

 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	صادرکننده 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



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

صادرکننده

PEDCO

تسهیلات

120

رشته

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نوع مدرک

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0006

نسخه

D02

شماره صفحه: ۲ از ۸

REVISION RECORD SHEET

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3	X	X	X		
4	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 DISCHARGE GAS K.O. DRUM								
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۳ از ۸
۰۵۳ - ۰۷۳ - ۹۱۸۴	BK	GCS	PEDCO	120	ME	DT	0006	D02	

Rev	General Notes D02	
	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-GNRAL-PEDCO-000-ME-SP-0001. The manufacturer shall calculate thickness and loads of the vessel.	
	2. 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.	
	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. Access Ladder & Platform to be considered .	
D02	5. 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.	
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)	
	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).	
	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.	
	9. Loads at support base, Shall be calculated and determined by vendor.	
D02	10. Location and number of lifting lugs on vessels shall be specified on VENDOR drawing.	
	11. All external bolts and nuts shall be hot dip galvanized. Internal bolts and nuts shall be stainless steel.	
	12. All material, corrosion allowance and their suitability for the process fluid at design pressure and temperature to be confirmed by vendor.	
D02	13. The vendor shall be responsible for mechanical strength of the equipment based on mentioned condition in data sheets.	
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.	
D02	17. All dimensions shown are in mm unless otherwise indicated. All nozzle sizes are in inch.	
	18. All removable internals should be passed through manhole.	
	19. All materials shall be new and unused.	
	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.	
	21. Fabrication tolerances for vessel shall be in accordance with requirement of ASME code.	
	22. All items shall be clearly match marked against vessel drawings to facilitate erection.	
	23. 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.	
	24. Vendor shall supply details of all welding connections and give general specification of used materials.	
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-GNRAL-PEDCO-000-QC-PR-0045".	

 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:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۴ از ۸
۰۵۳ - ۰۷۳ - ۹۱۸۴	BK	GCS	PEDCO	120	ME	DT	0006	D02	

Rev	General Notes (Cont'd)	
	D02	
	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". Projection of Horizontal & Vertical nozzles is from tangent line and centerline respectively.	
D02	33. deleted	
	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-GNRL-PEDCO-000-ME-DW-0001".	
	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.	
	36. Two M12 earthing lugs shall be provided on vessel support. Material of earthing lugs shall be S.S. 316.	
D02	37. DEMISTER specification will be finalized latter.	
	38. Welded carbon and carbon manganese steels for vessel shall comply with the following : Carbon content shall not exceed 0.23%. 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.	
	40. The material shall be in compliance with NACE MR0175/ISO15156 and Specification for Material Requirements in Sour Service, Doc.No. BK-GNRL-PEDCO-000-PI-SP-0008.	
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.	
D02	42. Design pressure specified is at top of vessels. VENDOR design shall include static head for vessels flooded with specific gravity of the handled liquid.	
D02	43. 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.	
D02	44. All external attachments directly welded to the pressure part shall be the same material as vessel grade.	



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

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120

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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</i>	Set	
	3	Type : <i>Pressure Vessel</i>			
	4	Process Design Data D02			
	5	Contents	<i>Wet Sour HC (CO2, H2S)</i>	Corrosive / Erosive	<i>Yes</i>
	6	Operating Temp. (°C)	<i>60</i>	Liquid Flow (kg/h)	<i>-</i>
	7	Operating Press. (barg)	<i>54.1</i>	Vap. Molec. Weight (kg/kmol)	<i>-</i>
	8	Gas Flow (kg/h)	<i>-</i>	Liquid Sp. Gravity	<i>0.055</i>
	9	Liquid Viscosity (cP)	<i>-</i>	Lethal: D02	<i>No</i>
	10	Mechanical Design Data D02			
	11	Design Temp. (°C)	<i>130</i>	Vessel Orientation	<i>Vertical</i>
D02	12	Design Press. (barg)	<i>62</i>	HHLL (mm)	<i>1100</i>
	13	Test Press. (barg)	<i>Per Code & Spec. Requirements</i>	Nor. Liquid Vol. (m³)	<i>-</i>
D02	14	Internal Vacuum (barg)	<i>F.V.</i>	In. Dia. Of Boots (mm)	<i>N/A</i>
	15	In. Dia. of Shell (mm)	<i>900</i>	Boot Length (mm)	<i>N/A</i>
D02	16	Tan/Tan Dim. (mm)	<i>3000</i>	Boot Head Type	<i>N.A</i>
	17	Vessel Head Type	<i>2:1 Elliptical (Note 31)</i>	Corr. Allowance (mm)	<i>-</i>
	18	Shell Wall Thk. (mm)	<i>*</i>	Joint Efficiency	<i>1 (Shell)/ 1 (Head)/ 0.7 (Skirt)</i>
	19	Head Wall Thk. (mm)	<i>(After Forming)*</i>	Ambient Temp. (°C)	<i>-</i>
	20	Seismic Design	<i>Calss 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 D02	<i>Personal Protection</i>
	22	Materials D02			
D02	23	Code	<i>ASME II / ASTM</i>	Internal Welded Supports	<i>S.S.</i>
D02	24	Shell	<i>A 516 70N + 3mm Clad 316L</i>	Nozzle Necks	<i>A 106 Gr.B N + 3mm Clad 316L</i>
D02	25	Heads	<i>A 516 70N + 3mm Clad 316L</i>	Pipes	<i>A 106 Gr.B N + 3mm Clad 316L</i>
D02	26	Lining/ Cladding	<i>-/S.S. 316L (3 mm)</i>	Plates	<i>A 516 70N</i>
D02	27	Skirt (Top/ Bottom)	<i>A 516 Gr. 70N</i>	Forgings	<i>A 105N + 3mm Clad 316L</i>
D02	28	Wear Plate	<i>A 516 70N</i>	Flanges	<i>A 105N + 3mm Clad 316L</i>
D02	29	Stiffening Rings	<i>A 516 70N</i>	Fittings	<i>A 234 Gr. WPB</i>
	30	Gaskets	<i>Note 26</i>	Welded Internals	<i>S.S.</i>
D02	31	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>
D02	32	Reinforcing Pads	<i>A 516 70N</i>	Internal Bolts / Nuts	<i>S.S. (Note 11)</i>
	33	Ladder & Platform	<i>C.S.</i>	Insulation	<i>-</i>
	34	Gratings	<i>Hot Dip Galvanized C.S.</i>	Name Plate	<i>S.S. 316</i>
D02	35	External Welded Clips	<i>A 516 Gr.70N</i>		
	36	REFERENCE STANDARDS & DOCUMENTS			
	37	Mechanical Design Code		<i>ASME Sec VIII Div 1, IPS-G-ME-150</i>	
	38	Specification for Pressure Vessels		<i>BK-GNRAL-PEDCO-000-ME-SP-0001</i>	
	39	Process Basis of Design		<i>BK-GNRAL-PEDCO-000-PR-DB-0001</i>	
	40	Piping & Instrument Diagram (P&ID)		<i>BK-GCS-PEDCO-120-PR-PI-0012</i>	
	41	Specification for Painting		<i>BK-GNRAL-PEDCO-000-PI-SP-0006</i>	
	42	Specification for Insulation		<i>BK-GNRAL-PEDCO-000-PI-SP-0019</i>	
	43	Specification For Material Requirements in Sour service		<i>BK-GNRAL-PEDCO-000-PI-SP-0008 (Note 40)</i>	
	44	Fabrication and Inspection Requirements D02			
	45	Inspection Authority	<i>TPI & Client</i>		
	46	Material Certification	<i>In Accordance with BS EN 10204:2004, Type 3.1, Minimum for Pressure Containing and Attachments</i>		
	47	Hydro Test Medium	<i>Water</i>	Hydro Test Procedure	<i>Yes;Per Code & Spec. Requirements</i>
	48	Post Weld Heat Treatment	<i>No</i>	PT	<i>100%</i>
	49	MT	<i>100 % on Lifting Lug Fillet Welds</i>	UT	<i>Yes;Per Code & Spec. Requirements</i>
	50	RT	<i>100 % On T-Joints and Head Joints Butt-Welds,</i>		
	51		<i>Spot On Shell Longitudinal and Circumferential Joints Butt-Welds,</i>		
	52		<i>100 % On Nozzle Neck to Flange & Fabricated Nozzle Neck Longitudinal Butt-Welds,</i>		
	53	RT Report	<i>Yes; Per Code & Spec. Requir.</i>	PT Report	<i>Yes;Per Code & Spec. Requirements</i>
	54	MT Report	<i>Yes; Per Code & Spec. Requir.</i>	UT Report	<i>Yes;Per Code & Spec. Requirements</i>
	55	Fabrication Quality Control Plan (With Offer)		<i>Yes</i>	
	56	Welding Procedure Review / Approval		<i>Yes</i>	
	57	Surface Preparation & Coating		<i>Specification for Painting Doc. No.BK-GNRAL-PEDCO-000-PI-SP-0006</i>	
	58			<i>Specification for Linning 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 DISCHARGE GAS K.O. DRUM



شماره صفحه: ۶ از ۸

شماره پیمان:

• 03 - • 73 - 9184

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D02	0006	DT	ME	120	PEDCO	GCS	BK

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

Rev.

ACCESSORIES , NOZZLES LIST & LOADS @ BASE

Accessories & Attachments (Note 25)

D02

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

Nozzles List (Note 1)

D02

Mark

Qty.

Description

Pipe

Size

Thk.

Sch.

Flange

Type

Rate.

Face

Proj. (mm)

(Note 32)

Reinforcement

Thk.

O.D.

Remarks

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)

Load Condition

M

→

↺

↻

Load Type

Empty Condition

Max. Shear @ Base (Kg)

Max. Moment @ Base (Kg.m)

Weight (Kg)

Operating Condition

Max. Shear @ Base (Kg)

Max. Moment @ Base (Kg.m)

Weight (Kg)

Testing Condition

Max. Shear @ Base (Kg)

Max. Moment @ Base (Kg.m)

Weight (Kg)

WIND

SEISMIC

Rev.



احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR DISCHARGE GAS K.O. DRUM



شماره صفحه: ۷ از ۸

شماره پیمان:

• 03 - • 73 - 9184

پروژہ

BK

کارى

GC

در کننده بس

PEDC

سهیلات

120

رشته

ME

نوع مدرک

DT

سریال

0006

	بخه
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DC

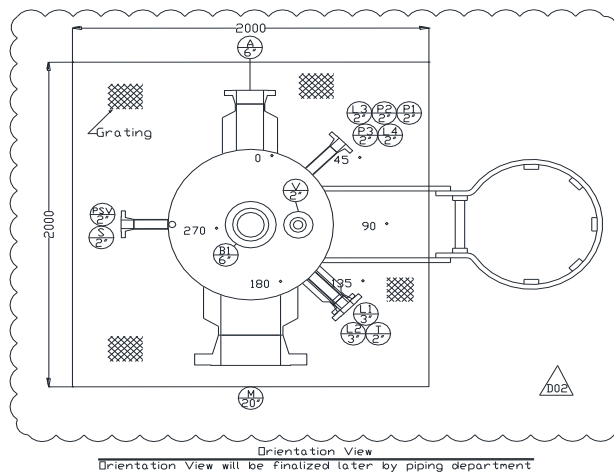
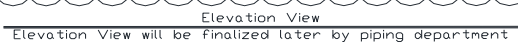
نسخه

D02

Mech. Data Sheets For Discharge Gas K.O. Drum (V-2103) / Sheet 3 of 4

Sketch

D02



Orientation View

Orientation View will be finalized later by piping department

Note: All Dimensions are in mm except otherwise noted.



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

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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	WEIGHT CONTROL DATA SHEET SI UNIT *					D02	D02
2							
3							
4							
5							
6	Service : <i>Discharge 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.						
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						
31							
32							
33							
34							
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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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