





status:	
IFI: Issued For Information	
IFA: Issued For Approval	
AFC: Approved For Construction	

 NISOC	<p>تجهیزات 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-GCS-HD-BK)</p>							 HIRGAN ENERGY Kalaye Pump Co.
شماره پیمان: ۰۵۳-۰۰-۷۳-۱۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP							شماره صفحه: ۱۴ از ۲
	پروژه BK	بسته کاری GCS	صادر کننده KP	تجهیزات 120	رشته ME	نوع مدرک DS	سریال 0001	نسخه V01

REVISION RECORD SHEET														
page	V00	V01	V02	V03	V04	V05	V06	page	V00	V01	V02	V03	V04	V05
1	x	x						65						
2	x	x						66						
3	x							67						
4	x							68						
5	x	x						69						
6	x	x						70						
7	x							71						
8	x	x						72						
9	x							73						
10	x	x						74						
11	x	x						75						
12	x							76						
13	x							77						
14	x							78						
15								79						
16								80						
17								81						
18								82						
19								83						
20								84						
21								85						
22								86						
23								87						
24								88						
25								89						
26								90						
27								91						
28								92						
29								93						
30								94						
31								95						
32								96						
33								97						
34								98						
35								99						
36								100						
37								101						
38								102						
39								103						
40								104						
41								105						
42								106						
43								107						
44								108						
45								109						
46								110						
47								111						
48								112						
49								113						
50								114						
51								115						
52								116						
53								117						
54								118						
55								119						
56								120						
57								121						
58								122						
59								123						
60								124						
61								125						
62								126						
63								127						
64								128						



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



شماره پیمان:

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

• 03-073-9184

شماره صفحه: ۳ از ۱۴

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
V01	0001	DS	ME	120	KP	GCS	BK

GENERAL NOTES

- | | | |
|----|--|----------------------------|
| 1 | Vendor shall fill in the blanks and return the completed data sheet along with Diesel data sheet 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 | Supplier 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 | The Suction line size is 12" and discharge line is 10" . | KPC : Confirmed |
| 12 | Air release valve shall be considered by vendor . | KPC : Pump is self vent |
| 13 | 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 |
| 14 | Ultrasonic Test shall be performed for forged shaft. | KPC : Confirmed |
| 15 | Couplings shall be dry, flexible and spacer type. | KPC : Confirmed |
| 16 | A local control panel shall be considered by vendor to be located next to the pumps as per "Specification For Fire Water Pumps", Doc. No. BK-GCS-PEDCO-120-ME-SP-0005'. Alarm and trip shall be specified for diesel control based on NFPA 20. | KPC : Confirmed |
| 17 | Pump LCP shall be designed to manage all required monitoring and control signals , as minimum in accordance with "P&ID For Fire Water Network", Doc.No.BK-GCS-PEDCO-120-SA-PI-0001. | KPC : Confirmed |
| 18 | The electrical characteristics of panels shall be specified by vendor such as: - The power demand of control panel. - The number of control panel. | KPC : Confirmed |
| 19 | Fuel daily tank shall be sized for 8 hours and all instruments such as level transmitter with HH/LL Alarm and etc. are in vendor's scope of supply. | KPC : Confirmed |
| 20 | Diesel engine shall be tested at 110% rated speed in mechanical running test also the maximum speed of diesel engines shall be 2300 RPM. | KPC : Confirmed |
| 21 | pressure sensing lines are in the vendor's scope of supply. | KPC : Confirmed |
| 22 | The sparate power & control panels for main pump diesel engine shall be considered by vendor. Therefore required single line, wiring diagram and etc. shall be specified by vendor. | KPC : Confirmed |
| 23 | 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 |
| 24 | Estimated BHP at rated capacity is 199.2 kW by considering 65% efficiency. | KPC : Confirmed |
| 25 | The pumps shall furnish not less than 150% of rated capacity at not less than 65% of rated head. | KPC : Confirmed |



شماره پیمان:

• 03-073-9184

نگهداشت و افزایش تولید میدان نفتی بینک

سطح الارض و ابنيه تحت الارض

خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک

(قرارداد ۰۰۲۳-CO-GCS-HD-BK)



شماره صفحه: ۴ از ۱۴

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

نسخه	سرپال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
V01	0001	DS	ME	120	KP	GCS	BK

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

CLIENT: National Iranian South Oil Company (NISOC)

PROJECT TITLE: BINAK Gas Compressor Station

JOB NUMBER:

EQUIPMENT NUMBER: P-2301 B

EQUIPMENT SERVICE: Fire Water Pumps - Diesel Engine Driven

SERIAL NUMBER:

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

PURCH ORDER NO.

Cells coloured thus

contain drop-down options

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	P-2301 B	YES				
MOTOR						
GEAR						
TURBINE						



• 03-073-9184

شماره صفحه: ۱۵ از ۱۴

نسخه	سریال	نوع مدرک	رشته	تهیهات	صادر کننده	بسته کاری	پروژه
V01	0001	DS	ME	120	KP	GCS	BK




APPLICABLE TO: PROPOSAL		APPLICABLE NTL/INTNTL STANDARD: NFPA20 (2019) & IPS-M-PM-125	
FOR	NISOC	UNIT	
SITE	BINAK Gas Compressor Station	SERVICE	Fire Water Pumps - Diesel Engine Driven
NO. REQ	1	TYPE	BB1 No. STAGES 1
MANUFACTURER	KALAYE PUMP CO.	MODEL	BB1 (V.T.C) KPSPF 150-570 SERIAL NO.



	Units	Maximum	Minimum	Note	SERVICE :	INTERMITTENT
LIQUID TYPE OR NAME :	Water			Max & min values refer only to the property listed	• IF INTERMITTENT NO. OF STARTS :	
VAPOR PRESSURE :	bara	0.0087	0.1219		PUMPS OPERATE IN:	
DENSITY :	kg/m³	997			CORROSION DUE TO : (6.12.1.9)	
SPECIFIC HEAT :	kJ/kgC	4.186			EROSION DUE TO : (6.12.1.9)	
VISCOSITY :	cP	1			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			5	
FLOW :	m³/hr		454.20			
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:	KW		129.50			

LOCATION:					COOLING WATER :										
OUTDOOR		UNHEATED		UNDER ROOF			RETURN			DESIGN					
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 :		AUXILIARY		HEATING		CONTROL		SHUTDOWN							
VOLTAGE		400													
PHASE		3													
HERTZ		50													
INSTRUMENT AIR :										kg		MIN		kg	
STEAM															
TEMP										DRIVERS		HEATING			
PRESS.															

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 m ³ /hr
MIN FLOW :					15 m ³ /hr
PREFERRED OPERATING REGION (6.1.11)					342 to 681 m ³ /hr
ALLOWABLE OPERATING REGION					146 to 681 m ³ /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					867
SUCTION SPECIFIC SPEED					8498
MAX. ALLOW. SOUND PRESS. LEVEL REQD (6.1.14)					110 (dBA) @ 1 m
EST MAX SOUND PRESS. LEVEL					(dBA)
MAX. SOUND POWER LEVEL REQD (6.1.14)					
EST MAX SOUND POWER LEVEL					

Driver Type	DIESEL ENGINE
GEAR	NO
VARIABLE SPEED REQUIRED	NO
SOURCE OF VARIABLE SPEED	
OTHER	
MANUFACTURER	VOLVO
NAMEPLATE POWER	308 KW
Nominal RPM	1490
RATED LOAD RPM	
FRAME OR MODEL	TAD1341GE
ORIENTATION	HORIZONTAL
LUBE	
RADIAL	/
THRUST	/
STARTING METHOD	D.O.L/Open Discharge Valve
SEE DRIVER DATA SHEET	
Max Voltage Variation	
Max Frequency Variation	
Max Voltage and Frequency Variation together	

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشارگاز بینک (قرارداد ۰۰۲۳-۰۰ BK-HD-GCS-CO)							 																																												
شماره پیمان: ۰۵۳-۰۷۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP							شماره صفحه: ۱۶ از ۱۴																																												
	پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال																																													
	BK	GCS	KP	120	ME	DS	0001																																													
CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2301 B (Sheet 3 of 6)																																																				
CONSTRUCTION																																																				
API PUMP TYPE: BB1 [Based on API 610 definitions]				CASING MOUNTING:																																																
NOZZLE CONNECTIONS: (6.5.5) NOTES 7,11				CASING TYPE: (6.3.10)																																																
<table><tr><td></td><td>Size</td><td>Facing</td><td>Rating</td><td>Position</td></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>					Size	Facing	Rating	Position	SUCTION	8"	RF	150	SIDE	DISCHARGE	6"	RF	150	SIDE	OH3 BACKPULLOUT LIFTING DEVICE REQD. (9.1.2.6)																																	
	Size	Facing	Rating	Position																																																
SUCTION	8"	RF	150	SIDE																																																
DISCHARGE	6"	RF	150	SIDE																																																
PRESSURE CASING AUX. CONNECTIONS: (6.4.3.2)				CASE PRESSURE RATING:																																																
<table><tr><td>No.</td><td>Size</td><td>Type</td><td>Facing</td><td>Rating</td><td>Posn.</td></tr><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></table>				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						MAWP : (6.3.5) 15 By vendor barg @ Amb. °C HYDROTEST : 22.5 1.5*MAWP barg @ Amb. °C				
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																																																				
				HYDROTEST OH PUMP AS ASSEMBLY YES																																																
				SUCTN PRESS. REGIONS DESIGNED FOR MAWP YES																																																
				ROTATION: (VIEWED FROM COUPLING END) CW																																																
				• IMPELLERS INDIVIDUALLY SECURED : YES																																																
				• 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																																																
				SHRINK FIT -LIMITED MOVEMENT IMPELLERS (9.2.2.3)																																																
				COUPLING:(7.2.3) (7.2.13.f) NOTE 16																																																
				MANUFACTURER Colossus																																																
				MODEL FLEXIBLE SPACER TYPE																																																
				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)																																																
				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																																																
MATERIAL (6.12.1.1)				BASEPLATE																																																
APPENDIX H CLASS I-2 NOTES 3				API BASEPLATE NUMBER :																																																
MIN DESIGN METAL TEMP (6.12.4.1) 5 °C				BASEPLATE CONSTRUCTION (7.3.14) PARTIAL TOP DECKING																																																
REDUCED-HARDNESS MATERIALS REQ'D (6.12.1.12.1)				BASEPLATE DRAINAGE (7.3.1) Entire Baseplate Drain Pan																																																
Applicable Hardness Standard (6.12.1.12.3)				MOUNTING :																																																
BARREL :				NON-GROUT CONSTRUCTION : (7.3.13)																																																
CASE : GGG40(A536 60-40-18)				VERTICAL LEVELING SCREWS : REQUIRED																																																
DIFFUSERS				LONGITUDINAL DRIVER POSITIONING SCREWS : REQUIRED																																																
IMPELLER : C95200				SUPPLIED WITH : <ul style="list-style-type: none">GROUT AND VENT HOLES YESDRAIN CONNECTION YES																																																
IMPELLER WEAR RING : C95200				MOUNTING PADS SIZED FOR BASEPLATE LEVELING (7.3.5) YES																																																
CASE WEAR RING : C95200				MOUNTING PADS TO BE MACHINED (7.3.6) YES																																																
SHAFT: A276 T420				PROVIDE SPACER PLATE UNDER ALL EQUIPMENT FEET YES																																																
Bowl (if VS-type)				OTHER																																																
Inspection Class Note 2				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 :																																																				

<div> NISOC</div>	<div>نگهداشت و افزایش تولید میدان نفتی بینک</div> <div>سطح الارض و ابنیه تحت الارض</div> <div>خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشارگاز بینک</div> <div>(قرارداد ۰۰۲۳-۰۰-BK-HD-GCS-CO)</div>							<div> Kalaye Pump Co.</div>
شماره پیمان: ۰۵۳-۰۷۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP							شماره صفحه: ۱۴ از ۸
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	
BK	GCS	KP	120	ME	DS	0001	V01	
CENTRIFUGAL PUMP DATA SHEET (SI UNIT) -P-2301 B (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:								
PUMP SURFACE PREPARATION _____					MATERIAL CERTIFICATION REQUIRED _____ CASING _____ YES			
PRIMER _____ AS PER PROJECT PAINTING SPEC.					SHAFT _____ YES (6.12.1.8) IMPELLER _____ YES			
FINISH COAT _____ AS PER PROJECT PAINTING SPEC.					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: _____ AS PER PROJECT PAINTING SPEC.					LIQUID PENETRANT _____ YES MAG PARTICLE _____			
FINISH COAT _____ AS PER PROJECT PAINTING SPEC.					ULTRASONIC _____ RADIOGRAPHY _____ YES			
DETAILS OF LIFTING DEVICES _____					INSPECTION REQUIRED FOR CASTINGS _____			
SHIPMENT: (8.4.1) _____ EXPORT _____					LIQUID PENETRANT _____ YES MAG PARTICLE _____ NO			
EXPORT BOXING REQUIRED _____ YES					ULTRASONIC _____ YES RADIOGRAPHY _____			
OUTDOOR STORAGE MORE THAN 6 MONTHS _____ YES					HARDNESS TEST REQUIRED (8.2.2.7) _____			
					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) _____					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			
P-2301 B	750	1790	Not applicable	840	3420			
OTHER PURCHASER REQUIREMENTS								
COORDINATION MEETING REQUIRED (10.1.3) _____ YES								
MAXIMUM DISCHARGE PRESSURE TO INCLUDE _____								
OPERATION TO TRIP SPEED _____								
MAX DIA. IMPELLERS AND/OR NO OF STAGES _____ YES								
CONNECTION DESIGN APPROVAL (9.2.1.4) _____ YES								
TORSIONAL ANALYSIS / REPORT (6.9.2.10) _____ NO								
PROGRESS REPORTS _____ YES								
OUTLINE OF PROC FOR OPTIONAL TESTS (10.2.5) _____								
ADDITIONAL DATA REQUIRING 20 YEARS RETENTION (8.2.1.1) _____ YES								
LATERAL ANALYSIS REQUIRED (9.1.3.4) (9.2.4.1.3) _____ NO								
MODAL ANALYSIS REQUIRED (9.3.9.2) _____								
DYNAMIC BALANCE ROTOR (6.9.4.4) _____ YES								
INSTALLATION LIST IN PROPOSAL (10.2.3.1) _____ YES								
VFD STEADY STATE DAMPED RESPONSE ANALYSIS (6.9.2.3) _____ NO								
TRANSIENT TORSIONAL RESPONSE _____ NO								
BEARING LIFE CALCULATIONS REQUIRED (6.10.1.6) _____								
IGNITION HAZARD ASSMT TO EN 13463-1 (7.2.13.e) _____								
CASING RETIREMENT THICKNESS DRAWING (10.3.2.3) _____								
FLANGES RQD IN PLACE OF SKT WELD UNIONS (7.5.2.8) _____								
INCLUDE PLOTTED VIBRATION SPECTRA (6.9.3.3) _____								
CONNECTION BOLTING (7.5.1.7) _____								
CADMIUM PLATED BOLTS PROHIBITED _____								
VENDOR TO KEEP REPAIR AND HT RCDS (8.2.1.1.c) _____								
VENDOR SUBMIT TEST PROCEDURES (8.3.1.1) _____ YES								
SUBMIT INSPECTION CHECK LIST (8.1.5) NOTE 2 _____ YES								
					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			
					REMOVE CASING AFTER TEST _____ PER ASME SECTION VIII			



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 ۰۰۲۳۰۰-BK-HD-GCS-CO)



شماره پیمان:

• 03-• 73-91A4

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

۵۳۹

کادی

صادر کنندہ

تسهيلات

د شته

عمر مددک

--	--

نسخه

[illegible]

14 319

شماره صفحه: ۹ از ۱۴

CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2301 B (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 12)

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

—
DEFAULT PER TABLE 11

DEFAULT PER TABLE 11

DEFAULT PER TABLE 11

DEFAULT PER TABLE 11

DEFAULT PER TABLE 11

DEFAULT PER TABLE 11

DEFAULT PER TABLE 11

MATERIAL INSPECTION

THESE REFERENCES MUST BE LISTED BY THE PURCHASER

DEFAULT TO TABLE 14

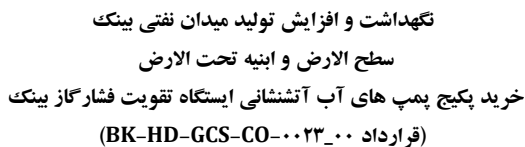
YES

ALTERNATIVE MATERIAL INSPECTIONS AND ACCEPTANCE CRITERIA (SEE TABLE 15) (8.2.2.5)

TYPE OF INSPECTION	METHOD	FOR FABRICATIONS	FOR CASTINGS
RADIOGRAPHY			
ULTRASONIC INSPECTION			
MAGNETIC PARTICLE INSPECTION			
LIQUID PENETRANT INSPECTION			
VISUAL INSPECTION (all surfaces)			

REMARKS :

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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

شماره صفحه: ۱۱ از ۱۴

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
V01	0001	DS	ME	120	KP	GCS	BK




Diesel Engine Data Sheet For Fire Water Pump - P-2301 B (SI UNIT) (2 of 4)

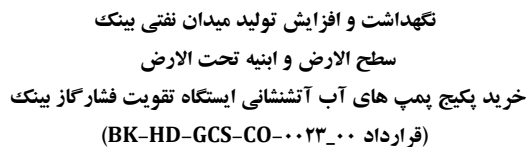
OUTDOOR

5 / 50

52

0 / 100

	<div>تکهداشت و افزایش تولید میدان نفتی بینک</div> <div>سطح الارض و ابنیه تحت الارض</div> <div>خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک</div> <div>(قرارداد ۰۰۲۳-۰۰-BK-HD-GCS-CO)</div>							 
شماره پیمان: ۰۵۳-۰۷۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP							شماره صفحه: ۱۲ از ۱۴
	پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	
	BK	GCS	KP	120	ME	DS	0001	V01
Diesel Engine Data Sheet For Fire Water Pump - P-2301 B (SI UNIT) (3 of 4)								
<div>HEATED / UNHEATED</div> <div>UNDER ROOF / PARTIAL SIDES</div> <div>AREA CLASSIFICATION</div> <div>STARTING:- LOCAL / REMOTE</div> <div>AVAILABLE UTILITIES</div> <div>COOLING WATER:-</div> <div>PRESSURE bar g / kPa g</div> <div>AVAILABLE PRESSURE DROP bar / kPa</div> <div>TEMPERATURE °C</div> <div>TEMPERATURE CHANGE °C</div> <div>INSTRUMENT AIR:-</div> <div>PRESSURE bar g / kPa g</div> <div>TEMPERATURE °C</div> <div>DEW POINT °C</div> <div>ELECTRICITY SUPPLY AC</div> <div>FUEL CHARACTERISTICS:-</div> <div>FUEL OIL CLASSIFICATION</div> <div>VISCOSITY cP</div> <div>TEMPERATURE °C</div> <div>OPERATING DURATION hrs</div> <div>IMPURITIES % weight</div> <div>FUEL SYSTEM</div> <div>DAY TANK REQUIRED (NOTE 19)</div> <div>TANK SUPPLIED BY</div> <div>CAPACITY hrs</div> <div>LOCATION</div> <div>WEIGHTS AND DIMENSIONS</div> <div>HEAVIEST PART FOR ERECTION</div> <div>HEAVIEST PART FOR MAINTENANCE</div> <div>WEIGHT OF ENGINE ONLY</div> <div>WEIGHT OF SET</div> <div>WEIGHT OF CONTROL PANEL</div> <div>HEIGHT UNDER HOOK</div> <div>DIMENSIONS FOR MAINTENANCE</div> <div>PAINTING</div> <div>STANDARD/OTHER</div> <div>INSPECTION AND TESTING</div> <div>MANUFACTURER'S STANDARD</div> <div>OTHER</div> <div>INSTRUMENTATION</div> <div>LUBRICATING OIL PRESSURE</div> <div>FUEL PRESSURE</div> <div>ENGINE OIL TEMPERATURE</div> <div>FUEL TEMPERATURE</div> <div>OVER SPEED</div> <div>DIFF PRESS SWITCH ON FILTER</div> <div>MANOMETER ON OIL CIRCUIT; DOWNSTREAM OF PUMP DOWNSTREAM OF FILTER</div> <div>SIGHT GLASSES ON OIL CIRCUIT</div>						<div>UNHEATED</div> <div>UNDER ROOF</div> <div>FROM FIRE WATER PUMP DISCHARGE</div> <div>YES</div> <div>ENGINE SUPPLIER</div> <div>AS PER NFPA 20</div> <div>OFF-SKID</div> <div>IPS-E-TP-100</div> <div>IPS-M-PM-290</div> <div>IPS-M-PM-290 SECTION 6.8.</div> <div>Remark: P&ID For Fire Water Network</div> <div>(No.BK-GCS-PEDCO-120-SA-PI-0001.)</div> <div>shall be followed.</div>		



شماره پیمان:

• 03-073-9184

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

شماره صفحه: ۱۳ از ۱۴

۵ و ۶

سته کاری

صادر کنندہ

تسهيلات

رشته

نوع مدرک	
----------	--

سہ ماہی

--	--

--	--

BK

GCS

KP

120

MF

DS	
----	--

0001

[illegible]

--	--

Diesel Engine Data Sheet For Fire Water Pump - P-2301 B (SI UNIT) (4 of 4)

ENGINE EXHAUST TURBOCHARGER

TE BEFORE/
AFTER COOLER

PI BEFORE/ AFTER COOLING	
-----------------------------	--

CIRCUIT OF:

RAW WATER

FRESH WATER

OIL

SUPERCHARGING:

AIRSIDE

WATERSIDE

REMARKS:

For each pump set one 400V, 3PH/N auxiliary feeder is delivered by purchaser.

All required power for local control panel (230VAC/110VAC/24VDC) shall be convert by vendor as request.



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	Diesel Power (kw)	308

