

		COMPRESSOR		N°:																				
				GAS COMPRESSOR PACKAGES (27-PK-0001)																				
		Page no.			2	of 4																		
Service: Gas Compressor Unit: VTA Quantity: 2 nos. (2 x 50%) Manufacturer: TBA Model: VTA Serial number: VTA Provided by: Mounted by:																								
PROCESS DATA																								
CASE		DESIGN (Note 12)																						
Gas Handled		Natural Gas																						
INLET CONDITIONS																								
Mass Flow	(kg/hr)	7541																						
Gas																								
Gas Mass Flow	(kg/hr)	7541																						
Gas Volume Flow	(MMSCFD)	7.25																						
Gas Molecular Weight		20.89																						
Ratio of Specific Heat (Cp/Cv)		1.51																						
Compressibility Factor		0.872																						
Liquid																								
Liquid Flow	(kg/h)	0																						
Liquid Density	(kg/m³)	-																						
Pressure	(psig)	1015																						
Temperature	(°C)	49.5																						
Composition																								
CO2	Mol%	9.85																						
Nitrogen	Mol%	5.02																						
Methane	Mol%	76.78																						
Ethane	Mol%	6.470																						
Propane	Mol%	1.520																						
i-butane	Mol%	0.150																						
n-butane	Mol%	0.150																						
i-pentane	Mol%	0.020																						
n-pentane	Mol%	0.020																						
Hexanes	Mol%	0.010																						
Heptanes	Mol%	0.000																						
H2S	Mol%	0.010																						
Water	Mol%	0.010																						
Total	Mol%	100																						
DISCHARGE CONDITIONS																								
Pressure	(psig)	1725		(Note 2)																				
Temperature	(°C)	50		(Note 2)																				
Ratio of Specific Heats		1.67		(VTC)																				
Compressibility Factor		0.8225		(VTC)																				
PERFORMANCE																								
Isentropic Head	(kJ/kg)	VTC																						
Isentropic Efficiency	%	VTC																						
Polytropic Head	(kJ/kg)	VTC																						
Polytropic Efficiency	%	VTC																						
Power	(kW)	VTC																						
Mechanical Efficiency	(%)	VTC																						
Shaft Power	(kW)	VTC																						
Speed	(rpm)	VTC																						
<table border="1"> <tr> <td>BB</td> <td>03-Apr-19</td> <td>ISSUED FOR ENQUIRY</td> <td>SK</td> <td>MF</td> <td>MSL</td> </tr> <tr> <td>AA</td> <td>02-Apr-19</td> <td>ISSUED FOR REVIEW</td> <td>SK</td> <td>MF</td> <td>MSL</td> </tr> <tr> <td>Rev</td> <td>Date</td> <td>Reason for Issue</td> <td>By</td> <td>Checked</td> <td>Approved</td> </tr> </table>							BB	03-Apr-19	ISSUED FOR ENQUIRY	SK	MF	MSL	AA	02-Apr-19	ISSUED FOR REVIEW	SK	MF	MSL	Rev	Date	Reason for Issue	By	Checked	Approved
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		COMPRESSOR		N°:		
GAS COMPRESSOR PACKAGES (27-PK-0001)						
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MECHANICAL DATA						
Type of Compressor (Note 3)	<input type="checkbox"/> Centrifugal <input type="checkbox"/> Reciprocating <input type="checkbox"/> Screw		Type of Driver (Note 03)	<input type="checkbox"/> Electric <input type="checkbox"/> Gas turbine <input type="checkbox"/> Gas engine		
Total Shaft Power (HP)	VTC		Nominal Driver Output (HP)	VTC		
VENDOR SUPPLY						
<input checked="" type="checkbox"/> Compressor	<input checked="" type="checkbox"/> Pulsation bottles	<input checked="" type="checkbox"/> Lubrication System				
<input checked="" type="checkbox"/> Gearbox	<input checked="" type="checkbox"/> Condensate Separators	<input checked="" type="checkbox"/> Seal oil System				
<input checked="" type="checkbox"/> Driver	<input checked="" type="checkbox"/> Air/Gas Receivers					
<input checked="" type="checkbox"/> Couplings	<input checked="" type="checkbox"/> Regulation & Control System	<input checked="" type="checkbox"/> Interconnecting Pipework				
<input checked="" type="checkbox"/> Bedplate(s)	<input type="checkbox"/> Anti-surge Equipment	<input checked="" type="checkbox"/> Gas Starter				
<input checked="" type="checkbox"/> Foundation Bolts	<input checked="" type="checkbox"/> Blowdown Valves	<input type="checkbox"/> Electric starter (Note 03)				
<input type="checkbox"/> Barring Gear	<input checked="" type="checkbox"/> Process Instruments	<input type="checkbox"/> Engine dust filters				
<input checked="" type="checkbox"/> Intercoolers	<input checked="" type="checkbox"/> Relief Valves	<input type="checkbox"/> Auto louvers				
<input checked="" type="checkbox"/> Aftercoolers	<input checked="" type="checkbox"/> Inlet Guide Vanes	<input checked="" type="checkbox"/> Manual louvers				
<input type="checkbox"/> Inlet Filters						
<input type="checkbox"/> Silencers						
NOTES:						
1. Vendor to advise minimum turndown for the compressor unit and provide means to handle the minimum flow case.						
2. Required discharge conditions are at the package outlet downstream of final separation/cooling stage.						
3. Vendor to propose Compressor and Drive type. Motor or Engine drive acceptable considering shortest lead time and/or stock equipment.						
3. Power supply 480V/3Ph/60Hz and 24V DC for instrumentation.						
4. Packages to be suitable for installation in a Zone 2 hazardous area.						
5. PSV to be manifold to a common header.						
6. Compressor package to be supplied in compliance with API 618/619 with standard deviations accepted.						
7. Compressor suction shall be designed for settle out pressure.						
8. Compressor packages to be painted with suitable top coat for humid tropical conditions.						
9. Compressor packages to be skid mounted to the maximum possible extent for ease of transportation to site.						
10. Pressure vessels to be designed according to ASME VIII.						
11. Vendor to provide self contained control panel on skid edge						
12. Flowrate given is for each individual unit. Two units (2x 50% configuration) of similar configuration is required.						
13. If selected, Engine may use process gas or fuel gas defined on following page. Vendor to inform the required fuel gas temperature and pressure as required for gas engine.						
14. Vendor to highlight the utility (Power, Fuel Gas, etc.) consumption and Tie-in connection desired.						
15. Vendor to provide the foundation drawing with foundation bolts along with commissioning and 2 years spares cost separately.						
16. Compressor shall be suitable for offshore application with Outdoor installation, relevant design consideration shall be taken by vendor.						
17. Vendor to provide on-skid (self-contained) control panel with suitable PLC, automatic starting sequence. The PLC shall be selected to be displayed in control room (monitoring and operation as well).						
18. Outlet Gas must be free from any compressor oil and liquid dropout, vendor to consider suitable arrangement for the same.						
19. Vendor to provide fuel gas requirement for start-up and operation case for compressor and engine.						
20. Instrument air pressure at Vendor B/L is minimum: 65 psig, normal: 85 psig, maximum: 100 psig						
21. Vendor to provide compressor performance curve for design case.						
22. Based on provided gas composition, Compressor shall be suitable for Sour service. Vendor to advise if this requirement restricts the use of stock or readily available equipment.						
Environmental Conditions						
Max ambient air temp	°C	45				
Min ambient air temp	°C	16				
Black body design temp	°C	85				
Site elevation	ft	Offshore Unit				
Relative humidity (max)	%	70 (TBC)				
Relative humidity (min)	%	90 (TBC)				
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