



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

شماره پیمان:

053 - 073 - 9184

پروژه

BK

بسته کاری

GCS

صادر کننده

PEDCO

تسهيلات

120

رشته

IN

نوع مدرک

DT

سریال

0009

نسخه

D02

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طرح نگهداشت و افزایش تولید 27 مخزن

DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

نگهداشت و افزایش تولید میدان نفتی بینک

D02	JUL.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-708930

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 (will be finalized later)

AFQ: Approved For Quotation

IFI: Issued For Information

AB-R: As-Built for CLIENT Review

AB-A: As-Built -Approved



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REFERENCE DOCUMENTS :

D02

Specification For Instrumentation

Process Basis Of Design

Specification For Painting

Piping Material Specification

Specification For Pressure Safety Valves(PSV)

Instrument & Control System Design Criteria

Symbol & Legend For PFD and P&ID

P&ID - Gas Compression Inlet Gas Pipeline (Binak)

P&ID - Gas Compression Inlet Gas Pipeline (Golkhari)

P&ID - Slug Catcher System

P&ID - Gas Compression Inlet Knock Out Drum

P&ID - 1st Stage Gas Compression Suction Drums

P&ID - 1st Stage Gas Compression Compressors

P&ID - 1st Stage Gas Compression Air Coolers

P&ID - 2nd Stage Gas Compression Suction Drums

P&ID - 2nd Stage Gas Compression Compressors

P&ID - 2nd Stage Gas Compression Air Coolers

P&ID - 2nd Stage Gas Compression Discharge Drum

P&ID - Gas Compression Dehydration Package

P&ID - Lean Glycol Storage Tank

P&ID - Instrument & Plant Air System

P&ID - Nitrogen Generation System

P&ID - Close Drain System

P&ID - Corrosion Inhibitor Package

P&ID - Methanol Injection Package

P&ID - LP Flare System

P&ID - Oily Water Sewer

P&ID - Fuel Gas System

P&ID - Diesel Oil System

P&ID - Potable Water System

P&ID - Glycol Sump Drum

P&ID - Fire Water Network

P&ID - Total Flooding System For Extension of Existing Elect. Building

BK-GNRAL-PEDCO-000-IN-SP-0001_D04

BK-GNRAL-PEDCO-000-PR-DB-0001_D08

BK-GNRAL-PEDCO-000-PI-SP-0006

BK-GCS-PEDCO-120-PI-SP-0001_D02

BK-GNRAL-PEDCO-000-IN-SP-0007_D04

BK-GCS-PEDCO-120-IN-DC-0002_D01

BK-GCS-PEDCO-120-PR-PI-0001_D04

BK-GCS-PEDCO-120-PR-PI-0002_D06

BK-GCS-PEDCO-120-PR-PI-0003_D06

BK-GCS-PEDCO-120-PR-PI-0004_D06

BK-GCS-PEDCO-120-PR-PI-0005_D06

BK-GCS-PEDCO-120-PR-PI-0006_D06

BK-GCS-PEDCO-120-PR-PI-0007_D06

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BK-GCS-PEDCO-120-PR-PI-0009_D06

BK-GCS-PEDCO-120-PR-PI-0010_D05

BK-GCS-PEDCO-120-PR-PI-0011_D06

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BK-GCS-PEDCO-120-PR-PI-0013_D06

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BK-GCS-PEDCO-120-PR-PI-0015_D06

BK-GCS-PEDCO-120-PR-PI-0016_D06

BK-GCS-PEDCO-120-PR-PI-0017_D06

BK-GCS-PEDCO-120-PR-PI-0018_D06

BK-GCS-PEDCO-120-PR-PI-0019_D06

BK-GCS-PEDCO-120-PR-PI-0020_D06

BK-GCS-PEDCO-120-PR-PI-0021_D05

BK-GCS-PEDCO-120-PR-PI-0022_D06

BK-GCS-PEDCO-120-PR-PI-0023_D06

BK-GCS-PEDCO-120-PR-PI-0024_D06

BK-GCS-PEDCO-120-PR-PI-0025_D06

BK-GCS-PEDCO-120-SA-PI-0001_D04

BK-GCS-PEDCO-120-SA-PI-0002_D02



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DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 4 از 33
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GENERAL NOTES:

1- All valves shall be clearly and permanently marked. The name plate shall be corrosion resistant Stainless Steel and pinned to the valve body. Wired on labels are not acceptable. Following information shall be submitted on nameplate for approval.

- Tag number
- Manufacturer name, model and serial number
- Set Pressure
- Pressure rating
- Body size and material
- Measurement Range
- Liquid density
- Degree of protection & electrical construction
- Marking as per IEC Codes
- Well name

2- Calculation sheet using API RP-520 formula shall be provided by vendor for each safety/relief valve in accordance with process values.

3- All wetted part material shall be in accordance with ISO 15156-2 region 2 or NACE MR-01-75 as specified in data sheets for each tag . For these mentioned tags, both the compliance shall be provided. primary and secondary sides of valves shall meet NACE MR-01-75 requirements and certificate of

4- The safety/ relief valves shall comply with API RP 520, 521, 526 and 527 standards. All valves shall be supplied with ASME section VIII.

5- All valves shall be tested for leakage at the manufacturer's works in accordance with API 527. The procedures for these tests shall be submitted for approval.

6- Gasket material shall be suitable for the application.

7- The inlet/outlet sizes & rating and center to flange face dimensions for all valves shall be in accordance with API-526.

8- All the valves with the materials offered shall meet the set pressure and other design conditions for the orifice selected.

9- Vendor to advise all wetted parts materials include disc holder, stem guide, blowdown ring, ring pin, bushing and other internal components in contact with process fluid in bid stage

10 - Environmental condition for field instrumentation of Binak Oilfield shall be considered as per the followings:

Maximum ambient temperature: 50 (°C)
Minimum ambient temperature: 5 (°C)
Maximum steel surface exposed to sun: 85 (°C)
Maximum summer dry bulb: 50 (°C)
DB/RH for Summer HVAC Design: 41 °C / 61 %
DB for Winter HVAC Design: 6 °C

Relative Humidity:

- Maximum Design relative humidity (%): 100
- Minimum Design relative humidity (%): 0

11 - Material Test Certificate and calibration Certificate for all transmitters to be submitted by Vendor.

12- Body and other pressure parts subject to inlet pressure (primary pressure zone) shall be hydrostatically tested at a pressure of at least 1.5 times the design pressure of the parts

13- Safety relief valves shall be subject to a seat leakage test in accordance with API standard 527 as applicable, or as agreed upon by the manufacturer and the CLINET

14- Lifting lever shall be provided whenever the fluid to be relieved, is steam, air, or hot water (60°C and above)

15- Balanced bellows valves shall have open bonnet construction.

16- In valves with balancing bellow, the bonnet shall have a ½" threaded hole, NPT as per ANSI 1.20.1.

17- In bellows type, bonnet shall be vented separately from discharge.

18- Body color of Pressure & Safety Relief Valves shall be yellow. For more details refer to the latest revision of Specification For Painting Doc No.

"BK-GNRL-PEDCO-000-PI-SP-0006"





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PRESSURE SAFETY VALVE

PRESSURE SAFETY VALVE					
GENERAL	1	Tag Number		PSV-2111	
	2	Service		GAS	
	3	Line No.	Vessel No.	GAS-111-0013-AN07-2"-PT	V-2104
	4	Pipe Class / C.A.	P&ID No.	AN07 / 6mm	BK-GCS-PEDCO-120-PR-PI-0004-D06 (1 of 2)
	5	Discharge to		To LP FLARE HEADER	
	6	Protect Equipment		-	
	7	Area Clacification		Zone 2, IIB T4	
	8	NACE MR0175/ISO 15156 Compliance		YES	
BASIS	9	Nozzle (Full, Semi)		Full Nozzle	
	10	Design Type	Safety, Relief, Safety-Relief	Safety	
	11		Conventional, bellows, Pilot Op.	Bellows	
	12	Bonnet Type		Closed	
PROCESS CONDITIONS	13	Fluid	State	GAS	Singel Phase
	14	Required Capacity		37247.20	kg/h
	15	Molecular Mass	Sp. Gr.@ relief Tmp	48.1 kg/kmol	1.659 kg/m3
	16	Oper. Pressure	Set Pressure	5.3 /	9 bar-g
	17	Oper. Temperature	RelievingTemp.	32 /	284 °C
	18	Back Pressure	Constant	-	bar-g
	19		Variable	3.4	bar-g
	20		Total	3.4	bar-g
	21	% Allowable Overpressure		21%	
	22	Over Pressure Factor		1.21	
	23	Compressibility Factor(Z)		0.95	
	24	Latent Heat of Vaporization (Kj/Kg)		431.6	
	25	Ratio of Specific Heats(Cp/Cv)		1.223	
	26	Density @ flowing temprature		12.837 kg/m3	
	27	Operating Viscosity		0.015 cP	
	28	Barometric Pressure		13.26 ~ 14.37 psia	
SELECTION	29	Design Code	Sizing Basis	API 520	-
	30	Construction Code		API 520	
	31	Fire		YES	
	32	Basis of Selection		FIRE	
	33	Calculated Area	MM²	4134(VTC)	
	34	Required Area	MM²	8742 (VTC)	
	35	Orifice Designation		Q (VTC)	
CONNECTIONS	36	Size: Inlet	Outlet	6" in	8" in
	37	Rating & Facing :In	Outlet	#300 FLANGED RF	#150 FLANGED RF
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)	
	39	Seat and Disc (Trim)		SS316+PTFE (VTC)	
	40	Nozzle		SS316 (VTC)	
	41	Guide and Rings		VTA	
	42	Spring		ASTM A216 GR. WCB (VTC)	
	43	Bellows		SS316+PTFE (VTC)	
	44				
OPTIONS	45	Cap: Screwed or Bolted		Screwed	
	46	Lever: Plain or Packed		N/A	
	47	Test Gage		Yes	
	48	With Rupture Disc		No	
	49	Hydro Test		Required	
	50	Seat Leakage Test		Required	
PURCHASE (will be finalized later)	51	Compliance Standard		N/A	
	52	Manufacturer		Will Be Finalized Later	
	53	Model		Will Be Finalized Later	
	54	Serial No.		Will Be Finalized Later	

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 "



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PRESSURE SAFETY VALVE

PRESSURE SAFETY VALVE					
GENERAL	1	Tag Number		PSV-2112	
	2	Service		GAS	
	3	Line No.	Vessel No.	GAS-111-0014-AN07-2"-PT	
	4	Pipe Class / C.A.	P&ID No.	AN07 / 6mm	V-2104
	5	Discharge to		BK-GCS-PEDCO-120-PR-PI-0004-D06 (1 of 2)	
	6	Protect Equipment		To FLARE	
	7	Area Clacification		-	
	8	NACE MR0175/ISO 15156 Compliance		Zone 2, IIB T4	
BASIS	9	Nozzle (Full, Semi)		YES	
	10	Design Type	Safety, Relief, Safety-Relief	Full Nozzle	
	11		Conventional, bellows, Pilot Op.	Safety	
	12	Bonnet Type		Bellows	
PROCESS CONDITIONS	13	Fluid	State	Closed	
	14	Required Capacity		GAS	
	15	Molecular Mass	Sp. Gr.@ relief Tmp	37247.20	Singel Phase
	16	Oper. Pressure	Set Pressure	kg/h	
	17	Oper. Temperature	RelievingTemp.	48.1 kg/kmol	1.659 kg/m3
	18	Back Pressure	Constant	5.3 /	9 bar-g
	19		Variable	32 /	284 °C
	20		Total	-	bar-g
	21	% Allowable Overpressure		3.4	bar-g
	22	Over Pressure Factor		3.4	bar-g
	23	Compressibility Factor(Z)		21%	
	24	Latent Heat of Vaporization (Kj/Kg)		1.21	
	25	Ratio of Specific Heats(Cp/Cv)		0.95	
	26	Density @ flowing temprature		431.6	
	27	Operating Viscosity		1.223	
	28	Barometric Pressure		12.837 kg/m3	
SELECTION	29	Design Code	Sizing Basis	0.015 cP	
	30	Construction Code		13.26 ~ 14.37 psia	
	31	Fire		API 520	-
	32	Basis of Selection		API 520	
	33	Calculated Area	MM²	YES	
	34	Required Area	MM²	FIRE	
	35	Orifice Designation		4134(VTC)	
CONNECTIONS	36	Size: Inlet	Outlet	8742 (VTC)	
	37	Rating & Facing :In	Outlet	Q (VTC)	
MATERIALS (VTC)	38	Body and Bonnet		6" in	8" in
	39	Seat and Disc		#300 FLANGED RF	#150 FLANGED RF
	40	Nozzle		ASTM A216 GR. WCB (VTC)	
	41	Guide and Rings		SS316+PTFE (VTC)	
	42	Spring		SS316 (VTC)	
	43	Bellows		VTA	
	44			ASTM A216 GR. WCB (VTC)	
OPTIONS	45	Cap: Screwed or Bolted		SS316+PTFE (VTC)	
	46	Lever: Plain or Packed			
	47	Test Gage		Screwed	
	48	With Rupture Disc		N/A	
	49	Hydro Test		Yes	
	50	Seat Leakage Test		No	
	51	Compliance Standard		Required	
PURCHASE (will be finalized later)	52	Manufacturer		Required	
	53	Model		N/A	
	54	Serial No.		Will Be Finalized Later	

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02".



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PRESSURE SAFETY VALVE

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GENERAL

1	Tag Number	PSV-2113
2	Service	GAS
3	Line No.	Vessel No.
4	Pipe Class / C.A.	P&ID No.
5	Discharge to	To FLARE
6	Protect Equipment	-
7	Area Classification	Zone 2, IIB T4
8	NACE MR0175/ISO 15156 Compliance	Yes

BASIS

9	Nozzle (Full, Semi)	Full Nozzle
10	Design Type	Safety, Relief, Safety-Relief
11		Conventional, bellows, Pilot Op.
12	Bonnet Type	Closed

PROCESS CONDITIONS

13	Fluid	State	GAS	Singel Phase
14	Required Capacity		17833.1	kg/h
15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol
16	Oper. Pressure	Set Pressure	5.1	bar-g
17	Oper. Temperature	Relieving Temp.	36.92	°C
18		Constant	-	bar-g
19	Back Pressure	Variable	1.2	bar-g
20		Total	1.2	bar-g
21	% Allowable Overpressure		10%	
22	Over Pressure Factor		1.10	
23	Compressibility Factor(Z)		0.954	
24	Latent Heat of Vaporization (Kj/Kg)		1994.0	
25	Ratio of Specific Heats(Cp/Cv)		1.246	
26	Density @ flowing temprature		11.981	kg/m3
27	Operating Viscosity		0.012	cP
28	Barometric Pressure		13.26 ~ 14.37	psia

SELECTION

29	Design Code	Sizing Basis	API 520	-
30	Construction Code		API 520	
31	Fire		NO	
32	Basis of Selection		Blocked Outlet	
33	Calculated Area	MM ²	2240.6 (VTC)	
34	Required Area	MM ²	3421 (VTC)	
35	Orifice Designation		N (VTC)	

CONNECTIONS

36	Size: Inlet	Outlet	4" in	6" in
37	Rating & Facing :In	Outlet	#300 FLANGED RF	#150 FLANGED RF

MATERIALS (VTC)

38	Body and Bonnet	ASTM A216 GR. WCB (VTC)
39	Seat and Disc	SS316+PTFE (VTC)
40	Nozzle	SS316 (VTC)
41	Guide and Rings	VTA
42	Spring	ASTM A216 GR. WCB (VTC)
43	Bellows	SS316+PTFE (VTC)
44		

OPTIONS

45	Cap: Screwed or Bolted	Screwed
46	Lever: Plain or Packed	N/A
47	Test Gage	Yes
48	With Rupture Disc	No
49	Hydro Test	Required
50	Seat Leakage Test	Required
51	Compliance Standard	N/A

PURCHASE (will be finalized later)

52	Manufacturer	Will Be Finalized Later
53	Model	Will Be Finalized Later
54	Serial No.	Will Be Finalized Later

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

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 ".



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PRESSURE SAFETY VALVE

PRESSURE SAFETY VALVE						
GENERAL	1	Tag Number		PSV-2114		D02
	2	Service		GAS		
	3	Line No.	Vessel No.	GAS-111-0022-AN07-2"-PT	V-2105	
	4	Pipe Class / C.A.	P&ID No.	AN07 / 6mm	BK-GCS-PEDCO-120-PR-PI-0005_D06	
	5	Discharge to		To FLARE		
	6	Protect Equipment		-		
	7	Area Clacification		Zone 2, IIB T4		
	8	NACE MR0175/ISO 15156 Compliance		Yes		
BASIS	9	Nozzle (Full, Semi)		Full Nozzle		
	10	Design Type	Safety, Relief, Safety-Relief	Safety		
	11		Conventional, bellows, Pilot Op.	Bellows		
	12	Bonnet Type		Closed		
PROCESS CONDITIONS	13	Fluid	State	GAS	Singel Phase	
	14	Required Capacity		17833.1	kg/h	
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52 kg/kmol	0.846 kg/m3	
	16	Oper. Pressure	Set Pressure	5.1 / 9	bar-g	
	17	Oper. Temperature	RelievingTemp.	36.92 / 36.92	°C	
	18	Back Pressure	Constant	-	bar-g	
	19		Variable	1.2	bar-g	
	20		Total	1.2	bar-g	
	21	% Allowable Overpressure		10%		
	22	Over Pressure Factor		1.10		
	23	Compressibility Factor(Z)		0.954		
	24	Latent Heat of Vaporization (Kj/Kg)		1994.0		
	25	Ratio of Specific Heats(Cp/Cv)		1.246		
	26	Density @ flowing temprature		11.981 kg/m3		
	27	Operating Viscosity		0.012 cP		
	28	Barometric Pressure		13.26 ~ 14.37 psia		
SELECTION	29	Design Code	Sizing Basis	API 520	-	
	30	Construction Code		API 520		
	31	Fire		NO		
	32	Basis of Selection		Blocked Outlet		
	33	Calculated Area	MM²	2240.6 (VTC)		
	34	Required Area	MM²	3421 (VTC)		
	35	Orifice Designation		N (VTC)		
CONNECTIONS	36	Size: Inlet	Outlet	4" in	6" in	
	37	Rating & Facing :In	Outlet	#300 FLANGED RF	#150 FLANGED RF	
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)		
	39	Seat and Disc		SS316+PTFE (VTC)		
	40	Nozzle		SS316 (VTC)		
	41	Guide and Rings		VTA		
	42	Spring		ASTM A216 GR. WCB (VTC)		
	43	Bellows		SS316+PTFE (VTC)		
	44					
OPTIONS	45	Cap: Screwed or Bolted		Screwed		
	46	Lever: Plain or Packed		N/A		
	47	Test Gage		Yes		
	48	With Rupture Disc		No		
	49	Hydro Test		Required		
	50	Seat Leakage Test		Required		
PURCHASE (will be finalized later)	51	Compliance Standard		N/A		
	52	Manufacturer		Will Be Finalized Later		
	53	Model		Will Be Finalized Later		
	54	Serial No.		Will Be Finalized Later		

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 ".



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DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

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BK

شماره صفحه: 9 از 33

PRESSURE SAFETY VALVE

PRESSURE SAFETY VALVE					
GENERAL	1	Tag Number		PSV-2121A	
	2	Service		GAS	
	3	Line No.	Vessel No.	GAS-111-0029A-AN07-2"-PT	V-2101A
	4	Pipe Class / C.A.	P&ID No.	AN07 / 6mm	BK-GCS-PEDCO-120-PR-PI-0006_D06 (1 OF 3)
	5	Discharge to		To FLARE	
	6	Protect Equipment		-	
	7	Area Clacification		Zone 2, IIB T4	
	8	NACE MR0175/ISO 15156 Compliance		YES	
BASIS	9	Nozzle (Full, Semi)		Full Nozzle	
	10	Design Type	Safety, Relief, Safety-Relief	Safety	
	11		Conventional, bellows, Pilot Op.	Bellows	
	12	Bonnet Type		Closed	
PROCESS CONDITIONS	13	Fluid	State	GAS	Singel Phase
	14	Required Capacity		2166.00	kg/h
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.55 kg/kmol	0.847 kg/m3
	16	Oper. Pressure	Set Pressure	4.9 /	9 bar-g
	17	Oper. Temperature	RelievingTemp.	36.78 /	60 °C
	18	Back Pressure	Constant	-	bar-g
	19		Variable	0.5	bar-g
	20		Total	0.5	bar-g
	21	% Allowable Overpressure		10%	
	22	Over Pressure Factor		1.10	
	23	Compressibility Factor(Z)		0.822	
	24	Latent Heat of Vaporization (Kj/Kg)		1827.0	
	25	Ratio of Specific Heats(Cp/Cv)		1.457	
	26	Density @ flowing temprature		24.192 kg/m3	
	27	Operating Viscosity		0.013 cP	
	28	Barometric Pressure		13.26 ~ 14.37 psia	
SELECTION	29	Design Code	Sizing Basis	API 520	-
	30	Construction Code		API 520	
	31	Fire		YES	
	32	Basis of Selection		Control Valve Failure	
	33	Calculated Area	MM²	107.25 (VTC)	
	34	Required Area	MM²	153.938 (VTC)	
	35	Orifice Designation		E (VTC)	
CONNECTIONS	36	Size: Inlet	Outlet	1" in	2" in
	37	Rating & Facing :In	Outlet	#300 FLANGED RF	#150 FLANGED RF
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)	
	39	Seat and Disc		SS316+PTFE (VTC)	
	40	Nozzle		SS316 (VTC)	
	41	Guide and Rings		VTA	
	42	Spring		ASTM A216 GR. WCB (VTC)	
	43	Bellows		SS316+PTFE (VTC)	
	44				
OPTIONS	45	Cap: Screwed or Bolted		Screwed	
	46	Lever: Plain or Packed		N/A	
	47	Test Gage		Yes	
	48	With Rupture Disc		No	
	49	Hydro Test		Required	
	50	Seat Leakage Test		Required	
PURCHASE (will be finalized later)	51	Compliance Standard		N/A	
	52	Manufacturer		Will Be Finalized Later	
	53	Model		Will Be Finalized Later	
	54	Serial No.		Will Be Finalized Later	

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02".



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0009

D02

PRESSURE SAFETY VALVE

D02

GENERAL

1

Tag Number

PSV-2121B

2

Service

GAS

3

Line No.

Vessel No.

GAS-111-0029B-AN07-2"-PT

V-2101B

4

Pipe Class / C.A.

P&ID No.

AN07 / 6mm

BK-GCS-PEDCO-120-PR-PI-0006_D06 (2 OF 3)

5

Discharge to

To FLARE

6

Protect Equipment

-

7

Area Classification

Zone 2, IIB T4

8

NACE MR0175/ISO 15156 Compliance

YES

BASIS

9

Nozzle (Full, Semi)

Full Nozzle

10

Design Type

Safety, Relief, Safety-Relief

Safety

11

Design Type

Conventional, bellows, Pilot Op.

Bellows

12

Bonnet Type

Closed

PROCESS CONDITIONS

13

Fluid

State

GAS

Singel Phase

14

Required Capacity

2166.00

kg/h

15

Molecular Mass

Sp. Gr.@ relief Tmp

24.55

kg/kmol

0.847

kg/m3

16

Oper. Pressure

Set Pressure

4.9

/

9

bar-g

17

Oper. Temperature

RelievingTemp.

36.78

/

60

°C

18

Back Pressure

Constant

-

bar-g

19

Back Pressure

Variable

0.5

bar-g

20

Back Pressure

Total

0.5

bar-g

21

% Allowable Overpressure

10%

22

Over Pressure Factor

1.10

23

Compressibility Factor(Z)

0.822

24

Latent Heat of Vaporization (Kj/Kg)

1827.0

25

Ratio of Specific Heats(Cp/Cv)

1.457

26

Density @ flowing temprature

24.192

kg/m3

27

Operating Viscosity

0.013

cP

28

Barometric Pressure

13.26 ~ 14.37

psia

SELECTION

29

Design Code

Sizing Basis

API 520

-

30

Construction Code

API 520

31

Fire

YES

32

Basis of Selection

Control Valve Failure

33

Calculated Area

MM²

107.25 (VTC)

34

Required Area

MM²

153.938 (VTC)

35

Orifice Designation

E (VTC)

CONNECTIONS

36

Size: Inlet

Outlet

1"

in

2"

in

37

Rating & Facing :In

Outlet

#300 FLANGED RF

#150 FLANGED RF

MATERIALS (VTC)

38

Body and Bonnet

ASTM A216 GR. WCB (VTC)

39

Seat and Disc

SS316+PTFE (VTC)

40

Nozzle

SS316 (VTC)

41

Guide and Rings

VTA

42

Spring

ASTM A216 GR. WCB (VTC)

43

Bellows

SS316+PTFE (VTC)

44

Bellows

SS316+PTFE (VTC)

OPTIONS

45

Cap: Screwed or Bolted

Screwed

46

Lever: Plain or Packed

N/A

47

Test Gage

Yes

48

With Rupture Disc

No

49

Hydro Test

Required

50

Seat Leakage Test

Required

51

Compliance Standard

N/A

PURCHASE (will be finalized later)

52

Manufacturer

Will Be Finalized Later

53

Model

Will Be Finalized Later

54

Serial No.

Will Be Finalized Later

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 ".



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0009

D02

شماره صفحه: 11 از 33

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2121C				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0029C-AN07-2"-PT		V-2101C		
	4	Pipe Class / C.A.	P&ID No.	AN07 / 6mm		BK-GCS-PEDCO-120-PR-PI-0006_D06 (3 OF 3)		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Bellows				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		2166.00		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.55	kg/kmol	0.847	kg/m3	
	16	Oper. Pressure	Set Pressure	4.9	/	9	bar-g	
	17	Oper. Temperature	RelievingTemp.	36.78	/	60	°C	
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	0.5		bar-g		
	20		Total	0.5		bar-g		
	21	% Allowable Overpressure		10%				
	22	Over Pressure Factor		1.10				
	23	Compressibility Factor(Z)		0.822				
	24	Latent Heat of Vaporization (Kj/Kg)		1827.0				
	25	Ratio of Specific Heats(Cp/Cv)		1.457				
	26	Density @ flowing temprature		24.192	kg/m3			
	27	Operating Viscosity		0.013	cP			
	28	Barometric Pressure		13.26 ~ 14.37	psia			
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		YES				
	32	Basis of Selection		Control Valve Faiilure				
	33	Calculated Area	MM²	107.25 (VTC)				
	34	Required Area	MM²	153.938 (VTC)				
	35	Orifice Designation		E (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	1" in		2" in		
	37	Rating & Facing :In	Outlet	#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+PTFE (VTC)				
	40	Nozzle		SS316 (VTC)				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		SS316+PTFE (VTC)				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02".



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شماره صفحه: 12 از 33

BK

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D02

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2122A				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0032A-CN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.	CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0007_D06 (1 OF 3)		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Conventional				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol	0.85	kg/m3	
	16	Oper. Pressure	Set Pressure	19	/	22	bar-g	
	17	Oper. Temperature	RelievingTemp.	124.8	/	124.8	°C	
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	0.9		bar-g		
	20		Total	0.9		bar-g		
	21	% Allowable Overpressure		10%				
	22	Over Pressure Factor		1.10				
	23	Compressibility Factor(Z)		0.964				
	24	Latent Heat of Vaporization (Kj/Kg)		693.3				
	25	Ratio of Specific Heats(Cp/Cv)		1.225				
	26	Density @ flowing temprature		19.56	kg/m3			
	27	Operating Viscosity		0.015	cP			
	28	Barometric Pressure		13.26 ~ 14.37	psia			
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		NO				
	32	Basis of Selection		Blocked Outlet				
	33	Calculated Area	MM²	539.85 (VTC)				
	34	Required Area	MM²	1017(VTC)				
	35	Orifice Designation		J (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	2" in		3" in		
	37	Rating & Facing :In	Outlet	#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+RPTFE				
	40	Nozzle		316 SS				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		N/A				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 "



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شماره صفحه: 13 از 33

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D02

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2122B				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0032B-CN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.	CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0007_D06 (2 OF 3)		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Conventional				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol	0.85	kg/m3	
	16	Oper. Pressure	Set Pressure	19	/	22	bar-g	
	17	Oper. Temperature	RelievingTemp.	124.8	/	124.8	°C	
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	0.9		bar-g		
	20		Total	0.9		bar-g		
	21	% Allowable Overpressure		10%				
	22	Over Pressure Factor		1.10				
	23	Compressibility Factor(Z)		0.964				
	24	Latent Heat of Vaporization (Kj/Kg)		693.3				
	25	Ratio of Specific Heats(Cp/Cv)		1.225				
	26	Density @ flowing temprature		19.56	kg/m3			
	27	Operating Viscosity		0.015	cP			
	28	Barometric Pressure		13.26 ~ 14.37	psia			
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		NO				
	32	Basis of Selection		Blocked Outlet				
	33	Calculated Area	MM²	539.85 (VTC)				
	34	Required Area	MM²	1017(VTC)				
	35	Orifice Designation		J (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	2" in		3" in		
	37	Rating & Facing :In	Outlet	#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+RPTFE				
	40	Nozzle		316 SS				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		N/A				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 "



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D02

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2122C				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0032C-CN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.	CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0007_D06 (3 OF 3)		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Conventional				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol	0.85 kg/m3		
	16	Oper. Pressure	Set Pressure	19 /		22 bar-g		
	17	Oper. Temperature	RelievingTemp.	124.8 /		124.8 °C		
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	0.9		bar-g		
	20		Total	0.9		bar-g		
	21	% Allowable Overpressure		10%				
	22	Over Pressure Factor		1.10				
	23	Compressibility Factor(Z)		0.964				
	24	Latent Heat of Vaporization (Kj/Kg)		693.3				
	25	Ratio of Specific Heats(Cp/Cv)		1.225				
	26	Density @ flowing temprature		19.56 kg/m3				
	27	Operating Viscosity		0.015 cP				
	28	Barometric Pressure		13.26 ~ 14.37 psia				
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		NO				
	32	Basis of Selection		Blocked Outlet				
	33	Calculated Area	MM²	539.85 (VTC)				
	34	Required Area	MM²	1017(VTC)				
	35	Orifice Designation		J (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	2" in		3" in		
	37	Rating & Facing :In	Outlet	#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+RPTFE				
	40	Nozzle		316 SS				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		N/A				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02".



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

صادر کننده

تسهيلات

رشته

نوع مدرک

سریال

نسخه

شماره صفحه: 15 از 33

BK

GCS

PEDCO

120

IN

DT

0009

D02

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2123A				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0033A-CN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.	CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0007_D06 (1 OF 3)		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Conventional				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol	0.85	kg/m3	
	16	Oper. Pressure	Set Pressure	19	/	22	bar-g	
	17	Oper. Temperature	RelievingTemp.	124.8	/	124.8	°C	
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	0.9		bar-g		
	20		Total	0.9		bar-g		
	21	% Allowable Overpressure		10%				
	22	Over Pressure Factor		1.10				
	23	Compressibility Factor(Z)		0.964				
	24	Latent Heat of Vaporization (Kj/Kg)		693.3				
	25	Ratio of Specific Heats(Cp/Cv)		1.225				
	26	Density @ flowing temprature		19.56	kg/m3			
	27	Operating Viscosity		0.015	cP			
	28	Barometric Pressure		13.26 ~ 14.37	psia			
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		NO				
	32	Basis of Selection		Blocked Outlet				
	33	Calculated Area	MM²	539.85 (VTC)				
	34	Required Area	MM²	1017(VTC)				
	35	Orifice Designation		J (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	2" in		3" in		
	37	Rating & Facing :In	Outlet	#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+RPTFE				
	40	Nozzle		316 SS				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		N/A				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02".

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 		
	DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES								
شماره پیمان:	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	بوع مدرک	سریال	نسخه	شماره صفحه: 16 از 33
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D02	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2123B				D02
	2	Service				GAS				
	3	Line No.	Vessel No.			GAS-111-0033B-CN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.			CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0007_D06 (2 OF 3)		
	5	Discharge to				To FLARE				
	6	Protect Equipment				-				
	7	Area Clacification				Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance				YES				
BASIS	9	Nozzle (Full, Semi)				Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief			Safety				
	11		Conventional, bellows, Pilot Op.			Conventional				
	12	Bonnet Type				Closed				
PROCESS CONDITIONS	13	Fluid	State			GAS		Singel Phase		
	14	Required Capacity				8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp			24.52 kg/kmol		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure			19 / 22		bar-g		
	17	Oper. Temperature	RelievingTemp.			124.8 / 124.8		°C		
	18	Back Pressure	Constant			-		bar-g		
	19		Variable			0.9		bar-g		
	20		Total			0.9		bar-g		
	21	% Allowable Overpressure				10%				
	22	Over Pressure Factor				1.10				
	23	Compressibility Factor(Z)				0.964				
	24	Latent Heat of Vaporization (Kj/Kg)				693.3				
	25	Ratio of Specific Heats(Cp/Cv)				1.225				
	26	Density @ flowing temprature				19.56 kg/m3				
	27	Operating Viscosity				0.015 cP				
	28	Barometric Pressure				13.26 ~ 14.37 psia				
SELECTION	29	Design Code	Sizing Basis			API 520		-		
	30	Construction Code				API 520				
	31	Fire				NO				
	32	Basis of Selection				Blocked Outlet				
	33	Calculated Area MM²				539.85 (VTC)				
	34	Required Area MM²				1017(VTC)				
	35	Orifice Designation				J (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet			2" in		3" in		
	37	Rating & Facing :In	Outlet			#300 FLANGEDRF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet				ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc				SS316+RPTFE				
	40	Nozzle				316 SS				
	41	Guide and Rings				VTA				
	42	Spring				ASTM A216 GR. WCB (VTC)				
	43	Bellows				N/A				
OPTIONS	44									
	45	Cap: Screwed or Bolted				Screwed				
	46	Lever: Plain or Packed				N/A				
	47	Test Gage				Yes				
	48	With Rupture Disc				No				
	49	Hydro Test				Required				
	50	Seat Leakage Test				Required				
PURCHASE (will be finalized later)	51	Compliance Standard				N/A				
	52	Manufacturer				Will Be Finalized Later				
	53	Model				Will Be Finalized Later				
	54	Serial No.				Will Be Finalized Later				

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

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 ".



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

شماره صفحه: 17 از 33

BK

GCS

PEDCO

120

IN

DT

0009

D02

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2123C				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0033C-CN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.	CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0007_D06 (3 OF 3)		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Conventional				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol	0.85 kg/m3		
	16	Oper. Pressure	Set Pressure	19 /		22 bar-g		
	17	Oper. Temperature	RelievingTemp.	124.8 /		124.8 °C		
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	0.9		bar-g		
	20		Total	0.9		bar-g		
	21	% Allowable Overpressure		10%				
	22	Over Pressure Factor		1.10				
	23	Compressibility Factor(Z)		0.964				
	24	Latent Heat of Vaporization (Kj/Kg)		693.3				
	25	Ratio of Specific Heats(Cp/Cv)		1.225				
	26	Density @ flowing temprature		19.56 kg/m3				
	27	Operating Viscosity		0.015 cP				
	28	Barometric Pressure		13.26 ~ 14.37 psia				
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		NO				
	32	Basis of Selection		Blocked Outlet				
	33	Calculated Area	MM²	539.85 (VTC)				
	34	Required Area	MM²	1017(VTC)				
	35	Orifice Designation		J (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	2" in		3" in		
	37	Rating & Facing :In	Outlet	#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+RPTFE				
	40	Nozzle		316 SS				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		N/A				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 "

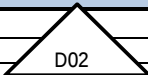
 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
	DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES								
	شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D02	

PRESSURE SAFETY VALVE						
GENERAL	1	Tag Number			PSV-2131A	
	2	Service			GAS	
	3	Line No.	Vessel No.		GAS-111-0042A-CN05-2"-PT	-
	4	Pipe Class / C.A.	P&ID No.		CN05 / 3mm	BK-GCS-PEDCO-120-PR-PI-0009_D06 (1 OF 3)
	5	Discharge to			To FLARE	
	6	Protect Equipment			-	
	7	Area Clacification			Zone 2, IIB T4	
	8	NACE MR0175/ISO 15156 Compliance			YES	
BASIS	9	Nozzle (Full, Semi)			Full Nozzle	
	10	Design Type	Safety, Relief, Safety-Relief		Safety	
	11		Conventional, bellows, Pilot Op.		Bellows	
	12	Bonnet Type			Closed	
PROCESS CONDITIONS	13	Fluid	State		GAS	Singel Phase
	14	Required Capacity			982.27	kg/h
	15	Molecular Mass	Sp. Gr.@ relief Tmp		24.52 kg/kmol	0.85 kg/m3
	16	Oper. Pressure	Set Pressure		18.1 /	22 bar-g
	17	Oper. Temperature	RelievingTemp.		60 /	208 °C
	18	Back Pressure	Constant		- bar-g	
	19		Variable		3.4 bar-g	
	20		Total		3.4 bar-g	
	21	% Allowable Overpressure			21%	
	22	Over Pressure Factor			1.21	
	23	Compressibility Factor(Z)			0.936	
	24	Latent Heat of Vaporization (Kj/Kg)			1807.0	
	25	Ratio of Specific Heats(Cp/Cv)			1.278	
	26	Density @ flowing temprature			17.34 kg/m3	
	27	Operating Viscosity			0.017 cP	
	28	Barometric Pressure			13.26 ~ 14.37 psia	
SELECTION	29	Design Code	Sizing Basis		API 520	-
	30	Construction Code			API 520	
	31	Fire			YES	
	32	Basis of Selection			FIRE	
	33	Calculated Area	MM²		59.62 (VTC)	
	34	Required Area	MM²		153.93 (VTC)	
	35	Orifice Designation			D (VTC)	
CONNECTIONS	36	Size: Inlet	Outlet		1" in	2" in
	37	Rating & Facing :In	Outlet		#300 FLANGED RF	#300 FLANGED RF
MATERIALS (VTC)	38	Body and Bonnet			ASTM A216 GR. WCB (VTC)	
	39	Seat and Disc			SS316+RPTFE	
	40	Nozzle			316 SS	
	41	Guide and Rings			VTA	
	42	Spring			ASTM A216 GR. WCB (VTC)	
	43	Bellows			SS316+PTFE (VTC)	
OPTIONS	44					
	45	Cap: Screwed or Bolted			Screwed	
	46	Lever: Plain or Packed			N/A	
	47	Test Gage			Yes	
	48	With Rupture Disc			No	
	49	Hydro Test			Required	
	50	Seat Leakage Test			Required	
PURCHASE (will be finalized later)	51	Compliance Standard			N/A	
	52	Manufacturer			Will Be Finalized Later	
	53	Model			Will Be Finalized Later	
	54	Serial No.			Will Be Finalized Later	

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

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 ".

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
	DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES								
	شماره پیمان:	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D02	شماره صفحه: 19 از 33

PRESSURE SAFETY VALVE							
GENERAL	1	Tag Number			PSV-2131B		
	2	Service			GAS		
	3	Line No.	Vessel No.	GAS-111-0042B-CN05-2"-PT	-		
	4	Pipe Class / C.A.	P&ID No.	CN05 / 3mm	BK-GCS-PEDCO-120-PR-PI-0009_D06 (2 OF 3)		
	5	Discharge to			To FLARE		
	6	Protect Equipment			-		
	7	Area Clacification			Zone 2, IIB T4		
	8	NACE MR0175/ISO 15156 Compliance			YES		
BASIS	9	Nozzle (Full, Semi)			Full Nozzle		
	10	Design Type	Safety, Relief, Safety-Relief		Safety		
	11		Conventional, bellows, Pilot Op.		Bellows		
	12	Bonnet Type			Closed		
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase	
	14	Required Capacity			982.27	kg/h	
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol	0.85 kg/m3	
	16	Oper. Pressure	Set Pressure	18.1	/	22 bar-g	
	17	Oper. Temperature	RelievingTemp.	60	/	208 °C	
	18	Back Pressure	Constant	- bar-g			
	19		Variable	3.4 bar-g			
	20		Total	3.4 bar-g			
	21	% Allowable Overpressure			21%		
	22	Over Pressure Factor			1.21		
	23	Compressibility Factor(Z)			0.936		
	24	Latent Heat of Vaporization (Kj/Kg)			1807.0		
	25	Ratio of Specific Heats(Cp/Cv)			1.278		
	26	Density @ flowing temprature			17.34	kg/m3	
	27	Operating Viscosity			0.017	cP	
	28	Barometric Pressure			13.26 – 14.37 psia		
	SELECTION	29	Design Code	Sizing Basis	API 520		-
		30	Construction Code			API 520	
31		Fire			YES		
32		Basis of Selection			FIRE		
33		Calculated Area	MM²	59.62 (VTC)			
34		Required Area	MM²	153.93 (VTC)			
35		Orifice Designation			D (VTC)		
CONNECTIONS	36	Size: Inlet	Outlet	1" in		2" in	
	37	Rating & Facing :In	Outlet	#300 FLANGED RF		#300 FLANGED RF	
MATERIALS (VTC)	38	Body and Bonnet			ASTM A216 GR. WCB (VTC)		
	39	Seat and Disc			SS316+RPTFE		
	40	Nozzle			316 SS		
	41	Guide and Rings			VTA		
	42	Spring			ASTM A216 GR. WCB (VTC)		
	43	Bellows			SS316+PTFE (VTC)		
	44						
OPTIONS	45	Cap: Screwed or Bolted			Screwed		
	46	Lever: Plain or Packed			N/A		
	47	Test Gage			Yes		
	48	With Rupture Disc			No		
	49	Hydro Test			Required		
	50	Seat Leakage Test			Required		
	51	Compliance Standard			N/A		
PURCHASE (will be finalized later)	52	Manufacturer			Will Be Finalized Later		
	53	Model			Will Be Finalized Later		
	54	Serial No.			Will Be Finalized Later		

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

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 ".



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

D02

0009

DT

IN

120

PEDCO

GCS

BK

شماره صفحه: 20 از 33

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2131C				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0042C-CN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.	CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0009_D06(3 OF 3)		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Bellows				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		982.27		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol	0.85	kg/m3	
	16	Oper. Pressure	Set Pressure	18.1	/	22	bar-g	
	17	Oper. Temperature	RelievingTemp.	60	/	208	°C	
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	3.4		bar-g		
	20		Total	3.4		bar-g		
	21	% Allowable Overpressure		21%				
	22	Over Pressure Factor		1.21				
	23	Compressibility Factor(Z)		0.936				
	24	Latent Heat of Vaporization (Kj/Kg)		1807.0				
	25	Ratio of Specific Heats(Cp/Cv)		1.278				
	26	Density @ flowing temprature		17.34	kg/m3			
	27	Operating Viscosity		0.017	cP			
	28	Barometric Pressure		13.26 ~ 14.37	psia			
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		YES				
	32	Basis of Selection		FIRE				
	33	Calculated Area	MM²	59.62 (VTC)				
	34	Required Area	MM²	153.93 (VTC)				
	35	Orifice Designation		D (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	1" in		2" in		
	37	Rating & Facing :In	Outlet	#300 FLANGED RF		#300 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+RPTFE				
	40	Nozzle		316 SS				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		SS316+PTFE (VTC)				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 "



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

صادر کننده

تسهيلات

رشته

نوع مدرک

سریال

نسخه

شماره صفحه: 21 از 33

BK

GCS

PEDCO

120

IN

DT

0009

D02

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2132A				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0047A-FN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.	FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0010_D05 (1 OF 3)		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Conventional				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol	0.85	kg/m3	
	16	Oper. Pressure	Set Pressure	54.80	/	62	bar-g	
	17	Oper. Temperature	RelievingTemp.	142.3	/	142.3	°C	
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	1.0		bar-g		
	20		Total	1.0		bar-g		
	21	% Allowable Overpressure		10%				
	22	Over Pressure Factor		1.10				
	23	Compressibility Factor(Z)		0.923				
	24	Latent Heat of Vaporization (Kj/Kg)		566.7				
	25	Ratio of Specific Heats(Cp/Cv)		1.28				
	26	Density @ flowing temprature		54.06	kg/m3			
	27	Operating Viscosity		0.017	cP			
	28	Barometric Pressure		13.26 ~ 14.37	psia			
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		NO				
	32	Basis of Selection		Blocked Outlet				
	33	Calculated Area	MM²	193.67 (VTC)				
	34	Required Area	MM²	397.60 (VTC)				
	35	Orifice Designation		G (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	1 1/2" in		3" in		
	37	Rating & Facing :In	Outlet	#600 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+RPTFE				
	40	Nozzle		316 SS				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		N/A				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 "

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 		
	DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES								
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 22 از 33
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D02	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2133A				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0048A-FN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.		FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0010_D05 (1 OF 3)		
	5	Discharge to			To FLARE				
	6	Protect Equipment			-				
	7	Area Classification			Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance			YES				
BASIS	9	Nozzle (Full, Semi)			Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	Conventional, bellows, Pilot Op.		Conventional						
	12	Bonnet Type			Closed				
PROCESS CONDITIONS	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity			8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp		24.52 kg/kmol		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure		54.80 / 62		bar-g		
	17	Oper. Temperature	RelievingTemp.		142.3 / 142.3		°C		
	18	Back Pressure	Constant		-		bar-g		
	Variable		1.0		bar-g				
	Total		1.0		bar-g				
	21	% Allowable Overpressure			10%				
	22	Over Pressure Factor			1.10				
	23	Compressibility Factor(Z)			0.923				
	24	Latent Heat of Vaporization (Kj/Kg)			566.7				
	25	Ratio of Specific Heats(Cp/Cv)			1.28				
	26	Density @ flowing temprature			54.06 kg/m3				
	27	Operating Viscosity			0.017 cP				
	28	Barometric Pressure			13.26 ~ 14.37 psia				
SELECTION	29	Design Code	Sizing Basis		API 520		-		
	30	Construction Code			API 520				
	31	Fire			NO				
	32	Basis of Selection			Blocked Outlet				
	33	Calculated Area			MM ²		193.67 (VTC)		
	34	Required Area			MM ²		397.60 (VTC)		
	35	Orifice Designation			G (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet		1 1/2" in		3" in		
	37	Rating & Facing :In	Outlet		#600 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet			ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc			SS316+RPTFE				
	40	Nozzle			316 SS				
	41	Guide and Rings			VTA				
	42	Spring			ASTM A216 GR. WCB (VTC)				
	43	Bellows			N/A				
OPTIONS	44								
	45	Cap: Screwed or Bolted			Screwed				
	46	Lever: Plain or Packed			N/A				
	47	Test Gage			Yes				
	48	With Rupture Disc			No				
	49	Hydro Test			Required				
	50	Seat Leakage Test			Required				
	51	Compliance Standard			N/A				
PURCHASE (will be finalized later)	52	Manufacturer			Will Be Finalized Later				
	53	Model			Will Be Finalized Later				
	54	Serial No.			Will Be Finalized Later				

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

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 "



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

شماره صفحه: 23 از 33

BK

GCS

PEDCO

120

IN

DT

0009

D02

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2132B				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0047B-FN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.	FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0010_D05 (2 OF 3)		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Conventional				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol	0.85	kg/m3	
	16	Oper. Pressure	Set Pressure	54.80	/	62	bar-g	
	17	Oper. Temperature	RelievingTemp.	142.3	/	142.3	°C	
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	1.0		bar-g		
	20		Total	1.0		bar-g		
	21	% Allowable Overpressure		10%				
	22	Over Pressure Factor		1.10				
	23	Compressibility Factor(Z)		0.923				
	24	Latent Heat of Vaporization (Kj/Kg)		566.7				
	25	Ratio of Specific Heats(Cp/Cv)		1.28				
	26	Density @ flowing temprature		54.06	kg/m3			
	27	Operating Viscosity		0.017	cP			
	28	Barometric Pressure		13.26 ~ 14.37	psia			
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		NO				
	32	Basis of Selection		Blocked Outlet				
	33	Calculated Area	MM²	193.67 (VTC)				
	34	Required Area	MM²	397.60 (VTC)				
	35	Orifice Designation		G (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	1 1/2" in		3" in		
	37	Rating & Facing :In	Outlet	#600 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+RPTFE				
	40	Nozzle		316 SS				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		N/A				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 ".



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

شماره صفحه: 24 از 33

BK

GCS

PEDCO

120

IN

DT

0009

D02

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2133B				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0048B-FN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.	FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0010_D05 (2 OF 3)		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Conventional				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol	0.85	kg/m3	
	16	Oper. Pressure	Set Pressure	54.80	/	62	bar-g	
	17	Oper. Temperature	RelievingTemp.	142.3	/	142.3	°C	
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	1.0		bar-g		
	20		Total	1.0		bar-g		
	21	% Allowable Overpressure		10%				
	22	Over Pressure Factor		1.10				
	23	Compressibility Factor(Z)		0.923				
	24	Latent Heat of Vaporization (Kj/Kg)		566.7				
	25	Ratio of Specific Heats(Cp/Cv)		1.28				
	26	Density @ flowing temprature		54.06	kg/m3			
	27	Operating Viscosity		0.017	cP			
	28	Barometric Pressure		13.26 ~ 14.37	psia			
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		NO				
	32	Basis of Selection		Blocked Outlet				
	33	Calculated Area	MM²	193.67 (VTC)				
	34	Required Area	MM²	397.60 (VTC)				
	35	Orifice Designation		G (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	1 1/2" in		3" in		
	37	Rating & Facing :In	Outlet	#600 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+RPTFE				
	40	Nozzle		316 SS				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		N/A				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02"



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

صادر کننده

تسهیلات

رشته

نوع مدرک

سریال

نسخه

شماره صفحه: 25 از 33

BK

GCS

PEDCO

120

IN

DT

0009

D02

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2132C				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0047C-FN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.	FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0010_D05 (3 OF 3)		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Conventional				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52	kg/kmol	0.85	kg/m3	
	16	Oper. Pressure	Set Pressure	54.80	/	62	bar-g	
	17	Oper. Temperature	RelievingTemp.	142.3	/	142.3	°C	
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	1.0		bar-g		
	20		Total	1.0		bar-g		
	21	% Allowable Overpressure		10%				
	22	Over Pressure Factor		1.10				
	23	Compressibility Factor(Z)		0.923				
	24	Latent Heat of Vaporization (Kj/Kg)		566.7				
	25	Ratio of Specific Heats(Cp/Cv)		1.28				
	26	Density @ flowing temprature		54.06	kg/m3			
	27	Operating Viscosity		0.017	cP			
	28	Barometric Pressure		13.26 ~ 14.37	psia			
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		NO				
	32	Basis of Selection		Blocked Outlet				
	33	Calculated Area	MM²	193.67 (VTC)				
	34	Required Area	MM²	397.60 (VTC)				
	35	Orifice Designation		G (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	1 1/2" in		3" in		
	37	Rating & Facing :In	Outlet	#600 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+RPTFE				
	40	Nozzle		316 SS				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		N/A				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02".



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

صادر کننده

تسهيلات

رشته

نوع مدرک

سریال

نسخه

BK

GCS

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120

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DT

0009

D02

شماره صفحه: 26 از 33

PRESSURE SAFETY VALVE

PRESSURE SAFETY VALVE					
GENERAL	1	Tag Number		PSV-2133C	
	2	Service		GAS	
	3	Line No.	Vessel No.	GAS-111-0048C-FN05-2"-PT	
	4	Pipe Class / C.A.	P&ID No.	FN05 / 3mm	BK-GCS-PEDCO-120-PR-PI-0010__D05 (3 OF 3)
	5	Discharge to		To FLARE	
	6	Protect Equipment		-	
	7	Area Clacification		Zone 2, IIB T4	
	8	NACE MR0175/ISO 15156 Compliance		YES	
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type	
	10	Design Type	Safety, Relief, Safety-Relief	Safety	
	11		Conventional, bellows, Pilot Op.	Conventional	
	12	Bonnet Type		Closed	
PROCESS CONDITIONS	13	Fluid	State	GAS	Singel Phase
	14	Required Capacity		8664.0	kg/h
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52 kg/kmol	0.85 kg/m3
	16	Oper. Pressure	Set Pressure	54.80 /	62 bar-g
	17	Oper. Temperature	RelievingTemp.	142.3 /	142.3 °C
	18	Back Pressure	Constant	-	bar-g
	19		Variable	1.0	bar-g
	20		Total	1.0	bar-g
	21	% Allowable Overpressure		10%	
	22	Over Pressure Factor		1.10	
	23	Compressibility Factor(Z)		0.923	
	24	Latent Heat of Vaporization (Kj/Kg)		566.7	
	25	Ratio of Specific Heats(Cp/Cv)		1.28	
	26	Density @ flowing temprature		54.06 kg/m3	
	27	Operating Viscosity		0.017 cP	
	28	Barometric Pressure		13.26 ~ 14.37 psia	
SELECTION	29	Design Code	Sizing Basis	API 520	-
	30	Construction Code		API 520	
	31	Fire		NO	
	32	Basis of Selection		Blocked Outlet	
	33	Calculated Area	MM²	193.67 (VTC)	
	34	Required Area	MM²	397.60 (VTC)	
	35	Orifice Designation		G (VTC)	
CONNECTIONS	36	Size: Inlet	Outlet	1 1/2" in	3" in
	37	Rating & Facing :In	Outlet	#600 FLANGED RF	#150 FLANGED RF
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)	
	39	Seat and Disc		SS316+RPTFE	
	40	Nozzle		316 SS	
	41	Guide and Rings		VTA	
	42	Spring		ASTM A216 GR. WCB (VTC)	
	43	Bellows		N/A	
	44				
OPTIONS	45	Cap: Screwed or Bolted		Screwed	
	46	Lever: Plain or Packed		N/A	
	47	Test Gage		Yes	
	48	With Rupture Disc		No	
	49	Hydro Test		Required	
	50	Seat Leakage Test		Required	
PURCHASE (will be finalized later)	51	Compliance Standard		N/A	
	52	Manufacturer		Will Be Finalized Later	
	53	Model		Will Be Finalized Later	
	54	Serial No.		Will Be Finalized Later	

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02".



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

صادر کننده

تسهيلات

رشته

نوع مدرک

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شماره صفحه: 27 از 33

PRESSURE SAFETY VALVE

PRESSURE SAFETY VALVE					
GENERAL	1	Tag Number		PSV-2141	
	2	Service		GAS	
	3	Line No.	Vessel No.	GAS-111-0060-FN05-2"-PT	
	4	Pipe Class / C.A.	P&ID No.	FN05 / 3mm	BK-GCS-PEDCO-120-PR-PI-0012 _D06
	5	Discharge to		To FLARE	
	6	Protect Equipment		-	
	7	Area Clacification		Zone 2, IIB T4	
	8	NACE MR0175/ISO 15156 Compliance		YES	
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type	
	10	Design Type	Safety, Relief, Safety-Relief	Safety	
	11		Conventional, bellows, Pilot Op.	Conventional	
	12	Bonnet Type		Closed	
PROCESS CONDITIONS	13	Fluid	State	GAS	Singel Phase
	14	Required Capacity		17252.50	kg/h
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.562 kg/kmol	0.85 kg/m3
	16	Oper. Pressure	Set Pressure	53.9 / 62	bar-g
	17	Oper. Temperature	RelievingTemp.	60 / 60	°C
	18	Back Pressure	Constant	-	bar-g
	19		Variable	1.0	bar-g
	20		Total	1.0	bar-g
	21	% Allowable Overpressure		10%	
	22	Over Pressure Factor		1.10	
	23	Compressibility Factor(Z)		0.823	
	24	Latent Heat of Vaporization (Kj/Kg)		1456.0	
	25	Ratio of Specific Heats(Cp/Cv)		1.461	
	26	Density @ flowing temprature		78.39 kg/m3	
	27	Operating Viscosity		0.015 cP	
	28	Barometric Pressure		13.26 ~ 14.37 psia	
SELECTION	29	Design Code	Sizing Basis	API 520	-
	30	Construction Code		API 520	
	31	Fire		NO	
	32	Basis of Selection		Blocked Outlet	
	33	Calculated Area	MM²	311 (VTC)	
	34	Required Area	MM²	629.01 (VTC)	
	35	Orifice Designation		H (VTC)	
CONNECTIONS	36	Size: Inlet	Outlet	2" in	3" in
	37	Rating & Facing :In	Outlet	#600 FLANGEDRF	#150 FLANGEDRF
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)	
	39	Seat and Disc		SS316+RPTFE	
	40	Nozzle		316 SS	
	41	Guide and Rings		VTA	
	42	Spring		ASTM A216 GR. WCB (VTC)	
	43	Bellows		N/A	
	44				
OPTIONS	45	Cap: Screwed or Bolted		Screwed	
	46	Lever: Plain or Packed		N/A	
	47	Test Gage		Yes	
	48	With Rupture Disc		No	
	49	Hydro Test		Required	
	50	Seat Leakage Test		Required	
PURCHASE (will be finalized later)	51	Compliance Standard		N/A	
	52	Manufacturer		Will Be Finalized Later	
	53	Model		Will Be Finalized Later	
	54	Serial No.		Will Be Finalized Later	

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02".



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

صادر کننده

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سریال

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شماره صفحه: 28 از 33

PRESSURE SAFETY VALVE

GENERAL	1	Tag Number		PSV-2142				D02
	2	Service		GAS				
	3	Line No.	Vessel No.	GAS-111-0062-FN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.	FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0012_D06		
	5	Discharge to		To FLARE				
	6	Protect Equipment		-				
	7	Area Clacification		Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance		YES				
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief	Safety				
	11		Conventional, bellows, Pilot Op.	Conventional				
	12	Bonnet Type		Closed				
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase		
	14	Required Capacity		17252.50		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.562 kg/kmol		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure	53.9 / 62		bar-g		
	17	Oper. Temperature	RelievingTemp.	60 / 60		°C		
	18	Back Pressure	Constant	-		bar-g		
	19		Variable	1.0		bar-g		
	20		Total	1.0		bar-g		
	21	% Allowable Overpressure		10%				
	22	Over Pressure Factor		1.10				
	23	Compressibility Factor(Z)		0.823				
	24	Latent Heat of Vaporization (Kj/Kg)		1456.0				
	25	Ratio of Specific Heats(Cp/Cv)		1.461				
	26	Density @ flowing temprature		78.39 kg/m3				
	27	Operating Viscosity		0.015 cP				
	28	Barometric Pressure		13.26 ~ 14.37 psia				
SELECTION	29	Design Code	Sizing Basis	API 520		-		
	30	Construction Code		API 520				
	31	Fire		NO				
	32	Basis of Selection		Blocked Outlet				
	33	Calculated Area	MM²	311 (VTC)				
	34	Required Area	MM²	629.01 (VTC)				
	35	Orifice Designation		H (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet	2" in		3" in		
	37	Rating & Facing :In	Outlet	#600 FLANGEDRF		#150 FLANGEDRF		
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc		SS316+RPTFE				
	40	Nozzle		316 SS				
	41	Guide and Rings		VTA				
	42	Spring		ASTM A216 GR. WCB (VTC)				
	43	Bellows		N/A				
OPTIONS	44							
	45	Cap: Screwed or Bolted		Screwed				
	46	Lever: Plain or Packed		N/A				
	47	Test Gage		Yes				
	48	With Rupture Disc		No				
	49	Hydro Test		Required				
	50	Seat Leakage Test		Required				
PURCHASE (will be finalized later)	51	Compliance Standard		N/A				
	52	Manufacturer		Will Be Finalized Later				
	53	Model		Will Be Finalized Later				
	54	Serial No.		Will Be Finalized Later				

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 ".



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

صادر کننده

تسهيلات

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نوع مدرک

سریال

نسخه

BK

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D02

شماره صفحه: 29 از 33

PRESSURE SAFETY VALVE

PRESSURE SAFETY VALVE						
GENERAL	1	Tag Number		PSV-2201		D02
	2	Service		GAS		
	3	Line No.	Vessel No.	ISA-112-0008-AZ00-2"-NP	-	
	4	Pipe Class / C.A.	P&ID No.	AZ00 / 0mm	BK-GCS-PEDCO-120-PR-PI-0015_D06	
	5	Discharge to		To ATM		
	6	Protect Equipment		-		
	7	Area Clacification		Zone 2, IIB T4		
	8	NACE MR0175/ISO 15156 Compliance		No		
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type		
	10	Design Type	Safety, Relief, Safety-Relief	Safety		
	11		Conventional, bellows, Pilot Op.	Conventional		
	12	Bonnet Type		Closed		
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase
	14	Required Capacity		1071.8		kg/h
	15	Molecular Mass	Sp. Gr.@ relief Tmp	28.95	kg/kmol	1.00 kg/m3
	16	Oper. Pressure	Set Pressure	8.00		12.5 bar-g
	17	Oper. Temperature	RelievingTemp.	65 /		323.4 °C
	18	Back Pressure	Constant	-		bar-g
	19		Variable	0.0		bar-g
	20		Total	0.0		bar-g
	21	% Allowable Overpressure		21%		
	22	Over Pressure Factor		1.21		
	23	Compressibility Factor(Z)		0.99		
	24	Latent Heat of Vaporization (Kj/Kg)		1949.0		
	25	Ratio of Specific Heats(Cp/Cv)		1.42		
	26	Density @ flowing temprature		9.37	kg/m3	
	27	Operating Viscosity		0.032	cP	
	28	Barometric Pressure		13.26 ~ 14.37		psia
SELECTION	29	Design Code	Sizing Basis	API 520		-
	30	Construction Code		API 520		
	31	Fire		Yes		
	32	Basis of Selection		FIRE		
	33	Calculated Area	MM²	113.24 (VTC)		
	34	Required Area	MM²	153.95 (VTC)		
	35	Orifice Designation		E (VTC)		
CONNECTIONS	36	Size: Inlet	Outlet	1" in		2" in
	37	Rating & Facing :In	Outlet	#300 FLANGED RF		#150 FLANGED RF
MATERIALS (VTC)	38	Body and Bonnet		ASTM B148 UNS C95800		
	39	Seat and Disc		ASTM B148 UNS C95800		
	40	Nozzle		316 SS		
	41	Guide and Rings		VTA		
	42	Spring		ASTM B148 UNS C95800		
	43	Bellows		N/A		
	44					
OPTIONS	45	Cap: Screwed or Bolted		Screwed		
	46	Lever: Plain or Packed		N/A		
	47	Test Gage		Yes		
	48	With Rupture Disc		No		
	49	Hydro Test		Required		
	50	Seat Leakage Test		Required		
PURCHASE (will be finalized later)	51	Compliance Standard		N/A		
	52	Manufacturer		Will Be Finalized Later		
	53	Model		Will Be Finalized Later		
	54	Serial No.		Will Be Finalized Later		

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 ".



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

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صادر کننده

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نسخه

شماره صفحه: 30 از 33

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D02

PRESSURE SAFETY VALVE

PRESSURE SAFETY VALVE						
GENERAL	1	Tag Number		PSV-2211A		D02
	2	Service		GAS		
	3	Line No.	Vessel No.	NIT-112-0022-AN01-2"-PT	-	
	4	Pipe Class / C.A.	P&ID No.	AN01 / 1mm	BK-GCS-PEDCO-120-PR-PI-0016_D06	
	5	Discharge to		To ATM		
	6	Protect Equipment		-		
	7	Area Clacification		Zone 2, IIB T4		
	8	NACE MR0175/ISO 15156 Compliance		No		
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type		
	10	Design Type	Safety, Relief, Safety-Relief	Safety		
	11		Conventional, bellows, Pilot Op.	Conventional		
	12	Bonnet Type		Closed		
PROCESS CONDITIONS	13	Fluid	State	GAS		Singel Phase
	14	Required Capacity		500.4		kg/h
	15	Molecular Mass	Sp. Gr.@ relief Tmp	28	kg/kmol	0.97 kg/m3
	16	Oper. Pressure	Set Pressure	8.00		12.5 bar-g
	17	Oper. Temperature	RelievingTemp.	60	/	323.4 °C
	18	Back Pressure	Constant	-		bar-g
	19		Variable	0.5		bar-g
	20		Total	0.5		bar-g
	21	% Allowable Overpressure		21%		
	22	Over Pressure Factor		1.21		
	23	Compressibility Factor(Z)		0.99		
	24	Latent Heat of Vaporization (Kj/Kg)		1950.0		
	25	Ratio of Specific Heats(Cp/Cv)		1.40		
	26	Density @ flowing temprature		7.60	kg/m3	
	27	Operating Viscosity		0.030	cP	
	28	Barometric Pressure		13.26 ~ 14.37	psia	
SELECTION	29	Design Code	Sizing Basis	API 520		-
	30	Construction Code		API 520		
	31	Fire		Yes		
	32	Basis of Selection		FIRE		
	33	Calculated Area	MM²	54.241 (VTC)		
	34	Required Area	MM²	153.9 (VTC)		
	35	Orifice Designation		D (VTC)		
CONNECTIONS	36	Size: Inlet	Outlet	1" in	2" in	
	37	Rating & Facing :In	Outlet	#300 FLANGED RF		#150 FLANGED RF
MATERIALS (VTC)	38	Body and Bonnet		A216 Gr. WCB		
	39	Seat and Disc		13Cr+PTFE		
	40	Nozzle		316 SS		
	41	Guide and Rings		VTA		
	42	Spring		A216 Gr. WCB		
	43	Bellows		N/A		
OPTIONS	44					
	45	Cap: Screwed or Bolted		Screwed		
	46	Lever: Plain or Packed		N/A		
	47	Test Gage		Yes		
	48	With Rupture Disc		No		
	49	Hydro Test		Required		
	50	Seat Leakage Test		Required		
PURCHASE (will be finalized later)	51	Compliance Standard		N/A		
	52	Manufacturer		Will Be Finalized Later		
	53	Model		Will Be Finalized Later		
	52	Serial No.		Will Be Finalized Later		

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 ".



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

053 - 073 - 9184

شماره پیمان:

پروژه

بسته کاری

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شماره صفحه: 31 از 33

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0009

D02

PRESSURE SAFETY VALVE

D02

GENERAL	1	Tag Number		PSV-2271	
	2	Service		GAS	
	3	Line No.	Vessel No.	FLG-111-0011-AN07-2"-PT	-
	4	Pipe Class / C.A.	P&ID No.	AN07 / 6mm	BK-GCS-PEDCO-120-PR-PI-0022_D06
	5	Discharge to		To FLARE	
	6	Protect Equipment		-	
	7	Area Classification		Zone 2, IIB T4	
	8	NACE MR0175/ISO 15156 Compliance		Yes	
BASIS	9	Nozzle (Full, Semi)		Full Nozzle	
	10	Design Type	Safety, Relief, Safety-Relief	Safety	
	11		Conventional, bellows, Pilot Op.	Bellows	
	12	Bonnet Type		Closed	
PROCESS CONDITIONS	13	Fluid	State	GAS	Singel Phase
	14	Required Capacity		174.5	kg/h
	15	Molecular Mass	Sp. Gr.@ relief Tmp	18.02	kg/kmol
	16	Oper. Pressure	Set Pressure	4.90	9 bar-g
	17	Oper. Temperature	Relieving Temp.	36.78	182.6 °C
	18	Back Pressure	Constant	-	bar-g
	19		Variable	3.2	bar-g
	20		Total	3.2	bar-g
	21	% Allowable Overpressure		21%	
	22	Over Pressure Factor		1.21	
	23	Compressibility Factor(Z)		0.975	
	24	Latent Heat of Vaporization (Kj/Kg)		1994.0	
	25	Ratio of Specific Heats(Cp/Cv)		1.25	
	26	Density @ flowing temprature		6.46	kg/m3
SELECTION	27	Operating Viscosity		0.012	cP
	28	Barometric Pressure		13.26 ~ 14.37	psia
	29	Design Code	Sizing Basis	API 520	-
	30	Construction Code		API 520	
	31	Fire		NO	
	32	Basis of Selection		FIRE	
	33	Calculated Area		28.75(VTC)	
CONNECTIONS	34	Required Area		153.9 (VTC)	
	35	Orifice Designation		D (VTC)	
	36	Size: Inlet	Outlet	1" in	2" in
MATERIALS (VTC)	37	Rating & Facing :In	Outlet	#300 FLANGED RF	#150 FLANGED RF
	38	Body and Bonnet		ASTM A216 GR. WCB	
	39	Seat and Disc		SS316+PTFE	
	40	Nozzle		316SS	
	41	Guide and Rings		VTA	
	42	Spring		ASTM A216 GR. WCB	
	43	Bellows		SS316+PTFE (VTC)	
	44				
OPTIONS	45	Cap: Screwed or Bolted		Screwed	
	46	Lever: Plain or Packed		N/A	
	47	Test Gage		Yes	
	48	With Rupture Disc		No	
	49	Hydro Test		Required	
	50	Seat Leakage Test		Required	
	51	Compliance Standard		N/A	
PURCHASE (will be finalized later)	52	Manufacturer		Will Be Finalized Later	
	53	Model		Will Be Finalized Later	
	54	Serial No.		Will Be Finalized Later	

Notes:

VTA : Vendor to Advise in bidding stage

VTC : Vendor to confirm in bidding stage

N/A: Not applicable

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02".

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 		
DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES										
شماره پیمان: 053 - 073 - 9184		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 32 از 33
		BK	GCS	PEDCO	120	IN	DT	0009	D02	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number					PSV-2293			D02
	2	Service					GAS			
	3	Line No.		Vessel No.		TEG-111-0113-AN04-2"-PT		-		
	4	Pipe Class / C.A.		P&ID No.		AN04 / 3mm		BK-GCS-PEDCO-120-PR-PI-0025_D06		
	5	Discharge to					To FLARE			
	6	Protect Equipment					-			
	7	Area Classification					Zone 2, IIB T4			
	8	NACE MR0175/ISO 15156 Compliance					Yes			
BASIS	9	Nozzle (Full, Semi)					Full Nozzle, Spring Loaded Type			
	10	Design Type	Safety, Relief, Safety-Relief		Safety					
	11		Conventional, bellows, Pilot Op.		Conventional					
PROCESS CONDITIONS	12	Bonnet Type					Closed			
	13	Fluid		State		GAS		Singel Phase		
	14	Required Capacity					2098.0		kg/h	
	15	Molecular Mass		Sp. Gr.@ relief Tmp		143.6		kg/kmol	kg/m3	
	16	Oper. Pressure		Set Pressure		0.10		3.5	bar-g	
	17	Oper. Temperature		Relieving Temp.		AMB		/	335.9 °C	
	18	Back Pressure	Constant		-		bar-g			
	19		Variable		0.1		bar-g			
	20		Total		0.1		bar-g			
	21	% Allowable Overpressure					21%			
	22	Over Pressure Factor					1.21			
	23	Compressibility Factor(Z)					0.646			
	24	Latent Heat of Vaporization (Kj/Kg)					314.3			
	25	Ratio of Specific Heats(Cp/Cv)					1.08			
	26	Density @ flowing temprature					10.29		kg/m3	
	27	Operating Viscosity					0.010		cP	
	28	Barometric Pressure					13.26 - 14.37		psia	
SELECTION	29	Design Code		Sizing Basis		API 520		-		
	30	Construction Code					API 520			
	31	Fire					NO			
	32	Basis of Selection					FIRE			
	33	Calculated Area		MM²		275(VTC)				
	34	Required Area		MM²		397.6 (VTC)				
	35	Orifice Designation					G (VTC)			
CONNECTIONS	36	Size: Inlet		Outlet		1 1/2" in		3" in		
	37	Rating & Facing :In		Outlet		#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet					ASTM A105			
	39	Seat and Disc					SS316+PTFE			
	40	Nozzle					316 SS			
	41	Guide and Rings					VTA			
	42	Spring					ASTM A105			
	43	Bellows					N/A			
	44									
OPTIONS	45	Cap: Screwed or Bolted					Screwed			
	46	Lever: Plain or Packed					N/A			
	47	Test Gage					Yes			
	48	With Rupture Disc					No			
	49	Hydro Test					Required			
	50	Seat Leakage Test					Required			
	51	Compliance Standard					N/A			
PURCHASE (will be finalized later)	52	Manufacturer					Will Be Finalized Later			
	53	Model					Will Be Finalized Later			
	54	Serial No.					Will Be Finalized Later			

Notes:

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

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D02 ".

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک						 		
DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES										
شماره پیمان: 053 - 073 - 9184		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 33 از 33
		BK	GCS	PEDCO	120	IN	DT	0009	D02	

TEMPERATURE SAFETY VALVE										
GENERAL	1	Tag Number					TSV-2281			D02
	2	Service					LIQUID			
	3	Line No.		Vessel No.		DO-112-0005A-AN01-1"-PT		-		
	4	Pipe Class / C.A.		P&ID No.		AN01 / 1mm		BK-GCS-PEDCO-120-PR-PI-0023_D06 (1 OF 3)		
	5	Discharge to					To DIESEL OIL DRUM			
	6	Protect Equipment					-			
	7	Area Classification					Zone 2, IIB T4			
	8	NACE MR0175/ISO 15156 Compliance					NO			
	BASIS	9	Nozzle (Full, Semi)					Full Nozzle, Spring Loaded Type		
10		Design Type	Safety, Relief, Safety-Relief		Safety					
11			Conventional, bellows, Pilot Op.		Conventional					
PROCESS CONDITIONS	12	Bonnet Type					Closed			
	13	Fluid		State		LIQUID		Singel Phase		
	14	Required Capacity				39.537 (V.T.C)		kg/h		
	15	Molecular Mass		Sp. Gr.@ relief Tmp		184.4		0.85		
	16	Oper. Pressure		Set Pressure		0.10		3.5 bar-g		
	17	Oper. Temperature		Relieving Temp.		AMB /		VTA °C		
	18	Back Pressure	Constant		-		bar-g			
	19		Variable		0.0		bar-g			
	20		Total		0.0		bar-g			
	21	% Allowable Overpressure				10%				
	22	Over Pressure Factor				110%				
	23	Compressibility Factor(Z)				-				
	24	Latent Heat of Vaporization (Kj/Kg)				-				
	25	Ratio of Specific Heats(Cp/Cv)				1.118				
	26	Density @ flowing temprature				850.00				
	27	Operating Viscosity (cp)				2.143				
	28	Barometric Pressure				13.26 - 14.37 psia				
SELECTION	29	Design Code		Sizing Basis		-		-		
	30	Construction Code				-				
	31	Fire				-				
	32	Basis of Selection				Thermal Expansion				
	33	Calculated Area		MM²		0.00003				
	34	Required Area		MM²		0.0000709676 (V.T.C)				
	35	Orifice Designation				D				
CONNECTIONS	36	Size: Inlet		Outlet		3/4" in		1" in		
	37	Rating & Facing :In		Outlet		#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet				ASTM A105				
	39	Seat and Disc				SS316+PTFE				
	40	Nozzle				316 SS				
	41	Guide and Rings				VTA				
	42	Spring				ASTM A105				
	43	Bellows				N/A				
	44									
OPTIONS	45	Cap: Screwed or Bolted				Screwed				
	46	Lever: Plain or Packed				N/A				
	47	Test Gage				Yes				
	48	With Rupture Disc				No				
	49	Hydro Test				Required				
	50	Seat Leakage Test				Required				
	51	Compliance Standard				N/A				
PURCHASE (will be finalized later)	52	Manufacturer				Will Be Finalized Later				
	53	Model				Will Be Finalized Later				
	54	Serial No.				Will Be Finalized Later				

Notes:

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