


 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 D04	سریال 0012	نوع مدرک DT	رشته IN	تسهیلات 320	صادر کننده PEDCO	بسته کاری PPL	پروژه BK	شماره صفحه: 1 از 6

طرح نگهداشت و افزایش تولید 27 مخزن

DATASHEETS FOR LBV

نگهداشت و افزایش تولید میدان نفتی بینک

D04	OCT.2024	AFC	P.Hajisadeghi	M.Fakharian	M.Sadeghian	
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:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 2 از 6
053 - 073 - 9184	BK	PPL	PEDCO	320	IN	DT	0012	D04	

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04	Page	D00	D01	D02	D03	D04
1	X	X	X	X	X	65					
2	X	X	X	X	X	66					
3	X	X	X			67					
4	X	X	X	X	X	68					
5	X	X	X	X	X	69					
6	X	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/مابعات گازی از ایستگاه تقویت فشار گاز بینک تا
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DATASHEETS FOR LBV

نسخه	سریال	نوع مدرک	رشته	تسهيلات	صادرکننده	بسته کاری	پروژه	شماره پیمان:
D04	0012	DT	IN	320	PEDCO	PPL	BK	053 - 073 - 9184

شماره صفحه: 3 از 6

REFERENCE DOCUMENTS :

Instrument & Control System Design Criteria	BK-PPL-PEDCO-320-IN-DC-0001_D02
P&ID - Gas Pipeline (to Siahmakan G.I. Station)	BK-PPL-PEDCO-320-PR-PI-0001_D05
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_D03
Instrument Hook-Up Diagram	BK-PPL-PEDCO-320-IN-DG-0002_D01
Process Basis Of Design	BK-GNRAL-PEDCO-000-PR-DB-0001_D08



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نگهداشت و افزایش تولید میدان نفتی بینک
بسته‌های کاری تحت‌الارض

احداث خطوط انتقال گاز/امایعات گازی از ایستگاه تقویت فشار گاز بینک تا
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DATASHEETS FOR LBV

شماره پیمان:	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 4 از 6
053 - 073 - 9184	BK	PPL	PEDCO	320	IN	DT	0012	D04	

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.
- LBVs shall be full bore ball valve suitable for pigging.



D04



NISOC

تجهادداشت و افزایش تولید میدان نفتی بینک
بسته های کاری تحت الارض

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

شماره پیمان:

053 - 073 - 9184

پروژه

BK

بسته کاری

PPL

صادر کننده

PEDCO

تهیهات

320

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نسخه

D04

شماره صفحه: 5 از 6

Item	Data Category	Technical Features	Project Data & Requirements
1	General Data	Tag No.	LBV-3201
2		P&ID No.	BK-PPL-PEDCO-320-PR-PL-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	Hydrocarbore 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		DESIGN PRESSURE / MAX.PRESSURE Barg	62/43.1
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	8"
23		MAX. PRES. & TEMP.	600 VTA
24		END CONNECTIONS & RATINGS	FLANGED, WN, BW, RF, 600#, ASTM A694 F52
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		VALVE SEALING MATERIAL	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.	will be finalized later
38		Actuator	TYPE OF ACTUATOR
39	MOUNTING TYPE		DIRECT
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		VTA
44	MIN. REQ. TORQUE		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.	will be finalized later	
53	Control Panel	ACTION	SHUT DOWN THE VALVE IN HIGH PREESSURE 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		PROCCSS CONECTION	3/4" NPTF ON VALVE BODY
61		MOUNTING	LOCAL
62		FLUID	GAS
63		SUPPLY PRESSURE DES/ MINIMUM-NOR.	VTA
64		TEMPERATURE NORM / DESIGN	0 ~ +35 / (0 ~ +85) °C
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.	will be finalized later	
71	Limit Switch	TAG No.	
72		SWITCH TYPE	
73		VOLTAGE SUPPLY	
74		CONTACT RATING	
75		CABLE GLAND	
76		ELECTR. CONNECTION SIZE	
77		PROTECTION CLASS	
78	Accessories	VALVE TEST SYSTEM	Calibration Kit for Valve and actuator Testing and Calibration
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

D04

(*) : TO BE ADVISED & FILLED BY VENDOR

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

2. ACCORDING TO PIPELINE 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 API 6D

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 POSITON LOCALLY.

D04



نگهداشت و افزایش تولید میدان نفتی بینک بسته‌های کاری تحت‌الارض

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



DATASHEETS FOR LBV

053 - 073 - 9184

شماره پیمان:

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مته کاری

در کنند

تسهيلات

رشته

عم مدرک

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شماره صفحه: 6 از 6

Item	Data Category	Technical Features	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	Service Process Data	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		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	8"
23		MAX. PRES. & TEMP.	600
24		END CONNECTIONS & RATINGS	FLANGED, WN, BW, RF, 600#, ASTM A694 F52
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		VALVE SEALING MATERIAL	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.	will be finalized later	
38	Actuator	TYPE OF ACTUATOR	DOUBLE ACTING GAS - OVER OIL
39		MOUNTING TYPE	DIRECT
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	VTA
44		MIN. REQ. TORQUE	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.	will be finalized later	
53	Control Panel	ACTION	SHUT DOWN THE VALVE IN HIGH PREESURE 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		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	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.	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	Calibration Kit for Valve and actuator Testing and Calibration
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 PIPELINE MATERIAL SPECIFICATION AS MINIMUM

3 : BORE TO MATCH PIPELINE ID

4: ACTUATOR TESTED AT 1.5 TIMES THE MAX SUPPLY

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

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 API 6D

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.