

	نگهداشت و افزایش تولید میدان نفتی بینک بسته‌های کاری تحت‌الارض احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک							 	
	DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری PPL	صادرکننده PEDCO	تسهیلات 320	رشته IN	نوع مدرک DT	سریال 0006	نسخه D00	شماره صفحه: ۱ از ۶

طرح نگهداشت و افزایش تولید ۲۷ مخزن

DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES

نگهداشت و افزایش تولید میدان نفتی بینک

D00	MAY.2022	IFC	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval
Class: 2		CLIENT Doc. Number: 'F9Z-708585				
status: IDC: Inter-Discipline Check IFC: Issued For Comment IFA: Issued For Approval AFD: Approved For Design AFC: Approved For Construction AFP: Approved For Purchase AFQ: Approved For Quotation IFI: Issued For Information AB-R: As-Built for CLIENT Review AB-A: As-Built –Approved						

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک بسته‌های کاری تحت‌الارض احداث خطوط انتقال گاز/امیاعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک								
	DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES								
شماره پیمان:	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۲ از ۶
۰۵۳ - ۰۷۳ - ۹۱۸۴	BK	PPL	PEDCO	320	IN	DT	0006	D00	

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04	Page	D00	D01	D02	D03	D04
1	X					65					
2	X					66					
3	X					67					
4	X					68					
5	X					69					
6	X					70					
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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک بسته‌های کاری تحت‌الارض احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک								
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۰۵۳ - ۰۷۳ - ۹۱۸۴	BK	PPL	PEDCO	320	IN	DT	0006	D00	

REFERENCE DOCUMENTS :

- | | |
|---|-----------------------------------|
| 1. Instrument & Control System Design Criteria | BK-PPL-PEDCO-320-IN-DC-0001_D00 |
| 2. P&ID - Gas Pipeline (to Siahmakan G.I. Station) | BK-PPL-PEDCO-320-PR-PI-0001_D02 |
| 3. P&ID - Condensate Pipeline (to Binak PU) | BK-PPL-PEDCO-320-PR-PI-0002_D02 |
| 4. Piping Material Specification | BK-PPL-PEDCO-320-PI-SP-0001_D01 |
| 5. Specification for Instrumentation | BK-GNRAL-PEDCO-000-IN-SP-0001_D03 |
| 6. Specification For On-off Shut Down Valves(ESDVMOV) | BK-GNRAL-PEDCO-000-IN-SP-0006_D00 |
| 7. Instrument Hook-Up Diagram | BK-PPL-PEDCO-320-IN-DG-0002_D00 |
| 8. Process Basic of Design | BK-GNRAL-PEDCO-000-PR-DB-0001_D01 |

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شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۴ از ۶
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GENERAL NOTES:

- Calculations shall be provided for each completely piped actuated valve assembly (including solenoid valve), the stroking times i.e. to close and to open.
- The duty, failure action and stroke time shall all be approved by the Purchaser.
- The actuator shall be designed to operate the valve through its full stroke.
- The full stroke time for on-off valve which is less or equal than 4" size, shall be max. 5 second and for valves greater than 4", 1 second shall be added to the 4 sec for each increment of 1" in valve size. The maximum fully stroke time shall be 10 seconds.
- The piping indicates corrosion allowance selected as per document "Piping & Pipeline Material Specification, No. " BK-PPL-PEDCO-320-PI-SP-0001 "
- Hydro-test duration shall be in accordance with API 6D.
- All ball valves shall be fitted with suitable 'end of travel' stops at the fully open and fully closed positions and a local position indicator. The design shall prevent the ingress of foreign material and corrosion products which would impair the operation of the stops. Devices capable of locking the valves in their safe position (ESDV in open or closed position) shall be provided for maintenance and shall be vendor's standard proven design.
- Vendor shall guarantee and demonstrate the required stroking speed, during the Functional Test (FAT).
- All accessories shall be mounted, together with solenoid valve, etc., on a 316SS sub-plate. Tubing shall be suitably sized TP 316L stainless steel with stainless steel double ferrule compression fittings.
- Solenoid valve shall be selected in accordance with low power type.
- All on/off valves shall be preferably fitted with single acting, spring return pneumatic actuators, completed with mounting kit. Also Partial Stroking test or pilot valve to be considered.
- The actuator shall be fail-safe in operation (as specified in data sheets) in loss of electrical signal or loss of air supply.
- The spring return actuator shall be "pre stressed".
- Pneumatic actuators will be sized on the basis of a minimum safety factor of 1.5 and a minimum air pressure of 3 Barg.
The valve actuator torque shall be in excess of the required valve torque under all operating conditions.
- All actuators and accessories shall be clearly and permanently identified by nameplate. The nameplate shall be in stainless steel and affixed to the VALVE, actuator and accessories.
- For application in sour gas services, as indicated in individual data sheets, material of body, trim and all other wetted metal parts in contact with the sour gas shall meet the requirements of NACE, MR-01-75, latest edition.
- Material Test Certificate and calibration Certificate for all transmitters to be submitted by Vendor.
- Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.
- Disc/seat material shall be resilient to give a tight shut off feature.
- According to "Process Basic of Design" Document, Environmental Condition For Field Instrumentation of BINAK Complex Shall Be Considered As Per The Following:
Maximum ambient temperature: 50 (°C)
Minimum ambient temperature: 5 (°C)
Maximum steel surface exposed to sun: 85 (°C)
Maximum summer dry bulb: 50 (°C)
Maximum Design relative humidity (%): 100
Minimum Design relative humidity (%): 0
Maximum Design relative humidity (%): 100
Minimum Design relative humidity (%): 0

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شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۰۳۸	پروژه BK	بسته کاری PPL	صادرکننده PEDCO	تسهیلات 320	رشته IN	نوع مدرک DT	سریال 0006	نسخه D00	شماره صفحه: ۵ از ۶

On-Off Valve																	
TAG NO:		ESDV-3201		P&ID NO : BK-PPL-PEDCO-320-PR-PI-0001_D01 (page 1 of 3)					SERVICE:		FROM DEHYDRATION (PK-2101) □						
FLUID STATE:		GAS		PHASE: GAS					AREA CLASSIFICATION: Zone 2, IIB T4								
SERVICE CONDITION					UNITS		Max Flow		Norm. Flow		Min. Flow		Shut-Off				
	1	FLOW RATE			kg/h		-		17170.80		-		-				
	2	INLET PRESSURE			bar(g)		50.92				-		-				
	3	OUTLET PRESSURE			bar(g)		50.92				-		-				
	4	DIFFERENTIAL PRESSURE			bar		-				-		63				
	5	INLET TEMPERATURE			°C		58.27				-		-				
	6	DENSITY(Mix./Gas/Liquid)			kg/m3		22.86				-		-				
	7	VISCOSITY (GAS/LIQ.)			CP		0.013				-		-				
	8	VAPOR PRESSURE Pv			bar(a)		-				-		-				
	9	CRITICAL PRESSURE			bar(g)		104.9				-		-				
LINE	10	PIPE LINE SIZE		IN		6"		ACTUATOR	52	TYPE				Single Acting , Spring Return			
		& SCHEDULE		OUT		6"			53	SIZE				VTA VTA			
	11	PIPING CLASS/PIPE LINE INSULATION			FN05 / PAINTED				54	SPRING FAIL ACTION				Fail to Close			
VALVE BODY & BONNET	12	TYPE			Full Bore Ball Valve/Trunnion Mounted				55	MAX ALLOWABLE PRESSURE		VTA					
	13	SIZE			6"				56	MIN REQUIRES PRESSURE		VTA					
	14	MAX PRESS./TEMP			As per Specification For Pipeline Material (Note 5)				57	AVAILABLE AIR SUPPLY PRESS.		MAX/NOR/MIN: 8/7/4.5 barg (Note 14)					
	15	MFR. & MODEL			VTA				58	BENCH RANGE		VTA					
	16	BODY / BONNET MATL			A216 Gr. WCB (Note 5)				59	TRAVELING TIME		6 Sec.					
	17	LINER MATERIAL / ID			VTA				60	FUNCTION		On/Off					
	18	END CONNECTION	ANSI Class	6"		600#			61	LOCAL POSITION INDICATOR		Required					
				6"					62	ACT. ORIENTATION		VTA					
	19	FLG FACE FINISH			RTJ				63	HAND WHEEL TYPE		Declutchable side mounted					
	20	END EXT./MATL.			N/A				64	ADJUSTABLE LIMIT STOP		Yes					
	21	FLOW DIRECTION			N/A				65	INPUT SIGNAL		24VDC					
	22	TYPE OF BONNET			Standard				66	MFR. & MODEL		VTA					
	23	LUBE & ISO VALVE			No				POSITIONER	67	TYPE		N/A				
	24	PACKING MATERIAL		PACKING TYPE		PTFE		Standard		68	MFR. & MODEL		N/A				
25	ENTRY DESIGN			Top Entry			69	ON INCR SIGNAL OUTPUT INCR / DECR		N/A							
26	NACE REQUIREMENTNACE (MR-0175/ISO 15156)			Yes			70	GAUGES		N/A							
TRIM	27	TRIM TYPE			VTA			71		CAM CHARACTERISTIC		N/A					
	28	SIZE		RATED TRAVEL		VTA		VTA		72	AIR CONNECTION		N/A				
	29	CHARACTERISTICS			On/Off			LIMIT SWITCHES	75	TAG NO. :		EZSC-3201 /EZSO-3201					
	30	BALANCED / UNBALANCED			VTA				76	TYPE		QUANTITY		Magnetically operated 'REED' contacts		2	
	31	RATED Cv		FL		XT			VTA		VTA		VTA				
	32	PLUG / BALL MATERIAL			SS316+RPTFE (Note 5)				77	CONTACTS / RATING		110V DC , 10A					
	33	DISK/ SEAT MATERIAL		SEAT TYPE		VTA (Note 19)			Soft seat (VTC)		78	ACTUATION POINT		Fully Open/Close			
	34	CAGE / GUIDE MATERIAL			VTA				79	ENCLOSURE MATERIAL		Die Cast Aluminum					
	35	STEM MATERIAL			forged, 13% chromium steel (As per reference 6)				80	WEATHER PROTECTION		IP-65					
	36	LEAKAGE CLASS			ANSI Class VI				81	ELEC. CERTIFICATE		ELEC. CONNECTION		EEx "d", IIB T4		ISO M20 × 1.5	
37							82	MFR. & MODEL		VTA							
SOLENOID VALVE	38	TAG NO			ESOV-3201, PSOV-3201			AIR SET	83	SET PRESSURE		VTA					
	39	TYPE			3 Way				84	PNEUMATIC CONNECTION		1/4" NPT					
	40	BODY MATERIAL		WEATHER IP.		AISI 316 S.S			IP-65		85	GAUGES		FILTER		Required Required	
	41	ELE. CERTIFICATE		ELE. CONNECTION		EEx "d", IIB T4			ISO M20 x 1.5		86	MFR. & MODEL		VTA			
	42	MANUAL RESET			Yes (Note 18)			TEST	87	ANSI/FCI LEAKAGE CLASS		Required					
	43	POWER SUPPLY			24 VDC				88	HYDRO PRESSURE		Required					
	44	PNEU. CONNECTION			1/4" NPT , VTA				89	FUNCTIONAL TEST		Required					
SPECIAL / ACCESS.	45	FUSIBLE LEAKAGE			No				90								
	46	BLOCK RELAY			No				91								
	47	QUICK EXHUST			Yes			OPTION	93	PASSIVE FIRE PROTECTION		No					
	48	FILTER REGULATOR			Yes				94	API 6FA REQUIREMENTS		Yes					
	49	VOLUME TANK			Yes				95	SIL 3 REQUIREMENTS		Yes					
	50	MECHANICAL POSITION INDICATOR			Required				96	PARTIAL STROKING VALVE TEST		Yes					
51	MANUAL PNE. BYPASS VALVE FOR SOLENOID VALVE			Yes													
NOTE:		VTA : VENDOR TO ADVISE ** PMS: Piping Material Specification															

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	DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۰۳۸	پروژه BK	بسته کاری PPL	صادرکننده PEDCO	تسهیلات 320	رشته IN	نوع مدرک DT	سریال 0006	نسخه D00	شماره صفحه: ۶ از ۶

On-Off Valve																	
TAG NO:		ESDV-3202		P&ID NO : BK-PPL-PEDCO-320-PR-PI-0001_D01 (page 3 of 3)					SERVICE:		FROM PIG LAUNCHER (PL-3201) □						
FLUID STATE:		GAS		PHASE:					GAS					AREA CLASSIFICATION:		Zone 2, IIB T4	
SERVICE CONDITION					UNITS		Max Flow		Norm. Flow		Min. Flow		Shut-Off				
	1	FLOW RATE			kg/h		-				-		-				
	2	INLET PRESSURE			bar(g)		40				-		-				
	3	OUTLET PRESSURE			bar(g)		40				-		-				
	4	DIFFERENTIAL PRESSURE			bar		-				-		63				
	5	INLET TEMPERATURE			°C		31.3				-		-				
	6	DENSITY (Mix./Gas/Liquid)			kg/m3		49.09				-		-				
	7	VISCOSITY (GAS/LIQ.)			CP		0.012				-		-				
	8	VAPOR PRESSURE Pv			bar(a)		-				-		-				
	9	CRITICAL PRESSURE			bar(g)		104.9				-		-				
LINE	10	PIPE LINE SIZE		IN		8"		ACTUATOR	52	TYPE		Single Acting , Spring Return					
		& SCHEDULE		OUT		8"			53	SIZE		VTA		VTA			
	11	PIPING CLASS/PIPE LINE INSULATION		FN05 / PAINTED		54	SPRING FAIL ACTION		Fail to Close								
VALVE BODY & BONNET	12	TYPE		Full Bore Ball Valve/Trunnion Mounted		55	MAX ALLOWABLE PRESSURE		VTA								
	13	SIZE		8"		56	MIN REQUIRES PRESSURE		VTA								
	14	MAX PRESS./TEMP		As per Specification For Pipeline Material (Note 5)		57	AVAILABLE AIR SUPPLY PRESS.		MAX/NOR/MIN: 8/7/4.5 barg (Note 14)								
	15	MFR. & MODEL		VTA		58	BENCH RANGE		VTA								
	16	BODY / BONNET MATL.		A216 Gr. WCB (Note 5)		59	TRAVELING TIME		8 Sec.								
	17	LINER MATERIAL / ID		VTA		60	FUNCTION		On/Off								
	18	END CONNECTION		ANSI Class		61	LOCAL POSITION INDICATOR		Required								
						62	ACT. ORIENTATION		VTA								
	19	FLG FACE FINISH		RTJ		63	HAND WHEEL TYPE		Declutchable side mounted								
	20	END EXT./MATL.		N/A		64	ADJUSTABLE LIMIT STOP		Yes								
	21	FLOW DIRECTION		N/A		65	INPUT SIGNAL		24VDC								
	22	TYPE OF BONNET		Standard		66	MFR. & MODEL		VTA								
	23	LUBE & ISO VALVE		No		POSITIONER	67	TYPE		N/A							
	24	PACKING MATERIAL		PACKING TYPE			68	MFR. & MODEL		N/A							
25	ENTRY DESIGN		Top Entry		69		ON INCR SIGNAL OUTPUT INCR / DECR		N/A								
26	NACE REQUIREMENTNACE (MR-0175/ISO 15156)		Yes		70		GAUGES		N/A								
TRIM	27	TRIM TYPE		VTA			71	CAM CHARACTERISTIC		N/A							
	28	SIZE		RATED TRAVEL		72	AIR CONNECTION		N/A								
	29	CHARACTERISTICS		On/Off		LIMIT SWITCHES	75	TAG NO. :		EZSC-3202 /EZSO-3202							
	30	BALANCED / UNBALANCED		VTA			76	TYPE		QUANTITY		Magnetically operated 'REED' contacts		2			
	31	RATED Cv		FL			XT	VTA		VTA		VTA					
	32	PLUG / BALL MATERIAL		SS316+RPTFE (Note 5)			77	CONTACTS / RATING				110V DC , 10A					
	33	DISK/ SEAT MATERIAL		SEAT TYPE			78	ACTUATION POINT				Fully Open/Close					
	34	CAGE / GUIDE MATERIAL		VTA			79	ENCLOSURE MATERIAL				Die Cast Aluminum					
	35	STEM MATERIAL		forged, 13% chromium steel (As per reference 6)			80	WEATHER PROTECTION				IP-65					
	36	LEAKAGE CLASS		ANSI Class VI			81	ELEC. CERTIFICATE		ELEC. CONNECTION		EEx "d", IIB T4		ISO M20 × 1.5			
37					82	MFR. & MODEL				VTA							
SOLENOID VALVE	38	TAG NO		ESOV-3202, PSOV-3202		AIR SET	83	SET PRESSURE		VTA							
	39	TYPE		3 Way			84	PNEUMATIC CONNECTION		1/4" NPT							
	40	BODY MATERIAL		WEATHER IP.			AISI 316 S.S	IP-65		85	GAUGES		FILTER	Required	Required		
	41	ELE. CERTIFICATE		ELE. CONNECTION			EEx "d", IIB T4	ISO M20 x 1.5		86	MFR. & MODEL		VTA				
	42	MANUAL RESET		Yes (Note 18)		TEST	87	ANSI/FCI LEAKAGE CLASS		Required							
	43	POWER SUPPLY		24 VDC			88	HYDRO PRESSURE		Required							
	44	PNEU. CONNECTION		1/4" NPT , VTA			89	FUNCTIONAL TEST		Required							
SPECIAL / ACCESS.	45	FUSIBLE LEAKAGE		No			90										
	46	BLOCK RELAY		No			91										
	47	QUICK EXHUST		Yes		92											
	48	FILTER REGULATOR		Yes		OPTION	93	PASSIVE FIRE PROTECTION		No							
	49	VOLUME TANK		Yes			94	API 6FA REQUIREMENTS		Yes							
	50	MECHANICAL POSITION INDICATOR		Required			95	SIL 3 REQUIREMENTS		Yes							
51	MANUAL PNE. BYPASS VALVE FOR SOLENOID VALVE		Yes		96		PARTIAL STROKING VALVE TEST		Yes								
NOTE:		VTA : VENDOR TO ADVISE ** PMS: Piping Material Specification															