



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارضی

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR CONTROL/REGULATOR VALVES

شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

BK

بسته کاری

GCS

صادر کننده

PEDCO

تجهیزات

120

رشته

IN

نوع مدرک

DT

سریال

0011

نسخه

D05

شماره صفحه: 1 از 21

طرح نگهداشت و افزایش تولید ۲۷ مخزن

DATA SHEETS FOR CONTROL/REGULATOR VALVES

نگهداشت و افزایش تولید میدان نفتی بینک

D05	APR.2024	AFC	P.Hajisadeghi	M.Fakharian	S.Faramarzpour	
D04	FEB.2024	IFA	P.Hajisadeghi	M.Fakharian	S.Faramarzpour	
D03	OCT.2023	IFA	P.Hajisadeghi	M.Fakharian	S.Faramarzpour	
D02	JUL.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



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:

• 03 - • 73 - 9184

پروژہ

۴ کاری

صادر کنندہ

تسهيلات

رشته

وع مدرک

سریال

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قسط

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REVISION RECORD SHEET

[illegible]

 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: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه	بسته کاری	صادر کننده	تهیهات	رشته	نوع مدرک	سریال	نسخه	3	از	21
	BK	GCS	PEDCO	120	IN	DT	0011	D05			

REFERENCE DOCUMENTS :

Specification For Instrumentation	BK-GNRAL-PEDCO-000-IN-SP-0001
Process Basis Of Design	BK-GNRAL-PEDCO-000-PR-DB-0001
Piping Material Specification	BK-GCS-PEDCO-120-PI-SP-0001
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	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 HIRGAN ENERGY 	
	DATA SHEETS FOR CONTROL/REGULATOR VALVES								
	شماره پیمان:	پروژه	بسته کاری	صادر کننده	تهیهات	رشته	نوع مدرک		سریال
۹۱۸۴ - ۰۷۳ - ۰۵۳	BK	GCS	PEDCO	120	IN	DT	0011	D05	شماره صفحه: 4 از 21

GENERAL NOTES:

- The electrical equipment shall be suitable for hazardous area Zone 2, gas group IIB, temperature class T4.
- Flow direction shall be specified on the valve body.
- All flanges shall be in accordance with ASME B16.5.
- Each valve shall be furnished with name plate as per "specification for control valves" with No. "BK-GNRAL-PEDCO-000-IN-SP-0002".
- 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 botled 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
 - Dimentional check
 - Hydrostatic test
 - Performance and mechanical operation test
 - Testy certificate including pressure test, visual, dimentional 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
- 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.
- 2 Nos. Eye-Bolt and 2 Nos. Jack Bolt for each valve to be supplied by vendor.
- 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
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Relative Humidity:

 - Maximum Range: 92.27%
 - Average Relative Humidity 54.7%
 - Minimum Relative Humidity: 34.94%
- All Control valves shall be IP 65 and weather proof.
- Standard ISA75.01 for sizing of Control valves shall be considered by vendor.
- In accordance to IPS-E-IN-160, Control valve body size normally shall not be less than half of normal line size.
- Quick Change Trim type control valve to be designed by vendor.
- Main parameters such as Noise level, vibration, actuator sizing, valve construction material, CV factor, Fluid specification, ... to be specified as per standard by vendor.
- The stroking time shall be lower than 5 second for valves up to 4" and 1 second per inch diameter for bigger ones. (VTC)
- 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.
- 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-GNRAL-PEDCO-000-PI-SP-0006".
- As per IPS-IN-160 test pressures shall be determined by the following relationships:
 - Shell test: 1.5 × maximum permissible, working pressure at 20°C.
 - Disk strength test (applicable to valves 14 inches and larger): 1.5 × maximum permissible working pressure at 20°C.
 - Seat test: 1.1 × maximum permissible working pressure at 20°C.
- The software using for sizing control valves is Fisher.
- All control and regulator valves shall have flanged end connection.
- All mentioned valued as valve coefficient (Cv) and travel are preliminary and shall be finalized/confirmed by Vendor

D05

		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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 5 از 21		
		BK	GCS	PEDCO	120	IN	DT	0011	D05			
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-D07				
	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	7220.4928	6564.084	1969.23			
	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	Specific Gravity (Vapour/water/oil)				0.91						
	19	Compressibility Factor(Z)(vapour/water/oil)				- / 0.98						
	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-g						
24		Flow Coefficient Cv				-	104.86	95.16	28.427			
BODY AND TRIM (Note 6)	25	Travel				%	65	63	39			
	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" # 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	
	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)			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 V				
	Model		(NOTE 4 in Below Table)		75	Performance Test		Required				
		Model	(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	
	Model					(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 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

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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 6 از 21
		BK	GCS	PEDCO	120	IN	DT	0011	D05	

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-D07				
	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	12395.9313	11269.03	3380			
	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	Specific Gravity (Vapour/water/oil)				0.81						
	19	Compressibility Factor(Z)(vapour/water/oil)				0.984 / - / -						
	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-g						
24		Flow Coefficient Cv				-	183.637	166.851	50.132			
	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 / 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	
		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)		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		OPTIONS	76	Internal Tubing		Required(with Double Ferrule Compression conn.)	
		74	Leakage Class		ANSI V			77	Tube Material		316 S.S	
		75	Performance Test		Required			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 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
- 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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 7 از 21
BK		GCS	PEDCO	120	IN	DT	0011	D05		

DATA SHEETS FOR FLOW CONTROL VALVES												
GENERAL	1	Tag No.			FCV-2111							
	2	Service			Slug Catcher System							
	3	Line No.			P&ID No.			CDH-112-0014-CN05-3"-PT			BK-GCS-PEDCO-120-PR-PI-0004-D07(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 / 3"			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		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		32.0		32.0		32.0	
	18	Specific Gravity (Vapour/water/oil)			0.715							
	19	Compressibility Factor(Z)(vapour/water/oil)			-							
	20	Viscosity (vapour/water/oil)			cP		-		/ 0.58			
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)			-		-		/ 1.223			
	22	Vapour Pressure			bar-a		6.5					
23	Critical Pressure (liquid)			bar-g		220.3						
CALCULATED RESULTS	24	Flow Coefficient Cv			-		10.804		9.817		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)							
	28	Rated Cv			(NOTE 4 in Below Table)							
	29	End conn. & Rating			2" # 300							
	30	Body/Bonnet Material			ASTM A216 GR. WCB							
	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 (Note 6)							
	39	Seat Material			NO. 12 (Note 8)							
	40	Cage/Guid Material			SS316 (Note 6)							
	41	Stem Material			SS316 (Note 6)							
42	Trim Material			SS316 (Note 6)								
43	MFR	Model		(NOTE 4 in Below Table)								
ACTUTOR	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	Increase/Decrease Air			Increase to Open(VTC)							
	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				
	64	Power Supply			N/A							
SWITCHES	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							
AIR SET	70	Filter	Gauge		Yes			Yes				
	71	Pnumatic Conn.			1/4 " NPTF							
	72	MFR	Model		(NOTE 4 in Below Table)							
	73	Hydro. Pressure			API 598							
	74	Leakage Class			ANSI V							
OPTIONS	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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه : 8 از 21					
		BK	GCS	PEDCO	120	IN	DT	0011	D05						
DATA SHEETS FOR LEVEL CONTROL VALVES															
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-D07							
	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.		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	1119.5286	1017.7533	305.326						
	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	Specific Gravity (Vapour/water/oil)				0.842									
	19	Compressibility Factor(Z)(vapour/water/oil)				-									
	20	Viscosity (vapour/water/oil)				cP	-0.691								
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)				1.143									
	22	Vapour Pressure				bar-a	0.61								
23	Critical Pressure (liquid)				bar-a	221.413									
CALCULATED RESULTS	24	Flow Coefficient Cv				-	0.681	0.619	0.186						
	25	Travel				%	72	69	32						
	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	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					
ACTUTOR	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	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 V
												75	Performance Test		Required
												OPTIONS	76	Internal Tubing	
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 stellite facing shall be supplied for valve plugs and guides with solid stellite 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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 9 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D05		
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"-IS		BK-GCS-PEDCO-120-PR-PI-0011-D07(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.		FS00		SCH.40S			
	9	Pipe Line Insulation Line Size		Pipe Material		IS / 6"		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	8664.00	2166.00				
	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	Specific Gravity (Vapour/water/oil)		-0.847							
	19	Compressibility Factor(Z)(vapour/water/oil)		0.860 / - / -							
	20	Viscosity (vapour/water/oil)		cP	0.014/ - / -						
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)		1.457 / -							
	22	Vapour Pressure		bar-g	-						
23	Critical Pressure (liquid)		bar-g	93.65							
CALCULATED RESULTS	24	Flow Coefficient Cv		-	11.145	10.132	2.75				
	25	Travel		%	54	52	25				
	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)							
	28	Rated Cv		(NOTE 4 in Below Table)							
	29	End conn. & Rating		4" # 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 (Note 6)							
	39	Seat Material		NO. 12 (Note 8)							
	40	Cage/Guid Material		SS316 (Note 6)							
	41	Stem Material		SS316 (Note 6)							
42	Trim Material		SS316 (Note 6)								
43	MFR	Model	(NOTE 4 in Below Table)								
ACTUTOR	44	Size	Eff.Area	(NOTE 4 in Below Table)							
	45	Air Failure	Handwheel	FAIL OPEN SIDE MOUNTED							
	46	Air Action	Orientation	AIR TO CLOSE 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 (Note 5)	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	Increase/Decrease Air		Increase to Open(VTC)							
	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)							
	SOLENOID VALVE	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					
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					
	68	MFR	Model	N/A		N/A					
AIR SET	69	Set Pressure		Yes							
	70	Filter	Gauge	Yes		Yes					
	71	Pnumatic Conn.		1/4 " NPTF							
	72	MFR	Model	(NOTE 4 in Below Table)							
	73	Hydro. Pressure		API 598							
TESTS	74	Leakage Class		ANSI V							
	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							
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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 10 از 21			
		BK	GCS	PEDCO	120	IN	DT	0011	D05				
DATA SHEETS FOR PRESSURE CONTROL VALVES													
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-FS00-6"-IS			BK-GCS-PEDCO-120-PR-PI-0011-D07(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.		FS00			SCH.40S					
	9	Pipe Line Insulation Line Size	Pipe Material		IS / 6"			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	8664.00	2166.00						
	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	Specific Gravity (Vapour/water/oil)			-0.847								
	19	Compressibility Factor(Z)(vapour/water/oil)			0.860 / - / -								
	20	Viscosity (vapour/water/oil)		cP	0.014/ - / -								
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)			1.457 / -								
	CALCULATED RESULTS	22	Vapour Pressure		bar-g								
23		Critical Pressure (liquid)		bar-g									
24		Flow Coefficient Cv		-	11.145	10.132	2.75						
BODY AND TRIM (Note 6)	25	Travel		%	54	52	25						
	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	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)					
	ACTUTOR	32	Flow Direction	(NOTE 4 in Below Table)		SOLENOID VALVE	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)			59	Type	Qty.	N/A	N/A		
		TESTS	37	Rated Travel	(NOTE 4 in Below Table)		SWITCHES	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				
OPTIONS			42	Trim Material	SS316 (Note 6)		AIR SET	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 OPEN SIDE MOUNTED			68	MFR	Model	N/A	N/A	
	46		Air Action	Orientation	AIR TO CLOSE VERT. UP			69	Set Pressure	Yes			
	PURCHASE		47	Actuator Type	Pneumatic Diaphragm Actuators		TESTS	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)		
		NOTES:						73	Hydro. Pressure	API 598			
								74	Leakage Class	ANSI V			
							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 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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 11 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D05		
DATA SHEETS FOR PRESSURE CONTROL VALVES											
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-FS00-6"-IS		BK-GCS-PEDCO-120-PR-PI-0011-D07(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.		FS00		SCH.40S			
	9	Pipe Line Insulation Line Size		Pipe Material		IS / 6"		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	8664.00	2166.00				
	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	Specific Gravity (Vapour/water/oil)		-0.847							
	19	Compressibility Factor(Z)(vapour/water/oil)		0.860 / - / -							
	20	Viscosity (vapour/water/oil)		cP	0.014/ - / -						
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)		1.457 / -							
	CALCULATED RESULTS	22	Vapour Pressure		bar-g						
23		Critical Pressure (liquid)		bar-g							
24		Flow Coefficient Cv		-	11.145	10.132	2.75				
BODY AND TRIM (Note 6)	25	Travel		%	54	52	25				
	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		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		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	(NOTE 4 in Below Table)	68	MFR	Model	N/A	N/A	
46		Air Action		Orientation	AIR TO CLOSE/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 V		
						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 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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 12 از 21		
		BK	GCS	PEDCO	120	IN	DT	0011	D05			
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"-IS		BK-GCS-PEDCO-120-PR-PI-0013-D07 (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		IS / 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	18887.886	17170.81	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	59.36	59.36	59.36			
	18	Specific Gravity (Vapour/water/oil)				0.847/-						
	19	Compressibility Factor(Z)(vapour/water/oil)				0.9 / -						
	20	Viscosity (vapour/water/oil)				cP	0.0141 / - / -					
	21	Specific Heats Ratio(Cp/Cv) (vapour/liquid)				1.456 / -						
	CALCULATED RESULTS	22	Vapour Pressure				bar-g	-				
23		Critical Pressure (liquid)				bar-g	104.9					
24		Flow Coefficient Cv				-	96.547	87.644	26.124			
BODY AND TRIM (Note 6)	25	Travel				%	64	62	37			
	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 / 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 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	Manufacturer	(NOTE 4 in Below Table)		TESTS	73	Hydro. Pressure		API 598				
		Model	(NOTE 4 in Below Table)		74	Leakage Class		ANSI V				
					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 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 Erosion 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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه : 13 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D05		
DATA SHEETS FOR PRESSURE CONTROL VALVES											
GENERAL	1	Tag No.				PCV-2152					
	2	Service				Gas Compression Dehydration Package					
	3	Line No.		P&ID No.		GAS-111-0052-FN05-4"-IS		BK-GCS-PEDCO-120-PR-PI-0013-D07 (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		IS / 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	18887.89	17170.81	5151.300		
	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	59.36	59.36	59.36		
	18	Specific Gravity (Vapour/water/oil)				0.847/-					
	19	Compressibility Factor(Z)(vapour/water/oil)				0.900					
	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				-	26.114	21.585	5.96		
	25	Travel				%	68	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		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 / 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
	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 OPEN SIDE MOUNTED			68	MFR	Model	N/A	N/A
	46	Air Action	Orientation	AIR TO CLOSE 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	Manufacturer		(NOTE 4 in Below Table)		TESTS	73	Hydro. Pressure		API 598		
	Model		(NOTE 4 in Below Table)			74	Leakage Class		ANSI V		
					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 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 Erosion 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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه : 14 از 21		
		BK	GCS	PEDCO	120	IN	DT	0011	D05			
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-D07 (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	42.656	38.7782	11.6334			
	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	Specific Gravity (Vapour/water/oil)				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)				1.410						
	CALCULATED RESULTS	22	Vapour Pressure				bar-g					
23		Critical Pressure (liquid)				bar-g						
24		Flow Coefficient Cv				-	0.281	0.255	0.077			
25		Travel				%	65	64	43			
BODY AND TRIM (Note 6)	26	Sound Pressure Level				dBA	MAX 85 dBA(VTC)		MAX 85 dBA(VTC)			
	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 / 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 / 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	Manufacturer	(NOTE 4 in Below Table)		TESTS	73	Hydro. Pressure		API 598				
		Model	(NOTE 4 in Below Table)		74	Leakage Class		ANSI V				
			(NOTE 4 in Below Table)		75	Performance Test		Required				
			(NOTE 4 in Below Table)		OPTIONS	76	Internal Tubing		Required(with Double Ferrule Compression conn.)			
			(NOTE 4 in Below Table)			77	Tube Material		316 S.S			
			(NOTE 4 in Below Table)			78	Cable Gland		M20, Nickel plated brass			
			(NOTE 4 in Below Table)			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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه : 15 از 21	
		BK	GCS	PEDCO	120	IN	DT	0011	D05		
DATA SHEETS FOR PRESSURE CONTROL VALVES											
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-D07			
	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 / - / -	38.62 / - / -	11.59/ - / -		
	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	Specific Gravity (Vapour/water/oil)				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 / -					
	22	Vapour Pressure				bar-g	-				
23	Critical Pressure (liquid)				bar-g	32.93					
CALCULATED RESULTS	24	Flow Coefficient Cv				-	0.752	0.684	0.204		
	25	Travel				%	75	72	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		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 / 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
	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)		AIR SET	67	I.P.	Ex.Protect.	N/A	N/A
	45	Air Failure	Handwheel	FAILO OPEN SIDE MOUNTED			68	MFR	Model	N/A	N/A
	46	Air Action	Orientation	AIR TO CLOSE 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	Manufacturer	(NOTE 4 in Below Table)		TESTS	73	Hydro. Pressure		API 598			
		Model	(NOTE 4 in Below Table)		74	Leakage Class		ANSI V			
			(NOTE 4 in Below Table)		75	Performance Test		Required			
			(NOTE 4 in Below Table)		OPTIONS	76	Internal Tubing		Required(with Double Ferrule Compression conn.)		
			(NOTE 4 in Below Table)			77	Tube Material		316 S.S		
			(NOTE 4 in Below Table)			78	Cable Gland		M20, Nickel plated brass		
			(NOTE 4 in Below Table)			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: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 16 از 21			
		BK	GCS	PEDCO	120	IN	DT	0011	D05				
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-D07					
	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	556.3473	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	Specific Gravity (Vapour/water/oil)				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 / -							
	22	Vapour Pressure				bar-g	-						
23	Critical Pressure (liquid)				bar-g	93.650							
CALCULATED RESULTS	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 / 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		
	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 / 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	Manufacturer	(NOTE 4 in Below Table)		TESTS	73	Hydro. Pressure		API 598					
		Model	(NOTE 4 in Below Table)		74	Leakage Class		ANSI V					
			Model		(NOTE 4 in Below Table)		75	Performance Test		Required			
					Model	(NOTE 4 in Below Table)		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 stelled facing shall be supplied for valve plugs and guides with solid stelled seat rings for Erosion 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.

 N I O C		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 شرکت توسعه و پارس		 HIRGAN ENERGY	
		DATA SHEETS FOR CONTROL/REGULATOR VALVES										
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پرورده	پسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه : 17 از 21		
		BK	GCS	PEDCO	120	IN	DT	0011	D05			
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_D07					
	4	Area Classification					Zone2, IIB T4					
	5	Line No.			Piping Class		NIT-112-0040-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	
	10	Flow Rate					3.7175		15.3909		16.9299	
	11	Inlet Pressure					0.05		0.05		0.05	
	12	Outlet Pressure					0		0		0	
	13	Inlet Temperature					60		60		60	
	14	Molecular Weight					28.01		28.01		28.01	
	15	Density					1.075		1.075		1.075	
	16	Viscosity					0.020		0.020		0.020	
	17	Design Temperature					85				° C	
	18	Design Pressure					18.2				bar-g	
	19	Calculated Cv / Travel					0.601/2.4/2.739		27/59/61		- / %	
	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"	300#					
	29	Mfr. & Model		VTA								
	30	Body / Bonnet Material		ASTM A 105								
	31	End Connection		In	Out	1"	1"					
	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					
ACTUATOR	55	Type		Self-actuated regulator								
	56	Pilot		N/A								
	57	Supply to Pilot		N/A								
	58	Spring Range (bar-g)		VTA								
	59	Setpoint (bar-g)		50mbarg (Note 6)								
	60	Process Connection		1/2" NPTF (Note1)								
	61	Air Failure		N/A								
	62	Spring Action		N/A								
	63											
	64											
POSITIONER	65											
	66	Type		N/A								
	67	Mfr. & Model		N/A								
	68	Input Signal		Output Signal		N/A	N/A					
	69	On Incr Signal Output Incr / Decr		N/A								
	70			N/A								
	71	Electrical Connection		N/A								
LIMIT SWITCH	72	Ex Certificate		Ingress Protection		N/A	N/A					
	73	Type		Quantity		N/A	N/A					
	74	Mfr. & Model		N/A								
	75	Tag Number(s)		N/A								
	76	Actuation Point		N/A								
	77	Contacts / Rating		N/A								
	78	Electrical Connection		N/A								
AIR SET	79	Ex Certificate		Ingress Protection		N/A	N/A					
	80	Mfr. & Model		VTA								
	81	Set Pressure		VTA								
	82	Filter		Gauges		VTA	VTA					
	83	Pneumatic Connection		VTA								
TESTS	84	Hydro Pressure		YES								
	85	NACE MR 0175		No								
	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.

6- This valve shall keep upstream pressure at set value.

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 شرکت توسعه و پارس		 HIRGAN ENERGY		
		DATA SHEETS FOR CONTROL/REGULATOR VALVES											
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پرژه	پسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 18 از 21			
		BK	GCS	PEDCO	120	IN	DT	0011	D05				
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_D07						
	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					6.20		17.87		19.66		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					8.620		8.620		8.620		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					0.058/0.160/0.176		48/72/74				- / %
	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"	300#						
	29	Mfr. & Model					VTA						
	30	Body / Bonnet Material					ASTM A 105						
	31	End Connection		In	Out	1"	1"						
	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						
	55												
ACTUATOR	55	Type			Self-actuated regulator								
	56	Pilot			N/A								
	57	Supply to Pilot			N/A								
	58	Spring Range (bar-g)			VTA								
	59	Setpoint (bar-g)			10mbarg (Note 6)								
	60	Process Connection			1/2" NPTF (Note1)								
	61	Air Failure			N/A								
	62	Spring Action			N/A								
	63												
	64												
POSITIONER	65												
	66	Type			N/A								
	67	Mfr. & Model			N/A								
	68	Input Signal		Output Signal		N/A	N/A						
	69	On Incr Signal Output Incr / Decr			N/A								
	70				N/A								
	71	Electrical Connection			N/A								
LIMIT SWITCH	72	Ex Certificate		Ingress Protection		N/A	N/A						
	73	Type		Quantity		N/A	N/A						
	74	Mfr. & Model			N/A								
	75	Tag Number(s)			N/A								
	76	Actuation Point			N/A								
	77	Contacts / Rating			N/A								
	78	Electrical Connection			N/A								
AIR SET	79	Ex Certificate		Ingress Protection		N/A	N/A						
	80	Mfr. & Model			VTA								
	81	Set Pressure			VTA								
	82	Filter		Gauges		VTA	VTA						
	83	Pneumatic Connection			VTA								
TESTS	84	Hydro Pressure			YES								
	85	NACE MR 0175			No								
	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.

6- This valve shall keep downstream pressure at set value.

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 شرکت توسعه و پارسا		 HIRGAN ENERGY		
		DATA SHEETS FOR CONTROL/REGULATOR VALVES										
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه: BK	بسته کاری: GCS	صادر کننده: PEDCO	تسهیلات: 120	رشته: IN	نوع مدرک: DT	سریال: 0011	نسخه: D05	شماره صفحه: 19 از 21		
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_D07 (2/2)					
	4	Area Classification					Zone2, IIB T4					
	5	Line No.			Piping Class		ISA-112-0112-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					35.664	118.881	154.607	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					0.427/1.424/1.852 25/42/52			- / %		
	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"					
	24	Pipe Line Schedule		In	Out	SCH. 40	SCH.40					
	25	Pipe Line Insulation/Spec					PAINTING					
	26											
VALVE BODY / BONNET	27	Body Type			GLOBE							
	28	Size		ANSI Class		1 1/2"		300#				
	29	Mfr. & Model			VTA							
	30	Body / Bonnet Material			D05		ASTM B148 UNS C95800					
	31	End Connection		In	Out	1 1/2"		1 1/2"				
	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					
ACTUATOR	55	Type			Self-actuated regulator							
	56	Pilot			N/A							
	57	Supply to Pilot			N/A							
	58	Spring Range (bar-g)			VTA							
	59	Setpoint (bar-g)			8barg (Note 6)							
	60	Process Connection			1/2" NPTF (Note1)							
	61	Air Failure			N/A							
	62	Spring Action			N/A							
	63											
	64											
	65											
	POSITIONER	66	Type			N/A						
		67	Mfr. & Model			N/A						
		68	Input Signal		Output Signal		N/A	N/A				
		69	On Incr Signal Output Incr / Decr			N/A						
		70				N/A						
71		Electrical Connection			N/A							
72		Ex Certificate		Ingress Protection		N/A	N/A					
LIMIT SWITCH	73	Type		Quantity		N/A	N/A					
	74	Mfr. & Model			N/A							
	75	Tag Number(s)			N/A							
	76	Actuation Point			N/A							
	77	Contacts / Rating			N/A							
	78	Electrical Connection			N/A							
AIR SET	79	Ex Certificate		Ingress Protection		N/A	N/A					
	80	Mfr. & Model			VTA							
	81	Set Pressure			VTA							
	82	Filter		Gauges		VTA	VTA					
TESTS	83	Pneumatic Connection			VTA							
	84	Hydro Pressure			YES							
	85	NACE MR 0175			No							
	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.

6- This valve shall keep downstream pressure at set value.



N I O C

تجهیزات و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک




شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۰۳۸

پرژه

BK

پسته کاری

GCS

صادر کننده

PEDCO

تسهیلات

120

رشته

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نوع مدرک

DT

سریال

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نسخه

D05

شماره صفحه :

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21

DATA SHEETS FOR CONTROL/REGULATOR VALVES

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_D07								
	4	Area Classification					Zone2, IIB T4								
	5	Line No.			Piping Class		NIT-111-0005-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				
	10	Flow Rate					0.74		4.45		4.90				
	11	Inlet Pressure					7.5		7.5		7.5				
	12	Outlet Pressure					0.01		0.01		0.01				
	13	Inlet Temperature					60		60		60				
	14	Molecular Weight					28.01		28.01		28.01				
	15	Density					8.620		8.620		8.620				
	16	Viscosity					0.020		0.020		0.020				
	17	Design Temperature					85				° C				
	18	Design Pressure					18.2				bar-g				
	19	Calculated Cv / Travel					0.0053/0.032/0.035		40/68/70		- / %				
	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. 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				POSITIONER	59	Setpoint (bar-g)		10mbarg (Note 6)			
	28	Size		ANSI Class		1"	300#		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"	1"		63						
	32	Type Of Bonnet		STANDARD					64						
	33	Packing Material		PTFE					65						
	34								66	Type		N/A			
TRIM	35							LIMIT SWITCH	67	Mfr. & Model		N/A			
	36								68	Input Signal		Output Signal			
	37	Characteristics		LINEAR (Note1)					69	On Incr Signal		Output Incr / Decr			
	38	Rated		Cv	FL	XT	VTA		VTA	VTA	70			N/A	
	39	Trim Material		SS316 (Note 4)					71	Electrical Connection		N/A			
	40	Seat Material		NO. 12 (Note 5)					72	Ex Certificate		Ingress Protection			
PURCHASE	41	Req. Seat Tightness		Class IV				AIR SET	73	Type		Quantity			
	42								74	Mfr. & Model		N/A			
SOLENOID VALVE	43							TESTS	75	Tag Number(s)		N/A			
	44	Manufacturer		(NOTE 2 in Below Table)					76	Actuation Point		N/A			
	45	Model		(NOTE 2 in Below Table)					77	Contacts / Rating		N/A			
	46	Type		N/A					78	Electrical Connection		N/A			
	47	Tag Number		N/A					79	Ex Certificate		Ingress Protection			
	48	Body Material		N/A					80	Mfr. & Model		VTA			
SPECIAL ACCESSORIES	49	Operating Voltage		N/A				TESTS	81	Set Pressure		VTA			
	50	Elec. Connection		N/A					82	Filter		Gauges			
	51	Manual Reset		N/A					83	Pneumatic Connection		VTA			
	52	Ex Certificate		Ingress Protection		N/A	N/A		84	Hydro Pressure		YES			
53	Fusible Leakage		Booster		N/A	N/A	85	NACE MR 0175		No					
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 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.

6- This valve shall keep downstream pressure at set value.

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 شرکت توسعه و پارسا		 HIRGAN ENERGY		
		DATA SHEETS FOR CONTROL/REGULATOR VALVES										
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پرورده	پسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 21 از 21		
		BK	GCS	PEDCO	120	IN	DT	0011	D05			
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_D07					
	4	Area Classification					Zone2, IIB T4					
	5	Line No.			Piping Class		NIT-111-0009-AN04-1"-PT			AN04		
	6	Ambient Temperature		°C	Min.	Max.	5			50		
	7	Nace Requirement:					YES					
1.00 €	8	Fluid			Phase		NITROGEN			GAS		
	9						Min. Flow	Norm. Flow	Max. Flow	Unit		
	10	Flow Rate					0.74	6.93	7.63	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					1.080	1.080	1.080	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					0.119/1.122/1.234 31/71/72			- / %		
	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.XXS	SCH.XXS					
	25	Pipe Line Insulation/Spec		PAINTING								
	26											
VALVE BODY / BONNET	27	Body Type			GLOBE							
	28	Size		ANSI Class		1"	300#					
	29	Mfr. & Model			VTA							
	30	Body / Bonnet Material			ASTM A 105							
	31	End Connection		In	Out	1"	1"					
	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							
	52	Ex Certificate		Ingress Protection		N/A	N/A					
SPECIAL ACCESSORIES	53	Fusible Leakage		Booster		N/A	N/A					
	54	Block Relay		Volume Tank		N/A	N/A					
ACTUATOR	55	Type			Self-actuated regulator							
	56	Pilot			N/A							
	57	Supply to Pilot			N/A							
	58	Spring Range (bar-g)			VTA							
	59	Setpoint (bar-g)			50mbarg (Note 6)							
	60	Process Connection			1/2" NPTF (Note1)							
	61	Air Failure			N/A							
	62	Spring Action			N/A							
	63											
	64											
	65											
	POSITIONER	66	Type			N/A						
		67	Mfr. & Model			N/A						
		68	Input Signal		Output Signal		N/A	N/A				
		69	On Incr Signal Output Incr / Decr			N/A						
		70				N/A						
		71	Electrical Connection			N/A						
		72	Ex Certificate		Ingress Protection		N/A	N/A				
LIMIT SWITCH	73	Type		Quantity		N/A	N/A					
	74	Mfr. & Model			N/A							
	75	Tag Number(s)			N/A							
	76	Actuation Point			N/A							
	77	Contacts / Rating			N/A							
	78	Electrical Connection			N/A							
	79	Ex Certificate		Ingress Protection		N/A	N/A					
AIR SET	80	Mfr. & Model			VTA							
	81	Set Pressure			VTA							
	82	Filter		Gauges		VTA	VTA					
	83	Pneumatic Connection			VTA							
	84	Hydro Pressure			YES							
TESTS	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.

6- This valve shall keep upstream pressure at set value.