



نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض و ابنیه تحت الارض
خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک
(قرارداد ۰۰۲۳-۰۰-BK-HD-GCS-CO)



شماره پیمان:

۰۵۳-۰۷۳-۹۱۸۴

DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN ELECTRICAL PUMP

نسخه	سریال	نوع مدرک	رشته	تهیلات	صادرکننده	بسته کاری	پروژه
V01	0002	DS	ME	120	KP	GCS	BK

شماره صفحه: ۱ از ۱۰

طرح نگهداشت و افزایش تولید ۲۷ مخزن

DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN ELECTRICAL PUMP

نگهداشت و افزایش تولید میدان نفتی بینک

V01	FEB-2025	IFA	Kalaye Pump	M.Fakharian	S.Faramarzpour	
V00	Nov-2024	IFA	Kalaye Pump	M.Fakharian	M.Sadeghian	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

status:

IFA: Issued For Approval

IFI: Issued For Information

AFC: Approved For Construction

AB-A: As-Built -Approved



NISOC

شماره پیمان:

۰۵۳-۰۷۳-۹۱۸۴

تجهیزات و افزایش تولید میدان نفتی بینک

سطح الارض و ابنیه تحت الارض

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V01	0002	DS	ME	120	KP	GCS	BK

شماره صفحه: ۲ از ۱۰

REVISION RECORD SHEET

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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک (قرارداد ۰۰۲۳-۰۰-BK-HD-GCS-CO)							  
شماره پیمان: ۰۵۳-۰۷۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN ELECTRICAL PUMP							شماره صفحه: ۳ از ۱۰
	پروژه BK	بسته کاری GCS	صادر کننده KP	تهیلات 120	رشته ME	نوع مدرک DS	سریال 0002	
GENERAL NOTES								
1 Vendor shall fill in the blanks and return the completed data sheet along with Motor data sheet, "DOC NO.: BK-GCS-PEDCO-120-EL-DT-0009. with his proposal.								KPC : Confirmed
2 Vendor shall submit ITP (Inspection & Testing Plan) with his proposal.								KPC : Confirmed
3 Vendor is requested to confirm the material, or propose appropriate alternative.								KPC : Confirmed
4 For Instrumentation, Project specification 'Specification For Instrument and Control of package Unit System (PU)' Doc. No. BK-GNRL-PEDCO-000-IN-SP-0004. shall be followed.								KPC : Confirmed
5 Instead of mechanical seal, vendor shall advise the suitable Packing specification.								KPC : Packing is confirmed
6 NPSH test shall be done & witnessed if the margin of NPSHr & NPSHa is less than 1.								KPC : Confirmed
7 The Tie-in flanges shall conform to ASME B-16.1.								KPC : Confirmed
8 Pump drain shall be terminated at skid edge with flange connection and valved.								KPC : Confirmed
9 Vendor to indicate which minimum flow pumps can achieve.								KPC : Confirmed
10 Nozzle loads shall be 2 times the loads shown in API 610 11th Edition.								KPC : Confirmed
11 Electrical motor shall be rated according to project site condition; "Process Basis of Design; BK-GNRL-PEDCO-000-PR-DB-0001".								KPC : Confirmed
12 The Suction line size is 12" and discharge line is 10" .								KPC : Confirmed
13 Welding repair procedures shall be submitted for approval.								KPC : Confirmed
14 Air release valve to be considered by vendor.								KPC : Pump is self vent
15 As the pump jobsite environmental condition is fummy and dusty, any required protection for pumps, panels and electrical parts (in accordance with IPS-E-EL-100) in this regard shall be considered by pump manufacturer.								KPC : Confirmed
16 Ultrasonic Test shall be performed for forged shaft.								KPC : Confirmed
17 Couplings shall be dry, flexible and spacer type.								KPC : Confirmed
18 For electrical motor descriptions, refer to 'Specification For MV Induction Motors' Doc. No.BK-GNRL-PEDCO-000-EL-SP-0017.								KPC : Confirmed
19 There is no LCP for main electric motor. There is only LCS to stop (push button, return type) motor. Start (push button, return type) will be done from LCS, Pressure switch of water pipe & F&G system. Providing LCS without Local/Remote selector switch & with ammeter is in vendor scope of work.								KPC : Confirmed
20 Pressure sensing lines are in the vendor's scope of supply.								KPC : Confirmed
21 The pumps shall furnish not less than 150% of rated capacity at not less than 65% of rated head.								KPC : Confirmed
22 Design pressure is 15.4 barg also as per NFPA 20 standard the hydrotest pressure shall not be less than 17.24 barg.								KPC : Confirmed
23 Estimated BHP at rated capacity is 199.2 kW by considering 65% efficiency.								KPC : Confirmed
24 Range of ambient temperature (min. / max.): 5 / 50 °c , Maximum temperature of metal surface exposed to the sun (°C): 85 °c .								KPC : Confirmed
25 Vendor shall consider all of the derating factors for electrical motor power such as API factor, temperature, elevation and coupling factor so that shall not be less than maximum demand power. Also the diesel engine continuous rating available at the coupling, after de-rating required for the type of service, ambient temperature,								KPC : Confirmed
26 fuel quality, Altitude, shall exceed the maximum power demand at 100% speed by not less than 10%.								KPC : Confirmed
27 The motor service factor: 1 (shall be followed by vendor)								KPC : Confirmed



شماره پیمان:

• 03-073-9184

DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN ELECTRICAL PUMP

شماره صفحه: ۴ از ۱۰

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
V01	0002	DS	ME	120	KP	GCS	BK

CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2301 A (Sheet 1 of 6)

CLIENT: National Iranian South Oil Company (NISOC)

PROJECT TITLE: BINAK Gas Compressor Station

JOB NUMBER:

EQUIPMENT NUMBER: P-2301 A

EQUIPMENT SERVICE: Fire Water Main Pumps - Electrical Motor Driven

SERIAL NUMBER:

REQ. / SPEC NO. : BK-GCS-PEDCO-120-ME-SP-0005.

PURCH ORDER NO.

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contain calculated values based on input data; do not change.

identify a cross referenced paragraph in the document note, and may also contain a drop down list

When you have completed the DS, highlight the whole page format cells pattern none

Delete these notes on completion

COMMENTS:

DATA SHEETS								
ITEM No.		ATT	ITEM No.		ATT	ITEM No.		ATT
PUMP MOTOR GEAR TURBINE	P-2301 A		YES					

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک (قرارداد ۰۰۲۳-۰۰۰۲۳-BK-HD-GCS-CO)	 Kalaye Pump Co.																																																																																																																														
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APPLICABLE TO: PROPOSAL FOR: NISOC SITE: BINAK Gas Compressor Station NO. REQ: 1 PUMP SIZE: 8"x6" MANUFACTURER: KALAYE PUMP CO. APPLICABLE NTL/INTNTL STANDARD: NFPA20 (2019) & IPS-M-PM-125, IPS-E-EL-100 (1) UNIT: SERVICE: Fire Water Main Pumps - Electrical Motor Driven TYPE: BB1 No. STAGES: 1 MODEL: BB1 (V.T.C) KPSPF 150-570 SERIAL NO.:																																																																																																																																
LIQUID CHARACTERISTICS <table><tr><td></td><td>Units</td><td>Maximum</td><td>Minimum</td><td>Note</td><td>SERVICE :</td><td>INTERMITTENT</td></tr><tr><td>LIQUID TYPE OR NAME :</td><td></td><td colspan="2">Water</td><td>Max & min</td><td>• IF INTERMITTENT NO. OF STARTS :</td><td></td></tr><tr><td>VAPOR PRESSURE :</td><td>bara</td><td>0.0087</td><td>0.1219</td><td>values refer</td><td>PUMPS OPERATE IN:</td><td></td></tr><tr><td>DENSITY :</td><td>kg/m³</td><td colspan="2">997</td><td>only to the</td><td>CORROSION DUE TO : (6.12.1.9)</td><td></td></tr><tr><td>SPECIFIC HEAT :</td><td>kJ/kgC</td><td colspan="2">4.186</td><td>property</td><td>EROSION DUE TO : (6.12.1.9)</td><td></td></tr><tr><td>VISCOSITY :</td><td>cP</td><td colspan="2">1</td><td>listed</td><td>H2S CONCENTRATION (ppm) : (6.12.1.12)</td><td>N.A.</td></tr><tr><td colspan="5">OPERATING CONDITIONS (6.1.2)</td><td>CHLORIDE CONCENTRATION (ppm) :</td><td></td></tr><tr><td></td><td>Units</td><td>Maximum</td><td>Rated</td><td>Normal</td><td>Min</td><td>PARTICULATE SIZE (DIA IN MICRONS)</td></tr><tr><td>NPSH_A Datum:</td><td></td><td colspan="5">C.L. Impeller</td><td>PARTICULATE CONCENTRATION (PPM)</td></tr><tr><td>PUMPING TEMPERATURE :</td><td>°C</td><td>50</td><td>33</td><td></td><td>5</td><td></td></tr><tr><td>FLOW :</td><td>m³/hr</td><td colspan="5">454.2</td><td></td></tr><tr><td>DISCHARGE PRESSURE : (6.3.2)</td><td>barg</td><td colspan="5">10.4</td><td></td></tr><tr><td>SUCTION PRESSURE :</td><td>barg</td><td>0.83</td><td>0.81</td><td></td><td>0.08</td><td></td></tr><tr><td>DIFFERENTIAL PRESSURE :</td><td>bar</td><td colspan="5">10.3</td><td></td></tr><tr><td>DIFFERENTIAL HEAD :</td><td>m</td><td colspan="5">105.0</td><td></td></tr><tr><td>NPSH_A :</td><td>m</td><td colspan="5">8.8</td><td></td></tr><tr><td>HYDRAULIC POWER: (Note 23)</td><td>KW</td><td colspan="5">129.50</td><td></td></tr></table>				Units	Maximum	Minimum	Note	SERVICE :	INTERMITTENT	LIQUID TYPE OR NAME :		Water		Max & min	• IF INTERMITTENT NO. OF STARTS :		VAPOR PRESSURE :	bara	0.0087	0.1219	values refer	PUMPS OPERATE IN:		DENSITY :	kg/m³	997		only to the	CORROSION DUE TO : (6.12.1.9)		SPECIFIC HEAT :	kJ/kgC	4.186		property	EROSION DUE TO : (6.12.1.9)		VISCOSITY :	cP	1		listed	H2S CONCENTRATION (ppm) : (6.12.1.12)	N.A.	OPERATING CONDITIONS (6.1.2)					CHLORIDE CONCENTRATION (ppm) :			Units	Maximum	Rated	Normal	Min	PARTICULATE SIZE (DIA IN MICRONS)	NPSH _A Datum:		C.L. Impeller					PARTICULATE CONCENTRATION (PPM)	PUMPING TEMPERATURE :	°C	50	33		5		FLOW :	m³/hr	454.2						DISCHARGE PRESSURE : (6.3.2)	barg	10.4						SUCTION PRESSURE :	barg	0.83	0.81		0.08		DIFFERENTIAL PRESSURE :	bar	10.3						DIFFERENTIAL HEAD :	m	105.0						NPSH _A :	m	8.8						HYDRAULIC POWER: (Note 23)	KW	129.50					
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SITE AND UTILITY DATA LOCATION: OUTDOOR UNHEATED UNDER SUNSHADE MOUNTED AT : TROPICALISATION REQ'D ELECTRIC AREA CLASSIFICATION: (6.1.22) ZONE SAFE GROUP TEMP CLASS SITE DATA : ELEVATION (MSL) : 12.5 m BAROMETER : 990.77 mBar RANGE OF DESIGN TEMPS: MIN / MAX 5 85 °C RELATIVE HUMIDITY: MIN / MAX 0 100 % (@ 25.6 °C) UNUSUAL CONDITIONS: NA UTILITY CONDITIONS : ELECTRICITY : DRIVERS HEATING CONTROL SHUTDOWN VOLTAGE 3300 PHASE 3 HERTZ 50 COOLING WATER : TEMP PRESS. SOURCE COOLING WATER CHLORIDE CONCENTRATION: INSTRUMENT AIR : kg MIN kg STEAM TEMP PRESS. DRIVERS HEATING																																																																																																																																
PERFORMANCE PROPOSAL CURVE NO. KPSPF 150-570 RPM 1490 As Tested Curve No. KPSPF 150-570 IMPELLER DIA.: RATED 530 MAX. 585 MIN. 450 mm RATED POWER 180.5 Kw EFFICIENCY 72 (%) RATED CURVE BEP FLOW (at rated impeller dia) 489 m³/hr MIN FLOW : 15 m³/hr PREFERRED OPERATING REGION (6.1.11) 342 to 681 m³/hr ALLOWABLE OPERATING REGION 146 to 681 m³/hr MAX HEAD @ RATED IMPELLER 120 m MAX POWER @ RATED IMPELLER 241 kW NPSH3 AT RATED FLOW : 3.5 m CL PUMP TO U/S BASEPLATE m NPSH MARGIN AT RATED FLOW : 5.3 m SPECIFIC SPEED (6.1.9) 867 SUCTION SPECIFIC SPEED 8498 MAX. ALLOW. SOUND PRESS. LEVEL REQ'D (6.1.14) 85 (dBA) @ 1 m EST MAX SOUND PRESS. LEVEL (dBA) MAX. SOUND POWER LEVEL REQ'D (6.1.14) EST MAX SOUND POWER LEVEL DRIVER (7.1.5) Driver Type GEAR VARIABLE SPEED REQUIRED SOURCE OF VARIABLE SPEED OTHER MANUFACTURER NAMEPLATE POWER @Site Condition Nominal RPM RATED LOAD RPM FRAME OR MODEL ORIENTATION LUBE BEARING TYPE: RADIAL THRUST STARTING METHOD SEE DRIVER DATA SHEET Max Voltage Variation Max Frequency Variation Max Voltage and Frequency Variation together RTD / Type INDUCTION MOTOR NO NO OME 250 KW 1490 HORIZONTAL Grease Anti friction Ball / 1 Ball / 1 D.O.L/Open Discharge Valve Note 1 ±10% ±5% ±10% YES / PT100 (According to IPS-M-EL-132)																																																																																																																																

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CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2301 A (Sheet 3 of 6)																																																																								
CONSTRUCTION																																																																								
API PUMP TYPE: BB1 [Based on API 610 definitions] NOZZLE CONNECTIONS: (6.5.5) NOTES 7,12 <table><tr><th></th><th>Size</th><th>Facing</th><th>Rating</th><th>Position</th></tr><tr><td>SUCTION</td><td>8"</td><td>RF</td><td>150</td><td>SIDE</td></tr><tr><td>DISCHARGE</td><td>6"</td><td>RF</td><td>150</td><td>SIDE</td></tr></table> PRESSURE CASING AUX. CONNECTIONS: (6.4.3.2) <table><tr><th></th><th>No.</th><th>Size</th><th>Type</th><th>Facing</th><th>Rating</th><th>Posn.</th></tr><tr><td>BAL./LEAK OFF</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>DRAIN</td><td>1</td><td>1/2"</td><td>SWF</td><td>RF</td><td>150</td><td>SIDE</td></tr><tr><td>VENT</td><td>1</td><td>1/2"</td><td>SWF</td><td>RF</td><td>150</td><td>SIDE</td></tr><tr><td>PRESSURE GAGE</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>TEMP GAGE</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>WARM-UP LINE</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> Drain Valve Supplied By SUPPLIER DRAINS MANIFOLDED YES VENT Valve Supplied By SUPPLIER VENTS MANIFOLDED YES THREAD. CONS FOR PIPELINE SERVICE & < 50°C (6.4.3.2) NO SPECIAL FITTINGS FOR TRANSITIONING (6.4.3.3) NO CYLINDRICAL THREADS REQUIRED (6.4.3.8) NO GUSSET SUPPORT REQUIRED YES If Needed MACHINED AND STUDDED CONNECTIONS (6.4.3.12) NO VS 6 DRAIN N/A DRAIN TO SKID EDGE YES						Size	Facing	Rating	Position	SUCTION	8"	RF	150	SIDE	DISCHARGE	6"	RF	150	SIDE		No.	Size	Type	Facing	Rating	Posn.	BAL./LEAK OFF							DRAIN	1	1/2"	SWF	RF	150	SIDE	VENT	1	1/2"	SWF	RF	150	SIDE	PRESSURE GAGE							TEMP GAGE							WARM-UP LINE							CASING MOUNTING: (6.3.10) CASING TYPE: OH3 BACKPULLOUT LIFTING DEVICE REQD. (9.1.2.6) CASE PRESSURE RATING: MAWP : (6.3.5) 15 By vendor barg @ Amb. °C HYDROTEST : 22.5 1.5*MAWP barg @ Amb. °C HYDROTEST OH PUMP AS ASSEMBLY YES SUCT'N PRESS. REGIONS DESIGNED FOR MAWP YES ROTATION: (VIEWED FROM COUPLING END) CW YES IMPELLERS INDIVIDUALLY SECURED : BOLT OH 3/4/5 PUMP TO PAD / FOUNDATION : PROVIDE SOLEPLATE FOR OH 3/4/5 PUMPS ROTOR: SHAFT FLEXIBILITY INDEX (SFI) (9.1.1.3) First Critical Speed Wet (Multi stage pumps only) COMPONENT BALANCE TO ISO 1940 G1.0 NO SHRINK FIT -LIMITED MOVEMENT IMPELLERS (9.2.2.3) NOTE 16 Colossus COUPLING:(7.2.3) (7.2.13.0) MANUFACTURER MODEL RATING (POWER/100 RPM) SPACER LENGTH 180 mm SERVICE FACTOR Min 1.5 RIGID NO COUPLING WITH HYDRAULIC FIT (7.2.10) COUPLING BALANCED TO ISO 1940-1 G6.3 (7.2.3) YES COUPLING WITH PROPRIETARY CLAMPING DEVICE (7.2.11) COUPLING IN COMPLIANCE WITH (7.2.4) API 671 COUPLING GUARD STANDARD PER (7.2.13.a) ISO 14120 Window on Coupling Guard YES			
	Size	Facing	Rating	Position																																																																				
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DISCHARGE	6"	RF	150	SIDE																																																																				
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MATERIAL (6.12.1.1) APPENDIX H CLASS I-2 NOTES 3 MIN DESIGN METAL TEMP (6.12.4.1) 5 °C REDUCED-HARDNESS MATERIALS REQ'D (6.12.1.12.1) Applicable Hardness Standard (6.12.1.12.3) BARREL : CASE : GGG40(A536 60-40-18) DIFFUSERS IMPELLER : C95200 IMPELLER WEAR RING : C95200 CASE WEAR RING : C95200 SHAFT: A276 T420 Bowl (if VS-type) Inspection Class (Note 2)					BASEPLATE API BASEPLATE NUMBER : BASEPLATE CONSTRUCTION (7.3.14) BASEPLATE DRAINAGE (7.3.1) Entire Baseplate Drain Pan MOUNTING : PARTIAL TOP DECKING NON-GROUT CONSTRUCTION : (7.3.13) VERTICAL LEVELING SCREWS : REQUIRED LONGITUDINAL DRIVER POSITIONING SCREWS : REQUIRED SUPPLIED WITH : GROUT AND VENT HOLES YES DRAIN CONNECTION YES MOUNTING PADS SIZED FOR BASEPLATE LEVELING (7.3.5) YES MOUNTING PADS TO BE MACHINED (7.3.6) YES PROVIDE SPACER PLATE UNDER ALL EQUIPMENT FEET YES OTHER REMARKS :																																																																			
BEARINGS AND LUBRICATION (6.10.1.1) BEARING (TYPE / NUMBER): (6.11.4) RADIAL ROLLER / 1 THRUST BALL / 1 REVIEW AND APPROVE THRUST BEARING SIZE : (9.2.5.2.4) LUBRICATION : (6.10.2.2) (6.11.3) (9.2.6) GREASE PRESSURE LUBE SYSTEM TO ISO 10438- (9.2.6.5) ISO 10438 DATA SHEETS ATTACHED Pressurized Lube Oil System mtd on pump baseplate Location of Pressurized Lube Oil System mounted on baseplate : INTERCONNECTING PIPING PROVIDED BY Supplier OIL VISC. ISO GRADE VG CONSTANT LEVEL OILER :																																																																								



نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض و ابنیه تحت الارض
خرید پکیج پمپ های آب آتشیسانی ایستگاه تقویت فشار گاز بینک
(قرارداد ۰۰۲۳-۰۰ BK-HD-GCS-CO)



شماره پیمان:

• 03-07-91AE

DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN ELECTRICAL PUMP

نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادرکننده	بسته کاری	پروژه
V01	0002	DS	ME	120	KP	GCS	BK

شماره صفحه: ۸ از ۱۰

CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2301 A (Sheet 5 of 6)

SURFACE PREPARATION AND PAINT						TEST				
MANUFACTURER'S STANDARD						SHOP INSPECTION (8.1.1)				Yes
OTHER (SEE BELOW)						PERFORMANCE CURVE				
SPECIFICATION NO. BK-GNRAL-PEDCO-000-PI-SP-0006, "Specification for Painting"						& DATA APPROVAL PRIOR TO SHIPMENT.				YES
PUMP:						MATERIAL CERTIFICATION REQUIRED				CASING YES
PUMP SURFACE PREPARATION						SHAFT YES (6.12.1.8)				IMPELLER YES
PRIMER AS PER PROJECT PAINTING SPEC.						OTHER YES Casing and impeller Wear ring				
FINISH COAT AS PER PROJECT PAINTING SPEC.						CASTING REPAIR WELD PROCEDURE APPR REQD				YES
BASEPLATE:						INSPECTION REQUIRED FOR CONNECTION WELDS (6.12.3.4.d) KPC:NOT APPLICABLE				
BASEPLATE SURFACE PREPARATION						LIQUID PENETRANT YES				MAG PARTICLE
PRIMER: AS PER PROJECT PAINTING SPEC.						ULTRASONIC				RADIOGRAPHY YES
FINISH COAT AS PER PROJECT PAINTING SPEC.						INSPECTION REQUIRED FOR CASTINGS				
DETAILS OF LIFTING DEVICES						LIQUID PENETRANT YES				MAG PARTICLE NO
SHIPMENT: (8.4.1) EXPORT						ULTRASONIC YES				RADIOGRAPHY
EXPORT BOXING REQUIRED YES						HARDNESS TEST REQUIRED (8.2.2.7)				
OUTDOOR STORAGE MORE THAN 6 MONTHS YES						ADDNL SUBSURFACE EXAMINATION (6.12.1.5) (8.2.1.3)				
SPARE ROTOR ASSEMBLY PACKAGED FOR:										
ROTOR STORAGE ORIENTATION (9.2.8.2)										FOR
SHIPPING & STORAGE CONTAINER FOR VERT STORAGE (9.2.8.3)										METHOD
N ₂ PURGE (9.2.8.4)						PMI TESTING REQUIRED (8.2.2.8)				
SPARE PARTS						COMPONENTS TO BE TESTED				
START-UP YES						RESIDUAL UNBALANCE TEST (J.4.1.2)				
NORMAL MAINTENANCE YES						NOTIFICATION OF SUCCESSFUL SHOP				YES
						PERFORMANCE TEST (8.1.1.c) (8.3.3.5)				YES
ITEM No	PUMP	DRIVER	GEAR	BASE	TOTAL	BASEPLATE TEST (7.3.21)				
P-2301 A	750	2340	Not applicable	900	4035	HYDROSTATIC				WIT
						HYDROSTATIC TEST OF BOWLS & COLUMN (9.3.13.2)				
						PERFORMANCE TEST				WIT
OTHER PURCHASER REQUIREMENTS						TEST IN COMPLIANCE WITH (8.3.3.2)				NFPA 20
COORDINATION MEETING REQUIRED (10.1.3) YES						TEST DATA POINTS TO (8.3.3.3)				NFPA 20
MAXIMUM DISCHARGE PRESSURE TO INCLUDE						TEST TOLERANCES TO (8.3.3.4)				TABLE 16
OPERATION TO TRIP SPEED						NPSH (8.3.4.3.1) (8.3.4.3.4)				NOTE 6 WIT
MAX DIA. IMPELLERS AND/OR NO OF STAGES YES						NPSH-1ST STG ONLY (8.3.4.3.2)				
CONNECTION DESIGN APPROVAL (9.2.1.4) YES						NPSH TESTING TO HI 1.6 OR ISO 9906 (8.3.4.3.3)				
TORSIONAL ANALYSIS / REPORT (6.9.2.10) NO						TEST NPSHA LIMITED TO 110% SITE NPSHA (8.3.3.6)				
PROGRESS REPORTS YES						RETEST ON SEAL LEAKAGE (8.3.3.2.d)				OBSERVE
OUTLINE OF PROC FOR OPTIONAL TESTS (10.2.5)						RETEST REQUIRED AFTER FINAL HEAD ADJ (8.3.3.7.b)				
ADDITIONAL DATA REQUIRING 20 YEARS RETENTION (8.2.1.1)						COMPLETE UNIT TEST (8.3.4.4.1)				WIT
						SOUND LEVEL TEST (8.3.4.5)				WIT
						CLEANLINESS PRIOR TO FINAL ASSEMBLY (8.2.2.6)				OBSERVE
LATERAL ANALYSIS REQUIRED (9.1.3.4) (9.2.4.1.3) NO						LOCATION OF CLEANLINESS INSPECTION				
MODAL ANALYSIS REQUIRED (9.3.9.2)						NOZZLE LOAD TEST				
DYNAMIC BALANCE ROTOR (6.9.4.4) YES						CHECK FOR CO-PLANAR MOUNTING PAD SURFACES				
INSTALLATION LIST IN PROPOSAL (10.2.3.i) YES						MECHANICAL RUN TEST UNTIL OIL TEMP STABLE				
VFD STEADY STATE DAMPED RESPONSE ANALYSIS (6.9.2.3) NO						4 HR. MECH RUN AFTER OIL TEMP STABLE (8.3.4.2.1)				WIT
TRANSIENT TORSIONAL RESPONSE NO						4 HR. MECH RUN TEST (8.3.4.2.2)				
BEARING LIFE CALCULATIONS REQUIRED (6.10.1.6)						BRG HSG RESONANCE TEST (8.3.4.7)				
IGNITION HAZARD ASSMT TO EN 13463-1 (7.2.13.e)						STRUCTURAL RESONANCE TEST (9.3.9.2)				
CASING RETIREMENT THICKNESS DRAWING (10.3.2.3)						REMOVE / INSPECT HYDRODYNAMIC BEARINGS AFTER TEST (9.2.7.5)				
FLANGES RQD IN PLACE OF SKT WELD UNIONS (7.5.2.8)						AUXILIARY EQUIPMENT TEST (8.3.4.6)				
INCLUDE PLOTTED VIBRATION SPECTRA (6.9.3.3)						EQUIPMENT TO BE INCLUDED IN AUXILIARY TESTS				
CONNECTION BOLTING (7.5.1.7)						LOCATION OF AUXILIARY EQUIPMENT TEST				
CADMIUM PLATED BOLTS PROHIBITED						IMPACT TEST PER EN 13445				
VENDOR TO KEEP REPAIR AND HT RCDS (8.2.1.1.a)						PER ASME SECTION VIII				
VENDOR SUBMIT TEST PROCEDURES (8.3.1.1) YES						REMOVE CASING AFTER TEST				
SUBMIT INSPECTION CHECK LIST (8.1.5) NOTE 2 YES										

 NISOC	تگه‌داشت و افزایش تولید میدان نفتی بینک سطح الارض و آبنیه تحت الارض خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک (قرارداد ۰۰۲۳-۰۰ BK-HD-GCS-CO)							 شرکت هیرگان انرژی  Kalaye Pump Co.																								
شماره پیمان: ۰۵۳-۰۷۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN ELECTRICAL PUMP							شماره صفحه: ۱۰ از ۱۹																								
	پروژه	بسته کاری	صادر کننده	تهیلات	رشته	نوع مدرک	سریال																									
	BK	GCS	KP	120	ME	DS	0002	V01																								
CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2301 A (Sheet 6 of 6)																																
PRESSURE VESSEL DESIGN CODE REFERENCES																																
THESE REFERENCES MUST BE LISTED BY THE MANUFACTURER CASTING FACTORS USED IN DESIGN (TABLE 3) SOURCE OF MATERIAL PROPERTIES																																
WELDING AND REPAIRS (NOTE 13)																																
THESE REFERENCES MUST BE LISTED BY THE PURCHASER. (DEFAULT TO TABLE 11 IF NO PURCHASER PREFERENCE IS STATED) ALTERNATE WELDING CODES AND STANDARDS WELDING REQUIREMENT (APPLICABLE CODE OR STANDARD) WELDER/OPERATOR QUALIFICATION WELDING PROCEDURE QUALIFICATION NON-PRESSURE RETAINING STRUCTURAL WELDING SUCH AS BASEPLATES OR SUPPORTS MAGNETIC PARTICLE OR LIQUID PENETRANT EXAMINATION OF PLATE EDGES POSTWELD HEAT TREATMENT POSTWELD HEAT TREATMENT OF CASING FABRICATION WELDS																																
MATERIAL INSPECTION																																
THESE REFERENCES MUST BE LISTED BY THE PURCHASER ALTERNATIVE MATERIAL INSPECTIONS AND ACCEPTANCE CRITERIA (SEE TABLE 15) (8.2.2.5)																																
DEFAULT TO TABLE 14 YES																																
<table><tr><th>TYPE OF INSPECTION</th><th>METHOD</th><th>FOR FABRICATIONS</th><th>FOR CASTINGS</th></tr><tr><td>RADIOGRAPHY</td><td></td><td></td><td></td></tr><tr><td>ULTRASONIC INSPECTION</td><td></td><td></td><td></td></tr><tr><td>MAGNETIC PARTICLE INSPECTION</td><td></td><td></td><td></td></tr><tr><td>LIQUID PENETRANT INSPECTION</td><td></td><td></td><td></td></tr><tr><td>VISUAL INSPECTION (all surfaces)</td><td></td><td></td><td></td></tr></table>									TYPE OF INSPECTION	METHOD	FOR FABRICATIONS	FOR CASTINGS	RADIOGRAPHY				ULTRASONIC INSPECTION				MAGNETIC PARTICLE INSPECTION				LIQUID PENETRANT INSPECTION				VISUAL INSPECTION (all surfaces)			
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VISUAL INSPECTION (all surfaces)																																
REMARKS :																																



KALAYE PUMP CO.

Performance curve



Item No.	P-2301 B	Pump Model	KPSPF 150-570	Flow, Rated (m^3/h)	454.2
Liquid	Water	Speed (rpm)	1490	Head (m)	105
Temp. ($^{\circ}C$)	-3.5 / 53	Rated Imp.Dia. (mm)	530	Efficiency (%)	72
Density(kg/m^3)	997	Suction Size (Inch)	8	NPSHR (m)	3.5
Viscosity (cp)	1	Disch. Size (Inch)	6	Rated Power (kw)	180.5
NPSHA (m)	8.8	NSS ($m^3/h, m, rpm$)	8498	Motor Power (kw)	250

