



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
فعالیت های رو زمینی در بسته های کاری تحت الارض

ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات
برق رسانی مربوط به موقعیت W007S و توسعه چندراهه کلاستر بینک



شماره پیمان:

053-073-9184

DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D02	0001	DT	ME	110	PEDCO	W007S	BK

شماره صفحه: 1 از 5

طرح نگهداشت و افزایش تولید 27 مخزن

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

نگهداشت و افزایش تولید میدان نفتی بینک

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	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 2 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



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ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات
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DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD



شماره صفحه: 2 از 5

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D02	0001	DT	ME	110	PEDCO	W007S	BK

REVISION RECORD SHEET

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3		x	x		
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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های روزمینی در بسته های کاری تحت الارض ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه چندراهه کلاستر بینک																	
شماره پیمان: 053-073-9184	DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD	شماره صفحه: 3 از 5																
	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <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>W007S</td> <td>PEDCO</td> <td>110</td> <td>ME</td> <td>DT</td> <td>0001</td> <td>D02</td> </tr> </table>	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	W007S	PEDCO	110	ME	DT	0001	D02	
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	W007S	PEDCO	110	ME	DT	0001	D02											

D02

GENERAL NOTES

- 1 Design Conditions:

Min./Max Design Temp. °C
 -5 / 85

Max.Design Press.(barg)

14.1
- 2 For electrical motor descriptions, refer to 'Specification For LV Electro Motors' Doc. No. BK-GNRL-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.
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-GNRL-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-GNRL-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



Deleted
- 30 Pumping temperature (°c); min: -5 max: 50
- 31 H2S Concentration (ppm) : 10.8
- 32

Hydraulic Power (KW): 5.27
- 33

Maximum allowable pressure at shut-off is 14.1 barg. MAWP to be specified by vendor and shall not be less than 14.1 barg.
- 34

Estimated BHP is 17.57 kW considering 30% efficiency.
- 35

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

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پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	W007S	PEDCO	110	ME	DT	0001	D02											

ISO Std. 5199 CENTRIFUGAL PUMP DATA SHEET (SI UNIT)									
Corporate name		Centrifugal pump Data sheet							Rev.:
NISOC									Data:
Plant: BINAK GCS									Name:
		Service: OIL SUMP PUMP			Ref. Standards: ISO 5199 , IPS-M-PM-115				
		Ref. Spec. No. : BK-GCS-PEDCO-120-ME-SP-0004							
Operation	No. req.	Pump type	Eq. API-610 Type	Mfr. serial No.	Kind of driver	Drive, type, size	Item No.		
Standby	1	Vertical	VSI (VTC)	D02	Motor	LV Induction Electric Motor	P-1701		
Drawings	Installation dimension		Pump weight		Pump Content				
	Assembly pump		Customer		Enquiry No.		Date		
	Assembly shaft seal		Supplier		Order No.		Date		
	Piping	Auxiliary system	Contract No.		Proposal No.		Date		
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	
Withn. by	Certified	Witnessed	Witnessed	Witnessed	Witnessed	(Note 25)	Certified	Certified	
Operating Condition									
Liquid	Type	Oil/HC	Flow	rated	16.50	m³/h	NPSH at rated flow	Plant- NPSHA	2.40
Solids	%of mass			normal	15.00	m³/h		Pump- NPSH3	m
Corrosion by			Minimum flow required	min.	0.00	m³/h	Pump speed rated		rpm
Op. Temp. (Min./Max.)	-5 / 50	°C	Inlet gauge pressure	max.	0.30	barg	Pump efficiency rated		%
pH-value at T _{op}			Outlet gage pressure rated		11.50	barg	Pump power input rated (Note 2)	rated impeller dia.	kW
Density at T _{op}	970	kg/m³	Differential pressure rated		11.50	bar	Electric. Driver power output rated	max. impeller dia.	kW
Vapour press. at Max. T	0.8	bara	Total head rated		120.90	m	Steam turbine power output rated		kW
Kinematic vis. at T _{op}	9.5	cP	Shut-off head			m	Performance curve No.		
Specific heat at T _{op}		J/Kg.K							
Construction Features									
Design	14.1	barg	Max. allowable work press (Note 33)	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
Impeller diameter	max	mm	Rating/facing			Bearing			P
	rated	mm	Outlet Flange	Size/Position	3" / Up	Seal Chamber			
	min	mm	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			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						
Rotation(looking from driver)			Soft packing ring dimension			Coupling (Note 19)	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.			Baseplate			
	Wear plate	mm	Lubrication			Anchor bolts supplied by	Vendor		
Wall thickness rot sheath / stat. cas			Lubrication device			Driver	Supplied by	Vendor	
						Mounted by	Vendor		
Site and Utility Data (Notes 21,22)									
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 (Note 22)	± 5%	
Type of protection				Max Frequency Variation (Note 22)			± 2%		
Temperature rise class / Insulation class				Max Volt. and Frequency Variation together			± 5%		
Electric Area Classification	Zone 1, IIB, T3			Starting Method			D.O.L. Open Discharge Valve		



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DATA SHEETS FOR OIL SUMP PUMP - EXTENSION OF BINAK B/C MANIFOLD

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شماره صفحه: 5 از 5

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

Material (VTC)

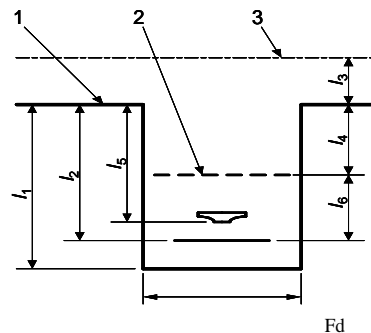
API class	S-6	(According to API-610)	(Notes 6,15)	Material (S-6,7)				
Casing			Bearing bush		Mecan. Seal	Gland plate & gasket		
Discharge casing			Balance disc-drum			Rotor ring	Inner/outer	
Suction casing			Bal. counter disc-drum bus.			Static ring	Inner/outer	
Stage casing			Contrain.shell / Stat.casing			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-GNRL-PEDCO-000-PI-SP-0006		
Shaft			Base plate					

Sump Arrangement

D02

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.)