

 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: 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 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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 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.	
	25. Specified accessories and attachments shall be supplied by vendor.	
	26. Gasket shall be spiral wound type, graphite filled with inner and outer ring S.S 316.	
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	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
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 finilized 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 shell 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: <ul style="list-style-type: none"> - 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.	



احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR DISCHARGE GAS K.O. DRUM



شماره صفحه: ۵ از ۸

شماره پیمان:

• 03 - • 73 - 9184

۵ و ۶

نه کاری

صادرکننده

تسهيلات

رشته

نوع مدرک

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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>	<i>Set</i>	
	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:	<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 (Shelly/ 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>
D02	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. Requr.</i>	PT Report	<i>Yes;Per Code & Spec. Requirements</i>
	54	MT Report	<i>Yes; Per Code & Spec. Requr.</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 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			D02	
	Fireproofing Support			No			Anchor Bolts			No			D02	
	Lifting Lugs			Yes			Instrumentations			No				
	Internal/ External Clips			Yes			Skid			No				
	Tampale			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

صادرکننده

PEDCO

تسهیلات

120

رشته

ME

نوع مدرک

DT

سریال

0006

نسخه

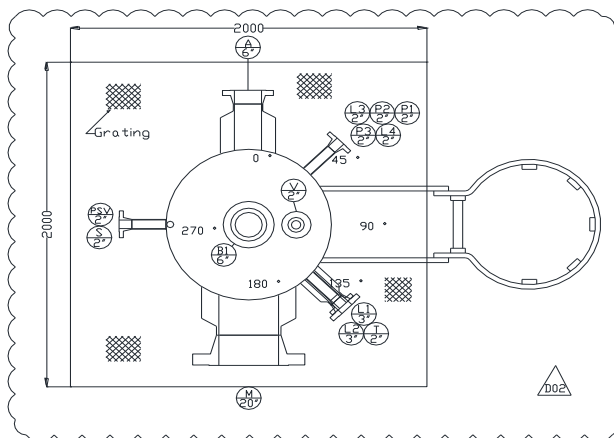
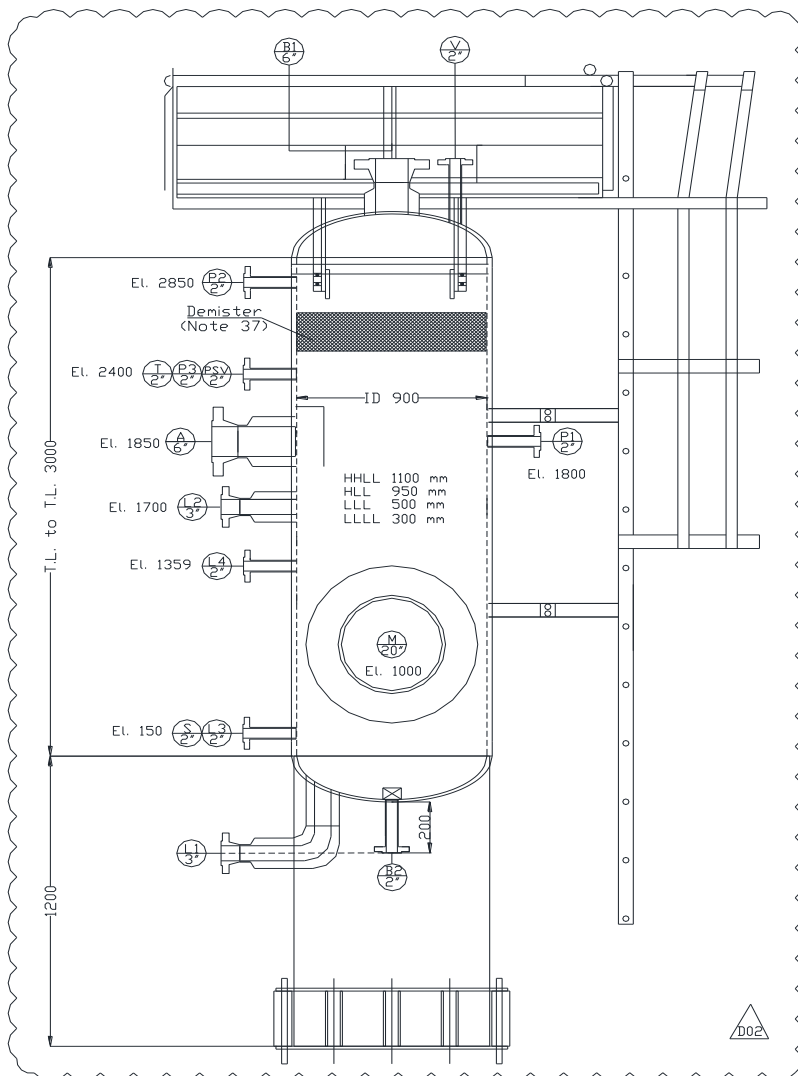
D02

شماره صفحه: ۸ از ۷

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

Sketch

D02



Elevation View
Elevation View will be finalized later by piping department

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

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MECHANICAL DATA SHEETS FOR DISCHARGE GAS K.O. DRUM



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

BK

بسته کاری

GCS

صادر کننده

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120

رشته

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نوع مدرک

DT

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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	<p>WEIGHT CONTROL DATA SHEET SI UNIT *</p>						<p>1/1</p>
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.						
56							
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