

 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 GLYCOL TRANSFER PUMP								شماره صفحه: 1 از 5
	پروژه	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه		
	BK	GCS	PEDCO	120	ME	DT	0020	D04	

طرح نگهداشت و افزایش تولید 27 مخزن

MECHANICAL DATA SHEETS FOR GLYCOL TRANSFER PUMP (P-2103 A/B)

نگهداشت و افزایش تولید میدان نفتی بینک

D04	NOV. 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-708851

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 GLYCOL TRANSFER PUMP							
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
	D04	0020	DT	ME	120	PEDCO	GCS	BK

شماره صفحه: 2 از 5

REVISION RECORD SHEET

page	D00	D01	D02	D03	D04	page	D00	D01	D02	D03	D04
1			x	x	x	65					
2			x	x	x	66					
3			x		x	67					
4			x	x		68					
5			x			69					
6						70					
7						71					
8						72					
9						73					
10						74					
11						75					
12						76					
13						77					
14						78					
15						79					
16						80					
17						81					
18						82					
19						83					
20						84					
21						85					
22						86					
23						87					
24						88					
25						89					
26						90					
27						91					
28						92					
29						93					
30						94					
31						95					
32						96					
33						97					
34						98					
35						99					
36						100					
37						101					
38						102					
39						103					
40						104					
41						105					
42						106					
43						107					
44						108					
45						109					
46						110					
47						111					
48						112					
49						113					
50						114					
51						115					
52						116					
53						117					
54						118					
55						119					
56						120					
57						121					
58						122					
59						123					
60						124					
61						125					
62						126					
63						127					
64						128					

 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 GLYCOL TRANSFER PUMP							شماره صفحه: 3 از 5
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
	BK	GCS	PEDCO	120	ME	DT	0020	D04

GENERAL NOTES
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 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. 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 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 diameters are 2". 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. (Vendor to confirm) 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 dry, flexible and spacer type. 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 Min. / Max. pumping temperature(°c) : 5 / 50 28 Minimum design metal temperature (°c): 5 29 Design Conditions: Min./Max. Design Temperature (°C): 5 / 85 Design Pressure (barg): 3.10 30 Welding repair procedures shall be submitted for approval. 31 Spare parts shall be supplied by vendor according to 'MR's appendix for Centrifugal Pumps; Doc. No.; BK-GCS-PEDCO-120-ME-MR-0010". 32 The elevation of pump centerline from ground is 76 cm. 33 Max Allowable Pressure at Shut-Off : 3.10 barg 34 Min./Max. suction pressure (barg): 0.07 / 0.49 35 Hydraulic power (kW): 0.3

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 	
شماره پیمان:	MECHANICAL DATA SHEETS FOR GLYCOL TRANSFER PUMP							شماره صفحه: 4 از 5	
053-073-9184	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	DT	0020		D04

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

Corporate name NISOC		Centrifugal pump Data sheet						Rev.:		
								Data:		
								Name:		
Plant:	BINAK Gas Compressor Station				Service:		Glycol Transfer 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-2103 A/B		
Standby	1									
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	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		
Witn. by	Certified	Witnessed	Witnessed	Witnessed	Witnessed	Witnessed	Certified	Certified		
Operating Condition (11)										
Liquid	Glycol (TEG)		Flow	rated	5.50	m ³ /h	NPSH at rated flow	Plant- NPSHA	9.9	m
Solids	Type			normal	5.00	m ³ /h		Pump- NPSH3		m
	%of mass			min.		m ³ /h				
Corrosion by			Minimum flow required			m ³ /h	Pump speed rated		rpm	
Op. Temp. (Min/Max)	5 / 50		°C	Inlet gauge	rated	barg	Pump power input rated		kW	
pH-value at T _{op}				pressure	max.	0.49	barg	Pump power	rated impeller dia.	kW
Density at T _{nom}	1115		kg/m ³	Outlet gage pressure rated		2.07	barg	input	max. impeller dia.	kW
Vapour press. at T _{max}	0		bara	Differential pressure rated		2.00	bar	Electric. Driver power output rated (Note 25)		kW
Kinematic vis. at T _{min}	85.86		cP	Total head rated		18.30	m	Steam turbine power output rated		kW
Specific heat at T _{op}			J/Kg.K	Shut-off head (Note 33)			m	Performance curve No.		
Construction Features										
Design	Note 29		barg	Max. allowable work press	By vendor		barg	Cooling water condition	N.A.	
Number of Stages				Test pressure	1.5 x 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		mm	Outlet Flange	Rating/facing (13)	-/150# / RF		Bearing		
	rated		mm		Size/Position	2" / 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	Quantity
Casing split				Shaft seal manufacture				Lantern ring		
Casing seal type				Type, size (6)	Mechanical Seal			Mechanical ring		
Impeller type				Flush plan (VTC)	11			Gland/Seal plate		
Casing support				Material code				Coupling (20)	Manufacture	
Rotation(looking from driver)				Soft packing ring dimension					Type, Size	
Axial thrust reduction by				Rad. Bearing	Type				Diameter max	mm
Total clearance	Impeller		mm	Axial. Bearing	Size				Spacer length	mm
	Bal. Drum		mm	Line shaft bearing				Baseplate		
	Shaft bushes		mm	Bearing bracket No.				Anchor bolts supplied by	Vendor	
	Wear plate		mm	Lubrication				Supplied by	Vendor	
Wall thickness rot sheath / stat. cas				Lubrication device				Driver	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		ZONE 2	GROUP II A	TEMP CLASS T4	Starting Method				D.O.L./Open Discharge valve	

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 											
شماره پیمان:	MECHANICAL DATA SHEETS FOR GLYCOL TRANSFER PUMP							شماره صفحه: 5 از 5											
053-073-9184	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0020	نسخه D04											
ISO Std. 5199 CENTRIFUGAL PUMP DATA SHEET (SI UNIT)																			
Material (VTC)																			
API class	S-8 (According to API-610) (5, 16)																		
Casing		Bearing bush		Mecan. Seal	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		Stuffing box	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-0014.																			
Customer					Supplier														
Prepared (Data / Dep/ Signature)					Checked (Data / Dep/ Sign.					Prepared (Data / Dep/ Signature)					Checked (Data / Dep/ Sign.)				