



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

صادرکننده

PEDCO

تسهیلات

120

رشته

IN

نوع مدرک

DT

سریال

0011

نسخه

D01

شماره صفحه: 1 از 19

طرح نگهداشت و افزایش تولید 27 مخزن

DATA SHEETS FOR CONTROL/REGULATOR VALVES

نگهداشت و افزایش تولید میدان نفتی بینک

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

بسته کاری

صادرکننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

BK

GCS

PEDCO

120

IN

DT

0011

D01

شماره صفحه: 2 از 19

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04
1	X	X			
2	X	X			
3	X	X			
4	X	X			
5	X	X			
6	X	X			
7	X	X			
8	X	X			
9	X	X			
10	X	X			
11	X	X			
12	X	X			
13	X	X			
14	X	X			
15	X	X			
16	X	X			
17	X	X			
18	X	X			
19		X			
20					
21					
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:

053 - 073 - 9184

پروژه

BK

بسته کاری

GCS

صادرکننده

PEDCO

تسهیلات

120

رشته

IN

نوع مدرک

DT

سریال

0011

نسخه

D01

شماره صفحه: 3 از 19

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

D01

 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	صادرکننده: PEDCO	تسهیلات: 120	رشته: IN	نوع منبرک: DT	سریال: 0011	نسخه: D01

شماره صفحه: 4 از 19

D01

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 bottled 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 × maximum permissible, working pressure at 20°C.
- b) Disk strength test (applicable to valves 14 inches and larger): 1.5 × maximum permissible working pressure at 20°C.
- c) Seat test: 1.1 × 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:		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 5 از 19		
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01			
DATA SHEETS FOR CONTROL/REGULATOR VALVES										D01		
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.	3		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)					10.3					
	13						Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)					kg/h	7220.4928	6564.084	1774.9822		
	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)					5.440					
	19	Compressibility Factor(Z)(vapour/water/oil)					0.970 / - / -					
	20	Viscosity (vapour/water/oil)					cP	0.012 / - / -				
21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)					1.225 / -						
22	Vapour Pressure					bar-g	-					
23	Critical Pressure (liquid)					bar-g	106.096					
CALCULATED RESULTS	24	Flow Coefficient Cv					-	113.45	102.88	27.52		
	25	Travel					%	71.5	80	33.5		
	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		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" # 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 / 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		SS316 (Note 6)				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			
ACTUTOR	44	Size	Eff.Area	(NOTE 4 in Below Table)			67	I.P.	Ex.Protect.	N/A	N/A	
	45	Air Failure	Handwheel	FAIL CLOSE	SIDE 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 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												

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 6 از 19	
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01		
DATA SHEETS FOR CONTROL/REGULATOR VALVES D01											
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.	3		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)					41.2				
	13						Units	Max	Norm.	Min.	
	14	Flow Rate(vapor/water/oil)					kg/h	12395.9313	11269.03	3711.963	
	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 (GI)					5.072				
	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 / - / -					
22	Vapour Pressure					bar-g	-				
23	Critical Pressure (liquid)					bar-g	102.1				
CALCULATED RESULTS	24	Flow Coefficient Cv					-	181.411	164.794	54.109	
	25	Travel					%	69	65	54.11	
	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	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 / 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. Model	N/A	N/A	
	39	Seat Material	SS316 (Note 6)				62	MFR Model	N/A	N/A	
	ACTUTOR	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. Model	N/A	N/A		
45		Air Failure Handwheel	FAIL CLOSE	SIDE 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)			
PURCHASE						TESTS	73	Hydro. Pressure	API 598		
							74	Leakage Class	ANSI IV		
							75	Performance Test	Required		
							76	Internal Tubing	Required(with Double Ferrule Compression conn.)		
						OPTIONS	77	Tube Material	316 S.S		
							78	Cable Gland	M20, Nickel plated brass		
							79	Cable Entry	M20 X 1.5		
							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 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											

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 7 از 19	
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01		
DATA SHEETS FOR CONTROL/REGULATOR VALVES										D01	
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.	3		8		
	7	Nace Requirement:					Required				
PIPE & LINE	8	Pipe Class		Pipe Sch.			CN05		SCH.40		
	9	Pipe Line Insulation Line Size		Pipe Material			PT / 3"		ASTM A106 Gr.B , B36.10M		
PROCESS CONDITIONS	10	Fluid					Liquid				
	11	State					Liquid				
	12	Shut Off Pressure delta P (BARG)					23.3				
	13						Units	Max	Norm.	Min.	
	14	Flow Rate(vapor/water/oil)					m3/h	7854.4438	7140.4035	2142.121	
	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)					7.523				
	19	Compressibility Factor(Z)(vapour/water/oil)					-				
	20	Viscosity (vapour/water/oil)					cP	- / 0.373 / 1.319			
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)					- / 1.223				
	22	Vapour Pressure					bar-g	0.108			
23	Critical Pressure (liquid)					bar-g	220.3				
CALCULATED RESULTS	24	Flow Coefficient Cv					-	10.787	9.8	2.9326	
	25	Travel					%	55.7	50.3	13.2	
	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. Model	N/A	N/A
	39	Seat Material		SS316 (Note 6)				62	MFR Model	N/A	N/A
ACTUTOR	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. Model	N/A	N/A	
	45	Air Failure	Handwheel	FAIL CLOSE	SIDE MOUNTED		68	MFR Model	N/A	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	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:
 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 quotaon 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 stelled facing shall be supplied for valve plugs and guides with solid stelled seat rings for Erosice or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 8 از 19		
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01			
DATA SHEETS FOR CONTROL/REGULATOR VALVES										D01		
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.	3		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						Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)					kg/h	1.331	1.21	0.363		
	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)					1					
	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						
22	Vapour Pressure					bar-a	0.073					
23	Critical Pressure (liquid)					bar-a	220.4					
CALCULATED RESULTS	24	Flow Coefficient Cv					-	0.742	0.675	0.202		
	25	Travel					%	60	4.4	15.8		
	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		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	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		SS316 (Note 6)				62	MFR	Model	N/A	N/A
	ACTUTOR	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	N/A	
45		Air Failure	Handwheel	FAIL CLOSE	SIDE MOUNTED		68	MFR	Model	N/A	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	Yes
48		AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table)			7.5		8.5	71	Pneumatic Conn.	1/4 " NPTF	
49		MFR	Model	(NOTE 4 in Below Table)			TESTS	72	MFR	Model	(NOTE 4 in Below Table)	
								73	Hydro. Pressure	API 598		
								74	Leakage Class	ANSI IV		
PURCHASE	Manufacturer		(NOTE 4 in Below Table)			OPTIONS	75	Performance Test	Required			
	Model		(NOTE 4 in Below Table)				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:
 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 Erosion or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه:	از	19
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01			

DATA SHEETS FOR CONTROL/REGULATOR VALVES										D01	
GENERAL	1	Tag No.				PCV-2123A					
	2	Service				1st Stage Gas Compression Suction Drums (C-2101A)					
	3	Line No.		P&ID No.		GAS-111-0045A-FS00-6"-NP				BK-GCS-PEDCO-120-PR-PI-0006-D05(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.	3		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 / 6"				ASTM A312 TP 316L , B36.19M	
PROCESS CONDITIONS	10	Fluid				Gas					
	11	State				Gas					
	12	Shut Off Pressure delta P				14.5					
	13					Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/h)				kg/h	XXX	XXX	XXX		
	15	Inlet Pressure				bar-g	XXX	XXX	XXX		
	16	Pressure				bar	XXX	XXX	4.58		
	17	Inlet Temp					XXX	XXX	XXX		
	18	Liquid Specific Gravity						XXX			
	19	Compressibility						XXX			
	20	Viscosity						XXX			
	21	Specific Heats Ratio						XXX			
	22	Vapour Pressure				bar-a		XXX			
23	Critical Pressure (liquid)				bar-a						
CALCULATED RESULTS	24	Flow Coefficient Cv				-	XXX	XXX	XXX		
	25	Travel				%	85.9	XXX	XXX		
	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)		
BODY AND TRIM	27	Body size		H" ()							
	28	Rated Cv		(NOTE 4 in Below Table)							
	29	End conn. & Rating		H" # 600							
	30	Body/Bonnet Material		A351 GR. CF3M							
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet							
	32	Flow Direction		(NOTE 4 in Below Table)							
	33	Packing Material		P.T.F.E.							
	34	Trim Type		SINGLE SEATED/CAGE							
	35	Characteristic		EQUAL PERCENTAGE (VTC)							
	36	Guiding		(NOTE 4 in Below Table)							
	37	Rated Travel		(NOTE 4 in Below Table)							
	38	Plug/Disk Material		SS316							
	39	Seat Material		SS316							
	40	Cage/Guid Material		SS316							
	41	Stem Material		SS316							
42	Trim Material		SS316								
43	MFR		Model		(NOTE 4 in Below Table)						
44	Size		Eff.Area		(NOTE 4 in Below Table)						
ACTUTOR	45	Air Failure		Hardwheel		FAIL CLOSE	SIDE MOUNTED				
	46	Air Action		Orientation		AIR TO OPEN	VERT. UP				
	47	Actuator Type				Pneumatic Diaphragm Actuators					
	48	AIR Press. Min/ Max/ Des. (Barg)				4 (Note 3 in Below Table)	7.5	8.5			
	49	MFR		Model		(NOTE 4 in Below Table)					
POSITIONER	50	Type				Electrical-Pneumatic(SMART)					
	51	Input Signal				4-20 mA-Hart					
	52	Power Supply				24 VDC loop powered					
	53	Electrical Connection				ISO M20 x 1.5					
	54	Direct/Reverse Act.				(NOTE 4 in Below Table)					
	55	Lock Last Position				(NOTE 4 in Below Table)					
	56	Output Signal				3-15 Psi					
	57	I.P./Ex.Protect.		Gauge		IP65 / EExia	Yes				
	58	MFR		Model		(NOTE 4 in Below Table)					
	59	Type		Qty.		N/A	N/A				
SOLENOID VALVE	60	MFR		Model		N/A	N/A				
	61	I.P.		Ex.Protect.		N/A	N/A				
	62	MFR		Model		N/A	N/A				
	63	Type		Qty.		N/A	N/A				
SWITCHES	64	Power Supply				N/A					
	65	Contacts / Rating				N/A					
	66	Switching Position				N/A					
	67	I.P.		Ex.Protect.		N/A	N/A				
AIR SET	68	MFR		Model		N/A	N/A				
	69	Set Pressure				Yes					
	70	Filter		Gauge		Yes	Yes				
	71	Pnumatic Conn.				1/4 " NPTF					
	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 bonn.)					
	77	Tube Material				316 S.S					
	78	Cable Gland				M20, Nickel plated brass					
PURCHASE	79	Cable Entry				M20 X 1.5					
	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.

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه:	از
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01	19	10

DATA SHEETS FOR CONTROL/REGULATOR VALVES												D01		
GENERAL	1	Tag No.				PCV-2123B								
	2	Service				1st Stage Gas Compression Suction Drums (C-2101B)								
	3	Line No.				P&ID No.				GAS-111-0045B-FS00-6"-NP		BK-GCS-PEDCO-120-PR-PI-0006-D05(2/3)		
	4	Area Classification				Zone2, IIB T4								
	5	Ambient Temperature °C				Min.		Max.		5		50		
	6	Available Air Supply Pressure barg				Min.		Max.		3		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 / 6"		ASTM A312 TP 316L , B36.19M		
PROCESS CONDITIONS	10	Fluid				Gas								
	11	State				Gas								
	12	Shut Off Pressure delta P				14.5								
	13					Units		Max		Norm.		Min.		
	14	Flow Rate(vapor/water/oil)				kg/h		XXX		XXX		XXX		
	15	Inlet Pressure				bar-g		XXX		XXX		XXX		
	16	Pressure Drop				bar		XXX		XXX		4.58		
	17	Inlet Temperature				°C		XXX		XXX		XXX		
	18	Liquid Specific Gravity						XXX		XXX		XXX		
	19	Compressibility						XXX		XXX		XXX		
	20	Viscosity						XXX		XXX		XXX		
	21	Specific Heats Ratio						XXX		XXX		XXX		
	22	Vapour Pressure						XXX		XXX		XXX		
23	Critical Pressure (liquid)				bar-a									
CALCULATED RESULTS	24	Flow Coefficient Cv						XXX		XXX		XXX		
	25	Travel				%		85.9		XXX		XXX		
	26	Sound Pressure Level				dBA		MAX 85 dBA(VTC)		MAX 85 dBA(VTC)		MAX 85 dBA(VTC)		
BODY AND TRIM	27	Body size		H"										
	28	Rated Cv		(NO)										
	29	End conn. & Rating		H" # 60										
	30	Body/Bonnet Material		A351 GR. C										
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet										
	32	Flow Direction		(NOTE 4 in Below Table)										
	33	Packing Material		P.T.F.E.										
	34	Trim Type		SINGLE SEATED/CAGE										
	35	Characteristic		EQUAL PERCENTAGE (VTC)										
	36	Guiding		(NOTE 4 in Below Table)										
	37	Rated Travel		(NOTE 4 in Below Table)										
	38	Plug/Disk Material		SS316										
	39	Seat Material		SS316										
ACTUATOR	40	Cage/Guid Material		SS316										
	41	Stem Material		SS316										
	42	Trim Material		SS316										
	43	MFR		Model		(NOTE 4 in Below Table)								
	44	Size		Eff. Area		(NOTE 4 in Below Table)								
	45	Air Failure		Handwheel		FAIL CLOSE SIDE MOUNTED								
	46	Air Action		Orientation		AIR TO OPEN VERT. UP								
	47	Actuator Type		Pneumatic Diaphragm Actuators										
	48	AIR Press. Min/ Max/ Des. (Barg)		(NOTE 4 in Below Table)		7.5 8.5								
	49	MFR		Model		(NOTE 4 in Below Table)								
	POSITIONER	50	Type		Electrical-Pneumatic(SMART)									
		51	Input Signal		4-20 mA-Hart									
		52	Power Supply		24 VDC loop powered									
53		Electrical Connection		ISO M20 x 1.5										
54		Direct/Reverse Act.		(NOTE 4 in Below Table)										
55		Lock Last Position		(NOTE 4 in Below Table)										
56		Output Signal		3-15 Psi										
57		I.P./Ex.Protect.		Gauge		IP65 / EExia Yes								
58		MFR		Model		(NOTE 4 in Below Table)								
59		Type		Qty.		N/A N/A								
60		MFR		Model		N/A N/A								
61		I.P.		Ex.Protect.		N/A N/A								
62		MFR		Model		N/A N/A								
SOLENOID VALVE	63	Type		Qty.		N/A N/A								
	64	Power Supply				N/A								
	65	Contacts / Rating				N/A								
	66	Switching Position				N/A								
	67	I.P.		Ex.Protect.		N/A N/A								
	68	MFR		Model		N/A N/A								
	69	Set Pressure				Yes								
	70	Filter		Gauge		Yes Yes								
	71	Pneumatic Conn.				1/4 " NPTF								
	72	MFR		Model		(NOTE 4 in Below Table)								
	73	Hydro. Pressure				API 598								
	74	Leakage Class				ANSI IV								
	75	Performance Test				Required								
TESTS	76	Internal Tubing				Required (with Double End Cap Compression conn.)								
	77	Tube Material				316 S.S								
	78	Cable Gland				M20, Nickel plated brass								
	79	Cable Entry				M20 X 1.5								
OPTIONS														
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.

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه:	از
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01	19	11

DATA SHEETS FOR CONTROL/REGULATOR VALVES										
GENERAL	1	Tag No.				PCV-2123C				
	2	Service				1st Stage Gas Compression Suction Drums (C-2101C)				
	3	Line No.		P&ID No.		GAS-111-0045C-FS00-6"-NP		BK-GCS-PEDCO-120-PR-PI-0006-D05(3/3)		
	4	Area Classification				Zone 2, IIB T4				
	5	Ambient Temperature		°C	Min.	Max.	5		50	
	6	Available Air Supply Pressure		barg	Min.	Max.	3		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 / 6"		ASTM A312 TP 316L , B36.19M		
PROCESS CONDITIONS	10	Fluid				Gas				
	11	State				Gas				
	12	Shut Off Pressure delta P				14.5				
	13					Units	Max	Norm.	Min.	
	14	Flow Rate(vapor/water/oil)				kg/h	XXX	XXX	XXX	
	15	Inlet Pressure				bar-g	XXX	XXX	XXX	
	16	Pressure Drop				bar	XXX	XXX	4.58	
	17	Inlet Temperature(max)				°C	XXX	XXX	XXX	
	18	Liquid Specific Gravity (G _{liquid} /G _{water})						XXX		
	19	Compressibility Factor (Z)						XXX		
	20	Viscosity				cP		XXX		
	21	Specific Heats Ratio(C _p /C _v)						XXX		
	22	Vapour Pressure				bar-a		XXX		
23	Critical Pressure (liquid)				bar-a					
CALCULATED RESULTS	24	Flow Coefficient Cv					XXX	XXX	XXX	
	25	Travel				%	85.9	XXX	XXX	
	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	MAX 85 dBA(VTC)	
BODY AND TRIM	27	Body size		H" (VTC)						
	28	Rated Cv		(NOTE 4 in Below Table)						
	29	End conn. & Rating		H" # 600						
	30	Body/Bonnet Material		A351 GR. CF3M						
	31	Body/Bonnet Type		GLOBE / Bolted Flange Bonnet						
	32	Flow Direction		(NOTE 4 in Below Table)						
	33	Packing Material		P.T.F.E.						
	34	Trim Type		SINGLE SEATED/CAGE						
	35	Characteristic		EQUAL PERCENTAGE (VTC)						
	36	Guiding		(NOTE 4 in Below Table)						
	37	Rated Travel		(NOTE 4 in Below Table)						
	38	Plug/Disk Material		SS316						
	39	Seat Material		SS316						
ACTUATOR	40	Cage/Guid Material		SS316						
	41	Stem Material		SS316						
	42	Trim Material		SS316						
	43	MFR	Model	(NOTE 4 in Below Table)						
	44	Size	Eff.Area	(NOTE 4 in Below Table)						
	45	Air Failure	Handwheel	FAIL CLOSE	SIDE MOUNTED					
	46	Air Action	Orientation	AIR TO OPEN	VERT. UP					
	47	Actuator Type		Pneumatic Diaphragm Actuators						
	48	AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table)		7.5	8.5				
	49	MFR	Model	(NOTE 4 in Below Table)						
	TESTS	50	Type	Electrical-Pneumatic(SMART)						
		51	Input Signal	4-20 mA-Hart						
		52	Power Supply	24 VDC loop powered						
53		Electrical Connection	ISO M20 x 1.5							
54		Direct/Reverse Act.	(NOTE 4 in Below Table)							
55		Lock Last Position	(NOTE 4 in Below Table)							
56		Output Signal	3-15 Psi							
57		I.P./Ex.Protect.	Gauge	IP65 / EEExia	Yes					
58		MFR	Model	(NOTE 4 in Below Table)						
59		Type	Qty.	N/A	N/A					
OPTIONS	60	MFR	Model	N/A	N/A					
	61	I.P.	Ex.Protect.	N/A	N/A					
	62	MFR	Model	N/A	N/A					
	63	Type	Qty.	N/A	N/A					
	64	Power Supply	N/A							
	65	Contacts / Rating	N/A							
	66	Switching Position	N/A							
	67	I.P.	Ex.Protect.	N/A	N/A					
	68	MFR	Model	N/A	N/A					
	69	Set Pressure	Yes							
PURCHASE	70	Filter	Gauge	Yes	Yes					
	71	Pneumatic Conn.	1/4 " NPTF							
	72	MFR	Model	(NOTE 4 in Below Table)						
	73	Hydro. Pressure	API 598							
	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 quotation stage.

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 12 از 19	
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01		
DATA SHEETS FOR CONTROL/REGULATOR VALVES										D01	
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-FS00-4"-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.	3		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				
	13						Units	Max	Norm.	Min.	
	14	Flow Rate(vapor/water/oil)					kg/h	9488.937	8626.31	2654.90	
	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)(vapour/water/oil)					0.935 / - / -				
	20	Viscosity (vapour/water/oil)					cP	0.0126 / - / -			
21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)					1.279 / -					
22	Vapour Pressure					bar-g	-				
23	Critical Pressure (liquid)					bar-g	93.65				
CALCULATED RESULTS	24	Flow Coefficient Cv					-	11.074	10.066	3.097	
	25	Travel					%	60.5	54.5	14.6	
	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	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	SS316 (Note 6)				62	MFR	Model	N/A	N/A
	ACTUTOR	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	N/A	
45		Air Failure	Handwheel	FAIL CLOSE	SIDE MOUNTED	68	MFR	Model	N/A	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	Yes
48		AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table)		7.5		8.5	71	Pneumatic 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

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 13 از 19	
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01		
DATA SHEETS FOR CONTROL/REGULATOR VALVES D01											
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.	3		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					
	13					Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)				kg/h	9488.937	8626.31	2654.90		
	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)(vapour/water/oil)				0.935 / - / -					
	20	Viscosity (vapour/water/oil)				cP	0.0126 / - / -				
21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)				1.279 / -						
22	Vapour Pressure				bar-g	-					
23	Critical Pressure (liquid)				bar-g	93.65					
CALCULATED RESULTS	24	Flow Coefficient Cv				-	11.074	10.066	3.097		
	25	Travel				%	60.5	54.5	14.6		
	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	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. Model	N/A	N/A	
	39	Seat Material	SS316 (Note 6)				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. Model	N/A	N/A		
45		Air Failure Handwheel	FAIL CLOSE	SIDE 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	Pneumatic 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

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 14 از 19		
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01			
DATA SHEETS FOR CONTROL/REGULATOR VALVES										D01		
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.	3		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					
	13						Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)					kg/h	9488.937	8626.31	2654.90		
	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)(vapour/water/oil)					0.935 / - / -					
	20	Viscosity (vapour/water/oil)					cP	0.0126 / - / -				
21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)					1.279 / -						
22	Vapour Pressure					bar-g	-					
23	Critical Pressure (liquid)					bar-g	93.65					
CALCULATED RESULTS	24	Flow Coefficient Cv					-	11.074	10.066	3.097		
	25	Travel					%	60.5	54.5	14.6		
	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	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		SS316 (Note 6)				62	MFR	Model	N/A	N/A
	ACTUTOR	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	N/A	
45		Air Failure	Handwheel	FAIL CLOSE	SIDE MOUNTED		68	MFR	Model	N/A	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	Yes
48		AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table)			7.5		8.5	71	Pneumatic 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					
	76	Internal Tubing					Required(with Double Ferrule Compression conn.)					
	77	Tube Material					316 S.S					
OPTIONS	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 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 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												

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 15 از 19		
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01			
DATA SHEETS FOR CONTROL/REGULATOR VALVES										D01		
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.	3		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)					62					
	13						Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)					kg/h	18887.886	17170.81	5286.831		
	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)(vapour/water/oil)					0.83 / -					
	20	Viscosity (vapour/water/oil)					cP	0.0141 / - / -				
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)					1.456 / -					
	22	Vapour Pressure					bar-g	-				
23	Critical Pressure (liquid)					bar-g	104.9					
CALCULATED RESULTS	24	Flow Coefficient Cv					-	72.4	65.5	18.2		
	25	Travel					%	93.43	84.95	26.14		
	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	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. Model	N/A	N/A		
	39	Seat Material	SS316 (Note 6)				62	MFR Model	N/A	N/A		
ACTUTOR	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. Model	N/A	N/A			
	45	Air Failure Handwheel	FAIL CLOSE	SIDE 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)				
PURCHASE						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			
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												

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه:	از	16
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01	19		
DATA SHEETS FOR CONTROL/REGULATOR VALVES D01												
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.	3			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)					62					
	13						Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)					kg/h	18887.89	17170.81	4292.701		
	15	Inlet Pressure					bar-g	52.9	52.9	52.9		
	16	Pressure Drop					bar	52.4	52.4	50.9		
	17	Inlet Temperature(max)					°C	59.42	59.42	59.42		
	18	Liquid Specific Gravity (G)					-					
	19	Compressibility Factor(Z)(vapour/water/oil)					0.825					
	20	Viscosity (vapour/water/oil)					cP	0.0141 / - / -				
21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)					1.456 / -						
22	Vapour Pressure					bar-g	-					
23	Critical Pressure (liquid)					bar-g	104.9					
CALCULATED RESULTS	24	Flow Coefficient Cv					-	23.26	21.139	5.28		
	25	Travel					%	63.4	57.2	12.1		
	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	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. Model	N/A	N/A
	39	Seat Material			SS316 (Note 6)				62	MFR Model	N/A	N/A
	ACTUTOR	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. Model	N/A	N/A		
45		Air Failure	Handwheel	FAIL CLOSE	SIDE MOUNTED			68	MFR Model	N/A	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	Yes		
48		AIR Press. Min/ Max/ Des. (Barg)	4 (Note 3 in Below Table) 7.5 8.5				71		Pneumatic 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 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 stellited facing shall be supplied for valve plugs and guides with solid stellited seat rings for Erosive or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه:	از	17	
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01	19			
DATA SHEETS FOR CONTROL/REGULATOR VALVES D01													
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.	3			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)					12.5						
	13						Units	Max	Norm.	Min.			
	14	Flow Rate(vapor/water/oil)					Nm3/h	33	30	9			
	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 (G)					1						
	19	Compressibility Factor(Z)(vapour/water/oil)					0.998						
	20	Viscosity (vapour/water/oil)					cP	0.021					
21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)					1.418							
22	Vapour Pressure					bar-g	-						
23	Critical Pressure (liquid)					bar-g	36.73						
CALCULATED RESULTS	24	Flow Coefficient Cv					-	1.595	1.45	0.435			
	25	Travel					%	72.8	67.9	25.6			
	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" # 800				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 / 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		SS316 (Note 6)				62	MFR	Model	N/A	N/A	
	ACTUTOR	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	SIDE MOUNTED		68	MFR	Model	N/A	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	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	73	Hydro. Pressure		API 598				OPTIONS	76	Internal Tubing		Required(with Double Ferrule Compression conn.)	
	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									

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

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	19	از	18	شماره صفحه :	
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01					
DATA SHEETS FOR CONTROL/REGULATOR VALVES D01														
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.	3			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)					12.5							
	13						Units	Max	Norm.	Min.				
	14	Flow Rate(vapor/water/oil)					Nm3/h		37.4 / - / -		34 / - / -		10.2 / - / -	
	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 (G)					7.450							
	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 / -								
22	Vapour Pressure					bar-g		-						
23	Critical Pressure (liquid)					bar-g		32.93						
CALCULATED RESULTS	24	Flow Coefficient Cv					-		0.663		0.602		0.181	
	25	Travel					%		79.2		71.7		19.7	
	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" # 800				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 / 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. Model		N/A N/A			
	39	Seat Material		SS316 (Note 6)				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				
ACTUTOR	44	Size Eff.Area		(NOTE 4 in Below Table)			67	I.P. Ex.Protect. Model		N/A N/A				
	45	Air Failure Handwheel		FAIL CLOSE		SIDE 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			
PURCHASE	Manufacturer		(NOTE 4 in Below Table)			OPTIONS	76	Internal Tubing		Required(with Double Ferrule Compression conn.)				
	Model		(NOTE 4 in Below Table)				77	Tube Material		316 S.S				
							78	Cable Gland		M20, Nickel plated brass				
							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 Erosive or cavitation/flashing services as per Control valve specification BK- GENRL-PEDCO-000-IN-SP-0005														

		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	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه:	از	19
053 - 073 - 9038		BK	GCS	PEDCO	120	IN	DT	0011	D01			
DATA SHEETS FOR CONTROL/REGULATOR VALVES											D01	
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.	3			8		
	7	Nace Requirement:					NOT 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)					9					
	13						Units	Max	Norm.	Min.		
	14	Flow Rate(vapor/water/oil)					kg/h	556.3473	505.8	151.731		
	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 (G)					4.873					
	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 / -						
22	Vapour Pressure					bar-g						
23	Critical Pressure (liquid)					bar-g	93.650					
CALCULATED RESULTS	24	Flow Coefficient Cv					-	19.029	17.3	5.19		
	25	Travel					%	83.3	75.5	20.8		
	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" # 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 / 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		SS316 (Note 6)				62	MFR	Model	N/A	N/A
	ACTUTOR	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	N/A	
45		Air Failure	Handwheel	FAIL CLOSE	SIDE 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)		
PURCHASE						TESTS	73	Hydro. Pressure	API 598			
							74	Leakage Class	ANSI IV			
							75	Performance Test	Required			
							76	Internal Tubing	Required(with Double Ferrule Compression conn.)			
						OPTIONS	77	Tube Material	316 S.S			
							78	Cable Gland	M20, Nickel plated brass			
							79	Cable Entry	M20 X 1.5			
							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 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												