

 <b>NISOC</b>	<b>نگهداشت و افزایش تولید میدان نفتی بینک</b> <b>سطح الارض</b>						 	
	<b>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</b>							
<b>MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM</b>								
شماره پیمان:	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
۰۵۳ - ۰۷۳ - ۹۱۸۴	BK	GCS	PEDCO	120	ME	DT	0010	D01
								شماره صفحه: ۱ از ۸

طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM

نگهداشت و افزایش تولید میدان نفتی بینک

D01	SEP.2022	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D00	DEC.2021	IFC	H.Adineh	M.Fakharian	M.Mehrshad	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 2

CLIENT Doc. Number: F0Z-708841

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

 <b>NISOC</b>	<b>نگهداشت و افزایش تولید میدان نفتی بینک</b> <b>سطح الارض</b>							 	
	<b>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</b>								
	<b>MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM</b>								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادرکننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0010	نسخه D01	شماره صفحه: ۲ از ۸

### REVISION RECORD SHEET

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3	X	X				67					
4	X	X				68					
5	X	X				69					
6	X	X				70					
7	X	X				71					
8	X	X				72					
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 <b>NISOC</b>	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض								
	احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
	MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM								
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۸ از ۳
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Rev	General Notes	
	D01	
	1. The Asterisk * denotes information and/or confirmation required from VENDOR. The Vendor shall be fully responsible for the complete mechanical design 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.	
	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).	
D01	4. Access Ladder & Platform to be considered . <div style="float: right;">D01</div>	
	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 (Internal Protection of Equipment by painting), Doc. No. BK-GNRL-PEDCO-000-PI-SP-0007.	
D01	6. Flanges shall comply with ANSI B16.5. Nozzle bolt holes shall straddle the natural centerlines. VENDOR to confirm maximum allowable nozzle loads and moments. RF: Raised Face, WN: Welding Neck <div style="float: right;">D01</div>	
	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.	
D01	10. Location and number of lifting lugs on vessels shall be specified on VENDOR drawing. <div style="float: right;">D01</div>	
	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.	
D01	13. The vendor shall be responsible for mechanical strength of the equipment based on mentioned condition in data sheets.	
D01	14. All nozzle locations and orientations will be finalized later. <div style="float: right;">D01</div>	
	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. Structural surfaces of stainless steel internals shall be pickled & passivated.	
D01	18. All dimensions shown are in mm unless otherwise indicated. All nozzle sizes are in inch. <div style="float: right;">D01</div>	
	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 nozzels 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 C.S.	
D01	27. deleted <div style="float: right;">D01</div>	
D01	28. deleted <div style="float: right;">D01</div>	
D01	29. Equipment packaging, preparation for shipment and delivery shall be in accordance with the project Packing, Marking, Transportation Procedure Doc. No. "BK-GNRL-PEDCO-000-QC-PR-0045".	



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نگهداشت و افزایش تولید میدان نفتی بینک  
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MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM



شماره پیمان:

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پروژه

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## General Notes (Cont'd)

Rev

30. For standard detail of Earth lug execution refer to the Project "Standard Detail Drawing For Pressure Vessels and Heat Exchangers Doc. No. BK-GNRL-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-GNRL-PEDCO-000-ME-DW-0001". Projection of Horizontal & Vertical nozzles is from tangent line and centerline respectively.

D01

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-GNRL-PEDCO-000-ME-DW-0001".

D01

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. Nozzle loads shall be in accordance with Specification for Pressure Vessels, Doc. No. BK-GNRL-PEDCO-ME-SP-0001.



37. The material shall be in compliance with NACE MR0175/ISO15156 and Specification for Material Requirements in Sour Service, Doc.No. BK-GNRL-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.

$Ceq. = C + Mn/6 + (Cr + Mo + V)/5 + (Cu + Ni)/15 < 0.42 \%$

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.



D01

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.

D01

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.

D01

43. VENDOR is to maximize shop fabrication based on the following transportation limits:



- 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.

D01

44. All external attachments directly welded to the pressure part shall be the same material as vessel grade.





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نگهداشت و افزایش تولید میدان نفتی بینک  
سطح الارض

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MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM



شماره صفحه: ۵ از ۸

شماره پیمان:

۰۳ - ۷۳ - ۹۱۸۴

پروژه

بسته کاری

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D01

Mech. Data Sheet For Close Drain Drum (V-2202) / sheet 1 of 4

Rev	DATA SHEET	Rev
1	Description : <i>Close Drain Drum</i>	
2	Tag No. : <i>V-2202</i> Quantity : <i>1 Set</i>	
3	Type : <i>Pressure Vessel</i>	
4	<b>Process Design Data</b>	
5	Contents <i>Hydro-Carbon (HC, H<sub>2</sub>O)</i>	Corrosive / Erosive <i>Yes</i>
6	Operating Temp. (°C) <i>AMB</i>	Liquid Flow (kg/h) <i>-</i>
7	Operating Press. (barg) <i>0.5</i>	Vap. Molec. Weight (kg/kmol) <i>-</i>
8	Gas Flow (kg/h) <i>-</i>	Liquid Sp. Gravity <i>0.49-1.0</i>
9	Liquid Viscosity (cP) <i>-</i>	Lethal: <i>No</i>
10	<b>Mechanical Design Data</b> <span style="float: right;">D01</span>	
11	Design Temp. (°C) <i>85</i>	Vessel Orientation <i>Horizontal</i>
12	Design Press. (barg) <i>7.5</i>	HHLL (mm) <i>2300</i>
13	Test Press. (barg) <i>Per Code &amp; Spec. Requirements</i>	Nor. Liquid Vol. (m <sup>3</sup> ) <i>-</i>
14	Internal Vacuum (barg) <i>F.V.</i>	In. Dia. Of Boots (mm) <i>N/A</i>
15	In. Dia. of Shell (mm) <i>2600</i>	Boot Length (mm) <i>N/A</i>
16	Tan/Tan Dim. (mm) <i>7800</i>	Boot Head Type <i>N.A</i>
17	Vessel Head Type <i>2:1 Elliptical (Note 31)</i>	Corr. Allowance (mm) <i>6</i>
18	Shell Wall Thk. (mm) <i>*</i>	Joint Efficiency <i>0.85 (Shell) / 1 (Head)</i>
19	Head Wall Thk. (mm) <i>(After Forming) *</i>	Ambient Temp. (°C) <i>-</i>
20	Seismic Design <i>Site Class: D, Code: ASCE 7-10</i>	MDMT (°C) <i>5</i>
21	Wind Design <i>Speed: 120 Km/hr (Max.), Code: ASCE 7-10</i>	Insulation Required <i>-</i>
22	<b>Materials</b> <span style="float: right;">D01</span>	
23	Code <i>ASME II / ASTM</i>	Internal Welded Supports <i>S.S.</i>
24	Shell <i>A 516 70N</i>	Nozzle Necks <i>A 106 Gr.B</i>
25	Heads <i>A 516 70N</i>	Pipes <i>A 106 Gr.B</i>
26	Lining <i>PI (Note 5)</i>	Plates <i>A 516 70N</i>
27	Saddles <i>A 283 Gr. C</i>	Forgings <i>A 105N</i>
28	Wear Plate <i>A 516 70N</i>	Flanges <i>A 105N</i>
29	Stiffening Rings <i>A 516 70N</i>	Fittings <i>A 234 Gr. WPB</i>
30	Gaskets <i>Note 26</i>	Welded Internals <i>S.S.</i>
31	Lifting Lugs <i>A 516 Gr.70 / A 283 Gr. C</i>	External Bolts / Nuts (Note 11) <i>A 193 Gr. B7 / A 194 Gr. 2H</i>
32	Reinforcing Pads <i>A 516 70N</i>	Internal Bolts / Nuts (Note 11) <i>S.S.</i>
33	Ladder & Platform <i>C.S.</i>	Insulation <i>-</i>
34	Gratings <i>Hot Dip Galvanized C.S.</i>	Name Plate <i>S.S. 316</i>
35	External Welded Clips <i>A 516 Gr.70N</i>	
36	<b>REFERENCE STANDARDS &amp; DOCUMENTS</b>	
37	Mechanical Design Code	<i>ASME Sec VIII Div 1, IPS-G-ME-150</i>
38	Specification for Pressure Vessels	<i>BK-GNRAL-PEDCO-000-ME-SP-0001</i>
39	Process Basis of Design	<i>BK-GNRAL-PEDCO-000-PR-DB-0001</i>
40	Piping & Instrument Diagram (P&ID)	<i>BK-GCS-PEDCO-120-PR-PI-0017</i>
41	Specification for Painting	<i>BK-GNRAL-PEDCO-000-PI-SP-0006</i>
42	Specification for Insulation	<i>BK-GNRAL-PEDCO-000-PI-SP-0019</i>
43	Specification For Material Requirements in Sour service	<i>BK-GNRAL-PEDCO-000-PI-SP-0008 (Note 37)</i>
44	Deleted	
45	<b>Fabrication and Inspection Requirements</b>	
46	Inspection Authority <i>TPI &amp; Client</i>	
47	Material Certification <i>In Accordance with BS EN 10204:2004, Type 3.1, Minimum for Pressure Containing and Attachments</i>	
48	Hydro Test Medium <i>Water</i>	Hydro Test Procedure <i>Yes; Per Code &amp; Spec. Requirements</i>
49	Post Weld Heat Treatment <i>Yes</i>	PT <i>100%</i>
50	MT <i>100 % on Lifting Lug Fillet Welds</i>	UT <i>Yes; Per Code &amp; Spec. Requirements</i>
51	RT <i>100 % On T-Joints and Head Joints Butt-Welds,</i>	
52	<i>Spot On Shell Longitudinal and Circumferential Joints Butt-Welds,</i>	
53	<i>100 % On Nozzle Neck to Flange &amp; Fabricated Nozzle Neck Longitudinal Butt-Welds,</i>	
54	RT Report <i>Yes; Per Code &amp; Spec. Requirements</i>	PT Report <i>Yes; Per Code &amp; Spec. Requirements</i>
55	MT Report <i>Yes; Per Code &amp; Spec. Requirements</i>	UT Report <i>Yes; Per Code &amp; Spec. Requirements</i>
56	Fabrication Quality Control Plan (With Offer)	<i>Yes</i>
57	Welding Procedure Review / Approval	<i>Yes</i>
58	Surface Preparation & Coating	<i>Per Specification for Painting with Doc. No. "BK-GNRAL-PEDCO-PI-SP-0006"</i>
59		<i>Specification for Linning Doc. No. BK-GNRAL-PEDCO-000-PI-SP-0007</i>
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## احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

## MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM



شماره صفحه: ۶ از ۸

**شماره پیمان:**

• 03 - • 73 - 9184

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صادرکننده

**تسهيلات**

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Mech. Data Sheet For Close Drain Drum (V-2202) / sheet 2 of 4

## ACCESSORIES, NOZZLES LIST & LOADS @ BASE

D01

Rev.

### Accessories & Attachments (Note 25)

Supporting Saddles	Yes	Name Plate Bracket	Yes
Access Ladder & Platform	Yes	Name Plate	Yes
Insulation Support	No	Earthing Lug <i>(Note 30)</i>	Yes
Insulation	No	Tailing Lug	
Insulation Cover	No	Cathodic Protection (Sacrificial Anodes) <i>(Note 33)</i>	
Fireproofing Support	Yes	Anchor Bolts	No
Lifting Lugs	Yes	Instrumentations	
Internal/ External Clips	Yes	Skid	
Tamplate	No	Support Clips	
Boot	No	Vortex Breaker	Yes
Davit for Manhole	Yes	Rung & Grip	Yes
Internal Lining (By Painting)	Yes	Heating Coil	No

D01

### Nozzles List (Note 1)

D01

Mark	Qty.	Description	Pipe			Flange			Proj. (mm)	Reinforcement		Remarks
			Size	Thk.	Sch.	Type	Rate.	Face	(Note 32)	Thk.	O.D.	
A	1	Inlet	6"	-		WN	#150	RF	See DWG			
FL	1	Gas Outlet	6"	-		WN	#150	RF	See DWG			
B	1	Liquid Outlet	2"	-		WN	#150	RF	See DWG			
V1	1	Vent	3"	-		WN	#150	RF	See DWG			
V2	1	Ventilation	8"	-		WN	#150	RF	See DWG			
M 1,2	2	Manhole	24"	-		WN	#150	RF	See DWG			
S	1	Utility Connection	2"	-		WN	#150	RF	See DWG			
D 1,2	2	Drain	2"	-		WN	#150	RF	See DWG			
L 1,2	2	Stand Pipe	3"	-		WN	#150	RF	See DWG			
Deleted												
P	1	Pressure gauge	2"	-		WN	#300	RF	See DWG			
T	1	Temperature gauge	2"	-		WN	#300	RF	See DWG			

**Wind and Seismic Loads at Base \* *Note(9)***

[illegible]

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Population (millions)	7.7	7.9	8.1	8.3	8.5	8.7	8.9	9.1	9.3	9.5	9.7	9.9	10.1	10.3	10.5	10.7	10.9	11.1	11.3	11.5	11.7
GDP (trillion USD)	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5
Life expectancy (years)	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92
Urban population (%)	55	57	59	61	63	65	67	69	71	73	75	77	79	81	83	85	87	89	91	93	95
Renewable energy (%)	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
CO2 emissions (Gt)	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک  
سطح الارض

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MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM



شماره پیمان:

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پروژه

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سریال

0010

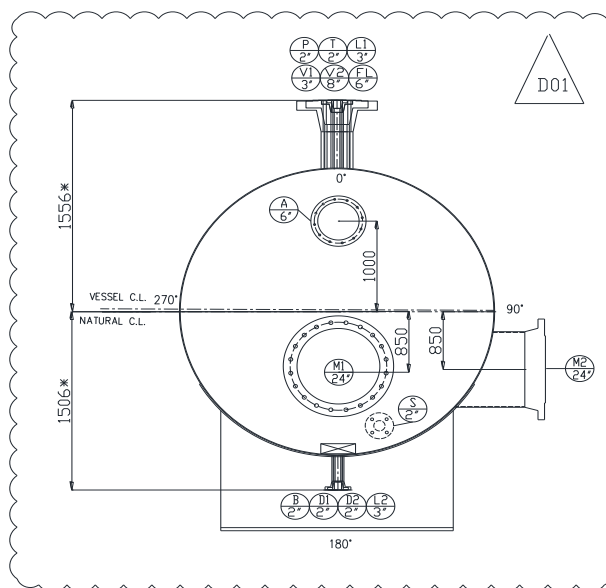
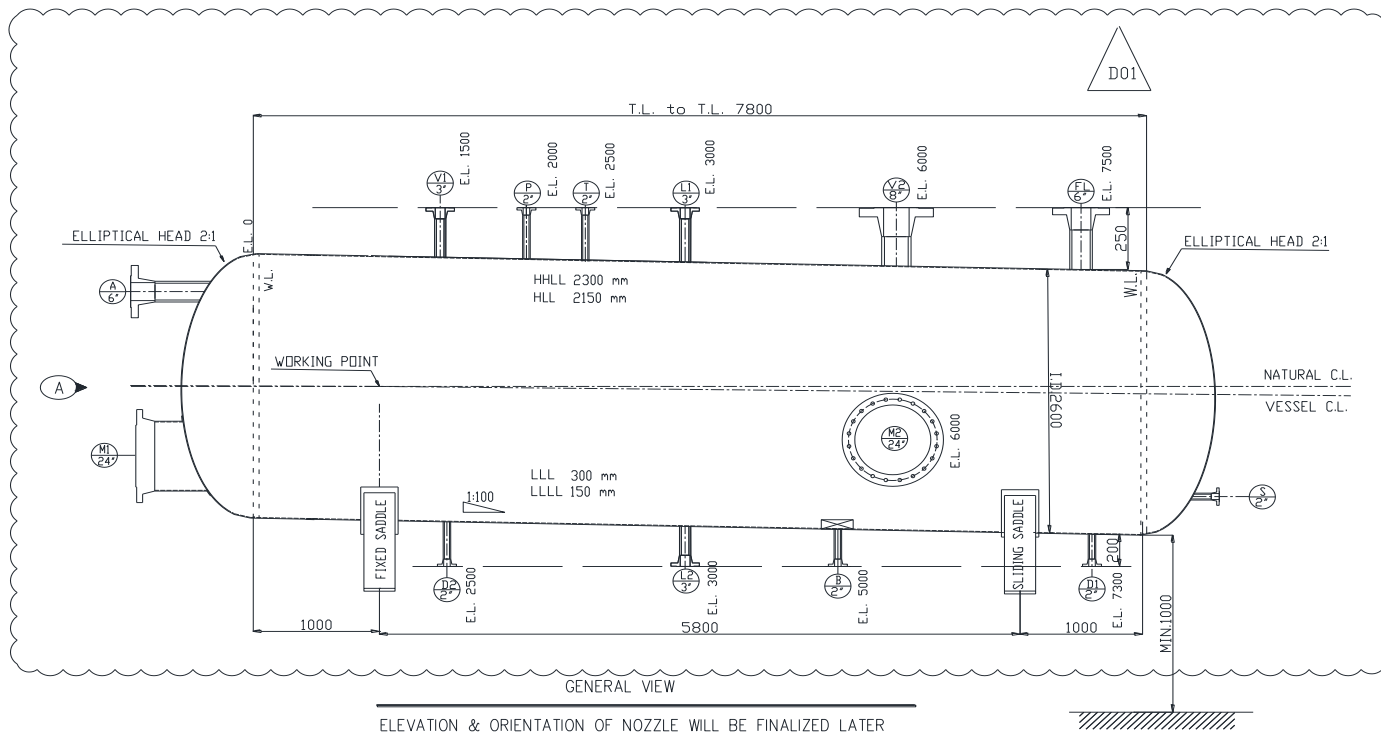
نسخه

D01

شماره صفحه: ۸ از ۷

Mechanical Data Sheets For Close Drain Drum (V-2202) / sheet 3 of 4

Sketch



All Dimensions are in mm.  
The close drain drum is located in pit.



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک  
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MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM



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نسخه

D01

شماره صفحه: ۸ از ۸

Mech. Data Sheet For Close Drain Drum (V-2202) / sheet 4 of 4

Rev.	WEIGHT						Rev.
1	<b>WEIGHT CONTROL DATA SHEET</b> <b>SI UNIT *</b>						<b>1/1</b>
2							
3							
4							
5							
6	Service : <i>Close Drain Drum</i>			Location : <i>Bushehr (Binak Oilfield)</i>			D01
7	Type :			Quotation No. :			
8	No. trains :			Serial No. :			
9	No. stages :						
10	Supplier :						
11	Manufacturer :						
12	Model :						
13							
14	Note: Information to be completed by equipment vendor.						
15							
16	<b>Total weight (kg) *</b>						
17	Fabrication	Erection	Operation	Hydrostatic Test	Removable internal	Ladder & Platform	
18							
19							
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23	<b>WEIGHT AND C OF G DATA REQUIRED *</b>						
24	CONDITION	WEIGHT ACCURACY %	WEIGHT (kg)	CENTER OF GRAVITY (mm)			
25				X	Y	Z	
26	Dry						
27							
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30	<b>SKETCH</b>						
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52	<b>NOTES</b>						
53	1) All lifting points to be load tested and certified.						
54	2) Any spreader beam to be load tested and certified.						
55	3) Lifting / rigging plan for skid mounted equipment to be provided by the Vendor.						
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