طرح نگهداشت و افزایش تولید ۲۷ مخزن

DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD (P-1701)

نگهداشت و افزایش تولید میدان نفتی بینک

Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval
D04	JAN. 2023	IFA	H. Adineh	M. Fakharian	M.Mehrshad	
D03	OCT. 2022	IFA	H. Adineh	M. Fakharian	M.Mehrshad	
D02	AUG. 2022	IFA	H. Adineh	M. Fakharian	M.Mehrshad	
D01	APR. 2022	IFA	H. Adineh	M. Fakharian	M.Mehrshad	
D00	DEC. 2021	IFC	H. Adineh	M. Fakharian	M.Mehrshad	

Class: 1 **CLIENT Doc. Number: F0Z-707933**

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

پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
BK	W007S	PEDCO	110	ME	DT	0001	D04

REVISION RECORD SHEET

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D04 **GENERAL NOTES**

1 Design Conditions:

Min./Max Design Temp.℃	Max.Design Press.(barg)
-5 / 85	14.7

2 For electrical motor descriptions, refer to 'Specification For LV Electro Motors' Doc. No. BK-GNRAL-PEDCO-000-EL-SP-0010.

3 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 & 0009 with his proposal.

4 Vendor shall submit ITP (Inspection & Testing Plan) with his proposal.

5 The motors,pump coupling and pump accessories shall be supplied from the project's approved vendor list (A.V.L.).

6 Vendor is requested to confirm the material, or propose appropriate alternative.

7. 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.

8. NPSH test shall be done & witnessed if the margin of NPSHr & NPSHa is less than 1.

9. The Tie-in flanges shall conform to B-16.5.

10. Supplier to indicate which minimum flow pumps can achieve.

11. Pumps shall be designed, fabricated, tested, and inspected in accordance with the requirements of ISO 5199 latest edition.

12. Pump starts automatically with open delivery valve.

13. Electrical motor shall be rated for the end of curve and project site conditions.

14. The discharge line is 3".

15. 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.

16. Based on project instrumentation specification, these equipments are classified as Type B (Connected to DCS/ESD): Centrifugal Pump Package

17 Ultrasonic Test shall be performed for forged shaft.

18 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.

19 Couplings shall be dry, flexible and spacer type.

20 Bearing temperature shall be measured during mechanical run test.

21 For site conditions refer to Process basis of design document; Doc.No: BK-GNRAL-PEDCO-000-PR-DB-0001.

22 Power Factor, efficiency, frequent, voltage, frequent variation and voltage variation of motor shall be specified by vendor in data sheet.

23 Minimum Design Metal Tem (MDMT) = -5

24 Vendor to provide the pump with mentioned flow rate or minimum available flow rate at market.

25 Max. allow. Sound press. Level =85 dBA.

26 Allowable external forces and moments on nozzle should be conformed to Spec. No.: BK-GCS-PEDCO-120-ME-SP-0004.

27 All drain and vents (If any) to be manifolded, valved and routed to the skid edge.

28 Density (kg/m3): 850~970 .

29 Pumping temperature (°c); min: -5 max: 50

30 H2S Concentration (ppm) : 10.8

31 Hydraulic Power (KW): 5.5

32 Maximum allowable pressure at shut-off is 14.7 barg. Minimum hydrotest pressure shall not be less than 24 barg.

33 Estimated BHP is 18.3 kW considering 30% efficiency.

34 For P&ID refer to " P&ID - Extension of Binak B/C Manifold; BK-W007S-PEDCO-110-PR-PI-0001.

NISOC	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته‌های کاری تحت‌الارض ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات برق‌رسانی مربوط به موقعیت W۰۰۷S و توسعه چندراهه کلاستر بینک	شرکت توسعه نیروگاهی ایران HIRGAN ENERGY

شماره پیمان:	DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD							
۰۵۳-۰۷۳-۹۱۸۴	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
	BK	W007S	PEDCO	110	ME	DT	0001	D04

شماره صفحه: ۴ از ۵

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

Corporate name	Centrifugal pump Data sheet	Rev.:
NISOC		Data:
		Name:

Plant: BINAK GCS	Service: OIL SUMP 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	Vertical	VS1 (VTC)		Motor	LV Induction Electric Motor	P-1701
Standby							

Drawings				Pump weight		Pump Content	
	Installation dimension			Customer	Enquiry No.		Date
	Assembly pump				Order No.		Date
	Assembly shaft seal			Supplier	Proposal No.		Date
	Piping	Auxiliary system			Contract No.		Date
		Shaft seal					

Test (Note 4)	Material (Note 15)	Hydrostatic	Inspection	Perform.	NPSH (Note 8)	Sound Level	Final inspection	Approved documents
Refer.	ISO 5199	ISO 5199	ISO 5199	ISO 5199	ISO 5199		ISO 5199	ISO 5199
Witn. by	Certified	Witnessed	Witnessed	Witnessed	Witnessed	(Note 25)	Certified	Certified

Operating Condition

Liquid		Oil/HC	Flow			NPSH at rated flow		
Solids	Type			rated	16.50 m³/h		Plant- NPSHA	2.40 m
	%of mass			normal	15.00 m³/h		Pump- NPSH3	m
Corrosion by				min.	m³/h	Pump speed rated		rpm
			Minimum flow required		m³/h	Pump efficiency rated		%
Op. Temp. (Min./Max.)	-5 / 50	°c	Inlet gauge pressure	min.	0.00 barg	Pump power input rated (Note 2)		kW
pH-value at T_{op}				max.	0.30 barg	Pump power input	rated impeller dia.	kW
Density at T_{op}	970	kg/m³	Outlet gage pressure rated		12.00 barg		max. impeller dia.	kW
Vapour press. at Max. T	0.8	bara	Differential pressure rated		12.00 bar	Electric. Driver power output rated		kW
Kinematic vis. at T_{op}	9.5	cP	Total head rated		126.20 m	Steam turbine power output rated		kW
Specific heat at T_{op}		J/Kg.K	Shut-off head		m	Performance curve No.		

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Construction Features

Design	14.7 barg	Max. allowable work press (Note 32)	By Vendor barg	Cooling water condition	N.A.	
Number of Stages		Test pressure	1.5 MAWP barg	Cooling (C) Series (s)	N.A.	
Self priming		Inlet Flange Size/Position		Heating (H), Parallel (p)	C H S P	Quantity
Impeller diameter max	mm	Inlet Flange Rating/facing		Bearing		
Impeller diameter rated	mm	Outlet Flange Size/Position	3" / Up	Seal Chamber		
Impeller diameter min	mm	Outlet Flange Rating/facing (Note 14)	300# / RF	Cooler for seal flush		
Pump length vertical pumps	mm	Vent connection		Oil cooler		
Barrel dia. vertical pumps	mm	Drain connection		Flush	Liquid	Quantity
Casing split		Shaft seal manufacture		Lantern ring		
Casing seal type		Type, size (Note 7)	Mech. Seal	Mechanical ring		
Impeller type		Flush plan	31 (VTC)	Gland/Seal plate		
Casing support		Material code		Coupling (Note 19) 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	
Total clearance Bal. Drum	mm	Line shaft bearing		Baseplate		
Total clearance Shaft bushes	mm	Bearing bracket No.		Anchor bolts supplied by	Vendor	
Total clearance Wear plate	mm	Lubrication		Driver Supplied by	Vendor	
Wall thickness rot sheath / stat. cas		Lubrication device		Driver Mounted by	Vendor	

Site and Utility Data (Notes 21,22)

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 (Note 22)			± 10%	
Type of protection				Max Frequency Variation (Note 22)			± 5%	
Temperature rise class / Insulation class				Max Volt. and Frequency Variation together			± 10%	
Electric Area Classification	Zone 1 , IIB , T3			Starting Method			D.O.L. Open Discharge Valve	

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

Material (VTC)

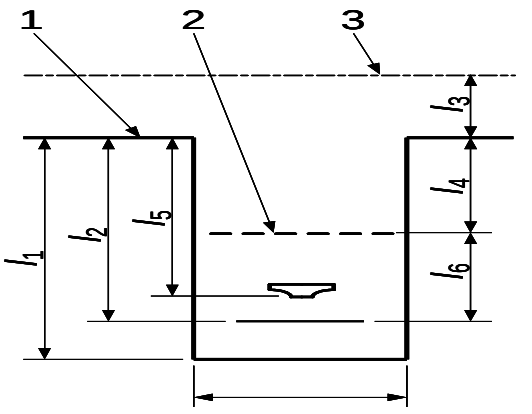
API class S-6 (According to API-610) **(Notes 6,15)**

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		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-GNRAL-PEDCO-000-PI-SP-0006	
Shaft		Base plate				

Sump Arrangement

Sump Dimensions:

Grade Elevation	1		m
Low Liquid Level	2	0.1	m
C.L. Of Discharge	3		m
Sump Depth	l_1	3	m
Pump Length	l_2		m
Grade to Disch.	l_3		m
Grade to Low Liquid Level	l_4		m
Grade to 1st Stg Impl'r.	l_5		m
Submergence Req'd	l_6		m
Sump Diameter	Fd		m



Remarks

P&ID - Extension of Binak B/C Manifold; BK-W007S-PEDCO-110-PR-PI-0001.

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