

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 IRIRGAN ENERGY 	
شماره پیمان: 053-073-9184	MECHANICAL DATA SHEETS FOR DIESEL PUMP								شماره صفحه: 1 از 5
	پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرک	سريال	نسخه	
	BK	GCS	PEDCO	120	ME	DT	0026	D04	

طرح نگهداشت و افزایش تولید 27 مخزن

MECHANICAL DATA SHEETS FOR DIESEL PUMP (P-2206 A/B)

نگهداشت و افزایش تولید میدان نفتی بینک

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

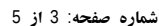
 NISOC شماره پیمان: 053-073-9184	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
	MECHANICAL DATA SHEETS FOR DIESEL PUMP							
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
	D04	0026	DT	ME	120	PEDCO	GCS	BK

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	x	x	x	x	68					
5	x					69					
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احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



MECHANICAL DATA SHEETS FOR DIESEL PUMP

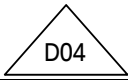
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D04	0026	DT	ME	120	PEDCO	GCS	BK

شماره صفحه: 3 از 5

1. For electrical motor descriptions, refer to 'Specification For LV Induction Motors' Doc. No. BK-GNRL-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 sizes are 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-GNRL-PEDCO-000-PR-DB-0001.	
24. For electrical motor descriptions, refer to 'Specification For LV induction Motors' 'Doc. No.BK-GNRL-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
	D04
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):	0.2
33 Minimum design metal temperature (°c):	5
34 Design Temperature (°c):	5 / 85

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شماره پیمان:	MECHANICAL DATA SHEETS FOR DIESEL PUMP						شماره صفحه: 4 از 5	
053-073-9184	پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرک	سريال	نسخه
	BK	GCS	PEDCO	120	ME	DT	0026	D04

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

Corporate name NISOC		 Centrifugal pump Data sheet						Rev.:	
Plant: BINAK Gas Compressor Station		Service: Diesel Oil Pump						Data:	
		Ref. Standards: ISO 5199, IPS-M-PM-115						Name:	
		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 2	Horizontal	OH2		Motor	LV Induction Electric Motor	P-2206 A/B			
Standby									
Drawings	Installation dimension			Pump weight		Pump Content			
	Assembly pump			Customer		Enquiry No.		Date	
	Assembly shaft seal					Order No.		Date	
	Piping	Auxiliary system			Supplier		Proposal No.		Date
	Shaft seal					Contract No.		Date	
Test (3)	Material (16)	Hydrostatic	Complete Unit	Inspection	Perform.	NPSH (7)	Sound Level	Final inspection	Approved documents
Refer.	ISO 5199	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	Certified

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	rated	barg	Pump efficiency rated		%		
pH-value at T _{op}			pressure (29)	max.	0.11	barg	Pump power input rated		kW	
Density at T _{normal}	850	kg/m³	Outlet gage pressure rated		0.95	barg	Pump power input	rated impeller dia.	kW	
Vapour press. at T _{max}	Negligible	bara	Differential pressure rated		1.00	bar	Electric. Driver power output rated (Note 25)	max. impeller dia.	kW	
Kinematic vis. at T _{normal}	4.8	cP	Total head rated		12.00	m	Steam turbine power output rated		kW	
Specific heat at T _{op}			Shut-off head			m	Performance curve No.			

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	2" / End	Heating (H), Parallel (p)	C	H
Impeller diameter	max	Outlet Flange	Rating/facing (13)	-/150# / RF	Bearing	S	P
	rated		Size/Position	2" / Top	Seal Chamber		
	min		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	Quantity
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			Coupling (20)	Manufacture	
Rotation(looking from driver)		Soft packing ring dimension	N.A.			Type, Size	
Axial thrust reduction by		Rad. Bearing	Type			Diameter max	mm
Total clearance	Impeller	Axial. Bearing	Size			Spacer length	mm
	Bal. Drum	Line shaft bearing			Baseplate		
	Shaft bushes	Bearing bracket No.			Anchor bolts supplied by	Vendor	
Wear plate	mm	Lubrication			Driver	Supplied by	Vendor
Wall thickness rot sheath / stat. cas		Lubrication device			Mounted by	Vendor	

Site and Utility Data (Notes 23,25)

Location	☐ Partial sides	☒ Outdoor	☒ Unheated	Site data:	Elevation	m	Barometer	mbar
☐ Winterization REQ'D	☐ Tropicalization REQ'D	Range of ambient temps: MIN/MAX		5 / 50		°C		
Unusual condition	☐ Dust	☐ Fumes	☐ Others	Relative humidity: MIN/MAX		0 / 100 %		
Driver	Volt.	400	Hertz	50	Phase	3	Max Voltage Variation	± 5%
Type of protection				Max Frequency Variation		± 2%		
Temperature rise class / Insulation class				Max Volt. and Frequency Variation together		± 5%		
Electric Area Classification	Safe Area			Starting Method		D.O.L./Open Discharge valve		

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053-073-9184	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
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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-GNRAL-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.)