

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS								شماره صفحه: ۱ از ۱۰
	پروژه	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه		
	BK	GCS	PEDCO	120	ME	DT	0024	D07	

طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS

نگهداشت و افزایش تولید میدان نفتی بینک

D07	JUN. 2024	AFC	V.Amjadi	M.Fakharian	M.Sadeghian	
D06	SEP. 2023	AFC	H.Ghadyani	M.Fakharian	A.M.Mohseni	
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							
	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS						شماره صفحه: ۲ از ۱۰	
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0024	نسخه D07

REVISION RECORD SHEET

page	D00	D01	D02	D03	D04	page	D05	D06	D07	D08	D09
1	x	x	x	x	x	1	x	x	x		
2	x	x	x	x	x	2	x	x	x		
3	x	x	x	x	x	3	x				
4	x					4					
5	x	x	x	x	x	5	x		x		
6	x	x	x	x	x	6	x		x		
7	x					7					
8	x	x			x	8	x				
9	x	x			x	9	x				
10						10					
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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک																									
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	<table border="1" style="width: 100%; text-align: center;"> <tr> <th colspan="8">MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS</th> </tr> <tr> <th>نسخه</th> <th>سریال</th> <th>نوع مدرک</th> <th>رشته</th> <th>تسهیلات</th> <th>صادر کننده</th> <th>بسته کاری</th> <th>پروژه</th> </tr> <tr> <td>D07</td> <td>0024</td> <td>DT</td> <td>ME</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table>	MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D07	0024	DT	ME	120	PEDCO	GCS	BK	شماره صفحه: ۱۰ از ۳
MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D07	0024	DT	ME	120	PEDCO	GCS	BK																			
GENERAL NOTES																										
1 Mass Density [kg/m3] at Min. / Norm / Max. Temp: 852 / 980 / 1022																										
2 Viscosity [cP] At Min. / Normal / Max. Temp: 1.03 / 0.46 / 1.5																										
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 A drain line to be considered in barrel and to be pipe up to mounted skid.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.																										
8 If NPSH margin be less than 1m, NPSH test Shall be Done.																										
9 API Plan 31-53B shall be considered. (vendor to confirm)																										
10 Design Condition:																										
(Min./Max.) Design Temperature(°C): 5 / 85																										
Design Pressure(barg): 9																										
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 and coupling guard shall be of Non-Spark type.																										
32 elevation of pump centerline from ground is 76 cm.																										
33 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.																										
34 Max Allowable Pressure at Shut-Off(barg) : 9																										
35 Barometric pressure in Binak new GCS; winter: 14.37 psia summer: 13.26 psia																										
36 Barrel and pump shall have the same MAWP and to be hydrotest in same value with pump.																										



احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

• 03 - • 73 - 91A4

MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D07	0024	DT	ME	120	PEDCO	GCS	BK

شماره صفحه: ۴ از ۱۰

API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 1 of 7)

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

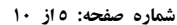
Delete these notes on completion

COMMENTS:

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



احداث ردیف تراکم گاز در ایستگاه جمع آوری سنک



• 03 - • 73 - 9184

MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D07	0024	DT	ME	120	PEDCO	GCS	BK

API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 2 of 7)

APPLICABLE TO:	<u>PROPOSAL</u>	APPLICABLE NTL/INTNTL STANDARD:	<u>API 610 - 11th Edition, IPS-G-PM-105</u>
FOR	<u>NISOC</u>	UNIT	
SITE	<u>BINAK Gas Compressor Station</u>	SERVICE	
NO. REQ	<u>2(1+1)</u>	TYPE	<u>HORIZONTAL</u> No. STAGES <u>V.T.A</u>
MANUFACTURER	<u>PUMP SIZE</u>	MODEL	<u>OH2 (VTC)</u> SERIAL NO. <u></u>

LIQUID CHARACTERISTICS

	Units	Maximum	Minimum	Note	SERVICE :	INTERMITTENT
LIQUID TYPE OR NAME :	HC			Max & min values refer only to the property listed	• IF INTERMITTENT NO. OF STARTS :	
VAPOR PRESSURE :	bara	1			PUMPS OPERATE IN:	
DENSITY : (Note 1)	kg/m³	1022	852		CORROSION DUE TO : (6.12.1.9)	
SPECIFIC HEAT :	kJ/kgC				EROSION DUE TO : (6.12.1.9)	
VISCOSITY : (Note 2)	cP	1.50	1.03		H2S CONCENTRATION (ppm) : (6.12.1.12)	584.6
D07	OPERATING CONDITIONS (6.1.2)				CHLORIDE CONCENTRATION (ppm) :	
NPSH _A Datum:	Units	Maximum	Rated	Normal	Min	PARTICULATE SIZE (DIA IN MICRONS)
	C.L. Impeller					PARTICULATE CONCENTRATION (PPM)
PUMPING TEMPERATURE :	°C	5(worse case)				SOUR SERVICE:
FLOW :	m³/hr	2.20		2.00		YES
DISCHARGE PRESSURE:	barg	1.6				
SUCTION PRESSURE :	barg	1.00			0.4	
DIFFERENTIAL PRESSURE :	bar	1.5				
DIFFERENTIAL HEAD :	m	15.6				
NPSH _A :	m	3.2				
HYDRAULIC POWER:	KW	0.1				

SITE AND UTILITY DATA

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 : (N)
RANGE OF DESIGN TEMPS: MIN / MAX		5	85 °C
RELATIVE HUMIDITY: MIN / MAX		0	100 %
UNUSUAL CONDITIONS:			
UTILITY CONDITIONS:			
ELECTRICITY :	DRIVERS	HEATING	CONTROL
VOLTAGE	400		SHUTDOWN
PHASE	3		
HERTZ	50		

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

PERFORMANCE

PROPOSAL CURVE NO.		RPM		
As Tested Curve No.				
IMPELLER DIA.:	RATED	MAX.	MIN.	
RATED POWER	K_w	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
NPSH3 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 (7.1.5) (Note 27)

DRIVER (7.1.5) (NOV 27)		MOTOR	
Driver Type	_____		
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	D07
LUBE	_____		
BEARING TYPE:	_____		
RADIAL	_____	/	
THRUST	_____	/	
STARTING METHOD	_____	D.O.L/ Open Discharge Valve	
INSULATION/TEMP. RISE	_____		F/B
Max Voltage Variation	_____		±10%
Max Frequency Variation	_____		±5%
Max Voltage and Frequency Variation together	_____		±10%

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API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 3 of 7)																																																																				
CONSTRUCTION																																																																				
API PUMP TYPE: D07 OH2 [Based on API 610 definitions] NOZZLE CONNECTIONS: (6.5.5) (Notes 3,28) <table><tr><td>Size</td><td>Facing</td><td>Rating</td><td>Position</td></tr><tr><td></td><td>RF</td><td>300</td><td>END</td></tr><tr><td></td><td>RF</td><td>300</td><td>TOP</td></tr></table> SUCTION DISCHARGE PRESSURE CASING AUX. CONNECTIONS: (6.4.3.2) <table><tr><td>No.</td><td>Size</td><td>Type</td><td>Facing</td><td>Rating</td><td>Posn.</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>BAL./LEAK OFF</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>DRAIN</td><td></td><td></td><td></td><td></td><td></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> Drain Valve Supplied By VENDOR DRAINS MANIFOLDED VENDOR VENT Valve Supplied By VENDOR VENTS MANIFOLDED YES 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 YES If Needed MACHINED AND STUDDED CONNECTIONS (6.4.3.12) VS 6 DRAIN DRAIN TO SKID EDGE YES		Size	Facing	Rating	Position		RF	300	END		RF	300	TOP	No.	Size	Type	Facing	Rating	Posn.				RF	300					RF	300		BAL./LEAK OFF						DRAIN						VENT						PRESSURE GAGE						TEMP GAGE						WARM-UP LINE						CASING MOUNTING: CASING TYPE: (6.3.10) OH3 BACKPULLOUT LIFTING DEVICE REQD. (9.1.2.6) CASE PRESSURE RATING: (Note 36) MAWP : (6.3.5) 40 barg @ °C HYDROTEST : 1.5*MAWP barg @ °C HYDROTEST OH PUMP AS ASSEMBLY YES SUCT'N PRESS. REGIONS DESIGNED FOR MAWP YES ROTATION: (VIEWED FROM COUPLING END) - IMPELLERS INDIVIDUALLY SECURED : YES - BOLT OH 3/4/5 PUMP TO PAD / FOUNDATION : YES - 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
Size	Facing	Rating	Position																																																																	
	RF	300	END																																																																	
	RF	300	TOP																																																																	
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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		BASEPLATE API BASEPLATE NUMBER : BASEPLATE CONSTRUCTION (7.3.14) BASEPLATE DRAINAGE (7.3.1) Entire Baseplate Drain Pan MOUNTING : NON-GROUT CONSTRUCTION : (7.3.13) VERTICAL LEVELING SCREWS : REQUIRED LONGITUDINAL DRIVER POSITIONING SCREWS : REQUIRED SUPPLIED WITH : GROUT AND VENT HOLES YES DRAIN CONNECTION YES MOUNTING PADS SIZED FOR BASEPLATE LEVELING (7.3.5) 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) (6.10.2.2) (6.11.3) (9.2.6) RING OIL D07 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																																																																				

 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 <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>D07</td></tr></table>	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	PEDCO	120	ME	DT	0024	D07	شماره صفحه: ۱۰ از ۸
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	GCS	PEDCO	120	ME	DT	0024	D07											

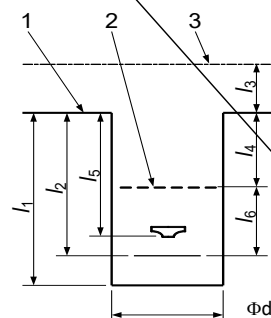
API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 5 of 7)

SURFACE PREPARATION AND PAINT						TEST																									
MANUFACTURER'S STANDARD _____						SHOP INSPECTION (8.1.1) Yes																									
OTHER (SEE BELOW) YES						PERFORMANCE CURVE _____																									
SPECIFICATION NO. BK-GNRL-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 BY VENDOR						MATERIAL CERTIFICATION REQUIRED CASING YES																									
PRIMER BY VENDOR						SHAFT YES (6.12.1.8) IMPELLER YES																									
FINISH COAT BY VENDOR						OTHER YES (Casing and Impeller Wear ring) NOTE 6																									
BASEPLATE:						CASTING REPAIR WELD PROCEDURE APPR REQD YES																									
BASEPLATE SURFACE PREPARATION BY VENDOR						INSPECTION REQUIRED FOR CONNECTION WELDS (6.12.3.4.d) _____																									
PRIMER: BY VENDOR						LIQUID PENETRANT YES MAG PARTICLE YES																									
FINISH COAT BY VENDOR						ULTRASONIC _____ RADIOGRAPHY _____																									
DETAILS OF LIFTING DEVICES _____						INSPECTION REQUIRED FOR CASTINGS _____																									
SHIPMENT: (8.4.1) EXPORT						LIQUID PENETRANT _____ MAG PARTICLE _____																									
EXPORT BOXING REQUIRED YES						ULTRASONIC _____ RADIOGRAPHY _____																									
OUTDOOR STORAGE MORE THAN 6 MONTHS YES						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) (NOTE 7) YES																									
START-UP YES						COMPONENTS TO BE TESTED _____																									
NORMAL MAINTENANCE YES						RESIDUAL UNBALANCE TEST (J.4.1.2) _____																									
<table><tr><th>ITEM No</th><th>PUMP</th><th>DRIVER</th><th>GEAR</th><th>BASE</th><th>TOTAL</th></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>						ITEM No	PUMP	DRIVER	GEAR	BASE	TOTAL																			NOTIFICATION OF SUCCESSFUL SHOP PERFORMANCE TEST (8.1.1.c) (8.3.3.5) YES	
ITEM No	PUMP	DRIVER	GEAR	BASE	TOTAL																										
OTHER PURCHASER REQUIREMENTS						BASEPLATE TEST (7.3.21) _____																									
COORDINATION MEETING REQUIRED (10.1.3) YES						HYDROSTATIC _____ WIT																									
MAXIMUM DISCHARGE PRESSURE TO INCLUDE _____						HYDROSTATIC TEST OF BOWLS & COLUMN (9.3.13.2) WIT																									
MAX RELATIVE DENSITY YES 1022 kg/m ³						PERFORMANCE TEST WIT																									
OPERATION TO TRIP SPEED _____						TEST IN COMPLIANCE WITH (8.3.3.2) 8.3.3.2																									
MAX DIA. IMPELLERS AND/OR NO OF STAGES YES						TEST DATA POINTS TO (8.3.3.3) 8.3.3.3																									
CONNECTION DESIGN APPROVAL (9.2.1.4) _____						TEST TOLERANCES TO (8.3.3.4) _____																									
TORSIONAL ANALYSIS / REPORT (6.9.2.10) _____						NPSH (8.3.4.3.1) (8.3.4.3.4) (NOTE 8) WIT																									
PROGRESS REPORTS _____						NPSH-1ST STG ONLY (8.3.4.3.2) _____																									
OUTLINE OF PROC FOR OPTIONAL TESTS (10.2.5) _____						NPSH TESTING TO HI 1.6 OR ISO 9906 (8.3.4.3.3) _____																									
ADDITIONAL DATA REQUIRING 20 YEARS RETENTION (8.2.1.1) _____						TEST NPSHA LIMITED TO 110% SITE NPSHA (8.3.3.6) _____																									
LATERAL ANALYSIS REQUIRED (9.1.3.4) (9.2.4.1.3) _____						RETEST ON SEAL LEAKAGE (8.3.3.2.d) _____																									
MODAL ANALYSIS REQUIRED (9.3.9.2) _____						RETEST REQUIRED AFTER FINAL HEAD ADJ (8.3.3.7.b) _____																									
DYNAMIC BALANCE ROTOR (6.9.4.4) _____						COMPLETE UNIT TEST (8.3.4.4.1) _____																									
INSTALLATION LIST IN PROPOSAL (10.2.3.1) YES						SOUND LEVEL TEST (8.3.4.5) WIT																									
VFD STEADY STATE DAMPED RESPONSE ANALYSIS (6.9.2.3) _____						CLEANLINESS PRIOR TO FINAL ASSEMBLY (8.2.2.6) NON-WIT																									
TRANSIENT TORSIONAL RESPONSE _____						LOCATION OF CLEANLINESS INSPECTION _____																									
BEARING LIFE CALCULATIONS REQUIRED (6.10.1.6) YES						NOZZLE LOAD TEST _____																									
IGNITION HAZARD ASSMT TO EN 13463-1 (7.2.13.e) _____						CHECK FOR CO-PLANAR MOUNTING PAD SURFACES _____																									
CASING RETIREMENT THICKNESS DRAWING (10.3.2.3) _____						MECHANICAL RUN TEST UNTIL OIL TEMP STABLE _____																									
FLANGES RQD IN PLACE OF SKT WELD UNIONS (7.5.2.8) YES						4 HR. MECH RUN AFTER OIL TEMP STABLE (8.3.4.2.1) WIT																									
INCLUDE PLOTTED VIBRATION SPECTRA (6.9.3.3) _____						4 HR. MECH RUN TEST (8.3.4.2.2) WIT																									
CONNECTION BOLTING (7.5.1.7) SS						BRG HSG RESONANCE TEST (8.3.4.7) _____																									
CADMIUM PLATED BOLTS PROHIBITED _____						STRUCTURAL RESONANCE TEST (9.3.9.2) _____																									
VENDOR TO KEEP REPAIR AND HT RCDS (8.2.1.1.c) YES						REMOVE / INSPECT HYDRODYNAMIC BEARINGS AFTER TEST (9.2.7.5) _____																									
VENDOR SUBMIT TEST PROCEDURES (8.3.1.1) YES						AUXILIARY EQUIPMENT TEST (8.3.4.6) _____																									
SUBMIT INSPECTION CHECK LIST (8.1.5) YES						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: ۰۵۳-۰۷۳-۹۱۸۴		شماره صفحه: ۱۰ از ۱۹	
MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS				
پروژه: BK	بسته کاری: GCS	صادر کننده: PEDCO	تهیلات: 120	رشته: ME
		نوع مدرک: DT	سریال: 0024	نسخه: D07

API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 6 of 7)

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





احداث ردیف تہ اکہم گاز در ایستگاه جمع آوری بینک



• 03 - • 73 - 9184

MECHANICAL DATA SHEETS FOR FLARE KO DRUM PUMPS

شماره صفحه: ۱۰ از ۱۰

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D07	0024	DT	ME	120	PEDCO	GCS	BK

API Std. 610 CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2201 A/B (Sheet 7 of 7)

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"