rev.								
		DATA SHEET				Date :	2024.Nov.25	
		AIR COOLED HEAT EXCHANGER				Rev :	4	
		ABAN AIR COOLER CO				CASE:	00012-AC-3991	
	Customer / Purch.	(PEDCO) / (NISOC)				Item no.:	AE-2102 (A/B/C)	
	Plant location	Binak oilfield					Winter case	
	Service	2st Stage Gas Compression Cooler				No. Units:	3	
	Plot size(W,L) [m]	***2.17*** x 3.90 (note2)		DRAFT	INDUCED	No.of bay:	1	
4	Surface / unit-Finned	***1027***	[m2]	Bare Tube	48.548	·	[m2]	
4	Heat exchanged	***495.5 (Note 1)***	[KW]	MTD	***34.1***	·	[C]	4
4	Transf. rate-finned	***16.86***	[W/m2 ,k]	Bare Tube (C/D)	***392.20/***	***356.65***	[W/m2k]	4
				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)		***36.175***	***50.059***	[kg/m3] 4
	Temperature [C]	149	60	Spec.Heat (Liq)				kJ/(kg.°C)
	Vapor [kg/h]	8343.5	8343.5	Spec.Heat (vap)		***2.463***	***2.38***	kJ/(kg.°C) 4
	Liquid [kg/h]			Conduct. (Liq)				[W/Mk]
	N condensed [kg/h]			Conduct. (vap)		***0.05***	***0.0387***	[W/Mk] 4
	Steam [kg/h]			Viscosity (Liq)				[cp]
	Water [kg/h]			Viscosity (Vap)		***0.0163***	***0.0139***	[cp] 4
	Inlet pressure [barg]	54.8		Velocity		***4.28***	***3.1***	[m/s]
	Fouling resist.[m2.k/w]	0.0002		Allo/Calc. Press.Drop		0.700 /	***0.081***	[bar] 4
				AIR SIDE				
4	AirQuantity, Total (Per Unit)	***31.18***	[m3/s]	Face Velocity:		***3.27***		[m/s] 4
4	AirQuant./Fan	***15.59***	[m3/s]	Altit. / Min. Des.Amb.:		12.5 / 5		[m]/[C]
4	Static pressure	***167.92***	[Pa]	Temp.In / Out :		50.26 /	***65.57***	[C] 4
				DESIGN				
	Design pressure	62	[Barg]	Code Requirements		ASME VIII DIV.1 ; API 661		
	Design temperature	175	[C]	**TUBE**				
	Test pressure	80.60	[Barg]	Material		SA-213 TP316L		
4	BAY width [m]	***2.172***		Outside Diameter		25.4		[mm]
4	Bundle Size	***2.116*** x 3.900		Wall Thickness		1.651		[mm]
	N .Bay	1		N ./Bundle		156		
	N .Bundles / Bay	1		Length		3.9		[m]
	N .Tube Rows	6	***equal count***	Pitch		***70.5***		[mm] 4
	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***		4
	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 X4" (80S)		Louvers		Yes, (Manual)		
	Qty / Size nozzle OUT	1 X 4" (80S)		Vibration switches		Yes, EExd, IIB T3 (IP 65)		
	Rating & Facing (in/out)	600 RF		Steam Coil		No		
4	TI/PI	***Yes (2") / Yes (2")***		Recirculation System		No		
	Vent / Drain	Yes (2") / Yes (2")	LWN #600	Tube / Tubesheet Connection.		Expanded + Strength weld		
				MECH. EQUIPMENT				
	FAN			**ELECTRIC MOTOR**				
	N ./Bay	2		N ./Bay		2		
	N autovariable/bay	50%		KW / Driver		7.5		
4	rev / min	***645.4***		rev / min		1500		
	Diameter	1450	mm	Enclosure		EExd, IIB T3 (IP 55)		
4	N . Blades	***4***		Volt, Phase, Cycle		400-3-50		
	Material, Blade	AL		**SPEED REDUCER**				
	Material, Hub	Steel/Alu		Type		V-Belt		
	KW / Fan, Absorb.	4.8		N .Bay		2		
				Service Factor		1.8		
	SPL@ 1m beside. fan	≤85	[dB(A)]	Ratio		2.32		

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

5- Maximum allowable nozzle load = 3 x API.

6-MDMT is considered 5C

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

8-Priminarly fan data sheet is attached and final fan data sheet will be submitted after subvendor finalization. 4