

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید بسته نم زدای گاز ایستگاه تقویت فشار گاز بینک (قرارداد ۰۸_۰۰۱۰-CO-GCS-HD-BK)								
	INSTRUMENT D.S. FOR CONTROL VALVES								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده MF	تسهیلات 120	رشته IN	نوع مدرک DS	سریال 0001	نسخه V00	شماره صفحه: ۱ از ۱۰

طرح نگهداشت و افزایش تولید ۲۷ مخزن

INSTRUMENT D.S. FOR CONTROL VALVES

نگهداشت و افزایش تولید میدان نفتی بینک

V00	Apr.2025	IFA	MFS	M.Fakharian	S.Faramarzpour	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval
		CLIENT Doc. Number: -				

status:

- IFA: Issued For Approval
- IFI: Issued For Information
- AFC: Approved For Construction

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید بسته نم زدای گاز ایستگاه تقویت فشار گاز بینک (قرارداد ۰۸-۰۰۱-BK-HD-GCS-CO)								
	INSTRUMENT D.S. FOR CONTROL VALVES								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده MF	تسهیلات 120	رشته IN	نوع مدرک DS	سریال 0001	نسخه V00	شماره صفحه: ۱۰ از ۲

REVISION RECORD SHEET

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1	X					61					
2	X					62					
3	X					63					
4	X					64					
5	X					65					
6	X					66					
7	X					67					
8	X					68					
9	X					69					
10	X					70					
11						71					
12						72					
13						73					
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59						119					
60						120					



- 1-Tubing Material shall be AISI 316L
- 2- VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable.
- 3-Actuators shall be sized for a minimum air pressure of 3 barg. The normal operating pressure is 4 barg, and the maximum operating pressure is 10 barg.
- 4-NNF (Normally No Flow)
- 5-Trim number 12 same as API 602.
- 6:The actuator shall be painted as below:
Direct acting (open on air failure) – green
Reverse acting (close on air failure) – red

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید بسته نم زدای گاز ایستگاه تقویت فشار گاز بینک (قرارداد ۰۰۱۰۰۸-GCS-CO-BK-HD)									
		INSTRUMENT D.S. FOR CONTROL VALVES									
شماره پیمان:		پروژه	بسته کاری	صادر کننده	تهیهات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۴ از ۱۰	
۰۵۳ - ۰۷۳ - ۹۱۸۴		BK	GCS	MF	120	IN	DS	0001	V00		
GENERAL	1	Item Number		Tag Number		Quantity		2		D-LCV-2101	1
	2	Service						FROM C-100 TO E-100			
	3	P & ID No.		Page No.		BK-GCS-MF-120-PR-PH-0003		1/7			
	4	Line No.		Piping Class		TEG-111-0002-FN07-1"-PT		FN07			
PROCESS CONDITIONS	5	Fluid		Phase		TEG		Liquid			
	6					Min. Flow		Normal. Flow		Max. Flow	Unit
	7	Flow Rate				300		849.5		934.45	kg/h
	8	Inlet Pressure						53.8 - 54.9			barg
	9	Outlet Pressure						5.5			barg
	10	Inlet Temperature						62.08 - 63.6			°C
	11	Molecular Weight						98.24			kg/kmol
	12	Density						1072			kg/m3
	13	Viscosity						7.077			cp
	14	Vapor Pressure Pv						51.68			barg
	15	Flash									
	16	Calculated Cv / Travel									
	17	Allowable / * Predicted SPL				85		85		85	dBA
	18	Compressibility Factor (Z)						0.1811 / 0.2146			
	19	Spec. Heat Ratio(K=Cp/Cv)						1.063			
	20	Critical Pres. Pc (Barg)		Critical Temp. Tc		Shut-Off Pres. (Bara)		35.52		428.2	
	21	Corrosive Service		Toxic Service		Super Heat		YES		YES	NO
	22										
	LINE	23	Size	In	Out	1"	1"				
		24	Pipe Line Sched.	In	Out	XXS	XXS				
		25	Pipe Line Insulation/Spec								
VALVE BODY / BONNET	26	Type		Globe							
	27	Size	ANSI Class		1"	600#					
	28	Desing Press. (Barg)	Design Temp. (°C)								
	29	Mfr. & Model	VTA								
	30	Body / Bonnet Material	ASTM A105 (NACE)								
	31	Liner Material / ID	VTA								
	32	End Connection	In	Out	1" #600	1" #600					
	33	Flange Face Finish	RF,SW (125-250 AARH)								
	34	Flow Direction	Bi-Directional(VTA)								
	35	Type Of Bonnet	Standard (Bolted)								
	36	Packing Material	Packing Type		Teflon-chevron	VTA					
	37	Gasket			Spiral Wound,AIS316,Graphite filled,C.S. Outer& S.S316L Inner Ring						
	38										
	TRIM	39	* Type	(VTA)							
		40	* Size	Rated Travel		1"	3/4"				
41		* Characteristics	Equal Precent(VTC)								
42		* Balanced / Unbalanced	Balanced								
43		* Rated Cv	Fl	Xt	VTA	VTA	VTA				
44		* Plug / Ball / Disk Material	SS 316-Hard Face(Note4)								
45		* Seat Material	SS 316-Hard Face(Note4)								
46		* Cage / Guide Material	SS 316-Hard Face(Note4)								
47		* Stem / Material	SS 316-Hard Face(Note4)								
48											
SOLENOID VALVE	49	Type	N/A								
	50	Tag Number	N/A								
	51	Body Material	N/A								
	52	Operating Voltage	N/A								
	53	Elec. Connection	N/A								
	54	Manual Reset	N/A								
	55	Ex Certificate	Ingress Protection		N/A	N/A					
SPECIAL/ ACCESSORIES	56	Pneumatic Connection	N/A								
	57	Fusible Leakage	Booster		IV	VTA					
	58	Block Relay	Volume Tank		VTA	NO					
	59	SIL Requirement			NO						
	60										
	61										
	62										
ACTUATOR	63	Type	Pneumatic, Spring & Diaphragm								
	64	Mfr. & Model	VTA								
	65	Size	Eff Area		VTA	VTA					
	66	On/Off or Modulated	Modulated								
	67	Spring Action Open /Close	FC								
	68	*Max Allowable Pressure	VTA								
	69	*Min Required Pressure	VTA								
	70	*Supply Pressure	Min	Nor	Max	4	7.5	8.5 (NOTE3)			
	71	*Bench Range	0.2-1 barg(VTC)								
	72	Act. Orientation	Top, Horizontal, Parallel(VTC)								
	73	Hand Wheel	Limit Stop		NO	NO					
	74	IP for Pneumatic Parts	65								
	75										
	POSITIONER	76	Type	Electro Pneumatic (smart)/Digital-HART							
		77	Mfr. & Model	VTA							
78		Input Signal	Output Signal		4-20mA	NO					
79		Action on Increase Signal	Increase to Open								
80		Cam Characteristics	VTA								
81		Electrical Connection	M20x1.5								
82		Ex Certificate	Zone 2 EX ia IIB T4								
83		Ingress Protection	65								
84		Housing Material	Aluminum Die-cast								
85											
LIMIT SWITCH	86	Type	Quantity		N/A	N/A					
	87	Mfr. & Model	N/A								
	88	Tag Number(s)	N/A								
	89	Actuation Point	N/A								
	90	Contacts / Rating	N/A								
AIR SET	91	Electrical Connection	N/A								
	92	Ex Certificate	N/A								
	93	Ingress Protection	N/A								
	94	Mfr. & Model	VTA								
	95	Set Pressure	VTA								
TESTS	96	Filter	Gauges		YES	YES					
	97	Pneumatic Connection	1/4"NPTF(VTA)								
	98	Hydro Pressure	YES (ANSI/ASME B16.34)								
	99	ANSI / FCI Leakage Class	IV								
	100	NACE MR 0175	YES								

1-Tubing Material shall be AISI 316L .
 2- VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable.
 3-Actuators shall be sized for a minimum air pressure of 3 barg. The normal operating pressure is 4 barg, and the maximum operating pressure is 10 barg.
 4-Trim number 12 same as API 602.
 5:The actuator shall be painted as below:
 Direct acting (open on air failure) – green
 Reverse acting (close on air failure) – red

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید بسته نم زدای گاز ایستگاه تقویت فشار گاز بینک (قرارداد: BK-HD-GCS-CO-0001-08-08)									
		INSTRUMENT D.S. FOR CONTROL VALVES									
شماره صفحه: ۱۰ از ۵		نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادر کننده	بسته کاری	پروژه	شماره پیمان:	
		V00	0001	DS	IN	120	MF	GCS	BK	۰۵۳ - ۰۷۳ - ۹۱۸۴	
GENERAL	1	Item Number		Tag Number		Quantity		3		D-LCV-2102	
	2	Service		FROM C-100 TO DEHYDRATION DRIAN LINE		1					
	3	P & ID No.		Page No.		BK-GCS-MF-120-PR-PI-0003		1/7			
	4	Line No.		Piping Class		HCB-111-0003-FN07-1"-PT		FN07			
PROCESS CONDITIONS	5	Fluid		Phase		HCB		Liquid			
	6	Min. Flow		Normal. Flow		Max. Flow		Unit			
	7	Flow Rate		min.		5.9		10		kg/h	
	8	Inlet Pressure		48.51		53.9		59.29		barg	
	9	Outlet Pressure		3.5		3.5		3.5		barg	
	10	Inlet Temperature		48		59.89 - 60		72		°C	
	11	Molecular Weight		-		18.04		-		kg/kmol	
	12	Density		-		980		-		kg/m3	
	13	Viscosity		-		0.49		-		cp	
	14	Vapor Pressure Pv		-		53.9		-		barg	
	15	Flash		-		-		-			
	16	Calculated Cv / Travel		-		-		-			
	17	Allowable / * Predicted SPL		85		85		85		dBA	
	18	Compressibility Factor (Z)		-		0.0933 (vapor phase)		-			
	19	Spec. Heat Ratio(K=Cp/Cv)		-		1.012		-			
	20	Critical Pres. Pc (Barg)		Critical Temp. Tc		Shut-Off Pres. (Bara)		222.4		373.9	
	21	Corrosive Service		Toxic Service		Super Heat		YES		YES	
	22									NO	
	LINE	23	Size		In	Out	1"	1"			
		24	Pipe Line Schedule		In	Out	XXS	XXS			
25		Pipe Line Insulation/Spec									
VALVE BODY / BONNET	26	Type		Globe							
	27	Size		ANSI Class		1"		600#			
	28	Desing Press. (Barg)		Design Temp. (°C)							
	29	Mfr. & Model		VTA							
	30	Body / Bonnet Material		ASTM A105							
	31	Liner Material / ID		VTA							
	32	End Connection		In	Out	1" #600	1" #600				
	33	Flange Face Finish		RF,SW (125-250 AARH)							
	34	Flow Direction		Bi-Directional(VTA)							
	35	Type Of Bonnet		Standard (Bolted)							
	36	Packing Material		Packing Type		Teflon-chevron		VTA			
	37	Gasket		Spiral Wound,AISI316, Graphite filled,C.S. Outer& S.S316L Inner Ring							
TRIM	39	* Type		(VTA)							
	40	* Size		Rated Travel		1"		3/4"			
	41	* Characteristics		Equal Precent(VTC)							
	42	* Balanced / Unbalanced		Balanced							
	43	* Rated Cv		FI	Xt	VTA	VTA	VTA			
	44	* Plug / Ball / Disk Material		SS 316-Hard Face(Note4)							
	45	* Seat Material		SS 316-Hard Face(Note4)							
	46	* Cage / Guide Material		SS 316-Hard Face(Note4)							
	47	* Stem / Material		SS 316-Hard Face(Note4)							
	48										
SOLENOID VALVE	49	Type		N/A							
	50	Tag Number		N/A							
	51	Body Material		N/A							
	52	Operating Voltage		N/A							
	53	Elec. Connection		N/A							
	54	Manual Reset		N/A							
SPECIAL/ ACCESSORIES	55	Ex Certificate		Ingress Protection		N/A		N/A			
	56	Pneumatic Connection		N/A							
	57	Fusible Leakage		Booster		IV		VTA			
	58	Block Relay		Volume Tank		VTA		NO			
	59	SIL Requirement		NO							
	60										
	61										
	62										
ACTUATOR	63	Type		Pneumatic, Spring & Diaphragm							
	64	Mfr. & Model		VTA							
	65	Size		Eff Area		VTA		VTA			
	66	On/Off or Modulated		Modulated							
	67	Spring Action Open /Close		FC							
	68	*Max Allowable Pressure		VTA							
	69	*Min Required Pressure		VTA							
	70	Air Supply Pressur		Min	Nor	Max	4	7.5	8.5 (NOTE3)		
	71	*Bench Range		0.2-1 barg(VTC)							
	72	Act. Orientation		Top, Horizontal, Parallel(VTC)							
POSITIONER	73	Hand Wheel		Limit Stop		NO		NO			
	74	IP for Pneumatic Parts		65							
	75										
	76	Type		Electro Pneumatic (Smart)/Digital							
	77	Mfr. & Model		VTA							
	78	Input Signal		Output Signal		4-20mA		NO			
	79	Action on Increase Signal		Increase to Open							
	80	Cam Characteristics		VTA							
	81	Electrical Connection		M20x1.5							
	82	Ex Certificate		Zone 2 EX ia IIB T4							
LIMIT SWITCH	83	Ingress Protection		65							
	84	Housing Material		Aluminum Die-cast							
	85										
	86	Type		Quantity		N/A		N/A			
	87	Mfr. & Model		N/A							
	88	Tag Number(s)		N/A							
	89	Actuation Point		N/A							
	90	Contacts / Rating		N/A							
	91	Electrical Connection		N/A							
	AIR SET	92	Ex Certificate		N/A						
93		Ingress Protection		N/A							
94		Mfr. & Model		VTA							
95		Set Pressure		VTA							
96		Filter		Gauges		YES		YES			
97		Pneumatic Connection		1/4"NPTF(VTA)							
98		Hydro Pressure		YES (ANSI/ASME B16.34)							
99		ANSI/ FCI Leakage Class		IV							
TESTS	##	NACE MR 0175		YES							
	##										
	##										
	##										

1-Tubing Material shall be : AISI 316L .
 2- VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable.
 3-Actuators shall be sized for a minimum air pressure of 3 barg. The normal operating pressure is 4 barg, and the maximum operating pressure is 10 barg.
 4-Trim number 12 same as API 602.
 5:The actuator shall be painted as below:
 Direct acting (open on air failure) – green
 Reverse acting (close on air failure) – red

		تجهیزات و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید بسته نیم زدای گاز ایستگاه تقویت فشار گاز بینک (قرارداد ۸۰۰۰۱۰۰۸-BK-HD-GCS-CO)								
		INSTRUMENT D.S. FOR CONTROL VALVES								
شماره پیمان:		پروژه	بسته کاری	صادر کننده	تهیهات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۱۰ از ۶۰
۰۵۳ - ۰۷۳ - ۹۱۸۶		BK	GCS	MF	120	IN	DS	0001	V00	
GENERAL	1	Item Number		Tag Number		Quantity		4		D-LCV-2103
	2	Service		Page No.		BK-GCS-MF-120-PR-PI-0003		2/7		
	3	P & ID No.		Piping Class		HCB-111-0001-FN07-1"-PT		FN07		
	4	Line No.		Phase		HCB		V/L		
PROCESS CONDITIONS	5	Fluid		Min. Flow		Normal. Flow		Max. Flow		Unit
	6			min.		28.02		33.624		kg/h
	7	Flow Rate		4.05		4.5		4.95		barg
	8	Inlet Pressure		3.5		3.5		3.5		barg
	9	Outlet Pressure		47.912		59.89		71.868		°C
	10	Inlet Temperature		-		101.9		-		kg/kmol
	11	Molecular Weight		-		661		-		kg/m3
	12	Density		-		19.4		-		cp
	13	Viscosity		-		4.5		-		barg
	14	Vapor Pressure Pv		-		-		-		
	15	Flash		-		-		-		
	16	Calculated Cv / Travel		-		-		-		
	17	Allowable / * Predicted SPL		85		85		85		dBA
	18	Compressibility Factor (Z)		-		0.01765		-		
	19	Spec. Heat Ratio(K=Cp/Cv)		-		1.058		-		
	20	Critical Pres. Pc (Barg)		Critical Temp. Tc (Bara)		31.34		430.6		-
	21	Corrosive Service		Toxic Service		Super Heat		YES		NO
	22									
	LINE	23	Size		In		Out		1"	
24		Pipe Line Sched		In		Out		XXS		XXS
25		Pipe Line Insulation/Spec				IH				
VALVE BODY / BONNET	26	Type		Globe						
	27	Size		ANSI Class		1"		600#		
	28	Desing Press. (B)		Design Temp. (°C)						
	29	Mfr. & Model		VTA						
	30	Body / Bonnet Material		ASTM A105 (NACE)						
	31	Liner Material / ID		VTA						
	32	End Connection		In		Out		1" #600		1" #600
	33	Flange Face Finish		RF, SW (125-250 AARH)						
	34	Flow Direction		Bi-Directional(VTA)						
	35	Type Of Bonnet		Standard (Bolted)						
TRIM	36	Packing Material		Packing Type		Teflon-chevron		VTA		
	37	Gasket				Spiral Wound, AISI316, Graphite filled, C.S. Outer & S.S316L Inner				
	38									
SOLENOID VALVE	39	* Type		(VTA)						
	40	Size		Rated Travel		1"		3/4"		
	41	* Characteristics		Equal Percent(VTC)						
	42	* Balanced / Unbalanced		Balanced						
	43	* Rated Cv		FI		Xt		VTA		VTA
	44	* Plug / Ball / Disk Material		SS 316-Hard Face(Note5)						
	45	* Seat Material		SS 316-Hard Face(Note5)						
	46	* Cage / Guide Material		SS 316-Hard Face(Note5)						
	47	* Stem / Material		SS 316-Hard Face(Note5)						
	48									
SPECIAL/ ACCESSORIES	49	Type		THREE-WAY						
	50	Tag Number		LCV-2103						
	51	Body Material		SS 316						
	52	Operating Voltage		24Vdc						
	53	Elec. Connection		M20*1.5						
	54	Manual Reset		YES						
	55	Ex Certificate		Ingress Protection		Zone 2 EX ia IIB T1		IP65		
	56	Pneumatic Connection		VTA						
	57	Fusible Leakage		Booster		IV		VTA		
	58	Block Relay		Volume Tank		VTA		NO		
ACTUATOR	59	SIL Requirement		NO						
	60									
	61									
	62									
	63	Type		Pneumatic, Spring & Diaphragm						
	64	Mfr. & Model		VTA						
	65	Size		Eff Area		VTA		VTA		
	66	On/Off or Modulated		Modulated						
	67	Spring Action Open /Close		FC						
	68	*Max Allowable Pressure		VTA						
POSITIONER	69	*Min Required Pressure		VTA						
	70	Air Supply Pressur		Min		Nor		Max		4
	71	*Bench Range		0.2-1 barg(VTC)						
	72	Act. Orientation		Top, Horizontal, Parallel(VTC)						
	73	Hand Wheel		Limit Stop		NO		NO		
	74	IP for Pneumatic Parts		65						
	75									
	76	Type		Electro Pneumatic (smart)/Digital-HART						
	77	Mfr. & Model		VTA						
	78	Input Signal		Output Signal		4-20mA		NO		
LIMIT SWITCH	79	Action on Increase Signal		Increase to Open						
	80	Cam Characteristics		VTA						
	81	Electrical Connection		M20x1.5						
	82	Ex Certificate		Zone 2 EX ia IIB T4						
	83	Ingress Protection		65						
	84	Housing Material		Aluminum Die-cast						
	85									
	86	Type		Quantity		N/A		N/A		
	87	Mfr. & Model				N/A				
	88	Tag Number(s)				N/A				
AIR SET	89	Actuation Point				N/A				
	90	Contacts / Rating				N/A				
	91	Electrical Connection				N/A				
	92	Ex Certificate				N/A				
	93	Ingress Protection				N/A				
	94	Mfr. & Model		VTA						
	95	Set Pressure				VTA				
	96	Filter		Gauges		YES		YES		
	97	Pneumatic Connection		1/4"NPTF(VTA)						
	98	Hydro Pressure		YES (ANSI/ASME B16.34)						
TESTS	99	ANSI / FCI Leakage Class		IV						
	100	NACE MR 0175				YES				
	101									
	102									

1-Tubing Material shall be AISI 316L .
2-VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable.
3-Actuators shall be sized for a minimum air pressure of 3 barg. The normal operating pressure is 4 barg, and the maximum operating pressure is 10 barg.
4-NNF (Normally No Flow)
5-Trim number 12 same as API 602.
6:The actuator shall be painted as below:
Direct acting (open on air failure) – green
Reverse acting (close on air failure) – red



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2- VTA/Vendor to Advise VTC/Vendor to Confirm N/A/Not Applicable.
3-Actuators shall be sized for a minimum air pressure of 3 barg. The normal operating pressure is 4 barg, and the maximum operating pressure is 10 barg.
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		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و آبپه تحت الارض خرید بسته نم زدای گاز ایستگاه تقویت فشار گاز بینک (قرارداد ۰۸-۰۰۱-۰۸-GCS-HD-BK)										
		INSTRUMENT D.S. FOR CONTROL VALVES										
شماره پیمان:		پروژه	بسته کاری	صادر کننده	تهیهات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۱۰ از ۸		
۰۵۳ - ۰۷۳ - ۹۱۸۶		BK	GCS	MF	120	IN	DS	0001	V00			
GENERAL	1	Item Number		Tag Number		Quantity		6		D-PCV-2101B	1	
	2	Service						FUEL GAS TO V-120				
	3	P & ID No.		Page No.				BK-GCS-MF-120-PR-PI-0003		2/7		
	4	Line No.		Piping Class				FLG-111-0030-AN07-1"-PT		AN07		
PROCESS CONDITIONS	5	Fluid		Phase				FUEL GAS		GAS		
	6							Min. Flow		Normal. Flow	Max. Flow	Unit
	7	Flow Rate				127		127/445		445	kg/h	
	8	Inlet Pressure				4.9		4.9		4.9	barg	
	9	Outlet Pressure				0		0 / 4.5		4.5	barg	
	10	Inlet Temperature				45		48		50	°C	
	11	Molecular Weight				-		24.52		-	kg/kmol	
	12	Density				-		5.74		-	kg/m3	
	13	Viscosity				-		0.01147		-	cp	
	14	Vapor Pressure Pv				-		-		-		
	15	Flash				-		-		-		
	16	Calculated Cv / Travel				-		-		-		
	17	Allowable / * Predicted SPL				85		85		85	dBA	
	18	Compressibility Factor (Z)				-		0.9678		-		
	19	Spec. Heat Ratio(K=Cp/Cv)				-		1.189		-		
	20	Critical Pres. Pc (Bara)		Critical Temp. Tc		Shut-Off Pres. (Bara)		104.7		86.71	-	
	21	Corrosive Service		Toxic Service		Super Heat		YES		NO	NO	
	22											
	LINE	23	Size		In	Out	1"		1"			
		24	Pipe Line Schedule		In	Out	XXS		XXS			
		25	Pipe Line Insulation/Spec				IH					
VALVE BODY / BONNET	26	Type				Globe						
	27	Size		ANSI Class		1"		300#				
	28	Desing Press. (Bar)		Design Temp. (°C)								
	29	Mfr. & Model				VTA						
	30	Body / Bonnet Material				ASTM A105 (NACE)						
	31	Liner Material / ID				VTA						
	32	End Connection		In	Out	1" #300		1" #300				
	33	Flange Face Finish				RF,SW (125-250 AARH)						
	34	Flow Direction				Bi-Directional(VTA)						
	35	Type Of Bonnet				Standard (Bolted)						
ACTUATOR	36	Packing Material		Packing Type		Teflon-chevron		VTA				
	37	Gasket				Spiral Wound, AISI316, Graphite filled, C.S. Outer & S.S316L Inner Ring						
	38											
	39	* Type				(VTA)						
TRIM	40	* Size		Rated Travel		1"		3/4"				
	41	* Characteristics				Equal Percent(VTC)						
	42	* Balanced / Unbalanced				Balanced						
	43	* Rated Cv		Fl	Xt	VTA		VTA		VTA		
	44	* Plug / Ball / Disk Material				SS 316-Hard Face(Note4)						
	45	* Seat Material				SS 316-Hard Face(Note4)						
	46	* Cage / Guide Material				SS 316-Hard Face(Note4)						
	47	* Stem / Material				SS 316-Hard Face(Note4)						
	48											
	49	Type				N/A						
SOLENOID VALVE	50	Tag Number				N/A						
	51	Body Material				N/A						
	52	Operating Voltage				N/A						
	53	Elec. Connection				N/A						
	54	Manual Reset				N/A						
	55	Ex Certificate		Ingress Protection		N/A		N/A				
SPECIAL/ ACCESSORIES	56	Pneumatic Connection				N/A						
	57	Fusible Leakage		Booster		IV		VTA				
	58	Block Relay		Volume Tank		VTA		NO				
	59	SIL Requirement				NO						
	60											
	61											
62												
LIMIT SWITCH	63	Type				Pneumatic.Spring & Diaphragm						
	64	Mfr. & Model				VTA						
	65	Size		Eff Area		VTA		VTA				
	66	On/Off or Modulated				Modulated						
	67	Spring Action Open /Close				FC						
	68	*Max Allowable Pressure				VTA						
	69	*Min Required Pressure				VTA						
	70	*Bench Range		Min	Nor	Max	4	7.5	8.5 (NOTE3)			
	71	*Act. Orientation				Top, Horizontal, Parallel(VTC)						
	72	Hand Wheel		Limit Stop		NO		NO				
POSITIONER	73	IP for Pneumatic Parts				65						
	74											
	75	Type				Electro-Hydraulic (Hard/Soft)						
	76	Mfr. & Model				VTA						
	77	Input Signal		Output Signal		4-20mA		NO				
	78	Action on Increase Signal				Increase to Open						
	79	Cam Characteristics				VTA						
	80	Electrical Connection				M20x1.5						
	81	Ex Certificate				Zone 2 EX ia IIB T4						
	82	Ingress Protection				65						
AIR SET	83	Housing Material				Aluminum Die-cast						
	84											
	85											
	86	Type		Quantity		N/A		N/A				
	87	Mfr. & Model				N/A						
	88	Tag Number(s)				N/A						
	89	Actuation Point				N/A						
	90	Contacts / Rating				N/A						
	91	Electrical Connection				N/A						
	92	Ex Certificate				N/A						
TESTS	93	Ingress Protection				N/A						
	94	Mfr. & Model				VTA						
	95	Set Pressure				VTA						
	96	Filter		Gauges		YES		YES				
	97	Pneumatic Connection				1/4"NPTF(VTA)						
	98	Hydro Pressure				YES (ANSI/ASME B16.34)						
	99	ANSI / FCI Leakage Class				IV						
	100	NACE MR 0175				YES						
	101											
	102											

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		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید بسته نم زدای گاز ایستگاه تقویت فشار گاز بینک (قرارداد ۸-۰۰۱۰-۰۰۱۰-GCS-HD-BK)										
		INSTRUMENT D.S. FOR CONTROL VALVES										
شماره پیمان:		پروژه	بسته کاری	صادر کننده	تهیهات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۱۰ از ۹		
۰۵۳ - ۰۷۳ - ۹۱۸۴		BK	GCS	MF	120	IN	DS	0001	V00			
GENERAL	1	Item Number		Tag Number		Quantity		7		D-TCV-2101	1	
	2	Service		Page No.		FROM FUEL GAS HEADER TO REBOILER						
	3	P & ID No.		Page No.		BK-GCS-MF-120-PR-PI-0003				4/7		
	4	Line No.		Piping Class		FLG-111-0024-AN07-1"-PT				AN07		
PROCESS CONDITIONS	5	Fluid		Phase		Fuel Gas		Gas				
	6					Min. Flow		Normal. Flow		Max. Flow	Unit	
	7	Flow Rate				2.5 (4)		10 (4)		13 (4)	kg/h	
	8	Inlet Pressure				4.9		4.9		4.9	barg	
	9	Outlet Pressure				0.07 (4)		1 (4)		1.5 (4)	barg	
	10	Inlet Temperature				15		19 / 36.78		48	°C	
	11	Molecular Weight				-		24.52		-	kg/kmol	
	12	Density				-		5.34/5.74		-	kg/m3	
	13	Viscosity				-		0.01/0.01147		-	cp	
	14	Vapor Pressure Pv				-		4.9		-		
	15	Flash				-		-		-		
	16	Calculated Cv / Travel				-		-		-		
	17	Allowable / * Predicted SPL				85		85		85	dBA	
	18	Compressibility Factor (Z)				-		0.9678		-		
	19	Spec. Heat Ratio(K=Cp/Cv)				-		1.189		-		
	20	Critical Pres. Pc (Bara)		Critical Temp. Tc		Shut-Off Pres. (Bara)		104.7		86.71	-	
	21	Corrosive Service		Toxic Service		Super Heat		YES		NO	NO	
	22											
	LINE	23	Size		In	Out	1"		1"			
		24	Pipe Line Schedu		In	Out	XXS		XXS			
25		Pipe Line Insulation/Spec				IH						
VALVE BODY / BONNET	26	Type				Globe						
	27	Size		ANSI Class		1"		300#				
	28	Desing Press. (Bar)		Design Temp. (°C)								
	29	Mfr. & Model				VTA						
	30	Body / Bonnet Material				ASTM A105 (NACE)						
	31	Liner Material / ID				VTA						
	32	End Connection		In	Out	1" #300		1" #300				
	33	Flange Face Finish				RF,SW (125-250 AARH)						
	34	Flow Direction				Bi-Directional(VTA)						
	35	Type Of Bonnet				Standard (Bolted)						
TRIM	36	Packing Material		Packing Type		Teflon-chevron		VTA				
	37	Gasket				Spiral Wound,AISI316,Graphite filled,C.S. Outer& S.S316L Inner Ring						
	38											
	39	* Type				(VTA)						
	40	* Size		Rated Travel		1"		3/4"				
	41	* Characteristics				Equal Percent(VTC)						
	42	* Balanced / Unbalanced				Balanced						
	43	* Rated Cv		FI	Xi	VTA		VTA		VTA		
SOLENOID VALVE	44	* Plug / Ball / Disk Material				SS 316-Hard Face(Note5)						
	45	* Seat Material				SS 316-Hard Face(Note5)						
	46	* Cage / Guide Material				SS 316-Hard Face(Note5)						
	47	* Stem / Material				SS 316-Hard Face(Note5)						
	48											
	49	Type				N/A						
	50	Tag Number				N/A						
	51	Body Material				N/A						
SPECIAL/ ACCESSORIES	52	Operating Voltage				N/A						
	53	Elec. Connection				N/A						
	54	Manual Reset				N/A						
	55	Ex Certificate		Ingress Protection		N/A		N/A				
	56	Pneumatic Connection				N/A						
	57	Fusible Leakage		Booster		IV		VTA				
TESTS	58	Block Relay		Volume Tank		VTA		NO				
	59	SIL Requiment				NO						
	60											
	61											
	62											
	63	Type				Pneumatic, Spring & Diaphragm						
ACTUATOR	64	Mfr. & Model				VTA						
	65	Size		Eff Area		VTA		VTA				
	66	On/Off or Modulated				Modulated						
	67	Spring Action Open /Close				FC						
	68	*Max Allowable Pressure				VTA						
	69	*Min Required Pressure				VTA						
	70	*Min Supply Pressure		Min	Nor	Ma	4	7.5	8.5 (NOTE3)			
	71	*Bench Range				0.2-1 barg(VTC)						
	72	Act. Orientation				Top, Horizontal, Parallel(VTC)						
	73	Hand Wheel		Limit Stop		NO		NO				
POSITIONER	74	IP for Pneumatic Parts				65						
	75											
	76	Type				Electro-Pneumatic (Spring-Loaded)						
	77	Mfr. & Model				VTA						
	78	Input Signal		Output Signal		4-20mA		NO				
	79	Action on Increase Signal				Increase to Open						
	80	Cam Characteristics				VTA						
	81	Electrical Connection				M20x1.5						
LIMIT SWITCH	82	Ex Certificate				Zone 2 EX ia IIB T4						
	83	Ingress Protection				65						
	84	Housing Material				Aluminum Die-cast						
	85											
	86	Type		Quantity		N/A		N/A				
	87	Mfr. & Model				N/A						
AIR SET	88	Tag Number(s)				N/A						
	89	Actuation Point				N/A						
	90	Contacts / Rating				N/A						
	91	Electrical Connection				N/A						
	92	Ex Certificate				N/A						
	93	Ingress Protection				N/A						
TESTS	94	Mfr. & Model				VTA						
	95	Set Pressure				VTA						
	96	Filter		Gauges		YES		YES				
	97	Pneumatic Connection				1/4"NPTF(VTA)						
	98	Hydro Pressure				YES (ANSI/ASME B16.34)						
	99	ANSI / FCI Leakage Class				IV						
100	NACE MR 0175				YES							
101												
102												

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		INSTRUMENT D.S. FOR CONTROL VALVES									
شماره پیمان:		پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۱۰ از ۱۰	
۰۵۳ - ۰۷۳ - ۹۱۸۴		BK	GCS	MF	120	IN	DS	0001	V00		
GENERAL	1	Item Number		Tag Number		Quantity		8		D-LCV-2104	
	2	Service								FROM E-200 TO C-200	
	3	P & ID No.		Page No.						BK-GCS-MF-120-PR-PI-0003	
	4	Line No.		Piping Class						4/7	
PROCESS CONDITIONS	5	Fluid		Phase				TEG		L/V	
	6							Min. Flow		Normal. Flow	
	7	Flow Rate						661.52		826.9 - 834.3	
	8	Inlet Pressure						2		3.1	
	9	Outlet Pressure						1		1	
	10	Inlet Temperature						120		140	
	11	Molecular Weight						-		3.81/4 (vapor) and 103.73/106.54 (liquid)	
	12	Density						-		3.81 / 4	
	13	Viscosity						-		0.014 (vapor) and 1.4113 (liquid)	
	14	Vapor Pressure Pv						-		3.1	
	15	Flash						-		-	
	16	Calculated Cv / Travel						-		-	
	17	Allowable / * Predicted SPL						85		85	
	18	Compressibility Factor (Z)						-		0.9551 (vapor) and 0.01767 (liquid)	
	19	Spec. Heat Ratio(K=Cp/Cv)						-		1.001	
	20	Critical Pres. Pc (Bara)		Critical Temp. Tc		Shut-Off Pres. (Bara)		31.57		430.3	
	21	Corrosive Service		Toxic Service		Super Heat		YES		YES	
	22									NO	
LINE	23	Size	In	Out	1"	1"					
	24	Pipe Line Sched.	In	Out	XXS	XXS					
VALVE BODY / BONNET	25	Pipe Line Insulation/Spec				IH					
	26	Type				Globe					
	27	Size	ANSI Class	1"		300#					
	28	Desing Press. (Ba)	Design Temp. (°C)								
	29	Mfr. & Model				VTA					
	30	Body / Bonnet Material				ASTM A105 (NACE)					
	31	Liner Material / ID				VTA					
	32	End Connection	In	Out	1" #300	1" #300					
	33	Flange Face Finish				RF, SW (125-250 AARH)					
	34	Flow Direction				Bi-Directional(VTA)					
	35	Type Of Bonnet				Standard (Bolted)					
	36	Packing Material	Packing Type		Teflon-chevron		VTA				
	37	Gasket				Spiral Wound, AISI316, Graphite filled, C.S. Outer & S.S316L Inner Ring					
	38										
TRIM	39	* Type				(VTA)					
	40	* Size	Rated Travel		1"		3/4"				
	41	* Characteristics				Equal Percent(VTC)					
	42	* Balanced / Unbalanced				Balanced					
	43	* Rated Cv	Fl	Xt	VTA	VTA	VTA				
	44	* Plug / Ball / Disk Material				SS 316-Hard Face(Note5)					
	45	* Seat Material				SS 316-Hard Face(Note5)					
	46	* Cage / Guide Material				SS 316-Hard Face(Note5)					
	47	* Stem / Material				SS 316-Hard Face(Note5)					
	48										
SOLENOID VALVE	49	Type				N/A					
	50	Tag Number				N/A					
	51	Body Material				N/A					
	52	Operating Voltage				N/A					
	53	Elec. Connection				N/A					
	54	Manual Reset				N/A					
	55	Ex Certificate	Ingress Protection		N/A		N/A				
	56	Pneumatic Connection				N/A					
	57	Fusible Leakage	Booster		IV		VTA				
	58	Block Relay	Volume Tank		VTA		NO				
SPECIAL/ ACCESSORIES	59	SIL Requirement				NO					
	60										
	61										
	62										
ACTUATOR	63	Type				Pneumatic, Spring & Diaphragm					
	64	Mfr. & Model				VTA					
	65	Size	Eff Area		VTA		VTA				
	66	On/Off or Modulated				Modulated					
	67	Spring Action Open /Close				FC					
	68	Max Allowable Pressure				VTA					
	69	Min Required Pressure				VTA					
	70	Air Supply Pressur	Min	Nor	Ma	4	7.5	8.5 (NOTE3)			
	71	*Bench Range				0.2-1 barg(VTC)					
	72	Act. Orientation				Top, Horizontal, Parallel(VTC)					
73	Hand Wheel	Limit Stop		NO		NO					
74	IP for Pneumatic Parts				65						
75											
POSITIONER	76	Type				Electro Pneumatic (smart)/Digital-HART					
	77	Mfr. & Model				VTA					
	78	Input Signal	Output Signal		4-20mA		NO				
	79	Action on Increase Signal				Increase to Open					
	80	Cam Characteristics				VTA					
	81	Electrical Connection				M20x1.5					
	82	Ex Certificate				Zone 2 EX ia IIB T4					
	83	Ingress Protection				65					
	84	Housing Material				Aluminum Die-cast					
	85										
LIMIT SWITCH	86	Type	Quantity		N/A		N/A				
	87	Mfr. & Model				N/A					
	88	Tag Number(s)				N/A					
	89	Actuation Point				N/A					
	90	Contacts / Rating				N/A					
	91	Electrical Connection				N/A					
	92	Ex Certificate				N/A					
	93	Ingress Protection				N/A					
	94	Mfr. & Model				VTA					
	95	Set Pressure				VTA					
AIR SET	96	Filter	Gauges		YES		YES				
	97	Pneumatic Connection				1/4"NPTF(VTA)					
	98	Hydro Pressure				YES (ANSI/ASME B16.34)					
	99	ANSI / FCI Leakage Class				IV					
TESTS	100	NACE MR 0175				YES					
	101										
	102										
	103										

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