

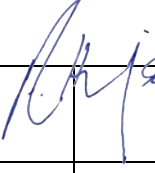
 <b>NISOC</b>	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 	
	MECHANICAL DATA SHEETS FOR DISCHARGE GAS K.O. DRUM								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه: BK	بسته کاری: GCS	صادر کننده: PEDCO	تسهیلات: 120	رشته: ME	نوع مدرک: DT	سریال: 0006	نسخه: D02	شماره صفحه: ۱ از ۸

## طرح نگهداشت و افزایش تولید ۲۷ مخزن

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

#### نگهداشت و افزایش تولید میدان نفتی بینک

 						
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: 2

CLIENT Doc. Number: F0Z-708837

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 DISCHARGE GAS K.O. DRUM</b>								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0006	نسخه D02	شماره صفحه: ۲ از ۸

### 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	X			67					
4	X	X	X			68					
5	X	X	X			69					
6	X	X	X			70					
7	X	X	X			71					
8	X		X			72					
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 <b>NISOC</b>	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض							 شرکت توسعه ایران 	
	احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک MECHANICAL DATA SHEETS FOR DISCHARGE GAS K.O. DRUM								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک DT	سریال 0006	نسخه D02	شماره صفحه: ۸ از ۳

Rev	General Notes <span style="float: right;">D02</span>	
	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. The vessel shall be supplied in accordance with project 'Specification for Pressure Vessels', Doc. No. BK-GNRRAL-PEDCO-000-ME-SP-0001. The manufacturer shall calculate thickness and loads of the vessel. TJ: Confirmed	
	2. Nozzles and flanges shall be suitably supported and reinforced based on nozzle loads provided in project Specification for Pressure Vessels, Document No. BK-GNRRAL-PEDCO-000-ME-SP-0001. TJ: Confirmed	
	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). TJ: Confirmed	
D02	4. Access Ladder & Platform to be considered . TJ: Confirmed	
D02	5. Painting and coating (internal & external) shall be as per project 'Specification for Painting', Doc. No. BK-GNRRAL-PEDCO-000-PI-SP-0006 and 'Specification for Lining', Doc. No. BK-GNRRAL-PEDCO-000-PI-SP-0007. TJ: Confirmed	
D02	6. Flanges shall comply with ANSI B16.5. Nozzle bolt holes shall straddle the natural centerlines for horizontal nozzles. VENDOR to confirm maximum allowable nozzle loads and moments. (RF: Raised Face, WN: Welding Neck, LWN: Long Weld Neck) TJ: Confirmed	
	7. 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). TJ: Confirmed	
	8. 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. TJ: Confirmed	
	9. Loads at support base, Shall be calculated and determined by vendor. TJ: Confirmed	
D02	10. Location and number of lifting lugs on vessels shall be specified on VENDOR drawing. TJ: Confirmed	
	11. All external bolts and nuts shall be hot dip galvanized. Internal bolts and nuts shall be stainless steel. TJ: Confirmed	
	12. All material, corrosion allowance and their suitability for the process fluid at design pressure and temperature to be confirmed by vendor. TJ: Confirmed	
D02	13. The vendor shall be responsible for mechanical strength of the equipment based on mentioned condition in data sheets. TJ: Confirmed	
D02	14. All nozzle locations and orientations will be finalized later. TJ: Confirmed	
	15. Instrumentation items are excluded from vendor's scope of supply. TJ: Confirmed	
	16. Any changes in material of construction, location & orientation of the nozzles shall be confirmed by client. TJ: Confirmed	
D02	17. All dimensions shown are in mm unless otherwise indicated. All nozzle sizes are in inch. TJ: Confirmed	
	18. All removable internals should be passed through manhole. TJ: Confirmed	
	19. All materials shall be new and unused. TJ: Confirmed	
	20. 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. TJ: Confirmed	
	21. Fabrication tolerances for vessel shall be in accordance with requirement of ASME code. TJ: Confirmed	
	22. All items shall be clearly match marked against vessel drawings to facilitate erection. TJ: Confirmed	
	23. The elevation of equipment's nozzels should be specified as follows : I. For vertical vessels : from bottom T.L. TJ: Confirmed II. For horizontal vessels : from Left T.L.	
	24. Vendor shall supply details of all welding connections and give general specification of used materials. TJ: Confirmed	
	25. Specified accessories and attachments shall be supplied by vendor. TJ: Confirmed	
	26. Gasket shall be spiral wound type, graphite filled with inner and outer ring S.S 316. TJ: Confirmed	
D02	27. Deleted	
D02	28. deleted	
D02	29. Equipment packaging, preparation for shipment and delivery shall be in accordance with the project Packing, Marking, Transportation Procedure Doc. No. "BK-GNRRAL-PEDCO-000-QC-PR-0045". TJ: Confirmed	

 <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 DISCHARGE GAS K.O. DRUM</b>								
شماره پیمان:	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۴ از ۸
۰۵۳ - ۰۷۳ - ۹۱۸۴	BK	GCS	PEDCO	120	ME	DT	0006	D02	

General Notes (Cont'd)		D02
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". <b>TJ: Confirmed</b>	
	31. Elliptical heads shall be Ultrasonic Tested for lamination after forming. <b>TJ: RT test will be performed.</b>	
	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. <b>TJ: Confirmed</b>	
D02	33. <b>deleted</b>	
	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". <b>TJ: Confirmed</b>	
	35. Minimum requirement for pre-commissioning, commissioning, start up and two years spare parts operation spare parts shall be in accordance with document E&C-QC-SP-1. <b>TJ: Confirmed</b>	
	36. Two M12 earthing lugs shall be provided on vessel support. Material of earthing lugs shall be S.S. 316. <b>TJ: Confirmed</b>	
D02	37. <b>DEMISTER specification will be finilized latter.</b> <b>TJ: Confirmed</b>	
	38. Welded carbon and carbon manganese steels for vessel shall comply with the following : Carbon content shall not exceed 0.23%. <b>TJ: Confirmed</b> Based on the ladel analysis, below equation shall be satisfied. $Ceq. = C+Mn/6+(Cr+Mo+V)/5+(Cu+Ni)/15 < 0.42 \%$	
	39. All carbon steel material shall be fully killed, fine grain treated and supplied in the normalized condition. <b>TJ: Confirmed</b>	
	40. 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. <b>TJ: Confirmed</b>	
D02	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. <b>TJ: Confirmed</b>	
D02	42. Design pressure specified is at top of vessels. VENDOR design shell include static head for vessels flooded with specific gravity of the handled liquid. <b>TJ: Confirmed</b>	
D02	43. VENDOR is to maximize shop fabrication based on the following transportation limits: <b>TJ: Confirmed</b> - 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.	
D02	44. All external attachments directly welded to the pressure part shall be the same material as vessel grade. <b>TJ: Confirmed</b>	



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک  
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR DISCHARGE GAS K.O. DRUM



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

BK

بسته کاری

GCS

صادر کننده

PEDCO

تسهیلات

120

رشته

ME

نوع مدرک

DT

سریال

0006

نسخه

D02

شماره صفحه: ۵ از ۸

Mech. Data Sheet For Discharge Gas K.O. Drum (V-2103) / sheet 1 of 4

Rev	DATA SHEET	Rev
1	Description : <i>Discharge Gas K.O. Drum</i>	
2	Tag No. : <i>V-2103</i> Quantity : <i>1 Set</i>	
3	Type : <i>Pressure Vessel</i>	
4	<b>Process Design Data</b> <span style="float: right;">D02</span>	
5	Contents <i>Wet Sour HC (CO<sub>2</sub>, H<sub>2</sub>S)</i>	
6	Operating Temp. (°C) <i>60</i>	Corrosive / Erosive <i>Yes</i>
7	Operating Press. (barg) <i>54.1</i>	Liquid Flow (kg/h) <i>-</i>
8	Gas Flow (kg/h) <i>-</i>	Vap. Molec. Weight (kg/kmol) <i>-</i>
9	Liquid Viscosity (cP) <i>-</i>	Liquid Sp. Gravity <i>0.055</i>
10		Lethal: <i>No</i>
11	<b>Mechanical Design Data</b> <span style="float: right;">D02</span>	
12	Design Temp. (°C) <i>130</i>	Vessel Orientation <i>Vertical</i>
13	Design Press. (barg) <i>62</i>	HHLL (mm) <i>1100</i>
14	Test Press. (barg) <i>Per Code &amp; Spec. Requirements</i>	Nor. Liquid Vol. (m <sup>3</sup> ) <i>-</i>
15	Internal Vacuum (barg) <i>F.V.</i>	In. Dia. Of Boots (mm) <i>N/A</i>
16	In. Dia. of Shell (mm) <i>900</i>	Boot Length (mm) <i>N/A</i>
17	Tan/Tan Dim. (mm) <i>3000</i>	Boot Head Type <i>N/A</i>
18	Vessel Head Type <i>2:1 Elliptical (Note 31)</i>	Corr. Allowance (mm) <i>-</i>
19	Shell Wall Thk. (mm) <i>* TJ: 22mm</i>	Joint Efficiency <i>1 (Shell)/ 1 (Head)/ 0.7 (Skirt)</i>
20	Head Wall Thk. (mm) <i>(After Forming)* TJ: 12mm</i>	Ambient Temp. (°C) <i>-</i>
21	Seismic Design <i>Calss D, Code: ASCE 7-10</i>	MDMT (°C) <i>5</i>
22	Wind Design <i>Speed: 120 Km/hr (Max.), Code: ASCE 7-10</i>	Insulation Required <i>Personal Protection</i>
23	<b>Materials</b> <span style="float: right;">D02</span>	
24	Code <i>ASME II / ASTM</i>	Internal Welded Supports <i>S.S.</i>
25	Shell <i>A 516 70N + 3mm Clad 316L</i>	Nozzle Necks <i>A 106 Gr.B N + 3mm Clad 316L</i>
26	Heads <i>A 516 70N + 3mm Clad 316L</i>	Pipes <i>A 106 Gr.B N + 3mm Clad 316L</i>
27	Lining/ Cladding <i>-/S.S. 316L (3 mm)</i>	Plates <i>A 516 70N</i>
28	Skirt (Top/ Bottom) <i>A 516 Gr. 70N</i>	Forgings <i>A 105N + 3mm Clad 316L</i>
29	Wear Plate <i>A 516 70N</i>	Flanges <i>A 105N + 3mm Clad 316L</i>
30	Stiffening Rings <i>A 516 70N</i>	Fittings <i>A 234 Gr. WPB</i>
31	Gaskets <i>Note 26</i>	Welded Internals <i>S.S.</i>
32	Lifting Lugs <i>A 516 Gr.70N / A 283 Gr. C</i>	External Bolts / Nuts <i>A 193 Gr. B7 / A 194 Gr. 2H (Note 11)</i>
33	Reinforcing Pads <i>A 516 70N</i>	Internal Bolts / Nuts <i>S.S. (Note 11)</i>
34	Ladder & Platform <i>C.S.</i>	Insulation <i>-</i>
35	Gratings <i>Hot Dip Galvanized C.S.</i>	Name Plate <i>S.S. 316</i>
36	External Welded Clips <i>A 516 Gr.70N</i>	
37	<b>REFERENCE STANDARDS &amp; DOCUMENTS</b>	
38	Mechanical Design Code <i>ASME Sec VIII Div I, IPS-G-ME-150</i>	
39	Specification for Pressure Vessels <i>BK-GNRAL-PEDCO-000-ME-SP-0001</i>	
40	Process Basis of Design <i>BK-GNRAL-PEDCO-000-PR-DB-0001</i>	
41	Piping & Instrument Diagram (P&ID) <i>BK-GCS-PEDCO-120-PR-PI-0012</i>	
42	Specification for Painting <i>BK-GNRAL-PEDCO-000-PI-SP-0006</i>	
43	Specification for Insulation <i>BK-GNRAL-PEDCO-000-PI-SP-0019</i>	
44	Specification For Material Requirements in Sour service <i>BK-GNRAL-PEDCO-000-PI-SP-0008 (Note 40)</i>	
45	<b>Fabrication and Inspection Requirements</b> <span style="float: right;">D02</span>	
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>No</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>Specification for Painting Doc. No.BK-GNRAL-PEDCO-000-PI-SP-0006</i>	
59		<i>Specification for Linning Doc. No.BK-GNRAL-PEDCO-000-PI-SP-0007</i>
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62		
63		



نگهداشت و افزایش تولید میدان نفتی بینک  
سطح الارض

## احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR DISCHARGE GAS K.O. DRUM




شماره پیمان:

• 03 - • 73 - 9184

شماره صفحه: ۶ از ۸

Mech. Data Sheet For Discharge Gas K.O. Drum (V-2103) / sheet 2 of 4

Rev.	ACCESSORIES , NOZZLES LIST & LOADS @ BASE													Rev.
D02	Accessories & Attachments (Note 25)													D02
	Supporting Saddles	No	Name Plate Bracket										Yes	
	Access Ladder & Platform (Note 4)	Yes	Name Plate										Yes	
	Insulation Support	Yes	Earthing Lug (Note 30)										Yes	
	Insulation	Yes	Tailing Lug										Yes	
	Insulation Cover	Yes	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	
	Internal Demister Pad (Note 37 )	Yes												
D02	Nozzles List (Note 1)													D02
	Mark	Qty.	Description	Pipe			Flange			Proj. (mm)	Reinforcement		Remarks	
				Size	Thk.	Sch.	Type	Rate.	Face	(Note 32)	Thk.	O.D.		
	A	1	Inlet	6"	*		FWN	#600	RF	750*			Integral Type	
	B1	1	Gas Outlet	6"	*		FWN	#600	RF	420*			Integral Type	
	B2	1	Liquid Outlet	2"	-		LWN	#600	RF	350*				
	V	1	Vent	2"	-		LWN	#600	RF	350*				
	M	1	Manhole	20"	*		FWN	#600	RF	750*			Integral Type	
	S	1	Utility Connection	2"	-		LWN	#600	RF	680*				
	Deleted													
	L 1,2	2	Stand Pipe	3"	*		FWN	#600	RF	700*			Integral Type	
	L 3,4	2	Level Transmitter	2"	-		LWN	#600	RF	680*				
	PSV	1	Pressure Safety Valve	2"	-		LWN	#600	RF	680*				
	P1	1	Pressure gauge	2"	-		LWN	#600	RF	680*				
T	1	Temperature gauge	2"	-		LWN	#600	RF	680*					
P 2,3	2	PDIT	2"	-		LWN	#600	RF	680*					
Wind and Seismic Loads at Base * Note(9)														
<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)					
	WIND													
	SEISMIC													





NISOC

نگهداشت و افزایش تولید میدان نفتی بینک  
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR DISCHARGE GAS K.O. DRUM



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

BK

بسته کاری

GCS

صادر کننده

PEDCO

تسهیلات

120

رشته

ME

نوع مدرک

DT

سریال

0006

نسخه

D02

شماره صفحه: ۸ از ۸

Mech. Data Sheet For Discharge gas K.O. Drum (V-2103) / sheet 4 of 4

Rev.	WEIGHT						Rev.
1	<b>WEIGHT CONTROL DATA SHEET</b> SI UNIT *						D02
2							
3							
4							
5							
6	Service : <i>Discharge Gas K.O. Drum</i>			Location : <i>Bushehr (Binak Oilfield)</i>			D02
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							
16	Total weight (kg) *						
17	Fabrication	Erection	Operation	Hydrostatic Test	Removable internal	Ladder & Platform	
18							
19							
20							
21							
22							
23	WEIGHT AND C OF G DATA REQUIRED *						
24	CONDITION	WEIGHT ACCURACY %	WEIGHT (kg)	CENTER OF GRAVITY (mm)			
25				X	Y	Z	
26	Dry						
27							
28							
29							
30	SKETCH						
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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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