

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 	
	DATA SHEETS FOR LEVEL GAUGES								
شماره پیمان: 053 - 073 - 9184	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته IN	نوع مدرک DT	سریال 0003	نسخه D05	شماره صفحه: 1 از 7

طرح نگهداشت و افزایش تولید 27 مخزن

DATA SHEETS FOR LEVEL GAUGES

نگهداشت و افزایش تولید میدان نفتی بینک

D05	AUG.2024	AFC	P.Hajisadeghi	M.Fakharian	M.Sadeghian	
D04	JUL.2024	AFC	P.Hajisadeghi	M.Fakharian	M.Sadeghian	
D03	OCT.2023	AFC	P.Hajisadeghi	M.Fakharian	S.Faramarzpour	
D02	MAY.2023	IFA	P.Hajisadeghi	M.Fakharian	A.M.Mohseni	
D01	DEC.2022	IFA	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D00	APR.2022	IFC	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 1

CLIENT Doc. Number: F9Z-708924

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



DATA SHEETS FOR LEVEL GAUGES

شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 2 از 7
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0003	D05	

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04	D05	D06	Page	D00	D01	D02	D03	D04	D05	D06
1	X	X	X	X	X	X		65							
2	X	X	X	X	X	X		66							
3	X	X						67							
4	X	X						68							
5	X	X						69							
6	X	X	X	X	X	X		70							
7	X	X	X			X		71							
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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
	DATA SHEETS FOR LEVEL GAUGES								
شماره پیمان:	پروژه	بسته کاری	صادرکننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 3 از 7
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0003	D05	

REFERENCE DOCUMENTS :

Specification For Instrumentation	BK-GNRAL-PEDCO-000-IN-SP-0001
Process Basis Of Design	BK-GNRAL-PEDCO-000-PR-DB-0001
Piping Material Specification	BK-GCS-PEDCO-120-PI-SP-0001
Hazardous Area Classification Layout	BK-GCS-PEDCO-120-SA-PY-0002
Instrument & Control System Design Criteria	BK-GCS-PEDCO-120-IN-DC-0002
Symbol & Legend For PFD and P&ID	BK-GCS-PEDCO-120-PR-PI-0001
P&ID - Gas Compression Inlet Gas Pipeline (Binak)	BK-GCS-PEDCO-120-PR-PI-0002
P&ID - Gas Compression Inlet Gas Pipeline (Golkhari)	BK-GCS-PEDCO-120-PR-PI-0003
P&ID - Slug Catcher System	BK-GCS-PEDCO-120-PR-PI-0004
P&ID - Gas Compression Inlet Knock Out Drum	BK-GCS-PEDCO-120-PR-PI-0005
P&ID - 1st Stage Gas Compression Suction Drums	BK-GCS-PEDCO-120-PR-PI-0006
P&ID - 1st Stage Gas Compression Compressors	BK-GCS-PEDCO-120-PR-PI-0007
P&ID - 1st Stage Gas Compression Air Coolers	BK-GCS-PEDCO-120-PR-PI-0008
P&ID - 2nd Stage Gas Compression Suction Drums	BK-GCS-PEDCO-120-PR-PI-0009
P&ID - 2nd Stage Gas Compression Compressors	BK-GCS-PEDCO-120-PR-PI-0010
P&ID - 2nd Stage Gas Compression Air Coolers	BK-GCS-PEDCO-120-PR-PI-0011
P&ID - 2nd Stage Gas Compression Discharge Drum	BK-GCS-PEDCO-120-PR-PI-0012
P&ID - Gas Compression Dehydration Package	BK-GCS-PEDCO-120-PR-PI-0013
P&ID - Lean Glycol Storage Tank	BK-GCS-PEDCO-120-PR-PI-0014
P&ID - Instrument & Plant Air System	BK-GCS-PEDCO-120-PR-PI-0015
P&ID - Nitrogen Generation System	BK-GCS-PEDCO-120-PR-PI-0016
P&ID - Close Drain System	BK-GCS-PEDCO-120-PR-PI-0017
P&ID - Corrosion Inhibitor Package	BK-GCS-PEDCO-120-PR-PI-0018
P&ID - Methanol Injection Package	BK-GCS-PEDCO-120-PR-PI-0019
P&ID - LP Flare System	BK-GCS-PEDCO-120-PR-PI-0020
P&ID - Oily Water Sewer	BK-GCS-PEDCO-120-PR-PI-0021
P&ID - Fuel Gas System	BK-GCS-PEDCO-120-PR-PI-0022
P&ID - Diesel Oil System	BK-GCS-PEDCO-120-PR-PI-0023
P&ID - Potable Water System	BK-GCS-PEDCO-120-PR-PI-0024
P&ID - Glycol Sump Drum	BK-GCS-PEDCO-120-PR-PI-0025
P&ID - Fire Water Network	BK-GCS-PEDCO-120-SA-PI-0001
P&ID - Total Flooding System For Extension of Existing Elect. Building	BK-GCS-PEDCO-120-SA-PI-0002

 NISOC	 شرکت ملی پالایش و توزیع نفت ایران   نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
	DATA SHEETS FOR LEVEL GAUGES								
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 4 از 7
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0003	D05	

GENERAL NOTES:

1 - Materials indicated in the data sheets have to be intended as a guide. Vendor is responsible for the selection of materials suitable for the specified working conditions.

2 - Material Test Certificate and calibration Certificate for all gauges to be submitted by Vendor.

3 - Tag plate as per Specification for Instrumentation, shall be stainless steel 304 SS (VTC). Following details shall be engraved on them:

- Tag Number
- Range Limit
- Service
- Manufacture Model

4 - Environmental condition for field instrumentation of Binak oilfield shall be considered as per the following (According to "BK-GNRL-PEDCO-000-PR-DB-0001: Process Basis Of Design"):

Maximum ambient temperature: 50 (°C)
 Minimum ambient temperature: 5 (°C)
 Maximum steel surface exposed to sun: 85 (°C)
 Maximum summer dry bulb: 50 (°C)
 DB/RH for Summer HVAC Design: 41 °C / 61 %
 DB FOR Winter HVAC Design: 6 °C

Relative Humidity:

- Maximum Design relative humidity (%): 100
- Minimum Design relative humidity (%): 0

5- Gauge cock valve shall be quick closing and lever operated.

6- Each section of Level gauges shall have a visible length of approximately 300mm.

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 	
	DATA SHEETS FOR LEVEL GAUGES								
شماره پیمان: 053 - 073 - 9184	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته IN	نوع مدرک DT	سریال 0003	نسخه D05	شماره صفحه: 5 از 7

LEVEL GAUGE				
GENERAL DATA	1	Tag No.		SEE PAGE 6
	2	P& ID		SEE PAGE 6
	3	Equipment No.		SEE PAGE 6
	4	Area Clacification		Zone 2, IIA T3 (Note 2)
	5			
PROCESS CONDITION	6	Upper Fluid	Lower Fluid	SEE PAGE 6
	7	Ope. Temp.	Des. Temp. (°C)	SEE PAGE 6
	8	Ope. Press.	Des. Press. (barg)	SEE PAGE 6
	9	Upper Density	Lower Density (kg/m ³)	SEE PAGE 6
	10	Visible Length	(mm)	SEE PAGE 6
GAUGE	11	Type	Gauge Glass Type	SEE PAGE 6
	12	Centre - Centre		SEE PAGE 6
	13	Size/Section		SEE PAGE 6
	14	Rating (lbs)/Finish Flange		SEE PAGE 6
	15	Vessel Connection		SEE PAGE 6
	16	Process Connection (Note 1)		2" Flanged
	17	Body Material		CS-A216 GR WCB
	18	Connection Arrangement		Side-Side
	19	Float Type		N/A
	20	Float Material		N/A
	21	Illuminator		N/A
	22	Power Supply		N/A
	23	Electrical Connection		N/A
GAUGE COCK	24	Electrical Certification		N/A
	25	Cable Type		N/A
	26	Ingress Protection		IP-65as minimum
	27	Type		Ball valve
	28	Body Material	Trim Material	Forged Carbon Steel
	29	Seat	Safety Ball	Double Seat
	30	Gauge Conn.		VTA
OPTIONS	31	Bonnet		Screwed
	32	Ball Check		Required
	33	Renewable Seat		No
	34	Construction		VTA
PURCHASING DATA	35	Drain Valve	Drain Conn.	Required
	36	Vent Valve	Vent Conn.	Required
	37	X Ray Inspection		No
	38	NACE Requirements		SEE PAGE 6
PURCHASING DATA	39	Model		Will be finalized later
	40	Supplier		Will be finalized later

NOTES:

VTA : Vendor To Advise

1- Refer to Typical Hookup Drawing for Detail of Installation Doc No. "BK-GCS-PEDCO-120-IN-DG-0002"

2- All Level Gauges to be considered for not transparent fluid.

DATA SHEETS FOR LEVEL GAUGES

شماره پیمان:	نسخه	سرآل	نوع مدرک	رشته	تجهیزات	صادر کننده	بسته کاری	پروژه
	D05	0003	DT	IN	120	PEDCO	GCS	BK

Rev.	Item No.	Tag No.	P&ID No.	Equipment No.	Service	Viscosity	Fluid		Phase		Design Pressure (barg)	Operating Pressure (barg)	Design Temp. (°C)	Operating Temp. (°C)	Density (kg/m³)		Visible Length (mm)	Type (Note 2)	C-C (mm)	Section * Size Type of Glass	Qty. of connection	Size	Flange Rating/ Finish	Thiminator	Nace	Remark
							Upper	Lower	Upper	Lower					Upper	Lower										
	1	LG-2111A	BK-GCS-PEDCO-120-PR-P1-0004 (1 of 2) (Rev:07)	V-2104	SLUG CATCHER DRUM	0.766	PROCESS GAS	HYDROCARBON DRAIN	G	L	F.V/9	5.5	85	32	6.21	845.55	1400	REFLEX	1650 (VTC)	4×9	2	2"	300#/RF	NO	YES	LG-2111 Part 1
	2	LG-2111B	BK-GCS-PEDCO-120-PR-P1-0004 (1 of 2) (Rev:07)	V-2104	SLUG CATCHER DRUM	0.766	PROCESS GAS	HYDROCARBON DRAIN	G	L	F.V/9	5.5	85	32	6.21	845.55	1400	REFLEX	1650 (VTC)	4×9	2	2"	300#/RF	NO	YES	LG-2111 Part 2
	2	LG-2111C	BK-GCS-PEDCO-120-PR-P1-0004 (1 of 2) (Rev:07)	V-2104	SLUG CATCHER DRUM	0.766	PROCESS GAS	HYDROCARBON DRAIN	G	L	F.V/9	5.5	85	32	6.21	845.55	1400	REFLEX	1650 (VTC)	4×9	2	2"	300#/RF	NO	YES	LG-2111 Part 3
	6	LG-2116	BK-GCS-PEDCO-120-PR-P1-0005 (Rev:07)	V-2105	INLET KNOCK OUT DRUM	0.690	PROCESS GAS	HYDROCARBON DRAIN	G	L	F.V/9	5.3	85	37.170	6.16	842.58	1040	REFLEX	1300 (VTC)	3×9	2	2"	300#/RF	NO	YES	
	7	LG-2121A	BK-GCS-PEDCO-120-PR-P1-0006 (1 of 3) (Rev:07)	V-2101-A	1ST STAGE GAS COMPRESSION SUCTION DRUM TRAIN 6A	0.690	PROCESS GAS	HYDROCARBON DRAIN	G	L	F.V/9	5.1	85	36.92	5.97	842.66	1040	REFLEX	1300 (VTC)	3×9	2	2"	300#/RF	NO	YES	
	8	LG-2121B	BK-GCS-PEDCO-120-PR-P1-0006 (2 of 3) (Rev:07)	V-2101-B	1ST STAGE GAS COMPRESSION SUCTION DRUM TRAIN 6B	0.690	PROCESS GAS	HYDROCARBON DRAIN	G	L	F.V/9	5.1	85	36.92	5.97	842.66	1040	REFLEX	1300 (VTC)	3×9	2	2"	300#/RF	NO	YES	
	9	LG-2121C	BK-GCS-PEDCO-120-PR-P1-0006 (3 of 3) (Rev:07)	V-2101-C	1ST STAGE GAS COMPRESSION SUCTION DRUM TRAIN 6C	0.690	PROCESS GAS	HYDROCARBON DRAIN	G	L	F.V/9	5.1	85	36.92	5.97	842.66	1040	REFLEX	1300 (VTC)	3×9	2	2"	300#/RF	NO	YES	
	10	LG-2131A	BK-GCS-PEDCO-120-PR-P1-0009 (1 of 3) (Rev:07)	V-2102-A	2ND STAGE GAS COMPRESSOR SUCTION DRUM TRAIN 6A	0.440	PROCESS GAS	HYDROCARBON DRAIN	G	L	F.V/22	18.3	115.4	60	18.3	829.09	1040	REFLEX	1300 (VTC)	3×9	2	2"	300#/RF	NO	YES	
	11	LG-2131B	BK-GCS-PEDCO-120-PR-P1-0009 (2 of 3) (Rev:07)	V-2102-B	2ND STAGE GAS COMPRESSOR SUCTION DRUM TRAIN 6B	0.440	PROCESS GAS	HYDROCARBON DRAIN	G	L	F.V/22	18.3	115.4	60	18.3	829.09	1040	REFLEX	1300 (VTC)	3×9	2	2"	300#/RF	NO	YES	
	12	LG-2131C	BK-GCS-PEDCO-120-PR-P1-0009 (3 of 3) (Rev:07)	V-2102-C	2ND STAGE GAS COMPRESSOR SUCTION DRUM TRAIN 6C	0.440	PROCESS GAS	HYDROCARBON DRAIN	G	L	F.V/22	18.3	115.4	60	18.3	829.09	1040	REFLEX	1300 (VTC)	3×9	2	2"	300#/RF	NO	YES	
	13	LG-2141	BK-GCS-PEDCO-120-PR-P1-0012 (Rev:07)	V-2103	GAS COMPRESSION DISCHARGE DRUM	0.490	PROCESS GAS	HYDROCARBON DRAIN	G	L	F.V/62	54.1	130	60	59.63	982.02	1040	REFLEX	1300 (VTC)	3×9	2	2"	600#/RF	NO	YES	
	14	LG-2162A	BK-GCS-PEDCO-120-PR-P1-0014 (Rev:07)	TK-2102	LEAN GLYCOL STORAGE TANK	6.630	NITROGEN GAS	TRIETHYLENE GLYCOL	G	L	FULL OF WATER + 100MMBARG-7MMBARG	0.1	85	AMB	1.035	1100-1135	1400	REFLEX	1650 (VTC)	4×9	2	2"	300#/RF	NO	NO	LG-2162 Part 1
	15	LG-2162B	BK-GCS-PEDCO-120-PR-P1-0014 (Rev:07)	TK-2102	LEAN GLYCOL STORAGE TANK	6.630	NITROGEN GAS	TRIETHYLENE GLYCOL	G	L	FULL OF WATER + 100MMBARG-7MMBARG	0.1	85	AMB	1.035	1100-1135	1400	REFLEX	1650 (VTC)	4×9	2	2"	300#/RF	NO	NO	LG-2162 Part 2
	16	LG-2162C	BK-GCS-PEDCO-120-PR-P1-0014 (Rev:07)	TK-2102	LEAN GLYCOL STORAGE TANK	6.630	NITROGEN GAS	TRIETHYLENE GLYCOL	G	L	FULL OF WATER + 100MMBARG-7MMBARG	0.1	85	AMB	1.035	1100-1135	1400	REFLEX	1650 (VTC)	4×9	2	2"	300#/RF	NO	NO	LG-2162 Part 3
D05	17	LG-2201	BK-GCS-PEDCO-120-PR-P1-0015 (2 of 2) (Rev:07)	V-2203	INSTRUMENT AIR RECEIVER	0.490	INSTRUMENT AIR	WATER	G	L	12.5	8	85	65	9.28	976.76	680	REFLEX	950 (VTC)	2×9	2	2"	300#/RF	NO	NO	△D05
D05	18	LG-2211	BK-GCS-PEDCO-120-PR-P1-0016 (Rev:07)	V-2204	NITROGEN RECEIVER	0.490	NITROGEN GAS	WATER	G	L	12.5	8	85	60	9.13	976.76	680	REFLEX	950 (VTC)	2×9	2	2"	300#/RF	NO	NO	
	19	LG-2221A	BK-GCS-PEDCO-120-PR-P1-0017 (2 of 2) (Rev:07)	V-2202	CLOSED DRAIN DRUM	0.890	FLARE GAS	HYDROCARBON DRAIN	G	L	F.V/6	ATM	85	AMB	5.19	978.63	1400	REFLEX	1650 (VTC)	4×9	2	2"	300#/RF	NO	YES	
	20	LG-2221B	BK-GCS-PEDCO-120-PR-P1-0017 (2 of 2) (Rev:07)	V-2202	CLOSED DRAIN DRUM	0.890	FLARE GAS	HYDROCARBON DRAIN	G	L	F.V/6	ATM	85	AMB	5.19	978.63	1400	REFLEX	1650 (VTC)	4×9	2	2"	300#/RF	NO	YES	LG-2221 Part 2
	21	LG-2251	BK-GCS-PEDCO-120-PR-P1-0020 (2 of 3) (Rev:07)	V-2201	LP FLARE K.O. DRUM	0.460	FLARE GAS	HYDROCARBON DRAIN	G	L	F.V/6	0.5	85	32	5.19	978.63	680	REFLEX	950 (VTC)	2×9	2	2"	300#/RF	NO	YES	
	22	LG-2271	BK-GCS-PEDCO-120-PR-P1-0022 (Rev:07)	V-2205	FUEL GAS K.O. DRUM	0.690	FUEL GAS	HYDROCARBON DRAIN	G	L	F.V/9	4.9	85	48	5.77	842.66	1040	REFLEX	1300 (VTC)	3×9	2	2"	300#/RF	NO	YES	
	23	LG-2281	BK-GCS-PEDCO-120-PR-P1-0023 (Rev:07)	V-2206A	DIESEL OIL DRUM	N.A.	DIESEL OIL	DIESEL OIL	G	L	ATM+FULL OF LIQUID	ATM	85	AMB	1	850	1760	REFLEX	2000 (VTC)	5×9	2	2"	300#/RF	NO	NO	NOTE *

(1) VTA: Vendor To Advise

VTC: Vendor To Confirm

G: Gas

L: Liquid

(2) Armored type level Gauge to be used.

NOTE *: Considering that the equipment is 15 cm shorter than tank height, it is necessary to install this equipment 5 cm higher than the bottom of tank



NISOC

تکهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR LEVEL GAUGES

شماره پیمان:

053 - 073 - 9184

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

شماره صفحه: 7 از 7

BK

GCS

PEDCO

120

IN

DT

0003

D05

Datashet for Float and Cable Level Gauge

1	Tag number	LG-2301	LG-2302
2	Quantity	1	1
3	P&ID number	BK-GCS-PEDCO-120-SA-PI-0001 (1 of 2)	BK-GCS-PEDCO-120-SA-PI-0001 (1 of 2)
4	Tag vessel / Class	TK-2301-A	TK-2301-B
5	NACE MR 0175	No	No
6	Manufacturer	VTA	VTA
7	Series / Model no	VTA	VTA
8	PROCESS DATA		
9	Fluid	Fire Water	Fire Water
11	Design/Operating Pressure (Barg)	Full Of Water /ATM	3.5 /2.3
12	Design/Operating Temperature (°C)	85° C/ AMB	85° C/ AMB.
13	Viscosity (cP)	1.02	1.02
13	Density (Kg/m3)	1000	1000
14	GENERAL FEATURES		
15	Type :	Float and Cable Level Gauge	Float and Cable Level Gauge
16	Float Material	PVC	PVC
17	Float Dimention	VTA	VTA
18	Visible length / Cable Length	8500 mm / VTA	8500 mm / VTA
19	Cable Material	VTA	VTA
23	Accuracy	2%of Full Scale	2%of Full Scale
24	ISOLATION VALVES		
25	Angle valve offset type (integrally mounted)	N/A	N/A
26	1/4 turn operating	N/A	N/A
27	Simple seat / Double seat	-	-
28	Safety check ball	No	No
29	Isolation Valve/ material	N/A	N/A
31	CONNECTION PROCESS		
32	Flanges / Stand pipe mounting	Flanged, 6"	Flanged, 6"
33	Rating / Flange finish	300#	300#
34	Flange material	A-105	A-105
35	Stamped tag number	N/A	N/A
36	Drain Connection/ Material	N/A	N/A
37	Vent Connection / Material	N/A	N/A
38	Connection orientation	Hanked type through cable and spool	Hanked type through cable and spool
39	Cock Valve	N/A	N/A
40	ACCESSORIES		
41	Access Plat Form	Yes	N/A
42	Ingress Protection	IP 65 min	IP 65 min
43	Cable and Spool	Yes	Yes
44	Cable entry	-	-
45	Cable gland	-	-
46	Electrical Protection	-	-

General Notes :

1- All wetted part material shall be SS 316.

VTA : Vendor To Advise

2-Any Installation Accessories (Rod , Flange , Ruler ,....) To Be Provided By Vendor.