


 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض							 شرکت توسعه پتروایران	
	MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM							 	
شماره پیمان:	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۱ از ۸
۰۵۳ - ۰۷۳ - ۹۱۸۴	BK	GCS	PEDCO	120	ME	DT	0010	D03	

طرح نگهداشت و افزایش تولید ۲۷ مخزن




MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM

نگهداشت و افزایش تولید میدان نفتی بینک

D03	SEP.2024	IFA	V.Amjadi	M.Fakharian	M.Sadeghian	
D02	JUN.2023	IFA	H.Adineh	M.Fakharian	A.M.Mohseni	
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: 1	CLIENT Doc. Number: F0Z-708841
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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>تکدهاشت 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	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0010	نسخه D03	شماره صفحه: ۲ از ۸

### REVISION RECORD SHEET

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1	X	X	X	X		65					
2	X	X	X	X		66					
3	X	X				67					
4	X	X				68					
5	X	X	X	X		69					
6	X	X	X			70					
7	X	X	X	X		71					
8	X	X				72					
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 <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	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۸ از ۳
۰۵۳ - ۰۷۳ - ۹۱۸۴	BK	GCS	PEDCO	120	ME	DT	0010	D03	

General Notes	
Rev	
	<ol style="list-style-type: none"> <li>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-GNRAL-PEDCO-000-ME-SP-0001.</li> <li>Nozzles and flanges shall be suitably supported and reinforced based on nozzle loads provided in project Specification for Pressure Vessels, Document No. BK-GNRAL-PEDCO-000-ME-SP-0001.</li> <li>VENDOR shall include for the services of an independent verification body for mechanical design, stage inspection, testing and stamping of the equipment (if possible).</li> <li>Access Ladder &amp; Platform to be considered .</li> <li>Painting and coating (internal &amp; external) shall be as per project 'Specification for Painting', Doc. No. BK-GNRAL-PEDCO-000-PI-SP-0006 and Specification for Lining (Internal Protection of Equipment by painting), Doc. No. BK-GNRAL-PEDCO-000-PI-SP-0007.</li> <li>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</li> <li>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).</li> <li>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.</li> <li>Loads at support base, Shall be calculated and determined by vendor.</li> <li>Location and number of lifting lugs on vessels shall be specified on VENDOR drawing.</li> <li>All external bolts and nuts shall be hot dip galvanized. Internal bolts and nuts shall be stainless steel.</li> <li>All material, corrosion allowance and their suitability for the process fluid at design pressure and temperature to be confirmed by vendor.</li> <li>The vendor shall be responsible for mechanical strength of the equipment based on mentioned condition in data sheets.</li> <li>All nozzle locations and orientations will be finalized later.</li> <li>Instrumentation items are excluded from vendor's scope of supply.</li> <li>Any changes in material of construction, location &amp; orientation of the nozzles shall be confirmed by client.</li> <li>Structural surfaces of stainless steel internals shall be pickled &amp; passivated.</li> <li>All dimensions shown are in mm unless otherwise indicated. All nozzle sizes are in inch.</li> <li>All materials shall be new and unused.</li> <li>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.</li> <li>Fabrication tolerances for vessel shall be in accordance with requirement of ASME code.</li> <li>All items shall be clearly match marked against vessel drawings to facilitate erection.</li> <li>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.</li> <li>Vendor shall supply details of all welding connections and give general specification of used materials.</li> <li>Specified accessories and attachments shall be supplied by vendor.</li> <li>Gasket shall be spiral wound type, graphite filled with inner ring S.S.316 and outer ring C.S.</li> <li>deleted</li> <li>deleted</li> <li>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".</li> </ol>

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شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
۰۵۳ - ۰۷۳ - ۹۱۸۴	BK	GCS	PEDCO	120	ME	DT	0010	D03

General Notes (Cont'd)	
Rev	
	<p>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".</p> <p>31. Elliptical heads shall be Ultrasonic Tested for lamination after forming.</p> <p>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 &amp; Vertical nozzles is from tangent line and centerline respectively.</p> <p>33. Deleted</p> <p>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".</p> <p>35. Minimum requirement for pre-commissioning, commissioning, start up and two years operation spare parts shall be in accordance with document E&amp;C-QC-SP-1.</p> <p>36. Nozzle loads shall be in accordance with Specification for Pressure Vessels, Doc. No. BK-GNRAL-PEDCO-ME-SP-0001.</p> <p>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.</p> <p>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. <math display="block">Ceq. = C+MN/6+(Cr+Mo+V)/5+(Cu+Ni)/15 &lt; 0.42 \%</math></p> <p>39. All carbon steel material shall be fully killed, fine grain treated and supplied in the normalized condition.</p> <p>40. All nozzles must be vertical or horizontal and not perpendicular or parallel to vessel center line.</p> <p>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.</p> <p>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.</p> <p>43. VENDOR is to maximize shop fabrication based on the following transportation limits:</p> <ul style="list-style-type: none"> <li>- Maximum weight: 96 tonnes</li> <li>- Maximum load per axle: 12 tonnes</li> <li>- Maximum length: 50.0 m</li> <li>- Maximum width: 5.0 m</li> <li>- Maximum height: 5.2 m</li> </ul> <p>For items with dimensions and weights greater than the road capacity specified above, VENDOR may be required to split the package into several components.</p> <p>44. All external attachments directly welded to the pressure part shall be the same material as vessel grade.</p>



## احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

## MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM



شماره صفحه: ۵ از ۸

**شماره پیمان:**

• 03 - • 73 - 9184

## پروژه

## نته کاری

صادرکننده

## تسهيلات

## رشته

## نوع مدرک

**سریال**




خه

[illegible]

1

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

Rev	DATA SHEET					Rev
D03	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	Process Design Data				
	5	Contents	<i>Hydro-Carbon (HC, H2O)</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	Mechanical Design Data				
	11	Design Temp. (°C)	<i>85</i>	Vessel Orientation	<i>Horizontal</i>	
	12	Design Press. (barg)	<i>6</i>	HHLL (mm)	<i>2260</i>	
	13	Test Press. (barg)	<i>Per Code &amp; Spec. Requirements</i>	Nor. Liquid Vol. (m³)	<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 Fa=1,FV=1.33,S1=0.46,Ss=1.125,I=1.25</i>	MDMT (°C)	<i>5</i>	
	21	Wind Design	<i>Speed: 232 Km/hr (Max.), Code: ASCE 7-10</i>	Insulation Required	<i>-</i>	
	22	Materials				
	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	REFERENCE STANDARDS & DOCUMENTS					
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	Fabrication and Inspection Requirements					
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. Requir.</i>	PT Report	<i>Yes;Per Code &amp; Spec. Requirements</i>		
55	MT Report	<i>Yes; Per Code &amp; Spec. Requir.</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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 <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: ۰۵۳ - ۰۷۳ - ۹۱۸۴	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
	D03	0010	DT	ME	120	PEDCO	GCS	BK
شماره صفحه: ۸ از ۶								

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

Rev.	ACCESSORIES , NOZZLES LIST & LOADS @ BASE												Rev.
	Accessories & Attachments (Note 25)												
	Supporting Saddles					Yes	Name Plate Bracket					Yes	
	Access Ladder & Platform					Yes	Name Plate					Yes	
	Insulation Support					No	Earthing Lug (Note 30)					Yes	
	Insulation					No	Tailing Lug					N/A	
	Insulation Cover					No	Cathodic Protection (Sacrificial Anodes) (Note 33)					No	
	Fireproofing Support					Yes	Anchor Bolts					No	
	Lifting Lugs					Yes	Instrumentations					No	
	Internal/ External Clips					Yes	Skid					N/A	
	Tamplate					No	Support Clips					Yes	
	Boot					No	Vortex Breaker					Yes	
	Davit for Manhole					Yes	Rung & Grip					Yes	
	Internal Lining (By Painting)					Yes	Heating Coil					No	
	Nozzles List (Note 1)												
	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	3"	-		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)													
<div><div><div>M</div><div>I</div><div>Q</div></div><div><div></div><div></div><div></div></div></div> <div>Load Type</div>	Empty Condition			Operating Condition			Testing Condition						
	Max. Shear @ Base (Kg)	Max. Moment @ Base (Kg.m)	Weight (Kg)	Max. Shear @ Base (Kg)	Max. Moment @ Base (Kg.m)	Weight (Kg)	Max. Shear @ Base (Kg)	Max. Moment @ Base (Kg.m)	Weight (Kg)				





NISOC

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سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

BK

GCS

PEDCO

120

ME

DT

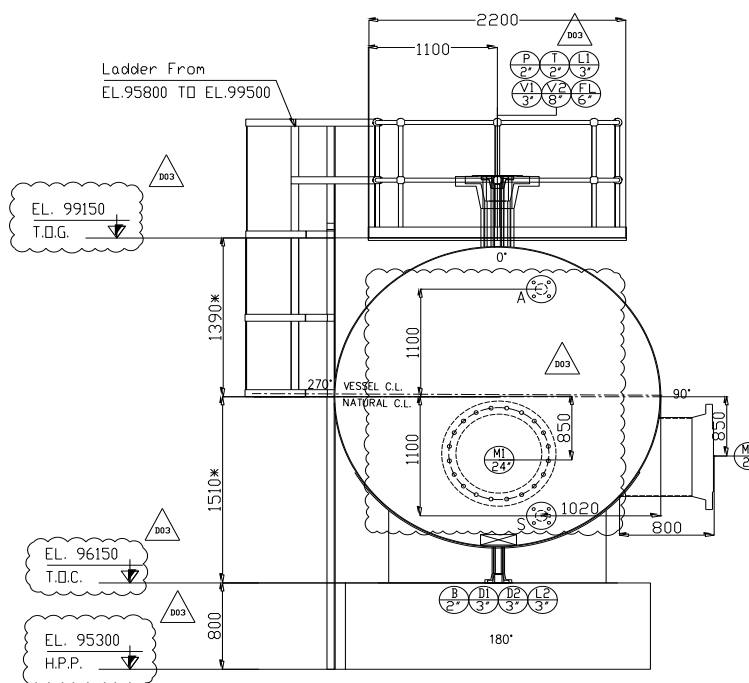
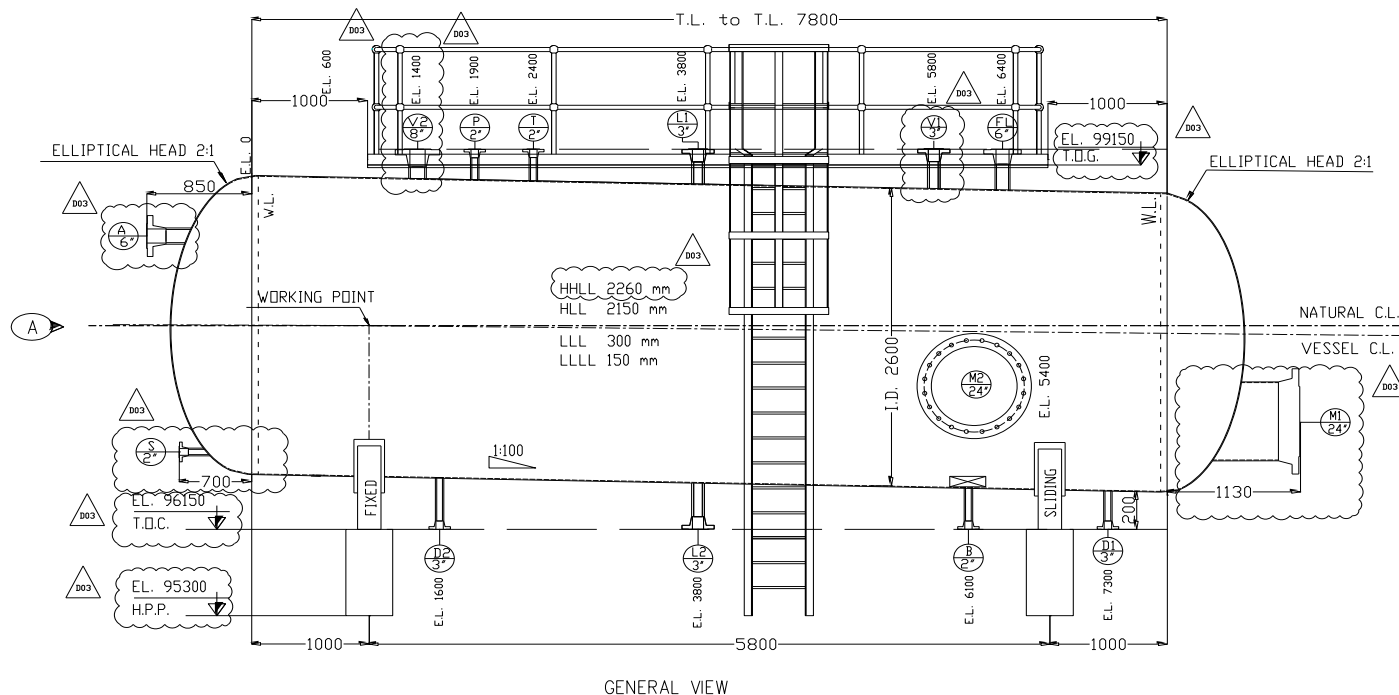
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D03

شماره صفحه: ۸ از ۷

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

Sketch



VIEW A

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



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک  
سطح الارض

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MECHANICAL DATA SHEETS FOR CLOSE DRAIN DRUM



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

BK

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GCS

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PEDCO

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نسخه

D03

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 SI UNIT *</b>					1/1	
2							
3							
4							
5							
6	Service : <i>Close Drain Drum</i>			Location : <i>Bushehr (Binak Oilfield)</i>			
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							
20							
21							
22							
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							
28							
29							
30	<b>SKETCH</b>						
31							
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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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