

 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							 	
	DATASHEETS FOR LBV								
شماره پیمان: 053 - 073 - 9184	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	شماره صفحه: 1 از 6
	D03	0012	DT	IN	320	PEDCO	PPL	BK	

طرح نگهداشت و افزایش تولید 27 مخزن

DATASHEETS FOR LBV

نگهداشت و افزایش تولید میدان نفتی بینک

D03	FEB.2024	AFC	P.Hajisadeghi	M.Fakharian	S.Faramarzpour	
D02	OCT.2023	AFC	P.Hajisadeghi	M.Fakharian	S.Faramarzpour	
D01	JUN.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: 1

CLIENT Doc. Number: F9Z-708589

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
بسته‌های کاری تحت‌الارض

احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا
ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک



DATASHEETS FOR LBV

شماره پیمان:	شماره صفحه: 2 از 6	نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادر کننده	بسته کاری	پروژه
053 - 073 - 9184		D03	0012	DT	IN	320	PEDCO	PPL	BK

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04	Page	D00	D01	D02	D03	D04
1	X	X	X	X		65					
2	X	X	X	X		66					
3	X	X	X			67					
4	X	X	X	X		68					
5	X	X	X	X		69					
6	X	X	X	X		70					
7						71					
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نگهداشت و افزایش تولید میدان نفتی بینک
بسته‌های کاری تحت‌الارض

احداث خطوط انتقال گاز/امیعات گازی از ایستگاه تقویت فشار گاز بینک تا
ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک



DATASHEETS FOR LBV

شماره پیمان:	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 3 از 6
053 - 073 - 9184	BK	PPL	PEDCO	320	IN	DT	0012	D03	

REFERENCE DOCUMENTS :

Instrument & Control System Design Criteria	BK-PPL-PEDCO-320-IN-DC-0001_D01
P&ID - Gas Pipeline (to Siahmakan G.I. Station)	BK-PPL-PEDCO-320-PR-PI-0001_D04
P&ID - Condensate Pipeline (to Binak PU)	BK-PPL-PEDCO-320-PR-PI-0002_D05
Piping Material Specification	BK-PPL-PEDCO-320-PI-SP-0001_D03
Pipeline Material Specification	BK-PPL-PEDCO-320-PL-SP-0001_D05
Specification For LBV	BK-GNRAL-PEDCO-000-IN-SP-0013_D02
Instrument Hook-Up Diagram	BK-PPL-PEDCO-320-IN-DG-0002_D01
Process Basis Of Design	BK-GNRAL-PEDCO-000-PR-DB-0001_D08



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
بسته‌های کاری تحت‌الارض

احداث خطوط انتقال گاز/لامپعات گازی از ایستگاه تقویت فشار گاز بینک تا
ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک



DATASHEETS FOR LBV

شماره پیمان:	پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 4 از 6
053 - 073 - 9184	BK	PPL	PEDCO	320	IN	DT	0012	D03	

GENERAL NOTES:

- Calculations shall be provided for each completely piped actuated valve assembly 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. 4 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
- NACE consideration shall be regarded according to NACE MR-0175/ISO15156.
- Hydro-test duration shall be in accordance with API 6D.
- Valves excluding check valves shall be capable of sealing at these pressures in either direction. Valves shall be designed to withstand a sustained internal vacuum of 1 (one) barg (i.e. full vacuum) in both open and closed positions.
- Vendor shall guarantee and demonstrate the required stroking speed, during the Functional Test (FAT)
- The gas-over-oil actuator shall basically comprise of the following components:
 - Actuating control box
 - Actuator cylinders
 - Gas-over-oil tank
 - Hand pump with pertinent change-over valve
 - Metering valve
 - Sensing tank and double check valves.
 - Double check valves to be considered.
- All accessories shall be mounted on a 316SS sub-plate. Tubing shall be suitably sized TP 316L stainless steel with stainless steel double ferrule compression fittings.
- The actuator design shall be of cylinder type suitable for direct mounting on the valve as specified in Requisition. The actuator shall be capable of withstanding all envisaged line vibrations and movements.
- All accessory equipment, shall be mounted, fully piped, connected and supplied with the actuator.
- The actuator shall be equipped with suitable mechanical valve position indicator.
- Two gas-over-oil pressure tanks which have different hydraulic oil levels are required. The difference between two oil level surfaces must be at least equal to the amount of oil required for a complete valve travel. Two gas-over-oil accumulator tanks (one for open and one for close actuation) complying with relevant accessories and circuit shall be considered. One N2 capacity tank for start up/back up shall be considered by vendor.
- 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.
- All actuator parts shall have suitable surface treatment to protect them against corrosion.
- The actuator should be provided with a suitable hand-operated control valve for local operation of the valve.
- emergency hand pump, local push buttons or lever, local position indicator and emergency power gas storage tank for complete operations (one open & one close stroke).
- Self-control circuits shall be equipped with suitable control device for operating speed adjustment.
- 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
- project specification for Painting (BK-GNRL-PEDCO-000-PI-SP-0006) shall be considered by supplier.

D03

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک بسته‌های کاری تحت‌الارض				 TE				
		احداث خطوط انتقال گاز/لایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک								
		DATASHEETS FOR LBV								
شماره پیمان:		پروژه	بسته کاری	صادرکننده	نهاییات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 6 از 5
053 - 073 – 9184		BK	PPL	PEDCO	320	IN	DT	0012	D03	
Item	Data Category	Technical Features				Project Data & Requirements				
1	General Data	Tag No.				LBV-3201				
2		P&ID No.				BK-PPL-PEDCO-320- PR-PI-0001_D05 (page 2 of 3)				
3		Service				From Pig Launcher (PL-3201) to Pig Receiver (PR-3201)				
4		Fluid Phase				Gas				
5		Fluid State				Hydrocarbhone Gas				
6		Area Classification				Zone 2, IIB T4				
7		Line No.				GAS-113-0007-FN27-8"-PT				
8		Ambient Temperature C.				Refer to Note 20 in General Note				
9	Service Process Data	FLOW RATE (Kg/hr.) Max. / Normal / Min.				18887.891 /17170.81/ -				
10		INLET/OUTLET PRESSURE Barg				43.1				
11		OPERATING FLUID TEMPERATURE °C				15 ~ 31.3				
12		DENSITY (kg/m3) Mix./Gas./Liq				59.21 / 58.27 / 547.4				
13		VISCOSITY (GAS/LIQ.) cP				0.013/0.13				
14		VAPOR PRESSURE Pv Bar (a)				-				
15		CRITICAL PRESSURE Barg				104.9 barg				
16		DESIGN TEMPERATURE / MAX. TEMPERATURE				85/31.3				
17	Body and Valve Trim	DESIGN PRESSURE / MAX.PRESSURE Barg				62/43.1				
18		SHUT-OFF PRESSURE (barg)				62				
19		VALVE TYPE				ball valve, Gear Type, Trunnion Mounted (see note 9 in below table)				
20		BODY MATERIAL				ASTM A216 WCB				
21		NACE TO MR - 01 75				YES				
22		BODY SIZE		LINE RATED PRESSURE		8"		600		
23		MAX. PRES. & TEMP.				VTA		VTA		
24		END CONNECTIONS & RATINGS				8" , BW with Pup Piece at ends, L=500mm (THK:11.1mm)				
25		SEAT TYPE				Soft Seat (VTC)				
26		SEAT MATERIAL				AISI 316L + RPTFE				
27		TRIM MATERIAL				AISI 316L+STELLTE6				
28		PLUG / BALL MATERIAL				AISI 316L+STELLTE6				
29		STEM MATERIAL				VTA				
30		STEM GUIDE MATERIAL				VTA				
31		STUFFING BOX PACKING (GLAND)				VTA				
32		BOLTING				Based on PMS requirements				
33	Actuator	VALVE SEALING MATERIAL		SEAT SEAL MATERIAL		ANTI STATIC (VTC)		ANTI STATIC (VTC)		
34		ANTI BLOW-OUT DEVICE OF THE STEM				YES				
35		LEAKAGE CLASS				ANSI B16.104 Class VI (TSO)				
36		FIRE SAFE				YES (API 6FA)				
37		MFR.		MODEL		will be finalized later		will be finalized later		
38		TYPE OF ACTUATOR				DOUBLE ACTING GAS - OVER OIL				
39		MOUNTING TYPE		SUPPLY		DIRECT		CRUDE OIL		
40		NACE TO MR - 01 75				YES				
41		OPENING TIME				8 Sec.(VENDOR TO CONFIRM)				
42		CLOSING TIME				8 Sec.(VENDOR TO CONFIRM)				
43		MAX. ALLOW. PRESSURE		MIN. REQ. PRESSURE		VTA		VTA		
44		MIN. REQ. TORQUE		MAX. REQ. TORQUE		VTA		VTA		
45		GAS / OIL CONSUMPTION				VTA				
46		HANDWHEEL				Note 17 in General Note				
47		CONNECTION SIZE				VTA				
48		VALVE ACTION ON FAILURE				FAIL TO CLOSE				
49	Control Panel	VALVE POSITION				Mechanical Position Indicator (see note 11 in below table)				
50		LINE PRESSURE LOSS DETECTION SYSTEM				Rate of pressure drop				
51		SPEED CONTROLLER				speed adjustment				
52		MFR.		TYPE		will be finalized later		will be finalized later		
53		ACTION				SHUT DOWN THE VALVE IN HIGH PRESSURE AND RATE OF PRESSURE DROP				
54		ENCLOSURE				SS316				
55		TUBING / FITTING MATERIAL				SS316				
56		REATING CLASS				#600				
57		LEAKAGE CLASS				ANSI B16.104 Class VI				
58		TUBING / FITTING MATERIAL NACE TO MR - 01 75				YES				
59		MANUALL OPEN / CLOSE				YES				
60		PROCESS CONNECTION				3/4" NPTF ON VALVE BODY				
61		MOUNTING				LOCAL				
62		FLUID				GAS				
63		SUPLY PRESSURE DES/ MINIMUM-NOR.				VTA				
64		TEMPERATURE NORM. / DESIGN				°C		0 - +35 / (0 - +85)		
65	Limit Switch	ELECTRICAL CONNECTION				N.A.				
66		CABLE GLAND				N.A.				
67		PROTECTION CLASS				IP 65				
68		R.O.D SET POINT (Psig / Min)				VTA				
69		HIGH/LOW SET POINT				See note 6 in below table				
70		MFR.		MODEL		will be finalized later		will be finalized later		
71		TAG No				Not Applicable (Note 12)				
72		SWITCH TYPE								
73	VOLTAGE SUPPLY									
74	CONTACT RATING									
75	CABLE GLAND									
76	Accessories	ELECTR. CONNECTION SIZE								
77		PROTECTION CLASS								
78		VALVE TEST SYSTEM				NO				
79		VOLUME TANK , N2 START UP TANK ,GAS-OVER-OIL PRESSURE TANKS & ACCUMULATOR				YES, Completed with all required accessories with 1 stroke capacity (Note 14)				
80		DRAIN VALVE				VTA				
81		CONTROL PANEL				YES				
82		HAND PUMP				Hand pump with pertinent change-over valve				
83		TUBING / FITTING				SS316				
84	GAS FILTER REGULATOR				YES / VTA					
(*) : TO BE ADVISED & FILLED BY VENDOR 1. VALVE TYPE SHALL BE IN ACCORDANCE WITH PROJECT P&ID 2. ACCORDING TO PIPING MATERIAL SPECIFICATION AS MINIMUM. 3 : BORE TO MATCH PIPELINE ID 4 : ACTUATOR TESTED AT 1.5 TIMES THE MAX SUPPLY 5 : CONTROL PANEL SHALL BE CAPABLE TO METER THE PIPE LINE PRESSURE AND BLOCK IT IN CASE OF R.O.D (RATE OF DROP) 6 : SET POINT SHALL BE ADJUSTABLE + %20 AS MINIMUM. 7 : NO ELECTRICAL SIGNAL THE VALVE HAS 8 : IN ACCORDING TOPPING MATERIAL SPECIFICATION AS MINIMUM 9 : ACCORDING TO ISO 85 EN 17292 10 : VALVE SHALL BE INSTALLED INSIDE CONCRETE PIT . EXTENDED STEM(1.5 m) IS REQUIRED TO BE CONSIDERED BY VENDOR. 11. THE ACTUATOR SHALL HAVE MODULAR DESIGN AND SHALL EMPLOY SCOTCH YOKE MECHANISM PREFERABLY WITH 90° ROTATION. 12. MECHANICAL POSITION INDICATOR SHALL BE PROVIDED BY VENDOR , SHOWING VALVE POSITION LOCALLY.										



احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاه‌مکان/واحد بهره‌برداری بینک



DATASHEETS FOR LBV

IN 

053 - 073 - 9184

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D03

شماره صفحه: 6 از 6

Item	Data Category	Technical Features	D03	Project Data & Requirements
1	General Data	Tag No.		LBV-3202
2		P&ID No.		BK-PPL-PEDCO-320- PR-PI-0001_D05 (page 2 of 3)
3		Service		From Pig Launcher (PL-3201) to Pig Receiver (PR-3201)
4		Fluid Phase		Gas
5		Fluid State		Hydrocarbone Gas
6		Area Classification		Zone 2, IIB T4
7		Line No.		GAS-113-0009-FN27-8"-PT
8		Ambient Temperature C		Refer to Note 20 in General Note
9	Service Process Data	FLOW RATE (Kg/hr.) Max. / Normal / Min.		18887.891 /17170.81/ -
10		INLET/OUTLET PRESSURE Barg		43
11		OPERATING FLUID TEMPERATURE °C		15~31.3
12		DENSITY (kg/m3) Mix./Gas./Liq		47.16/47.11/578.4
13		VISCOSITY (GAS/LIQ.) cP		0.013/0.13
14		VAPOR PRESSURE Pv Bar (a)		-
15		CRITICAL PRESSURE Barg		104.9 barg
16		DESIGN TEMPERATURE / MAX. TEMPERATURE		85 / 31.3
17		DESIGN PRESSURE / MAX.PRESSURE Barg		62 / 43 Barg
18		SHUT-OFF PRESSURE (barg)		62
19	Body and Valve Trim	VALVE TYPE		ball valve, Gear Type, Trunnion Mounted (see note 9 in below table)
20		BODY MATERIAL		ASTM A216 WCB
21		NACE TO MR - 01 75		YES
22		BODY SIZE	RATED PRESSURE	8" 600
23		MAX. PRES. & TEMP.		VTA VTA
24		END CONNECTIONS & RATINGS		8", BW with Pup Piece at ends, L=500mm (THK:11.1mm)
25		SEAT TYPE		Soft Seat (VTC)
26		SEAT MATERIAL		AIISI 316L + RPTFE
27		TRIM MATERIAL		AIISI 316L+STELLTE6
28		PLUG / BALL MATERIAL		AIISI 316L+STELLTE6
29		STEM MATERIAL		VTA
30		STEM GUIDE MATERIAL		VTA
31		STUFFING BOX PACKING (GLAND)		VTA
32		BOLTING		Based on PMS requirements
33		VALVE SEALING MATERIAL	SEAT SEAL MATERIAL	ANTI STATIC (VTC) ANTI STATIC (VTC)
34		ANTI BLOW-OUT DEVICE OF THE STEM		YES
35		LEAKAGE CLASS		ANSI B16.104 Class VI (TSO)
36	FIRE SAFE		YES (API 6FA)	
37	MFR.	MODEL	will be finalized later will be finalized later	
38	Actuator	TYPE OF ACTUATOR		DOUBLE ACTING GAS - OVER OIL
39		MOUNTING TYPE	SUPPLY	DIRECT CRUDE OIL
40		NACE TO MR - 01 75		YES
41		OPENING TIME		8 Sec.(VENDOR TO CONFIRM)
42		CLOSING TIME		8 Sec.(VENDOR TO CONFIRM)
43		MAX. ALLOW. PRESSURE	MIN. REQ. PRESSURE	VTA VTA
44		MIN. REQ. TORQUE	MAX. REQ. TORQUE	VTA VTA
45		GAS / OIL CONSUMPTION		VTA
46		HANDWHEEL		Note 17 in General Note
47		CONNECTION SIZE		VTA
48		VALVE ACTION ON FAILURE		FAIL TO CLOSE
49		VALVE POSITION		Mechanical Position Indicator (see note 11 in below table)
50		LINE PRESSURE LOSS DETECTION SYSTEM		Rate of pressure drop
51	SPEED CONTROLLER		speed adjustment	
52	MFR.	TYPE	will be finalized later will be finalized later	
53	Control Panel	ACTION		SHUT DOWN THE VALVE IN HIGH PREESSURE AND RATE OF PRESSURE
54		ENCLOSURE		SS316
55		TUBING / FITTING MATERIAL		SS316
56		REATING CLASS		#600
57		LEAKAGE CLASS		ANSI B16.104 Class VI
58		TUBING / FITTING MATERIAL NACE TO MR - 01 75		YES
59		MANUALL OPEN / CLOSE		YES
60		PROCEESS CONECTION		3/4" NPTF ON VALVE BODY
61		MOUNTING		LOCAL
62		FLUID		GAS
63		SUPLY PRESSURE DES/ MINIMUM-NOR.		VTA
64		TEMPERATURE NORM. / DESIGN	°C	0 - +35 / (0 - +85)
65		ELECTRICAL CONNECTION		N.A.
66		CABLE GLAND		N.A.
67		PROTECTION CLASS		IP 65
68	R.O.D SET POINT (Psig / Min)		VTA	
69	HIGH/LOW SET POINT		See note 6 in below table	
70	MFR.	MODEL	will be finalized later will be finalized later	
71	Limit Switch	TAG No		Not Applicable(Note 12)
72		SWITCH TYPE		
73		VOLTAGE SUPPLY		
74		CONTACT RATING		
75		CABLE GLAND		
76		ELECTR. CONNECTION SIZE		
77		PROTECTION CLASS		
78	Accessories	VALVE TEST SYSTEM		NO
79		VOLUME TANK , N2 START UP TANK ,GAS-OVER-OIL PRESSURE TANKS & ACCUMULATOR		YES, Completed with all required accessories with 1 stroke capacity (Note 14)
80		DRAIN VALVE		YES
81		CONTROL PANEL		YES
82		HAND PUMP		Hand pump with pertinent change-over valve
83		TUBING / FITTING		SS316
84		GAS FILTER REGULATOR		YES / VTA

(*): TO BE ADVISED & FILLED BY VENDOR

1. VALVE TYPE SHALL BE IN ACCORDANCE WITH PROJECT P&ID

2 : ACCORDING TO PIPING MATERIAL SPECIFICATION AS MINIMUM
3 : BORE TO MATCH PIPELINE ID

4 : ACTUATOR TESTED AT 1.5 TIMES THE MAX SUPPLY

5 : CONTROL PANEL SHALL BE CAPABLE TO METER THE PIPE LINE PRESSURE AND BLOCK IT IN CASE OF R.O.D (RATE OF DROP

6 : SET POINT SHALL BE ADJUSTABLE $\pm$ %20 AS MINIMUM

7 : NO ELECTRICAL SIGNAL THE VALVE HAS

8 : In ACCORDING TO PIPING MATERIAL SPECIFICATION AS MINIMUM

9: ACCORDING TO ISO BS EN 17292

11. THE ACTUATOR SHALL HAVE MODULAR DESIGN AND SHALL EMPLOY SCOTCH YOKE MECHANISM PREFERABLY

11. THE ACTUATOR SHALL HAVE MODULAR DESIGN AND SHALL EMPLOY SCOTCH YOKE MECHANISM PREFERABLY