

	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-2101 (A/B/C) <table border="1"> <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>GCS</td> <td>AA</td> <td>120</td> <td>PR</td> <td>DS</td> <td>0001</td> <td>V00</td> </tr> </table>	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	AA	120	PR	DS	0001	V00	شماره صفحه : 1 از 5
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	GCS	AA	120	PR	DS	0001	V00											

طرح نگهداشت و افزایش تولید 27 مخزن

Process Data Sheet for AE-2101 (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)						 																
	Process Data Sheet for AE-2101 (A/B/C) <table border="1"> <tr> <td>نسخه</td> <td>سریال</td> <td>نوع مدرک</td> <td>رشته</td> <td>تسهیلات</td> <td>صادرکننده</td> <td>بسته کاری</td> <td>پروژه</td> </tr> <tr> <td>V00</td> <td>0001</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	صادرکننده	بسته کاری	پروژه	V00	0001	DS	PR	120	AA	GCS	BK	شماره صفحه : 2 از 5
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه																
V00	0001	DS	PR	120	AA	GCS	BK																
شماره پیمان: 053 - 073 - 9184																							

REVISION RECORD SHEET

PAGE	V00	V01	V02	V03	V04
1	X				
2	X				
3	X				
4	X				
5	X				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
64					
65					

PAGE	V00	V01	V02	V03	V04
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					
90					
91					
92					
93					
94					
95					
96					
97					
98					
99					
100					
101					
102					
103					
104					
105					
106					
107					
108					
109					
110					
111					
112					
113					
114					
115					
116					
117					
118					
119					
120					
121					
122					
123					
124					
125					
126					
127					
128					
129					
130					

 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-2101 (A/B/C)							شماره صفحه : 3 از 5
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	AA	120	PR	DS	0001	
								V00

CONTENTS

1.0	INTRODUCTION	4
2.0	PROCESS DATA SHEET FOR AE-2101 (A/B/C)	5

 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-2101 (A/B/C)							شماره صفحه : 4 از 5	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	AA	120	PR	DS	0001	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:	Executor 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-2101 (A/B/C)
4	Plant location Binak oilfield in Bushehr				Summer case
5	Service 1st Stage Gas Compression Cooler				No. Units: (2+1)
6	Plot size(W,L) [m]	5.23 x 3.048 (note2)	DRAFT INDUCED	No.of bay: 1	
7	Surface / unit-Finned	691.54 [m2]	Bare Tube	33.078 [m2]	
8	Heat exchanged	391.34 (note 1) [KW]	MTD	30.6 [C]	
9	Transf. rate-finned	18.686 [W/m2 ,k]	Bare Tube (C/D)	433.60 / 390.66 [W/m2k]	
10			PRODUCT SIDE		
11	Fluid Name Hydrocarbon		IN		OUT
12			Density (Liq)		[kg/m3]
13	Total Fluid [kg/h]	8664 x 1.1 (note 1)	Density (vap)		15.306 [kg/m3]
14	Temperature [C]	129	Spec.Heat (Liq)		18.737 [kJ/(kg.°C)]
15	Vapor [kg/h]	9530.4	Spec.Heat (vap)		2.223 [kJ/(kg.°C)]
16	Liquid [kg/h]		Conduct. (Liq)		2.0641 [W/Mk]
17	N condensed [kg/h]		Conduct. (vap)		0.0416 [W/Mk]
18	Steam [kg/h]		Viscosity (Liq)		0.0331 [cp]
19	Water [kg/h]		Viscosity (Vap)		0.0148 [cp]
20	Inlet pressure [barg]	18	Velocity		0.0127 [m/s]
21	Fouling resist.[m2.k/w]	0.0002	Allo/Calc. Press.Drop		13.93 [m/s]
22			AIR SIDE		
23	AirQuantity, Total	58.788 [m3/s]	Face Velocity:		3.85 [m/s]
24	AirQuant./Fan	9.798 [m3/s]	Altit. / Min. Des.Amb.:		12.5 / 5 [m]/[C]
25	Static pressure	159.46 [Pa]	Temp.In / Out :		50.26 / 60.13 [C]
26			DESIGN		
27	Design pressure	22 [Barg]	Code Requirements		ASME VIII DIV.1 ; API 661
28	Design temperature	155 [C]			TUBE
29	Test pressure	28.60 [Barg]	Material		SA-213 TP316L
30	BAY width [m]	1.514	Outside Diameter		25.4 [mm]
31	Bundle Size	1.47 x 3.048	Wall Thickness		1.651 [mm]
32	N .Bay	2 + 1	N ./Bundle		68
33	N .Bundles / Bay	1	Length		3.048 [m]
34	N .Tube Rows	4	Pitch		71 [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 iner 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)	300 RF	Steam Coil		No
47	TI/PI	Yes (1") / Yes (3/4")	Recirculation System		No
48	Vent / Drain	Yes (2") / Yes (2") LWN #300	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	783.4	rev / min		1500
54	Diameter	3.6 FT	Enclosure		EExd, IIB T3 (IP 55)
55	N . Blades	4	Volt, Phase, Cycle		400-3-50
56	Material, Blade	AL			SPEED REDUCER
57	Material, Hub	Steel/Alu	Type		V-Belt
58	KW / Fan, Absorb.	2.3	N .Bay		2
59			Service Factor		1.8
60	SPL@ 1m beside. fan	≤85 [dB(A)]	Ratio		1.91
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					