



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR INSTRUMENT AIR RECEIVER



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

BK

بسته کاری

GCS

صادرکننده

PEDCO

تسهیلات

120

رشته

ME

نوع مدرک

DT

سریال

0008

نسخه

D02

شماره صفحه: ۱ از ۸

طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR INSTRUMENT AIR RECEIVER

نگهداشت و افزایش تولید میدان نفتی بینک

Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval
D02	JUN.2023	IFA	H.Adineh	M.Fakharian	A.M.Mohseni	
D01	SEP. 2022	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D00	NOV.2021	IFC	H.Adineh	M.Fakharian	M.Mehrshad	

Class: 1

CLIENT Doc. Number:F0Z-708839

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

 <p>NISOC</p>	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							 	
	MECHANICAL DATA SHEETS FOR INSTRUMENT AIR RECEIVER								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0008	نسخه D02	شماره صفحه: ۸ از ۲

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04	Page	D00	D01	D02	D03	D04
1	X	X	X			65					
2	X	X	X			66					
3	X	X				67					
4	X	X				68					
5	X	X	X			69					
6	X	X	X			70					
7	X	X				71					
8	X	X				72					
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	BK	GCS	PEDCO	120	ME	DT	0008	D02	

General Notes

Rev	Notes
	1. The Asterisk * denotes information and/or confirmation required from VENDOR.
	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).
	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.
	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 .
	11. Deleted
	12. All material, corrosion allowance and their suitability for the process fluid at design pressure and temperature to be confirmed by vendor.
	13. The vendor shall be responsible for mechanical strength of the equipment based on mentioned condition in data sheets.
	14. All nozzle locations and orientations to 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.
	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
	27. Deleted
	28. Deleted
	29. Two M12 earthing bosses shall be provided on vessel support. Material of Earthing Bosses shall be S.S. 316



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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-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 nozzels 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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۰۵۳ - ۰۷۳ - ۹۱۸۴

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D02	0008	DT	ME	120	PEDCO	GCS	BK

شماره صفحه: ۵ از ۸

Mechanical Data Sheets For Instrument Air Receiver (V-2203) / sheet 1 of 4

Rev	DATA SHEET				Rev
1	Description	: <i>Instrument Air Receiver</i>			
2	Tag No.	: <i>V-2203</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>65</i>		Liquid Flow (kg/h)	
7	Operating Press. (barg)	<i>8</i>		Vap. Molec. Weight (kg/kmol)	
8	Gas Flow (kg/h)			Liquid Sp. Gravity	
9	Liquid Viscosity (cP)			Service:	<i>N/A</i>
10	Mechanical Design Data				
11	Design Temp. (°C)	<i>85</i>		Vessel Orientation	<i>Vertical</i>
12	Design Press. (barg)	<i>12.5</i>		LLL (mm)	<i>300</i>
13	Test Press. (barg)	<i>Per Code & Spec Requirements</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>1500</i>		Boot Length (mm)	<i>N/A</i>
16	Tan/Tan Dim. (mm)	<i>5000</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>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	Materials				
23	Code	<i>ASME II / ASTM</i>		Nozzle Necks:	
24	Shell / Heads	<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>Epoxy Coating</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				
34	Mechanical Design Code	<i>ASME Sec VIII Div 1, IPS-G-ME-150</i>			
35	Specification for Pressure Vessels	<i>BK-GNRAL-PEDCO-000-ME-SP-0001</i>			
36	Process Basis of Design	<i>BK-GNRAL-PEDCO-000-PR-DB-0001</i>			
37	Piping & Instrument Diagram (P&ID)	<i>BK-GCS-PEDCO-120-PR-PI-0015</i>			
38	Specification for Painting	<i>BK-GNRAL-PEDCO-000-PI-SP-0006</i>			
39	Specification for Insulation	<i>BK-GNRAL-PEDCO-000-PI-SP-0019</i>			
40	Specification For Material Requirements in Sour service	<i>BK-GNRAL-PEDCO-000-PI-SP-0008</i>			
41					
42	Fabrication and Inspection Requirements				
43	Inspection Authority	<i>TPI & Client</i>			
44	Material Certification	<i>In Accordance with BS EN 10204:2004, Type 3.1, Minimum for Pressure Containing and Attachments</i>			
45	Hydro Test Medium	<i>Water</i>		Hydro Test Procedure	<i>Yes; Per Code & Spec. Requirements</i>
46	Post Weld Heat Treatment	<i>Per Code & Spec. Requirements</i>		PT	<i>100%</i>
47	MT	<i>100 % on Lifting Lug Fillet Welds</i>		UT	<i>Yes; Per Code & Spec. Requirements</i>
48	RT	<i>100 % On T-Joints and Head Joints Butt-Welds,</i>			
49		<i>Spot On Shell Longitudinal and Circumferential Joints Butt-Welds,</i>			
50		<i>100 % On Nozzle Neck to Flange & Fabricated Nozzle Neck Longitudinal Butt-Welds,</i>			
51	RT Report	<i>Yes; Per Code & Spec. Requir.</i>		PT Report	<i>Yes; Per Code & Spec. Requirements</i>
52	MT Report	<i>Yes; Per Code & Spec. Requir.</i>		UT Report	<i>Yes; Per Code & Spec. Requirements</i>
53	Fabrication Quality Control Plan (With Offer)				<i>Yes</i>
54	Welding Procedure Review / Approval				<i>Yes</i>
55	Surface Preparation & Coating	<i>Specification for Painting Doc. No. BK-GNRAL-PEDCO-000-PI-SP-0006</i>			
56		<i>Specification for Lining Doc. No. BK-GNRAL-PEDCO-000-PI-SP-0007</i>			
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شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D02	0008	DT	ME	120	PEDCO	GCS	BK

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Mechanical Data Sheets For Instrument Air Receiver (V-2203) / sheet 2 of 4

ACCESSORIES , NOZZLES LIST & LOADS @ BASE

Rev. 1

Accessories & Attachments (Note 25)

2	Supporting Saddles	NO	Name Plate Bracket	YES
3	Access Ladder & Platform	YES	Name Plate	YES
4	Insulation Support	NO	Earthing Lug (Note 30)	YES
5	Insulation	NO	Tailing Lug	YES
6	Insulation Cover	NO	Cathodic Protection (Sacrificial Anodes)	NO
7	Fireproofing Support	NO	Anchor Bolts	NO
8	Lifting Lugs	YES	Instrumentations	NO
9	Internal/ External Clips	YES	Skid	NO
10	Template	YES	Support Clips	YES
11	Boot	NO	Vortex Breaker	NO
12	Davit for Manhole	YES	Rung & Grip	NO
13	Internal Lining (By Painting)	YES	Heating Coil	NO

Nozzles List (Note 1)

D02

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	965*			
B	1	Gas Outlet	2"			WN	#150	RF	See DWG			
PSV	1	Pressure Safety Valve	2"			WN	#150	RF	965*			
V	1	Vent	2"			WN	#150	RF	See DWG			
M	1	Manhole	24"			WN	#150	RF	1170	*	*	Note 7
P	1	Pressure Gauge	2"			WN	#300	RF	965			
D	1	Drain	2"			WN	#150	RF	See DWG			
L 1,2	2	Level Gauge	2"			WN	#300	RF	965			

D02

Wind and Seismic Loads at Base * Note(9)

Load Condition	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)
WIND									
SEISMIC									



Load Type

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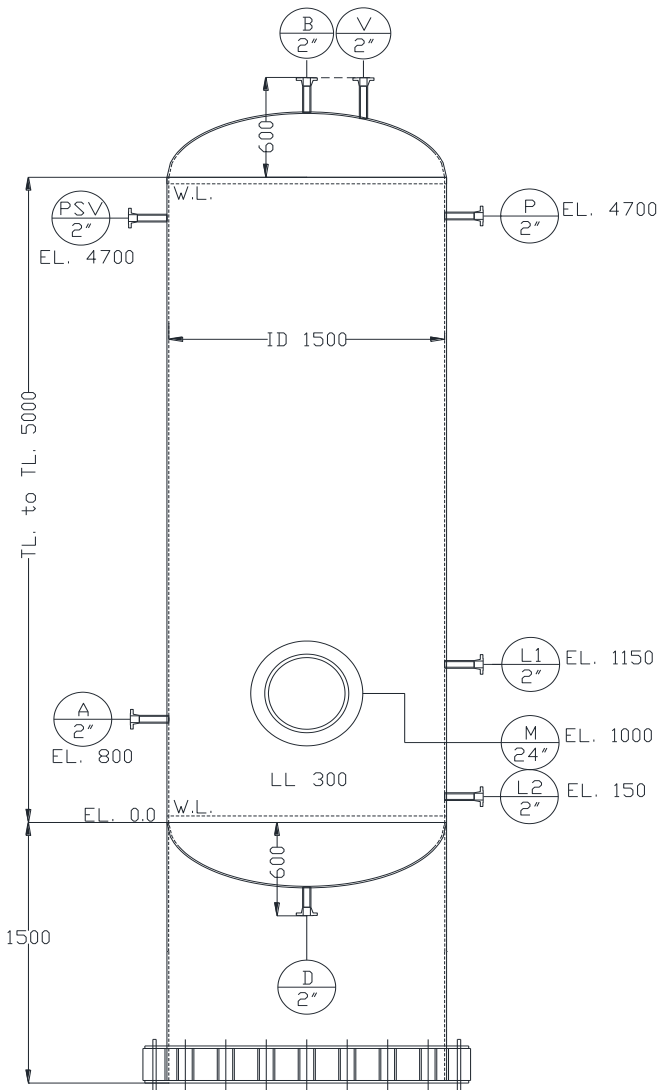
نسخه

D02

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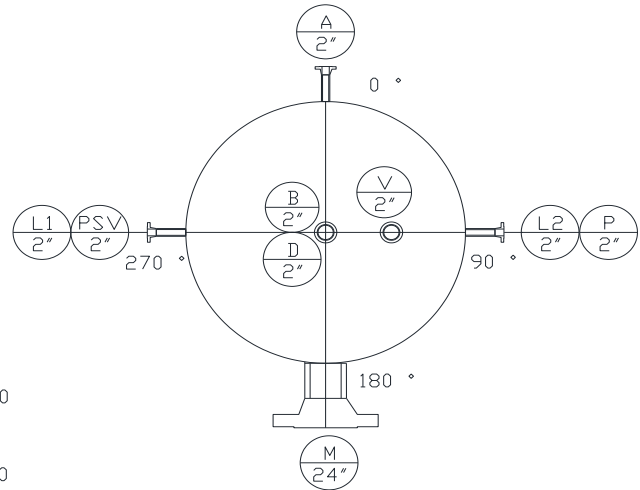
Mechanical Data Sheets For Instrument Air Receiver (V-2203) / sheet 3 of 4

Sketch



Elevation View

Nozzle Orientation will be finalized Later.



Orientation View

Nozzle Orientation will be finalized Later.



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Mechanical Data Sheets For Instrument Air Receiver (V-2203) / sheet 4 of 4

Rev.	WEIGHT						Rev.
1	WEIGHT CONTROL DATA SHEET SI UNIT *					1/1	
2							
3							
4							
5							
6	Service :	<i>Instrument Air 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	Note: Information to be completed by equipment vendor.						
14							
15	Total weight (kg) *						
16	Fabrication		Erection		Operation		Hydrostatic Test
17							Removable internal
18							Ladder & Platform
19							
20							
21							
22	WEIGHT AND C OF G DATA REQUIRED *						
23	CONDITION	WEIGHT ACCURACY %	WEIGHT (kg)	CENTER OF GRAVITY (mm)			
24				X	Y	Z	
25	Dry						
26							
27							
28	SKETCH						
29	Page 1						
30							
31	UNDERSIDE OF BASE						
32	NOTES						
33	1) All lifting points to be load tested and certified.						
34	2) Any spreader beam to be load tested and certified.						
35	3) Lifting / rigging plan for skid mounted equipment to be provided by the Vendor.						
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