

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS (API 610)								شماره صفحه: ۱ از ۱۰
	پروژه	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه		
	BK	GCS	PEDCO	120	ME	DT	0024	D06	

طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS (P-2201 A/B)

نگهداشت و افزایش تولید میدان نفتی بینک

D06	SEP. 2023	AFC	H.Ghadyani	M.Fakharian	S.Faramarzpour	
D05	MAY. 2023	IFA	H. Adineh	M.Fakharian	A.M.Mohseni	
D04	SEP. 2022	IFA	H. Adineh	M.Fakharian	M. Mehrshad	
D03	APR. 2022	IFA	H. Adineh	M.Fakharian	M. Mehrshad	
D02	MAR. 2022	IFA	H. Adineh	M.Fakharian	M. Mehrshad	
D01	JAN. 2022	IFA	H. Adineh	M.Fakharian	M. Mehrshad	
D00	NOV. 2021	IFC	H. Adineh	M.Fakharian	M. Mehrshad	
REV.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 1	CLIENT Doc. Number: F0Z-708855
status:	IDC: Inter-Discipline Check IFC: Issued For Comment IFA: Issued For Approval AFD: Approved For Design AFC: Approved For Construction AFP: Approved For Purchase AFQ: Approved For Quotation IFI: Issued For Information AB-R: As-Built for CLIENT Review AB-A: As-Built –Approved



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS (API 610)

شماره صفحه: ۲ از ۱۰

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D06	0024	DT	ME	120	PEDCO	GCS	BK

REVISION RECORD SHEET

page	D00	D01	D02	D03	D04
1	x	x	x	x	x
2	x	x	x	x	x
3	x	x	x	x	x
4	x				
5	x	x	x	x	x
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page	D05	D06	D07	D08	D09
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احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS (API 610)

• 03 - • 73 - 9184

شماره صفحه: ۴ از ۱۰

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D06	0024	DT	ME	120	PEDCO	GCS	BK

API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 1 of 6)

CLIENT: National Iranian South Oil Company (NISOC)

PROJECT TITLE: BINAK New Compressor Gas Station

JOB NUMBER:

EQUIPMENT NUMBER: P-2201A/B

EQUIPMENT SERVICE: FLARE KO DRUM PUMPS

SERIAL NUMBER:

REQ. / SPEC NO. : BK-GCS-PEDCO-120-ME-SP-0003

PURCH ORDER NO.

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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:

PUMP MOTOR GEAR TURBINE	DATA SHEETS					
	ITEM No.	ATT	ITEM No.	ATT	ITEM No.	ATT
	P-2201 A		P-2201 B			

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																	
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS (API 610) <table><tr><td>پروژه</td><td>بسته کاری</td><td>صادرکننده</td><td>تسهیلات</td><td>رشته</td><td>نوع مدرک</td><td>سریال</td><td>نسخه</td></tr><tr><td>BK</td><td>GCS</td><td>PEDCO</td><td>120</td><td>ME</td><td>DT</td><td>0024</td><td>D06</td></tr></table>	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	PEDCO	120	ME	DT	0024	D06	شماره صفحه: ۱۰ از ۵۰
پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	GCS	PEDCO	120	ME	DT	0024	D06											

API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 2 of 6)

APPLICABLE TO: PROPOSAL	APPLICABLE NTL/INTNTL STANDARD: API 610 - 11th Edition, IPS-G-PM-105
FOR NISOC	UNIT
SITE BINAK Gas Compressor Station	SERVICE
NO. REQ 2(1+1)	TYPE Vertical No. STAGES V.T.A
MANUFACTURER	MODEL VS6 (VTC) SERIAL NO.

LIQUID CHARACTERISTICS					INTERMITTENT
	Units	Maximum	Minimum	Note	
LIQUID TYPE OR NAME :		HC		Max & min values refer only to the property listed	
VAPOR PRESSURE :	bara	1			
DENSITY : (Note 1)	kg/m³	1022	852		
SPECIFIC HEAT :	kJ/kgC				
VISCOSITY : (Note 2)	cP	1.50	1.03		584.6
OPERATING CONDITIONS (6.1.2)					
	Units	Maximum	Rated	Normal	Min
NPSH _A Datum:		C.L. Impeller			
PUMPING TEMPERATURE :	°C		5(worse case)		
FLOW :	m³/hr		2.20	2.00	
DISCHARGE PRESSURE:	barg		1.6		
SUCTION PRESSURE :	barg	0.6			0.1
DIFFERENTIAL PRESSURE :	bar		1.5		
DIFFERENTIAL HEAD :	m		15.6		
NPSH _A :	m		1		
HYDRAULIC POWER:	KW		0.1		

SITE AND UTILITY DATA										
LOCATION: OUTDOOR UNHEATED		COOLING WATER :								
MOUNTED AT : TROPICALISATION REQ'D		TEMP <table><tr><td>RETURN</td><td>DESIGN</td></tr><tr><td></td><td></td></tr></table>			RETURN	DESIGN				
RETURN	DESIGN									
ELECTRIC AREA CLASSIFICATION: (6.1.22) ZONE 1		PRESS. <table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>								
GROUP II B TEMP CLASS T3		SOURCE <table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>								
SITE DATA :		COOLING WATER CHLORIDE CONCENTRATION: _____								
ELEVATION (MSL) : 12.5 m		INSTRUMENT AIR : _____ kg MIN _____ kg								
RANGE OF DESIGN TEMPS:MIN / MAX 5 85 °C		STEAM <table><tr><td>DRIVERS</td><td>HEATING</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>			DRIVERS	HEATING				
DRIVERS	HEATING									
RELATIVE HUMIDITY: MIN / MAX 0 100 % (@ 25.6 °C)		TEMP <table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>								
UNUSUAL CONDITIONS:		PRESS. <table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>								
UTILITY CONDITIONS :										
ELECTRICITY :	DRIVERS	HEATING	CONTROL	SHUTDOWN						
VOLTAGE	400									
PHASE	3									
HERTZ	50									

PERFORMANCE					DRIVER (7.1.5) (Note 27)	
PROPOSAL CURVE NO. _____	RPM _____				Driver Type	MOTOR
As Tested Curve No. _____					GEAR	NO
IMPELLER DIA.: _____	RATED _____	MAX. _____	MIN. _____	VARIABLE SPEED REQUIRED	NO	
RATED POWER _____	Kw	EFFICIENCY _____		SOURCE OF VARIABLE SPEED		
RATED CURVE BEP FLOW (at rated impeller dia)				OTHER _____		
MIN FLOW : _____	kJ/Nm³			MANUFACTURER _____		
PREFERRED OPERATING REGION (6.1.11)		to _____		NAMEPLATE POWER AND POWER FACTOR @Site Condition _____	KW	
ALLOWABLE OPERATING REGION		to _____		Nominal RPM _____		
MAX HEAD @ RATED IMPELLER			m	RATED LOAD RPM _____		
MAX POWER @ RATED IMPELLER			kW	FRAME OR MODEL _____		
NPSH3 AT RATED FLOW :			m	ORIENTATION Vertical		
CL PUMP TO U/S BASEPLATE			m	LUBE _____		
NPSH MARGIN AT RATED FLOW :			m	BEARING TYPE: _____		
SPECIFIC SPEED (6.1.9)				RADIAL _____		
SUCTION SPECIFIC SPEED LIMIT				THRUST _____		
SUCTION SPECIFIC SPEED				STARTING METHOD D.O.L/ Open Discharge Valve		
MAX. ALLOW. SOUND PRESS. LEVEL REQD (6.1.14)		85.00	(dBA)	INSULATION/TEMP. RISE F/B		
EST MAX SOUND PRESS. LEVEL			(dBA)	Max Voltage Variation ±10%		
MAX. SOUND POWER LEVEL REQ'D (6.1.14)				Max Frequency Variation ±5%		
EST MAX SOUND POWER LEVEL				Max Voltage and Frequency Variation together ±10%		

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شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS (API 610) <table><tr><td>پروژه</td><td>بسته کاری</td><td>صادر کننده</td><td>تسهیلات</td><td>رشته</td><td>نوع مدرک</td><td>سریال</td><td>نسخه</td></tr><tr><td>BK</td><td>GCS</td><td>PEDCO</td><td>120</td><td>ME</td><td>DT</td><td>0024</td><td>D06</td></tr></table>	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	PEDCO	120	ME	DT	0024	D06	شماره صفحه: ۱۰ از ۱۶
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	GCS	PEDCO	120	ME	DT	0024	D06											

API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 3 of 6)

CONSTRUCTION																																																													
API PUMP TYPE: <u>VS6</u> [Based on API 610 definitions] SEE ALSO PAGE 6 NOZZLE CONNECTIONS: (6.5.5) (Notes 3,28) <table><tr><th>Size</th><th>Facing</th><th>Rating</th><th>Position</th></tr><tr><td></td><td>RF</td><td>300</td><td>SIDE</td></tr><tr><td></td><td>RF</td><td>300</td><td>SIDE</td></tr></table> SUCTION DISCHARGE PRESSURE CASING AUX. CONNECTIONS: (6.4.3.2) <table><tr><th>No.</th><th>Size</th><th>Type</th><th>Facing</th><th>Rating</th><th>Posn.</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>RF</td><td>300</td><td></td></tr><tr><td></td><td></td><td></td><td>RF</td><td>300</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> BAL./LEAK OFF DRAIN VENT PRESSURE GAGE TEMP GAGE WARM-UP LINE Drain Valve Supplied By <u>VENDOR</u> DRAINS MANIFOLDED <u>VENDOR</u> VENT Valve Supplied By <u>VENDOR</u> VENTS MANIFOLDED <u>YES</u> THREAD, CONS FOR PIPELINE SERVICE & < 50°C (6.4.3.2) _____ SPECIAL FITTINGS FOR TRANSITIONING (6.4.3.3) _____ CYLINDRICAL THREADS REQUIRED (6.4.3.8) _____ GUSSET SUPPORT REQUIRED <u>YES</u> If Needed MACHINED AND STUDDED CONNECTIONS (6.4.3.12) _____ VS 6 DRAIN _____ DRAIN TO SKID EDGE <u>YES</u>	Size	Facing	Rating	Position		RF	300	SIDE		RF	300	SIDE	No.	Size	Type	Facing	Rating	Posn.										RF	300					RF	300																										CASING MOUNTING: CASING TYPE: (6.3.10) _____ OH3 BACKPULLOUT LIFTING DEVICE REQD. (9.1.2.6) _____ CASE PRESSURE RATING: (Note 36) MAWP : (6.3.5) <u>40</u> barg @ _____ °C HYDROTEST : <u>1.5*MAWP</u> barg @ _____ °C HYDROTEST OH PUMP AS ASSEMBLY <u>YES</u> SUCT'N PRESS. REGIONS DESIGNED FOR MAWP <u>YES</u> ROTATION: (VIEWED FROM COUPLING END) - IMPELLERS INDIVIDUALLY SECURED : <u>YES</u> - 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) _____ MANUFACTURER _____ MODEL _____ RATING (POWER/100 RPM) _____ SPACER LENGTH _____ mm SERVICE FACTOR <u>min 1.5</u> RIGID (Note 31) <u>NO</u> COUPLING WITH HYDRAULIC FIT (7.2.10) _____ COUPLING BALANCED TO ISO 1940-1 G6.3 (7.2.3) <u>YES</u> COUPLING WITH PROPRIETARY CLAMPING DEVICE (7.2.11) _____ COUPLING IN COMPLIANCE WITH (7.2.4) <u>API 610 compliant</u> COUPLING GUARD STANDARD PER (7.2.13.a) <u>ISO 14120</u> Window on Coupling Guard _____
Size	Facing	Rating	Position																																																										
	RF	300	SIDE																																																										
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No.	Size	Type	Facing	Rating	Posn.																																																								
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			RF	300																																																									
MATERIAL (6.12.1.1) APPENDIX H CLASS <u>S-6</u> (VTC) MIN DESIGN METAL TEMP (6.12.4.1) <u>5</u> °C REDUCED-HARDNESS MATERIALS REQ'D (6.12.1.12.1) <u>YES</u> (Note 29) Applicable Hardness Standard (6.12.1.12.3) _____ BARREL : _____ CASE : _____ DIFFUSERS _____ IMPELLER : _____ IMPELLER WEAR RING : _____ CASE WEAR RING : _____ SHAFT: _____ Bowl (if VS-type) _____ Inspection Class <u>Level 2</u>		BASEPLATE API BASEPLATE NUMBER : _____ BASEPLATE CONSTRUCTION (7.3.14) _____ BASEPLATE DRAINAGE (7.3.1) <u>Entire Baseplate Drain Pan</u> MOUNTING : _____ NON-GROUT CONSTRUCTION : (7.3.13) _____ VERTICAL LEVELING SCREWS : <u>REQUIRED</u> LONGITUDINAL DRIVER POSITIONING SCREWS : <u>REQUIRED</u> SUPPLIED WITH : GROUT AND VENT HOLES <u>YES</u> DRAIN CONNECTION <u>YES</u> MOUNTING PADS SIZED FOR BASEPLATE LEVELING (7.3.5) _____ MOUNTING PADS TO BE MACHINED (7.3.6) _____ PROVIDE SPACER PLATE UNDER ALL EQUIPMENT FEET _____ OTHER _____ REMARKS : _____ _____ _____ _____																																																											
BEARINGS AND LUBRICATION (6.10.1.1) BEARING (TYPE / NUMBER): (6.11.4) RADIAL _____ / _____ THRUST _____ / _____ REVIEW AND APPROVE THRUST BEARING SIZE : (9.2.5.2.4) _____ LUBRICATION : (6.10.2.2) (6.11.3) (9.2.6) <u>FLOOD</u> 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 <u>VENDOR</u> OIL VISC. ISO GRADE <u>VG</u> CONSTANT LEVEL OILER : <u>REQUIRED</u>																																																													

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	احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							شماره صفحه: ۷ از ۱۰	
	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS (API 610)							شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	
	نسخه	سریال	نوع مدرک	رشته	تهیهات	صادرکننده	بسته کاری	پروژه	
	D06	0024	DT	ME	120	PEDCO	GCS	BK	

API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 4 of 6)

INSTRUMENTATION	SEAL SUPPORT SYSTEM MOUNTING
SEE ATTACHED API-670 DATA SHEET	SEAL SUPPORT SYSTEM MOUNTED ON PUMP BASEPLATE
ACCELEROMETER (7.4.2.1)	(7.5.1.4)
Number of Accelerometers	IDENTIFY LOCATION ON BASEPLATE
Mounting Location of Accelerometers	INTERCONNECTING PIPING BY VENDOR
PROVISION FOR MTG ONLY (6.10.2.10)	MECHANICAL SEAL (6.8.1) (VTS)
Number of Accelerometers	SEE ATTACHED ISO 21049/API 682 DATA SHEET (Note 4)
Mounting Location of Accelerometers	ADDITIONAL CENTRAL FLUSH PORT (6.8.9)
FLAT SURFACE REQUIRED (6.10.2.11) YES	HEATING JACKET REQ'D. (6.8.11)
Number of Accelerometers	FLUSH PLAN 31+53B
Mounting Location of Accelerometers	
VIBRATION PROBES (7.4.2.2)	HEATING AND COOLING (6.1.17) (VTS)
PROVISIONS FOR VIB. PROBES	COOLING REQ'D
NUMBER PER RADIAL BEARING	COOLING WATER PIPING PLAN
NUMBER PER AXIAL BEARING	COOLING WATER PIPING
MONITORS AND CABLES SUPPLIED BY (7.4.2.4)	FITTINGS
	COOLING WATER PIPING MATERIALS
	COOLING WATER REQUIREMENTS:
TEMPERATURE (7.4.2.3)	TOTAL COOLING WATER
PROVISIONS FOR TEMP PROBES	HEATING MEDIUM
RADIAL BEARING TEMP.	OTHER
NUMBER PER RADIAL BEARING	HEATING PIPING
THRUST BEARING TEMP.	
NUMBER PER THRUST BEARING ACTIVE SIDE	
NUMBER PER THRUST BEARING INACTIVE SIDE	
TEMP. GAUGES (WITH THERMOWELLS) (9.1.3.6)	PIPING & APPURTENANCES
PRESSURE GAUGE TYPE	MANIFOLD PIPING FOR PURCHASER CONNECTION (7.5.1.6)
Remarks	VENT YES
	DRAIN YES
	VALVES YES (NOTE 5)
	COOLING WATER YES
	TAG ALL ORIFICES (7.5.2.4) YES
	SOCKET WELD CONN ON SEAL GLAND (7.5.2.8)

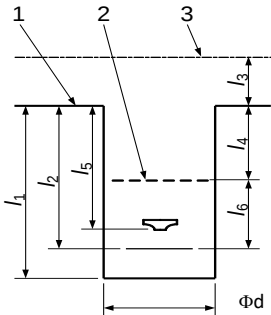
 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک									
	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS (API 610)							شماره صفحه: ۱۰ از ۸		
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0024	نسخه D06		

API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 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-0012 "Specification for Painting"						& DATA APPROVAL PRIOR TO SHIPMENT.		YES
PUMP:						TEST WITH SUBSTITUTE SEAL (8.3.3.2.b)		NO
PUMP SURFACE PREPARATION						MATERIAL CERTIFICATION REQUIRED		YES
PRIMER						SHAFT (6.12.1.8) IMPELLER		YES
FINISH COAT						OTHER		NOTE 6
BASEPLATE:						CASTING REPAIR WELD PROCEDURE APPR REQD		YES
BASEPLATE SURFACE PREPARATION						INSPECTION REQUIRED FOR CONNECTION WELDS (6.12.3.4.d)		
PRIMER:						LIQUID PENETRANT		YES
FINISH COAT						ULTRASONIC		
DETAILS OF LIFTING DEVICES						INSPECTION REQUIRED FOR CASTINGS		
SHIPMENT: (8.4.1)						LIQUID PENETRANT		
EXPORT BOXING REQUIRED						ULTRASONIC		
OUTDOOR STORAGE MORE THAN 6 MONTHS						HARDNESS TEST REQUIRED (8.2.2.7)		
ROTOR STORAGE ORIENTATION (9.2.8.2)						ADDNL SUBSURFACE EXAMINATION (6.12.1.5) (8.2.1.3)		
SHIPPING & STORAGE CONTAINER FOR VERT STORAGE (9.2.8.3)						FOR		
N ₂ PURGE (9.2.8.4)						METHOD		
SPARE PARTS						PMI TESTING REQUIRED (8.2.2.8)		YES
START-UP						COMPONENTS TO BE TESTED		
NORMAL MAINTENANCE						RESIDUAL UNBALANCE TEST (J.4.1.2)		
ITEM No						NOTIFICATION OF SUCCESSFUL SHOP		
PUMP						PERFORMANCE TEST (8.1.1.c) (8.3.3.5)		YES
DRIVER						BASEPLATE TEST (7.3.21)		
GEAR						HYDROSTATIC		WIT
BASE						HYDROSTATIC TEST OF BOWLS & COLUMN (9.3.13.2)		WIT
TOTAL						PERFORMANCE TEST		WIT
OTHER PURCHASER REQUIREMENTS						TEST IN COMPLIANCE WITH (8.3.3.2)		8.3.3.2
COORDINATION MEETING REQUIRED (10.1.3)						TEST DATA POINTS TO (8.3.3.3)		8.3.3.3
MAXIMUM DISCHARGE PRESSURE TO INCLUDE						TEST TOLERANCES TO (8.3.3.4)		
MAX RELATIVE DENSITY						NPSH (8.3.4.3.1) (8.3.4.3.4)		WIT
OPERATION TO TRIP SPEED						NPSH-1ST STG ONLY (8.3.4.3.2)		
MAX DIA. IMPELLERS AND/OR NO OF STAGES						NPSH TESTING TO HI 1.6 OR ISO 9906 (8.3.4.3.3)		
CONNECTION DESIGN APPROVAL (9.2.1.4)						TEST NPSHA LIMITED TO 110% SITE NPSHA (8.3.3.6)		
TORSIONAL ANALYSIS / REPORT (6.9.2.10)						RETEST ON SEAL LEAKAGE (8.3.3.2.d)		
PROGRESS REPORTS						RETEST REQUIRED AFTER FINAL HEAD ADJ (8.3.3.7.b)		
OUTLINE OF PROC FOR OPTIONAL TESTS (10.2.5)						COMPLETE UNIT TEST (8.3.4.4.1)		
ADDITIONAL DATA REQUIRING 20 YEARS RETENTION (8.2.1.1)						SOUND LEVEL TEST (8.3.4.5)		WIT
LATERAL ANALYSIS REQUIRED (9.1.3.4) (9.2.4.1.3)						CLEANLINESS PRIOR TO FINAL ASSEMBLY (8.2.2.6)		NON-WIT
MODAL ANALYSIS REQUIRED (9.3.9.2)						LOCATION OF CLEANLINESS INSPECTION		
DYNAMIC BALANCE ROTOR (6.9.4.4)						NOZZLE LOAD TEST		
INSTALLATION LIST IN PROPOSAL (10.2.3.1)						CHECK FOR CO-PLANAR MOUNTING PAD SURFACES		
VFD STEADY STATE DAMPED RESPONSE ANALYSIS (6.9.2.3)						MECHANICAL RUN TEST UNTIL OIL TEMP STABLE		
TRANSIENT TORSIONAL RESPONSE						4 HR. MECH RUN AFTER OIL TEMP STABLE (8.3.4.2.1)		WIT
BEARING LIFE CALCULATIONS REQUIRED (6.10.1.6)						4 HR. MECH RUN TEST (8.3.4.2.2)		WIT
IGNITION HAZARD ASSMT TO EN 13463-1 (7.2.13.e)						BRG HSG RESONANCE TEST (8.3.4.7)		
CASING RETIREMENT THICKNESS DRAWING (10.3.2.3)						STRUCTURAL RESONANCE TEST (9.3.9.2)		
FLANGES RQD IN PLACE OF SKT WELD UNIONS (7.5.2.8)						REMOVE / INSPECT HYDRODYNAMIC BEARINGS AFTER TEST		
INCLUDE PLOTTED VIBRATION SPECTRA (6.9.3.3)						(9.2.7.5)		
CONNECTION BOLTING (7.5.1.7)						AUXILIARY EQUIPMENT TEST (8.3.4.6)		
CADMIUM PLATED BOLTS PROHIBITED						EQUIPMENT TO BE INCLUDED IN AUXILIARY TESTS		
VENDOR TO KEEP REPAIR AND HT RCDS (8.2.1.1.c)						LOCATION OF AUXILIARY EQUIPMENT TEST		
VENDOR SUBMIT TEST PROCEDURES (8.3.1.1)						IMPACT TEST		PER EN 13445
SUBMIT INSPECTION CHECK LIST (8.1.5)						REMOVE CASING AFTER TEST		PER ASME SECTION VIII

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک		 					
	شماره پیمان: ۰۵۳-۰۷۳-۹۱۸۴	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS (API 610)		شماره صفحه: ۱۰ از ۹				
	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تهیلات 120	رشته ME	نوع مدرک DT	سریال 0024	نسخه D06

API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 6 of 6)

1	Note	VERTICAL TYPE (FIG 1.1) VS6				Rev	
2	REMARKS	For P&ID refer to BK-GCS-PEDCO-120-PR-PI-0020					
3							
4							
5		VERTICAL PUMPS		VERTICAL PUMPS (CONT'D)			
6		PUMP THRUST:		LINE SHAFT:			
7		(+) UP (-) DOWN		LINE SHAFT DIAMETER _____ mm			
8		STATIC THRUST _____ N _____ N		TUBE DIAMETER _____ mm			
9		AT MIN FLOW _____ N _____ N		LINE SHAFT COUPLING:			
10		AT RATED FLOW _____ N _____ N		LINESHAFT CONNECTION _____			
11		AT MAX FLOW _____ N _____ N					
12		MAX THRUST _____ N _____ N					
13		SOLEPLATE REQUIRED _____		• SUCTION STRAINER TYPE _____			
14		SOLEPLATE Length x Width _____ m X _____ m		• LEVEL CONTROL _____			
15		SOLEPLATE THICKNESS _____ mm		IMPELLER COLLETS ACCEPTABLE _____			
16		MOUNTING FLANGE REQUIRED _____		HARDENED SLEEVES UNDER BEARINGS (9.3.10.5) _____			
17		COLUMN PIPE:		RESONANCE TEST _____			
18		DIAMETER _____ mm		STRUCTURAL ANALYSIS (9.3.5) _____			
19		LENGTH _____ m		DRIVER ALIGNMENT SCREWS _____			
20		NUMBER _____		SUCTION CAN			
21		SPACING _____ m		SUCTION CAN _____ THICKNESS _____ mm			
22		GUIDE BUSHINGS:		LENGTH _____ m			
23		NUMBER _____		DIAMETER _____ mm			
24		LINE SHAFT BEARING SPACING _____ mm		SEPARTATE MOUNTING PLATE (9.3.8.3.1) YES			
25		GUIDE BUSHING LUBE: _____		PROVIDE SEPARATE SOLEPLATE (9.3.8.3.3) YES			
26				DRAIN PIPED TO SURFACE (9.3.13.5) _____			
27				BOWL HEAD CALCULATION REQUIRED _____			
28		MATERIALS (additional)					
29		SUCTION CAN / BARREL: _____		LINESHAFT SLEEVES : YES			
30		DISCHARGE HEAD : • _____		BEARING RETAINER : _____			
31		BOWL SHAFT : _____		SHAFT ENCLOSING TUBE : _____			
32		LINESHAFT : _____		DISCHARGE COLUMN : _____			
33		LINESHAFT HARDFACING : _____		PRESSURE RATING:			
34		BELLMOUTH : _____		HEAD _____		MAWP HYDRO	
35		BOWL BEARING : _____		COLUMN PIPE _____			
36		LINESHAFT BEARING : _____		BOWL _____			
37		SUMP ARRANGEMENT					
38		SUMP DIMENSIONS :					
39		GRADE ELEVATION	1	_____	m		
40		LOW LIQUID LEVEL	2	_____	m		
41		C.L. OF DISCHARGE	3	_____	m		
42		SUMP DEPTH	l_1	_____	m		
43		PUMP LENGTH	l_2	_____	m		
44		GRADE TO DISCH.	l_3	_____	m		
45		GRADE TO LOW LIQUID LVL	l_4	_____	m		
46		GRADE TO 1ST STG IMPL'R.	l_5	_____	m		
47		SUBMERGENCE REQ'D	l_6	_____	m		
48		SUMP DIAMETER	Φd	_____	m		
49							
50							
51							
52							
53							
54							
55							
56							



احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



• 03 - • 73 - 9184

MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS (API 610)

شماره صفحه: ۱۰ از ۱۰

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D06	0024	DT	ME	120	PEDCO	GCS	BK

API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 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

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

REQUIRED

REQUIRED

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

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

REMARKS :

For P&ID refer to "BK-GCS-PEDCO-120-PR-PI-0020"

