

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 - 073 - 9184	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMP (API 610)								شماره صفحه: 1 از 10
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	
	BK	GCS	PEDCO	120	ME	DT	0024	D04	

طرح نگهداشت و افزایش تولید 27 مخزن

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

نگهداشت و افزایش تولید میدان نفتی بینک

D04	SEP. 2022	AFC	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: 2	CLIENT Doc. Number: F0Z-708855
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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
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	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMP (API 610)						شماره صفحه: 2 از 10	
شماره پیمان: 053 - 073 - 9184	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT		

REVISION RECORD SHEET

page	D00	D01	D02	D03	D04	page	D00	D01	D02	D03	D04
1	x	x	x	x	x	65					
2	x	x	x	x	x	66					
3	x	x	x	x	x	67					
4	x					68					
5	x	x	x	x	x	69					
6	x	x	x	x	x	70					
7	x				x	71					
8	x	x				72					
9	x	x			x	73					
10					x	74					
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شماره پیمان: 053 - 073 - 9184	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS (API 610)		شماره صفحه: 3 از 10				
	پروژه	پسته کاری	تسهيلات صادرکننده	رشته	نوع مدرک	سریال	نسخه
	BK	GCS	PEDCO	120	ME	DT	0024 D04

GENERAL NOTES	
1 Density at normal temperature is 980 kg/m3.	
2 Viscosity at normal temperature is 0.46 cP.	
3 Suction & Discharge line diameters are 2".	
4 Mechanical Seal data sheet shall be filled in by vendor as per API 682, 4th edition.	
5 Pump drain shall be terminated at skid edge with flange connection and valved. Valves in the piping system shall be Welded Flanged type.	
6 Material class of 'I-1', 'I-2', 'S-1', 'S-2', 'S-3', 'S-4', 'S-5', 'S-6', 'C-6' 'A-7' and 'A-8', which is defined in API 610 table H.1, shall be provided with full chemical analysis and mechanical test certification to BS EN 10204:2004 "3.1". Material class of 'D-1' and 'D-2', which is defined in API 610 table H.1 and also titanium materials shall be provided with full chemical analysis and mechanical test certification to BS EN 10204:2004 "3.2".	
7 PMI Testing for Alloy Steel Shall be Done.	
If NPSH margin be less than 1m, NPSH test Shall be Done.	
9 API Plan 31-53B shall be considered. (vendor to confirm)	
10 Min. / Max. Design temperature (°c): 5 / 85	
11 Temperature finalize after depressurizing study.	
12 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" with his proposal.	
13 Vendor shall submit ITP (Inspection & Testing Plan) with his proposal.	
14 Vendor is requested to confirm the material, or propose appropriate alternative.	
15 The Tie-in flanges shall conform to ASME B-16.5.	
16 Vendor to indicate which minimum flow pumps can achieve.	
17 Pumps shall be designed, fabricated, tested, and inspected in accordance with the requirements of API 610 11th edition.	
18 Welding repair procedures shall be submitted for approval.	
19 If pump is self venting there is no need for vent.	
20 Ultrasonic Test shall be performed for forged shaft.	
21 For pumps with vacuum suction pressure the minimum NPSH margin shall be 2 m. for other pumps the minimum NPSH margin shall be 1 m.	
22 Spare parts shall be supplied by vendor according to 'MR's appendix for Centrifugal Pumps; Doc. No.: BK-GCS-PEDCO-120-ME-MR-0009"	
23 Bearing temperature shall be measured during mechanical run test.	
24 For electrical motor descriptions, refer to 'Specification For LV induction Motors' Doc. No. BK-GNRAL-PEDCO-000-EL-SP-0010. and 'Specification for MV induction motors' Doc.No. BK-GNRAL-PEDCO-000-EL-SP-0017.	
25 Electrical motor shall be rated for the end of curve.	
26 For site conditions refer to Process Basis of Design Document. Doc.No. BK-GNRAL-PEDCO-000-PR-DB-0001.	
27 Power Factor, efficiency, frequent, voltage, frequent variation and voltage variation of motor shall be specified by vendor in data sheet.	
28 Allowable external forces and moments on nozzle are equal to two times of table 5 of API 610-11th edition.	
29 The material shall be in compliance with NACE MR0175/ISO15156 and Specification For Material Requirements in Sour service Document No. BK-GNRAL-PEDCO-000-PI-SP-0008	
30 Range of Amb.Temp. : Min. ambient temperature: 5 °C , Max. ambient temperature: 50 °C.	
31 Coupling shall be flexible with spacer.	
32 The motors, pump mechanical seal, pump coupling and pump accessories shall be supplied from the project's approved vendor list (A.V.L.). Chinese & Indian vendors are not acceptable for Mechanical seal , Electro motor and coupling subvendors.	
33 Max Allowable Pressure at Shut-Off at rated impeller (barg) : 9.6	D04
34 Barometric pressure in Binak new GCS; winter: 14.37 psia summer: 13.26 psia	



احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

053 - 073 - 9184

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

شماره صفحه: 4 از 10

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D04	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:

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

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
P-2201 A		P-2201 B			

PUMP
MOTOR
GEAR
TURBINE

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																																																																			
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API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 2 of 6)																																																																				
APPLICABLE TO: PROPOSAL FOR: NISOC SITE: BINAK Gas Compressor Station NO. REQ: 2 operating PUMP SIZE: _____ MANUFACTURER: _____		APPLICABLE NTL/INTNTL STANDARD: API 610 - 11th Edition, IPS-G-PM-105 UNIT: _____ SERVICE: _____ TYPE: Vertical No. STAGES: V.T.A MODEL: VS6 (VTC) SERIAL NO.: _____																																																																		
LIQUID CHARACTERISTICS																																																																				
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LOCATION: OUTDOOR UNHEATED MOUNTED AT : _____ TROPICALISATION REQ'D _____ ELECTRIC AREA CLASSIFICATION: (6.1.22) ZONE 1 GROUP II B TEMP CLASS T3 SITE DATA : ELEVATION (MSL) : 12.5 m BAROMETER : (Note 35) _____ mBar RANGE OF DESIGN TEMPS:MIN / MAX 5 85 °C RELATIVE HUMIDITY: MIN / MAX 0 100 % (@ 25.6 °C) UNUSUAL CONDITIONS: _____ UTILITY CONDITIONS : <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>ELECTRICITY :</th> <th>DRIVERS</th> <th>HEATING</th> <th>CONTROL</th> <th>SHUTDOWN</th> </tr> </thead> <tbody> <tr> <td>VOLTAGE</td> <td style="text-align: center;">400</td> <td></td> <td></td> <td></td> </tr> <tr> <td>PHASE</td> <td style="text-align: center;">3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>HERTZ</td> <td style="text-align: center;">50</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		ELECTRICITY :	DRIVERS	HEATING	CONTROL	SHUTDOWN	VOLTAGE	400				PHASE	3				HERTZ	50				COOLING WATER : <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>RETURN</th> <th>DESIGN</th> </tr> </thead> <tbody> <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> </tbody> </table> COOLING WATER CHLORIDE CONCENTRATION: _____ INSTRUMENT AIR : _____ kg MIN _____ kg STEAM <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>DRIVERS</th> <th>HEATING</th> </tr> </thead> <tbody> <tr> <td>TEMP</td> <td></td> <td></td> </tr> <tr> <td>PRESS.</td> <td></td> <td></td> </tr> </tbody> </table>		RETURN	DESIGN	TEMP			PRESS.			SOURCE				DRIVERS	HEATING	TEMP			PRESS.																											
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PROPOSAL CURVE NO. _____ RPM _____ As Tested Curve No. _____ IMPELLER DIA.: _____ RATED _____ MAX. _____ MIN. _____ mm RATED POWER _____ Kw EFFICIENCY _____ (%) RATED CURVE BEP FLOW (at rated impeller dia) _____ m ³ /hr MIN FLOW : _____ kJ/Nm ³ _____ m ³ /hr PREFERRED OPERATING REGION (6.1.11) _____ to _____ m ³ /hr ALLOWABLE OPERATING REGION _____ to _____ m ³ /hr MAX HEAD @ RATED IMPELLER _____ m MAX POWER @ RATED IMPELLER _____ kW NPSH ₃ AT RATED FLOW : _____ m CL PUMP TO U/S BASEPLATE _____ m NPSH MARGIN AT RATED FLOW : _____ m SPECIFIC SPEED (6.1.9) _____ SUCTION SPECIFIC SPEED LIMIT _____ SUCTION SPECIFIC SPEED _____ MAX. ALLOW. SOUND PRESS. LEVEL REQD (6.1.14) 85.00 (dBA) EST MAX SOUND PRESS. LEVEL _____ (dBA) MAX. SOUND POWER LEVEL REQ'D (6.1.14) _____ EST MAX SOUND POWER LEVEL _____		Driver Type MOTOR GEAR NO VARIABLE SPEED REQUIRED NO SOURCE OF VARIABLE SPEED _____ OTHER _____ MANUFACTURER _____ NAMEPLATE POWER AND POWER FACTOR @Site Condition _____ KW Nominal RPM _____ RATED LOAD RPM _____ FRAME OR MODEL _____ ORIENTATION HORIZONTAL LUBE _____ BEARING TYPE: _____ RADIAL _____ THRUST _____ STARTING METHOD D.O.L/ Open Discharge Valve SEE DRIVER DATA SHEET _____ Max Voltage Variation ±5% Max Frequency Variation ±2% Max Voltage and Frequency Variation together ±5%																																																																		

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

CONSTRUCTION																																																															
API PUMP TYPE: VS6 [Based on API 610 definitions] NOZZLE CONNECTIONS: (6.5.5) (Notes 3,28) <table border="1"> <tr> <th>Size</th> <th>Facing</th> <th>Rating</th> <th>Position</th> </tr> <tr> <td>SUCTION</td> <td>RF</td> <td>300</td> <td>END</td> </tr> <tr> <td>DISCHARGE</td> <td>RF</td> <td>300</td> <td>TOP</td> </tr> </table> PRESSURE CASING AUX. CONNECTIONS: (6.4.3.2) <table border="1"> <tr> <th>No.</th> <th>Size</th> <th>Type</th> <th>Facing</th> <th>Rating</th> <th>Posn.</th> </tr> <tr> <td>BAL./LEAK OFF</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DRAIN</td> <td></td> <td></td> <td>RF</td> <td>300</td> <td></td> </tr> <tr> <td>VENT</td> <td></td> <td></td> <td>RF</td> <td>300</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>					Size	Facing	Rating	Position	SUCTION	RF	300	END	DISCHARGE	RF	300	TOP	No.	Size	Type	Facing	Rating	Posn.	BAL./LEAK OFF						DRAIN			RF	300		VENT			RF	300		PRESSURE GAGE						TEMP GAGE						WARM-UP LINE						CASING MOUNTING: CENTERLINE CASING TYPE: (6.3.10) OH3 BACKPULLOUT LIFTING DEVICE REQD. (9.1.2.6) CASE PRESSURE RATING: MAWP : (6.3.5) 40 barg @ °C HYDROTEST : 1.5*MAWP barg @ °C HYDROTEST OH PUMP AS ASSEMBLY YES SUCTION PRESS. REGIONS DESIGNED FOR MAWP YES ROTATION: (VIEWED FROM COUPLING END) • 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) MANUFACTURER MODEL RATING (POWER/100 RPM) SPACER LENGTH mm SERVICE FACTOR min 1.5 RIGID (Note 31) 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				
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WARM-UP LINE																																																															
MATERIAL (6.12.1.1) APPENDIX H CLASS S-6 (VTC) MIN DESIGN METAL TEMP (6.12.4.1) 5 °C REDUCED-HARDNESS MATERIALS REQ'D (6.12.1.12.1) YES (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 Level 2																																																															
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) RING OIL 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 VENDOR OIL VISC. ISO GRADE VG CONSTANT LEVEL OILER : REQUIRED																																																															
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 DRAIN CONNECTION 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 :																																																															

 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 PUMP (API 610)								
شماره پیمان: 053 - 073 - 9184	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0024	نسخه D04	شماره صفحه: 7 از 10

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 D04
Mounting Location of Accelerometers	HEATING AND COOLING (6.1.17) (VTS)
VIBRATION PROBES (7.4.2.2)	COOLING REQ'D
PROVISIONS FOR VIB. PROBES	COOLING WATER PIPING PLAN
NUMBER PER RADIAL BEARING	COOLING WATER PIPING
NUMBER PER AXIAL BEARING	FITTINGS
MONITORS AND CABLES SUPPLIED BY (7.4.2.4)	COOLING WATER PIPING MATERIALS
TEMPERATURE (7.4.2.3)	COOLING WATER REQUIREMENTS:
PROVISIONS FOR TEMP PROBES	TOTAL COOLING WATER
RADIAL BEARING TEMP.	HEATING MEDIUM
NUMBER PER RADIAL BEARING	OTHER
THRUST BEARING TEMP.	HEATING PIPING
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								
	شماره پیمان: 053 - 073 - 9184						شماره صفحه: 10 از 10		
MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMP (API 610)									
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه		
BK	GCS	PEDCO	120	ME	DT	0024	D04		

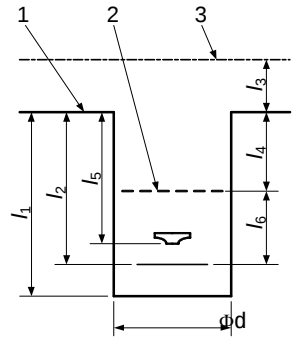
API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 5 of 6)

SURFACE PREPARATION AND PAINT						TEST			
MANUFACTURER'S STANDARD						SHOP INSPECTION (8.1.1)			
OTHER (SEE BELOW)						PERFORMANCE CURVE			
SPECIFICATION NO. BK-GNRL-PEDCO-000-PI-SP-0012 "Specification for Painting"						& DATA APPROVAL PRIOR TO SHIPMENT.			
PUMP:						TEST WITH SUBSTITUTE SEAL (8.3.3.2.b)			
PUMP SURFACE PREPARATION						MATERIAL CERTIFICATION REQUIRED			
PRIMER						CASKING			
FINISH COAT						SHAFT			
BASEPLATE:						OTHER			
BASEPLATE SURFACE PREPARATION						CASTING REPAIR WELD PROCEDURE APPR REQD			
PRIMER:						INSPECTION REQUIRED FOR CONNECTION WELDS (6.12.3.4.d)			
FINISH COAT						LIQUID PENETRANT			
DETAILS OF LIFTING DEVICES						ULTRASONIC			
SHIPMENT: (8.4.1)						INSPECTION REQUIRED FOR CASTINGS			
EXPORT BOXING REQUIRED						LIQUID PENETRANT			
OUTDOOR STORAGE MORE THAN 6 MONTHS						ULTRASONIC			
ROTOR STORAGE ORIENTATION (9.2.8.2)						HARDNESS TEST REQUIRED (8.2.2.7)			
SHIPPING & STORAGE CONTAINER FOR VERT STORAGE (9.2.8.3)						ADDNL SUBSURFACE EXAMINATION (6.12.1.5) (8.2.1.3)			
N ₂ PURGE (9.2.8.4)						FOR			
SPARE PARTS						METHOD			
START-UP						PMI TESTING REQUIRED (8.2.2.8)			
NORMAL MAINTENANCE						COMPONENTS TO BE TESTED			
						RESIDUAL UNBALANCE TEST (J.4.1.2)			
						NOTIFICATION OF SUCCESSFUL SHOP			
						PERFORMANCE TEST (8.1.1.c) (8.3.3.5)			
						BASEPLATE TEST (7.3.21)			
						HYDROSTATIC			
						HYDROSTATIC TEST OF BOWLS & COLUMN (9.3.13.2)			
						PERFORMANCE TEST			
						TEST IN COMPLIANCE WITH (8.3.3.2)			
						TEST DATA POINTS TO (8.3.3.3)			
						TEST TOLERANCES TO (8.3.3.4)			
						NPSH (8.3.4.3.1) (8.3.4.3.4)			
						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)			
						RETEST REQUIRED AFTER FINAL HEAD ADJ (8.3.3.7.b)			
						COMPLETE UNIT TEST (8.3.4.4.1)			
						SOUND LEVEL TEST (8.3.4.5)			
						CLEANLINESS PRIOR TO FINAL ASSEMBLY (8.2.2.6)			
						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)			
						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 احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک	
شماره پیمان: 053-073-9184	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMP (API 610) پروژه بسته کاری صادر کننده تجهیزات رشته نوع مدرک سریال نسخه BK GCS PEDCO 120 ME DT 0024 D04	شماره صفحه: 10 از 19

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				
6		VERTICAL PUMPS		VERTICAL PUMPS (CONT'D)
7		PUMP THRUST:	(+) UP (-) DOWN	LINE SHAFT:
8		STATIC THRUST	_____ N _____ N	LINE SHAFT DIAMETER _____ mm
9		AT MIN FLOW	_____ N _____ N	TUBE DIAMETER _____ mm
10		AT RATED FLOW	_____ N _____ N	LINE SHAFT COUPLING:
11		AT MAX FLOW	_____ N _____ N	LINESHAFT CONNECTION _____
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	
20		NUMBER	_____	DRIVER ALIGNMENT SCREWS _____
21		SPACING	_____ m	SUCTION CAN
22		GUIDE BUSHINGS:		SUCTION CAN _____ THICKNESS _____ mm
23		NUMBER	_____	LENGTH _____ m
24		LINE SHAFT BEARING SPACING	_____ mm	DIAMETER _____ mm
25		GUIDE BUSHING LUBE:	_____	
26				SEPARTATE MOUNTING PLATE (9.3.8.3.1) _____
27				PROVIDE SEPARATE SOLEPLATE (9.3.8.3.3) _____
28				DRAIN PIPED TO SURFACE (9.3.13.5) _____
29				BOWL HEAD CALCULATION REQUIRED _____
30		MATERIALS (additional)		
31		SUCTION CAN / BARREL:	_____	LINESHAFT SLEEVES : _____
32		DISCHARGE HEAD :	• _____	BEARING RETAINER : _____
33		BOWL SHAFT :	_____	SHAFT ENCLOSING TUBE : _____
34		LINESHAFT :	_____	DISCHARGE COLUMN : _____
35		LINESHAFT HARDFACING :	_____	PRESSURE RATING: _____
36		BELLMOUTH :	_____	MAWP _____ HYDRO _____
37		BOWL BEARING :	_____	HEAD _____
38		LINESHAFT BEARING :	_____	COLUMN PIPE _____
39				BOWL _____
40		SUMP ARRANGEMENT		
41		SUMP DIMENSIONS :		
42		GRADE ELEVATION	1 _____ m	
43		LOW LIQUID LEVEL	2 _____ m	
44		C.L. OF DISCHARGE	3 _____ m	
45		SUMP DEPTH	l_1 _____ m	
46		PUMP LENGTH	l_2 _____ m	
47		GRADE TO DISCH.	l_3 _____ m	
48		GRADE TO LOW LIQUID LVL	l_4 _____ m	
49		GRADE TO 1ST STG IMPL'R.	l_5 _____ m	
50		SUBMERGENCE REQ'D	l_6 _____ m	
51		SUMP DIAMETER	Φd _____ m	
52				
53				
54				
55				
56				





احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

053 - 073 - 9184

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

شماره صفحه: 10 از 10

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D04	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

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 :

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