

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض							 	
	احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تهیلات 120	رشته ME	نوع مدرک DT	سریال 0009	نسخه D03	شماره صفحه: ۱ از ۸

طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER

نگهداشت و افزایش تولید میدان نفتی بینک

D03	JUN.2023	IFA	H.Adineh	M.Fakharian	A.M.Mohseni	
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: 1 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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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER



شماره صفحه: ۸ از ۲۸

شماره پیمان:

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پروژه

BK

بسته کاری

GCS

صادر کننده

PEDCO

تسهیلات

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سریال

0009

نسخه

D03

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04
1	X	X	X	X	
2	X	X	X	X	
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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض								
	احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0009	نسخه D03	شماره صفحه: ۸ از ۳
General Notes									
Rev	- The Asterisk * denotes information and/or confirmation required from VENDOR. - Deleted - VENDOR shall include for the services of a independent verification body for mechanical design, stage inspection, testing and stamping of the equipment (if possible). - 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 respectively. - 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) - 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". - 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. - All external bolts and nuts shall be hot dip galvanized. Internal bolts and nuts shall be stainless steel. - Loads at support base, Shall be calculated and determined by vendor. - Access Ladder & Platform to be considered . - Deleted - All material, corrosion allowance and their suitability for the process fluid at design pressure and temperature to be confirmed by vendor. - Deleted - All nozzle locations and orientations will be finalized later. - Instrumentation items are excluded from vendor's scope of supply. - Any changes in material of construction, location & orientation of the nozzles shall be confirmed by client. - All materials shall be new and unused. - Fabrication tolerances for vessel shall be in accordance with requirement of ASME code. - Location and number of lifting lugs on vessels shall be specified on VENDOR drawing. - All items shall be clearly match marked against vessel drawings to facilitate erection. - Deleted - Vendor shall supply details of all welding connections and give general specification of used materials. - 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). - 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. - Specified accessories and attachments shall be supplied by vendor. - Gasket shall be spiral wound type, graphite filled with inner ring and outer ring S.S.316 - Deleted - Deleted - Two M12 earthing lugs shall be provided on vessel support. Material of Earthing lugs shall be S.S. 316								



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احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER



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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.
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.
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.
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 : Nitrogen Receiver					
2	Tag No. : V-2204		Quantity : 1 Set			
3	Type : Pressure Vessel					
4	Process Design Data					
5	Contents		Corrosive / Erosive			
6	Operating Temp. (°C)	60	Liquid Flow (kg/h)			
7	Operating Press. (barg)	8	Vap. Molec. Weight (kg/kmol)			
8	Gas Flow (kg/h)	32.5	Liquid Sp. Gravity	1		
9	Liquid Viscosity (cP)		Service:	N/A		
10	Mechanical Design Data					
11	Design Temp. (°C)	85	Vessel Orientation	Vertical		
12	Design Press. (barg)	12.5	Liquid Level (mm)	300		
13	Test Press. (barg)	Per Code & Specification	Nor. Liquid Vol. (m³)			
14	Internal Vacuum (barg)	-	In. Dia. Of Boots (mm)	N/A		
15	In. Dia. of Shell (mm)	1050	Boot Length (mm)	N/A		
16	Tan/Tan Dim. (mm)	3150	Boot Head Type	N/A		
17	Vessel Head Type	2:1 elliptical	Corr. Allowance (mm)	1.6		
18	Shell Wall Thk. (mm)	*	Joint Efficiency	0.7 (Skirt)/ 0.85 (Shell) /1(Head)		
19	Head Wall Thk. (mm)	*(After Forming)	Ambient Temp. (°C)			
20	Seismic Design	Site Class: D, Code: ASCE 7-10	MDMT (°C)	5		
21	Wind Design	Speed: 120 Km/hr (Max.), Code: ASCE 7-10	Insulation Required	No		
22	Materials					
23	Code	ASME II / ASTM	Nozzle Necks:			
24	Shell	A 516 Gr. 70	Pipes	A 106 Gr.B		
25	Heads	A 516 Gr. 70	Plates	A 516 Gr.70		
26	Lining / Cladding	P3	Forgings	A 105		
27	Skirt (Top / Bottom)	A 516 Gr. 70 / A 283 Gr. C	Flanges	A 105		
28	Platform Gratings	Hot Dip Galvanized C.S.	Fittings	A 234 Gr. WPB		
29	Gaskets	Note 26	External Bolts	A 193 Gr. B7 (Note 8)		
30	Lifting Lugs	A 516 Gr.70 / A 283 Gr. C	External Nuts	A 194 Gr. 2H (Note 8)		
31	Reinforcing Pads	A 516 Gr.70	Internal Bolts / Nuts	S.S.		
32	Ladder & Platform	C.S.	Name Plate	S.S. 316		
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-0016			
39	Specification for Painting		BK-GNRAL-PEDCO-000-PI-SP-0006			
40	Specification for Insulation		BK-GNRAL-PEDCO-000-PI-SP-0019			
41						
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	Yes;Per Code & Spec. Requirements		
47	Post Weld Heat Treatment	Per Code & Spec Requirements	PT	100%		
48	MT	100 % on Lifting Lug Fillet Welds	UT	Yes;Per Code & Spec. Requirements		
49	RT	100 % On T-Joints and Head Joints Butt-Welds,				
50		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	Yes;Per Code & Spec. Requirements		
53	MT Report	Yes; Per Code & Spec. Requir.	UT Report	Yes;Per Code & Spec. Requirements		
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"			
57			Specification for Lining Doc. No: "BK-GNRAL-PEDCO-000-PI-SP-0007"			
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احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER



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• 03 - • 73 - 9184

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تهه کاری

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تسهيلات

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

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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 (Note 30)		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)

Mark	Qty.	Description	Pipe			Flange			Proj. (mm) (Note 32)	Reinforcement		Remarks
			Size	Thk.	Sch.	Type	Rate.	Face		Thk.	O.D.	
A	1	Inlet	2"			WN	#150	RF	741			
B	1	Gas Outlet	2"			WN	#150	RF	See DWG			
PSV	1	Pressure Safety Valve	2"			WN	#150	RF	741			
V	1	Vent	2"			WN	#150	RF	See DWG			
M	1	Manhole	24"			WN	#150	RF	791	*	*	Note 7
P	1	Pressure Gauge	2"			WN	#300	RF	741			
D	1	Drain	2"			WN	#150	RF	See DWG			
L 1,2	2	Level Gauge	2"			WN	#300	RF	741			
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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER



شماره پیمان:

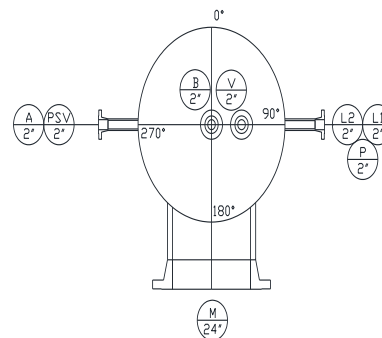
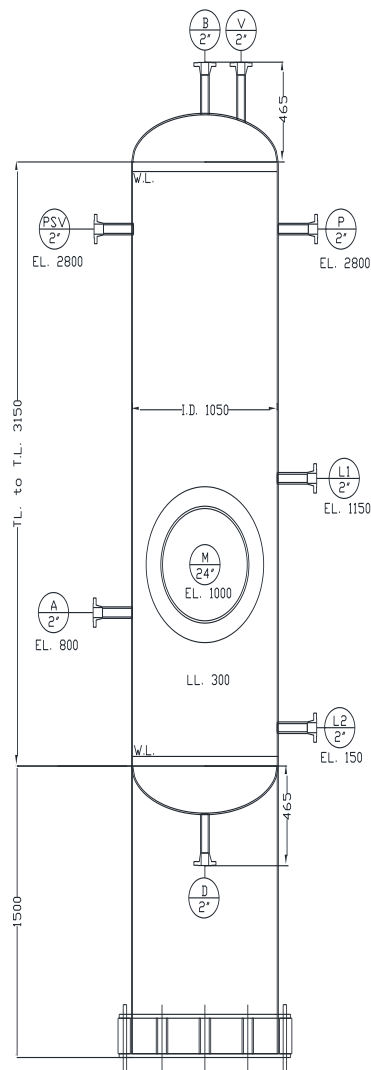
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نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	یسته کاری	پروژه
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Mechanical Data Sheets For Nitrogen Receiver (V-2204) / sheet 3 of 4

Sketch



ORIENTATION VIEW

ORIENTATION WILL BE FINALIZED LATER BY PIPING DEPARTMENT.

ELEVATION VIEW

ELEVATION WILL BE FINALIZED LATER BY PIPING DEPARTMENT.



نگهداشت و افزایش تولید میدان نفتی بینک
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MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER



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شماره صفحه: ۸ از ۸

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

Rev.	WEIGHT						Rev.		
1	WEIGHT CONTROL DATA SHEET SI UNIT *					1/1			
2									
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5									
6	Service : <i>Nitrogen Receiver</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	Total weight (kg) *								
17	Fabrication		Erection		Operation		Hydrostatic Test	Removable internal	Ladder & Platform
18									
19									
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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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52	NOTES								
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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