

	<p>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)</p>																									
شماره پیمان: ۰۵۳-۰۷۳-۹۱۸۴	<table><tr><th colspan="8">DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER JOCKEY PUMPS</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تهیلات</th><th>صادر کننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>V01</td><td>0003</td><td>DS</td><td>ME</td><td>120</td><td>KP</td><td>GCS</td><td>BK</td></tr></table>	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER JOCKEY PUMPS								نسخه	سریال	نوع مدرک	رشته	تهیلات	صادر کننده	بسته کاری	پروژه	V01	0003	DS	ME	120	KP	GCS	BK	شماره صفحه: ۱ از ۱۰
DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER JOCKEY PUMPS																										
نسخه	سریال	نوع مدرک	رشته	تهیلات	صادر کننده	بسته کاری	پروژه																			
V01	0003	DS	ME	120	KP	GCS	BK																			

طرح نگهداشت و افزایش تولید ۲۷ مخزن

DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER JOCKEY PUMPS
نگهداشت و افزایش تولید میدان نفتی بینک

V01	FEB-2025	AFC	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

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)



DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER JOCKEY PUMPS

نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادر کننده	بسته کاری	پروژه
V01	0003	DS	ME	120	KP	GCS	BK

شماره صفحه: ۲ از ۱۰

REVISION RECORD SHEET

page	V00	V01	V02	V03	V04	V05
1	x	x				
2	x	x				
3	x					
4	x					
5	x	x				
6	x	x				
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(ق ارداد ۰۰۲۳-BK-HD-GCS-CO-۰۰)



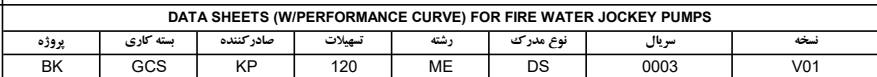
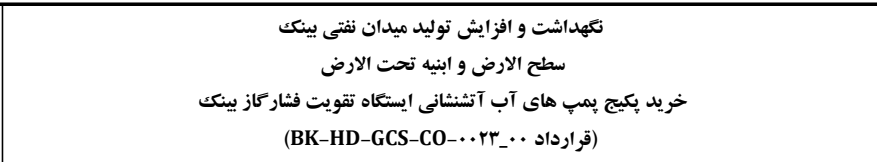
• 03-07-91A

نماره صفحه: ۳ از ۱۰

نسخه	سرمال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
V01	0003	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-0008 & 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 | Mechanical seal data sheet shall fill in by vendor as per API 682, 4th edition. | KPC : 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 | Electrical motor shall be rated for the end of curve. | KPC : Confirmed |
| 12 | The Suction line size is 2 " and discharge line is 2 ". | KPC : Confirmed |
| 13 | Pump Manufacturer shall supply all instrumentation for mechanical seals as per API 682 4th Edition and project requirements. | KPC : Confirmed |
| 14 | Based on project instrumentation specification, these equipments are classified as Type C. Electro pump shall include a dedicated controller/ starter panel installed on pump skid as per NFPA 20 (2019). Pressure switch and pressure sensing line and its accessories are in vendor scope of work and supply. As per NFPA 20 dedicated sensing line and control panel for jockey pumps and separated from main pumps shall be considered by vendor. | KPC : Based on project instrumentation specification, these equipments are classified as Type A |
| 15 | Welding repair procedures shall be submitted for approval. | KPC : Confirmed |
| 16 | If pump is self venting there is no need for vent . | KPC : Confirmed |
| 17 | For information on site conditions refer to Process Basis of Design document; Doc.No: BK-GNRAL-PEDCO-000-PR-DB-0001., electrical motor shall be rated according to project site condition. any required protection for pumps in this regard shall be considered by pump manufacturer. | KPC : Confirmed |
| 18 | Ultrasonic Test shall be performed for forged shaft. | KPC : Confirmed |
| 19 | Couplings shall be dry, flexible and spacer type. | KPC : Confirmed |
| 20 | For electrical motor descriptions, refer to 'Specification For LV Induction Motors' Doc. No. BK-GNRAL-PEDCO-000-EL-SP-0010. | KPC : Confirmed |
| 21 | A local control panel shall be considered by vendor to be located next to the pumps as per "Specification For Fire Water Network", Doc.No.BK-GCS-PEDCO-120-SA-PI-0001. 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 |
| 22 | Pressure sensing lines are in the vendor's scope of supply. | KPC : Confirmed |
| 23 | For technical requirements of electrical lv motors refer to "Data sheets "for lv induction motors: DOC NO: BK-GCS-PEDCO-120-EL-DT-0008". Power Factor, efficiency, frequent, voltage, frequent variation and voltage variation of motor shall be specified by vendor in data sheet. | KPC : Confirmed |



•03-•Y3-91A4

CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2302 A/B (Sheet 1 of 6)

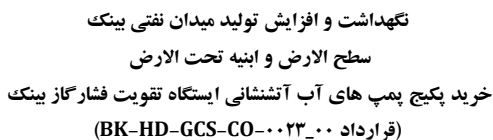
PURCH ORDER NO.

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:

PUMP MOTOR GEAR TURBINE	DATA SHEETS					
	ITEM No.	ATT	ITEM No.	ATT	ITEM No.	ATT
	P-2302 A	YES	P-2302 B	YES		



شماره پیمان:

DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER JOCKEY PUMPS

• 03-073-9184

شماره صفحه: ۵ از ۱۰

نسخه	سرمال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
V01	0003	DS	ME	120	KP	GCS	BK

CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2302 A/B (Sheet 2 of 6)

APPLICABLE TO: PROPOSAL		APPLICABLE NTL/INTNTL STANDARD: NFPA20 (2019) & IPS-M-PM-125	
FOR	NISOC	UNIT	
SITE	BINAK Gas Compressor Station	SERVICE	Fire Water Jockey Pumps
NO. REQ	2 (1+1)	TYPE	OH2 (V.T.A)
MANUFACTURER	KALAYE PUMP CO.	MODEL	KP2532
	PUMP SIZE 2 "x 1"		No. STAGES 1
			SERIAL NO. V.T.A.

LIQUID CHARACTERISTICS

	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			5	
FLOW :	m³/hr		15.0			
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		4.50			

SITE AND UTILITY DATA

LOCATION:				
OUTDOOR		UNHEATED		UNDER ROOF
MOUNTED AT :		● TROPICALISATION REQ'D		
ELECTRIC AREA CLASSIFICATION:		(6.1.22)	ZONE	SAFE
GROUP		TEMP CLASS		
SITE DATA :				
ELEVATION (MSL) :		12.5	m	BAROMETER :
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	400			
PHASE	3			
HERTZ	50			




COOLING WATER :		RETURN	DESIGN
TEMP			
PRESS.			
SOURCE			
COOLING WATER CHLORIDE CONCENTRATION:			
INSTRUMENT AIR :		kg	MIN
STEAM			kg
		DRIVERS	HEATING
TEMP			
PRESS.			

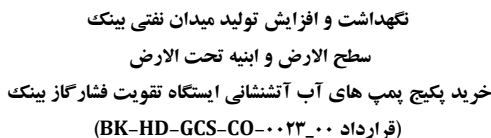
PERFORMANCE

PROPOSAL CURVE NO. 19		KP 2532	RPM	2950	KP 2532		
As Tested Curve No.							
IMPELLER DIA.:	RATED	286	MAX.	324	MIN.	250	mm
RATED POWER		14.8	Kw	EFFICIENCY		29	(%)
RATED CURVE BEP FLOW (at rated impeller dia)						19	m³/hr
MIN FLOW :						5.7	m³/hr
PREFERRED OPERATING REGION (6.1.11)		13.3		to	22.8		m³/hr
ALLOWABLE OPERATING REGION		5.7		to	22.8		m³/hr
MAX HEAD @ RATED IMPELLER						119	m
MAX POWER @ RATED IMPELLER						16.8	kW
NPSH3 AT RATED FLOW :						1.5	m
CL PUMP TO U/S BASEPLATE							m
NPSH MARGIN AT RATED FLOW :						7.3	m
SPECIFIC SPEED (6.1.9)							
SUCTION SPECIFIC SPEED LIMIT						372	
SUCTION SPECIFIC SPEED						9502	
MAX. ALLOW. SOUND PRESS. LEVEL REQD (6.1.14)						85	(dBA) @ 1 m
EST MAX SOUND PRESS. LEVEL						85	(dBA)
MAX. SOUND POWER LEVEL REQD (6.1.14)							
EST MAX SOUND POWER LEVEL							

DRIVER (7.1.5) (NOTES 11,20,17)

Driver Type		INDUCTION MOTOR	
GEAR		NO	
VARIABLE SPEED REQUIRED		NO	
SOURCE OF VARIABLE SPEED			
OTHER			
MANUFACTURER		OME	
NAMEPLATE POWER	@Site Condition	18.5	
Nominal RPM		2950	
RATED LOAD RPM			
FRAME OR MODEL			
ORIENTATION		HORIZONTAL	
LUBE		Grease	
BEARING TYPE:			
RADIAL		Ball / 1	
THRUST		Ball / 1	
STARTING METHOD		D.O.L. /Open delivery valve	
SEE DRIVER DATA SHEET		Note 1	
Max Voltage Variation		±5%	
Max Frequency Variation		±2%	
Max Voltage and Frequency Variation together		±5%	

<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 فشار گاز بینک</div> <div>(قرارداد ۰۰۲۳-۰۰-BK-HD-GCS-CO)</div>							<div> HIRGAN ENERGY</div> <div> Kalaye Pump Co.</div>																																											
شماره پیمان: ۰۵۳-۰۷۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER JOCKEY PUMPS							شماره صفحه: ۱۰ از ۶																																											
	پروژه BK	بسته کاری GCS	صادر کننده KP	تهیهات 120	رشته ME	نوع مدرک DS	سریال 0003		نسخه V01																																										
CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2302 A/B (Sheet 3 of 6)																																																			
CONSTRUCTION																																																			
API PUMP TYPE: OH2 [Based on API 610 definitions]				CASING MOUNTING: CENTERLINE SINGLE VOLUTE																																															
NOZZLE CONNECTIONS: (6.5.5) NOTES 7, 12				CASING TYPE: (6.3.10)																																															
<table><tr><td>SUCTION</td><td>Size</td><td>Facing</td><td>Rating</td><td>Position</td></tr><tr><td>DISCHARGE</td><td>2"</td><td>RF</td><td>300</td><td>END</td></tr><tr><td></td><td>1"</td><td>RF</td><td>300</td><td>TOP</td></tr></table>				SUCTION	Size	Facing	Rating	Position	DISCHARGE	2"	RF	300	END		1"	RF	300	TOP	OH3 BACKPULLOUT LIFTING DEVICE REQD. (9.1.2.6)																																
SUCTION	Size	Facing	Rating	Position																																															
DISCHARGE	2"	RF	300	END																																															
	1"	RF	300	TOP																																															
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></td><td></td><td></td><td></td><td></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						PRESSURE GAGE						TEMP GAGE						WARM-UP LINE						MAWP : (6.3.5) 15 By vendor barg @ Amb. °C				
No.	Size	Type	Facing	Rating	Posn.																																														
BAL./LEAK OFF																																																			
DRAIN	1	1/2"	SWF	RF	150	SIDE																																													
VENT																																																			
PRESSURE GAGE																																																			
TEMP GAGE																																																			
WARM-UP LINE																																																			
				HYDROTEST : 22. 1.5*MAWP barg @ Amb. °C																																															
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																																															
MATERIAL (6.12.1.1)																																																			
APPENDIX H CLASS I-2 NOTE 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)																																																			
BEARINGS AND LUBRICATION (6.10.1.1) (VTC)																																																			
BEARING (TYPE / NUMBER): (6.11.4)																																																			
RADIAL ROLLER / 1																																																			
THRUST BALL / 2																																																			
REVIEW AND APPROVE THRUST BEARING SIZE : (9.2.5.2.4)																																																			
LUBRICATION : (6.10.2.2) (6.11.3) (9.2.6) RING OIL																																																			
PRESSURE LUBE SYSTEM TO ISO 10438- (9.2.6.5)																																																			
ISO 10438 DATA SHEETS ATTACHED																																																			
Pressurized Lube Oil System mntd 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 :																																																			
HYDROTEST OH PUMP AS ASSEMBLY																																																			
SUCTION PRESS. REGIONS DESIGNED FOR MAWP																																																			
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																																																			
SHRINK FIT -LIMITED MOVEMENT IMPELLERS (9.2.2.3)																																																			
COUPLING:(7.2.3) (7.2.13.f) NOTE 16 Colossus																																																			
MANUFACTURER																																																			
MODEL																																																			
RATING (POWER/100 RPM)																																																			
SPACER LENGTH																																																			
SERVICE FACTOR																																																			
RIGID																																																			
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																																																			
BASEPLATE																																																			
API BASEPLATE NUMBER :																																																			
BASEPLATE CONSTRUCTION (7.3.14) PARTIAL TOP DECKING																																																			
BASEPLATE DRAINAGE (7.3.1) Entire Baseplate Drain Pan																																																			
MOUNTING :																																																			
NON-GROUT CONSTRUCTION : (7.3.13)																																																			
VERTICAL LEVELING SCREWS :																																																			
LONGITUDINAL DRIVER POSITIONING SCREWS :																																																			
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 :																																																			



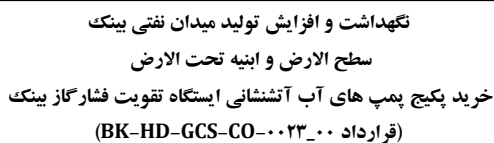
شماره پیمان: ۰۵۳-۰۷۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER JOCKEY PUMPS							شماره صفحه: ۸ از ۱۰	
	نسخه	سریال	نوع مدرک	رشته	تهیهات	صادر کننده	بسته کاری		پروژه
	V01	0003	DS	ME	120	KP	GCS		BK

CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2302 A/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-GNRAL-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 SA 2 1/2						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 SA 2 1/2						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 (NOTE 18) YES RADIOGRAPHY				
OUTDOOR STORAGE MORE THAN 6 MONTHS YES						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)						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
						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				
						REMOVE CASING AFTER TEST PER ASME SECTION VIII				

ITEM No	PUMP	DRIVER	GEAR	BASE	TOTAL
P-2302 A/B	250	146	Not applicable	405	809

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



شماره پیمان:

• 03-073-9184

DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER JOCKEY PUMPS

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
V01	0003	DS	ME	120	KP	GCS	BK

شماره صفحه: ۹ از ۱۰

CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2302 A/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 15)

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)

DEFAULT PER TABLE 11

WELDER/OPERATOR QUALIFICATION

DEFAULT PER TABLE 11

WELDING PROCEDURE QUALIFICATION

DEFAULT PER TABLE 11

NON-PRESSURE RETAINING STRUCTURAL WELDING SUCH AS BASEPLATES OR SUPPORTS

DEFAULT PER TABLE 11

MAGNETIC PARTICLE OR LIQUID PENETRANT EXAMINATION OF PLATE EDGES

DEFAULT PER TABLE 11

POSTWELD HEAT TREATMENT

DEFAULT PER TABLE 11

POSTWELD HEAT TREATMENT OF CASING FABRICATION WELDS

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 or other markings visible.



KALAYE PUMP CO.

Performance curve



Item No.	P-2302 A/B	Pump Model	KP2532	Flow, Rated (m^3/h)	15
Liquid	WATER	Speed (rpm)	2950	Head (m)	105
Temp. ($^{\circ}C$)	50	Rated Imp.Dia. (mm)	286	Efficiency (%)	29
Density(kg/m^3)	997	Suction Size (Inch)	2	NPSHR (m)	1.5
Viscosity (cp)	1	Disch. Size (Inch)	1	Rated Power (kw)	14.8
NPSHA (m)	8.8	NSS (m /h,m,rpm)	9502	Motor Power (kw)	18.5

