

 <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 INLET GAS K.O. DRUM						 		
	شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادرکننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0001	نسخه D04

## طرح نگهداشت و افزایش تولید ۲۷ مخزن

### MECHANICAL DATA SHEETS FOR INLET GAS K.O. DRUM




#### نگهداشت و افزایش تولید میدان نفتی بینک

D04	SEP.2024	IFA	V.Amjadi	M.Fakharian	M.Sadeghian	
D03	JUL.2023	IFA	H.Adineh	M.Fakharian	A.M.Mohseni	
D02	SEP.2022	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D01	JAN.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-708832

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 INLET GAS K.O. DRUM</b>								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادرکننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0001	نسخه D04	شماره صفحه: ۸ از ۲

### REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04	Page	D00	D01	D02	D03	D04
1	X	X	X	X	X	65					
2	X	X	X	X	X	66					
3	X	X	X			67					
4	X	X	X	X		68					
5	X	X	X	X	X	69					
6	X	X	X	X	X	70					
7	X	X	X	X	X	71					
8	X					72					
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نگهداشت و افزایش تولید میدان نفتی بینک  
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احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR INLET GAS K.O. DRUM



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### General Notes

Rev.

1. The Asterisk \* denotes information and/or confirmation required from VENDOR. The Vendor shall be fully responsible for the complete mechanical design, preparing calculation book and supply of the vessel.
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.
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 Dr M.Sadeghian 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. Deleted.
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 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.
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 Packing, Marking, Transportation Procedure Doc. No. "BK-GNRAL-PEDCO-000-QC-PR-0045".
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-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".
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-GNRL-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. All dimensions are in "mm" unless otherwise specified.
42. The material shall be in compliance with NACE MR0175/ISO15156 and Specification For Material Requirements in Sour service Document No. BK-GNRL-PEDCO-000-PI-SP-0008.
43. Nozzle loads shall be in accordance with "Specification for pressure vessel, Doc. No.:BK-GNRL-PEDCO-000-ME-SP-0001".
44. DEMISTER specification will be finalized latter.
45. Welded carbon and carbon manganese steels for vessel shall comply with the following :  
Carbon content shall not exceed 0.23%.  
Based on the ladle analysis, below equation shall be satisfied.  
$$Ceq. = C + Mn/6 + (Cr + Mo + V)/5 + (Cu + Ni)/15 < 0.42 \%$$
46. All carbon steel material shall be fully killed, fine grain treated and supplied in the normalized condition.
47. VENDOR to advise (VTA) internal for inlet nozzle.



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
شماره صفحه: ۵ از ۸

Mech. Data Sheet For Inlet Gas K.O. Drum (V-2105) / sheet 1 of 4

Rev	DATA SHEET					Rev
1	Description : Inlet Gas K.O. Drum					
2	Tag No. : V-2105		Quantity : 1 Set			
3	Type : Pressure Vessel					
4	Process Design Data					
5	Contents		Corrosive / Erosive		CO2,H2S	
6	Operating Temp. (°C)		19.23 - 37.17		Liquid Flow (kg/h) 0.33	
7	Operating Press. (barg)		5.3		Vap. Molec. Weight (kg/kmol) 24.5	
8	Gas Flow (kg/h)		17833		Liquid Sp. Gravity 0.006 ~0.998	
9	Liquid Viscosity (cP)		0.691 ~ 1.0126		Lethal / SOUR : Sour, Lethal	
10	Mechanical Design Data (Note 1) <div>D04</div>					
11	Design Temp. (°C)		85		Vessel Orientation Horizontal	
12	Design Press. (barg)		9		HHLL (mm) 900	
13	Test Press. (barg)		Per Code & Spec. Requirements		Nor. Liquid Vol. (m³)	
14	Internal Vacuum (barg)		F.V.		In. Dia. Of Boots (mm) 300	
15	In. Dia. of Shell (mm)		1500		Boot Length (mm) 600	
16	Tan/Tan Dim. (mm)		4500		Boot Head Type 2:1 Elliptical	
17	Vessel Head Type		2:1 Elliptical		Corr. Allowance (mm) 6	
18	Shell Wall Thk. (mm)		*		Joint Efficiency 0.85 (Shell) / 1 (Head)	
19	Head Wall Thk. (mm)		*		Ambient Temp.(Min. / Max.) (°C) 5 / 50	
20	Seismic Design		Site Class: D, Code: ASCE 7-10 Fa=1,FV=1.33,S1=0.46,Ss=1.125,I=1.25		MDMT (°C) 5	
21	Wind Design		Speed: 232 Km/hr (Max.), Code: ASCE 7-10		Insulation Required NO	
22	Materials (Note 42, 45, 46)					
23	Code		ASME II / ASTM		Internal Welded and Supports A 516 Gr. 60N	
24	Shell		A 516 Gr. 60N		Nozzle Necks A 106 Gr.B	
25	Heads		A 516 Gr. 60N		Pipes A 106 Gr.B	
26	Lining		P3		Plates A 516 Gr. 60N	
27	Saddles		A 283 Gr. C		Forgings A 105N	
28	Wear Plate		A 516 Gr. 60N		Flanges A 105N	
29	Stiffening Rings		A 516 Gr. 60N		Fittings A 234 Gr. WPB	
30	Gaskets		Note 26		Removable Internals S.S. 316	
31	Lifting Lugs		A 516 Gr.60 N / A 283 Gr. C		External Bolts A 193 Gr. B7 (8)	
32	Reinforcing Pads		A 516 Gr. 60N		Nuts A 194 Gr. 2H (8)	
33	Ladder & Platform		C.S.		Internal Bolts A193 Gr. B8M (8)	
34	Gratings		Hot Dip Galvanized C.S.		Nuts A194 Gr. 8M (8)	
35	External Welded Clips and support		A 516 Gr. 60N		Name Plate S.S. 316	
36						
37	REFERENCE STANDARDS & DOCUMENTS					
38	Mechanical Design Code		ASME Sec VIII Div 1, IPS-G-ME-150			
39	Specification for Pressure Vessels		BK-GNRL-PEDCO-000-ME-SP-0001			
40	Process Basis of Design		BK-GNRL-PEDCO-000-PR-DB-0001			
41	Piping & Instrument Diagram (P&ID)		BK-GCS-PEDCO-120-PR-PI-0005			
42	Specification for Painting		BK-GNRL-PEDCO-000-PI-SP-0006			
43	Specification for Insulation		BK-GNRL-PEDCO-000-PI-SP-0019			
44	Specification For Material Requirements in Sour service		BK-GNRL-PEDCO-000-PI-SP-0008			
45	Fabrication and Inspection Requirements					
46	Inspection Authority		TPI & Client			
47	Material Certification		In Accordance with BS EN 10204:2004, Type 3.1, Minimum for Pressure Containing and Attachments			
48	Hydro Test Medium		Water		Hydro Test Procedure Yes;Per Code & Spec. Requirements	
49	Post Weld Heat Treatment		YES (Process Reason)		PT 100%	
50	MT		100 % on Lifting Lug Fillet Welds		UT Yes;Per Code & Spec. Requirements	
51	RT		100 % On T-Joints and Head Joints Butt-Welds,			
52			Spot On Shell Longitudinal and Circumferential Joints Butt-Welds,			
53			100 % On Nozzle Neck to Flange & Fabricated Nozzle Neck Longitudinal Butt-Welds,			
54	RT Report		Yes; Per Code & Spec. Requir.		PT Report Yes;Per Code & Spec. Requirements	
55	MT Report		Yes; Per Code & Spec. Requir.		UT Report Yes;Per Code & Spec. Requirements	
56	Fabrication Quality Control Plan (With Offer)		Yes			
57	Welding Procedure Review / Approval		Yes			
58	Surface Preparation & Coating		Specification for Painting: Doc. No. "BK-GNRL-PEDCO-PI-SP-0006"			
59			Specification For Lining: Doc. No.: "BK-GNRL-PEDCO-000-PI-SP-0007"			
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	احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک MECHANICAL DATA SHEETS FOR INLET GAS K.O. DRUM								
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Mech. Data Sheet For Inlet Gas K.O. Drum (V-2105) / sheet 2 of 4

Rev.	ACCESSORIES , NOZZLES LIST & LOADS @ BASE												Rev.
D04	Accessories & Attachments (Note 25, 40)												
	Supporting Saddles			YES	Name Plate Bracket			YES					
	Access Ladder & Platform			YES	Name Plate			YES					
	Insulation Support			NO	Earthing Lug (Note 29, 30)			YES					
	Insulation			NO	Tailing Lug			N/A					
	Insulation Cover			NO	Cathodic Protection (Sacrificial Anodes)			YES					
	Fireproofing Support			NO	Anchor Bolts			NO					
	Lifting Lugs			YES	Instrumentations			NO					
	Internal/ External Clips			YES	Skid			N/A					
	Tamplate			NO	Support Clips			YES					
	Boot			YES	Vortex Breaker			YES					
	Davit for Manhole			YES	Rung & Grip			YES					
	Internal Lining (By Painting)			NO	Heating Coil			NO					
	M.Sadeghian												
	Nozzles List (Note 1,5,6,14,32,33)												
	D04												
	Mark	Qty.	Description	Pipe		Flange			Proj. (mm)	Reinforcement		Remarks	
				Size	Thk.	Sch.*	Type	Rate.	Face	Thk.	O.D.		
	A	1	Inlet	12"			WN	#150	RF	SEE DWG	*	*	
	B1	1	Gas Outlet	10"			WN	#150	RF	SEE DWG	*	*	
B2	1	Liquid Outlet	2"			WN	#150	RF	SEE DWG				
V1	1	Vent	2"			WN	#150	RF	SEE DWG				
V2	1	Ventilation	6"			WN	#150	RF	SEE DWG	*	*		
M	1	Manhole	24"			WN	#150	RF	SEE DWG	*	*	7	
S	1	Utility Connection	2"			WN	#150	RF	SEE DWG				
D	1	Drain	2"			WN	#150	RF	SEE DWG				
L 1,2	2	Stand Pipe	3"			WN	#150	RF	SEE DWG				
L 3,4	2	Level Transmitter (HH)	2"			WN	#300	RF	SEE DWG				
PSV	1	Pressure Safety Valve	6"			WN	#150	RF	SEE DWG				
P1	1	Pressure Gauge	2"			WN	#300	RF	SEE DWG				
P2	1	Pressure transmitter	2"			WN	#300	RF	SEE DWG				
T	1	Temperature gauge	2"			WN	#300	RF	SEE DWG				
Deleted													
L 5,6	2	Level Transmitter (LLL)	2"			WN	#300	RF	SEE DWG				
P3	1	PDIT	2"			WN	#300	RF	SEE DWG				
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													



نگهداشت و افزایش تولید میدان نفتی بینک  
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## احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR INLET GAS K.O. DRUM



شماره صفحه: ۷ از ۸

**شماره پیمان:**

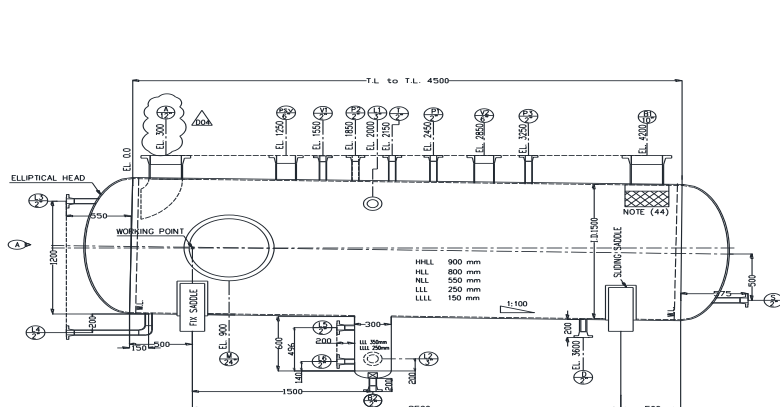
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نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D04	0001	DT	ME	120	PEDCO	GCS	BK

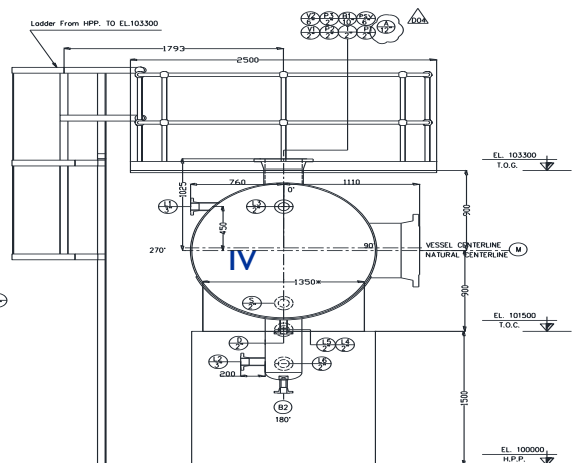
Mech. Data Sheet For Inlet Gas K.O. Drum (V-2105) / sheet 3 of 4

D04

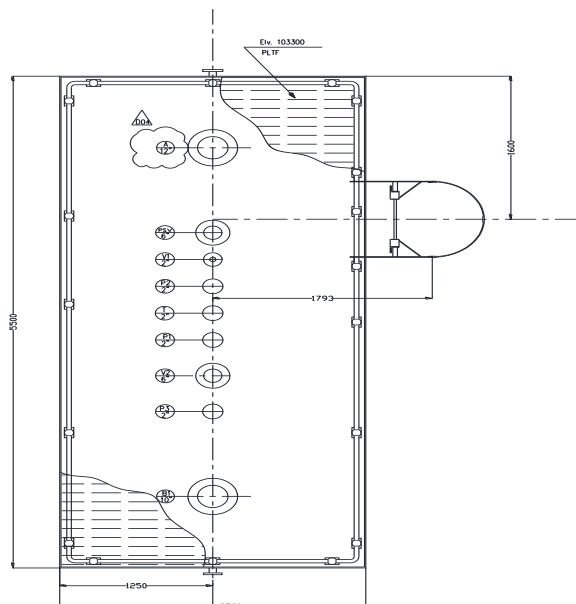
### Sketch



GENERAL VIEW



VIEW A



PLAN VIEW



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Mech. Data Sheet For Inlet Gas K.O. Drum (V-2105) / sheet 4 of 4

Rev.	WEIGHT						Rev.
1	<b>WEIGHT CONTROL DATA SHEET SI UNIT *</b>					<b>1/1</b>	
2							
3							
4							
5							
6	Service : <i>Inlet Gas K.O. 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.					M.Sadeghian	
15							
16	<b>Total weight (kg)(1,2)</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	<p>Page 1</p> <p>PLAN</p> <p>ELEVATION</p> <p>UNDERSIDE OF BASE</p>						
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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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