rev.								
	AAC	DATA SHEET **AIR COOLED HEAT EXCHANGER** ABAN AIR COOLER CO				Date :	**2025.Jan.26**	
						Rev :	**5**	
						CASE:	**00012-AC-3991**	
	Customer / Purch.	(PEDCO) / (NISOC)				Item no::	**AE-2101 (A/B/C)**	
	Plant location	Binak oilfield					**Summer case**	
	Service	1st Stage Gas Compression Cooler				No. Units:	3	
	Plot size(W,L) [m]	1.970 x 3.8 (note2)		DRAFT	INDUCED	No.of bay:	1	
	Surface / unit-Finned	668.71	[m2]	Bare Tube	31.536	·	[m2]	
	Heat exchanged	381.8	[KW]	MTD	29.1	·	[C]	
	Transf. rate-finned	20.125	[W/m2 ,k]	Bare Tube (C/D)	478.50 /	426.74	[W/m2k]	
				PRODUCT SIDE				
	Fluid Name	Hydrocarbon			IN	OUT		
		IN	OUT	Density (Liq)			[kg/m3]	
	Total Fluid [kg/h]	8664 x 1.1 (note 1)		Density (vap)	14.197	17.141	[kg/m3]	
	Temperature [C]	129	60	Spec.Heat (Liq)			kJ/(kg.˚C)	
	Vapor [kg/h]	9530.4	9530.4	Spec.Heat (vap)	2.206	1.97	kJ/(kg.˚C)	
	Liquid [kg/h]			Conduct. (Liq)			[W/Mk]	
	N condensed [kg/h]			Conduct. (vap)	0.0438	0.0336	[W/Mk]	
	Steam [kg/h]			Viscosity (Liq)			[cp]	
	Water [kg/h]			Viscosity (Vap)	0.0137	0.0117	[cp]	
	Inlet pressure [barg]	17.9	(note 6)	Velocity	18.7	15.49	[m/s]	
	Fouling resist.[m2.k/w]	0.0002		Allo/Calc. Press.Drop	0.700 /	0.473	[bar]	
				AIR SIDE				
	AirQuantity, Total	24.44	[m3/s]	Face Velocity:	2.9		[m/s]	
	AirQuant./Fan	12.22	[m3/s]	Altit. / Min. Des.Amb.:	12.5 / 5		[m]/[C]	
	Static pressure	138.77	[Pa]	Temp.In / Out :	50.26 / 65.15		[C]	
				DESIGN				
	Design pressure	22	[Barg]	Code Requirements	ASME VIII DIV.1 ; API 661			
	Design temperature	155	[C]	**TUBE**				
	Test pressure	28.60	[Barg]	Material	SA-213 TP316L			
	BAY width [m]	1.97		Outside Diameter	25.4		[mm]	
	Bundle Size	1.92 x 3.8		Wall Thickness	1.651		[mm]	
	N .Bay	1		N ./Bundle	104			
	N .Bundles / Bay	1		Length	3.8		[m]	
	N .Tube Rows	4		Pitch	63.5		[mm]	
	N .Passes	4		**FIN**				
	Tube slope	1% on Last pass		Type	EXTRUDED			
	HEADER			Material	ALUMINIUM alloy 1060 - O			
	Type	Plug		Outside Diameter	57.15		[mm]	
	Material	SA-240 TP316L		Stock Thick.	0.48		[mm]	
	Header Design / SPLIT	Shoulder/No		FPM	400			
	Plug Mat	SA 182 F316L		**MISCELLANEOUS**				
	Gasket Mat	Solid Metal		Structural Mounting	Ground			
	Corrosion Allow.	0	[mm]	Bundle Frame	H.D.G			
	Qty / Size nozzle IN	1 X 6" (80S)		Louvers	Yes, (Manual)			
	Qty / Size nozzle OUT	1 X 6" (80S)		Vibration switches	Yes, EExd, IIB T3 (IP 65)			
	Rating & Facing (in/out)	300 RF		Steam Coil	No			
	TI/PI	*Yes(2")/ Yes (2")*		Recirculation System	No			
	Vent / Drain	Yes (2") / Yes (2")	LWN #300	Tube / Tubesheet Connection.	Expanded + Strength weld			
				MECH. EQUIPMENT				
	FAN			**ELECTRIC MOTOR**				
	N ./Bay	2		N ./Bay	2			
	N autovariable/bay	50%		KW / Driver	5.5			
	rev / min	626.4		rev / min	1500			
	Diameter	4.5 FT (1372mm)		Enclosure	EExd, IIB T3 (IP 55)			
	N . Blades	4		Volt, Phase, Cycle	400-3-50			
	Material, Blade	AL		**SPEED REDUCER**				
	Material, Hub	Steel/Alu		Type	V-Belt			
	KW / Fan, Absorb.	2.6		N .Bay	2			
	Type of fan Ring	Flanged		Service Factor	1.8			
	SPL@ 1m beside. fan	≤85	[dB(A)]	Ratio	2.39			

NOTES:

1- 10% over design on duty / flow has been considered.

2- Plot size is without considering side walkways.

3- Air side fouling factor has been considered equal to 0.00035 m2.K/w.

4- Thechnical Bid is in compliance with NACE MR 0175/ISO 15156 and Technical Specification for Material Requirements in Sour service Doc. No. BK-GNRAL-PEDCO-000-PI-SP-0008, IPS-MPM-200.

5- Maximum allowable nozzle load = 3 x API.

6-Physical properties changed based on last revision of PFD Doc.No:BK-GCS-HY-120-PR-PF-0001-V04-AP

7-Deleted

8-Priminarly fan data sheet is attached and final fan data sheet will be submitted after subvendor finalization.