

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه چندراهه کلاستر بینک								
	DATA SHEETS FOR ON OFF / SHUTDOWN VALVES - EXTENSION OF BINAK B/C MANIFOLD								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری W007S	صادرکننده PEDCO	تسهیلات 110	رشته IN	نوع مدرک DT	سریال 0005	نسخه D02	شماره صفحه: ۱ از ۱۰

طرح نگهداشت و افزایش تولید ۲۷ مخزن

DATA SHEETS FOR ON OFF / SHUTDOWN VALVES - EXTENSION OF BINAK B/C MANIFOLD

نگهداشت و افزایش تولید میدان نفتی بینک

D02	AUG.2022	IFA	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D01	MAY.2022	IFA	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D00	MAR.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-707975				
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 فعالیت های روزمینی در بسته های کاری تحت الارض ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه چندراهه کلاستر بینک							 	
	DATA SHEETS FOR ON OFF / SHUTDOWN VALVES - EXTENSION OF BINAK B/C MANIFOLD								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری W007S	صادر کننده PEDCO	تسهیلات 110	رشته IN	نوع مدرک DT	سریال 0005	نسخه D02	شماره صفحه: ۲ از ۱۰

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04	Page	D00	D01	D02	D03	D04
1	X	X	X			65					
2	X	X	X			66					
3	X	X				67					
4	X		X			68					
5	X	X	X			69					
6	X	X	X			70					
7	X	X	X			71					
8	X	X	X			72					
9	X	X	X			73					
10	X	X	X			74					
11						75					
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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه چندراهه کلاستر بینک DATA SHEETS FOR ON OFF / SHUTDOWN VALVES - EXTENSION OF BINAK B/C MANIFOLD								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: ۱۰ از ۳
	BK	W007S	PEDCO	110	IN	DT	0005	D02	

REFERENCE DOCUMENTS :

- | | |
|---|-------------------------------|
| 1. Specification for Instrumentation | BK-GNRAL-PEDCO-000-IN-SP-0001 |
| 2. Process Basis Of Design | BK-GNRAL-PEDCO-000-PR-DB-0001 |
| 3. P&ID - Extension of Binak B/C Manifold | BK-W007S-PEDCO-110-PR-PI-0001 |
| 4. Piping Material Specification | BK-SSGRL-PEDCO-110-PI-SP-0001 |
| 5. Instrument & Control System Design Criteria | BK-SSGRL-PEDCO-110-IN-DC-0002 |
| 6. Process Flow Diagram - Extension of Binak B/C Manifold | BK-W007S-PEDCO-110-PR-PF-0001 |
| 7. Specification for ON OFF / Shutdown Valves | BK-GNRAL-PEDCO-000-IN-SP-0006 |
| 8. Instrument Hook-up Diagram - Extension of Binak B/C Manifold | BK-W007S-PEDCO-110-IN-DG-0003 |

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	DATA SHEETS FOR ON OFF / SHUTDOWN VALVES - EXTENSION OF BINAK B/C MANIFOLD								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری W007S	صادر کننده PEDCO	تسهیلات 110	رشته IN	نوع مدرک DT	سریال 0005	نسخه D02	شماره صفحه: ۴ از ۱۰

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 maximum valve stroking time to achieve the safety position shall be defined according to size of the body (5 seconds for body until 4", 1 second per inch for body greater than 4").
- The piping indicates corrosion allowance selected as per document "PIPELINE MATERIAL SPECIFICATION, No. " BK-SSGRL-PEDCO-110-PL-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).
- A manual hand valve shall be provided in pneumatic control system in order to bypass the solenoid valves. So, the valves could be open and closed using this manual valve by pressurizing and depressurizing the pneumatic line. The facilities shall be provided in order to lock and unlock this manual valve using a special key.
- 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.
- 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 1.25 and a minimum air pressure of 4 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.
- Partial Stroking test or pilot valve to be considered for 15% of valve closing stroke.
- Disc/seat material shall be resilient to give a tight shut off feature.
- Environmental Condition For Field Instrumentation of BINAK Complex Shall Be Considered As Per The Following:
Temperature:
Maximum ambient temperature: 50 (°C)
Minimum ambient temperature: -5 (°C)
Maximum steel surface exposed to sun: 85 (°C)
Maximum summer dry bulb: - (°C)
DB/RH for Summer HVAC Design: 41 °C / 61 %
DB FOR Winter HVAC Design: 6 °C □
- Relative Humidity:**
 - Maximum Design relative humidity (%): 100
 - Minimum Design relative humidity (%): 0
- In services where the differential pressure over the valve results in a temperature drop which Will cause freezing of the stuffing box and ice formation on the stem, extended bonnet shall be provided. Valve stem extension shall be detachable for easy replacements.
- At least two stem seals shall be provided with facility for injection of secondary sealant and with stainless steel fittings.
- Stem seal shall be replaceable while the valve is in closed operation position.
- Valves in safety related services should have been fire tested and certification to be provided.
- Flow direction shall be permanently and clearly indicated on the valve body.
- External grounding shall be provided for each solenoid valve
- Short stroke single acting pneumatic piston actuators shall preferably be used on emergency shutdown service.

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	ساخت موقعیت چاه، تأسیسات سرچاهی، خطوط جریانی، تسهیلات برق رسانی مربوط به موقعیت W۰۰۷S و توسعه چندراهه کلاستر بینک								
DATA SHEETS FOR ON OFF / SHUTDOWN VALVES - EXTENSION OF BINAK B/C MANIFOLD									شماره صفحه: ۱۰ از ۱۰
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۰۳۸		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
		BK	W007S	PEDCO	110	IN	DT	0005	D02

On-Off Valve														
TAG NO:		ESDV-1701F		P&ID NO : BK-W007S-PEDCO-110-PR-PI-0001 (5/6)					SERVICE: FROM W007S					
FLUID STATE:		CRUDE OIL		PHASE: LIQUID					AREA CLASSIFICATION:		Zone 2, IIB T4			
SERVICE CONDITION							UNITS		Max Flow	Norm. Flow	Min. Flow	Shut-Off		
	1	FLOW RATE					kg/h		11614.6	3979.76	3290.51	-		
	2	INLET PRESSURE					bar(g)		12.78		12.78	-		
	3	OUTLET PRESSURE					bar(g)		12.78		12.78	-		
	4	DIFFERENTIAL PRESSURE					bar		-		-	94		
	5	INLET TEMPERATURE					°C		41.77		41.77	-		
	6	DENSITY(Mix./Gas/Liquid)					kg/m3		283.9/13.62/965.7		186.9/13.68/843.5	-		
	7	VISCOSITY (GAS/LIQ.)					CP		0.012/27.04		0.01/8.17	-		
	8	VAPOR PRESSURE Pv					bar(a)		96.59		96.67	-		
	9	CRITICAL PRESSURE					bar(g)		1140		-	-		
LINE	10	PIPE LINE SIZE		IN	4"			ACTUATOR (Note 25 in Previous Page)	52	TYPE			Single Acting , Spring Return	
		PIPE LINE SIZE		OUT	4"				53	SIZE		VTA	VTA	
	11	PIPNG CLASS/PIPE LINE INSULATION			LN15/ 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			4"				56	MIN REQUIRES PRESSURE		VTA		
	14	MAX PRESS./TEMP			As per Piping Material Specification				57	AVAILABLE AIR SUPPLY PRESS.		MAX/NOR/MIN: 8/7/4.5 barg (Acc. to Reference 2 & Note15 in Previous Page)		
	15	MFR. & MODEL			VTA				58	BENCH RANGE		VTA		
	16	BODY / BONNET MATL			API 60K (Note 3 in Below Table)				59	TRAVELING TIME		5 Sec. (Note 4 in Previous Page)		
	17	LINER MATERIAL / ID			VTA				60	FUNCTION		On/Off		
	18	END				4"/ API 3000			61	LOCAL POSITION INDICATOR		Required		
		CONNECTION				4"/ API 3000			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			(Note 23 in Previous Page)				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-1701F / EZSO-01701F	
	30	BALANCED / UNBALANCED			VTA				76	TYPE	QUANTITY	Magnetically operated 'REED' contacts	2	
	31	RATED Cv		FL	XT	VTA	VTA		VTA	77	CONTACTS / RATING		110V DC , 10A	
	32	PLUG / BALL / DISK MATERIAL			API 75K (Note 3 in Below Table)				78	ACTUATION POINT		Fully Open/Close		
	33	SEAT MATERIAL			PTFE				79	ENCLOSURE MATERIAL		Die Cast Aluminum		
	34	SEAT TYPE			Soft Seat				80	WEATHER PROTECTION		IP-65		
	35	CAGE / GUIDE MATERIAL			VTA				81	ELEC. CERTIFICATE	ELEC. CONNECTION	EEx "d", IIB T4	ISO M20 × 1.5	
	36	STEM / MATERIAL			forged, 13% chromium steel (Acc. to Reference 7 & Notes 20,21 in Previous Page)				82	MFR. & MODEL		VTA		
37	LEAKAGE CLASS			ANSI Class VI			AIR SET	83	SET PRESSURE	VTA				
38	TAG NO			ESOV-1701F (Note 24 in Previous Page)				84	PNEUMATIC CONNECTION		1/4" NPT			
39	TYPE			3 Way				85	GAUGES	FILTER	Required	Required		
SOLENOID VALVE	40	BODY MATERIAL		WEATHER IP.	AISI 316 S.S	IP-65		86	MFR. & MODEL		Will Be Finitized Later			
	41	ELE. CERTIFICATE		ELE. CONNECTION	EEx "d", IIB T4	ISO M20 x 1.5	TEST	87	ANSI/FCI LEAKAGE CLASS		Required			
	42	MANUAL RESET			Yes			88	HYDRO PRESSURE		Required			
	43	POWER SUPPLY			24 VDC			89	FUNCTIONAL TEST		Required			
	44	PNEU. CONNECTION			1/4" NPT			90						
	SPECIAL / ACCESS.	45	FUSIBLE LEAKAGE			No			91					
		46	BLOCK RELAY			No			92					
47		QUICK EXHUST			Yes			OPTION	93	PASSIVE FIRE PROTECTION		No		
48		FILTER REGULATOR			Yes				94	API 6FA REQUIREMENTS		Yes (Note 22 in Previous Page)		
49		VOLUME TANK			No				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

(1) PMS: Piping Material Specification (2) All material shall be suitable for minimum design metal temperature.

(3) As per Piping Material Specification , Doc No. "BK-SSGRL-PEDCO-110-PI-SP-0001"

(4) Manual Reset to be considered for all Emergency Shut off solenoids as per P&ID.