







#### احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

**NISOC** 

MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER

شماره پیمان: ۱۸۶ – ۲۷۳ – ۰۵۳

پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
BK	GCS	PEDCO	120	ME	DT	0009	D04

شماره صفحه: ۱ از ۸

# طرح نگهداشت و افزایش تولید ۲۷ مخزن

#### MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER

### نگهداشت و افزایش تولید میدان نفتی بینک

Class 1		CLIENT Dog Number: E07	700040	•		
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval
D00	NOV.2021	IFC	H.Adineh	M.Fakharian	M.Mehrshad	
D01	DEC. 2021	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D02	SEP.2022	IFA	H.Adineh	M.Fakharian	M.Mehrshad	
D03	JUN.2023	IFA	H.Adineh	M.Fakharian	A.M.Mohseni	
D04	SEP.2024	IFA	V.Amjadi	M.Fakharian	M. Sadeghian	

Class: 1 CLIENT Doc. Number: F0Z-708840

IFC: Issued For Comment
IFA: Issued For Approval
AFD: Approved For Design

IDC: Inter-Discipline Check

status:

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



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# احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

#### MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER

شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
۹۱۸٤ – ۲۲۰ – ۹۱۸۶	BK	GCS	PEDCO	120	ME	DT	0009	D04

شماره صفحه: ۲ از ۸

• 0	3818 – 474 – 418		BK G	ics Pedco	120 M	1E	DT	0009	D04			
				RE\	ISION REC	COI	RD SHEET					
Page	D00	D01	D02	D03	D04		Page	D00	D01	D02	D03	D04
1	Х	Χ	X	Х	Х		65					
3	X	X	X	Х	Х		66 67					
4	X	X	X				68					
5	X	X	X	Х	Х		69					
6	X	X	X				70					
7	X	Χ	X		Х		71 72					
8 9	^		^				73					
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38							102					
39							103					
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41							105 106					
42 43							107	1	+	1	1	<u> </u>
44							108					
45 46							109					<del>                                     </del>
46							110 111		+	+	1	<del>                                     </del>
48							112		1	<u> </u>		
49							113					
50 51							114 115					<del>                                     </del>
52							116		+	1		<del>                                     </del>
53							117		1	1		
54							118					
55 56							119 120	-		1	-	<del>                                     </del>
56							120		+	1		<del>                                     </del>
58						l	122					
59					_		123					
60 61						ŀ	124 125		+	1		<del>                                     </del>
62							126		+	1		<del>                                     </del>
63						ł	127					<u> </u>



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۱۸۶ - ۲۷۰ - ۳۵۰

### نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض

### احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

### MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER

 نسخه
 سریال
 نوع مدر ک
 رشته
 تسهیلات
 صادر کننده
 بسته کاری
 پروژه

 BK
 GCS
 PEDCO
 120
 ME
 DT
 0009
 D04



شماره صفحه: ۳ از ۸

#### **General Notes**

#### Rev

1. The Asterisk \* denotes information and/or confirmation required from VENDOR.

شماره پیمان:

- 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 respectively.
- 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 Drawing For Pressure Vessels 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. All material, corrosion allowance and their suitability for the process fluid at design pressure and temperature to be confirmed by vendor.
- 13. Deleted
- 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 specificed 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 Minimum Requirements for Marking, Packing, Shipment & Storage' Document No. IPS-G-GN-210.
- 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 lugs shall be provided on vessel support. Material of Earthing lugs shall be S.S. 316



# HIRGAN ENERGY



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#### احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER
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General Notes (Cont'd)

	شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه
٤٨١ ٩ - ٣٧٠ - ٣٥٠		BK	GCS	PEDCO	120	ME	DT	0009	D04

شماره صفحه: ٤ از ٨

#### 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".
- 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-GNRAL-PEDCO-000-ME-DW-0001". Projection of Horizontal & Vertical nozzles is from tengent line and centerline respectively.
- 33. 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.

- 34. 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.
- 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 2 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 shell 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:  ${\bf 2}$

- 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. The Vendor shall be fully responsible for the complete mechanical design, preparing calculation book and supply of the vessel.
- 42. All dimensions shown are in mm unless otherwise indicated. All nozzle sizes are in inch.







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احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

111000		MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER								
	شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرك	سريال	نسخه	
۹۱۸٤ – ۲۲۰ – ۲۵۰		BK	GCS	PEDCO	120	ME	DT	0009	D04	

شماره صفحه: ٥ از ٨

		Wechanical Data Sheets For Millogo	en Receiver (V-2204) / sheet 1 of 4		
ev		DATA S	HEET		Rev
1	Description : Nitrog	en Receiver			
2			Quantity : 1 Set		
3		ire Vessel	•		1
4			Design Data		
5	Contents		Corrosive / Erosive		
6	Operating Temp. (°C)	60	Liquid Flow (kg/h)		1
7		8	Vap. Molec. Weight (kg/kmol)		
8	Gas Flow (kg/h)	32.5	Liquid Sp. Gravity	1	
9	Liquid Viscosity (cP)		Service:	N/A	
10			Design Data D04		
11		85	Vessel Orientation	Vertical	
	Design Press. (barg)	12.5	Liquid Level (mn		
	Test Press. (barg)	Per Code & Specification	Nor. Liquid Vol. (m		
	Internal Vacuum (barg)	-	In. Dia. Of Boots (mn	,	
	In. Dia. of Shell (mm)	1050	Boot Length (mn	,	
	Tan/Tan Dim. (mm)	3150	Boot Head Type	N/A	
17		2:1 elliptical	Corr. Allowance (mn		,
	Shell Wall Thk. (mm)	*	Joint Efficiency	0.7 (Skirt)/ 0.85 (Shell) /1(Head)	
19	Head Wall Thk. (mm)	* (After Forming)	Ambient Temp. (°C		
04 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	
2	Wind Design	Speed: 232 Km/hr (Max.), Code: ASCE 7-10	Insulation Required	No	
22			erials D04		1
23	Code	ASME II / ASTM	Nozzle Necks:		
04 24	Shell	A 516 Gr. 70N	Pipes	A 106 Gr.B	1
	Heads	A 516 Gr. 70N	Plates	A 516 Gr.70N	DO
26	Lining / Cladding	P3	Forgings	A 105 N	DO
04 27	Skirt (Top / Bottom)	A 516 Gr. 70N / A 283 Gr. C	Flanges	A 105 N	DO
28	Platform Gratings	Hot Dip Galvanized C.S.	Fittings	A 234 Gr. WPB	
29	Gaskets	Note 26	External Bolts	A 193 Gr. B7 (Note 8)	
	Lifting Lugs	A 516 Gr.70N / A 283 Gr. C	External Nuts	A 194 Gr. 2H (Note 8)	
	Reinforcing Pads	A 516 Gr.70N	Internal Bolts / Nuts	S.S.	
	Ladder & Platform	C.S.	Name Plate	S.S. 316	
33					
34		REFERENCE STAND	ARDS & DOCUMENTS		
	Mechanical Design Code		ASME Sec VIII Div		
	Specification for Pressure Ve	essels	BK-GNRAL-PEDCO		
	Process Basis of Design	(DOID)	BK-GNRAL-PEDCO		
	Piping & Instrument Diagram	n (P&ID)	BK-GCS-PEDCO-		
	Specification for Painting		BK-GNRAL-PEDCO BK-GNRAL-PEDCO		
40			BK-GNRAL-PEDC	J-000-P1-SP-0019	
4					
42		Eabrication and Incr	ection Requirements		ł
44		TPI & Client	ection requirements		1
45		In Accordance with BS EN 10204:2004, Ty	one 3.1 Minimum for Pressure Containing	ng and Attachments	1
	Hydro Test Medium	Water	Hydro Test Procedure	Yes;Per Code & Spec. Requirements	ł
47		Per Code & Spec Requirements	PT	100%	1
	MT	100 % on Lifting Lug Fillet Welds		Ves;Per Code & Spec. Requirements	
	RT	100 % On T-Joints and Head Joints		es,1 er Coue & Spec. Requirements	1
50			rcumferential Joints Butt-Welds,		1
5			Fabricated Nozzle Neck Longitudinal Bu	att-Welds	
52		Yes; Per Code & Spec. Requir.		ves;Per Code & Spec. Requirements	1
	MT Report	Yes; Per Code & Spec. Requir.  Yes; Per Code & Spec. Requir.		es,1 er Code & Spec. Requirements  es;Per Code & Spec. Requirements	1
	Fabrication Quality Control I		Ye		i
	Welding Procedure Review		Ye		1
56		- ' '	Specification for Painting Doc. No. "Bi		1
57		ng	Specification for Lining Doc. No: "BI		1
58			2F - 29 - 200 Joi Zaming Doc. 110. BI	30 000 11 01 0007	1
59					ł
60					1
6					1
					1
62					1



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١٨٤ - ٣٠٠ - ٣٥٠

# نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض

### احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

# MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER





شماره صفحه: ٦ از ٨

	Mechanical Data Sheets For Nitrogen Receiver (V-2204) / sheet 2 of 4															
lev.					ACCES	SORIES	, NOZZ	LE:	S LIST & LO	OADS (	a BAS	E				Rev
	1	0 "	0 1 11				ssories &		tachments (	Note 25	)				\/F.0	
	2	Supporting Access La	g Saddie adder &	es Platform			NO YES	_	Name Plate		[				YES YES	-
	4	Insulation	Support				NO		Earthing Lu		30)				YES	
		Insulation					NO NO	_	Tailing Lug	otootion	YE (Specificial Apades)					
		Insulation Fireproofi		ort			NO	_	Anchor Bolt	thodic Protection (Sacrificial Anodes) NC chor Bolts NC						
	8	Lifting Lug	js	011			YES		Instrumentations						NO	1
		Internal/ E	xternal	Clips			YES	Skid						NO		
	10 11	Template Boot					YES NO	_	Support Clip Vortex Brea						YES YES	
		Davit for N	Manhole				YES		Rung & Gri	0					NO	
		Internal Li	ining (By	Painting)		YES		Heating Co	il					NO		
	14															
	15 16															
	17															
	18 10					Nozz	zles List Pipe	(No	te 1, 3, 5, 9,	12, 41) Flange		Proj. (mm	) Reinfo	rcement		
	19 20 Mark Qty. Description Size						Thk.	Sc	h. Type	Rate.	Face	(Note 32)	Thk.	O.D.	Remarks	1
2	21 A 1 <i>Inlet</i>				2"			WN	#150	<i>RF</i>	741					
	22         B         1         Gas Outlet           23         PSV         1         Pressure Safety Valve					2"			WN	#150	RF	See DWG				1
	23 24	V	1		Safety Valve Vent	2"			WN WN	#150 #150	RF RF	741 See DWG				_
	25	25 M 1 Manhole							WN	#150	RF	791	*	*	Note 7	-
2	26					2"			WN	#300	RF	741				
	27					2"			WN	#150	RF	See DWG				
1	28 29	L 1,2	2	2"			WN	#300	RF	741						
	30															
	31															
	32 33	2														
	34 34															
3	35															
	36 37															
	38															
3	39															
	10 11															
	12															
	13					Wind a	nd Seism	ic L	oads at Base	* Note(9	)					
	14 ` 15	Load Co	ondition	Emp	oty Condition			Op	erating Condi	tion		Te	sting Con	dition		
4	16			Max. Shear	Max.		Max. Sh	ear	Max.			Max.	1ax.			1
	17	M A		@ Base	Moment @	Weight	@ Bas		Moment @	Weig	ht l	Shear   Mon	nent @	v	Veight	
	18 19	{ \bar{\bar{\bar{\bar{\bar{\bar{\bar{		(Kg)	Base	(Kg)	(Kg)		Base	(Kg		base R	ase		(Kg)	
	50	Load 1	Гуре		(Kg.m)				(Kg.m)	1		(Kg) (K	(g.m)			
	51	WIN														1
1	52 53				-			1						-		
	54	SEISM														
	55											•		•		1
5	56 57															
	58															
[59]																
	60															
	61 62															
	33															
6	64															
(	35															



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#### احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک

MECHANICAL	DATA	SHEETS EVE	MITDOGEN	DECEIVED

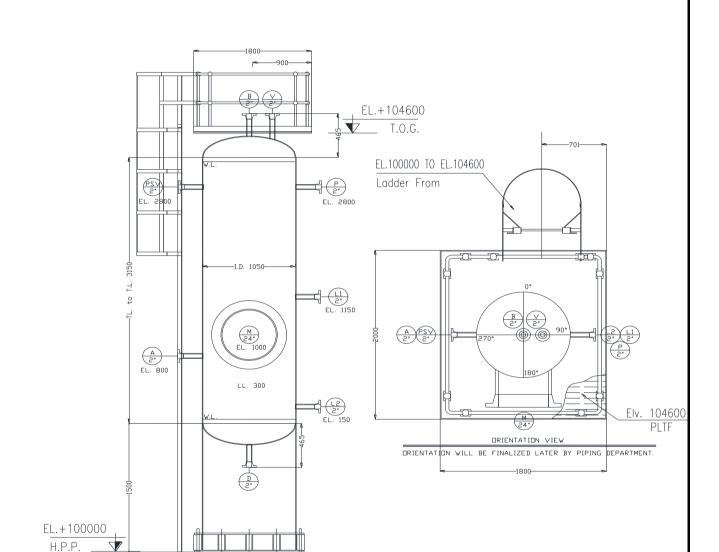
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدر ک	سريال	نسخه
٠٥٣ - ٠٧٣ - ٩١٨٤	BK	GCS	PEDCO	120	ME	DT	0009	D04

شماره صفحه: ۱ از ۸

Mechanical Data Sheets For Nitrogen Receiver (V-2204) / sheet 3 of 4

Sketch

7D04



ELEVATION VIEW

ELEVATION WILL BE FINALIZED LATER BY PIPING DEPARTMENT.



## احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



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MECHANICAL DATA SHEETS FOR NITROGEN RECEIVER

	شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدر ک	سريال	نسخه	ه صفحه: ۱۸ ز
۱۸۶ – ۲۲۰ – ۲۰۰۳		BK	GCS	PEDCO	120	ME	DT	0009	D04	ره حسد. ۸ از ۸

#### Mechanical Data Sheets For Nitrogen Receiver (V-2204) / sheet 4 of 4 WEIGHT Rev. Rev **WEIGHT CONTROL** 2 3 DATA SHEET 1/1 SI UNIT \* 4 5 6 Bushehr (Binak Oilfield) Service Nitrogen Receiver Location Туре 7 Quotation No. 8 No. trains Serial No. 9 No. stages 10 Supplier 11 Manufacturer : 12 Model 14 Note: Information to be completed by equipment vendor. 15 16 Total weight (kg) \* 17 Erection Fabrication Operation Hydrostatic Test Removable internal Ladder & Platform 18 19 20 21 22 23 WEIGHT AND C OF G DATA REQUIRED \* 24 WEIGHT WEIGHT CENTER OF GRAVITY (mm) CONDITION 25 **ACCURACY %** (kg) 26 Dry 27 28 29 SKETCH 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 UNDERSIDE OF BASE 47 48 49 50 51 **NOTES** 52 53 1) All lifting points to be load tested and certified. 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 58 59 60 61 62