



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

**DATASHEETS FOR LBV**

شماره پیمان:

• 03 - • 73 - 9184

**پروژه**

**بسته کاری**

**صادر کنندہ**

## نسیات

روشته

**نوع مدرک**

میریال

نسخه
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شماره صفحه: ۱ از ۶

## طرح نگهداشت و افزایش تولید ۲۷ مخزن

## DATASHEETS FOR LBV

## نگهداشت و افزایش تولید میدان نفتی بینک

D01	JUN 2022	IFA	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D00	MARCH 2022	IFC	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
<b>Rev.</b>	<b>Date</b>	<b>Purpose of Issue / Status</b>	<b>Prepared by:</b>	<b>Checked by:</b>	<b>Approved by:</b>	<b>CLIENT Approval</b>

**Class: 2**

**CLIENT Doc. Number:**

**F9Z-708589**

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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**

 <b>NISOC</b>	<b>نگهداشت و افزایش تولید میدان نفتی بینک</b> <b>بسته‌های کاری تحت‌الارض</b>  <b>احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا</b> <b>ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک</b>							 	
	<b>DATASHEETS FOR LBV</b>								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری PPL	صادر کننده PEDCO	تسهیلات 320	رشته IN	نوع مدرک DT	سریال 0012	نسخه D01	شماره صفحه: ۶ از ۲

### REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04	Page	D00	D01	D02	D03	D04
1	X	X				65					
2	X	X				66					
3	X	X				67					
4	X	X				68					
5	X	X				69					
6	X	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



DATASHEETS FOR LBV

شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

پروژه

BK

بسته کاری

PPL

صادرکننده

PEDCO

تسهیلات

320

رشته

IN

نوع مدرک

DT

سریال

0012

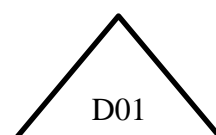
نسخه



D01

شماره صفحه: ۶ از ۳

# REFERENCE DOCUMENTS :

Instrument & Control System Design Criteria	BK-PPL-PEDCO-320-IN-DC-0001_D00
P&ID - Gas Pipeline (to Siahmakan G.I. Station)	BK-PPL-PEDCO-320-PR-PI-0001_D02
P&ID - Condensate Pipeline (to Binak PU)	BK-PPL-PEDCO-320-PR-PI-0002_D02
Piping Material Specification	BK-GCS-PEDCO-120-PI-SP-0001_D01
Specification For LBV	BK-GNRAL-PEDCO-000-IN-SP-0013_D00
Instrument Hook-Up Diagram	BK-PPL-PEDCO-320-IN-DG-0002_D00
Process Basis Of Design	BK-GNRAL-PEDCO-000-PR-DB-0001_D01



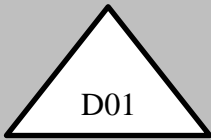
  NISOC	نگهداشت و افزایش تولید میدان نفتی بینک بسته‌های کاری تحت‌الارض							
	احداث خطوط انتقال گاز/مابعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک							
	DATASHEETS FOR LBV							
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
	BK	PPL	PEDCO	320	IN	DT	0012	D01
شماره صفحه: ۴ از ۶								

GENERAL NOTES:

1. Calculations shall be provided for each completely piped actuated valve assembly the stroking times i.e. to close and to open.
2. The duty, failure action and stroke time shall all be approved by the Purchaser.
3. The actuator shall be designed to operate the valve through its full stroke.
4. 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.
5. NACE consideration shall be regarded according to MR 01 75.
6. Hydro-test duration shall be in accordance with API 6D.
7. 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.
8. Vendor shall guarantee and demonstrate the required stroking speed, during the Functional Test (FAT).
9. 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.
10. 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.
11. 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.
12. All accessory equipment, shall be mounted, fully piped, connected and supplied with the actuator.
13. The actuator shall be equipped with suitable mechanical valve position indicator.
14. 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.
15. 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.
16. All actuator parts shall have suitable surface treatment to protect them against corrosion.
17. The actuator should be provided with a suitable hand-operated control valve for local operation of the valve.
18. 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).
19. Self-control circuits shall be equipped with suitable control device for operating speed adjustment.

19-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





## نگهداشت و افزایش تولید میدان نفتی بینک بسته‌های کاری تحت‌الارض

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



شماره صفحه: ۵ از ۶

**شماره پیمان:**

• 03 - • 73 - 9184

## پروژه

## بسته کاری

صادر کنند

تسهيلا

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نوع

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**نفس**

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 _D02 ( page 2 of 3)		
3		Service		From Pig Launcher (PL-3201) to Pig Receiver (PR-3201)		
4		Fluid Phase		HYDROCARBONE		
5		Fluid		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		50.41		
11		OPERATING FLUID TEMPERATURE °C		45.83		
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		48.11		
16		DESIGN TEMPERATURE / MAX. TEMPERATURE		85/45.83		
17		DESIGN PRESSURE / MAX.PRESSURE Barg		62/50.41		
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", Raised Face #600		
25		SEAT TYPE		Soft Seat (VTC)		
26		SEAT MATERIAL		AISI 316L+STELLTE6		
27		TRIM MATERIAL		AISI 316L+STELLTE6		
28		PLUG / BALL MATERIAL		AISI 316L+STELLTE6		
29		STEM MATERIAL		AISI 316L+STELLTE6		
30		STEM GUIDE MATERIAL		AISI 316L+STELLTE6		
31		STUFFING BOX PACKING (GLAND)		AISI 316L+STELLTE6		
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 V (TSO ) , With metal seat		
36		FIRE SAFE		YES ( API 607 )		
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 DROP	
54		ENCLOSURE		SS316		
55		TUBING / FITTING MATERIAL		SS316		
56		REATING CLASS		#600		
57		LEAKAGE CLASS		ANSI B16.104 Class V		
58		TUBING / FITTING MATERIAL NACE TO MR - 01 75		YES		
59		MANUALL OPEN / CLOSE		YES		
60		PROCESS 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	
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		YES, Completed with all required accessories with 4 stroke capacity		
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  $\pm$  %20 AS MINIMUM.
7. NO ELECTRICAL SIGNAL THE VALVE HAS
8. IN ACCORDING TO PIPING MATERIAL SPECIFICATION AS MINIMUM
9. ACCORDING TO ISO 5167 1992
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.



