

## نگهداشت و افزایش تولید میدان نفتی بینک بستههاى كارى تحتالارض





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

**NISOC** 

3118-74-70.

DATASHEETS FOR LBV

شماره پیمان: پروژه بسته کاری صادر کننده تسهيلات نوع مدرك سريال BK PPL 0012 D01 PEDCO 320 IN DT

شماره صفحه: ۱ از ۲

# 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	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval
Class: 2		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



## **NISOC**

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

				DATASH	EETS FOR	RLBV			
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدر ک	سر يال	نسخه	٦ ;١٢
۶۸۱۶ – ۲۷۰ – ۲۵۰	BK	PPL	PEDCO	320	IN	DT	0012	D01	( ) ( )

### شماره صفحه: ۲ از ۲

#### **REVISION RECORD SHEET**

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## نگهداشت و افزایش تولید میدان نفتی بینک بستههاي كارى تحت الارض

### **NISOC**

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

			DATASH	EETS FOR	RLBV			
پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرک	سر يال	نسخه	
BK	PPL	PEDCO	320	IN	DT	0012	D01	

شماره صفحه: ۳ از ۲

### **REFERENCE DOCUMENTS:**

٤٨١٥ - ٣٧٠ - ٣٥٠

شماره پیمان:

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





## نگهداشت و افزایش تولید میدان نفتی بینک بستههاي كارى تحتالارض



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

**NISOC** 

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DATASHEETS FOR LBV										
بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرک	سريال	نسخه				
PPL	PEDCO	320	IN	DT	0012	D01				

شماره صفحه: ٤ از ٦

#### **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.

پروژه

BK

کاری

- 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.

شماره پیمان:

- 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).

D01

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 بستههاي كارى تحتالارض





# **NISOC**

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

DATASHEETS FOR LBV بسته کاری صادر کننده تسهيلات نوع مدرك نسخه شماره پیمان: رشته سريال شماره صفحه: ٥ از ٦

	·07- ·77- 91As	Ŀ	ВК	PPL	PEDCO	320	IN	DT	0012	D01	شماره صفحه: ۱۵ از ۱				
Item	Data Category		Technica	l Features					F	Project Data 8	& Requirements				
1									LBV-3201						
2		P&ID No.						т			-PI-0001_D02 ( page 2 of 3)				
3		Service Fluid Phase					From Pig Launcher (PL-3201) to Pig Receiver (PR-3201) HYDROCARBONE								
5	General Data	Fluid									GAS				
6		Area Classification									, IIB T4				
7		Line No.									07-FN27-8"-PT				
<b>8 9</b>		Ambient Temperature C FLOW RATE (Kg/hr.) Ma	x. / Norma	1 / Min.				$\nearrow$ $ackslash$			0 in General Note /17170.81/ -				
10		INLET/OUTLET PRESSURE						$\nearrow$			0.41				
11		OPERATING FLUID TEMPE		,			Z	D01			5.83				
12 13		DENSITY (kg/m3) Mix./Gas VISCOSITY (GAS/LIQ.) cP									3.27 / 547.4 3/0.13				
14	Service Process Data	VAPOR PRESSURE Pv Bar	(a)							0.01.	-				
15		CRITICAL PRESSURE Barg									3.11				
16		DESIGN PRESSURE / MAX									45.83 50.41				
17 18		DESIGN PRESSURE / MAX. SHUT-OFF PRESSURE (barg		Багд							62				
19		VALVE TYPE	,					ball v	alve, Gear T		Mounted (see note 9 in below table)				
20		BODY MATERIAL									A216 WCB				
21 22		NACE TO MR - 01 75 BODY SIZE		RATED	) PRESSURE				8"	<u>Y</u> .	ES 600				
23		MAX. PRES. & TEMP.		141122	TILLSSOILL				VTA		VTA				
24		END CONNECTIONS & RA	TINGS								1 Face #600				
25		SEAT TYPE SEAT MATERIAL									at (VTC) +STELLTE6				
26 27		TRIM MATERIAL									+STELLTE0 +STELLTE6				
28	<b>Body and Valve Trim</b>	PLUG / BALL MATERIAL									+STELLTE6				
29		STEM MATERIAL									+STELLTE6				
30		STEM GUIDE MATERIAL STUFFING BOX PACKING	(GLAND)								+STELLTE6 +STELLTE6				
32		BOLTING	(GL/II (D)								S requirements				
33		VALVE SEALING MATERIAL SEAT SEAL MATERIAL						AN	ΓΙ STATIC	(VTC)	ANTI STATIC (VTC)				
34		ANTI BLOW-OUT DEVICE OF THE STEM							ANCI D1		(TSO), With metal seat				
35 36		LEAKAGE CLASS FIRE SAFE						API 607)							
37		MFR.		MODEL				will	l be finalized	,	will be finalized later				
38		TYPE OF ACTUATOR			CLIDDIA	7			DC		G GAS - OVER OIL				
39 40		MOUNTING TYPE NACE TO MR - 01 75			SUPPLY					DIRECT	CRUDE OIL TES				
41		OPENING TIME							8		R TO CONFIRM)				
42		CLOSING TIME		l. m. n.		_				Sec.( VENDOI	R TO CONFIRM)				
43		MAX. ALLOW. PRESSURE MIN. REQ. TORQUE			EQ. PRESSURE REQ. TORQUE	<u> </u>			VTA VTA		VTA VTA				
45	Actuator	GAS / OIL CONSUMPTION		1411 124. 14	EQ. TORQUE				VIA	V'	TA				
46		HANDWHEEL									General Note				
47		CONNECTION SIZE  VALVE ACTION ON FAILU	DE								TA O CLOSE				
48		VALVE POSITION	KE						Mechanical I		or (see note 11 in below table)				
50		LINE PRESSURE LOSS DET	ECTION SY	STEM				Rate of pressure drop							
51		SPEED CONTROLLER MFR.	ТҮР	OE.				:11	l la . Ca aliana		djustment				
52 53		ACTION	TYP	E			SHI		l be finalized HE VALVE		will be finalized later EESSURE AND RATE OF PRESSURE DROP				
54		ENCLOSURE						0120 ((1)	77.22 7.2		3316				
55		TUBING / FITTING MATER	AL								3316				
56		REATING CLASS									.104 Class V				
57 58		LEAKAGE CLASS TUBING / FITTING MATER	AL NACE T	O MR - 01 75	<u> </u>						ES				
59		MANUALL OPEN / CLOSE	I I I I I I I I I I I I I I I I I I I	<u> </u>	•						TES				
60		PROCCESS CONECTION									VALVE BODY				
61	Control Panel	MOUNTING									CAL				
62 63		FLUID SUPLLY PRESSURE DES/ M	IINIMI IM-N	OR.							GAS TTA				
64		TEMPERATURE NORM. / D				°(	2				/ (0 - +85)				
65		ELECTRICAL CONNECTION	N								J.A.				
66		CABLE GLAND									J.A. 2 65				
67 68		PROTECTION CLASS  R.O.D SET POINT (Psig / Min	1)								TA				
69		HIGH/LOW SET POINT	- /								n below table				
70		MFR.	MOI	DEL				will	l be finalized	l later	will be finalized later				
71 72		TAG No SWITCH TYPE					$\dashv$								
73		VOLTAGE SUPPLY					$\dashv$								
74	Limit Switch	CONTACT RATING								Not Ap	pplicable				
75		CABLE GLAND					_								
76		ELECTR. CONNECTION SIX	ZE				_								
77 78		PROTECTION CLASS VALVE TEST SYSTEM								N	NO				
79		VOLUME TANK						Y	ES, Complete		d accessories with 4 stroke capacity				
80		DRAIN VALVE									TA				
81	Accessories	CONTROL PANEL							**		YES				
82 83		HAND PUMP TUBING / FITTING							Har		inent change-over valve				
84		GAS FILTER REGULATOR									/ VTA				
04															

<sup>(\*):</sup> TO BE ADVISED & FILLED BY VENDOR

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

2:. ACCORDING TO PIPING MATERIAL SPECIFIACTION 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 TOPIPING MATERIAL SPECIFIACTION AS MINIMUM

<sup>8:</sup> In ACCORDING TOPIPING MATERIAL SPECIFIACTION AS MINIMUM
9: ACCORDING TO ISO BS 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.



## نگهداشت و افزایش تولید میدان نفتی بینک بستههاي كارى تحتالارض

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



## **NISOC**

DATASHEETS FOR LBV شماره پیمان: صادر كننده تسهيلات نوع مدرك پروژه بسته کاری سريال نسخه شماره صفحه: ۲ از ۲

	۸۱۶ – ۲۷۰ – ۲۵۰	٤	BK	PPL	PEDCO	320	IN	DT	0012	D01		شماره صفحه: ۱ از ۱			
Item	em Data Category Technical Features							Project Data & Requirements							
1									LBV-3202						
2		P&ID No.						BK-PPL-PEDCO-320- PR-PI-0001_D02 ( page 2 of 3) From Pig Launcher (PL-3201) to Pig Receiver (PR-3201)							
3 4		Service Fluid Phase						F	rom Pig La	,	CARBONE	, ,			
5	General Data	Fluid						^			AS				
6		Area Classification						$\nearrow$		Zone 2	, IIB T4				
7		Line No.								GAS-113-000					
<b>8 9</b>		Ambient Temperature C FLOW RATE (Kg/hr.) Ma	ax / Norma	1 / Min				D01		Refer to Note 20 18887.891					
10		INLET/OUTLET PRESSURE		II / IVIIII.							).41	<u>-                                      </u>			
11		OPERATING FLUID TEMPE		}							5.83				
12		DENSITY (kg/m3) Mix./Gas	./Liq							59.21 / 58		7.4			
13 14	Service Process Data	VISCOSITY (GAS/LIQ.) cP VAPOR PRESSURE PV Bar	(a)							0.01	3/0.13				
15		CRITICAL PRESSURE Barg	(4)							48	3.11				
16		DESIGN TEMPERATURE / I									45.83				
17 18		DESIGN PRESSURE / MAX. SHUT-OFF PRESSURE (barg	DESIGN PRESSURE / MAX.PRESSURE Barg								50.41 62				
19		VALVE TYPE	3)					ball v	alve. Gear T			see note 9 in below table)			
20		BODY MATERIAL							,	ASTM A	216 WCB	, , , , , , , , , , , , , , , , , , ,			
21		NACE TO MR - 01 75		D. A TENER	> PDEGGLIPE					Y	ES	100			
22 23		BODY SIZE MAX. PRES. & TEMP.		RATEL	O PRESSURE				8" VTA			600 VTA			
24		END CONNECTIONS & RA	TINGS						VIA	8", Raised	l Face #600				
25		SEAT TYPE								Soft Sea	at (VTC)				
26		SEAT MATERIAL								AISI 316L-					
27 28	Body and Valve Trim	TRIM MATERIAL PLUG / BALL MATERIAL								AISI 316L- AISI 316L-					
29	aj ana taite illili	STEM MATERIAL								AISI 316L-					
30		STEM GUIDE MATERIAL								AISI 316L-	+STELLTI	E6			
31		STUFFING BOX PACKING BOLTING	(GLAND)							AISI 316L-					
32		VALVE SEALING MATERIA	AL.	SEAT S	SEAL MATERIA	AL.		ANT	ΓΙ STATIC	Based on PM	S requirem	ANTI STATIC (VTC)			
34		ANTI BLOW-OUT DEVICE OF THE STEM						71111		· /	ES	Autifornite (vie)			
35		LEAKAGE CLASS						ANSI B16.104 Class V (TSO), With metal seat							
36 37		FIRE SAFE MFR.		MODEI	ſ		-	<del></del>	l be finalized		API 607)	will be finalized later			
38		TYPE OF ACTUATOR		MODE			_	WIII		UBLE ACTINO	G GAS - O				
39		MOUNTING TYPE			SUPPLY	7				DIRECT		CRUDE OIL			
40		NACE TO MR - 01 75									ES				
41 42		OPENING TIME CLOSING TIME								Sec.( VENDO) Sec.( VENDO)		•			
43		MAX. ALLOW. PRESSURE		MIN. RI	EQ. PRESSURE	<u> </u>			VTA	Bee.( VEI (DO)	10 001	VTA			
44		MIN. REQ. TORQUE MAX. REQ. TORQUE				VTA VTA					VTA				
45 46	Actuator	GAS / OIL CONSUMPTION HANDWHEEL								Note 17 in	TA	4-			
47		CONNECTION SIZE									TA	oie			
48		VALVE ACTION ON FAILURE						FAIL TO CLOSE							
49		VALVE POSITION						Mechanical Position Indicator (see note 11 in				,			
50 51		SPEED CONTROLLER	NE PRESSURE LOSS DETECTION SYSTEM DEED CONTROLLER				Rate of pressure drop speed adjustment					)			
52		MFR.	TYP	PΕ				will	l be finalized			will be finalized later			
53		ACTION					SHU	UT DOWN TH	HE VALVE			AND RATE OF PRESSURE DROP			
54		ENCLOSURE					-				316				
55 56		TUBING / FITTING MATER REATING CLASS	IAL				+				5316 500				
57		LEAKAGE CLASS								ANSI B16.		V			
58		TUBING / FITTING MATER	IAL NACE T	O MR - 01 75	5						ES				
59		MANUALL OPEN / CLOSE									ES	OODV			
60		PROCCESS CONECTION MOUNTING					+			3/4" NPTF ON	CAL	ו עטע			
62	Control Panel	FLUID									AS				
63		SUPLLY PRESSURE DES/ M	IINIMUM-N	OR.							TA				
64		TEMPERATURE NORM. / D				°(					(0 - +85)				
65		ELECTRICAL CONNECTION	N				+				ſ.A.				
66 67		CABLE GLAND PROTECTION CLASS					+				65				
68	PROTECTION CLASS  R.O.D SET POINT (Psig / Min )										TA				
69		HIGH/LOW SET POINT								See note 6 i	n below tal				
70		MFR.	MOI	DEL				will	l be finalized	l later		will be finalized later			
71 72		TAG No SWITCH TYPE					$\dashv$								
73		VOLTAGE SUPPLY					$\dashv$	-							
74	Limit Switch	CONTACT RATING								Not Ap	pplicable				
75		CABLE GLAND					_								
76 77		ELECTR. CONNECTION SI PROTECTION CLASS	ZE				$\dashv$								
78		VALVE TEST SYSTEM					+			N	NO				
<b>79</b>		VOLUME TANK						YI	ES, Complete			s with 4 stroke capacity			
80		DRAIN VALVE							=	V	TA				
	Accessories	CONTROL PANEL					YES								
81							Hand pump with pertinent change-over valve								
82		HAND PUMP							Har			e-over valve			
		HAND PUMP TUBING / FITTING GAS FILTER REGULATOR							Har	SS	inent change 3316 / VTA	e-over valve			

- (\*): TO BE ADVISED & FILLED BY VENDOR

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

  2.: ACCORDING TO PIPING MATERIAL SPECIFIACTION 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 TOPIPING MATERIAL SPECIFIACTION AS MINIMUM

- 8: In ACCORDING TOPIPING MATERIAL SPECIFIACTION AS MINIMUM
  9: ACCORDING TO ISO BS 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  $90^{\circ}$  ROTATION.