

نوع سند MT	ریمز شناخت DESIGNATION	ریمز مدیریت MG.CODE	شماره انبار	ریمز سازمانی ADMIN	شماره درخواست پروژه/خرید مستقیم
			STORE NO.		REQUEST NO.
2	6	C	09690	40	034240005

**PROJECT/DIRECT CHARGE
CREATE/AMEND/DELETE**

ACCT. NO.	شماره حساب	تاریخ نیاز به کالا REQUIRED DATE	ریمز فوریت URG.CODE	نشانه تقاضا INDENT SYMBOL	تاریخ درخواست REQUEST DATE
096-047076424001-0244-9007		1403/01/26		RAP	1403/01/26

شماره قلم ITEM NO	شماره طبقه بندی کالا M.E.S.C.NO.	واحد کالا	شرح کالا DESCRIPTION	مقدار REQUIRED QTY
			Centrifugal Horizontal Pumps For Handling Potable Water	
1	3000000001	ST	spareparts	1
2	3000000002	NO	Centrifugal Horizontal Pumps For Handling Potable Water	2

**کالا از تولیدات داخل
کشور تأمین شود**

تصویب استثنایی	امور مالی/بودجه/نیجسابی بهرام جمالی تلفن: 1403/02/02	تایید تدارکات و امور کالا عادل مرزعه تلفن: 1403/02/02	مدیر عامل تلفن:
PMR030126-10380	ارجاع به دایره خرید	ارجاع به دایره خرید	ارجاع به دایره خرید
نام: امضاء:	نام: امضاء:	نام: امضاء:	نام: امضاء:
صفحه 1 از 1		چاپ تولید: 1403/02/02	

نوع سند MT	ریمز عملکرد DESIGNATION	ریمز مدیریت MG. CODE	شماره انبار STORE NO.	ریمز سازمانی ADMIN	شماره درخواست پروژه / خرید مستقیم REQUEST NO.	PROJECT/DIRECT CHARGE MATERI CREATE / AMEND / DELETE
			اصلی	فرعی		۱۴۰۲-۱۵۶۱

ACC. NO.	شماره حساب	تاریخ نیاز به کالا	ریمز فوریت URG. CODE	اجازه خرید WORK RLS.	نشانه تقاضا INDENT SYMBOL	تاریخ درخواست REQUEST DATE	تعداد اقلام ITEM COUNT
ادوات و تجهیزات عملیات پالایش Equipment must be in complete conformity with Iranian petroleum		REQUIRED DATE				۱۴۰۳/۰۱/۲۰	2
		فوری					

شماره قلم ITEM NO.	شماره طبقه بندی کالا MESC. NO.	واحد کالا UNIT	شرح کالا DESCRIPTION
1	30.00.00.000.1	NO	Centrifugal Horizontal Pumps For Handling Potable Water in S.P.A. Filtration With Following Specifications:
2	30.00.00.000.2	SET	Spare Part: Spare Parts For Normal Maintenance

تصویب استثنائی	امور مالی / بودجه / ذیحسابی	تائید تدارکات و امور کالا
نام: BJAMALI امضاء:	نام: A.MAZRAEH امضاء:	نام: M.TOI امضاء:
ارجاع به دایره خرید	ارجاع به اداره خرید	
نام: امضاء:	نام: امضاء:	نام: امضاء:

شماره تقاضا:

برگ الحاقی تقاضای خرید کالای پروژه / خرید مستقیم
PROJECT/DIRECT CHARGE MATERIALS
REQUEST CONTINUATION SHEET



REQUEST NO.

شماره قلم ITEM NO.	شماره طبقه بندی کالا MESC. NO.	واحد کالا UNIT	شرح کالا DESCRIPTION	مقدار Required qty.	ارزش تقریبی قلم value (set)	نوع قلم M.O.S	سبب تاخیر S.O.S	اطلاعات منبع تامین	
								شماره انبار STOER NO.	شماره درخواست ADMIN REQUEST NO.

Scope:

Equipment must be in complete conformity with Iranian petroleum standards (IPS) and all related and referred standards by IPS. Exist motors driven of the pumps must installed and coupled to the pumps by vendor. Pumps' mechanical seal of the required pump must be supplied and installed to the pumps by vendor. Material selection, manufacturing and tests of the required pumps must be according to API-610 latest edition. Specifications and manufacturing processes of the pumps must be considered as attached Datasheet. Submitting prepared technical documents to the owner for owner's comment and approval. Finalizing technical documents according to the owner's comments and re-submitting for the final approval by the owner. Implementing all required test according to API-610, latest Edition. All tests must be witnessed by owner or owner's representatives in manufacturer's workshop.

Language:

All related documents shall be written in formal english language.

Required Documents:

"This Item Is Mandatory"

3 sets of all equipment's documents including datasheet, performance curves, complete installation, operation & maintenance manual, general arrangement drawing, dimensional drawing, sectional drawings, part lists with part numbers & material of each part, material certifications, test certifications

Important Note:

All mentioned documents must be delivered in both hard copy & e-documents

Spare Parts:

Complete and Adequate Two-Year Spare Parts for Each Equipment and All Accessories.



**Centrifugal Pump Process
Data Sheet
SI Unit**

ABADAN OIL Refining Co.

JOB NO. 1402-156286 ITEM NO (S) 3 OF 5
 REQ /SPEC NO. /
 PURCH ORDER NO. / DATE 1403/01/20
 ENQUIRY NO. / BY S.SAMZADEH

1 APPLICABLE TO: PROPOSAL PURCHASE AS BUILT

2 FOR N.I.O.C UNIT S.P.A. Filtration

3 SITE ABADAN OIL REFINERY CO. SERVICE /

4 NO. REQUIRED: 2 MANUFACTURE: / MODEL: / SERIAL NO.: /

5 NOTES: INFORMATION BELOW TO BE COMPLETED: BY PURCHASER BY MANUFACTURER BY MANUFACTURER OR PURCHASER

6 **GENERAL**

7 PUMPS TO OPERATE IN (PARALLEL) 0 NO. MOTOR DRIVEN 0 NO. TURBINE DRIVEN -

8 Equipment must be in complete conformity with _____ PUMP ITEM NO. - PUMP ITEM NO. -

9 GEAR ITEM NO. - MOTOR ITEM NO. - TURBINE ITEM NO. -

10 GEAR PROVIDED BY - MOTOR PROVIDED BY - TURBINE PROVIDED BY -

11 GEAR MOUNTED BY - MOTOR MOUNTED BY - TURBINE MOUNTED BY -

12 GEAR DATA SHEET NO'S - DRIVER DATA SHEET NO'S - TURBINE DATA SHEET NO'S -

13 **OPERATING CONDITIONS**

14 FLOW NORMAL 150 (m³/hr) RATED _____ (m³/hr)

15 All related doc _____

16 SUCTION PRESSURE MAX/RATED -0.4 / _____ (BarG)

17 DISCHARGE PRESSURE MAX/RATED 2.3 / _____ (BarG)

18 DIFFERENTIAL PRESSURE 2.7 (Bar)

19 DIFF. HEAD 27.5 (m) NPSHA 4 (m)

20 HYDRAULIC POWER 11.25 (KW)

21 PROCESS VARIATIONS _____

22 STARTING CONDITIONS _____

23 SERVICE: CONT INTERMITTENT (STARTS/DAY) _____

24 PARRALLEL OPERATION REQ'D

25 **DRIVER TYPE**

26 INDUCTION MOTOR STEAM TURBINE GEAR

27 OTHRE _____

28 **SITE AND UTILITY DATA**

29 LOCATION:

30 INDOOR HEATED OUTDOOR UNHEATED

31 PARTIAL SIDES GRADE MEZZANINE UNDER ROOF

32 _____

33 ELECTRICAL AREA CLASSIFICATION CL _____ GR _____ DIV _____

34 WINTERIZATION REQ'D TROPICALIZATION REQ'D

35 **SITE DATA**

36 ALTITUDE 12.41 (m) BAROMETER 1 (barA)

37 RANGE OF AMBIENT TEMPS: MIN/MAX -7 / 52 (°C)

38 RELATIVE HUMIDITY: MIN/MAX 30 / 100 (%)

39 UNUSUAL CONDITIONS: DUST FUMES

40 OTHRE _____

41 UTILITY CONDITIONS _____

42 **ELECTRICITY**

	VOLTAGE	PHASE	HERTZ
43 DRIVERS			
44 HEATING			

45 SYSTEM VOLTAGE DIP 80% OTHER _____

46 **STEAM**

	MAX. PRESS.	MAX. TEMP.	MIN. PRESS.	MIN. TEMP.
47 DRIVERS	(BarG)	(°C)	(BarG)	(°C)
48 HEATING	(BarG)	(°C)	(BarG)	(°C)

49 **COOLING WATER:** SOURCE _____

50 SUPPLY TEMP _____ (°C) MAX RETURN TEMP. _____ (°C)

51 NORM PRESS _____ (BarG) DESIGN PRESS. _____ (BarG)

52 MIN RET PRESS _____ (BarG) MAX ALLOW DP _____ (Bar)

53 CHLORIDE CONCENTRATION: _____ (PPM)

54 **REMARKS:** Exist motors are 22KW,1465RPM,C.W.

55 _____

56 _____

57 _____

58 _____

59 _____

60 _____

61 _____

LIQUID

LIQUID TYPE OR NAME Potable Water

HAZARDOUS FLAMMABLE

PUMPING TEMP (°C) NORMAL 30 MAX 50 MIN 2

VAPOR PRESS (BarA) _____

SPECIFIC GRAVITY 1 @ _____ (°C)

VISCOSITY Cp 1.1 (Cp) @ 15 (°C)

MAX. VISCOSITY @ MIN. TEMP. 1.6 (Cp)

SPECIFIC HEAT 4.2 Cp (kJ/kg °C)

CHLORIDE CONCENTRATION _____ (PPM)

H₂S CONCENTRATION _____ (PPM) WET

CORROSIVE / EROSION AGENT _____

MATERIALS

ANNEX H CLASS I2

MIN DESIGN METAL TEMP _____ (°C)

REDUCED-HARDNESS MATERIALS REQ'D

BARREL/CASE _____ IMPELLER _____

CASE/IMPELLER WEAR RINGS _____

SHAFT _____

DIFFUSERS _____

PERFORMANCE

PROPOSAL CURVE NO _____ RPM _____

IMPELLER DIA. RATED _____ MAX _____ MIN _____ (mm)

IMPELLER TYPE _____

RATED POWER _____ (KW) EFFICIENCY _____ (%)

MINIMUM CONTINUOUS FLOW:

THERMAL _____ (m³/hr) STABLE _____ (m³/hr)

PREFERRED OPER REGION _____ TO _____ (m³/hr)

ALLOWABLE OPER REGION _____ TO _____ (m³/hr)

MAX. HEAD @ RATED IMPELLER _____ (m)

MAX. POWER @ RATED IMPELLER _____ (KW)

NPSHR AT RATED FLOW _____ (m)

MAX. SUCTION SPECIFIC SPEED: _____

MAX SOUND PRESS LEVEL REQ'D _____ (dBA)

EST. MAX. SOUND PRESS. LEVEL _____ (dBA)

EST. MAX. SOUND POWER LEVEL _____ (dBA)

REMARKS: _____



**Centrifugal Pump Process
Data Sheet
SI Unit**

ABADAN Oil Refining Co.

JOB NO. 1402-156286 ITEM NO (S) _____
 REQ /SPEC NO. _____
 PURCH ORDER NO. _____ DATE 1403/01/20
 ENQUIRY NO. _____ BY S.SAMZADEH

1 **CONSTRUCTION**

2 **ROTATION:** (VIEWED FROM COUPLING END) CW CCW

3 **PUMP TYPE:** _____

4 **CASING MOUNTING:**

5 CENTERLINE IN-LINE SEPARATE MOUNTING PLATE

6 NEAR CENTERLINE FOOT SUMP COVER PLATE

7 SEPARATE SOLE PLATE OTHER _____

8 **Equipment must be in complete conformity with Iranian petroleum standards (IP-S) and all related and referred standards by IPS. Motors driven of the required norms**

9 SINGLE VOLUTE MULTIPLE VOLUTE DIFFUSER

10 BETWEEN BEARING BARREL OVER HUNG

11 **CASING SPILT:** AXIAL RADIAL

12 **CASE PRESSURE RATING:**

13 OH6 PUMP SUCTION REGION DESIGNED FOR MAWP

14 MAX ALLOWABLE WORKING PRESSURE _____ (BarG) @ _____ (°C)

15 **HYDROTEST PRESSURE** _____ (BarG)

16 SUCTION PRESS REGIONS MUST BE DESIGNED FOR MAWP

17 **NOZZLE CONNECTION:**

	SIZE	FLANGE RATING (LBS)	FACING	POSITION
20 SUCTION				
21 DISCHARGE				
22 BALANCE DRUM				

23 **PRESSURE CASING AUX. CONNECTIONS:**

	NO.	SIZE (NPS)	TYPE
24 DRAIN			
25 VENT			
26 PRESS GAUGE			
27 TEMP GAUGE			
28 WARM-UP			
29 BALANCE/LEAK OFF			

30 MACHINED AND STUDDED CONNECTIONS

31 CYLINDRICAL THREADS REQUIRED

32 **ROTOR:**

33 COMPONENT BALANCE TO ISO 1940G1 0

34 SHRINK FIT-LIMITED MOVEMENT IMPELLERS

35 **COUPLINGS:**

36 MANUFACTURER _____ MODEL _____

37 RATING (KW/100 r/min) _____

38 SPACER LENGTH _____ (mm) SERVICE FACT _____

39 RIGID LUBE _____

40 **DRIVER HALF-COUPLING MOUNTED BY:**

41 PUMP MFR DRIVER MFR PURCHASER

42 COUPLING BALANCED TO ISO 1940-1 G6 3

43 COUPLING WITH PROPRIETARY CLAMPING DEVICE

44 COUPLING WITH HYDRAULIC FIT COUPLING PER ISO 10441

45 COUPLING PER ISO 14691 NON-SPARK COUPLING GUARD

46 COUPLING PER API 671 ASME B15 1

47 COUPLING GUARD STANDARD PER _____

48 **BASEPLATES:**

49 API BASEPLATE NUMBER _____ (ANNEX D)

50 NON-GROUT CONSTRUCTION

51 OTHER _____

52 **MECHANICAL SEAL:**

53 SEE ATTACHED ISO 21049/API 682 DATA SHEET

54 **REMARKS:** _____

55 _____

56 _____

57 _____

58 _____

59 _____

60 _____

61 _____

SURFACE PREPARATION AND PAINT

MANUFACTURER'S STANDARD OTHER (SEE BELOW)

SPECIFICATION NO _____

PUMP:

PUMP SURFACE PREPARATION _____

PRIMER _____

4 FINISH COAT _____

BASEPLATE:

BASEPLATE SURFACE PREPARATION _____

PRIMER _____

FINISH COAT _____

DETAILS OF LIFTING DEVICES _____

SHIPMENT:

DOMESTIC EXPORT EXPROT BOXING REQUIRED

OUTDOOR STORGE MORE THAN 6 MONTHS

SPARE ROTOR ASSEMBLY PACKAGED FOR:

HORIZONTAL STORGE VERTICAL STORAGE

SHIPPING CONTAINER N₂ PURGE

TYPE OF SHIPPING PREPARATION _____

HEATING AND COOLING

HEATING JACKET REQ'D COOLING REQ'D

COOLING WATER PIPING PLAN _____

COOLING WATER PIPING:

PIPE TUBING FITTINGS _____

COOLING WATER PIPING MATERIALS:

S STEEL C STEEL GALVANIZED

COOLING WATER REQUIREMENRS:

BEARING HOUSING _____ (m³/hr) @ _____ (Bar)

HEEAT EXCHANGER _____ (m³/hr) @ _____ (Bar)

TOTAL COOLING WATER _____ (m³/hr)

HEAT MEDIUM: STEAM OTHER _____

HEATING PIPING: TUBING PIPE _____

BEARINGS AND LUBRICATION

BEARING (TYPE/NUMBER):

RADIAL _____ / _____

THRUST _____ / _____

LUBRICATION:

GREASE OIL FLOOD RING OIL FLINGER

PURGE OIL MIST PURE OIL MIST HYDRODYNAMIC

CONSTANT LEVEL OILER PREFERENCE: _____

OIL VISC. ISO GRADE _____

OIL PRESSURE TO BE GREATER THEN COOLNET PRESSURE

REVIEW AND APPROVE THRUST BEARING SIZE

OIL HEATER REQUIRED: STEAM ELECTRIC

INSTRUMENTATION

SEE ATTACHED API 670 DATA SHEET

ACCELEROMETER(S) _____

PROVISION FOR MOUNTING ONLY

PROVISION FOR VIBRATION PROBES

RADIAL _____ PER BRG AXIAL _____ PER BRG

FLAT SURFACEREQ'D

RADIAL BEARING METAL TEMP THRUST BRG METAL TEMP

TEMP GAUGES (WITH THERMOWELLS) _____

MONITORS AND CABLES SUPPLIED BY _____

PRESSURE GAUGE TYPE _____

REMARKS: _____

WEIGHTS (Kg)

PUMP _____ DRIVER _____ GEAR _____

BASEPLATE _____ TOTAL _____



**Centrifugal Pump Process
Data Sheet
SI Unit**

ABADAN Oil Refining Co.

JOB NO. 1402-156286 ITEM NO (S) _____
 REQ /SPEC NO. _____ / _____
 PURCH ORDER NO. _____ DATE 1403/01/20
 ENQUIRY NO. _____ BY S.SAMZADEH

SPARE PARTS	QA INSPECTION AND TESTING (CONT.)																																																																																																																																																											
2 ● START-UP ● NORMAL MAINTENANCE 3 □ SPECIFY	● SHOP INSPECTION ● PERFORMANCE CURVE APPROVAL ● TEST WITH SUBSTITUTE SEAL ● MATERIAL CERTIFICATION REQUIRED																																																																																																																																																											
4 OTHER PURCHASER REQUIREMENTS	● CASING ● IMPELLER ● SHAFT ○ OTHER _____																																																																																																																																																											
5 ○ COORDINATION MEETING REQUIRED 6 MAXIMUM DISCHARGE PRESSURE TO INCLUDE 7 ○ MAX RELATIVE DENSITY 8 ○ MAX DIA IMPELLERS AND/OR NO OF STAGES 9 ○ OPERATION TO TRIP SPEED 10 ○ OH3 BEARING HS6 LIFTER 11 ○ CONNECTION DESIGN APPROVAL 12 ○ TORSIONAL ANALYSIS REQUIRED 13 ○ TORSIONAL ANALYSIS REPORT 14 ○ OUTLINE OF PROCEDURES FOR OPTIONAL TESTS 15 ○ PROGRESS REPORTS ○ INSTALLATION LIST IN PROPOSAL 16 ○ LATERAL ANALYSIS REQUIRED ○ DYNAMIC BALANCE ROTOR 17 ○ ADDITIONAL DATA REQUIRING 20 YEARS RETENTION 18 ○ INTER GAS INHIBITED STORAGE - SPARE CARTRIDGE	□ CASING REPAIR PROCEDURE APPROVAL REQ'D □ INSPECTION REQUIRED FOR CONNECTION WELDS □ MAG PARTICLE □ LIQUID PENETRANT □ RADIOGRAPHIC □ ULTRASONIC □ INSPECTION REQUIRED FOR CASTINGS □ MAG PARTICLE □ LIQUID PENETRANT □ RADIOGRAPHIC □ ULTRASONIC ○ HARDNESS TEST REQUIRED: _____ ○ ADDITIONAL SURFACE / SUBSURFACE EXAMINATION FOR _____ METHOD _____																																																																																																																																																											
19 PIPING AND APPURTENANCES	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:30%;"></th> <th style="width:10%;">TEST</th> <th style="width:10%;">NON-WIT</th> <th style="width:10%;">WIT</th> <th style="width:10%;">OBSERVE</th> </tr> </thead> <tbody> <tr><td>● HYDROSTATIC</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● PERFORMANCE</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● RETEST REQUIRED AFTER FINAL HEAD ADJUSTMENT</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● RETEST ON SEAL LEAKAGE</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● HYDROSTATIC TEST OF BOWLS AND COLUMN</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● NPSH</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● TRUE PEAK VELOCITY DATA</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● COMPLETE UNIT TEST</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● SOUND LEVEL TEST</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● CLEANINESS PRIOR TO FINAL ASSEMBLY</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● NOZZLE LOAD TEST</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● CHECK FOR CO-PLANAR MOUNTING PAD SURFACES</td><td></td><td>●</td><td>○</td><td>○</td></tr> <tr><td>● MECHANICAL RUN UNTIL OIL TEMP STABLE</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● 4 h MECHANICAL RUN AFTER OIL TEMP STABLE</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>● 4 h MECHANICAL RUN TEST</td><td></td><td>○</td><td>●</td><td>○</td></tr> <tr><td>○ BRG HSG RESONANCE TEST</td><td></td><td>○</td><td>○</td><td>○</td></tr> <tr><td>○ REMOVE / INSPECT HYDRODYNAMIC BEARINGS AFTER TEST</td><td></td><td>○</td><td>○</td><td>○</td></tr> <tr><td>○ RESONANCE TEST</td><td></td><td>○</td><td>○</td><td>○</td></tr> <tr><td>○ AUXILIARY EQUIPMENT TEST</td><td></td><td>○</td><td>○</td><td>○</td></tr> <tr><td>○ IMPACT TESTING</td><td></td><td>○</td><td>○</td><td>○</td></tr> <tr><td> ○ PER EN 13445</td><td></td><td></td><td></td><td></td></tr> <tr><td> ○ PER ASME VIII</td><td></td><td></td><td></td><td></td></tr> <tr><td>○ _____</td><td></td><td>○</td><td>○</td><td>○</td></tr> <tr><td>○ VENDOR KEEP REPAIR AND HT RECORDS</td><td></td><td></td><td></td><td></td></tr> <tr><td>○ VENDOR SUBMIT TEST PROCEDURES</td><td></td><td></td><td></td><td></td></tr> <tr><td>○ VENDOR SUBMIT TEST DATA WITHIN 24 h</td><td></td><td></td><td></td><td></td></tr> <tr><td>○ INCLUDE PLOTTED VIBRATION SPECTRA</td><td></td><td></td><td></td><td></td></tr> <tr><td>● RECORDED FINAL ASSEMBLY RUNNING CLEARANCE</td><td></td><td></td><td></td><td></td></tr> <tr><td>● SUBMIT INSPECTION CHECK LIST</td><td></td><td></td><td></td><td></td></tr> <tr><td>● COMPLETION INSPECTION CHECK LIST</td><td></td><td></td><td></td><td></td></tr> </tbody> </table>		TEST	NON-WIT	WIT	OBSERVE	● HYDROSTATIC		○	●	○	● PERFORMANCE		○	●	○	● RETEST REQUIRED AFTER FINAL HEAD ADJUSTMENT		○	●	○	● RETEST ON SEAL LEAKAGE		○	●	○	● HYDROSTATIC TEST OF BOWLS AND COLUMN		○	●	○	● NPSH		○	●	○	● TRUE PEAK VELOCITY DATA		○	●	○	● COMPLETE UNIT TEST		○	●	○	● SOUND LEVEL TEST		○	●	○	● CLEANINESS PRIOR TO FINAL ASSEMBLY		○	●	○	● NOZZLE LOAD TEST		○	●	○	● CHECK FOR CO-PLANAR MOUNTING PAD SURFACES		●	○	○	● MECHANICAL RUN UNTIL OIL TEMP STABLE		○	●	○	● 4 h MECHANICAL RUN AFTER OIL TEMP STABLE		○	●	○	● 4 h MECHANICAL RUN TEST		○	●	○	○ BRG HSG RESONANCE TEST		○	○	○	○ REMOVE / INSPECT HYDRODYNAMIC BEARINGS AFTER TEST		○	○	○	○ RESONANCE TEST		○	○	○	○ AUXILIARY EQUIPMENT TEST		○	○	○	○ IMPACT TESTING		○	○	○	○ PER EN 13445					○ PER ASME VIII					○ _____		○	○	○	○ VENDOR KEEP REPAIR AND HT RECORDS					○ VENDOR SUBMIT TEST PROCEDURES					○ VENDOR SUBMIT TEST DATA WITHIN 24 h					○ INCLUDE PLOTTED VIBRATION SPECTRA					● RECORDED FINAL ASSEMBLY RUNNING CLEARANCE					● SUBMIT INSPECTION CHECK LIST					● COMPLETION INSPECTION CHECK LIST				
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○ REMOVE / INSPECT HYDRODYNAMIC BEARINGS AFTER TEST		○	○	○																																																																																																																																																								
○ RESONANCE TEST		○	○	○																																																																																																																																																								
○ AUXILIARY EQUIPMENT TEST		○	○	○																																																																																																																																																								
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20 □ MANIFOLD PIPING TO SINGLE CONNECTION 21 □ VENT □ DRAIN □ COOLING WATER 22 □ MOUNT SEAL RESERVOIR OFF BASEPLATE 23 □ FLANGES REQ'D IN PLACE OF SOCKET WELD UNIONS 24 □ INSTALLATION LIST IN PROPOSAL 25 CONNECTION BOLTING 26 ○ PTFE COATING ○ ASTM A153 GALVANIZED 27 ○ PAINTED ○ SS 28 □ VERTICAL PUMPS																																																																																																																																																												
29 □ PUMP THRUST: □ (+) UP □ (-) DOWN 30 AT MIN FLOW _____ (N) _____ (N) 31 AT RATED FLOW _____ (N) _____ (N) 32 MAX. THRUST _____ (N) _____ (N) 33 □ SOLEPALTE REQ'D _____ (m) x _____ (m) 34 □ SEPARATE MOUNTING PLATE REQUIRED 35 □ SOLEPALTE THICKNESS _____ (mm) 36 COLUMN PIPE: □ FLANGED □ THREADED 37 □ DIAMETER _____ (mm) LENGTH _____ (m) 38 GUIDE BUSHINGS 39 □ NUMBER _____ 40 □ LINE SHAFT BEARING SPACING _____ (mm) 41 GUIDE BUSHINGS LUBE: 42 □ WATER □ OIL □ GREASE □ PUMPAGE 43 LINESHAFT: □ OPEN ENCLOSED 44 □ LINE SHAFT DIAMETER: _____ (mm) 45 □ TUBE DIAMETER: _____ (mm) 46 LINESHAFT COUPLING: 47 □ LINE SHAFT DIAMETER: □ SLEEVE & KEY □ THREADED 48 □ SUCTION CAN THICKNESS _____ (mm) 49 □ LENGTH _____ (m) 50 □ _____ (m)																																																																																																																																																												
51 □ SUCTION STRAINER TYPE _____ 52 □ FLOAT & ROD □ FLOAT SWITCH 53 □ IMPELLER COLLETS ACCEPTABLE 54 □ HARDENED SLEEVES UNDER BEARINGS 55 □ PUMP AND STRUCTURE DYNAMIC ANALYSIS 56 □ DRAIN PIPED TO SURFACE																																																																																																																																																												
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