
 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 IRIGAN ENERGY	
شماره پیمان: 053-073-9184	MECHANICAL DATA SHEETS FOR DIESEL PUMP								شماره صفحه: 1 از 5
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	
	BK	GCS	PEDCO	120	ME	DT	0026	D05	

طرح نگهداشت و افزایش تولید 27 مخزن

MECHANICAL DATA SHEETS FOR DIESEL PUMP (P-2206)

نگهداشت و افزایش تولید میدان نفتی بینک

D05	DEC. 2022	AFC	H. Adineh	M.Fakharian	M. Mehrshad	
D04	SEP. 2022	AFC	H. Adineh	M.Fakharian	M. Mehrshad	
D03	APR. 2022	AFC	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-708857

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 شماره پیمان: 053-073-9184	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
	MECHANICAL DATA SHEETS FOR DIESEL PUMP							
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
	D05	0026	DT	ME	120	PEDCO	GCS	BK

شماره صفحه: 2 از 5

REVISION RECORD SHEET

page	D00	D01	D02	D03	D04	D05	page	D00	D01	D02	D03	D04
1	x	x	x	x	x	x	65					
2	x	x	x	x	x	x	66					
3	x	x	x	x	x	x	67					
4	x	x	x	x	x	x	68					
5	x						69					
6							70					
7							71					
8							72					
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 NISOC	<p style="text-align: center;">نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p style="text-align: center;">احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان: 053-073-9184	MECHANICAL DATA SHEETS FOR DIESEL PUMP							شماره صفحه: 3 از 5
	پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه
	BK	GCS	PEDCO	120	ME	DT	0026	D05
GENERAL NOTES								
1. For electrical motor descriptions, refer to 'Specification For LV Induction Motors' Doc. No. BK-GNRAL-PEDCO-000-EL-SP-0010.								
2. 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.								
3. Vendor shall submit ITP (Inspection & Testing Plan) with his proposal.								
4. The motors,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 as a subvendors.								
5. Vendor is requested to confirm the material, or propose appropriate alternative.								
6. Mechanical seal data sheet shall fill in by vendor as per API 682. Pump Manufacturer shall supply all instrumentation for mechanical seals as per API 682 4th Edition and project requirements.								
7. NPSH test shall be done & witnessed if the margin of NPSHr & NPSHa is less than 1.								
8. The Tie-in flanges shall conform to ASME B-16.5.								
9. Supplier to indicate which minimum flow pumps can achieve.								
10. Pumps shall be designed, fabricated, tested, and inspected in accordance with the requirements of ISO 5199 latest edition.								
11. Pump starts with open delivery valve.								
12. Electrical motor shall be rated for site condition.								
13. The suction & discharge line size is 2". Nozzles shall be in accordance with ASME B16.5								
14. 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".								
15. Based on project instrumentation specification, these equipments are classified as Type B (Connected to DCS/ESD): Centrifugal Pump Package								
16. Pump material shall be selected based on Annex H API 610 11th Edition.								
17. If pump is self venting there is no need for vent .								
18. Ultrasonic Test shall be performed for forged shaft.								
19. 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.								
20. Couplings shall be flexible with spacer.								
21. Bearing temperature shall be measured during mechanical run test.								
22. Max. allow. sound press. level shall be 85 d BA.								
23. For site conditions refer to Process Basis of Design document. Doc.No. BK-GNRAL-PEDCO-000-PR-DB-0001.								
24. For electrical motor descriptions, refer to 'Specification For LV induction Motors' 'Doc. No.BK-GNRAL-PEDCO-000-EL-SP-0010.								
25. Power Factor, efficiency, frequent, voltage, frequent variation and voltage variation of motor shall be specified by vendor in data sheet.								
26. Allowable external forces and moments on nozzle should be conformed to Spec. No.: BK-GCS-PEDCO-120-ME-SP-0004.								
27 Vendor shall specify minimum flow for best pump selection.								
28 Pumping Temp. (Min. / Max.) (°C): 5 / 50								
29 Suction Pressure (Min/ Max.) (barg): 0 / 0.11								
30 Due to continous minimum flow line by orifice, Pump rated flow = Rated process flow (5.5 m3/hr) + Pump min flow.								
31 Max Allowable Pressure at Shut-Off at rated impeller (barg): 2.1								
32 Hydraulic power (Kw): 0.3  D05								
33 Minimum design metal temperature (°c): 5								
34 Design Temperature (°c): 5 / 85								

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	احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
شماره پیمان:	MECHANICAL DATA SHEETS FOR DIESEL PUMP						شماره صفحه: 4 از 5	
053-073-9184	پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه
	BK	GCS	PEDCO	120	ME	DT	0026	D05



ISO Std. 5199 CENTRIFUGAL PUMP DATA SHEET (SI UNIT)

Corporate name NISOC		D05 Centrifugal pump Data sheet						Rev.: Data: Name:	
Plant: BINAK Gas Compressor Station						Service: Diesel Oil Pump			
						Ref. Standards: ISO 5199, IPS-M-PM-115			
						Ref. Spec. No.: BK-GCS-PEDCO-120-ME-SP-0004			
	No. req.	Pump type	Eq. API-610 Type	Mfr. serial No.	Kind of driver	Drive, type, size	Item No.		
Operation	1	Horizontal	OH2		Motor	LV Induction Electric Motor	P-2206		
Standby									
Drawings	Installation dimension			Pump weight		Pump Content			
	Assembly pump			Customer		Enquiry No.			
	Assembly shaft seal					Order No.			
	Piping	Auxiliary system			Supplier		Proposal No.		
		Shaft seal					Contract No.		
Test (3)	Material (16)	Hydrostatic	Complete Unit	Inspection	Perform.	NPSH (7)	Sound Level	Final inspection	
Refer.	ISO 5199	ISO 5199	ISO 5199	ISO 5199	ISO 5199	ISO 5199	ISO 5199	ISO 5199	
Witn. by	Certified	Witnessed	Witnessed	Witnessed	Witnessed	Witnessed	Witnessed	Certified	

		D05 Operating Condition (11)								
Liquid	Diesel Fuel Oil		Flow	rated (30)	5.5+min flow	m³/h	NPSH at rated flow	Plant- NPSHA	10	m
Solids	Type			normal	5.00	m³/h		Pump- NPSH3		m
	%of mass			min.		m³/h				
Corrosion by		Minimum flow required			m³/h	Pump speed rated		rpm		
Op. Temp. (Min./Max.)		5 / 50	°C	Inlet gauge	Min.	0.00	barg	Pump power input rated		kW
pH-value at T _{op}				pressure (29)	max.	0.11	barg	Pump power input	rated impeller dia.	kW
Density at T _{normal}		850	kg/m³	Outlet gage pressure rated		0.95	barg	max. impeller dia.		kW
Vapour press. at T _{max}		Negligible	bara	Differential pressure rated		2.00	bar	Electric. Driver power output rated (Note 25)		kW
Kinematic vis. at T _{normal}		4.8	cP	Total head rated		24.00	m	Steam turbine power output rated		kW
Specific heat at T _{op}		J/Kg.K		Shut-off head			m	Performance curve No.		

		D05 Construction Features						
Design		barg	Max. allowable work press		By vendor	barg	Cooling water condition	N.A.
Number of Stages		1	Test pressure		1.5*MAWP	barg	Cooling (C) Series (s)	N.A.
Self priming		NO	Inlet Flange	Size/Position	/ End		Heating (H), Parallel (p)	C H S P
Impeller diameter	max	mm		Rating/facing (13)	-/150# / RF		Bearing	
	rated	mm	Size/Position	/ Top		Seal Chamber		
	min	mm	Rating/facing (13)	-/150# / RF		Cooler for seal flush		
Pump length vertical pumps		mm	Vent connection (17)				Oil cooler	
Barrel dia. vertical pumps		mm	Drain connection		-/150# / RF		Flush	Liquid
Casing split			Shaft seal manufacture				Lantern ring	
Casing seal type			Type, size (6)		Mechanical Seal		Mechanical ring	
Impeller type			Flush plan (VTA)		11		Gland/Seal plate	N.A.
Casing support			Material code					
Rotation(looking from driver)			Soft packing ring dimension		N.A.		Coupling (20)	Manufacture
Axial thrust reduction by			Rad. Bearing	Type			Type, Size	
Total clearance	Impeller	mm	Axial. Bearing	Size			Diameter max	mm
	Bal. Drum	mm	Line shaft bearing				Spacer length	mm
	Shaft bushes	mm	Bearing bracket No.					
	Wear plate	mm	Lubrication					
Wall thickness rot sheath / stat. cas			Lubrication device				Driver	Supplied by
							Mounted by	Vendor

Site and Utility Data (Notes 23,25)									
Location		<input type="radio"/> Partial sides	<input checked="" type="radio"/> Outdoor	<input checked="" type="radio"/> Unheated	Site data:	Elevation	m	Barometer	mbar
<input type="radio"/> Winterization REQ'D		<input type="radio"/> Tropicalization REQ'D		Range of ambient temps: MIN/MAX		5 / 50		°C	
Unusual condition		<input type="radio"/> Dust	<input type="radio"/> Fumes	<input type="radio"/> Others	Relative humidity: MIN/MAX		0 / 100		%
Driver	Volt.	400	Hertz	50	Phase	3	Max Voltage Variation		± 10%
Type of protection						Max Frequency Variation		± 5%	
Temperature rise class / Insulation class						Max Volt. and Frequency Variation together		± 10%	
Electric Area Classification						Safe Area		Starting Method	
								D.O.L./Open Discharge valve	

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	MECHANICAL DATA SHEETS FOR DIESEL PUMP						شماره صفحه: 5 از 5	
شماره پیمان: 053-073-9184	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0026	نسخه D05

ISO Std. 5199 CENTRIFUGAL PUMP DATA SHEET (SI UNIT)

Material (VTA)									
API class	S-1 (According to API-610)	(5, 16)							
Casing		Bearing bush						Gland plate & gasket	
Discharge casing		Balance disc-drum						Rotor ring	Inner/outer
Suction casing		Bal. counter disc-drum bus.						Static ring	Inner/outer
Stage casing		Contrain.shell / Stat.casing						Spring or bellow	
Suction impeller		Rotor sheath / can						Seal metal parts	
Impeller		Magnet material						Rotary & Static ring seats	
Diffuser	N.A.	Barrel						Gland Plate	
Wear ring casing		Column pipe						Soft packing ring	
Wear ring impeller		Bearing bracket						Lantern ring	
Wear plate / lining		Motor stool					Shaft sleeve		
Case bush		Coupling					Throat bush		
Casing gaskets		Coupling guard					Paint	According to "Specification for Painting"; Doc. No. BK-GNRL-PEDCO-000-PI-SP-0006.	
Shaft		Base plate							

Remarks

For P&ID refer to BK-GCS-PEDCO-120-PR-PI-0023.

Customer		Supplier	
Prepared (Data / Dep/ Signature)	Checked (Data / Dep/ Sign.)	Prepared (Data / Dep/ Signature)	Checked (Data / Dep/ Sign.)