
 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 PRESSURE & SAFETY RELIEF VALVES								
شماره پیمان: 053 – 073 – 9184	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
	BK	PPL	PEDCO	320	IN	DT	0005	D03
شماره صفحه: 1 از 6								

طرح نگهداشت و افزایش تولید 27 مخزن

DATASHEETS FOR PRESSURE & SAFETY RELIEF VALVES

نگهداشت و افزایش تولید میدان نفتی بینک

D03	OCT. 2023	AFC	P.Hajisadeghi	M.Fakharian	S.Faramarzpour	
D02	OCT. 2022	IFA	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D01	MAY. 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-708584

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 بهره‌برداری بینک



DATASHEETS FOR PRESSURE & SAFETY RELIEF VALVES

شماره پیمان:

053 - 073 - 9184

پروژه

BK

بسته کاری

PPL

صادرکننده

PEDCO

تسهیلات

320

رشته

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نوع مدرک

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سریال

0005

نسخه



D03

شماره صفحه: 2 از 6

REVISION RECORD SHEET

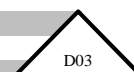
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 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک بسته‌های کاری تحت‌الارض</p> <p>احداث خطوط انتقال گاز/مایعات گازی از ایستگاه تقویت فشار گاز بینک تا ایستگاه تزریق گاز سیاه‌مکان/واحد بهره برداری بینک</p>								
	DATASHEETS FOR PRESSURE & SAFETY RELIEF 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	0005	D03	

REFERENCE DOCUMENTS :

Instrument & Control System Design Criteria	BK-PPL-PEDCO-320-IN-DC-0001
P&ID - Gas Pipeline (to Siahmakan G.I. Station)	BK-PPL-PEDCO-320-PR-PI-0001
P&ID - Condensate Pipeline (to Binak PU)	BK-PPL-PEDCO-320-PR-PI-0002
Piping Material Specification	BK-PPL-PEDCO-320-PI-SP-0001
Pipeline Material Specification	BK-PPL-PEDCO-320-PL-SP-0001
Specification For Instrumentation	BK-GNRAL-PEDCO-000-IN-SP-0001
Specification For Pressure Safety Valves(PSV)	BK-GNRAL-PEDCO-000-IN-SP-0007
Instrument Hook-Up Diagram	BK-PPL-PEDCO-320-IN-DG-0002
Specification For Hazardous Area Classification	BK-GNRAL-PEDCO-000-SA-SP-0002





نگهداشت و افزایش تولید میدان نفتی بینک
بسته‌های کاری تحت‌الارض

احداث خطوط انتقال گاز/مابغات گازی از ایستگاه تقویت فشار گاز بینک تا
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DATASHEETS FOR PRESSURE & SAFETY RELIEF VALVES



شماره پیمان:

053 - 073 - 9184

پروژه

بسته کاری

صادرکننده

تهیه‌ات

رشته

نوع مدرک

سریال

نسخه

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شماره صفحه: 4 از 6

GENERAL NOTES:

1- The pressure relief valves and its accessories shall be supplied pre-assembled. Valves shall be supplied as a whole, complete with all the accessories like cap, lifting lever, test gag, etc. All threaded and flanged openings shall be suitably covered to prevent entry of foreign material.

2- Effective discharge coefficient of pressure relief valves shall be 0.975 for gas and vapor and 0.62 for liquid services as a maximum.

3- The valve size shall be based on size calculations for the worst of all cases that might cause the valve to blow. For flanged pressure relief valves the orifice letter designation and the corresponding relieving area indicated in the EPC Contractor's data sheet will be as per API-526.

4- For a valve of given inlet and outlet sizes and letter designation, relieving area of the valves offered by Vendor, shall meet those in API-526 as a minimum.

5- The set pressure, over pressure and relieving pressure of the PSV depending upon maximum allowable working pressure and accumulation as per API Standard 520 Part I, and ASME Section VIII Division I or ASME Section I as the case may be.

6- If the set pressure is less than maximum allowable working pressure (MAWP), the overpressure could be more than accumulation. However, if PSV set pressure is same as MAWP, the accumulation and overpressure cannot exceed the accumulation. The relieving pressure would be set pressure plus overpressure.

7- ASME SECTION VIII DIV 1 stated a 10 % allowable over pressure over set pressure to achieve full lift of a single relief valve for blocked case. If the set pressure as maximum allowable working pressure (MAWP) set, the accumulation and over pressure is same and it is 10% over MAWP.

8- Emission shall be less than 85 dBA at 1 m distance from the valve.

9- For flanged valves, inlet and outlet sizes and ratings and center to flange face dimensions shall be in accordance with API-526. Dimensional tolerances shall be as mentioned there. If the design of pressure relief valve is such that liquid can collect on the discharge side of the disk, the valve shall be equipped with a drain at the lowest point where liquid can collect.

10- Valves shall, in general, be of the direct spring loaded full nozzle with minimum inlet flange rating of 300#, unless otherwise specified.

11- Nozzles of the forged type are preferable.

12- All valves shall be provided with a cap over the adjusting bolt.

13- Valve spring design shall not permit an adjustment of more than 5% above or 5% below that for which the valve is marked; unless the setting is within the spring design range established by the manufacturer or is determined to be acceptable to the manufacturer. The allowable tolerances in set pressures are as below:

- ± 0.14 bar for set pressures up to and including 4.8 barg.
- $\pm 3\%$ for set pressures above 4.8 barg.

14- Materials of construction shall be suitable for the environmental conditions and the process conditions identified in the relevant instrument datasheets. Provision of corrosion resistant materials shall be considered for conventional valves for corrosive fluid. Materials to be used shall be in accordance with project piping material specification and relevant datasheets

15. In general, unless specifically identified otherwise in this specification and attachments, process wetted materials which are in contact with Corrosive Services (H₂S, CO₂, H₂O), shall comply with the requirements of .. NACE MR0175/ISO 15156 . Body material shall normally be carbon steel and generally adhered to and consistent with project document "Piping Material Specification".

16. According to "Specification For Pressure Safety Valves(PSV)", Valve bonnet or spring housing material shall be the same as the valve body material

17-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

18- Refer To Specification For Painting Doc.No.BK-GNRL-PEDCO- 000-PI-SP-0006 Safety Valve Color Is not Specified So, Red Color Is Requested Considering Safety Factors , It Shall Be Finalized During KOM.

D03

19- For Flammable Or Toxic Services, Bonnets Shall Be Vented To The Discharge Side Of The Relief Valve(In Conventional Type PSVs.).

20- Suitable coating such as cadmiun plated shall be considered (vendor to advise)





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نگهداشت 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

DATASHEETS FOR PRESSURE & SAFETY RELIEF VALVES

شماره پیمان: 053 - 073 - 9184

پروژهBK
بسته کاریPPL
صادر کنندهPEDCO
تجهیزات320
رشتهIN
نوع مدرکDT
سریال0005
نسخهD03

شماره صفحه: 5 از 6


Item	Data Category	Technical Features	Project Data & Requirements		
1	GENERAL	Tag Number	PSV-3201		
2		P&ID NO and Page :	BK-PPL-PEDCO-320- PR-PI-0001 _D04 (1 of 3)		
3		Service	Pig Launcher		
4		Inlet Line No.	GAS-113-0003-FN05-2"-PT		
		Outlet Line No.	FL-113-0002-AN07-2"-PT		
		Corrosion allowance inlet line	3 mm		
		Outlet Iline	6 mm		
5		Discharge to	To LP Flare Header		
6		Protect Equipment	Launcher		
7	Area Clacification for Discharge	Zone 2, IIB T4			
8	Sour Service	Yes			
9	NACE MR0175/ISO 15156 Compliance	Yes			
10	BASIS	Nozzle (Full, Semi)	Full Nozzle		
11		Design Type	Safety, Relief, Safety-Relief	Safety	
12			Conventional, Bellow, Pilot Op.	Conventional	
13		Bonnet Type	Closed		
14	PROCESS CONDITIONS (note 2)	Fluid / Phase / State	Gas / 1-phase / Vapor		
15		Ambient Temperature °C	5-50	85	
16		Temperature °C	Operating	58.30	
17		Pressure Barg	Operating	50.90	
18		Oper. Temperature °C	RelievingTemp. °C	58.30	212
19		Required Capacity kg/h		1799.993	
20		Molecular Mass	Sp. Gr.@ relief Tmp kg/m3	24.58	0.84
21		Oper. Pressure barg	Set Pressure barg	50.9	62
22		Back Pressure Barg	Constant	0.5	
23			Variable	0	
24			Total	0.5	
25		% Allowable Overpressure		21%	
26		Over Pressure Factor		1.21	
27		Compressibility Factor (Z)		0.82	
28		Latent Heat of Vaporization (Kj/Kg)		1453	
29		Ratio of Specific Heats(Cp/Cv)		1.448	
30		Density @ Oper. kg/m3 temprature & pressure		55.82	
31	Operating Viscosity cP		0.014		
32	Barometric Pressure (psia)		14.37		
33	SELECTION	Design Code	API 520	-	
34		pressure relieving and de-pressurising systems Code		API 521	
35		Design of Construction		API 521	
36		Scenarios		fire	
37		Basis of Selection		fire	
38		Calculated Area cm²		0.359	
39		Selected Area cm²		1.539	
40		Accumulation AC %		121	
41		Orifice Designation		D	
42	CONNECTIONS	Size: Inlet	Outlet	1"	2"
43		Rating & Facing : Inlet	Outlet	#600 RF	#150 RF
44	MATERIALS (VTC)	Body and Bonnet		A216 Gr. WCB (Note 15)	
45		Seat and Disc (Trim)		SS316+RPTFE (Note 15)	
46		Nozzle		SS 316 (Note 15)	
47		Guide and Rings		SS 316 (Note 15)	
48		Spring		A216 Gr. WCB (Note 16&20)	
49		Bellows		N/A	
50	OPTIONS	Cap without Lever: Screwed or Bolted		Screwed cap	
51		Lifting Lever: Plain or Packed		N/A	
52		Test Gage		Yes	
53		With Rupture Disc		No	
54		Flame Arrestor		No	
55		Hydro Test		Required	
56		Seat Leakage Test		Required	
57		Compliance Standard		According to NACE MR-0175 / ISO15156	
58	PURCHASE	Manufacturer		will be finalized later	
59		Model		will be finalized later	
60		Serial No.		will be finalized later	

Main Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable





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نگهداشت 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

DATASHEETS FOR PRESSURE & SAFETY RELIEF VALVES

شماره پیمان: 053 - 073 - 9184

پروژه: BK
بسته کاری: PPL
صادر کننده: PEDCO
تجهیزات: 320
رشته: IN
نوع مدرک: DT
سریال: 0005
نسخه: D03

شماره صفحه: 6 از 6

Item	Data Category	Technical Features	Project Data & Requirements
1	GENERAL	Tag Number	PSV-3202
2		P&ID NO and Page :	BK-PPL-PEDCO-320- PR-PI-0001 _D04 (3 of 3)
3		Service	Pig Receiver
4		Inlet Line No.	GAS-113-0014-FN05-2"-PT
5		Outlet Line No.	FL-113-0004-AN07-2"-PT
6		Corrosion allowance inlet line	3 mm
7		Outlet lline	6 mm
8		Discharge to	To Existing Flare System
9		Protect Equipment	Receiver
10		Area Clacification for Discharge	Zone 2, IIB T4
11	BASIS	Sour Service	Yes
12		NACE MR0175/ISO 15156 Compliance	Yes
13	BASIS	Nozzle (Full, Semi)	Full Nozzle
14		Design Type	Safety, Relief, Safety-Relief Conventional, Bellow, Pilot Op.
15	PROCESS CONDITIONS (note 2)	Bonnet Type	Closed
16		Fluid / Phase / State	Gas / 1-phase / Vapor
17		Ambient Temperature °C	5-50
18		Temperature °C	Operating
19		Pressure Barg	Operating
20		Oper. Temperature °C	RelievingTemp. °C
21		Required Capacity kg/h	31.30
22		Molecular Mass	Sp. Gr.@ relief Tmp kg/m3
23		Oper. Pressure barg	Set Pressure barg
24		Back Pressure Barg	Constant
25			Variable
26			Total
27		% Allowable Overpressure	21%
28		Over Pressure Factor	1.21
29		Compressibility Factor (Z)	0.827
30		Latent Heat of Vaporization (Kj/Kg)	1453
31		Ratio of Specific Heats(Cp/Cv)	1.437
32		Density @ Oper. kg/m3 temprature & pressure	49.09
33	Operating Viscosity cP	0.01	
34	Barometric Pressure (psia)	14.37	
35	SELECTION	Design Code	API 520
36		Sizing Basis	-
37		pressure relieving and de-pressurising systems Code	API 521
38		Design of Construction	API 521
39		Scenarios	fire
40		Basis of Selection	fire
41		Calculated Area cm²	0.938
42		Selected Area cm²	1.539
43	CONNECTIONS	Accumulation AC %	121
44		Orifice Designation	E
45	MATERIALS (VTC)	Size: Inlet	1"
46		Outlet	2"
47		Rating & Facing : Inlet	#600 RF
48		Outlet	#150 RF
49		Body and Bonnet	A216 Gr. WCB (Note 15)
50		Seat and Disc (Trim)	SS316+RPTFE (Note 15)
51	OPTIONS	Nozzle	SS 316 (Note 15)
52		Guide and Rings	SS 316 (Note 15)
53		Spring	A216 Gr. WCB (Note 16&20)
54		Bellows	N/A
55		Cap without Lever: Screwed or Bolted	Screwed cap
56		Lifting Lever: Plain or Packed	N/A
57		Test Gage	Yes
58		With Rupture Disc	No
59	PURCHASE	Flame Arrestor	No
60		Hydro Test	Required
61		Seat Leakage Test	Required
62		Compliance Standard	According to NACE MR-0175 / ISO15156
63	PURCHASE	Manufacturer	will be finalized later
64		Model	will be finalized later
65		Serial No.	will be finalized later

Main Notes:

VTA : Vendor to Advise in bidding stage VTC : Vendor to confirm in bidding stage N/A: Not applicable