

MOPU OFFSHORE UNIT-INDIA

D	OCUMENT:	PUMP PRO	OCESS DAT	TASHEET						
E	PTI DOCUMENT No.:	EP-35260-	P-DAT-001	1						
C	LIENT:	-								
P	ROJECT TITLE:	мори оғ	FSHORE IN	IDIA						
E	XPRO PROJECT No.:	EP-35260								
E	QUIPMENT:	CONDENS	ONDENSATE BOOSTER PUMPS							
E	QUIPMENT TAG No.:	20-P-0001	0-P-0001-A/B							
D	UTY:	2 x 50%								
AA REV.	Issued For Review		11/Apr/19 DATE	SKA BY	CHK'D	APPR.				
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Project No.:	EP-35260
Project Name:	MOPU OFFSHORE INDIA
Tag. No.:	20-P-0001-A/B
Data Sheet No.:	EP-35260-P-DAT-0011
Reference Specification No.:	N/A

Rev. No.:	Specifical	AA	Page 2	of 2					
EQU	IPMENT	DATASHEET - F	PUMP PROCESS	S DATASHEET					
P&ID No.						1 2			
Service Description: CONDENSATE BOOSTER PUMPS									
GENERAL DATA		T				3			
Fluid		CON	DENSATE (HYDF	ROCARBON)+ WA	ATER (5 vol%)	4			
Corrosive/Erosive				-		5			
Hazardous Service			Yes						
Flow Rate (each pump) Min/Norm/Max	BPD		(Note 1)/ 5000 / (Note 7)						
PROCESS CONDITIONS		CASE 1	CASE 2	CASE 3	CASE 4	REMARKS 9			
Flow Rate (each pump)	BPD	5,000	5,000	1,000	-	10			
Design Margin	%	0	0	0	-	11			
Design Flowrate (each pump)	BPD	5,000	5,000	1,000	-	12			
FLUID PROPERTIES						13			
Viscosity	cР	2.33	5.23	2.33	-	14			
Temperature	°C	65	45	65	-	15			
Vapour Pressure	bara	2.6	2.6	2.5	-	16			
Specific Gravity		0.817	0.832	0.817	-	17			
SUCTION CONDITIONS			•			18			
Source Pressure	barg	1.6	1.6	1.5	-	19			
Total Suction Pressure	bara	2.58	2.57	2.51	-	20			
Total Suction Head	m	32.2	31.5	31.4	-	2			
Min NPSH Available	m	0.75	0.8	0.4	-	22			
Min NPSH Required	m	Note 2	Note 2	Note 2	-	23			
DISCHARGE CONDITIONS		'	•	1		24			
End of Line Pressure	barg	7.5	7.5	7.5	-	25			
Total Discharge Pressure	barg	7.9	8.0	8.1	-	26			
ÿ	bara	8.95	8.96	9.11	-	27			
Total Discharge Head m 111.7 109.9 113.8 -									
DIFFERENTIAL PRESSURE AND PO	WER	1	I	I.		29			
Design Differential Pressure	bar	6.4	6.4	6.6	_	30			
Design Differential Head	m	79.5	78.3	82.4	-	3′			
Hydraulic Power	kW	5.87	5.88	2.20	-	32			
Estimated Efficiency	%	(VTC)	(VTC)	(VTC)	-	33			
Estimated Absorbed Power	kW	(VTC)	(VTC)	(VTC)	-	34			
		,	,	,	-	35			
DESIGN CONDITIONS		'	•	1		36			
Pump Casing Pressure	barg	16	Vendor to offer sta	andard)		37			
Pump Casing Temperature (Max/Min)	°C	85 / -5	`	,		38			
Pump Centreline (from grade)	m	0.40	(TBC)			39			
Hydrostatic Test Pressure	barg		VTC, 1.5 x Pump	Casing Pressure)		40			
CONNECTION		-		<u> </u>		41			
Suction (Size / Rating)	in / #	V	TA / ANSI	150# RF		42			
Discharge (Size / Rating)	in / #			150# RF		43			
SITE DATA		<u> </u>				44			
Hazardous Area		Zone 2, Group IIA,	and Temp. class	T3		45			
NOTES:						46			
Vendor to advise minimum pump flo	wrate. Flo	wrate should include	es continuous min	. flow of as require	d by pump.	47			
Vendor to advise NPSHr (NPSH req					. y	48			
Materials of Construction shall be su				ACE compliant M	TC shall be pro				
4. Power supply : 480 V or 600V / 60 H				p.io.iii, ivi	2 2a 20 pro	50			
5. Vendor to highlight the requirement of Space Heater and other accensories if any.									
6. Unit shall be suitable for Offshore application. Minimum Ambient Temperature is 15°C and maximum is 40°C.									
7. Centrifugal Pump with all the required accessories shall be required.									
8. A 2 x 50% pump arrangement is to be used for this application. Flowrate for each pump shall be 33 m3/hr. 9. Each pump assembly will be skid mounted as a single-lift unit complete with base frame with lifting pads, driver,									
9. Each pump assembly will be skid mounted as a single-lift unit complete with base frame with lifting pads, driver, coupling, mechanical seal system (as applicable) and drip tray.									
11. Vendor to advise pump dry and ope					σιυμ.	57			
					numn	59			
12. Maximum noise level during norma			ub(n) at ally loca	auon, i meter nom	ραιτιμ.				
3. Vendor to inform the starting power requirement of the pump.									



MOPU OFFSHORE UNIT-INDIA

0	OOCUMENT:	PUMP PROCESS DA	PUMP PROCESS DATASHEET							
DOCUMENT: PUMP PROCESS DATASHEET EPTI DOCUMENT No.: EP-35260-P-DAT-0012 CLIENT: - PROJECT TITLE: MOPU OFFSHORE INDIA EXPRO PROJECT No.: EP-35260 EQUIPMENT: CONDENSATE EXPOERT PUMPS EQUIPMENT TAG No.: 20-P-0002-A/B DUTY: 2 x 50%										
C	CLIENT:	-								
P	PROJECT TITLE:	MOPU OFFSHORE I	NDIA							
EXPRO PROJECT No.: EP-35260 EQUIPMENT: CONDENSATE EXPOERT PUMPS										
E	QUIPMENT:									
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C	DUTY:	2 x 50%								
AA	Issued For Review		SKA	0.1175	ADDO					
REV.		DATE	BY	CHK'D	APPR.					



 Project No.:
 EP-35260

 Project Name :
 MOPU OFFSHORE INDIA

 Tag. No.:
 20-P-0002-A/B

 Data Sheet No.:
 EP-35260-P-DAT-0012

 Reference Specification No.:
 N/A

PRODUCTION	Data Shee	et No.: Specification		EP-35260 N/A	-P-DAT-0012					
	Rev. No.:	Specification		NA NA	Page 2	of 2				
		JIPMENT				S DATASHEET				
P&ID No.			-						1	
Service Description :		CONDEN	ISATE EXPOE	RT PUN	MPS				2	
GENERAL DATA									3	
Fluid			CONDENSATE (HYDROCARBON)+ WATER (5 vol%)							
Corrosive/Erosive					,	-	,		5	
Hazardous Service						Yes			6	
Flow Rate (each pump) M	lin/Norm/Max	BPD	(Note 1)/ 5000 / (Note 7)							
PROCESS CONDITIONS			CASE 1			CASE 2	CASE 3	REMARKS	8	
Flow Rate (each pump)	BPD	5,000			1,000	-		10		
Design Margin		%	0			0	-		11	
Design Flowrate (each pur	np)	BPD	5,000			1,000	-		12	
FLUID PROPERTIES									13	
Viscosity		cР		1.98		2.33	-		14	
Temperature		°C		65		65	-		15	
Vapour Pressure		bara		2.5		2.5	-		16	
Specific Gravity				0.810		0.818	-		17	
SUCTION CONDITIONS									18	
Source Pressure		barg	6.9			6.9	-		19	
Total Suction Pressure		bara		7.86		7.91	-		20	
Total Suction Head		m		99.0		98.7	-		21	
Min NPSH Available		m		60.00		60.0	-		22	
Min NPSH Required		m	Note 2			Note 2	-		23	
DISCHARGE CONDITION	IS	1	1						24	
End of Line Pressure		barg		112		112	-		25	
Total Discharge Pressure		barg	115.0			115.0	-		26	
		bara	116.03			116.01	-		27	
Total Discharge Head		m	1461.1			1446.6	-		28	
DIFFERENTIAL PRESSU			T			1			29	
Design Differential Pressu	re	bar	108.2		108.1	-		30		
Design Differential Head		m		1362.1		1347.9	-		31	
Hydraulic Power		kW		175.00		35.00	-		32	
Estimated Efficiency		%	(VT	,		(VTC)	-		33	
Estimated Absorbed Powe	r	kW	(VT	C)		(VTC)	-		34	
DEGLON CONDITIONS				_			-		35	
DESIGN CONDITIONS		h	140	0.1		to d o d\			36	
Pump Casing Pressure	(A 4 (A 4')	barg °C	140 (Vendor to offer standard) 93 / -5						37 38	
Pump Casing Temperature (Max/Min)										
Pump Centreline (from gra	de)	m	0.40 (TBC) 210 (VTC, 1.5 x Pump Casing Pressure)					39 40		
Hydrostatic Test Pressure CONNECTION		barg	210	(۷1)	o, i.o x Pump	casing Pressure)			41	
	ating)	in / #		VTA	/ ANG	II 900# RF			42	
Suction (Size / Rating) Discharge (Size / Rating)		in / #				SI 900# RF				
SITE DATA	uuig)	111/17	<u> </u>	VIA	, ANS	-1 JUUπ I\I			43 44	
Hazardous Area			Zone 2, Group	o IIA and	d Temp class	: T3			45	
NOTES:				, t, and	omp. oldoc				46	
Vendor to advise minimum	ım pump flo	wrate Flo	wrate should in	cludes o	ontinuous mir	n. flow of as require	d by pump		47	
Vendor to advise NPSH							_ 5, pamp.		48	
Materials of Construction		-				NACE compliant. M	TC shall be pro	vided.	49	
4. Power supply: 480 V or						.			50	
5. Vendor to highlight the requirement of Space Heater and other accensories if any.										
5. Vendor to highlight the requirement of Space Heater and other accensories if any. 6. Unit shall be suitable for Offshore application. Minimum Ambient Temperature is 15°C and maximum is 40°C.										
7. Multistaage centrifugal p									53	
8. A 2 x 50% pump arrange				n. Flowr	ate for each p	ump shall be 33 m3	3/hr.		54	
9. Each pump assembly w									55	
coupling, mechanical seal						. 3	,		56	
10. Pump motor controls a	• '			nrough lo	ocal control pa	nel with emergency	stop.		57	
							•		58	
	 11. Vendor to advise pump dry and operating weight. Vendor to provide pump performance curves. 12. Maximum noise level during normal operation shall not exceed 85 dB(A) at any location, 1 meter from pump. 59 									
13. Vandar to inform the st					· · · ·				60	

13. Vendor to inform the starting power requirement of the pump.

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