rev.							
	AAC	DATA SHEET **AIR COOLED HEAT EXCHANGER** ABAN AIR COOLER CO				Date :	2025.26.Jan
						Rev :	5
						CASE:	00012-AC-3991
	Customer / Purch.	(PEDCO) / (NISOC)				Item no::	AE-2101 (A/B/C)
	Plant location	Binak oilfield					Winter case
	Service	1st Stage Gas Compression Cooler				No. Units:	3
	Plot size(W,L) [m]	1.97 x 3.8 (note2)		DRAFT	INDUCED	No.of bay:	1
	Surface / unit-Finned	668.71	[m2]	Bare Tube	31.536		[m2]
	Heat exchanged	276 (Note 1,9)	[KW]	MTD	26.3		[C]
	Transf. rate-finned	19.37	[W/m2 ,k]	Bare Tube (C/D)	458.48 / 410.75		[W/m2k]
				PRODUCT SIDE			
	Fluid Name	Hydrocarbon			IN	OUT	
		IN	OUT	Density (Liq)			[kg/m3]
	Total Fluid [kg/h]	7585 x 1.1 (note 1)		Density (vap)	12.847	14.916	[kg/m3]
	Temperature [C]	116	60	Spec.Heat (Liq)			kJ/(kg.°C)
	Vapor [kg/h]	8343.5	8343.5	Spec.Heat (vap)	2.2197	2.029	kJ/(kg.°C)
	Liquid [kg/h]			Conduct. (Liq)			[W/Mk]
	N condensed [kg/h]			Conduct. (vap)	0.0441	0.0356	[W/Mk]
	Steam [kg/h]			Viscosity (Liq)			[cp]
	Water [kg/h]			Viscosity (Vap)	0.0137	0.0121	[cp]
	Inlet pressure [barg]	17.9	(note 6)	Velocity	18.09	15.58	[m/s]
	Fouling resist.[m2.k/w]	0.0002		Allo/Calc. Press.Drop	0.700 /	0.416	[bar]
				AIR SIDE			
	AirQuantity, Total	24.14	[m3/s]	Face Velocity:	2.9		[m/s]
	AirQuant./Fan	12.07	[m3/s]	Altit. / Min. Des.Amb.:	12.5 / 5		[m]/[C]
	Static pressure	137.4	[Pa]	Temp.In / Out :	50.26 /	61.02	[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	1372 (4.5 FT)	mm	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.