

 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 بهره‌برداری بینک							 	
	DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES								
شماره پیمان: 053 - 073 - 9184	پروژه BK	بسته کاری PPL	صادر کننده PEDCO	تسهیلات 320	رشته IN	نوع مدرک DT	سریال 0006	نسخه D04	شماره صفحه: 1 از 6

طرح نگهداشت و افزایش تولید 27 مخزن

DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES

نگهداشت و افزایش تولید میدان نفتی بینک

D04	JAN.2025	AFC	P.Hajisadeghi	M.Fakharian	S.Faramarzpour	
D03	NOV.2024	AFC	P.Hajisadeghi	M.Fakharian	M.Sadeghian	
D02	JUN.2023	AFC	P.Hajisadeghi	M.Fakharian	A.M.Mohseni	
D01	OCT.2022	IFA	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D00	MAY.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-708585

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

بسته‌های کاری تحت‌الارض

احداث خطوط انتقال گاز/ماینات گازی از ایستگاه تقویت فشار گاز بینک تا

ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک



DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES

شماره پیمان:

053 - 073 - 9184

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

شماره صفحه: 2 از 6

BK

PPL

PEDCO

320

IN

DT

0006

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		68					
5	X	X	X	X	X	69					
6	X	X	X	X	X	70					
7						71					
8						72					
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64						128					



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



DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES

شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 3 از 6
053 - 073 - 9184	BK	PPL	PEDCO	320	IN	DT	0006	D04	

REFERENCE DOCUMENTS :

1. Instrument & Control System Design Criteria	BK-PPL-PEDCO-320-IN-DC-0001
2. P&ID - Gas Pipeline (to Siahmakan G.I. Station)	BK-PPL-PEDCO-320-PR-PI-0001
3. P&ID - Condensate Pipeline (to Binak PU)	BK-PPL-PEDCO-320-PR-PI-0002
4. Piping Material Specification	BK-PPL-PEDCO-320-PI-SP-0001
5. Specification for Instrumentation	BK-GNRAL-PEDCO-000-IN-SP-0001
6. Specification For On-off Shut Down Valves(ESDVMOV)	BK-GNRAL-PEDCO-000-IN-SP-0006
7. Instrument Hook-Up Diagram	BK-PPL-PEDCO-320-IN-DG-0002
8. Process Basic of Design	BK-GNRAL-PEDCO-000-PR-DB-0001
9. Specification For Hazardous Area Classification	BK-GNRAL-PEDCO-000-SA-SP-0002
10. Specification For Painting	BK-GNRAL-PEDCO-000-PI-SP-0006



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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

DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES



شماره پیمان:
053 - 073 - 9184

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D04	0006	DT	IN	320	PEDCO	PPL	BK

شماره صفحه: 4 از 6

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 full stroke time for on-off valve which is less or equal than 4" size, shall be max. 5 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.
- The piping indicates corrosion allowance selected as per document "Piping & Pipeline Material Specification, No. " BK-PPL-PEDCO-320-PI-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).
- 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. Also Partial Stroking test or pilot valve to be considered.
- 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 1.5 and a minimum air pressure of 3 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.
- For application in sour gas services, as indicated in individual data sheets, material of body, trim and all other wetted metal parts in contact with the sour gas shall meet the requirements of NACE, MR-01-75, latest edition.
- Material Test Certificate and calibration Certificate for all transmitters to be submitted by Vendor.
- Manual Reset to be consider for all Emergency Shut off solenoids as per P&ID.
- Disc/seat material shall be resilient to give a tight shut off feature.
- 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: -
Maximum Design relative humidity (%): 100
Minimum Design relative humidity (%): 0
- Flow direction shall be permanently and clearly indicated on the valve body.
- External grounding shall be provided for each solenoid valve.
- Valves in safety related services should have been fire tested and certification to be provided by Vendor.
- Seat rings shall be spring loaded and so designed that line pressure will assist in sealing round the ball.
- 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.
- Short stroke single acting pneumatic piston actuators shall preferably be used on emergency shutdown service.
- Valve color shall be Gray as per Project Specification For Painting, Doc.No.BK-GNRAL-PEDCO-000-PI-SP-0006. Actuator color shall be Red for ESD application.
- In cases where on-off valve has been equipped with two solenoid valves, one shall be SIL certified and the other could be non-SIL (one SOV is connected to ESD system and another, to the process control system).
- Valves 2" and larger shall be as per API 6D.
- All wet parts in sour service shall meet requirements of NACE MR0175 and "Project specification for Material Requirements in Sour Service". Document No.:BK-GNRAL-PEDCO-000-PI-SP-0008.

		تکده‌اشت 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					 								
DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES															
شماره پیمان:		پروژه	بسته کاری	صادرکننده	تجهیزات	رشته	نوع مدارک	سرپال	نسخه	شماره صفحه: 5 از 6					
053 - 073 – 9038		BK	PPL	PEDCO	320	IN	DT	0006	D04						
On-Off Valve															
TAG NO:		ESDV-3201		P&ID NO :				BK-PPL-PEDCO-320-PR-P1-0001_D05 (page 1 of 3)		SERVICE:	FROM DEHYDRATION (PK-2101)				
FLUID STATE:		HYDROCARBONE GAS		PHASE:				GAS				AREA CLASSIFICATION:	Zone 2, IIB T4		
SERVICE CONDITION						UNITS		Max Flow		Norm. Flow		Min. Flow		Shut-Off	
		1 FLOW RATE				kg/h		-		17170.80		-		-	
		2 INLET PRESSURE				bar(g)		50.92				-		-	
		3 OUTLET PRESSURE				bar(g)		50.92				-		-	
		4 DIFFERENTIAL PRESSURE				bar(g)		-				-		-	
		5 INLET TEMPERATURE				°C		58.3				-		-	
		6 DENSITY(Mix./Gas/Liquid)				kg/m3		55.82				-		-	
		7 VISCOSITY (GAS/LIQ.)				CP		0.013				-		-	
		8 DESIGN PRESSURE				bar(g)		62				-		-	
		9 DESIGN TEMPERATURE				°C		85				-		-	
		10 VAPOR PRESSURE Pv				bar(a)		-				-		-	
		11 CRITICAL PRESSURE				bar(g)		104.9				-		-	
LINE		PIPE LINE SIZE		IN		6" & SCH.80		52 TYPE		Single Acting , Spring Return					
		& SCHEDULE		OUT		6" & SCH.80									
VALVE BODY & BONNET		13 PIPING CLASS / PIPE LINE INSULATION / CORROSION ALLOWENCE				FN05 / PAINTED (Note 29) / 3mm		54 SPRING FAIL ACTION		Fail to Close					
		14 TYPE				Full Bore Ball Valve/Trunion Mounted		55 MAX ALLOWABLE PRESSURE		VTA					
		15 SIZE				6"		56 MIN REQUIRES PRESSURE		VTA					
		16 MAX PRESS./TEMP				As per Specification For Pipeline Material (Note 5)		57 AVAILABLE AIR SUPPLY PRESS.		MAX/NOR/MIN: 8/7/4.5 barg (Note 14)					
		17 MFR. & MODEL				Will be finalized later		58 BENCH RANGE		VTA					
		18 BODY / BONNET MATL				A216 Gr. WCB (Note 5)		59 TRAVELING TIME		6 Sec.					
		19 LINER MATERIAL / ID				VTA		60 FUNCTION		On/Off					
		20 END CONNECTION		ANSI Class		6" 600#		61 LOCAL POSITION INDICATOR		Required					
		21 FLG FACE FINISH				RF		62 ACT. ORIENTATION		VTA					
		22 END EXT./MATL.				N/A		63 HAND WHEEL TYPE		Detachable side mounted					
		23 FLOW DIRECTION				N/A		64 ADJUSTABLE LIMIT STOP		Yes					
		24 TYPE OF BONNET				Standard		65 INPUT SIGNAL		24VDC					
		25 LUBE & ISO VALVE				No		66 MFR. & MODEL		Will be finalized later					
		26 PACKING MATERIAL		PACKING TYPE		PTFE Standard		67 TYPE		N/A					
		27 ENTRY DESIGN				Top/Side Entry		68 MFR. & MODEL		N/A					
		28 NACE REQUIREMENTNACE (MR-0175/ISO 15156)				Yes		69 ON INCR SIGNAL OUTPUT INCR / DECR		N/A					
		TRIM		29 TRIM TYPE		TRIM MATERIAL		VTA 316+RPTFE		70 GAUGES		N/A			
				30 SIZE		RATED TRAVEL		VTA VTA		71 CAM CHARACTERISTIC		N/A			
31 CHARACTERISTICS				On/Off		72 AIR CONNECTION		N/A							
32 BALANCED / UNBALANCED				BALANCED		75 TAG NO.:		EZSC-3201 / EZSO-3201							
33 RATED Cv				FL XT		VTA VTA VTA		76 TYPE		QUANTITY					
34 PLUG / BALL MATERIAL				SS316 (Note 5)		77 CONTACTS / RATING		110V DC , 10A							
35 DISK/ SEAT MATERIAL				SEAT TYPE		316+RPTFE (Note 19) Soft seat (VTC)		78 ACTUATION POINT		Fully Open/Close					
36 CAGE / GUIDE MATERIAL				VTA		79 ENCLOSURE MATERIAL		Die Cast Aluminum							
37 STEM TYPE				STEM MATERIAL		Anti-Blow Out (As per reference 6) forged, 13% chromium steel (As per reference 6)		80 WEATHER PROTECTION		IP-65					
38 LEAKAGE CLASS				ANSI Class VI		81 ELEC. CERTIFICATE		ELEC. CONNECTION							
SOLENOID VALVE		40 TAG NO				ESOV-3201, PSOV-3201		82 MFR. & MODEL		Will be finalized later					
		41 TYPE				3 Way		83 SET PRESSURE		VTA					
		42 BODY MATERIAL		WEATHER IP.		AISI 316 S.S IP-65		84 PNEUMATIC CONNECTION		1/4" NPT					
		43 ELE. CERTIFICATE		ELE. CONNECTION		EEx "d", IIB T4 ISO M20 x 1.5		85 GAUGES		FILTER Required Required					
		44 MANUAL RESET				Yes (Note 18)		86 MFR. & MODEL		Will be finalized later					
		45 POWER SUPPLY				24 VDC		87 ANSI/ICI LEAKAGE CLASS		Required					
		46 PNEU. CONNECTION				1/4" NPT		88 HYDRO PRESSURE		Required					
		47 FUSIBLE LEAKAGE				No		89 FUNCTIONAL TEST		Required					
SPECIAL / ACCESS.		48 BLOCK RELAY				No		90							
		49 QUICK EXHUST				Yes		91							
		50 FILTER REGULATOR				Yes		92							
		51 VOLUME TANK				Yes		93 PASSIVE FIRE PROTECTION		Yes					
		52 MECHANICAL POSITION INDICATOR				Required		94 API 6FA REQUIREMENTS		Yes					
		53 MANUAL PNE. BYPASS VALVE FOR SOLENOID VALVE				Yes		95 SIL REQUIREMENTS		Yes					
								96 PARTIAL STROKING VALVE TEST		Yes					
NOTE: VTA : VENDOR TO ADVISE															
* -															
** PMS: Piping Material Specification															



تکده‌اشت 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




DATA SHEETS FOR ON/OFF & SHUTDOWN VALVES

شماره پیمان:

پروژه

بسته کاری

صادرکننده

تسهيلات

رشته

نوع مدارک

سرال

نسخه

053 - 073 - 9038

BK

PPL

PEDCO

320

IN

DT

0006

D04

شماره صفحه: 6 از 6

On-Off Valve

TAG NO:

ESDV-3202

P&ID NO :

BK-PPL-PEDCO-320-PR-PI-0001_D05 (page 3 of 3)

SERVICE:

FROM PIG LAUNCHER (PL-3201)

FLUID STATE:

HYDROCARBONE GAS

PHASE:

GAS

AREA CLASSIFICATION:

Zone 2, IIB T4

SERVICE CONDITION

1

FLOW RATE

kg/h

-

17170.80

-

-

2

INLET PRESSURE

bar(g)

40

-

-

-

3

OUTLET PRESSURE

bar(g)

40

-

-

-

4

DIFFERENTIAL PRESSURE

bar(g)

-

-

-

62

5

INLET TEMPERATURE

°C

31.3

-

-

-

6

DENSTY(Mix.,Gas/Liquid)

kg/m3

49.09

-

-

-

7

VISCOSITY (GAS/LIQ.)

CP

0.012

-

-

-

8

DESIGN PRESSURE

bar(g)

62

-

-

-

9

DESIGN TEMPERATURE

°C

85

-

-

-

10

VAPOR PRESSURE Pv

bar(a)

-

-

-

-

11

CRITICAL PRESSURE

bar(g)

104.9

-

-

-

LINE

12

PIPE LINE SIZE & SCHEDULE

IN

8" & SCH.80

OUT

8" & SCH.80

13

PIPING CLASS / PIPE LINE INSULATION / CORROSION ALLOWANCE

FN05 / PAINTED (Note 29) / 3mm

VALVE BODY & BONNET

14

TYPE

Full Bore Ball Valve/Trunnion Mounted

15

SIZE

8"

16

MAX PRESS./TEMP

As per Specification For Pipeline Material (Note 5)

17

MFR. & MODEL

Will be finalized later

18

BODY / BONNET MATL

A216 Gr. WCB (Note 5)

19

LINER MATERIAL / ID

VTA

20

END CONNECTION

ANSI Class

8"

600#

21

FLG FACE FINISH

RF

22

END EXT.MATL.

N/A

23

FLOW DIRECTION

N/A

24

TYPE OF BONNET

Standard

25

LUBE & ISO VALVE

No

26

PACKING MATERIAL

PACKING TYPE

PTFE

Standard

27

ENTRY DESIGN

Top/Side Entry

28

NACE REQUIREMENT/NACE (MR-0175/ISO 15156)

Yes

TRIM

29

TRIM TYPE

TRIM MATERIAL

VTA

316-RPTFE

30

SIZE

RATED TRAVEL

VTA

VTA

31

CHARACTERISTICS

On/Off

32

BALANCED / UNBALANCED

BALANCED

33

RATED Cv

FL

XT

VTA

VTA

VTA

34

PLUG / BALL MATERIAL

SS316 (Note 5)

35

DISK/ SEAT MATERIAL

SEAT TYPE

316-RPTFE (Note 19)

Soft seat (VTC)

36

CAGE / GUIDE MATERIAL

VTA

37

STEM TYPE

STEM MATERIAL

Anti-Blow Out (As per reference 6)

forged, 13% chromium steel (As per reference 6)

38

LEAKAGE CLASS

ANSI Class VI

39

VALVE STEM EXTENSION REQUIREMENT

No

SOLENOID VALVE (Note *)

40

TAG NO

ESOV-3202, PSOV-3202

41

TYPE

3 Way

42

BODY MATERIAL

WEATHER IP.

AISI 316 S.S

IP-65

43

ELE. CERTIFICATE

ELE. CONNECTION

EEx "d", IIB T4

ISO M20 x 1.5

44

MANUAL RESET

Yes (Note 18)

45

POWER SUPPLY

24 VDC

46

PNEU. CONNECTION

1/4" NPT

47

FUSIBLE LEAKAGE

No

48

BLOCK RELAY

No

49

QUICK EXHUST

Yes

50

FILTER REGULATOR

Yes

51

VOLUME TANK

Yes

52

MECHANICAL POSITION INDICATOR

Required

53

MANUAL PNE. BYPASS VALVE FOR SOLENOID VALVE

Yes

ACTUATOR

52

TYPE

Single Acting , Spring Return

53

SIZE

VTA

VTA

54

SPRING FAIL ACTION

Fail to Close

55

MAX ALLOWABLE PRESSURE

VTA

56

MIN REQUIRES PRESSURE

VTA

57

AVAILABLE AIR SUPPLY PRESS.

MAX/NOR/MIN: 8/7/4.5 barg (Note 14)

58

BENCH RANGE

VTA

59

TRAVELING TIME

8 Sec.

60

FUNCTION

On/Off

61

LOCAL POSITION INDICATOR

Required

62

ACT. ORIENTATION

VTA

63

HAND WHEEL TYPE

Declutchable side mounted

64

ADJUSTABLE LIMIT STOP

Yes

65

INPUT SIGNAL

24VDC

66

MFR. & MODEL

Will be finalized later

POSITIONER

67

TYPE

N/A

68

MFR. & MODEL

N/A

69

ON INCR SIGNAL OUTPUT INCR / DECR

N/A

70

GAUGES

N/A

71

CAM CHARACTERISTIC

N/A

72

AIR CONNECTION

N/A

LIMIT SWITCHES

75

TAG NO. :

EZSC-3202 /EZSO-3202

76

TYPE

QUANTITY

Magnetically operated "REED" contacts

2

77

CONTACTS / RATING

110V DC , 10A

78

ACTUATION POINT

Fully Open/Close

79

ENCLOSURE MATERIAL

Die Cast Aluminum

80

WEATHER PROTECTION

IP-65

81

ELEC. CERTIFICATE

ELEC. CONNECTION

EEx "d", IIB T4

ISO M20 x 1.5

82

MFR. & MODEL

Will be finalized later

AIR SET

83

SET PRESSURE

VTA

84

PNEUMATIC CONNECTION

1/4" NPT

85

GAUGES

FILTER

Required

Required

86

MFR. & MODEL

Will be finalized later

TEST

87

ANSI/FCI LEAKAGE CLASS

Required

88

HYDRO PRESSURE

Required

89

FUNCTIONAL TEST

Required

90

91

92

OPTION

93

PASSIVE FIRE PROTECTION

Yes

94

API 6FA REQUIREMENTS

Yes

95

SIL REQUIREMENTS

Yes

96

PARTIAL STROKING VALVE TEST

Yes

NOTE:

VTA : VENDOR TO ADVISE

* Considering safety factor requested by NISOC, 2 cable (2*1.5 mm2) will be considered for ESD trip which shall be connected to ESOV. So, required JB / Termination / Control items shall be provided by valve vendor

** PMS: Piping Material Specification