



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 ۰۰۲۳-۰۰-۰۰۰۰-BK-HD-GCS-CO)



شماره پیمان: ۰۵۳-۰۰۲۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN ELECTRICAL PUMP							شماره صفحه: ۱ از ۱۰
	نسخه	سریال	نوع مدرک	رشته	تهیه کننده	بسته کاری	پروژه	
	V00	0002	DS	ME	120	KP	GCS	

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

V00	Nov-2024	IFA	KP	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



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 ۰۰۲۳-۰۰-۰۰-BK-HD-GCS-CO)



شماره پیمان:

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

شماره صفحه: ۲ از ۱۰

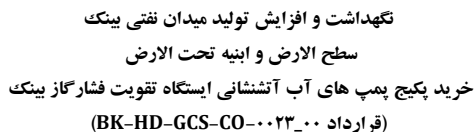
۰۵۳-۰۰۷۳-۹۱۸۴

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
V00	0002	DS	ME	120	KP	GCS	BK

REVISION RECORD SHEET

page	V00	V01	V02	V03	V04	V05	V06
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شماره پیمان: ۰۵۳-۷۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN ELECTRICAL PUMP							شماره صفحه: ۳ از ۱۰	
	نسخه	سریال	نوع مدرک	رشته	تهیهات	صادر کننده	بسته کاری		پروژه
	V00	0002	DS	ME	120	KP	GCS		BK

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-GNRAL-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-GNRAL-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-GNRAL-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. | |
| 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 |



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

شماره صفحه: ۴ از ۱۰

نسخه	سریال	نوع مدرک	رشته	تهیهات	صادرکننده	بسته کاری	پروژه
V00	0002	DS	ME	120	KP	GCS	BK

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

PURCH ORDER NO.

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

Delete these notes on completion

COMMENTS:

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

 NISOC	نگهداشت 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)							 Kalaye Pump Co.																																																																																																																																				
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CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2301 A (Sheet 2 of 6)																																																																																																																																												
APPLICABLE TO: PROPOSAL FOR: NISOC SITE: BINAK Gas Compressor Station NO. REQ: 1 PUMP SIZE: 8"x6" MANUFACTURER: KALAYE PUMP CO.				APPLICABLE NTL/INTNL 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				SERVICE : • IF INTERMITTENT NO. OF STARTS : PUMPS OPERATE IN: CORROSION DUE TO : (6.12.1.9) EROSION DUE TO : (6.12.1.9) H2S CONCENTRATION (ppm) : (6.12.1.12) CHLORIDE CONCENTRATION (ppm) : PARTICULATE SIZE (DIA IN MICRONS) PARTICULATE CONCENTRATION (PPM)																																																																																																																																								
	Units	Maximum	Minimum	Note Max & min values refer only to the property listed	INTERMITTENT																																																																																																																																							
LIQUID TYPE OR NAME :		Water																																																																																																																																										
VAPOR PRESSURE :	bara	0.0087	0.1219																																																																																																																																									
DENSITY :	kg/m³	997																																																																																																																																										
SPECIFIC HEAT :	kJ/kgC	4.186																																																																																																																																										
VISCOSITY :	cP	1																																																																																																																																										
OPERATING CONDITIONS (6.1.2)																																																																																																																																												
	Units	Maximum	Rated	Normal	Min																																																																																																																																							
NPSH _a Datum:		C.L. Impeller																																																																																																																																										
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 _d :	m		8.8																																																																																																																																									
HYDRAULIC POWER: (Note 23)	KW		129.50																																																																																																																																									
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 : <table><tr><td></td><td>RETURN</td><td>DESIGN</td></tr><tr><td>TEMP</td><td></td><td></td></tr><tr><td>PRESS.</td><td></td><td></td></tr><tr><td>SOURCE</td><td></td><td></td></tr></table> COOLING WATER CHLORIDE CONCENTRATION: INSTRUMENT AIR : kg MIN kg STEAM <table><tr><td></td><td>DRIVERS</td><td>HEATING</td></tr><tr><td>TEMP</td><td></td><td></td></tr><tr><td>PRESS.</td><td></td><td></td></tr></table>						RETURN	DESIGN	TEMP			PRESS.			SOURCE				DRIVERS	HEATING	TEMP			PRESS.																																																																																																																	
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PROPOSAL CURVE NO. KPSPF 150-570 RPM 1490 As Tested Curve No. KPSPF 150-570 <table><tr><td>IMPELLER DIA:</td><td>RATED 530</td><td>MAX. 585</td><td>MIN. 450</td><td>mm</td></tr><tr><td>RATED POWER</td><td>180.5 Kw</td><td>EFFICIENCY</td><td>72</td><td>(%)</td></tr><tr><td>RATED CURVE BEP FLOW (at rated impeller dia)</td><td></td><td></td><td>489</td><td>m³/hr</td></tr><tr><td>MIN FLOW :</td><td></td><td></td><td>15</td><td>m³/hr</td></tr><tr><td>PREFERRED OPERATING REGION (6.1.11)</td><td>342</td><td>to</td><td>681</td><td>m³/hr</td></tr><tr><td>ALLOWABLE OPERATING REGION</td><td>146</td><td>to</td><td>681</td><td>m³/hr</td></tr><tr><td>MAX HEAD @ RATED IMPELLER</td><td></td><td></td><td>120</td><td>m</td></tr><tr><td>MAX POWER @ RATED IMPELLER</td><td></td><td></td><td>241</td><td>kW</td></tr><tr><td>NPSH3 AT RATED FLOW :</td><td></td><td></td><td>3.5</td><td>m</td></tr><tr><td>CL PUMP TO U/S BASEPLATE</td><td></td><td></td><td></td><td>m</td></tr><tr><td>NPSH MARGIN AT RATED FLOW :</td><td></td><td></td><td>5.3</td><td>m</td></tr><tr><td>SPECIFIC SPEED (6.1.9)</td><td></td><td></td><td></td><td></td></tr><tr><td>SUCTION SPECIFIC SPEED LIMIT</td><td></td><td></td><td>8498</td><td></td></tr><tr><td>SUCTION SPECIFIC SPEED</td><td></td><td></td><td></td><td></td></tr><tr><td>MAX. ALLOW. SOUND PRESS. LEVEL REQ'D (6.1.14)</td><td></td><td></td><td>85</td><td>(dBA) @ 1 m</td></tr><tr><td>EST MAX SOUND PRESS. LEVEL</td><td></td><td></td><td></td><td>(dBA)</td></tr><tr><td>MAX. SOUND POWER LEVEL REQ'D (6.1.14)</td><td></td><td></td><td></td><td></td></tr><tr><td>EST MAX SOUND POWER LEVEL</td><td></td><td></td><td></td><td></td></tr></table>				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)					SUCTION SPECIFIC SPEED LIMIT			8498		SUCTION SPECIFIC SPEED					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					<table><tr><td>Driver Type</td><td>INDUCTION MOTOR</td></tr><tr><td>GEAR</td><td>NO</td></tr><tr><td>VARIABLE SPEED REQUIRED</td><td>NO</td></tr><tr><td>SOURCE OF VARIABLE SPEED</td><td></td></tr><tr><td>OTHER</td><td></td></tr><tr><td>MANUFACTURER</td><td></td></tr><tr><td>NAMEPLATE POWER</td><td>@Site Condition 250 KW</td></tr><tr><td>Nominal RPM</td><td>1490</td></tr><tr><td>RATED LOAD RPM</td><td></td></tr><tr><td>FRAME OR MODEL</td><td></td></tr><tr><td>ORIENTATION</td><td>HORIZONTAL</td></tr><tr><td>LUBE</td><td>Grease</td></tr><tr><td>BEARING TYPE:</td><td>Anti friction</td></tr><tr><td>RADIAL</td><td>Ball / 1</td></tr><tr><td>THRUST</td><td>Ball / 1</td></tr><tr><td>STARTING METHOD</td><td>D.O.L/Open Discharge Valve</td></tr><tr><td>SEE DRIVER DATA SHEET</td><td>Note 1</td></tr><tr><td>Max Voltage Variation</td><td>±10%</td></tr><tr><td>Max Frequency Variation</td><td>±5%</td></tr><tr><td>Max Voltage and Frequency Variation together</td><td>±10%</td></tr><tr><td>RTD / Type</td><td>YES / PT100 (According to IPS-M-EL-132)</td></tr></table>					Driver Type	INDUCTION MOTOR	GEAR	NO	VARIABLE SPEED REQUIRED	NO	SOURCE OF VARIABLE SPEED		OTHER		MANUFACTURER		NAMEPLATE POWER	@Site Condition 250 KW	Nominal RPM	1490	RATED LOAD RPM		FRAME OR MODEL		ORIENTATION	HORIZONTAL	LUBE	Grease	BEARING TYPE:	Anti friction	RADIAL	Ball / 1	THRUST	Ball / 1	STARTING METHOD	D.O.L/Open Discharge Valve	SEE DRIVER DATA SHEET	Note 1	Max Voltage Variation	±10%	Max Frequency Variation	±5%	Max Voltage and Frequency Variation together	±10%	RTD / Type	YES / PT100 (According to IPS-M-EL-132)
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 NISOC	تگهداشت 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)	 Kafayee Pump Co.																																																																		
شماره پیمان: ۰۵۳-۰۷۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN ELECTRICAL PUMP								شماره صفحه: ۶ از ۱۰																																																											
	پروژه	بسته کاری	صادر کننده	تهیلات	رشته	نوع مدرک	سریال	نسخه																																																												
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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><thead><tr><th></th><th>Size</th><th>Facing</th><th>Rating</th><th>Position</th></tr></thead><tbody><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></tbody></table> PRESSURE CASING AUX. CONNECTIONS: (6.4.3.2) <table><thead><tr><th>No.</th><th>Size</th><th>Type</th><th>Facing</th><th>Rating</th><th>Posn.</th></tr></thead><tbody><tr><td>BAL./LEAK OFF</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></tr><tr><td>TEMP GAGE</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></tr></tbody></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: CASING TYPE: (6.3.10) OH3 BACKPULLOUT LIFTING DEVICE REQD. (9.1.2.6) CASE PRESSURE RATING: MAWP : (6.3.5) 15 By vendor barg @ °C HYDROTEST : 1.5°MAWP barg @ °C HYDROTEST OH PUMP AS ASSEMBLY YES SUCTN PRESS. REGIONS DESIGNED FOR MAWP YES ROTATION: (VIEWED FROM COUPLING END) • 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) COUPLING:(7.2.3) (7.2.13.f) NOTE 17 MANUFACTURER MODEL FLEXIBLE SPACER TYPE RATING (POWER/100 RPM) SPACER LENGTH 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 610 compliant COUPLING GUARD STANDARD PER (7.2.13.a) ISO 14120 Window on Coupling Guard				
	Size	Facing	Rating	Position																																																																
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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 60-40-15) DIFFUSERS IMPELLER : C95200 IMPELLER WEAR RING : C95200 CASE WEAR RING : 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 : 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 :																																																																				

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شماره پیمان: ۰۵۳-۰۰۷۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN ELECTRICAL PUMP							شماره صفحه: ۱۰ از ۸
	نسخه	سریال	نوع مدرک	رشته	تهیلات	صادر کننده	بسته کاری	
	V00	0002	DS	ME	120	KP	GCS	

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-GNRL-PEDCO-000-PI-SP-0006, "Specification for Painting"						& DATA APPROVAL PRIOR TO SHIPMENT.		YES		
PUMP:						TEST WITH SUBSTITUTE SEAL (8.3.3.2.b)				
PUMP SURFACE PREPARATION						MATERIAL CERTIFICATION REQUIRED		CASING	YES	
PRIMER						SHAFT		YES	(6.12.1.8) IMPELLER	YES
FINISH COAT						OTHER		YES	Casing and impeller Wear ring	
BASEPLATE:						CASTING REPAIR WELD PROCEDURE APPR REQD				YES
BASEPLATE SURFACE PREPARATION						INSPECTION REQUIRED FOR CONNECTION WELDS (6.12.3.4.d)		KPC:NOT APPLICABLE		
PRIMER:						LIQUID PENETRANT		YES	MAG PARTICLE	
FINISH COAT						ULTRASONIC			RADIOGRAPHY	YES
DETAILS OF LIFTING DEVICES						INSPECTION REQUIRED FOR CASTINGS				
SHIPMENT: (8.4.1)						LIQUID PENETRANT		YES	MAG PARTICLE	NO
EXPORT BOXING REQUIRED						ULTRASONIC		YES	RADIOGRAPHY	
OUTDOOR STORAGE MORE THAN 6 MONTHS						HARDNESS TEST REQUIRED (8.2.2.7)				
SPARE ROTOR ASSEMBLY PACKAGED FOR:						ADDNL SUBSURFACE EXAMINATION (6.12.1.5) (8.2.1.3)				
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)										
SPARE PARTS						PMI TESTING REQUIRED (8.2.2.8)				
START-UP						COMPONENTS TO BE TESTED				
NORMAL MAINTENANCE						RESIDUAL UNBALANCE TEST (J.4.1.2)				
						NOTIFICATION OF SUCCESSFUL SHOP				YES
						PERFORMANCE TEST (8.1.1.c) (8.3.3.5)				YES
						BASEPLATE TEST (7.3.21)				
						HYDROSTATIC				WIT
						HYDROSTATIC TEST OF BOWLS & COLUMN (9.3.13.2)				
						PERFORMANCE TEST				WIT
						TEST IN COMPLIANCE WITH (8.3.3.2)				NFPA 20
						TEST DATA POINTS TO (8.3.3.3)				NFPA 20
						TEST TOLERANCES TO (8.3.3.4)				TABLE 16
						NPSH (8.3.4.3.1) (8.3.4.3.4)			NOTE 6	WIT
						NPSH-1ST STG ONLY (8.3.4.3.2)				
						NPSH TESTING TO HI 1.6 OR ISO 9906 (8.3.4.3.3)				
						TEST NPSHA LIMITED TO 110% SITE NPSHA (8.3.3.6)				
						RETEST ON SEAL LEAKAGE (8.3.3.2.d)				OBSERVE
						RETEST REQUIRED AFTER FINAL HEAD ADJ (8.3.3.7.b)				
						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
						LOCATION OF CLEANLINESS INSPECTION				
						NOZZLE LOAD TEST				
						CHECK FOR CO-PLANAR MOUNTING PAD SURFACES				
						MECHANICAL RUN TEST UNTIL OIL TEMP STABLE				
						4 HR. MECH RUN AFTER OIL TEMP STABLE (8.3.4.2.1)				WIT
						4 HR. MECH RUN TEST (8.3.4.2.2)				
						BRG HSG RESONANCE TEST (8.3.4.7)				
						STRUCTURAL RESONANCE TEST (9.3.9.2)				
						REMOVE / INSPECT HYDRODYNAMIC BEARINGS AFTER TEST				
						(9.2.7.5)				
						AUXILIARY EQUIPMENT TEST (8.3.4.6)				
						EQUIPMENT TO BE INCLUDED IN AUXILIARY TESTS				
						LOCATION OF AUXILIARY EQUIPMENT TEST				
						IMPACT TEST		PER EN 13445		
								PER ASME SECTION VIII		
						REMOVE CASING AFTER TEST				

 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 ۰۰۲۳-۰۰۰۰-BK-HD-GCS-CO)							 																								
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	BK	GCS	KP	120	ME	DS	0002	V00																								
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><thead><tr><th>TYPE OF INSPECTION</th><th>METHOD</th><th>FOR FABRICATIONS</th><th>FOR CASTINGS</th></tr></thead><tbody><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></tbody></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	KSPF 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

