

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض							 	
	احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
	MECHANICAL DATA SHEETS FOR FLARE K.O. DRUM								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تهیلات 120	رشته ME	نوع مدرک DT	سریال 0012	نسخه D03	شماره صفحه: ۸ از ۱

طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR FLARE K.O. DRUM

نگهداشت و افزایش تولید میدان نفتی بینک

D03	SEP.2024	IFA	V.Amjadi	M.Fakharian	M.Sadeghian	
D02	JUL.2023	IFA	H.Adineh	M.Fakharian	A.M.Mohseni	
D01	SEP.2022	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D00	JAN.2022	IFC	H.Adineh	M.Fakharian	M.Mehrshad	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 1 CLIENT Doc. Number: F0Z-708843

status:

IDC: Inter-Discipline Check

IFC: Issued For Comment

IFA: Issued For Approval

AFD: Approved For Design

AFC: Approved For Construction

AFP: Approved For Purchase

AFQ: Approved For Quotation

IFI: Issued For Information

AB-R: As-Built for CLIENT Review

AB-A: As-Built –Approved



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MECHANICAL DATA SHEETS FOR FLARE K.O. DRUM



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REVISION RECORD SHEET

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1	X	X	X	X	
2	X	X	X	X	
3	X	X			
4	X	X	X		
5	X	X	X	X	
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General Notes

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1. The Asterisk * denotes information and/or confirmation required from VENDOR. The Vendor shall be fully responsible for the complete mechanical design, preparing calculation book and supply of the vessel. The vessel shall be supplied in accordance with project 'Specification for Pressure Vessels', Doc. No. BK-GNRL-PEDCO-000-ME-SP-0001. The manufacturer shall calculate thickness and loads of the vessel.
2. Nozzles and flanges shall be suitably supported and reinforced based on nozzle loads provided in project Specification for Pressure Vessels, Document No. BK-GNRL-PEDCO-000-ME-SP-0001.
3. VENDOR shall include for the services of an independent verification body for mechanical design, stage inspection, testing and stamping of the equipment (if possible).
4. Access Ladder & Platform to be considered .
5. Painting and coating (internal & external) shall be as per project 'Specification for Painting', Doc. No. BK-GNRL-PEDCO-000-PI-SP-0006 and Specification for Lining, Doc. No. BK-GNRL-PEDCO-000-PI-SP-0007.
6. Flanges shall comply with ANSI B16.5. Nozzle bolt holes shall straddle the natural centerlines for horizontal nozzles. VENDOR to confirm maximum allowable nozzle loads and moments. (RF: Raised Face, WN: Welding Neck, LWN: Long Weld Neck)
7. For equipment requiring PWHT, final inspection and acceptance by the CLIENT or its nominated representative shall only be undertaken against NDE after PWHT. All weldings shall be made before vessel heat treatment (if any).
8. Manways shall be supplied complete with blind flange, external grab handles, internal grab handle and ladder rungs, nuts, bolting, gasket and proof load test davits. Davits shall be proof load tested on the vessels to 1.5 x Safe Working Load (SWL) and shall be marked accordingly.
9. Loads at support base, Shall be calculated and determined by vendor.
10. Location and number of lifting lugs on vessels shall be specified on VENDOR drawing.
11. All external bolts and nuts shall be hot dip galvanized. Internal bolts and nuts shall be stainless steel.
12. All material, corrosion allowance and their suitability for the process fluid at design pressure and temperature to be confirmed by vendor.
13. Deleted
14. All nozzle locations and orientations will be finalized later.
15. Instrumentation items are excluded from vendor's scope of supply.
16. Any changes in material of construction, location & orientation of the nozzles shall be confirmed by client.
17. All dimensions shown are in mm unless otherwise indicated. All nozzle sizes are in inch.
18. All removable internals should be passed through manhole.
19. All materials shall be new and unused.
20. Prior to sealing the vessel for shipping and storage, the inside surface of the equipment shall be 100% visually inspected. Internal surfaces shall be clean and thoroughly dried. The CLIENT or its nominated representative shall witness the cleanliness of internal surfaces. Flange faces shall be protected by wooden or plastic dummy flanges.
21. Fabrication tolerances for vessel shall be in accordance with requirement of ASME code.
22. All items shall be clearly match marked against vessel drawings to facilitate erection.
23. The elevation of equipment's nozzles should be specified as follows :
I. For vertical vessels : from bottom T.L.
II. For horizontal vessels : from Left T.L.
24. Vendor shall supply details of all welding connections and give general specification of used materials.
25. Specified accessories and attachments shall be supplied by vendor.
26. Gasket shall be spiral wound type, graphite filled with inner ring S.S.316 and outer ring S.S. 316L



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	27. Fire proofing requirement will be specified as per result of fire proofing zone layout. "Area Classification: Zone 2, IIB, T3"
	28. Deleted.
	29. Equipment packaging, preparation for shipment and delivery shall be in accordance with the project Packing, Marking, Transportation Procedure Doc. No. "BK-GNRAL-PEDCO-000-QC-PR-0045".
	30. For standard detail of Earth lug execution refer to the Project "Standard Detail Drawing For Pressure Vessels and Heat Exchangers Doc. No. BK-GNRAL-PEDCO-000-ME-DW-0001".
	31. Elliptical heads shall be Ultrasonic Tested for lamination after forming.
	32. The projection of equipment's nozzles should be considered as per 'Standard Detail Drawing For Pressure Vessels and Heat Exchangers', Doc. No. BK-GNRAL-PEDCO-000-ME-DW-0001". Projection of Horizontal & Vertical nozzles is from tangent line and centerline respectively.
	33. Deleted
	34. All reinforcement pads shall have 1/4" (6mm) tell-tale hole and 1/8" (3mm) vent hole as per Standard Detail Drawing For Pressure Vessels and Heat Exchangers', Doc. No. BK-GNRAL-PEDCO-000-ME-DW-0001".
	35. Minimum requirement for pre-commissioning, commissioning, start up and two years operation spare parts shall be in accordance with document E&C-QC-SP-1.
	36. Two M12 earthing lugs shall be provided on vessel support. Material of earthing lugs shall be S.S. 316.
	37. The material shall be in compliance with NACE MR0175/ISO15156 and Specification for Material Requirements in Sour Service, Doc.No. BK-GNRAL-PEDCO-000-PI-SP-0008.
	38. Welded carbon and carbon manganese steels for vessel shall comply with the following : Carbon content shall not exceed 0.23%. Based on the ladel analysis, below equation shall be satisfied. $Ceq. = C + \frac{Mn}{6} + \frac{(Cr + Mo + V)}{5} + \frac{(Cu + Ni)}{15} < 0.42 \%$
	39. All carbon steel material shall be fully killed, fine grain treated and supplied in the normalized condition.
	40. All nozzles must be vertical or horizontal and not perpendicular or parallel to vessel center line.
	41. Lifting Lugs / trunnions shall be provided to facilitate a single point lift. If a single point lift cannot be achieved without the use of a lifting beam, then VENDOR shall provide a suitable, certified, lifting beam.
	42. Design pressure specified is at top of vessels. VENDOR design shall include static head for vessels flooded with specific gravity of the handled liquid.
	43. VENDOR is to maximize shop fabrication based on the following transportation limits: <ul style="list-style-type: none">- Maximum weight: 96 tonnes- Maximum load per axle: 12 tonnes- Maximum length: 50.0 m- Maximum width: 5.0 m- Maximum height: 5.2 m For items with dimensions and weights greater than the road capacity specified above, VENDOR may be required to split the package into several components.
	44. All external attachments directly welded to the pressure part shall be the same material as vessel grade.
	45. VENDOR to advise (VTA) internal for inlet nozzle.



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MECHANICAL DATA SHEETS FOR FLARE K.O. DRUM



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Mechanical Data Sheets For FLARE K.O. DRUM (V-2201) / sheet 1 of 4

Rev	DATA SHEET					Rev
1	Description : Flare K.O. Drum					
2	Tag No. : V-2201		Quantity : 1 Set			
3	Type : Pressure Vessel					
4	Process Design Data D03					
5	Contents		HC, H2O, CO2, H2S		Corrosive / Erosive	
6	Operating Temp. (°C)		32		Liquid Flow (kg/h)	
7	Operating Press. (barg)		0.5		Vap. Molec. Weight (kg/kmol)	
8	Gas Flow (kg/h)				Liquid Sp. Gravity	
9	Liquid Viscosity (cP)				Service: Sour Service	
10	Mechanical Design Data D03					
11	Design Temp. (°C)		85		Vessel Orientation	
12	Design Press. (barg)		6		HHLL (mm)	
13	Test Press. (barg)		Per Code & Specification		Nor. Liquid Vol. (m³)	
14	Internal Vacuum (barg)		F.V.		In. Dia. Of Boots (mm)	
15	In. Dia. of Shell (mm)		1000		Boot Length (mm)	
16	Tan/Tan Dim. (mm)		3000		Boot Head Type	
17	Vessel Head Type		2:1 elliptical		Corr. Allowance (mm)	
18	Shell Wall Thk. (mm)		*		Joint Efficiency	
19	Head Wall Thk. (mm)		* (After Forming)		Ambient Temp. (°C)	
20	Seismic Design		Site Class: D, Code: ASCE 7-10 Fa=1, FV=1.33, S1=0.46, Ss=1.125, I=1.25		MDMT (°C)	
21	Wind Design		Speed: 232 Km/hr (Max.), Code: ASCE 7-10		Insulation Required	
22	Materials					
23	Code		ASME II / ASTM		Nozzle Necks:	
24	Shell		A 516 Gr. 70 N		Pipes	
25	Heads		A 516 Gr. 70 N		Plates	
26	Lining / Cladding		P2		Forgings	
27	Skirt (Top / Bottom)		A 516 Gr. 70 / A 283 Gr. C		Flanges	
28	Platform Gratings		Hot Dip Galvanized C.S.		Fittings	
29	Gaskets		Note 26		External Bolts	
30	Lifting Lugs		A 516 Gr.70 / A 283 Gr. C		External Nuts	
31	Reinforcing Pads		A 516 Gr.70 N		Internal Bolts / Nuts	
32	Ladder & Platform		C.S.		Name Plate	
33						
34	REFERENCE STANDARDS & DOCUMENTS					
35	Mechanical Design Code		ASME Sec VIII Div 1, IPS-G-ME-150			
36	Specification for Pressure Vessels		BK-GNRAL-PEDCO-000-ME-SP-0001			
37	Process Basis of Design		BK-GNRAL-PEDCO-000-PR-DB-0001			
38	Piping & Instrument Diagram (P&ID)		BK-GCS-PEDCO-120-PR-PI-0020			
39	Specification for Painting		BK-GNRAL-PEDCO-000-PI-SP-0006			
40	Specification for Insulation		BK-GNRAL-PEDCO-000-PI-SP-0019			
41	Specification for material requirements in Sour service		BK-GNRAL-PEDCO-000-PI-SP-0008			
42						
43	Fabrication and Inspection Requirements					
44	Inspection Authority		TPI & Client			
45	Material Certification		In Accordance with BS EN 10204:2004, Type 3.1, Minimum for Pressure Containing and Attachments			
46	Hydro Test Medium		Water		Hydro Test Procedure	
47	Post Weld Heat Treatment		Yes; Per Code & Spec. Requir.		PT	
48	MT		100 % on Lifting Lug Fillet Welds		UT	
49			100 % On T-Joints and Head Joints Butt-Welds,			
50	RT		Spot On Shell Longitudinal and Circumferential Joints Butt-Welds,			
51			100 % On Nozzle Neck to Flange & Fabricated Nozzle Neck Longitudinal Butt-Welds,			
52	RT Report		Yes; Per Code & Spec. Requir.		PT Report	
53	MT Report		Yes; Per Code & Spec. Requir.		UT Report	
54	Fabrication Quality Control Plan (With Offer)		Yes			
55	Welding Procedure Review / Approval		Yes			
56	Surface Preparation & Coating		Specification for Painting Doc. No. "BK-GNRAL-PEDCO-000-PI-SP-0006" Specification for Lining Doc. No: "BK-GNRAL-PEDCO-000-PI-SP-0007"			
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احداث ردیف تو اکم گاز در ایستگاه جمع آوری سنک



MECHANICAL DATA SHEETS FOR FLARE K.O. DRUM

شماره پیمان:

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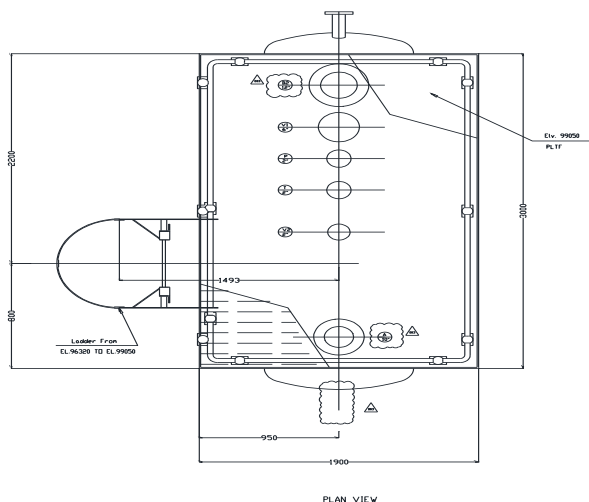
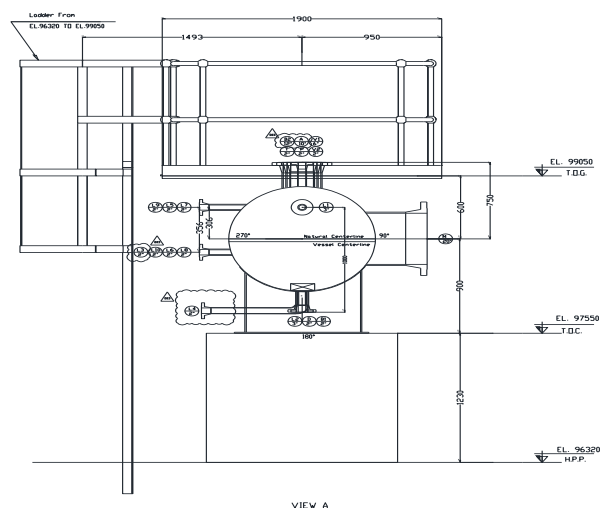
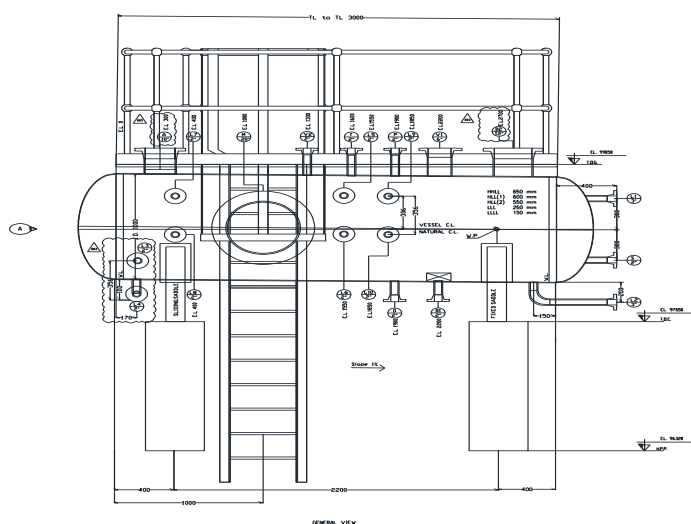
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Sketch

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All dimensions are in mm.



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Rev.	WEIGHT						Rev.		
1	WEIGHT CONTROL DATA SHEET SI UNIT *						1/1		
2									
3									
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5									
6	Service :	Flare K.O. Drum				Location :	Bushehr (Binak Oilfield)		
7	Type :					Quotation No. :			
8	No. trains :					Serial No. :			
9	No. stages :								
10	Supplier :								
11	Manufacturer :								
12	Model :								
13	Note: Information to be completed by equipment vendor.								
14									
15	Total weight (kg) *								
16	Fabrication		Erection		Operation		Hydrostatic Test	Removable internal	Ladder & Platform
17									
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23	WEIGHT AND C OF G DATA REQUIRED *								
24	CONDITION	WEIGHT ACCURACY %	WEIGHT (kg)		CENTER OF GRAVITY (mm)				
25					X	Y	Z		
26	Dry								
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51	NOTES								
52	1) All lifting points to be load tested and certified.								
53	2) Any spreader beam to be load tested and certified.								
54	3) Lifting / rigging plan for skid mounted equipment to be provided by the Vendor.								
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