

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج کولرهای هوایی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0015_02)																							
	Process Data Sheet for AE-2102 (A/B/C) <table border="1"> <tr> <td>نسخه</td> <td>سریال</td> <td>نوع مدرک</td> <td>رشته</td> <td>تسهیلات</td> <td>صادر کننده</td> <td>بسته کاری</td> <td>پروژه</td> </tr> <tr> <td>V00</td> <td>0002</td> <td>DS</td> <td>PR</td> <td>120</td> <td>AA</td> <td>GCS</td> <td>BK</td> </tr> </table>							نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	V00	0002	DS	PR	120	AA	GCS	BK	شماره صفحه: 1 از 5
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شماره پیمان: 053 - 073 - 9184																								

طرح نگهداشت و افزایش تولید 27 مخزن

Process Data Sheet for AE-2102 (A/B/C)

نگهداشت و افزایش تولید میدان نفتی بینک

V00	Nov.2023	IFA	AAC	M.Fakharian	S.Faramarzpour	
Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Status:

IFA: Issued For Approval

IFI: Issued For Information

AFC: Approved For Construction

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج کولرهای هوایی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0015_02)	 																
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پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
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REVISION RECORD SHEET

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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج کولرهای هوایی ایستگاه تقویت فشار گاز بینک (قرارداد /BK-HD-GCS-CO-0015_02)							
شماره پیمان: 053 – 073 – 9184	Process Data Sheet for AE-2102 (A/B/C)							شماره صفحه : 3 از 5
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	AA	120	PR	DS	0002	V00

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	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج کولرهای هوایی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0015_02)								
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	BK	GCS	AA	120	PR	DS	0002	V00	

1.0 INTRODUCTION

Binak oilfield in Bushehr province is a part of the southern oilfields of Iran, is located 20 km northwest of Genaveh city.

With the aim of increasing production of oil from Binak oilfield, an EPC/EPD Project has been defined by NIOC/NISOC and awarded to Petro Iran Development Company (PEDCO). Also PEDCO (as General Contractor) has assigned the EPC-packages of the Project to "Hirgan Energy - Design and Inspection" JV.

GENERAL DEFINITION

The following terms shall be used in this document.

CLIENT:	National Iranian South Oilfields Company (NISOC)
PROJECT:	Binak Oilfield Development – Manufacturing (w/Engineering & Material Supply) of Air Coolers
EPD/EPC CONTRACTOR (GC):	Petro Iran Development Company (PEDCO)
OWNER:	OWNER is collectively refer to National Iranian South Oil Company (NISOC) and Petro Iran Development Company (PEDCO)
EPC CONTRACTOR:	Joint Venture of : Hirgan Energy – Design & Inspection(D&I) Companies
VENDOR:	Aban Air Cooler (AAC)
EXECUTOR:	Executer is the party which carries out all or part of construction and/or commissioning for the project.
THIRD PARTY INSPECTOR (TPI):	Third Party Inspector
SHALL:	Is used where a provision is mandatory.
SHOULD:	Is used where a provision is advisory only.
WILL:	Is normally used in connection with the action by CLIENT rather than by an EPC/EPD CONTRACTOR, supplier or VENDOR.
MAY:	Is used where a provision is completely discretionary.

0 rev.			DATA SHEET AIR COOLED HEAT EXCHANGER ABAN AIR COOLER CO		Date : 2023.Nov.22
1					Rev : 0
2					CASE: 00012-AC-3991
3	Customer / Purch.		(PEDCO) / (NISOC)		Item no.: AE-2102 (A/B/C)
4	Plant location		Binak oilfield in Bushehr		Summer Case
5	Service		2st Stage Gas Compression Cooler		No. Units: (2+1)
6	Plot size(W,L) [m]		5.90 x 3.30 (note2)		No.of bay: 1
7	Surface / unit-Finned		988.27 [m2]		Bare Tube 47.399 [m2]
8	Heat exchanged		575.4 (note 1) [KW]		MTD 32.7 [C]
9	Transf. rate-finned		17.963 [W/m2 ,k]		Bare Tube (C/D) 413.92 / 374.52 [W/m2k]
10	PRODUCT SIDE				
11	Fluid Name		Hydrocarbon		IN OUT
12			IN OUT		Density (Liq) 981.96 [kg/m3]
13	Total Fluid [kg/h]		8664 x 1.1 (note 1)		Density (vap) 42.838 60.168 [kg/m3]
14	Temperature [C]		147 60		Spec.Heat (Liq) 4.3096 kJ/(kg.°C)
15	Vapor [kg/h]		9530.4 9489.1		Spec.Heat (vap) 2.4158 2.4071 kJ/(kg.°C)
16	Liquid [kg/h]		41.362		Conduct. (Liq) 0.6515 [W/Mk]
17	N condensed [kg/h]				Conduct. (vap) 0.0467 0.0371 [W/Mk]
18	Steam [kg/h]				Viscosity (Liq) 0.4943 [cp]
19	Water [kg/h]				Viscosity (Vap) 0.0163 0.0142 [cp]
20	Inlet pressure [barg]		54.9		Velocity 3.56 2.6 [m/s]
21	Fouling resist.[m2.k/w]		0.0002		Allo/Calc. Press.Drop 0.700 / 0.051 [bar]
22	AIR SIDE				
23	AirQuantity, Total		67.596 [m3/s]		Face Velocity: 3.51 [m/s]
24	AirQuant./Fan		11.266 [m3/s]		Altit. / Min. Des.Amb.: 12.5 / 5 [m]/[C]
25	Static pressure		167.22 [Pa]		Temp.In / Out : 50.26 / 62.63 [C]
26	DESIGN				
27	Design pressure		62 [Barg]		Code Requirements ASME VIII DIV.1 ; API 661
28	Design temperature		175 [C]		TUBE
29	Test pressure		78.00 [Barg]		Material SA-213 TP316L
30	BAY width [m]		1.759		Outside Diameter 25.4 [mm]
31	Bundle Size		1.70 x 3.30		Wall Thickness 1.651 [mm]
32	N .Bay		2 + 1		N ./Bundle 90
33	N .Bundles / Bay		1		Length 3.3 [m]
34	N .Tube Rows		4		Pitch 63.5 [mm]
35	N .Passes		4		FIN
36	Tube slope		1% on last pass		Type EXTRUDED
37	HEADER				Material ALUMINIUM alloy 1060 - O
38	Type		Plug		Outside Diameter 57.15 [mm]
39	Material		SA-240 TP316L		Stock Thick. 0.48 [mm]
40	Header Design / SPLIT		Shoulder/No		FPM 393.7
41	Plug Mat		SA 182 F316L		MISCELLANEOUS
42	Gasket Mat		spiral wound + S.S 316 inner ring		Structural Mounting Ground
43	Corrosion Allow.		0 [mm]		Bundle Frame H.D.G
44	Qty / Size nozzle IN		1 X 6" (80S)		Louvers Yes, (Manual)
45	Qty / Size nozzle OUT		1 X 6" (80S)		Vibration switches Yes, EExd, IIB T3 (IP 65)
46	Rating & Facing (in/out)		600 RF		Steam Coil No
47	TI/PI		Yes (1") / Yes (3/4")		Recirculation System No
48	Vent / Drain		Yes (2") / Yes (2") LWN #600		Tube / Tubesheet Connection. Expanded + Strength weld
49	MECH. EQUIPMENT				
50	FAN				ELECTRIC MOTOR
51	N ./Bay		2		N ./Bay 2
52	N autovvariable/bay		50%		KW / Driver 5.5
53	rev / min		705		rev / min 1500
54	Diameter		4 FT		Enclosure EExd, IIB T3 (IP 55)
55	N . Blades		5		Volt, Phase, Cycle 400-3-50
56	Material, Blade		AL		SPEED REDUCER
57	Material, Hub		Steel/Alu		Type V-Belt
58	KW / Fan, Absorb.		4		N .Bay 2
59					Service Factor 1.8
60	SPL@ 1m beside. fan		≤85 [dB(A)]		Ratio 2.13
61					
62	NOTES:				
63	1- 10% over design on duty and flow has been considered.				
64	2- Plot size is without considering side walkways.				
65	3- Air side fouling factor has been considered equal to 0.00035 m2.K/w.				
66	4- Thechnical Bid is in compliance with NACE MR 0175/ISO 15156 and Technical Specification for Material Requirements in Sour service Doc. No. BK-GNRL-PEDCO-000-PI-SP-0008. IPS-MPM-200.				
67	5- Maximum allowable nozzle load = 3 x API.				
68					
69					
70					