



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR CONTROL/REGULATOR VALVES

شماره پیمان:

053 - 073 - 9184

پروژه

BK

بسته کاری

GCS

صادر کننده

PEDCO

تهیهات

120

رشته

IN

نوع مدرک

DT

سریال

0011

نسخه

D02

شماره صفحه: 1 از 21

طرح نگهداشت و افزایش تولید 27 مخزن

DATA SHEETS FOR CONTROL/REGULATOR VALVES

نگهداشت و افزایش تولید میدان نفتی بینک

D02	JUN.2023	IFA	P.Hajisadeghi	M.Fakharian	A.M.Mohseni	
D01	MAY.2023	IFA	P.Hajisadeghi	M.Fakharian	A.M.Mohseni	
D00	JUN.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-708932

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 CONTROL/REGULATOR VALVES

شماره پیمان:

053 - 073 - 9184

پروژه

پسته کاری

صادر کننده

تسهيلات

رشته

نوع مدرک

سریال

نسخه

BK

GCS

PEDCO

120

IN

DT

0011

D02

شماره صفحه: 2 از 21

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04
1	X	X	X		
2	X	X	X		
3	X	X			
4	X	X			
5	X	X	X		
6	X	X	X		
7	X	X	X		
8	X	X	X		
9	X	X	X		
10	X	X	X		
11	X	X	X		
12	X	X	X		
13	X	X	X		
14	X	X	X		
15	X	X	X		
16	X	X	X		
17	X	X	X		
18	X	X	X		
19		X	X		
20			X		
21			X		
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
64					

Page	D00	D01	D02	D03	D04
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					
90					
91					
92					
93					
94					
95					
96					
97					
98					
99					
100					
101					
102					
103					
104					
105					
106					
107					
108					
109					
110					
111					
112					
113					
114					
115					
116					
117					
118					
119					
120					
121					
122					
123					
124					
125					
126					
127					
128					

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک										
	DATA SHEETS FOR CONTROL/REGULATOR VALVES										
	شماره پیمان:	پروژه	بسته کاری	صادر کننده	تهیهات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 3 از 21	
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0011	D02			

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
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
Instrument & Control System Design Criteria	BK-GCS-PEDCO-120-IN-DC-0002
Specification For Control Valves	BK-GNRAL-PEDCO-000-IN-SP-0005
Calculation Note For Control Valve Sizing	BK-GCS-PEDCO-120-PR-CN-0006

 NISOC		تگداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 	
		DATA SHEETS FOR CONTROL/REGULATOR VALVES								
شماره پیمان: 053 - 073 - 9184	پروژه	بسته کاری	صادرکننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 4 از 21	
	BK	GCS	PEDCO	120	IN	DT	0011	D02		

GENERAL NOTES:

- 1-The electrical equipment shall be suitable for hazardous area Zone 2, gas group IIB, temperature class T4.
- 2-Flow direction shall be specified on the valve body.
- 3- All flanges shall be in accordance with ASME B16.5.
- 4- Each valve shall be furnished with name plate as per "specification for control valves" with No. "BK-GNRL-PEDCO-000-IN-SP-0002 ".
- 5- The following items shall be considered:
 - Design standard for globe valves: ips-m-in-160, bs1873
 - Design standard for plug valves: ips-m-in-160 api 599
 - Valve bonnet and bottom flanges shall be of bolted construction with fully retained gaskets
 - Trim and seat shall be easily replaceable. seat should be damped or backed up by a seat retainer
 - Packing material / packing construction: teflon/chevron type
 - Material test certificate
 - Dimensional check
 - Hydrostatic test
 - Performance and mechanical operation test
 - Testy certificate including pressure test, visual, dimensional and nude
 - Seal leakage test
 - Casting examination for valves 6 inches and larger in class 600 and higher as per ansi b 16.34
 - Casting quality valves shall ndt(rt tested)
 - Mill test certificate for all metallic parts
- 6- Screwed bolt-type limit stops, e.g. on the control valve stem, adjustable over the full length of the stroke shall be applied. the vendor shall set the limit/travel stops at the required minimum or maximum valve opening.
- 7- 2 Nos. Eye-Bolt and 2 Nos. Jack Bolt for each valve to be supplied by vendor.
- 8 - Environmental condition for field instrumentation of Binak Oilfield shall be considered as per the followings:

• Minimum winter dry bulb: 0.0 °C • Maximum winter relative humidity: 100 • Buildings heating, design dry bulb: 6.0 °C • Design winter dry bulb: -1.0 °C • Design winter relative humidity: 100% • Maximum summer dry bulb: 50.26°C • Maximum summer relative humidity: 100% • Buildings cooling, design dry bulb: 41.0 °C	• Design summer dry bulb: 77.0 °C • Maximum sun temperature: 85.0 °C • Maximum Shade Temperature: 52.0 °C • Minimum Design relative humidity: 0 • Min. average ambient temperature (°C): 8.35 °C • Max. Average ambient temperature (°C): 35 °C • Min .Absolut air temperature(°C): 0 °C • Max .Absolut air temperature(°C): 47.09 °C
---	--

Relative Humidity:

 - Maximum Range: 92.27%
 - Average Relative Humidity 54.7%
 - Minimum Relative Humidity: 34.94%
- 9- All Control valves shall be IP 65 and weather proof.
- 10- Standard ISA75.01 for sizing of Control valves shall be considered by vendor.
- 11- In accordance to IPS-E-IN-160, Control valve body size normally shall not be less than half of normal line size.
- 12- Quick Change Trim type control valve to be designed by vendor.
- 13- Main parameters such as Noise level, vibration, actuator sizing, valve construction material, CV factor, Fluid specification, ... to be specified as per standard by vendor.
- 14- The stroking time shall be lower than 5 second for valves up to 4" and 1 second per inch diameter for bigger ones. (VTC)
- 15- Actuators shall be sized for a minimum air pressure of 3 barg. The normal operating pressure is 4.5 barg, and the maximum operating pressure is 8 barg. The capacity of the secured instrument air buffer vessel shall be sized for a minimum instrument air supply pressure of 3 barg.
- 16- Body color of valves shall be selected same as pipe color and actuator shall be green . For more details refer to the latest revision of "Specification For Painting Doc No."BK-GNRL-PEDCO-000-PI-SP-0006 ".
- 17- As per IPS-IN-160 test pressures shall be determined by the following relationships:
 - a) Shell test: $1.5 \times$ maximum permissible, working pressure at 20°C.
 - b) Disk strength test (applicable to valves 14 inches and larger): $1.5 \times$ maximum permissible working pressure at 20°C.
 - c) Seat test: $1.1 \times$ maximum permissible working pressure at 20°C.
- 18- The software using for sizing control valves is Fisher.

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 			
		DATA SHEETS FOR CONTROL/REGULATOR VALVES									
شماره پیمان: 053 - 073 - 9038		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 5 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D02		
DATA SHEETS FOR FLOW CONTROL VALVES											
GENERAL	1	Tag No.				FCV-2101					
	2	Service				Gas Compression Inlet Gas Pipeline (Binak)					
	3	Line No.		P&ID No.		GAS-111-0001-AN07-6"-PT		BK-GCS-PEDCO-120-PR-PI-0002-D06			
	4	Area Classification				Zone2, IIB T4					
	5	Ambient Temperature		°C	Min.	Max.	5		50		
	6	Available Air Supply Pressure		barg	Min.	Max.	4.5		8		
	7	Nace Requirement:				Required					
PIPE & LINE	8	Pipe Class		Pipe Sch.		AN07		SCH.80			
	9	Pipe Line Insulation Line Size		Pipe Material		PT / 6"		ASTM A106 Gr.B , B36.10M			
PROCESS CONDITIONS	10	Fluid				Gas					
	11	State				Gas					
	12	Shut Off Pressure delta P (BARG)				18.2					
	13					Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)				kg/h	7220.5	6564.1	1969.2		
	15	Inlet Pressure				bar-g	6.5	6.5	6.5		
	16	Pressure Drop				bar	1	1	1		
	17	Inlet Temperature(max)				°C	46.11	46.11	46.11		
	18	Liquid/ GAS Specific Gravity (G)				0.91					
	19	Compressibility Factor(Z)(vapor/water/oil)				0.970 / - / -					
	20	Viscosity (vapour/water/oil)				cP	0.012 / - / -				
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)				1.225 / -					
	CALCULATED RESULTS	22	Vapour Pressure				bar-g				
23		Critical Pressure (liquid)				bar-a					
24		Flow Coefficient Cv				-					
25		Travel				%					
BODY AND TRIM (Note 6)	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)		
	27	Body size		4" (VTC)		POSITIONER (Note 5)	50	Type			
	28	Rated Cv		(NOTE 4 in Below Table)			51	Input Signal			
	29	End conn. & Rating		4" # 300			52	Power Supply			
	30	Body/Bonnet Material		ASTM A216 GR. WCB			53	Electrical Connection			
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet			54	Increase/Decrease Air			
	32	Flow Direction		(NOTE 4 in Below Table)		55	Lock Last Position				
	33	Packing Material		P.T.F.E.		56	Output Signal				
	34	Trim Type		SINGLE SEATED/CAGE		57	I.P./Ex.Protect.	Gauge	IP65 / EExia / Yes		
	35	Characteristic		EQUAL PERCENTAGE (VTC)		58	MFR	Model	(NOTE 4 in Below Table)		
	36	Guiding		(NOTE 4 in Below Table)		SOLENOID VALVE	59	Type	Qty.	N/A / N/A	
	37	Rated Travel		(NOTE 4 in Below Table)			60	MFR	Model	N/A / N/A	
	38	Plug/Disk Material		SS316 (Note 6)			61	I.P.	Ex.Protect.	N/A / N/A	
	39	Seat Material		NO. 12 (Note 8)			62	MFR	Model	N/A / N/A	
	ACTUATOR	40	Cage/Guid Material		SS316 (Note 6)		SWITCHES	63	Type	Qty.	N/A / N/A
		41	Stem Material		SS316 (Note 6)			64	Power Supply		
		42	Trim Material		SS316 (Note 6)			65	Contacts / Rating		
43		MFR	Model	(NOTE 4 in Below Table)		66		Switching Position			
44		Size	Eff.Area	(NOTE 4 in Below Table)		67	I.P.	Ex.Protect.	N/A / N/A		
45		Air Failure	Handwheel	FAIL CLOSE / TOP MOUNTED		68	MFR	Model	N/A / N/A		
46		Air Action	Orientation	AIR TO OPEN / VERT. UP		AIR SET	69	Set Pressure			
47		Actuator Type		Pneumatic Diaphragm Actuators			70	Filter	Gauge	Yes / Yes	
48		AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table)	7.5	8.5		71	Pnumatic Conn.			
49		MFR	Model	(NOTE 4 in Below Table)			72	MFR	Model	(NOTE 4 in Below Table)	
PURCHASE	Manufacturer		(NOTE 4 in Below Table)		TESTS	73	Hydro. Pressure				
	Model		(NOTE 4 in Below Table)			74	Leakage Class				
						75	Performance Test				
						76	Internal Tubing				
						77	Tube Material				
OPTIONS					78	Cable Gland					
					79	Cable Entry					

NOTES:
 1- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001
 2- VTA: Vendor To Advise VTC: Vendor To Confirm
 3- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing .
 4- Shall be stated by vendor at quotation stage.
 5- Bypass line and isolating valve shall be considered for valve positioner by vendor.
 6- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellited facing shall be supplied for valve plugs and guides with solid stellited seat rings for Erosice or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005
 7- Valve sizing finalized by vendor and client agreement.
 8- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 			
		DATA SHEETS FOR CONTROL/REGULATOR VALVES									
شماره پیمان: 053 - 073 - 9038		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 6 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D02		
DATA SHEETS FOR FLOW CONTROL VALVES											
GENERAL	1	Tag No.				FCV-2102					
	2	Service				Gas Compression Inlet Gas Pipeline (Golghari)					
	3	Line No.		P&ID No.		GAS-111-0001-FN07-8"-PT			BK-GCS-PEDCO-120-PR-PI-0003-D06		
	4	Area Classification				Zone2, IIB T4					
	5	Ambient Temperature		°C	Min.	Max.	5		50		
	6	Available Air Supply Pressure		barg	Min.	Max.	4.5		8		
	7	Nace Requirement:				Required					
PIPE & LINE	8	Pipe Class		Pipe Sch.		FN07			SCH.100		
	9	Pipe Line Insulation Line Size		Pipe Material		PT / 8"			ASTM A106 Gr.B , B36.10M		
PROCESS CONDITIONS	10	Fluid				Gas					
	11	State				Gas					
	12	Shut Off Pressure delta P (BARG)				90					
	13					Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)				kg/h	12395.9	11269.0	3380.0		
	15	Inlet Pressure				bar-g	6.5	6.5	6.5		
	16	Pressure Drop				bar	1	1	1		
	17	Inlet Temperature(max)				°C	32	32	32		
	18	Liquid/ GAS Specific Gravity (G)				0.81					
	19	Compressibility Factor(Z)(vapour/water/oil)				0.973 / - / -					
	20	Viscosity (vapour/water/oil)				cP	0.011 / - / -				
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)				1.26 / - / -					
	CALCULATED RESULTS	22	Vapour Pressure				bar-g	-			
23		Critical Pressure (liquid)				bar-a	103.1				
24		Flow Coefficient Cv				-	188.06	170.86	51.33		
25		Travel				%	63	61	33		
	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)		
BODY AND TRIM (Note 6)	27	Body size		6" (VTC)		POSITIONER (Note 5)	50	Type	Electrical-Pneumatic(SMART)		
	28	Rated Cv		(NOTE 4 in Below Table)			51	Input Signal	4~20 mA-Hart		
	29	End conn. & Rating		6" # 600			52	Power Supply	24 VDC loop powered		
	30	Body/Bonnet Material		ASTM A216 GR. WCB			53	Electrical Connection	ISO M20 x 1.5		
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet			54	Increase/Decrease Air	Increase to Open(VTC)		
	32	Flow Direction		(NOTE 4 in Below Table)			55	Lock Last Position	(NOTE 4 in Below Table)		
	33	Packing Material		P.T.F.E.		56	Output Signal	3-15 Psi			
	34	Trim Type		SINGLE SEATED/CAGE		57	I.P./Ex.Protect.	Gauge	IP65 / EEExia	Yes	
	35	Characteristic		EQUAL PERCENTAGE (VTC)		58	MFR	Model	(NOTE 4 in Below Table)		
	36	Guiding		(NOTE 4 in Below Table)		SOLENOID VALVE	59	Type	Qty.	N/A	
	37	Rated Travel		(NOTE 4 in Below Table)			60	MFR	Model	N/A	
	38	Plug/Disk Material		SS316 (Note 6)			61	I.P.	Ex.Protect.	N/A	
	39	Seat Material		NO. 12 (Note 8)			62	MFR	Model	N/A	
	40	Cage/Guid Material		SS316 (Note 6)		SWITCHES	63	Type	Qty.	N/A	
	41	Stem Material		SS316 (Note 6)			64	Power Supply	N/A		
	42	Trim Material		SS316 (Note 6)			65	Contacts / Rating	N/A		
43	MFR	Model	(NOTE 4 in Below Table)		66		Switching Position	N/A			
ACTUATOR	44	Size	Eff.Area	(NOTE 4 in Below Table)		AIR SET	67	I.P.	Ex.Protect.	N/A	
	45	Air Failure	Handwheel	FAIL CLOSE TOP MOUNTED			68	MFR	Model	N/A	
	46	Air Action	Orientation	AIR TO OPEN VERT. UP			69	Set Pressure	Yes		
	47	Actuator Type		Pneumatic Diaphragm Actuators			70	Filter	Gauge	Yes	
	48	AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table)		7.5	8.5	71	Pnumatic Conn.	1/4 " NPTF		
	49	MFR	Model	(NOTE 4 in Below Table)		72	MFR	Model	(NOTE 4 in Below Table)		
TESTS	73	Hydro. Pressure				API 598					
	74	Leakage Class				ANSI IV					
	75	Performance Test				Required					
	OPTIONS	76	Internal Tubing				Required(with Double Ferrule Compression conn.)				
		77	Tube Material				316 S.S				
		78	Cable Gland				M20, Nickel plated brass				
PURCHASE	Manufacturer		(NOTE 4 in Below Table)		79	Cable Entry		M20 X 1.5			
	Model		(NOTE 4 in Below Table)								

NOTES:

- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001
- VTA: Vendor To Advise VTC: Vendor To Confirm
- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing .
- Shall be stated by vendor at quotation stage.
- Bypass line and isolating valve shall be considered for valve positioner by vendor.
- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellite facing shall be supplied for valve plugs and guides with solid stellite seat rings for Erosion or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005
- Valve sizing finalized by vendor and client agreement.
- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 			
		DATA SHEETS FOR CONTROL/REGULATOR VALVES									
شماره پیمان: 053 - 073 - 9038		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 7 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D02		
DATA SHEETS FOR FLOW CONTROL VALVES										D02	
GENERAL	1	Tag No.				FCV-2111					
	2	Service				Slug Catcher System					
	3	Line No.		P&ID No.		CDH-112-0012-CN05-4"-PT		BK-GCS-PEDCO-120-PR-PI-0004-D06(2/2)			
	4	Area Classification				Zone1, IIB T4					
	5	Ambient Temperature		°C	Min.	Max.	5		50		
	6	Available Air Supply Pressure		barg	Min.	Max.	4.5		8		
	7	Nace Requirement:				Required					
PIPE & LINE	8	Pipe Class		Pipe Sch.		CN05		SCH.40			
	9	Pipe Line Insulation Line Size		Pipe Material		PT / 4"		ASTM A106 Gr.B , B36.10M			
PROCESS CONDITIONS	10	Fluid				Liquid					
	11	State				Liquid					
	12	Shut Off Pressure delta P (BARG)				47.7					
	13					Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)				kg/hr	7873.8	7158.0	2505.3		
	15	Inlet Pressure				bar-g	19.5	19.5	19.5		
	16	Pressure Drop				bar	1	1	1		
	17	Inlet Temperature(max)				°C	32.1	32.1	32.1		
	18	Liquid Specific Gravity (G)				0.715					
	19	Compressibility Factor(Z)(vapor/water/oil)				-					
	20	Viscosity (vapor/water/oil)				cP	- / 0.373 / 1.319				
	21	Specific Heats Ratio(Cp/Cv) (vapor/liquid)				-	- / 1.223				
	CALCULATED RESULTS	22	Vapour Pressure				bar-a	6.5			
23		Critical Pressure (liquid)				bar-a	78.01				
24		Flow Coefficient Cv				-	10.8	9.81	3.43		
25		Travel				%	69	64	35		
26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)		MAX 85 dBA(VTC)		MAX 85 dBA(VTC)	
BODY AND TRIM (Note 6)	27	Body size		2" (VTC)		POSITIONER (Note 5)	50	Type	Electrical-Pneumatic(SMART)		
	28	Rated Cv		(NOTE 4 in Below Table)			51	Input Signal	4~20 mA-Hart		
	29	End conn. & Rating		2" # 300			52	Power Supply	24 VDC loop powered		
	30	Body/Bonnet Material		ASTM A216 GR. WCB			53	Electrical Connection	ISO M20 x 1.5		
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet			54	Increase/Decrease Air	Increase to Open(VTC)		
	32	Flow Direction		(NOTE 4 in Below Table)			55	Lock Last Position	(NOTE 4 in Below Table)		
	33	Packing Material		P.T.F.E.		56	Output Signal	3-15 Psi			
	34	Trim Type		SINGLE SEATED/CAGE		57	I.P./Ex.Protect.	Gauge	IP65 / EExia	Yes	
	35	Characteristic		EQUAL PERCENTAGE (VTC)		58	MFR	Model	(NOTE 4 in Below Table)		
	36	Guiding		(NOTE 4 in Below Table)		SOLENOID VALVE	59	Type	Qty.	N/A	N/A
	37	Rated Travel		(NOTE 4 in Below Table)			60	MFR	Model	N/A	N/A
	38	Plug/Disk Material		SS316 (Note 6)			61	I.P.	Ex.Protect.	N/A	N/A
39	Seat Material		NO. 12 (Note 8)		62		MFR	Model	N/A	N/A	
ACTUATOR	40	Cage/Guid Material		SS316 (Note 6)		SWITCHES	63	Type	Qty.	N/A	N/A
	41	Stem Material		SS316 (Note 6)			64	Power Supply	N/A		
	42	Trim Material		SS316 (Note 6)			65	Contacts / Rating	N/A		
	43	MFR	Model	(NOTE 4 in Below Table)			66	Switching Position	N/A		
	44	Size	Eff.Area	(NOTE 4 in Below Table)		67	I.P.	Ex.Protect.	N/A	N/A	
	45	Air Failure	Handwheel	FAIL CLOSE	TOP MOUNTED	AIR SET	68	MFR	Model	N/A	N/A
	46	Air Action	Orientation	AIR TO OPEN	VERT. UP		69	Set Pressure	Yes		
	47	Actuator Type		Pneumatic Diaphragm Actuators			70	Filter	Gauge	Yes	Yes
	48	AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table)		7.5		8.5	71	Pnumatic Conn.	1/4 " NPTF	
	49	MFR	Model	(NOTE 4 in Below Table)		TESTS	72	MFR	Model	(NOTE 4 in Below Table)	
PURCHASE	Manufacturer	(NOTE 4 in Below Table)		OPTIONS	73		Hydro. Pressure	API 598			
	Model	(NOTE 4 in Below Table)			74		Leakage Class	ANSI IV			
					75		Performance Test	Required			
					76	Internal Tubing	Required(with Double Ferrule Compression conn.)				
					77	Tube Material	316 S.S				
					78	Cable Gland	M20, Nickel plated brass				
					79	Cable Entry	M20 X 1.5				

NOTES:

- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001
- VTA: Vendor To Advise VTC: Vendor To Confirm
- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing .
- Shall be stated by vendor at quotaion stage.
- Bypass line and isolating valve shall be considered for valve positioner by vendor.
- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellited facing shall be supplied for valve plugs and guides with solid stellited seat rings for Erosice or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005
- Valve sizing finalized by vendor and client agreement.
- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 			
		DATA SHEETS FOR CONTROL/REGULATOR VALVES									
شماره پیمان: 053 - 073 - 9038		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 8 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D02		
DATA SHEETS FOR LEVEL CONTROL VALVES										D02	
GENERAL	1	Tag No.				LCV-2114					
	2	Service				Gas Compression Inlet Knock Out Drum to Closed Drain					
	3	Line No.		P&ID No.		CDH-111-0019-AS00-2"-NP		BK-GCS-PEDCO-120-PR-PI-0005-D06			
	4	Area Classification				Zone2, IIB T4					
	5	Ambient Temperature °C		Min.	Max.	5		50			
	6	Available Air Supply Pressure barg		Min.	Max.	4.5		8			
	7	Nace Requirement:				NOT Required					
PIPE & LINE	8	Pipe Class		Pipe Sch.		AS00		SCH.10S			
	9	Pipe Line Insulation Line Size		Pipe Material		NP / 2"		ASTM A312 TP 316L , B36.19M			
PROCESS CONDITIONS	10	Fluid				Liquid					
	11	State				Liquid					
	12	Shut Off Pressure delta P				13.9					
	13					Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)				kg/h	1119.5	1017.8	305.3		
	15	Inlet Pressure				bar-g	5.3	5.3	5.3		
	16	Pressure Drop				bar	4.3	4.3	4.3		
	17	Inlet Temperature(max)				°C	36.9	36.9	36.9		
	18	Liquid Specific Gravity (G)				0.842					
	19	Compressibility Factor(Z)(vapor/water/oil)				-					
	20	Viscosity (vapor/water/oil)				cP	1.025				
	21	Specific Heats Ratio(Cp/Cv) (vapor/liquid)				1.143					
	CALCULATED RESULTS	22	Vapour Pressure				bar-a	0.61			
23		Critical Pressure (liquid)				bar-a	221.4				
24		Flow Coefficient Cv				-	0.681	0.619	0.186		
25		Travel				%	19	16	-		
	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)		
BODY AND TRIM (Note 6)	27	Body size		1 1/2" (VTC)		POSITIONER (Note 5)	50	Type	Electrical-Pneumatic(SMART)		
	28	Rated Cv		(NOTE 4 in Below Table)			51	Input Signal	4~20 mA-Hart		
	29	End conn. & Rating		1 1/2" # 300			52	Power Supply	24 VDC loop powered		
	30	Body/Bonnet Material		A351 GR. CF3M			53	Electrical Connection	ISO M20 x 1.5		
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet			54	Increase/Decrease Air	Increase to Open(VTC)		
	32	Flow Direction		(NOTE 4 in Below Table)		55	Lock Last Position	(NOTE 4 in Below Table)			
	33	Packing Material		P.T.F.E.		56	Output Signal	3-15 Psi			
	34	Trim Type		SINGLE SEATED/CAGE		57	I.P./Ex.Protect.	Gauge	IP65 / EExia	Yes	
	35	Characteristic		EQUAL PERCENTAGE (VTC)		58	MFR	Model	(NOTE 4 in Below Table)		
	36	Guiding		(NOTE 4 in Below Table)		SOLENOID VALVE	59	Type	Qty.	N/A	
	37	Rated Travel		(NOTE 4 in Below Table)			60	MFR	Model	N/A	
	38	Plug/Disk Material		SS316 (Note 6)			61	I.P.	Ex.Protect.	N/A	
	39	Seat Material		NO. 12 (Note 8)			62	MFR	Model	N/A	
ACTUATOR	40	Cage/Guid Material		SS316 (Note 6)		SWITCHES	63	Type	Qty.	N/A	
	41	Stem Material		SS316 (Note 6)			64	Power Supply	N/A		
	42	Trim Material		SS316 (Note 6)			65	Contacts / Rating	N/A		
	43	MFR	Model	(NOTE 4 in Below Table)			66	Switching Position	N/A		
	44	Size	Eff.Area	(NOTE 4 in Below Table)		67	I.P.	Ex.Protect.	N/A		
	45	Air Failure	Handwheel	FAIL CLOSE TOP MOUNTED		68	MFR	Model	N/A		
	46	Air Action	Orientation	AIR TO OPEN VERT. UP		AIR SET	69	Set Pressure	Yes		
	47	Actuator Type		Pneumatic Diaphragm Actuators			70	Filter	Gauge	Yes	
	48	AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table) 7.5 8.5		71		Pnumatic Conn.	1/4 " NPTF			
	49	MFR	Model	(NOTE 4 in Below Table)			72	MFR	Model	(NOTE 4 in Below Table)	
						TESTS	73	Hydro. Pressure	API 598		
							74	Leakage Class	ANSI IV		
							75	Performance Test	Required		
							OPTIONS	76	Internal Tubing	Required(with Double Ferrule Compression conn.)	
								77	Tube Material	316 S.S	
78	Cable Gland	M20, Nickel plated brass									
PURCHASE	Manufacturer	(NOTE 4 in Below Table)		79	Cable Entry	M20 X 1.5					
	Model	(NOTE 4 in Below Table)									

NOTES:

- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001
- VTA: Vendor To Advise VTC: Vendor To Confirm
- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing .
- Shall be stated by vendor at quotation stage.
- Bypass line and isolating valve shall be considered for valve positioner by vendor.
- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellite facing shall be supplied for valve plugs and guides with solid stellite seat rings for Erosion or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005
- Valve sizing finalized by vendor and client agreement.
- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 			
		DATA SHEETS FOR CONTROL/REGULATOR VALVES									
شماره پیمان: 053 - 073 - 9038		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 9 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D02		
DATA SHEETS FOR PRESSURE CONTROL VALVES											
GENERAL		1 Tag No.		PCV-2135A							
		2 Service		2nd Stage Gas Compression Air Coolers (C-2102A)							
		3 Line No.		P&ID No.		GAS-111-0057A-FS00-6"-NP		BK-GCS-PEDCO-120-PR-PI-0011-D06(1/3)			
		4 Area Classification		Zone2, IIB T4							
		5 Ambient Temperature °C		Min.	Max.	5		50			
		6 Available Air Supply Pressure barg		Min.	Max.	4.5		8			
		7 Nace Requirement:		Not Required							
PIPE & LINE		8 Pipe Class		Pipe Sch.		FS00		SCH.40S			
		9 Pipe Line Insulation Line Size		Pipe Material		NP / 4"		ASTM A312 TP 316L , B36.19M			
PROCESS CONDITIONS		10 Fluid		Gas							
		11 State		Gas							
		12 Shut Off Pressure delta P (BARG)		62.4							
		13		Units	Max	Norm.	Min.				
		14 Flow Rate(vapor/water/oil)		kg/h	9530.0	8664.0	2166.0				
		15 Inlet Pressure		bar-g	54.1	54.1	54.1				
		16 Pressure Drop		bar	53.6	53.6	53.6				
		17 Inlet Temperature(max)		°C	60	60	60				
		18 Liquid Specific Gravity (G)									
		19 Compressibility Factor(Z)(vapor/water/oil)		0.822 / - / -							
		20 Viscosity (vapor/water/oil)		cP	0.014/ - / -						
		21 Specific Heats Ratio(Cp/Cv) (vapor/liquid)		1.457 / -							
		CALCULATED RESULTS		22 Vapour Pressure		bar-g					
23 Critical Pressure (liquid)				bar-a							
24 Flow Coefficient Cv				-		11.447		10.406		2.231	
25 Travel				%		51		49		11	
		26 Sound Pressure Level		dBA		MAX 85 dBA(VTC)		MAX 85 dBA(VTC)		MAX 85 dBA(VTC)	
BODY AND TRIM (Note 6)		27 Body size		3" (VTC)		POSITIONER (Note 5)		50 Type		Electrical-Pneumatic(SMART)	
		28 Rated Cv		(NOTE 4 in Below Table)				51 Input Signal		4~20 mA-Hart	
		29 End conn. & Rating		3" # 600				52 Power Supply		24 VDC loop powered	
		30 Body/Bonnet Material		A351 GR. CF3M				53 Electrical Connection		ISO M20 x 1.5	
		31 Body/Bonnet Type		GLOBE / Bolted Flange Bonnet				54 Increase/Decrease Air		Increase to Open(VTC)	
		32 Flow Direction		(NOTE 4 in Below Table)		55 Lock Last Position		(NOTE 4 in Below Table)			
		33 Packing Material		P.T.F.E.		56 Output Signal		3-15 Psi			
		34 Trim Type		SINGLE SEATED/CAGE		57 I.P./Ex.Protect. Gauge		IP65 / EEExia Yes			
		35 Characteristic		EQUAL PERCENTAGE (VTC)		58 MFR Model		(NOTE 4 in Below Table)			
		36 Guiding		(NOTE 4 in Below Table)		SOLENOID VALVE		59 Type Qty.		N/A N/A	
		37 Rated Travel		(NOTE 4 in Below Table)				60 MFR Model		N/A N/A	
		38 Plug/Disk Material		SS316 (Note 6)				61 I.P. Ex.Protect.		N/A N/A	
		39 Seat Material		NO. 12 (Note 8)				62 MFR Model		N/A N/A	
		40 Cage/Guid Material		SS316 (Note 6)		SWITCHES		63 Type Qty.		N/A N/A	
		41 Stem Material		SS316 (Note 6)				64 Power Supply		N/A	
		42 Trim Material		SS316 (Note 6)				65 Contacts / Rating		N/A	
43 MFR Model		(NOTE 4 in Below Table)		66 Switching Position				N/A			
ACTUATOR		44 Size Eff.Area		(NOTE 4 in Below Table)		AIR SET		67 I.P. Ex.Protect.		N/A N/A	
		45 Air Failure Handwheel		FAIL CLOSE TOP MOUNTED				68 MFR Model		N/A N/A	
		46 Air Action Orientation		AIR TO OPEN VERT. UP				69 Set Pressure		Yes	
		47 Actuator Type		Pneumatic Diaphragm Actuators				70 Filter Gauge		Yes Yes	
		48 AIR Press. Min/ Max/ Des. (Barg)		4 (Note 3 in Below Table) 7.5 8.5		71 Pnumatic Conn.		1/4 " NPTF			
		49 MFR Model		(NOTE 4 in Below Table)		72 MFR Model		(NOTE 4 in Below Table)			
						TESTS		73 Hydro. Pressure		API 598	
								74 Leakage Class		ANSI IV	
								75 Performance Test		Required	
						OPTIONS		76 Internal Tubing		Required(with Double Ferrule Compression conn.)	
								77 Tube Material		316 S.S	
PURCHASE		Manufacturer		(NOTE 4 in Below Table)		78 Cable Gland		M20, Nickel plated brass			
		Model		(NOTE 4 in Below Table)		79 Cable Entry		M20 X 1.5			
NOTES: 1- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001 2- VTA: Vendor To Advise VTC: Vendor To Confirm 3- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing . 4- Shall be stated by vendor at quotaion stage. 5- Bypass line and isolating valve shall be considered for valve positioner by vendor. 6- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellited facing shall be supplied for valve plugs and guides with solid stellited seat rings for Erosice or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005 7- Valve sizing finalized by vendor and client agreement. 8- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.											

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 			
		DATA SHEETS FOR CONTROL/REGULATOR VALVES									
شماره پیمان: 053 - 073 - 9038		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 10 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D02		
DATA SHEETS FOR PRESSURE CONTROL VALVES										D02	
GENERAL	1	Tag No.				PCV-2135B					
	2	Service				2nd Stage Gas Compression Air Coolers (C-2102B)					
	3	Line No.		P&ID No.		GAS-111-0057B-FS00-4"-NP		BK-GCS-PEDCO-120-PR-PI-0011-D06(2/3)			
	4	Area Classification				Zone2, IIB T4					
	5	Ambient Temperature		°C	Min.	Max.	5		50		
	6	Available Air Supply Pressure		barg	Min.	Max.	4.5		8		
	7	Nace Requirement:				Not Required					
PIPE & LINE	8	Pipe Class		Pipe Sch.		FS00		SCH.40S			
	9	Pipe Line Insulation Line Size		Pipe Material		NP / 4"		ASTM A312 TP 316L , B36.19M			
PROCESS CONDITIONS	10	Fluid				Gas					
	11	State				Gas					
	12	Shut Off Pressure delta P (BARG)				62.4					
	13					Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)				kg/h	9530.0	8664.0	2166.0		
	15	Inlet Pressure				bar-g	54.1	54.1	54.1		
	16	Pressure Drop				bar	53.6	53.6	53.6		
	17	Inlet Temperature(max)				°C	60	60	60		
	18	Liquid Specific Gravity (G)									
	19	Compressibility Factor(Z)(vapor/water/oil)				0.822 / - / -					
	20	Viscosity (vapor/water/oil)				cP	0.014/ - / -				
	21	Specific Heats Ratio(Cp/Cv) (vapor/liquid)				1.457 / -					
	CALCULATED RESULTS	22	Vapour Pressure				bar-g				
23		Critical Pressure (liquid)				bar-a	94.65				
24		Flow Coefficient Cv				-	11.447	10.406	2.231		
25		Travel				%	51	49	11		
	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)		
BODY AND TRIM (Note 6)	27	Body size		3" (VTC)		POSITIONER (Note 5)	50	Type	Electrical-Pneumatic(SMART)		
	28	Rated Cv		(NOTE 4 in Below Table)			51	Input Signal	4~20 mA-Hart		
	29	End conn. & Rating		3" # 600			52	Power Supply	24 VDC loop powered		
	30	Body/Bonnet Material		A351 GR. CF3M			53	Electrical Connection	ISO M20 x 1.5		
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet			54	Increase/Decrease Air	Increase to Open(VTC)		
	32	Flow Direction		(NOTE 4 in Below Table)		55	Lock Last Position	(NOTE 4 in Below Table)			
	33	Packing Material		P.T.F.E.		56	Output Signal	3-15 Psi			
	34	Trim Type		SINGLE SEATED/CAGE		57	I.P./Ex.Protect.	Gauge	IP65 / EExia	Yes	
	35	Characteristic		EQUAL PERCENTAGE (VTC)		58	MFR	Model	(NOTE 4 in Below Table)		
	36	Guiding		(NOTE 4 in Below Table)		SOLENOID VALVE	59	Type	Qty.	N/A	
	37	Rated Travel		(NOTE 4 in Below Table)			60	MFR	Model	N/A	
	38	Plug/Disk Material		SS316 (Note 6)			61	I.P.	Ex.Protect.	N/A	
	39	Seat Material		NO. 12 (Note 8)			62	MFR	Model	N/A	
ACTUATOR	40	Cage/Guid Material		SS316 (Note 6)		SWITCHES	63	Type	Qty.	N/A	
	41	Stem Material		SS316 (Note 6)			64	Power Supply	N/A		
	42	Trim Material		SS316 (Note 6)			65	Contacts / Rating	N/A		
	43	MFR	Model	(NOTE 4 in Below Table)			66	Switching Position	N/A		
	44	Size	Eff.Area	(NOTE 4 in Below Table)		67	I.P.	Ex.Protect.	N/A		
	45	Air Failure	Handwheel	FAIL CLOSE TOP MOUNTED		68	MFR	Model	N/A		
	46	Air Action	Orientation	AIR TO OPEN VERT. UP		AIR SET	69	Set Pressure	Yes		
	47	Actuator Type		Pneumatic Diaphragm Actuators			70	Filter	Gauge	Yes	
	48	AIR Press. Min/ Max/ Des. (Barg)	(NOTE 3 in Below Table)		71		Pnumatic Conn.	1/4 " NPTF			
	49	MFR	Model	(NOTE 4 in Below Table)			72	MFR	Model	(NOTE 4 in Below Table)	
TESTS	73	Hydro. Pressure				API 598					
	74	Leakage Class				ANSI IV					
	75	Performance Test				Required					
	OPTIONS	76	Internal Tubing				Required(with Double Ferrule Compression conn.)				
		77	Tube Material				316 S.S				
		78	Cable Gland				M20, Nickel plated brass				
		79	Cable Entry				M20 X 1.5				
PURCHASE	Manufacturer		(NOTE 4 in Below Table)								
	Model		(NOTE 4 in Below Table)								

NOTES:

- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001
- VTA: Vendor To Advise VTC: Vendor To Confirm
- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing .
- Shall be stated by vendor at quotation stage.
- Bypass line and isolating valve shall be considered for valve positioner by vendor.
- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellite facing shall be supplied for valve plugs and guides with solid stellite seat rings for Erosive or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005
- Valve sizing finalized by vendor and client agreement.
- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 			
		DATA SHEETS FOR CONTROL/REGULATOR VALVES									
شماره پیمان: 053 - 073 - 9038		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 11 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D02		
DATA SHEETS FOR PRESSURE CONTROL VALVES										D02	
GENERAL	1	Tag No.				PCV-2135C					
	2	Service				2nd Stage Gas Compression Air Coolers (C-2102C)					
	3	Line No.		P&ID No.		GAS-111-0057C-FS00-4"-NP		BK-GCS-PEDCO-120-PR-PI-0011-D06(3/3)			
	4	Area Classification				Zone2, IIB T4					
	5	Ambient Temperature		°C	Min.	Max.	5		50		
	6	Available Air Supply Pressure		barg	Min.	Max.	4.5		8		
	7	Nace Requirement:				Not Required					
PIPE & LINE	8	Pipe Class		Pipe Sch.		FS00		SCH.40S			
	9	Pipe Line Insulation Line Size		Pipe Material		NP / 4"		ASTM A312 TP 316L , B36.19M			
PROCESS CONDITIONS	10	Fluid				Gas					
	11	State				Gas					
	12	Shut Off Pressure delta P (BARG)				62.4					
	13					Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)				kg/h	9530.0	8664.0	2166.0		
	15	Inlet Pressure				bar-g	54.1	54.1	54.1		
	16	Pressure Drop				bar	53.6	53.6	53.6		
	17	Inlet Temperature(max)				°C	60	60	60		
	18	Liquid Specific Gravity (G)									
	19	Compressibility Factor(Z)(vapor/water/oil)				0.822 / - / -					
	20	Viscosity (vapor/water/oil)				cP	0.014/ - / -				
	21	Specific Heats Ratio(Cp/Cv) (vapor/liquid)				1.457 / -					
	CALCULATED RESULTS	22	Vapour Pressure				bar-g				
23		Critical Pressure (liquid)				bar-a	94.65				
24		Flow Coefficient Cv				-	11.447	10.406	2.231		
25		Travel				%	51	49	11		
	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)		
BODY AND TRIM (Note 6)	27	Body size		3" (VTC)		POSITIONER (Note 5)	50	Type	Electrical-Pneumatic(SMART)		
	28	Rated Cv		(NOTE 4 in Below Table)			51	Input Signal	4~20 mA-Hart		
	29	End conn. & Rating		3" # 600			52	Power Supply	24 VDC loop powered		
	30	Body/Bonnet Material		A351 GR. CF3M			53	Electrical Connection	ISO M20 x 1.5		
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet			54	Increase/Decrease Air	Increase to Open(VTC)		
	32	Flow Direction		(NOTE 4 in Below Table)			55	Lock Last Position	(NOTE 4 in Below Table)		
	33	Packing Material		P.T.F.E.		56	Output Signal	3-15 Psi			
	34	Trim Type		SINGLE SEATED/CAGE		57	I.P./Ex.Protect.	Gauge	IP65 / EEExia	Yes	
	35	Characteristic		EQUAL PERCENTAGE (VTC)		58	MFR	Model	(NOTE 4 in Below Table)		
	36	Guiding		(NOTE 4 in Below Table)		SOLENOID VALVE	59	Type	Qty.	N/A	N/A
	37	Rated Travel		(NOTE 4 in Below Table)			60	MFR	Model	N/A	N/A
	38	Plug/Disk Material		SS316 (Note 6)			61	I.P.	Ex.Protect.	N/A	N/A
	39	Seat Material		NO. 12 (Note 8)			62	MFR	Model	N/A	N/A
	40	Cage/Guid Material		SS316 (Note 6)		SWITCHES	63	Type	Qty.	N/A	N/A
	41	Stem Material		SS316 (Note 6)			64	Power Supply	N/A		
	42	Trim Material		SS316 (Note 6)			65	Contacts / Rating	N/A		
43	MFR	Model	(NOTE 4 in Below Table)		66		Switching Position	N/A			
ACTUATOR	44	Size	Eff.Area	(NOTE 4 in Below Table)		AIR SET	67	I.P.	Ex.Protect.	N/A	N/A
	45	Air Failure	Handwheel	FAIL CLOSE TOP MOUNTED			68	MFR	Model	N/A	N/A
	46	Air Action	Orientation	AIR TO OPEN VERT. UP			69	Set Pressure	Yes		
	47	Actuator Type		Pneumatic Diaphragm Actuators			70	Filter	Gauge	Yes	Yes
	48	AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table)		7.5	8.5	71	Pnumatic Conn.	1/4 " NPTF		
	49	MFR	Model	(NOTE 4 in Below Table)		72	MFR	Model	(NOTE 4 in Below Table)		
						TESTS	73	Hydro. Pressure	API 598		
							74	Leakage Class	ANSI IV		
							75	Performance Test	Required		
							OPTIONS	76	Internal Tubing	Required(with Double Ferrule Compression conn.)	
								77	Tube Material	316 S.S	
78	Cable Gland	M20, Nickel plated brass									
PURCHASE	Manufacturer	(NOTE 4 in Below Table)		79	Cable Entry	M20 X 1.5					
	Model	(NOTE 4 in Below Table)									

NOTES:

- All materials shall be in accordance with 'Piping Material Specification' ,Document No.: .BK-GCS-PEDCO-120-PI-SP-0001
- VTA: Vendor To Advise VTC: Vendor To Confirm
- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing .
- Shall be stated by vendor at quotaion stage.
- Bypass line and isolating valve shall be considered for valve positioner by vendor.
- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellited facing shall be supplied for valve plugs and guides with solid stellited seat rings for Erosice or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005
- Valve sizing finalized by vendor and client agreement.
- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 			
		DATA SHEETS FOR CONTROL/REGULATOR VALVES									
شماره پیمان: 053 - 073 - 9038		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 12 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D02		
DATA SHEETS FOR PRESSURE CONTROL VALVES											
GENERAL	1	Tag No.				PCV-2151					
	2	Service				Gas Compression Dehydration Package					
	3	Line No.		P&ID No.		GAS-111-0179-FN05-6"-PT		BK-GCS-PEDCO-120-PR-PI-0013-D06 (1/3)			
	4	Area Classification				Zone2, IIB T4					
	5	Ambient Temperature		°C	Min.	Max.	5		50		
	6	Available Air Supply Pressure		barg	Min.	Max.	4.5		8		
	7	Nace Requirement:				Required					
PIPE & LINE	8	Pipe Class		Pipe Sch.		FN05		SCH.80			
	9	Pipe Line Insulation Line Size		Pipe Material		PT / 6"		ASTM A106 Gr.B , ASME B36.10M			
PROCESS CONDITIONS	10	Fluid				Gas					
	11	State				Gas					
	12	Shut Off Pressure delta P (BARG)				90					
	13					Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)				kg/h	18887.9	17170.8	5151.3		
	15	Inlet Pressure				bar-g	52.9	52.9	52.9		
	16	Pressure Drop				bar	1	1	1		
	17	Inlet Temperature(max)				°C	59.42	59.42	59.42		
	18	Liquid Specific Gravity (G)									
	19	Compressibility Factor(Z)(vapor/water/oil)				0.83 / -					
	20	Viscosity (vapor/water/oil)				cP	0.0141 / - / -				
	21	Specific Heats Ratio(Cp/Cv) (vapor/liquid)				1.456 / -					
	CALCULATED RESULTS	22	Vapour Pressure				bar-g				
23		Critical Pressure (liquid)				bar-a	105.9				
24		Flow Coefficient Cv				-	96.547	87.644	26.124		
25		Travel				%	64	62	37		
BODY AND TRIM (Note 6)	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)		
	27	Body size		4" (VTC)		POSITIONER (Note 5)	50	Type	Electrical-Pneumatic(SMART)		
	28	Rated Cv		(NOTE 4 in Below Table)			51	Input Signal	4~20 mA-Hart		
	29	End conn. & Rating		4" # 600			52	Power Supply	24 VDC loop powered		
	30	Body/Bonnet Material		A216 GR. WCB			53	Electrical Connection	ISO M20 x 1.5		
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet			54	Increase/Decrease Air	Increase to Open(VTC)		
	32	Flow Direction		(NOTE 4 in Below Table)		55	Lock Last Position	(NOTE 4 in Below Table)			
	33	Packing Material		P.T.F.E.		56	Output Signal	3-15 Psi			
	34	Trim Type		SINGLE SEATED/CAGE		57	I.P./Ex.Protect.	Gauge	IP65 / EEExia	Yes	
	35	Characteristic		EQUAL PERCENTAGE (VTC)		58	MFR	Model	(NOTE 4 in Below Table)		
	36	Guiding		(NOTE 4 in Below Table)		SOLENOID VALVE	59	Type	Qty.	N/A	
	37	Rated Travel		(NOTE 4 in Below Table)			60	MFR	Model	N/A	
	38	Plug/Disk Material		SS316 (Note 6)			61	I.P.	Ex.Protect.	N/A	
	39	Seat Material		NO. 12 (Note 8)			62	MFR	Model	N/A	
	ACTUATOR	40	Cage/Guid Material		SS316 (Note 6)		SWITCHES	63	Type	Qty.	N/A
		41	Stem Material		SS316 (Note 6)			64	Power Supply	N/A	
		42	Trim Material		SS316 (Note 6)			65	Contacts / Rating	N/A	
43		MFR	Model	(NOTE 4 in Below Table)		66		Switching Position	N/A		
44		Size	Eff.Area	(NOTE 4 in Below Table)		67	I.P.	Ex.Protect.	N/A		
45		Air Failure	Handwheel	FAIL CLOSE TOP MOUNTED		68	MFR	Model	N/A		
46		Air Action	Orientation	AIR TO OPEN VERT. UP		AIR SET	69	Set Pressure	Yes		
47		Actuator Type		Pneumatic Diaphragm Actuators			70	Filter	Gauge	Yes	
48		AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table) 7.5 8.5		71		Pnumatic Conn.	1/4 " NPTF			
49		MFR	Model	(NOTE 4 in Below Table)			72	MFR	Model	(NOTE 4 in Below Table)	
PURCHASE	Manufacturer		(NOTE 4 in Below Table)		TESTS	73	Hydro. Pressure	API 598			
	Model		(NOTE 4 in Below Table)			74	Leakage Class	ANSI IV			
						75	Performance Test	Required			
						OPTIONS	76	Internal Tubing	Required(with Double Ferrule Compression conn.)		
							77	Tube Material	316 S.S		
					78	Cable Gland	M20, Nickel plated brass				
					79	Cable Entry	M20 X 1.5				

NOTES:

- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001
- VTA: Vendor To Advise VTC: Vendor To Confirm
- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing .
- Shall be stated by vendor at quotation stage.
- Bypass line and isolating valve shall be considered for valve positioner by vendor.
- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellite facing shall be supplied for valve plugs and guides with solid stellite seat rings for Erosion or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005
- Valve sizing finalized by vendor and client agreement.
- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 		
		DATA SHEETS FOR CONTROL/REGULATOR VALVES								
شماره پیمان: 053 - 073 - 9038		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 13 از 21
		BK	GCS	PEDCO	120	IN	DT	0011	D02	
DATA SHEETS FOR PRESSURE CONTROL VALVES										D02
GENERAL	1	Tag No.				PCV-2152				
	2	Service				Gas Compression Dehydration Package				
	3	Line No.		P&ID No.		GAS-111-0052-FN05-4"-PT		BK-GCS-PEDCO-120-PR-PI-0013-D03 (1/3)		
	4	Area Classification				Zone 2, IIB T4				
	5	Ambient Temperature		°C	Min.	Max.	5		50	
	6	Available Air Supply Pressure		barg	Min.	Max.	4.5		8	
	7	Nace Requirement:				Required				
PIPE & LINE	8	Pipe Class		Pipe Sch.		FN05		SCH.80		
	9	Pipe Line Insulation Line Size		Pipe Material		PT / 4"		ASTM A106 Gr.B , ASME B36.10M		
PROCESS CONDITIONS	10	Fluid				Gas				
	11	State				Gas				
	12	Shut Off Pressure delta P (BARG)				90				
	13					Units	Max	Norm.	Min.	
	14	Flow Rate(vapor/water/oil)				kg/h	18887.9	17170.8	5151.3	
	15	Inlet Pressure				bar-g	52.9	52.9	52.9	
	16	Pressure Drop				bar	52.4	52.4	52.4	
	17	Inlet Temperature(max)				°C	59.4	59.4	59.4	
	18	Liquid Specific Gravity (G)				-				
	19	Compressibility Factor(Z)(vapor/water/oil)				-				
	20	Viscosity (vapor/water/oil)				cP	0.0141 / - / -			
	21	Specific Heats Ratio(Cp/Cv) (vapor/liquid)				-				
	22	Vapour Pressure				bar-g	-			
23	Critical Pressure (liquid)				bar-a	105.9				
CALCULATED RESULTS	24	Flow Coefficient Cv				-	26.114	21.585	5.96	
	25	Travel				%	46	44	14	
	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	
BODY AND TRIM (Note 6)	27	Body size		3" (VTC)		POSITIONER (Note 5)	50	Type	Electrical-Pneumatic(SMART)	
	28	Rated Cv		(NOTE 4 in Below Table)			51	Input Signal	4~20 mA-Hart	
	29	End conn. & Rating		3" # 600			52	Power Supply	24 VDC loop powered	
	30	Body/Bonnet Material		A216 GR. WCB			53	Electrical Connection	ISO M20 x 1.5	
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet			54	Increase/Decrease Air	Increase to Open(VTC)	
	32	Flow Direction		(NOTE 4 in Below Table)			55	Lock Last Position	(NOTE 4 in Below Table)	
	33	Packing Material		P.T.F.E.		56	Output Signal	3-15 Psi		
	34	Trim Type		SINGLE SEATED/CAGE		57	I.P./Ex.Protect.	Gauge	IP65 / EEExia	Yes
	35	Characteristic		EQUAL PERCENTAGE (VTC)		58	MFR	Model	(NOTE 4 in Below Table)	
	36	Guiding		(NOTE 4 in Below Table)		SOLENOID VALVE	59	Type	Qty.	N/A
	37	Rated Travel		(NOTE 4 in Below Table)			60	MFR	Model	N/A
	38	Plug/Disk Material		SS316 (Note 6)			61	I.P.	Ex.Protect.	N/A
	39	Seat Material		NO. 12 (Note 8)			62	MFR	Model	N/A
	40	Cage/Guid Material		SS316 (Note 6)		SWITCHES	63	Type	Qty.	N/A
	41	Stem Material		SS316 (Note 6)			64	Power Supply	N/A	
	42	Trim Material		SS316 (Note 6)			65	Contacts / Rating	N/A	
43	MFR	Model	(NOTE 4 in Below Table)		66		Switching Position	N/A		
ACTUATOR	44	Size	Eff.Area	(NOTE 4 in Below Table)		67	I.P.	Ex.Protect.	N/A	
	45	Air Failure	Handwheel	FAIL CLOSE	TOP MOUNTED	68	MFR	Model	N/A	
	46	Air Action	Orientation	AIR TO OPEN	VERT. UP	AIR SET	69	Set Pressure	Yes	
	47	Actuator Type	Pneumatic Diaphragm Actuators		70		Filter	Gauge	Yes	
	48	AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table)	7.5	8.5		71	Pnumatic Conn.	1/4 " NPTF	
	49	MFR	Model	(NOTE 4 in Below Table)		72	MFR	Model	(NOTE 4 in Below Table)	
						TESTS	73	Hydro. Pressure	API 598	
							74	Leakage Class	ANSI IV	
							75	Performance Test	Required	
							OPTIONS	76	Internal Tubing	Required(with Double Ferrule Compression conn.)
								77	Tube Material	316 S.S
78	Cable Gland	M20, Nickel plated brass								
PURCHASE	Manufacturer	(NOTE 4 in Below Table)		79	Cable Entry	M20 X 1.5				
	Model	(NOTE 4 in Below Table)								

NOTES:

- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001
- VTA: Vendor To Advise VTC: Vendor To Confirm
- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing .
- Shall be stated by vendor at quotaion stage.
- Bypass line and isolating valve shall be considered for valve positioner by vendor.
- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellited facing shall be supplied for valve plugs and guides with solid stellited seat rings for Erosice or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005
- Valve sizing finalized by vendor and client agreement.
- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 		
		DATA SHEETS FOR CONTROL/REGULATOR VALVES								
شماره پیمان: 053 - 073 - 9038		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 14 از 21 D02
		BK	GCS	PEDCO	120	IN	DT	0011	D02	
DATA SHEETS FOR PRESSURE CONTROL VALVES										
GENERAL	1	Tag No.				PCV-2201				
	2	Service				Instrument & Plant Air System				
	3	Line No.		P&ID No.		PLA-112-0010-AN04-1 1/2"-PT		BK-GCS-PEDCO-120-PR-PI-0015-D06 (1/2)		
	4	Area Classification				Zone2, IIB T4				
	5	Ambient Temperature		°C	Min.	Max.	5		50	
	6	Available Air Supply Pressure		barg	Min.	Max.	4.5		8	
	7	Nace Requirement:				NOT Required				
PIPE & LINE	8	Pipe Class		Pipe Sch.		AN04		SCH.80		
	9	Pipe Line Insulation Line Size		Pipe Material		PT / 1 1/2"		ASTM A106 Gr.B , ASME B36.10M		
PROCESS CONDITIONS	10	Fluid				Gas				
	11	State				Gas				
	12	Shut Off Pressure delta P (BARG)				18.2				
	13					Units	Max	Norm.	Min.	
	14	Flow Rate(vapor/water/oil)				kg/h	42.7	38.8	11.6	
	15	Inlet Pressure				bar-g	9	9	9	
	16	Pressure Drop				bar	4.5	4.5	4.5	
	17	Inlet Temperature(max)				°C	65	65	65	
	18	GAS Specific Gravity (GI)				1				
	19	Compressibility Factor(Z)(vapor/water/oil)				0.998				
	20	Viscosity (vapor/water/oil)				cP	0.021			
	21	Specific Heats Ratio(Cp/Cv) (vapor/liquid)				1.410				
	CALCULATED RESULTS	22	Vapour Pressure				bar-g	-		
23		Critical Pressure (liquid)				bar-a	37.73			
24		Flow Coefficient Cv				-	0.281	0.255	0.077	
25		Travel				%	66	64	43	
	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	
BODY AND TRIM (Note 6)	27	Body size		1" (VTC)		POSITIONER (Note 5)	50	Type		Electrical-Pneumatic(SMART)
	28	Rated Cv		(NOTE 4 in Below Table)			51	Input Signal		4~20 mA-Hart
	29	End conn. & Rating		1" # 300			52	Power Supply		24 VDC loop powered
	30	Body/Bonnet Material		ASTM A 105			53	Electrical Connection		ISO M20 x 1.5
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet			54	Increase/Decrease Air		Increase to Open(VTC)
	32	Flow Direction		(NOTE 4 in Below Table)			55	Lock Last Position		(NOTE 4 in Below Table)
	33	Packing Material		P.T.F.E.		56	Output Signal		3-15 Psi	
	34	Trim Type		SINGLE SEATED/CAGE		57	I.P./Ex.Protect.	Gauge	IP65 / EEExia Yes	
	35	Characteristic		EQUAL PERCENTAGE (VTC)		58	MFR	Model	(NOTE 4 in Below Table)	
	36	Guiding		(NOTE 4 in Below Table)		59	Type	Qty.	N/A N/A	
	37	Rated Travel		(NOTE 4 in Below Table)		60	MFR	Model	N/A N/A	
	38	Plug/Disk Material		SS316 (Note 6)		61	I.P.	Ex.Protect.	N/A N/A	
	39	Seat Material		NO. 12 (Note 8)		62	MFR	Model	N/A N/A	
	40	Cage/Guid Material		SS316 (Note 6)		63	Type	Qty.	N/A N/A	
	41	Stem Material		SS316 (Note 6)		64	Power Supply		N/A	
	42	Trim Material		SS316 (Note 6)		65	Contacts / Rating		N/A	
ACTUATOR	43	MFR	Model	(NOTE 4 in Below Table)		66	Switching Position		N/A	
	44	Size	Eff.Area	(NOTE 4 in Below Table)		67	I.P.	Ex.Protect.	N/A N/A	
	45	Air Failure	Handwheel	FAIL CLOSE	TOP MOUNTED	68	MFR	Model	N/A N/A	
	46	Air Action	Orientation	AIR TO OPEN	VERT. UP	69	Set Pressure		Yes	
	47	Actuator Type		Pneumatic Diaphragm Actuators		70	Filter	Gauge	Yes Yes	
	48	AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table)	7.5	8.5	71	Pnumatic Conn.		1/4 " NPTF	
	49	MFR	Model	(NOTE 4 in Below Table)		72	MFR	Model	(NOTE 4 in Below Table)	
	TESTS	73	Hydro. Pressure		API 598		OPTIONS	76	Internal Tubing	
74		Leakage Class		ANSI IV		77		Tube Material		316 S.S
75		Performance Test		Required		78		Cable Gland		M20, Nickel plated brass
76		Internal Tubing		Required(with Double Ferrule Compression conn.)		79		Cable Entry		M20 X 1.5
77		Tube Material		316 S.S						
PURCHASE	Manufacturer		(NOTE 4 in Below Table)							
	Model		(NOTE 4 in Below Table)							
NOTES: 1- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001 2- VTA: Vendor To Advise VTC: Vendor To Confirm 3- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing . 4- Shall be stated by vendor at quotaion stage. 5- Bypass line and isolating valve shall be considered for valve positioner by vendor. 6- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellited facing shall be supplied for valve plugs and guides with solid stellited seat rings for Erosice or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005 7- Valve sizing finalized by vendor and client agreement. 8- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.										

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 		
		DATA SHEETS FOR CONTROL/REGULATOR VALVES								
شماره پیمان:		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 15 از 21
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D02	
DATA SHEETS FOR PRESSURE CONTROL VALVES										D02
GENERAL	1	Tag No.				PCV-2211				
	2	Service				Nitrogen Generation System				
	3	Line No.		P&ID No.		NIT-112-0021-AN01-2"-PT			BK-GCS-PEDCO-120-PR-PI-0016-D06	
	4	Area Classification				Zone2, IIB T4				
	5	Ambient Temperature		°C	Min.	Max.	5		50	
	6	Available Air Supply Pressure		barg	Min.	Max.	4.5		8	
	7	Nace Requirement:				NOT Required				
PIPE & LINE	8	Pipe Class		Pipe Sch.		AN01			SCH.40	
	9	Pipe Line Insulation Line Size		Pipe Material		PT / 2"			ASTM A106 Gr.B , ASME B36.10M	
PROCESS CONDITIONS	10	Fluid				Gas				
	11	State				Gas				
	12	Shut Off Pressure delta P (BARG)				18.2				
	13					Units	Max	Norm.	Min.	
	14	Flow Rate(vapor/water/oil)				kg/h	42.5	38.6	11.6	
	15	Inlet Pressure				bar-g	8	8	8	
	16	Pressure Drop				bar	0.5	0.5	0.5	
	17	Inlet Temperature(max)				°C	60	60	60	
	18	GAS Specific Gravity (GI)				0.966				
	19	Compressibility Factor(Z)(vapour/water/oil)				0.998 / - / -				
	20	Viscosity (vapour/water/oil)				cP	0.01999 / - / -			
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)				1.408 / -				
	CALCULATED RESULTS	22	Vapour Pressure				bar-g	-		
23		Critical Pressure (liquid)				bar-a	33.93			
24		Flow Coefficient Cv				-	0.749	0.681	0.204	
25		Travel				%	22	19	-	
26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)		
BODY AND TRIM (Note 6)	27	Body size		1 1/2" (VTC)		POSITIONER (Note 5)	50	Type		Electrical-Pneumatic(SMART)
	28	Rated Cv		(NOTE 4 in Below Table)			51	Input Signal		4~20 mA-Hart
	29	End conn. & Rating		1 1/2" # 300			52	Power Supply		24 VDC loop powered
	30	Body/Bonnet Material		ASTM A 105			53	Electrical Connection		ISO M20 x 1.5
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet			54	Increase/Decrease Air		Increase to Open(VTC)
	32	Flow Direction		(NOTE 4 in Below Table)			55	Lock Last Position		(NOTE 4 in Below Table)
	33	Packing Material		P.T.F.E.		56	Output Signal		3-15 Psi	
	34	Trim Type		SINGLE SEATED/CAGE		57	I.P./Ex.Protect.	Gauge	IP65 / EEExia / Yes	
	35	Characteristic		EQUAL PERCENTAGE (VTC)		58	MFR	Model	(NOTE 4 in Below Table)	
	36	Guiding		(NOTE 4 in Below Table)		59	Type	Qty.	N/A / N/A	
	37	Rated Travel		(NOTE 4 in Below Table)		60	MFR	Model	N/A / N/A	
	38	Plug/Disk Material		SS316 (Note 6)		61	I.P.	Ex.Protect.	N/A / N/A	
	39	Seat Material		NO. 12 (Note 8)		62	MFR	Model	N/A / N/A	
	40	Cage/Guid Material		SS316 (Note 6)		63	Type	Qty.	N/A / N/A	
	41	Stem Material		SS316 (Note 6)		64	Power Supply		N/A	
	42	Trim Material		SS316 (Note 6)		65	Contacts / Rating		N/A	
ACTUATOR	43	MFR	Model	(NOTE 4 in Below Table)		66	Switching Position		N/A	
	44	Size	Eff.Area	(NOTE 4 in Below Table)		67	I.P.	Ex.Protect.	N/A / N/A	
	45	Air Failure	Handwheel	FAIL CLOSE	TOP MOUNTED	68	MFR	Model	N/A / N/A	
	46	Air Action	Orientation	AIR TO OPEN	VERT. UP	69	Set Pressure		Yes	
	47	Actuator Type		Pneumatic Diaphragm Actuators		70	Filter	Gauge	Yes / Yes	
	48	AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table)	7.5	8.5	71	Pnumatic Conn.		1/4 " NPTF	
	49	MFR	Model	(NOTE 4 in Below Table)		72	MFR	Model	(NOTE 4 in Below Table)	
	TESTS	73	Hydro. Pressure		API 598		OPTIONS	76	Internal Tubing	
74		Leakage Class		ANSI IV		77		Tube Material		316 S.S
75		Performance Test		Required		78		Cable Gland		M20, Nickel plated brass
76		Internal Tubing		Required(with Double Ferrule Compression conn.)		79		Cable Entry		M20 X 1.5
77		Tube Material		316 S.S						
78		Cable Gland		M20, Nickel plated brass						
79		Cable Entry		M20 X 1.5						
PURCHASE	Manufacturer		(NOTE 4 in Below Table)							
	Model		(NOTE 4 in Below Table)							
NOTES: 1- All materials shall be in accordance with 'Piping Material Specification' ,Document No.: .BK-GCS-PEDCO-120-PI-SP-0001 2- VTA: Vendor To Advise VTC: Vendor To Confirm 3- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing . 4- Shall be stated by vendor at quotaion stage. 5- Bypass line and isolating valve shall be considered for valve positioner by vendor. 6- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellited facing shall be supplied for valve plugs and guides with solid stellited seat rings for Erosice or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005 7- Valve sizing finalized by vendor and client agreement. 8- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.										

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 			
		DATA SHEETS FOR CONTROL/REGULATOR VALVES									
شماره پیمان: 053 - 073 - 9038		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 16 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D02		
DATA SHEETS FOR PRESSURE CONTROL VALVES											
GENERAL	1	Tag No.				PCV-2272					
	2	Service				From Inlet K.O. Drum to V-2205					
	3	Line No.		P&ID No.		GAS-111-0004-AN07-3"-PT			BK-GCS-PEDCO-120-PR-PI-0022-D06		
	4	Area Classification				Zone2, IIB T4					
	5	Ambient Temperature		°C	Min.	Max.	5		50		
	6	Available Air Supply Pressure		barg	Min.	Max.	4.5		8		
	7	Nace Requirement:				Required					
PIPE & LINE	8	Pipe Class		Pipe Sch.		AN07			SCH.80		
	9	Pipe Line Insulation Line Size		Pipe Material		PT / 3"			ASTM A106 Gr.B , ASME B36.10M		
PROCESS CONDITIONS	10	Fluid				Gas					
	11	State				Gas					
	12	Shut Off Pressure delta P (BARG)				18.2					
	13					Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)				kg/h	556.3	505.8	151.7		
	15	Inlet Pressure				bar-g	5.1	5.1	5.1		
	16	Pressure Drop				bar	0.2	0.2	0.2		
	17	Inlet Temperature(max)				°C	37	37	37		
	18	GAS Specific Gravity (GI)				0.846					
	19	Compressibility Factor(Z)(vapour/water/oil)				0.974 / - / -					
	20	Viscosity (vapour/water/oil)				cP	0.01 / - / -				
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)				1.245 / -					
	CALCULATED RESULTS	22	Vapour Pressure				bar-g	-			
23		Critical Pressure (liquid)				bar-a	94.600				
24		Flow Coefficient Cv				-	19.182	17.423	5.206		
25		Travel				%	78	75	41		
	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)		
BODY AND TRIM (Note 6)	27	Body size		2" (VTC)		POSITIONER (Note 5)	50	Type	Electrical-Pneumatic(SMART)		
	28	Rated Cv		(NOTE 4 in Below Table)			51	Input Signal	4~20 mA-Hart		
	29	End conn. & Rating		2" # 300			52	Power Supply	24 VDC loop powered		
	30	Body/Bonnet Material		A216 GR. WCB			53	Electrical Connection	ISO M20 x 1.5		
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet			54	Increase/Decrease Air	Increase to Open(VTC)		
	32	Flow Direction		(NOTE 4 in Below Table)			55	Lock Last Position	(NOTE 4 in Below Table)		
	33	Packing Material		P.T.F.E.		56	Output Signal	3-15 Psi			
	34	Trim Type		SINGLE SEATED/CAGE		57	I.P./Ex.Protect.	Gauge	IP65 / EEExia	Yes	
	35	Characteristic		EQUAL PERCENTAGE (VTC)		58	MFR	Model	(NOTE 4 in Below Table)		
	36	Guiding		(NOTE 4 in Below Table)		SOLENOID VALVE	59	Type	Qty.	N/A	
	37	Rated Travel		(NOTE 4 in Below Table)			60	MFR	Model	N/A	
	38	Plug/Disk Material		SS316 (Note 6)			61	I.P.	Ex.Protect.	N/A	
	39	Seat Material		NO. 12 (Note 8)			62	MFR	Model	N/A	
	ACTUATOR	40	Cage/Guid Material		SS316 (Note 6)		SWITCHES	63	Type	Qty.	N/A
		41	Stem Material		SS316 (Note 6)			64	Power Supply	N/A	
		42	Trim Material		SS316 (Note 6)			65	Contacts / Rating	N/A	
43		MFR	Model	(NOTE 4 in Below Table)		66		Switching Position	N/A		
44		Size	Eff.Area	(NOTE 4 in Below Table)		67	I.P.	Ex.Protect.	N/A		
45		Air Failure	Handwheel	FAIL CLOSE TOP MOUNTED		68	MFR	Model	N/A		
46		Air Action	Orientation	AIR TO OPEN VERT. UP		AIR SET	69	Set Pressure	Yes		
47		Actuator Type		Pneumatic Diaphragm Actuators			70	Filter	Gauge	Yes	
48		AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table) 7.5 8.5		71		Pnumatic Conn.	1/4 " NPTF			
49		MFR	Model	(NOTE 4 in Below Table)			72	MFR	Model	(NOTE 4 in Below Table)	
TESTS	73	Hydro. Pressure				API 598					
	74	Leakage Class				ANSI IV					
	75	Performance Test				Required					
	OPTIONS	76	Internal Tubing				Required(with Double Ferrule Compression conn.)				
		77	Tube Material				316 S.S				
		78	Cable Gland				M20, Nickel plated brass				
		79	Cable Entry				M20 X 1.5				
	PURCHASE	Manufacturer		(NOTE 4 in Below Table)							
	Model		(NOTE 4 in Below Table)								

NOTES:

- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001
- VTA: Vendor To Advise VTC: Vendor To Confirm
- Minimum of instrument air pressure supply is 4 barg but 3 barg as minimum working pressure, shall be considered for actuator sizing .
- Shall be stated by vendor at quotation stage.
- Bypass line and isolating valve shall be considered for valve positioner by vendor.
- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. Hardened stainless steel or stellite facing shall be supplied for valve plugs and guides with solid stellite seat rings for Erosion or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005
- Valve sizing finalized by vendor and client agreement.
- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 							
	DATA SHEETS FOR CONTROL/REGULATOR VALVES														
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	21	از	17	شماره صفحه:			
053 - 073 - 9038	BK	GCS	PEDCO	120	IN	DT	0011	D02	D02						
DATA SHEETS FOR PRESSURE REGULATOR VALVES															
GENERAL	1	Tag No.					PRV-2161								
	2	Service					TK-2102								
	3	P & ID No.					BK-GCS-PEDCO-120-PR-PI-0014_D06								
	4	Area Classification					Zone2, IIB T4								
	5	Line No.			Piping Class		NIT-112-0010-AN01-1"-PT				AN01				
	6	Ambient Temperature			°C	Min.	Max.		5				50		
	7	Nace Requirement:					NO								
PROCESS CONDITIONS	8	Fluid			Phase		NITROGEN				GAS				
	9						Min. Flow		Norm. Flow		Max. Flow		Unit		
	10	Flow Rate					3.1		15.5		20.2		Kg/h		
	11	Inlet Pressure					0.05		0.05		0.05		bar-g		
	12	Outlet Pressure					0		0		0		bar-g		
	13	Inlet Temperature					60		60		60		° C		
	14	Molecular Weight					28.01		28.01		28.01		-		
	15	Density					1.075		1.075		1.075		kg/m3		
	16	Viscosity					0.020		0.020		0.020		Cp		
	17	Design Temperature					85						° C		
	18	Design Pressure					18.2						bar-g		
	19	Calculated Cv / Travel					0.500/2.513/3.267		24/59/66				- / %		
	20	Allowable / Predicted SPL					MAX 85 dBA(VTC)						dBA		
	21	Compressibility Factor (Z)					0.998								
	22	Spec. Heat Ratio (K=Cp/Cv)					1.408								
LINE	23	Pipe Line Size		In	Out	1"	1"								
	24	Pipe Line Schedule		In	Out	SCH. 80	SCH.80								
	25	Pipe Line Insulation/Spec		PAINTING											
	26														
VALVE BODY / BONNET	27	Body Type		GLOBE											
	28	Size	ANSI Class		1" (Note1)	300#									
	29	Mfr. & Model		VTA											
	30	Body / Bonnet Material		ASTM A 105											
	31	End Connection	In	Out	1" (Note1)	1" (Note1)									
	32	Type Of Bonnet		STANDARD											
	33	Packing Material		PTFE											
	34														
	35														
	36														
TRIM	37	Characteristics		LINEAR (Note1)											
	38	Rated	Cv	FL	XT	VTA	VTA	VTA							
	39	Trim Material		SS316 (Note 4)											
	40	Seat Material		NO. 12 (Note 5)											
	41	Req. Seat Tightness		Class IV											
	42														
	43														
PURCHASE	44	Manufacturer		(NOTE 2 in Below Table)											
	45	Model		(NOTE 2 in Below Table)											
SOLENOID VALVE	46	Type		N/A											
	47	Tag Number		N/A											
	48	Body Material		N/A											
	49	Operating Voltage		N/A											
	50	Elec. Connection		N/A											
	51	Manual Reset		N/A											
SPECIAL ACCESSORIES	52	Ex Certificate	Ingress Protection		N/A	N/A									
	53	Fusible Leakage	Booster		N/A	N/A									
	54	Block Relay	Volume Tank		N/A	N/A									
Notes: VTA: Vendor To Advise N/A: Not Applicable 1- Shall be confirmed by vendor. 2- Shall be stated by vendor at quotaion stage. 3- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001 4- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. 5- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.															

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 				
	DATA SHEETS FOR CONTROL/REGULATOR VALVES											
شماره پیمان:	پروژه	بسته کاری	صادرکننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	21	از	17	شماره صفحه:
053 - 073 - 9038	BK	GCS	PEDCO	120	IN	DT	0011	D02	D02			
DATA SHEETS FOR PRESSURE REGULATOR VALVES												
GENERAL	1	Tag No.					PRV-2162					
	2	Service					From Nitrogen Header to TK-2102					
	3	P & ID No.					BK-GCS-PEDCO-120-PR-PI-0014_D06					
	4	Area Classification					Zone2, IIB T4					
	5	Line No.	Piping Class				NIT-112-0010-AN01-1"-PT			AN01		
	6	Ambient Temperature	°C		Min.	Max.	5			50		
	7	Nace Requirement:					NO					
PROCESS CONDITIONS	8	Fluid	Phase				NITROGEN			GAS		
	9						Min. Flow	Norm. Flow	Max. Flow	Unit		
	10	Flow Rate					6.2	17.9	23.2	Kg/h		
	11	Inlet Pressure					7.5	7.5	7.5	bar-g		
	12	Outlet Pressure					7.49	7.49	7.49	bar-g		
	13	Inlet Temperature					60	60	60	° C		
	14	Molecular Weight					28.01	28.01	28.01	-		
	15	Density					1.075	1.075	1.075	kg/m3		
	16	Viscosity					0.020	0.020	0.020	Cp		
	17	Design Temperature					85			° C		
	18	Design Pressure					18.2			bar-g		
	19	Calculated Cv / Travel					0.048/0.139/0.180 29/50/54			- / %		
	20	Allowable / Predicted SPL					MAX 85 dBA(VTC)			dBA		
	21	Compressibility Factor (Z)					0.998					
22	Spec. Heat Ratio (K=Cp/Cv)					1.408						
LINE	23	Pipe Line Size	In	Out	1"	1"	55	Type	Self-actuated regulator			
	24	Pipe Line Schedule	In	Out	SCH. 80	SCH.80		56	Pilot	N/A		
	25	Pipe Line Insulation/Spec	PAINTING					57	Supply to Pilot	N/A		
	26							58	Spring Range (bar-g)	VTA		
VALVE BODY / BONNET	27	Body Type	GLOBE				60	Setpoint (bar-g)	10mbarg			
	28	Size	ANSI Class	1" (Note1)	300#	61		Process Connection	1/2" NPTF (Note1)			
	29	Mfr. & Model	VTA					62	Air Failure	N/A		
	30	Body / Bonnet Material	ASTM A 105					63	Spring Action	N/A		
	31	End Connection	In	Out	1" (Note1)	1" (Note1)		64				
	32	Type Of Bonnet	STANDARD					65				
	33	Packing Material	PTFE					66	Type	N/A		
	34							67	Mfr. & Model	N/A		
	35							68	Input Signal	Output Signal	N/A	N/A
	36							69	On Incr Signal	Output Incr / Decr	N/A	N/A
TRIM	37	Characteristics	LINEAR (Note1)				70	Electrical Connection	N/A			
	38	Rated	Cv	FL	XT	VTA		VTA	VTA			
	39	Trim Material	SS316 (Note 4)					71	Ex Certificate	Ingress Protection	N/A	N/A
	40	Seat Material	NO. 12 (Note 5)					72	Type	Quantity	N/A	N/A
	41	Req. Seat Tightness	Class IV					73	Mfr. & Model	N/A		
	42							74	Tag Number(s)	N/A		
	43							75	Actuation Point	N/A		
PURCHASE	44	Manufacturer	(NOTE 2 in Below Table)				76	Contacts / Rating	N/A			
	45	Model	(NOTE 2 in Below Table)					77	Electrical Connection	N/A		
SOLENOID VALVE	46	Type	N/A				78	Ex Certificate	Ingress Protection	N/A	N/A	
	47	Tag Number	N/A					79	Mfr. & Model	VTA		
	48	Body Material	N/A					80	Set Pressure	VTA		
	49	Operating Voltage	N/A					81	Filter	Gauges	VTA	VTA
	50	Elec. Connection	N/A					82	Pneumatic Connection	VTA		
	51	Manual Reset	N/A					83	Hydro Pressure	YES		
SPECIAL ACCESSORIES	52	Ex Certificate	Ingress Protection	N/A	N/A	84	NACE MR 0175	No				
	53	Fusible Leakage	Booster	N/A	N/A		85					
	54	Block Relay	Volume Tank	N/A	N/A		86					

Notes:

VTA: Vendor To Advise N/A: Not Applicable

1- Shall be confirmed by vendor.

2- Shall be stated by vendor at quotation stage.

3- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001

4- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel.

5- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 				
	DATA SHEETS FOR CONTROL/REGULATOR VALVES											
شماره پیمان:	پروژه	بسته کاری	صادرکننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	21	از	17	شماره صفحه:
053 - 073 - 9038	BK	GCS	PEDCO	120	IN	DT	0011	D02	D02			

DATA SHEETS FOR PRESSURE REGULATOR VALVES																	
GENERAL	1	Tag No.					PRV-2201										
	2	Service					From Air Dryer Package (Pk-Dr-2203)										
	3	P & ID No.					BK-GCS-PEDCO-120-PR-PI-0015_D06 (2/2)										
	4	Area Classification					Zone2, IIB T4										
	5	Line No.			Piping Class		ISA-112-0012-AZ00-2"-NP				AZ00						
	6	Ambient Temperature			°C		Min.		Max.		5		50				
	7	Nace Requirement:					NO										
PROCESS CONDITIONS	8	Fluid			Phase		AIR			GAS							
	9						Min. Flow			Norm. Flow		Max. Flow		Unit			
	10	Flow Rate					35.7			118.9		154.6		Kg/h			
	11	Inlet Pressure					9			9		9		bar-g			
	12	Outlet Pressure					8			8		8		bar-g			
	13	Inlet Temperature					65			65		65		° C			
	14	Molecular Weight					28.97			28.97		28.97		-			
	15	Density					10.331			10.331		10.331		kg/m3			
	16	Viscosity					0.021			0.021		0.021		Cp			
	17	Design Temperature					85							° C			
	18	Design Pressure					18.2							bar-g			
	19	Calculated Cv / Travel					0.427/1.424/1.853			25/45/52				- / %			
	20	Allowable / Predicted SPL					MAX 85 dBA(VTC)							dBA			
	21	Compressibility Factor (Z)					0.998										
	22	Spec. Heat Ratio (K=Cp/Cv)					1.4										
LINE	23	Pipe Line Size		In	Out	2"	2"	55	Type		Self-actuated regulator						
	24	Pipe Line Schedule		In	Out	SCH. 40	SCH.40		56		Pilot		N/A				
	25	Pipe Line Insulation/Spec		PAINTING					57		Supply to Pilot		N/A				
	26								58		Spring Range (bar-g)		VTA				
VALVE BODY / BONNET	27	Body Type		GLOBE				60	Setpoint (bar-g)		8barg						
	28	Size		ANSI Class		1 1/2" (Note1)	300#		61		Process Connection		1/2" NPTF (Note1)				
	29	Mfr. & Model		VTA					62		Air Failure		N/A				
	30	Body / Bonnet Material		ASTM B148 UNS C95800					63		Spring Action		N/A				
	31	End Connection		In	Out	2" (Note1)	2" (Note1)		64								
	32	Type Of Bonnet		STANDARD					65								
	33	Packing Material		PTFE													
	34																
	35																
	36																
TRIM	37	Characteristics		LINEAR (Note1)				66	Type		N/A						
	38	Rated		Cv	FL	XT	VTA		VTA	VTA	67		Mfr. & Model		N/A		
	39	Trim Material		SS316 (Note 4)					68		Input Signal		Output Signal		N/A	N/A	
	40	Seat Material		NO. 12 (Note 5)					69		On Incr Signal Output Incr / Decr		N/A				
	41	Req. Seat Tightness		Class IV					70		Electrical Connection		N/A				
	42								71		Ex Certificate		Ingress Protection		N/A	N/A	
PURCHASE	44	Manufacturer		(NOTE 2 in Below Table)				72	Type		Quantity		N/A	N/A			
	45	Model		(NOTE 2 in Below Table)					73		Mfr. & Model		N/A				
SOLENOID VALVE	46	Type		N/A				74	Tag Number(s)		N/A						
	47	Tag Number		N/A					75		Actuation Point		N/A				
	48	Body Material		N/A					76		Contacts / Rating		N/A				
	49	Operating Voltage		N/A					77		Electrical Connection		N/A				
	50	Elec. Connection		N/A					78		Ex Certificate		Ingress Protection		N/A	N/A	
	51	Manual Reset		N/A					79		Mfr. & Model		VTA				
SPECIAL ACCESSORIES	52	Ex Certificate		Ingress Protection		N/A	N/A	80	Set Pressure		VTA						
	53	Fusible Leakage		Booster		N/A	N/A		81		Filter		Gauges		VTA	VTA	
	54	Block Relay		Volume Tank		N/A	N/A		82		Pneumatic Connection		VTA				
	55					N/A	N/A		83		Hydro Pressure		YES				
TESTS	84					N/A	N/A	85			NACE MR 0175						
	86					N/A	N/A				No						

Notes:

VTA: Vendor To Advise N/A: Not Applicable

1- Shall be confirmed by vendor.

2- Shall be stated by vendor at quotation stage.

3- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001

4- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel.

5- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 								
	DATA SHEETS FOR CONTROL/REGULATOR VALVES															
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	21	از	17	شماره صفحه:				
053 - 073 - 9038	BK	GCS	PEDCO	120	IN	DT	0011	D02	D02							
DATA SHEETS FOR PRESSURE REGULATOR VALVES																
GENERAL	1	Tag No.					PRV-2291									
	2	Service					From Nitrogen Header to V-2107									
	3	P & ID No.					BK-GCS-PEDCO-120-PR-PI-0025_D06									
	4	Area Classification					Zone2, IIB T4									
	5	Line No.			Piping Class		NIT-111-0009-AN01-1"-PT				AN04					
	6	Ambient Temperature			°C		Min.			Max.			5		50	
	7	Nace Requirement:					NO									
PROCESS CONDITIONS	8	Fluid			Phase		NITROGEN				GAS					
	9						Min. Flow		Norm. Flow		Max. Flow		Unit			
	10	Flow Rate					3.7		4.5		5.8		Kg/h			
	11	Inlet Pressure					7.5		7.5		7.5		bar-g			
	12	Outlet Pressure					7.49		7.49		7.49		bar-g			
	13	Inlet Temperature					60		60		60		° C			
	14	Molecular Weight					28.01		28.01		28.01		-			
	15	Density					1.075		1.075		1.075		kg/m3			
	16	Viscosity					0.020		0.020		0.020		Cp			
	17	Design Temperature					85						° C			
	18	Design Pressure					18.2						bar-g			
	19	Calculated Cv / Travel					0.033/0.038/0.050		34/38/44				- / %			
	20	Allowable / Predicted SPL					MAX 85 dBA(VTC)						dBA			
	21	Compressibility Factor (Z)					0.998									
22	Spec. Heat Ratio (K=Cp/Cv)					1.408										
LINE	23	Pipe Line Size			In	Out	1"	1"								
	24	Pipe Line Schedule			In	Out	SCH. 80	SCH.80								
	25	Pipe Line Insulation/Spec			PAINTING											
	26															
VALVE BODY / BONNET	27	Body Type			GLOBE											
	28	Size		ANSI Class		1" (Note1)	300#									
	29	Mfr. & Model			VTA											
	30	Body / Bonnet Material			ASTM A 105											
	31	End Connection			In	Out	1" (Note1)	1" (Note1)								
	32	Type Of Bonnet			STANDARD											
	33	Packing Material			PTFE											
	34															
	35															
	36															
TRIM	37	Characteristics			LINEAR (Note1)											
	38	Rated		Cv	FL	XT	VTA	VTA	VTA							
	39	Trim Material			SS316 (Note 4)											
	40	Seat Material			NO. 12 (Note 5)											
	41	Req. Seat Tightness			Class IV											
	42															
	43															
PURCHASE	44	Manufacturer			(NOTE 2 in Below Table)											
	45	Model			(NOTE 2 in Below Table)											
SOLENOID VALVE	46	Type			N/A											
	47	Tag Number			N/A											
	48	Body Material			N/A											
	49	Operating Voltage			N/A											
	50	Elec. Connection			N/A											
	51	Manual Reset			N/A											
SPECIAL ACCESSORIES	52	Ex Certificate		Ingress Protection		N/A	N/A									
	53	Fusible Leakage		Booster		N/A	N/A									
54	Block Relay		Volume Tank		N/A	N/A										
Notes: VTA: Vendor To Advise N/A: Not Applicable 1- Shall be confirmed by vendor. 2- Shall be stated by vendor at quotaion stage. 3- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001 4- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel. 5- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.																

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک											
	DATA SHEETS FOR CONTROL/REGULATOR VALVES											
شماره پیمان:	پروژه	بسته کاری	صادرکننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	21	از	17	شماره صفحه:
053 - 073 - 9038	BK	GCS	PEDCO	120	IN	DT	0011	D02	D02			

DATA SHEETS FOR PRESSURE REGULATOR VALVES														
GENERAL	1	Tag No.					PRV-2292							
	2	Service					From V-2107 to ATM							
	3	P & ID No.					BK-GCS-PEDCO-120-PR-PI-0025_D06							
	4	Area Classification					Zone2, IIB T4							
	5	Line No.				Piping Class		NIT-111-0010-AN01-1"-PT				AN07		
	6	Ambient Temperature		°C		Min.		Max.		5		50		
	7	Nace Requirement:					YES							
PROCESS CONDITIONS	8	Fluid			Phase			NITROGEN			GAS			
	9							Min. Flow			Norm. Flow			
	10	Flow Rate						3.6			4.3			
	11	Inlet Pressure						0.05			0.05			
	12	Outlet Pressure						0			0			
	13	Inlet Temperature						60			60			
	14	Molecular Weight						28.01			28.01			
	15	Density						1.075			1.075			
	16	Viscosity						0.020			0.020			
	17	Design Temperature						85			° C			
	18	Design Pressure						18.2			bar-g			
	19	Calculated Cv / Travel						0.585/0.697/0.906 26/30/35			- / %			
	20	Allowable / Predicted SPL						MAX 85 dBA(VTC)			dBA			
	21	Compressibility Factor (Z)						0.998						
22	Spec. Heat Ratio (K=Cp/Cv)						1.408							
LINE	23	Pipe Line Size		In	Out	1"	1"	ACTUATOR	55	Type	Self-actuated regulator			
	24	Pipe Line Schedule		In	Out	SCH.XXS	SCH.XXS		56	Pilot	N/A			
	25	Pipe Line Insulation/Spec		PAINTING					57	Supply to Pilot	N/A			
	26								58	Spring Range (bar-g)	VTA			
VALVE BODY / BONNET	27	Body Type		GLOBE				POSITIONER	59	Setpoint (bar-g)	50mbarg			
	28	Size	ANSI Class	1" (Note1)	300#	LIMIT SWITCH	60		Process Connection	1/2" NPTF (Note1)				
	29	Mfr. & Model		VTA					61	Air Failure	N/A			
	30	Body / Bonnet Material		ASTM A 105					62	Spring Action	N/A			
	31	End Connection	In	Out	1" (Note1)		1" (Note1)		63					
	32	Type Of Bonnet	STANDARD				64							
	33	Packing Material	PTFE				65							
	34								66	Type	N/A			
TRIM	37	Characteristics		LINEAR (Note1)				AIR SET	67	Mfr. & Model	N/A			
	38	Rated	Cv	FL	XT	VTA	VTA		VTA	68	Input Signal	Output Signal	N/A	N/A
	39	Trim Material		SS316 (Note 4)					69	On Incr Signal Output Incr / Decr	N/A			
	40	Seat Material		NO. 12 (Note 5)					70		N/A			
	41	Req. Seat Tightness		Class IV					71	Electrical Connection	N/A			
	42								72	Ex Certificate	Ingress Protection	N/A	N/A	
PURCHASE	44	Manufacturer		(NOTE 2 in Below Table)				TESTS	73	Type	Quantity	N/A	N/A	
	45	Model		(NOTE 2 in Below Table)					74	Mfr. & Model	N/A			
SOLENOID VALVE	46	Type		N/A				AIR SET	75	Tag Number(s)		N/A		
	47	Tag Number		N/A					76	Actuation Point		N/A		
	48	Body Material		N/A					77	Contacts / Rating		N/A		
	49	Operating Voltage		N/A					78	Electrical Connection		N/A		
	50	Elec. Connection		N/A					79	Ex Certificate	Ingress Protection	N/A	N/A	
	51	Manual Reset		N/A					80	Mfr. & Model		VTA		
SPECIAL ACCESSORIES	52	Ex Certificate	Ingress Protection	N/A	N/A	TESTS	81	Set Pressure		VTA				
	53	Fusible Leakage	Booster	N/A	N/A		82	Filter	Gauges	VTA	VTA			
	54	Block Relay	Volume Tank	N/A	N/A		83	Pneumatic Connection		VTA				
							84	Hydro Pressure		YES				
							85	NACE MR 0175		YES				
							86							

Notes:

VTA: Vendor To Advise N/A: Not Applicable

1- Shall be confirmed by vendor.

2- Shall be stated by vendor at quotaion stage.

3- All materials shall be in accordance with 'Piping Material Specification', Document No.: .BK-GCS-PEDCO-120-PI-SP-0001

4- Trim part material shall be considered as minimum 316SS and hard face or any equal hard steel.

5- As per Piping Material Specification Doc. No.: "BK-GCS-PEDCO-120-PI-SP-0001", Refer to table 8 of API 600 Rev. 2015.