certification. All instrumentation shall be functionally tested with simulated signals to prove the integrity of control equipment/ instrumentation.

3 CODES AND STANDARDS

3.1. Gas oil pumps shall be designed based on the manufacturer's standard. However, mechanical and electrical plant and equipment shall be designed to the following acceptable standards except where the requirements of the specification are at variance with the standard.

- ☒ The U.S.A. standards and codes (AMCA, ANSI/ASME, ASTM, NFPA, ISA, NEMA, NEC)
- ☐ Japanese Industrial Standard (JEC, JIS)
- ☒ The I.E.C recommendations and codes of practice for the electrical equipment
- ☐ German Standard (DIN)
- ☐ Local safety and sanitation ordinance, statutes and codes
- ☒ ISO for bolts, nuts and threads

3.2. All standards and codes used shall be in accordance with the latest revisions at the time of tender.

4 SCOPE OF WORK & SUPPLY

Please refer to the "Gas Oil Pump Scope of Work and Supply".

4.1 EXCLUSION OF WORK AND SUPPLY

The following item/works are not included in this contract:

- Structure steels, platforms and ladders
- External wiring and piping

	Document No. C047B-T432-001	Rev. A	
Document Title: P.O.S. for Gas Oil Pump			Page: 8 of 13

- Insulation
- Foundations
- Erection at site

5 TECHNICAL REQUIREMENT

- Vendor shall complete all the requested information on the attached data sheet.
- Vendor shall complete and/or confirm the requested document (including specification sheets, scope of supply, documents & drawing list) with its proposal.
- A common skid for pump and motor shall be considered.
- Noise level of less than 85 dB for the train, shall be achieved without insulation.
- Preliminary G.A. of pump and motor with specified skid size shall be submitted and agreed upon at the inquiry stage.
- The coupling shall be flexible spacer type made of steel hub.
- The coupling guard shall be of non-sparking material.
- Motors shall be explosion proof (Exd / Exde), IP55.

6 DATA SHEET

The vendor shall complete all the requested data and submit us the attached sheets with his proposal.

DATASHEET FOR GAS OIL PUMP

**ROTARY PUMP
DATA SHEET
SI UNITS (bar)**

REVISION	0	1	2	3	4
DATE					
BY					
REV/APPR					
JOB NO.	ITEM NO.				
PAGE 9	OF 15	REQ'N NO.			

1 APPLICABLE TO: ☒ PROPOSAL ☐ PURCHASE ☐ AS BUILT PO NO. _____

2 FOR _____ UNIT Steam Generation Unit

3 SITE _____ NO. OF PUMPS REQUIRED 2 (1 duty / 1 standby) Note 1

4 SERVICE _____ SIZE AND TYPE _____ by vendor

5 MANUFACTURER _____ SERIAL NO. _____ by vendor

6

7 NOTE: ☐ INDICATES INFORMATION TO BE COMPLETED BY PURCHASER ☐ BY MANUFACTURER ☒ BY MANUFACTURER OR PURCHASER

GENERAL

9 NO. MOTORS DRIVEN 2 OTHER DRIVER TYPE _____

10 PUMP ITEM NO'S 225-GP-001 / 002 PUMP ITEM NO'S _____

11 MOTOR ITEM NO'S _____ DRIVER ITEM NO'S _____ GEAR ITEM NO'S _____

12 MOTOR PROVIDED BY Supplier DRIVER PROVIDED BY _____ GEAR PROVIDED BY _____

13 MOTOR MOUNTED BY Supplier DRIVER MOUNTED BY _____ GEAR MOUNTED BY _____

14 MOTOR DATA SHEET NO. _____ DRIVER DATA SHEET NO. _____ GEAR DATA SHEET NO. _____

☐ OPERATING CONDITIONS

	MIN	NORMAL	RATED	MAX (1)
☐ CAPACITY: (m ³ /h) Note 2	1.36		11.65	
☐ OTHER OPER CONDITIONS: (m ³ /h)				
☐ DISCHARGE PRESSURE: (barG)			14.7	
☐ SUCTION PRESSURE: (barG)			0.5	
☐ DIFFERENTIAL PRESSURE: (bar)			14.2	
☐ NPSH AVAILABLE 4.5 (m)				
☐ NPIP AVAILABLE _____ (barA)				
☐ NPSHAa / NPIP DATUM: ☒ C.L. SUCTION NOZZLE				
☐ TOP OF FOUNDATION				
☐ DUTY CYCLE ☐ CONTINUOUS ☒ INTERMITTENT				

(1) Maximum - mechanical design

☐ PERFORMANCE

☐ RATED CAPACITY (m³/h) _____

☐ NPSHa / NPIP REQUIRED (m) _____ (barA) _____

☐ RATED SPEED (rpm) _____

☐ RATED VOLUMETRIC EFFICIENCY (%) _____

☐ RATED PUMP EFFICIENCY (%) _____

☐ REQUIRED POWER @ MAXIMUM VISCOSITY (BkW) _____

☐ REQUIRED POWER @ PRESSURE LIMITING VAL (BkW) _____

☐ REQUIRED POWER @ RATED CONDITION (BkW) _____

☐ MAXIMUM ALLOWABLE SPEED (rpm) _____

☐ CONSTRUCTION

	SIZE	ANSI RATING	FACING	POSITION
CONNECTIONS				
SUCTION				
DISCHARGE				
GLAND FLUSH				
DRAINS *				
VENTS *				
JACKET				

* PIPE VENTS & DRAINS TO EDGE OF BASEPLATE

☐ PUMP TYPE

☒ INTERNAL GEAR ☒ TWIN-SCREW ☒ VANE ☒ LOBE

☒ EXTERNAL GEAR ☒ 3-SCREW ☒ PROGRESSING CAVITY

☒ ROTARY GEAR TYPE

☐ PUMPED FLUID

☐ TYPE OR NAME OF PUMPED FLUID Gasoil Fuel

	MIN	NORMAL	RATED
☐ TEMPERATURE: (°C)	Amb.	Amb.	Amb.
☐ VAPOR PRESS.: (barA)	-	0.03	-
☐ RELATIVE DENSITY (SG):	-	0.84	-
☐ VISCOSITY: (mPa-s)	2	-	6
☐ SPECIFIC HEAT 2.05 (kJ/kg °C)			
☐ CORROSIVE/EROSIVE AGENTS DESCRIPTION			
☐ EROSION ☐ CORROSIVE			
☐ CHLORIDE CONCENTRATION (ppm)			
☐ H ₂ S CONCENTRATION (ppm) Nil (However total Sulfur content is 1% Wt)			
FLUID ☐ HAZARDOUS ☒ FLAMMABLE ☐ OTHER			
☐ GAS ☐ ENTRAINED ☐ SLUG FLOW % BY VOLUME or GVF			
☐ SOLIDS PARTICLE SIZE DISTRIBUTION & MIN/MAX (µ)			
☐ SHAPE ☐ CONCENTRATION ☐ HARDNESS			

☐ SITE AND UTILITY DATA

LOCATION ☐ INDOOR ☒ OUTDOOR

☐ HEATED ☐ UNHEATED ☐ UNDER ROOF

☐ ELECTRICAL AREA CLASS II GROUP _____ DIV _____

ZONE 2 GROUP B TEMP CLASS T3

☐ WINTERIZATION REQD ☐ TROPICALIZATION REQD

SITE DATA ☐ ELEVATION 2450 m ☐ BAROMETER 0.752 (barA)

☐ RANGE OF AMBIENT TEMPS: MIN/MAX -25 / 35 (°C)

UNUSUAL CONDITIONS

☒ DUST ☐ FUMES ☐ SALT ATMOSPHERE

☐ OTHER _____

☐ UTILITY CONDITIONS

ELECTRICITY	DRIVERS	HEATING	CONTROL	SHUTDOWN
VOLTAGE	400		230	
HERTZ	50		50	
PHASE	3		1	

COOLING WATER	INLET	RETURN	DESIGN	MAX Δ
TEMP (°C)	NA	NA	NA	NA
PRESS. (barG)	NA	NA	NA	NA
SOURCE				

INSTRUMENT AIR	MAX	MIN
PRESSURE (barG)	NA	NA

APPLICABLE SPECIFICATIONS:

API-676 POSITIVE DISPLACEMENT PUMPS - ROTARY

☐ GOVERNING SPECIFICATION (IF DIFFERENT) _____

☐ NACE MR0103 (6.13.2.13) ☐ NACE MR0175

☐ OTHER Non-API pump can be offered as an option

REMARKS: 1-If it is possible, pump manufacturer provide a technical offer

as an option that both main and standby pumps with regulating valve (bypass),

required instruments and piping are mounted on the same baseframe as a

pumps station package. 2- Flow control by: PCV on overflow bypass line.

DOCUMENT NUMBER:

C047B-T432-002

CLIENT DOCUMENT NUMBER:

ROTARY PUMP DATA SHEET SI UNITS (bar)		REVISION	0	1	2	3	4																																																																																							
		DATE																																																																																												
		BY																																																																																												
		REV/APPR																																																																																												
		JOB NO.			ITEM NO.																																																																																									
PAGE	10	OF	15	REQ'N NO.																																																																																										
1	CONSTRUCTION		MATERIALS																																																																																											
2	CASING		☐ MIN DESIGN METAL TEMP (6.13.6.1) _____ (°C)																																																																																											
3	☐ MAX. ALLOWABLE CASING PRESS. (6.3.1): _____ (barG) @ _____ (°C)		☐ CASING _____																																																																																											
4	☐ MAXIMUM ALLOWABLE SUCTION PRESSURE: _____ (barG) @ _____ (°C)		☐ STATOR / LINER _____																																																																																											
5	☐ HYDROSTATIC TEST PRESSURE - Suct / Disch: _____ / _____ (barG)		☐ END PLATES _____																																																																																											
6	ROTATING ELEMENTS		☐ ROTOR (S) _____																																																																																											
7	ROTOR MOUNT ☐ BTWN. BEARINGS ☐ OVERHUNG		☐ VANES _____																																																																																											
8	TIMING GEARS ☐ YES ☐ NO ☐ TYPE _____		☐ SHAFT _____																																																																																											
9	BEARING TYPE: ☐ RADIAL ☐ THRUST		☐ SLEEVE (S) _____																																																																																											
10	BEARING NUMBER: ☐ RADIAL ☐ THRUST		☐ GLAND (S) _____																																																																																											
11	LUBRICATION TYPE: ☐ CONSTANT LEVEL OILERS		☐ BEARING HOUSING _____																																																																																											
12	☐ PUMPED FLUID ☒ RING OIL ☒ OIL MIST		☐ TIMING GEARS _____																																																																																											
13	☐ EXTERNAL ☐ OIL FLOOD ☐ GREASE		☐ ELASTOMERS / GASKETS _____																																																																																											
14	☐ LUBRICANT Info (Visc, etc) _____																																																																																													
15	MECHANICAL SEALS		QA INSPECTION AND TEST																																																																																											
16	☐ MANUFACTURER AND MODEL _____		☐ SPECIAL MATERIAL TESTS (See design codes + weld + inspection sheet)																																																																																											
17	☐ MANUFACTURER CODE _____		☐ LOW AMBIENT TEMP. MATERIALS TESTS (6.13.6.5)																																																																																											
18	☐ API 682 AND DATA SHEETS		☒ COMPLIANCE WITH INSPECTORS CHECK LIST																																																																																											
19	☐ API 682 SEAL FLUSH PLAN		☒ CERTIFICATION OF MATERIALS (user to define affected components in remarks)																																																																																											
20	☐ API 682 SEAL CODE _____		☒ SURFACE / SUBSURFACE EXAM'S (user to define affected components in remarks)																																																																																											
21			☐ RADIOGRAPHY _____																																																																																											
22	DRIVER TYPE		☐ ULTRASONIC _____																																																																																											
23	☒ INDUCTION MOTOR ☐ STEAM TURBINE ☐ GEAR ☐ OTHER		☐ MAGNETIC PARTICLE _____																																																																																											
24	DRIVE MECHANISM		☐ LIQUID PENETRANT _____																																																																																											
25	☐ DIRECT-COUPLED ☐ ASD ☐ OTHER		☐ COMPONENT PMI _____																																																																																											
26	☒ COUPLING MANUFACTURER _____		☐ HARDNESS OF PARTS, WELDS & HEAT AFFECTED ZONES																																																																																											
27	☒ COUPLING TYPE _____		☒ VENDOR SUBMIT TEST PROCEDURES (8.3.1.2)																																																																																											
28	☐ RATING (MAX TORQUE) _____ ☒ MODEL _____		☒ SUPPLIER TO KEEP REPAIR AND HT RECORDS (8.2.1.1)																																																																																											
29	☒ SPACER LENGTH _____ (IN) ☒ S.F. _____		<table border="1"> <thead> <tr> <th></th> <th>NON-WIT</th> <th>WIT</th> <th>OBSERV</th> </tr> </thead> <tbody> <tr> <td>☐ SHOP INSPECTION (8.1)</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>☐ HYDROSTATIC (8.3.2)</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>☐ WITH WETTING AGENT</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ PERFORMANCE (8.3.4)</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>☐ RETEST ON SEAL LEAKAGE</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ NPSH / NPIP (8.3.7.1)</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ TRUE PEAK VELOCITY DATA</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ COMPLETE UNIT TEST (8.3.7.2)</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ SOUND LEVEL TEST (8.3.7.3)</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>☐ CLEANLINESS PRIOR TO FINAL ASSEMBLY (8.2.3.3)</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ HIGH DISCHARGE PRESSURE @ PLV</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ CHECK FOR CO-PLANAR AT MOUNTING PAD SURFACES (7.4.7)</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ 1 HR MECHANICAL RUN TEST AFTER OIL TEMP STABLE (8.3.5.1)</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ 4 HR. MECH RUN AFTER OIL TEMP STABLE(8.3.5.2)</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>☐ AUXILIARY EQUIPMENT TEST (8.3.4.3)</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ OTHER _____</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>☐ TEST WITH SUBSTITUTE SEAL (8.3.5.3)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>☐ SUPPLIER SUBMIT TEST DATA WITHIN 24 HOURS</td> <td></td> <td></td> <td></td> </tr> <tr> <td>☐ INCLUDE PLOTTED VIBRATION SPECTRA</td> <td></td> <td></td> <td></td> </tr> <tr> <td>☐ RECORD FINAL ASSEMBLY RUNNING CLEARANCES (8.2.1.1f)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>☐ PERFORMANCE CURVE & DATA APPROVAL PRIOR TO SHIPMENT (8.3.9)</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					NON-WIT	WIT	OBSERV	☐ SHOP INSPECTION (8.1)	☐	☒	☐	☐ HYDROSTATIC (8.3.2)	☐	☒	☐	☐ WITH WETTING AGENT	☐	☐	☐	☐ PERFORMANCE (8.3.4)	☐	☒	☐	☐ RETEST ON SEAL LEAKAGE	☐	☐	☐	☐ NPSH / NPIP (8.3.7.1)	☐	☐	☐	☐ TRUE PEAK VELOCITY DATA	☐	☐	☐	☐ COMPLETE UNIT TEST (8.3.7.2)	☐	☐	☐	☐ SOUND LEVEL TEST (8.3.7.3)	☐	☒	☐	☐ CLEANLINESS PRIOR TO FINAL ASSEMBLY (8.2.3.3)	☐	☐	☐	☐ HIGH DISCHARGE PRESSURE @ PLV	☐	☐	☐	☐ CHECK FOR CO-PLANAR AT MOUNTING PAD SURFACES (7.4.7)	☐	☐	☐	☐ 1 HR MECHANICAL RUN TEST AFTER OIL TEMP STABLE (8.3.5.1)	☐	☐	☐	☐ 4 HR. MECH RUN AFTER OIL TEMP STABLE(8.3.5.2)	☐	☒	☐	☐ AUXILIARY EQUIPMENT TEST (8.3.4.3)	☐	☐	☐	☐ OTHER _____	☐	☐	☐	☐ TEST WITH SUBSTITUTE SEAL (8.3.5.3)				☐ SUPPLIER SUBMIT TEST DATA WITHIN 24 HOURS				☐ INCLUDE PLOTTED VIBRATION SPECTRA				☐ RECORD FINAL ASSEMBLY RUNNING CLEARANCES (8.2.1.1f)				☐ PERFORMANCE CURVE & DATA APPROVAL PRIOR TO SHIPMENT (8.3.9)			
	NON-WIT	WIT	OBSERV																																																																																											
☐ SHOP INSPECTION (8.1)	☐	☒	☐																																																																																											
☐ HYDROSTATIC (8.3.2)	☐	☒	☐																																																																																											
☐ WITH WETTING AGENT	☐	☐	☐																																																																																											
☐ PERFORMANCE (8.3.4)	☐	☒	☐																																																																																											
☐ RETEST ON SEAL LEAKAGE	☐	☐	☐																																																																																											
☐ NPSH / NPIP (8.3.7.1)	☐	☐	☐																																																																																											
☐ TRUE PEAK VELOCITY DATA	☐	☐	☐																																																																																											
☐ COMPLETE UNIT TEST (8.3.7.2)	☐	☐	☐																																																																																											
☐ SOUND LEVEL TEST (8.3.7.3)	☐	☒	☐																																																																																											
☐ CLEANLINESS PRIOR TO FINAL ASSEMBLY (8.2.3.3)	☐	☐	☐																																																																																											
☐ HIGH DISCHARGE PRESSURE @ PLV	☐	☐	☐																																																																																											
☐ CHECK FOR CO-PLANAR AT MOUNTING PAD SURFACES (7.4.7)	☐	☐	☐																																																																																											
☐ 1 HR MECHANICAL RUN TEST AFTER OIL TEMP STABLE (8.3.5.1)	☐	☐	☐																																																																																											
☐ 4 HR. MECH RUN AFTER OIL TEMP STABLE(8.3.5.2)	☐	☒	☐																																																																																											
☐ AUXILIARY EQUIPMENT TEST (8.3.4.3)	☐	☐	☐																																																																																											
☐ OTHER _____	☐	☐	☐																																																																																											
☐ TEST WITH SUBSTITUTE SEAL (8.3.5.3)																																																																																														
☐ SUPPLIER SUBMIT TEST DATA WITHIN 24 HOURS																																																																																														
☐ INCLUDE PLOTTED VIBRATION SPECTRA																																																																																														
☐ RECORD FINAL ASSEMBLY RUNNING CLEARANCES (8.2.1.1f)																																																																																														
☐ PERFORMANCE CURVE & DATA APPROVAL PRIOR TO SHIPMENT (8.3.9)																																																																																														
30	☒ COUPLING BALANCED ☐ MANF STD ☐ AGMA 9000 CLASS 10 (7.2.3)																																																																																													
31	☐ COUPLING PER API 671 (7.2.4)																																																																																													
32	☐ COUPLING HUB ATTACHMENT																																																																																													
33	☐ STRAIGHT ☐ KEYED ☐ TAPERED																																																																																													
34	COUPLING GUARD TYPE																																																																																													
35	☐ STEEL ☐ BRASS ☐ NON-METALLIC ☐ OTHER																																																																																													
36	☒ NON SPARK COUPLING GUARD (7.2.15) _____																																																																																													
37																																																																																														
38	☐ MOTOR DRIVER (SEE MOTOR DATA SHEET)																																																																																													
39	☐ IEEE 841 ☐ API 541 ☐ API 546 ☐ OTHER																																																																																													
40	☐ ASD SUPPLIED BY ☐ PURCHASER ☐ MOTOR SUPPLIER																																																																																													
41	☐ MANUFACTURER _____ ☐ TYPE _____																																																																																													
42	☐ FRAME _____ ☒ ENCLOSURE _____																																																																																													
43	☐ HORIZONTAL ☒ VERTICAL																																																																																													
44	☐ (kW) _____ (rpm)																																																																																													
45	☐ VOLTS _____ PHASE _____ HERTZ _____ SERVICE FACTOR _____																																																																																													
46	☐ VARIABLE SPEED RANGE _____ (rpm)																																																																																													
47	☐ MINIMUM STARTING VOLTAGE (7.1.2.2) _____																																																																																													
48	☒ INSULATION _____ ☐ TEMP. RISE _____																																																																																													
49	☒ FULL LOAD AMPS _____																																																																																													
50	☒ LOCKED ROTOR AMPS _____																																																																																													
51	☒ STARTING METHOD _____																																																																																													
52	☒ LUBE _____																																																																																													
53	BEARINGS (TYPE/NUMBER):																																																																																													
54	☐ RADIAL _____ / _____																																																																																													
55	☐ THRUST _____ / _____																																																																																													
56																																																																																														
57																																																																																														

DOCUMENT NUMBER: C047B-T432-002

CLIENT DOCUMENT NUMBER:

ROTARY PUMP DATA SHEET SI UNITS (bar)		REVISION	0	1	2	3	4
		DATE					
		BY					
		REV/APPR					
		JOB NO.	ITEM NO.				
		PAGE	11	OF	15	REQ'N NO.	

1	PIPING & APPURTENANCES		PREPARATION FOR SHIPMENT			
2	MANIFOLD PIPING FOR PURCHASER CONNECTION		☐ DOMESTIC ☐ EXPORT ☒ EXPORT BOXING REQ'D			
3	☐ VENT ☐ DRAIN ☐ STEAM / COOLING WATER		☐ OUTDOOR STORAGE MORE THAN 6 MONTHS			
4	☐ HEATING JACKET REQ'D. (6.3.6) ☐ COOLING REQ'D		SURFACE PREPARATION AND PAINT			
5	☒ PIPE ☐ TUBING; FITTINGS		☐ MANUFACTURER'S STANDARD ☒ OTHER (SEE BELOW)			
6	☒ C.S. ☐ GALVANIZED ☐ S. STEEL		☐ SPECIFICATION NO. MESIS5SW001			
7	☒ VALVES: ☐ CARBON STEEL ☐ S. STEEL		PUMP: (8.4.3.1)			
8	☒ FLANGES REQUIRED IN PLACE OF SOCKET WELD UNIONS		☐ PRIMER			
9	☒ MOUNT SEAL POT OFF BASEPLATE		☐ FINISH COAT			
10	CONNECTION BOLTING ☐ CADMIUM PLATED BOLTS PROHIBITED		BASEPLATE: (8.4.3.1)			
11	☐ PTFE COATING ☐ ASTM A153 GALVANIZED		☐ PRIMER			
12	☐ PAINTED ☐ SS		☐ FINISH COAT			
13	HEATING AND COOLING					
14	HEATING MEDIUM: ☐ STEAM ☐ OTHER		WEIGHTS (kg)			
15	☒ STEAM JACKET/COOLING WATER PRES: (barG) @ (°C)		☐ PUMP ☐ BASE ☐ GEAR ☐ DRIVER			
16	COOLING WATER REQUIREMENTS:		TOTAL WEIGHT			
17	☐ BEARING HOUSING (m³/h) @ (barG)					
18	☐ LUBE OIL COOLER (m³/h) @ (barG)					
19	☐ SEAL OIL COOLER (m³/h) @ (barG)		BASEPLATE			
20	☐ OTHER (m³/h) @ (barG)		☒ BY PUMP MANUFACTURER ☐ SUITABLE FOR EPOXY GROUT			
21	TOTAL COOLING WATER (m³/h) @ (barG)		☐ EXTENDED FOR			
22	INSTRUMENTATION		☐ DRAIN-RIM ☐ DRAIN-PAN (VTA)			
23	☐ ACCELEROMETER		☐ NON-GROUT CONSTRUCTION (7.4.2)			
24	☐ PROVISION FOR MTG ONLY		OTHER PURCHASER REQUIREMENTS			
25	☐ FLAT SURFACE REQUIRED		NAMEPLATE UNITS ☐ U.S. CUSTOMARY ☒ SI			
26	☐ RADIAL BEARING TEMP. ☐ THRUST BEARING TEMP.		☒ RELIEF VALVES BY PUMP MFRG ☒ INTERNAL ☐ EXTRNL.			
27	☐ TEMP. GAUGES (WITH THERMOWELLS)		PIPING FOR SEAL FLUSH FURNISHED BY:			
28	☐ PRESSURE GAUGE TYPE ☐ OTHER		☐ PUMP VENDOR ☐ OTHERS			
29			PIPING FOR COOLING/HEATING FURNISHED BY:			
30	REMARKS:		☐ PUMP VENDOR ☐ OTHERS			
31	1) Coupling guard shall be non-sparking type and fully enclosed.		☒ PROVIDE TECHNICAL DATA MANUAL			
32	2) NPSH3 test shall be performed when the difference between NPSH available and		☒ INSTALLATION LIST IN PROPOSAL (9.2.3.I)			
33	required is 1.0 m or less.		REMARKS:			
34	3) Spare parts list shall be submitted for commissioning and 2 years normal operation.					
35	4) Flanges shall be according to ANSI B16.5.					
36	5) motor minimum required IP : Exd / Exde , IP55					
37	6) Equipment exposed to sunlight temp. : 78 ° C					
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
51						
52						
53						
54						
55						
56						

	Document No. : C047B-T432-001	Rev. A	
Document Title: P.O.S. for Gas Oil Pump			Page 12 of 15
SCOPE OF WORK & SUPPLY LIST (SHEET 1 OF 2)			
☒ Base plate (Common for pump&motor)			
☐ Rain proof cover			
☐ Suction strainer with transition piece (T type)			
☐ Inducer (For providing lower NPSH _{req}) (If necessary)			
☒ Casing drain (☐ Plug ☒ Valve)			
☒ Casing vent (☐ Plug ☒ Valve)			
☐ Inlet isolating valve (☐ With motor ☐ Hand valve)			
☐ Outlet isolating valve (☐ With motor ☐ Hand valve)			
☐ Turbine with accessories			
☒ Motor with accessories			
☐ V-pully & V-belt with guard			
☐ Gland cover safety guard (If necessary)			
☒ Coupling with safety guard (non-sparking material). (Between pump and motor)			
☐ Clutch			
Bearing and bearing housing with following:			
☒ Oil level guage (If necessary)			
☒ Air breather (If necessary)			
☒ Cooling water pipings valve & flow indicator (If necessary)			
☒ Thermometer for each bearing (Of °C scale) (If necessary)			
☒ Dial type ☐ Manometer ☐ Transmitter			
☐ Minimum flow control devices; such as:			
☐ Check valve, Restriction Orifice (in case ARC valve is not required) ☐ ARC valve ☐ Multi orifice ☐			
☐ Lubrication system: (If necessary) ☐ Yes ☐ No)			
If YES:		If NO:	
		☒ Oil pump ☒ Motor ☒ Oil tank ☒ Strainer ☒ Switches ☒ Oil cooling system ☒ Instrument gauge ☒ Valves ☒ Box ☒ Piping & fittings	
☒ Relief valve			
☒ Lubricant for start-up (If necessary)			
☐ External wiring and piping			
☒ Insulation with jacket, lagging and its anchors (If necessary)			
☐ Vibration switch for pump (free contact, 24 V DC rating voltage, 2 x SPDT)			
☐ Warming facilities			
☐ Seal			
☒ Mechanical Seal ☐ API ☐ DIN ☐ Others Type: ☐ ☐			

	Document No. : C047B-T432-001	Rev. A
Document Title: P.O.S. for Gas Oil Pump		Page 13 of 15
SCOPE OF WORK & SUPPLY LIST (SHEET 2 OF 2)		
☐ Inspection and test at shop (Refer to pump inspection & test)		
☒ Packing for transportation		
☒ Transportation		
☒ Painting at shop _____		
☐ Shims, Sole plate		
☒ Counter Flange, Gasket & bolts for terminal points		
☐ Winterization: (If necessary)		
☐ Electrical tracing ☐ Steam tracing ☐		
☐ Protection for tropicalization (If necessary)		
☒ Spare parts for two years operation/commissioning		
☒ Special tools		
☐ Supervision for commissioning		
☒ Pressure Gauge (Suction/Discharge) [Refer to P&ID]		
☐ With alarm contact in discharge		
☒ Pressure Transmitter (Discharge) [Refer to P&ID]		
☒ Pneumatic pressure regulating valve [Refer to P&ID]		
☐ Connection for pressure guage (Suction/Discharge) [Refer to P&ID]		
☐ Thermometer (Suction/Discharge) [Stem-Dial-Alarm-Contact] [Refer to P&ID]		
☐ Connection for thermometer (Suction/Discharge) [Refer to P&ID]		
☐		
Note:		

