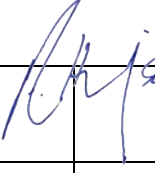



 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 	
	MECHANICAL DATA SHEETS FOR 1st STAGE G.C. SUCTION DRUMS								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه: BK	بسته کاری: GCS	صادر کننده: PEDCO	تسهیلات: 120	رشته: ME	نوع مدرک: DT	سریال: 0002	نسخه: D03	شماره صفحه: ۱ از ۸

طرح نگهداشت و افزایش تولید ۲۷ مخزن

MECHANICAL DATA SHEETS FOR 1st STAGE G.C. SUCTION DRUMS

نگهداشت و افزایش تولید میدان نفتی بینک

 						
D03	SEP.2022	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D02	JUL.2022	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D01	JAN. 2022	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D00	SEP.2021	IFC	H.Adineh	M.Fakharian	Sh.Ghalikar	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 2 CLIENT Doc. Number: F0Z-708833

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 1st STAGE G.C. SUCTION DRUMS



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادرکننده	بسته کاری	پروژه
D03	0002	DT	ME	120	PEDCO	GCS	BK

شماره صفحه: ۲ از ۸

REVISION RECORD SHEET

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1	X	X	X	X	
2	X	X	X	X	
3	X	X			
4	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 1st STAGE G.C. SUCTION DRUMS



شماره پیمان:

۰۳ - ۰۷۳ - ۹۱۸۴

پروژه

BK

بسته کاری

GCS

صادر کننده

PEDCO

تجهیزات

120

رشته

ME

نوع مدرک

DT

سریال

0002




نسخه

D03

شماره صفحه: ۸ از ۳

General Notes

Rev	
	1. The Asterisk * denotes information and/or confirmation required from VENDOR. TJ: Confirmed
D03	2. The Vendor shall be fully responsible for the complete mechanical design, preparing calculation book and supply of the vessel. 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
	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. TJ: Confirmed
	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) TJ: Confirmed
	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". TJ: Confirmed
	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. TJ: Confirmed
	8. All external bolts and nuts shall be hot dip galvanized. Internal bolts and nuts shall be stainless steel. TJ: Confirmed
	9. Loads at support base, Shall be calculated and determined by vendor. TJ: Confirmed
	10. Access Ladder & Platform to be considered . TJ: Confirmed
D03	11. All dimensions shown are in mm unless otherwise indicated. All nozzle sizes are in inch. 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
D03	13. DEMISTER specification will be finilized latter. TJ: Confirmed
	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
	17. All materials shall be new and unused. TJ: Confirmed
	18. Fabrication tolerances for vessel shall be in accordance with requirement of ASME code. TJ: Confirmed
	19. Location and number of lifting lugs on vessels shall be specified on VENDOR drawing. TJ: Confirmed
	20. All items shall be clearly match marked against vessel drawings to facilitate erection. TJ: Confirmed
D03	21. All external attachments directly welded to the pressure part shall be the same material as vessel grade. TJ: Confirmed
	22. Vendor shall supply details of all welding connections and give general specification of used materials. TJ: Confirmed
	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). TJ: Confirmed
	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". 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 ring and outer ring S.S.316. TJ: Confirmed
	27. Fire proofing requirement will be specified as per result of fire proofing zone layout. "Area Classification: Zone 2, IIB, T3" TJ: Confirmed
D03	28. The material shall be in compliance with NACE MR0175/ISO15156 and Specification For Material Requirements in Sour service Document No. BK-GNRAL-PEDCO-000-PI-SP-0008. TJ: Confirmed
	29. Two M12 earthing lugs shall be provided on vessel support. Material of Earthing lugs shall be S.S. 316. TJ: Confirmed

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض							 	
	احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک MECHANICAL DATA SHEETS FOR 1st STAGE G.C. SUCTION DRUMS								
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۸ از ۸
۰۵۳ - ۰۷۳ - ۹۱۸۴	BK	GCS	PEDCO	120	ME	DT	0002	D03	

General Notes (Cont'd)	
Rev	
	<p>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". TJ: Confirmed</p> <p>31. Elliptical heads shall be Ultrasonic Tested for LAMINATION after forming. TJ: RT test will be performed.</p> <p>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. TJ: Confirmed</p> <p>33. The elevation of equipment's nozzels should be specified as follows : TJ: Confirmed I. For vertical vessels : from bottom T.L. II. For horizontal vessels : from Left T.L.</p> <p>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. TJ: Confirmed</p> <p>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. TJ: Confirmed</p> <p>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. TJ: Confirmed</p> <p>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. TJ: Confirmed</p> <p>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. TJ: Confirmed</p> <p>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. TJ: Confirmed</p>
D03	<p>40. 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. $C_{eq} = \frac{C + Mn}{6} + \frac{(Cr + Mo + V)}{5} + \frac{(Cu + Ni)}{15} < 0.42 \%$ TJ: Confirmed</p>
D03	<p>41. All carbon steel material shall be fully killed, fine grain treated and supplied in the normalized condition. TJ: Confirmed</p>



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR 1st STAGE G.C. SUCTION DRUMS



شماره صفحه: ۵ از ۸

شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

BK

GCS

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120

ME

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0002

D03

Mech. Data Sheet For 1st Stage G.C. Suction Drums (V-2101 A/B/C) / sheet 1 of 4

Rev	DATA SHEET	Rev
1	Description : <i>1st Stage G.C. Suction Drums</i>	
2	Tag No. : <i>V-2101 A/B/C</i> Quantity : <i>3 Set</i>	
3	Type : <i>Pressure Vessel</i>	
4	Process Design Data	
5	Contents	Corrosive / Erosive <i>CO₂, H₂S</i>
6	Operating Temp. (°C) <i>19.02 ~ 36.92</i>	Liquid Flow (kg/h)
7	Operating Press. (barg) <i>5.1</i>	Vap. Molec. Weight (kg/kmol)
8	Gas Flow (kg/h)	Liquid Sp. Gravity <i>0.005969</i>
9	Liquid Viscosity (cP)	Service <i>Sour HC</i>
10	Mechanical Design Data	
11	Design Temp. (°C) <i>85</i>	Vessel Orientation <i>Vertical</i>
12	Design Press. (barg) <i>F.V / 9</i>	HHLL (mm) <i>1100</i>
13	Test Press. (barg) <i>Per Code & Specification</i>	Nor. Liquid Vol. (m ³)
14	Internal Vacuum (barg) <i>-</i>	In. Dia. Of Boots (mm)
15	In. Dia. of Shell (mm) <i>900</i>	Boot Length (mm)
16	Tan/Tan Dim. (mm) <i>3000</i>	Boot Head Type
17	Vessel Head Type <i>2:1 Elliptical</i>	Corr. Allowance (mm) <i>6</i>
18	Shell Wall Thk. (mm) <i>* TJ: 10mm</i>	Joint Efficiency <i>0.85 (Shell) / 1 (Head)</i>
19	Head Wall Thk. (mm) <i>* (After Forming) TJ: 8mm</i>	Ambient Temp. (°C)
20	Seismic Design <i>Site Clas: 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>NO</i>
22	Materials	
23	Code <i>ASME II / ASTM</i>	Nozzle Necks: <i>A 106B</i>
24	Shell / Heads <i>A 516 Gr. 60 N</i>	Pipes <i>A 106B</i>
25	Internal Welded Parts <i>A 516 Gr. 60 N</i>	Plates <i>A 516 Gr.60 N</i>
26	Lining / Cladding <i>P3</i>	Forgings <i>A 105 N</i>
27	Leg / Pad <i>A 283 Gr. C / A 516 Gr. 60 N</i>	Flanges <i>A 105 N</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>A193 Gr B7M (Note 8)</i>
30	Lifting Lugs <i>A 516 Gr.60 N / A 283 Gr. C</i>	External Nuts <i>A194 Gr 2HM (Note 8)</i>
31	Reinforcing Pads <i>A 516 Gr.60 N</i>	Internal Bolts <i>A193 Gr B8M (Note 8)</i>
32	Ladder & Platform <i>C.S.</i>	Internal Nuts <i>A194 8M (Note 8)</i>
33	Internal Removable Parts <i>S.S</i>	Name Plate <i>S.S</i>
34	REFERENCE STANDARDS & DOCUMENTS	
35	Mechanical Design Code <i>ASME Sec VIII Div 1, IPS-G-ME-150</i>	
37	Specification for Pressure Vessels <i>BK-GNRAL-PEDCO-000-ME-SP-0001</i>	
38	Process Basis of Design <i>BK-GNRAL-PEDCO-000-PR-DB-0001</i>	
39	Piping & Instrument Diagram (P&ID) <i>BK-GCS-PEDCO-120-PR-PI-0006</i>	
40	Specification for Painting <i>BK-GNRAL-PEDCO-000-PI-SP-0006</i>	
41	Specification for Lining <i>BK-GNRAL-PEDCO-000-PI-SP-0007</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 28)</i>	
44	Fabrication and Inspection Requirements	
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>Yes, Process Reason</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 Lining 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 1st STAGE G.C. SUCTION DRUMS



شماره صفحه: ۶ از ۸

شماره پیمان:

• 03 - • 73 - 9184

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D03	0002	DT	ME	120	PEDCO	GCS	BK

Mech. Data Sheet For 1st Stage G.C. Suction Drums (V-2101 A/B/C) / sheet 2 of 4

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ACCESSORIES , NOZZLES LIST & LOADS @ BASE

Accessories & Attachments (Note 25)

Supporting Saddles

No

Name Plate Bracket

Yes

Access Ladder & Platform (Note 10)

Yes

Name Plate

Yes

Insulation Support

No

Earthing Lug (Note 30)

Yes

Insulation

No

Tailing Lug

Yes

Insulation Cover

No

Cathodic Protection (Sacrificial Anodes)

No

Fireproofing Support (Note 27)

No

Anchor Bolts

No

Lifting Lugs

Yes

Instrumentations

No

Internal/ External Clips

Yes

Skid

No

Template

No

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 13)

Yes

D03

D03

Nozzles List * (Note 1)

Mark

Qty.

Description

Pipe

Size

Thk.

Sch.

Flange

Type

Rate.

Face

Proj. (mm)

(Note 32)

Reinforcement

Thk.

O.D.

Remarks

A

1

Inlet

8"

WN

#150

RF

720*

*

380*

Note 6

B1

1

Gas Outlet

8"

WN

#150

RF

484*

*

380*

Note 6

B2

1

Liquid Outlet

2"

WN

#150

RF

434*

V

1

Vent

2"

WN

#150

RF

See DWG

M

1

Manhole

20"

WN

#150

RF

820*

*

870*

Note 6

S

1

Utility Connection

2"

WN

#150

RF

660*

Deleted

L 1,2

2

Stand Pipe

3"

WN

#150

RF

670*

*

210*

Note 6

L 3,4

2

Level Transmitter

2"

WN

#300

RF

660*

PSV

1

Pressure Safety Valve

2"

WN

#150

RF

660*

PI

1

Pressure Gauge

2"

WN

#300

RF

660*

T

1

Temperature Gauge

2"

WN

#300

RF

660*

P 2,3

2

PDIT

2"

WN

#300

RF

660*



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR 1st STAGE G.C. SUCTION DRUMS



شماره پیمان:

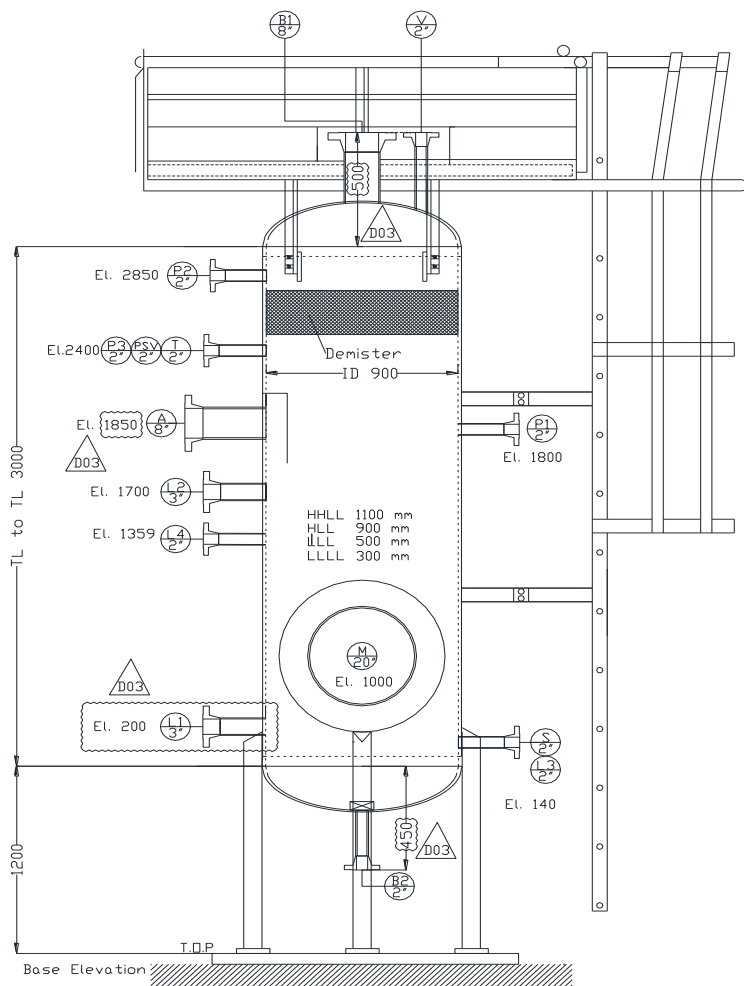
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نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادر کننده	بسته کاری	پروژه
D03	0002	DT	ME	120	PEDCO	GCS	BK

شماره صفحه: ۸ از ۷

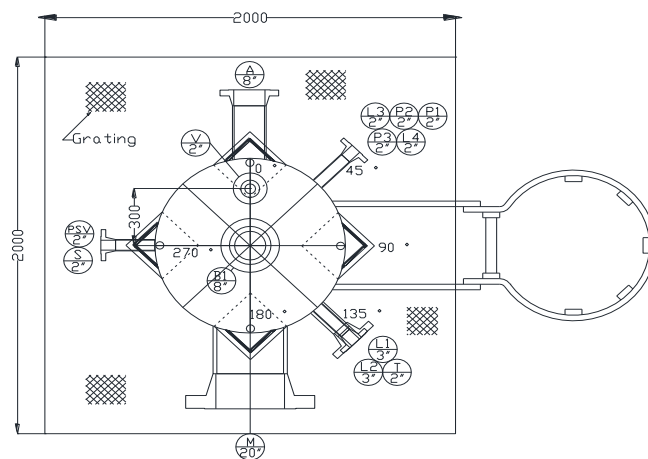
Mech. Data Sheet For 1st Stage G.C. Suction Drums (V-2101 A/B/C) / sheet 3 of 4

Sketch



Elevation View

Elevation View will be finalized later by piping department



Orientation View

Orientation View will be finalized later by piping department

All dimensions are in mm.



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR 1st STAGE G.C. SUCTION DRUMS



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

BK

بسته کاری

GCS

صادر کننده

PEDCO

تجهیزات

120

رشته

ME

نوع مدرک

DT

سریال

0002

نسخه

D03

شماره صفحه: ۸ از ۸

Mech. Data Sheet For 1st Stage G.C. Suction Drums (V-2101 A/B/C) / sheet 4 of 4

Rev.	WEIGHT						Rev.
1	WEIGHT CONTROL DATA SHEET SI UNIT *					1/1	
2							
3							
4							
5							
6	Service : 1st Stage G.C. Suction Drums				Location : Bushehr (Binak Oilfield)		
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							
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51							
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							
57							
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