

 <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 NITROGEN RECEIVER</b>								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تهیلات 120	رشته ME	نوع مدرک DT	سریال 0009	نسخه D02	شماره صفحه: ۸ از ۱

## طرح نگهداشت و افزایش تولید ۲۷ مخزن

### MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER

#### نگهداشت و افزایش تولید میدان نفتی بینک

D02	SEP.2022	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D01	DEC. 2021	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D00	NOV.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-708840

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 NITROGEN RECEIVER



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

D02

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04
1	X	X	X		
2	X	X	X		
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	1. The Asterisk * denotes information and/or confirmation required from VENDOR.
D02	2. Deleted 
	3. VENDOR shall include for the services of a independent verification body for mechanical design, stage inspection, testing and stamping of the equipment (if possible).
D02	4. Painting and coating (internal & external) shall be as per project 'Specification for Painting', Doc. No. BK-GNRAL-PEDCO-000-PI-SP-0006. and Specification For Lining Doc. No. BK-GNRAL-PEDCO-000-PI-SP-0007 respectively.
D02	5. Flanges shall comply with ASME B16.5. Nozzle bolt holes shall straddle the natural centrelines for horizontal nozzles. VENDOR to confirm maximum allowable nozzle loads and moments (RF: Raised Face, WN: Welding Neck) 
	6. 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".
	7. 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.
	8. All external bolts and nuts shall be hot dip galvanized. Internal bolts and nuts shall be stainless steel.
	9. Loads at support base, Shall be calculated and determined by vendor.
	10. Access Ladder & Platform to be considered .
D02	11. Deleted 
	12. All material, corrosion allowance and their suitability for the process fluid at design pressure and temperature to be confirmed by vendor.
D02	13. Deleted 
D02	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 materials shall be new and unused.
	18. Fabrication tolerances for vessel shall be in accordance with requirement of ASME code.
	19. Location and number of lifting lugs on vessels shall be specified on VENDOR drawing.
	20. All items shall be clearly match marked against vessel drawings to facilitate erection.
D02	21. Deleted 
	22. Vendor shall supply details of all welding connections and give general specification of used materials.
	23. 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).
	24. Equipment packaging, preparation for shipment and delivery shall be in accordance with the project Minimum Requirements for Marking, Packing, Shipment & Storage' Document No. IPS-G-GN-210.
	25. Specified accessories and attachments shall be supplied by vendor.
	26. Gasket shall be spiral wound type, graphite filled with inner ring and outer ring S.S.316
D02	27. Deleted 
D02	28. Deleted
	29. Two M12 earthing lugs shall be provided on vessel support. Material of Earthing lugs shall be S.S. 316



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General Notes (Cont'd)

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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. 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.

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34. 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.

35. 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.

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36. Minimum requirement for pre-commissioning, commissioning, start up and two years operation and spare parts shall be in accordance with document E&C-QC-SP-1.

37. 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.

38. Design pressure specified is at top of vessels. VENDOR design shall include static head for vessels flooded with specific gravity of the handled liquid.

39. 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.

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

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41. The Vendor shall be fully responsible for the complete mechanical design, preparing calculation book and supply of the vessel.

42. All dimensions shown are in mm unless otherwise indicated. All nozzle sizes are in inch.



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Mechanical Data Sheets For Nitrogen Receiver (V-2204) / sheet 1 of 4

Rev	DATA SHEET	Rev
1	Description : <i>Nitrogen Receiver</i>	
2	Tag No. : <i>V-2204</i> Quantity : <i>1 Set</i>	
3	Type : <i>Pressure Vessel</i>	
4	Process Design Data	
5	Contents	Corrosive / Erosive
6	Operating Temp. (°C) <i>60</i>	Liquid Flow (kg/h)
7	Operating Press. (barg) <i>8</i>	Vap. Molec. Weight (kg/kmol)
8	Gas Flow (kg/h) <i>32.5</i>	Liquid Sp. Gravity
9	Liquid Viscosity (cP)	Service: <i>1</i>
10	Mechanical Design Data <i>D02</i>	
11	Design Temp. (°C) <i>85</i>	Vessel Orientation <i>Vertical</i>
12	Design Press. (barg) <i>12.5</i>	Liquid Level (mm) <i>300</i>
13	Test Press. (barg) <i>Per Code &amp; Specification</i>	Nor. Liquid Vol. (m³)
14	Internal Vacuum (barg) <i>-</i>	In. Dia. Of Boots (mm) <i>N/A</i>
15	In. Dia. of Shell (mm) <i>1050</i>	Boot Length (mm) <i>N/A</i>
16	Tan/Tan Dim. (mm) <i>3150</i>	Boot Head Type <i>N/A</i>
17	Vessel Head Type <i>2:1 elliptical</i>	Corr. Allowance (mm) <i>1.6</i>
18	Shell Wall Thk. (mm) <i>*</i>	Joint Efficiency <i>0.7 (Skirt)/ 0.85 (Shell) /1(Head)</i>
19	Head Wall Thk. (mm) <i>*(After Forming)</i>	Ambient Temp. (°C)
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>No</i>
22	Materials <i>D02</i>	
23	Code <i>ASME II / ASTM</i>	Nozzle Necks: <i>D02</i>
24	Shell <i>A 516 Gr. 70</i>	Pipes <i>A 106 Gr.B</i>
25	Heads <i>A 516 Gr. 70</i>	Plates <i>A 516 Gr.70</i>
26	Lining / Cladding <i>P3</i>	Forgings <i>A 105</i>
27	Skirt (Top / Bottom) <i>A 516 Gr. 70 / A 283 Gr. C</i>	Flanges <i>A 105</i>
28	Platform Gratings <i>Hot Dip Galvanized C.S.</i>	Fittings <i>A 234 Gr. WPB</i>
29	Gaskets <i>Note 26</i>	External Bolts <i>A 193 Gr. B7 (Note 8)</i>
30	Lifting Lugs <i>A 516 Gr.70 / A 283 Gr. C</i>	External Nuts <i>A 194 Gr. 2H (Note 8)</i>
31	Reinforcing Pads <i>A 516 Gr.70</i>	Internal Bolts / Nuts <i>S.S.</i>
32	Ladder & Platform <i>C.S.</i>	Name Plate <i>S.S. 316</i>
33	REFERENCE STANDARDS & DOCUMENTS	
35	Mechanical Design Code <i>ASME Sec VIII Div 1, IPS-G-ME-150</i>	
36	Specification for Pressure Vessels <i>BK-GNRAL-PEDCO-000-ME-SP-0001</i>	
37	Process Basis of Design <i>BK-GNRAL-PEDCO-000-PR-DB-0001</i>	
38	Piping & Instrument Diagram (P&ID) <i>BK-GCS-PEDCO-120-PR-PI-0016</i>	
39	Specification for Painting <i>BK-GNRAL-PEDCO-000-PI-SP-0006</i>	
40	Specification for Insulation <i>BK-GNRAL-PEDCO-000-PI-SP-0019</i>	
41	Fabrication and Inspection Requirements	
43	Fabrication and Inspection Requirements	
44	Inspection Authority <i>TPI &amp; Client</i>	
45	Material Certification <i>In Accordance with BS EN 10204:2004, Type 3.1, Minimum for Pressure Containing and Attachments</i>	
46	Hydro Test Medium <i>Water</i>	Hydro Test Procedure <i>Yes; Per Code &amp; Spec. Requirements</i>
47	Post Weld Heat Treatment <i>Per Code &amp; Spec. Requirements</i>	PT <i>100%</i>
48	MT <i>100 % on Lifting Lug Fillet Welds</i>	UT <i>Yes; Per Code &amp; Spec. Requirements</i>
49	RT <i>100 % On T-Joints and Head Joints Butt-Welds,</i>	
50	<i>Spot On Shell Longitudinal and Circumferential Joints Butt-Welds,</i>	
51	<i>100 % On Nozzle Neck to Flange &amp; Fabricated Nozzle Neck Longitudinal Butt-Welds,</i>	
52	RT Report <i>Yes; Per Code &amp; Spec. Requir.</i>	PT Report <i>Yes; Per Code &amp; Spec. Requirements</i>
53	MT Report <i>Yes; Per Code &amp; Spec. Requir.</i>	UT Report <i>Yes; Per Code &amp; Spec. Requirements</i>
54	Fabrication Quality Control Plan (With Offer)	<i>Yes</i>
55	Welding Procedure Review / Approval	<i>Yes</i>
56	Surface Preparation & Coating	<i>Specification for Painting Doc. No. "BK-GNRAL-PEDCO-000-PI-SP-0006"</i> <i>Specification for Lining 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 NITROGEN RECEIVER



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## سهیلات

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**سریال**

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1. *Introduction*

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Mechanical Data Sheets For Nitrogen Receiver (V-2204) / sheet 2 of 4

### ACCESSORIES , NOZZLES LIST & LOADS @ BASE

### Accessories & Attachments (Note 25)

Supporting Saddles	NO	Name Plate Bracket 	YES
Access Ladder & Platform	YES	Name Plate	YES
Insulation Support	NO	Earthing Lug <a href="#">(Note 30)</a>	YES
Insulation	NO	Tailing Lug	YES
Insulation Cover	NO	Cathodic Protection (Sacrificial Anodes)	NO
Fireproofing Support	NO	Anchor Bolts	NO
Lifting Lugs	YES	Instrumentations	NO
Internal/ External Clips	YES	Skid	NO
Template	YES	Support Clips	YES
Boot	NO	Vortex Breaker	YES
Davit for Manhole	YES	Rung & Grip	NO
Internal Lining (By Painting)	YES	Heating Coil	NO

### Nozzles List (Note 1, 3, 5, 9, 12, 41)

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



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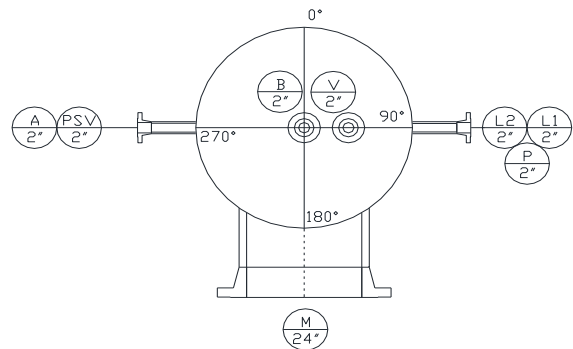
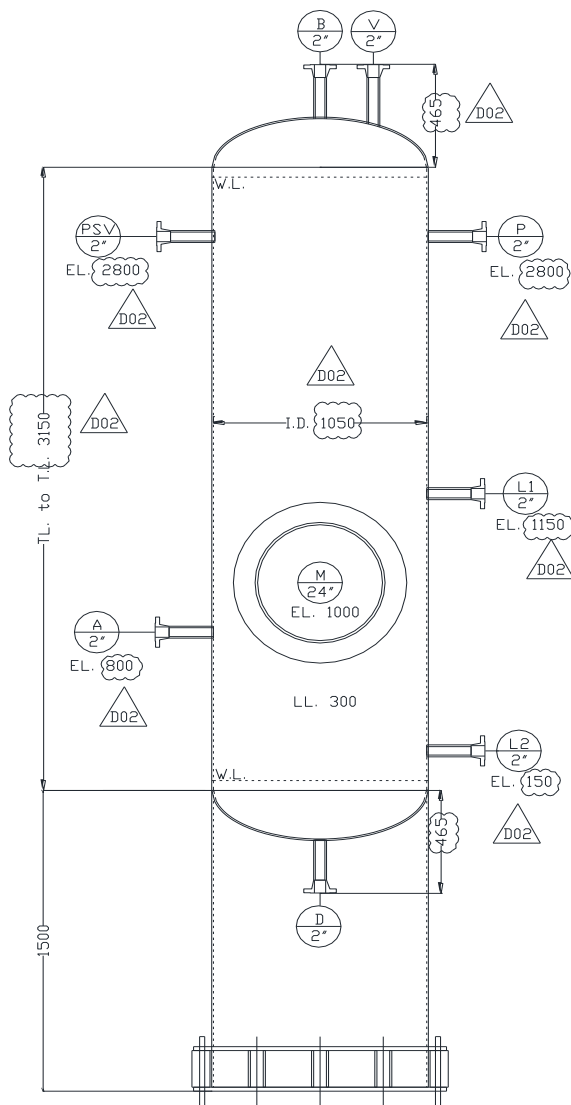
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Mechanical Data Sheets For Nitrogen Receiver (V-2204) / sheet 3 of 4

Sketch





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Mechanical Data Sheets For Nitrogen Receiver (V-2204) / sheet 4 of 4

Rev.	WEIGHT						Rev.	
1	<b>WEIGHT CONTROL DATA SHEET SI UNIT *</b>			1/1				D02
2								
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6	Service :	Nitrogen Receiver			Location :	Bushehr (Binak Oilfield)		
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								
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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							
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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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