



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

تسهیلات

120

رشته

IN

نوع مدرک

DT

سریال

0009

نسخه

D01

شماره صفحه: 1 از 38

طرح نگهداشت و افزایش تولید 27 مخزن

DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

نگهداشت و افزایش تولید میدان نفتی بینک

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: 2

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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BK

GCS

PEDCO

120

IN

DT

0009

D01

شماره صفحه: 2 از 38

REVISION RECORD SHEET

Page	D00	D01	D02	D03	D04
1	X	X			
2	X	X			
3	X	X			
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Page	D00	D01	D02	D03	D04
65					
66					
67					
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NISOC

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سطح الارض

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DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

شماره پیمان:

053 - 073 - 9184

پروژه

پسته کاری

صادر کننده

تجهیزات

رشته

نوع مدرک

سریال

نسخه

شماره صفحه: 3 از 38

BK

GCS

PEDCO

120

IN

DT

0009

D01

REFERENCE DOCUMENTS :

Specification For Instrumentation

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

Process Basis Of Design

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

Piping Material Specification

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

Specification For Pressure Safety Valves(PSV)

BK-GNRAL-PEDCO-000-IN-SP-0007_D03

Instrument & Control System Design Criteria

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

Symbol & Legend For PFD and P&ID

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

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

BK-GCS-PEDCO-120-PR-PI-0002_D04

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

BK-GCS-PEDCO-120-PR-PI-0003_D04

P&ID - Slug Catcher System

BK-GCS-PEDCO-120-PR-PI-0004_D04

P&ID - Gas Compression Inlet Knock Out Drum

BK-GCS-PEDCO-120-PR-PI-0005_D04

P&ID - 1st Stage Gas Compression Suction Drums

BK-GCS-PEDCO-120-PR-PI-0006_D04

P&ID - 1st Stage Gas Compression Compressors

BK-GCS-PEDCO-120-PR-PI-0007_D04

P&ID - 1st Stage Gas Compression Air Coolers

BK-GCS-PEDCO-120-PR-PI-0008_D04

P&ID - 2nd Stage Gas Compression Suction Drums

BK-GCS-PEDCO-120-PR-PI-0009_D04

P&ID - 2nd Stage Gas Compression Compressors

BK-GCS-PEDCO-120-PR-PI-0010_D04

P&ID - 2nd Stage Gas Compression Air Coolers

BK-GCS-PEDCO-120-PR-PI-0011_D04

P&ID - 2nd Stage Gas Compression Discharge Drum

BK-GCS-PEDCO-120-PR-PI-0012_D04

P&ID - Gas Compression Dehydration Package

BK-GCS-PEDCO-120-PR-PI-0013_D04

P&ID - Lean Glycol Storage Tank

BK-GCS-PEDCO-120-PR-PI-0014_D04

P&ID - Instrument & Plant Air System

BK-GCS-PEDCO-120-PR-PI-0015_D04

P&ID - Nitrogen Generation System

BK-GCS-PEDCO-120-PR-PI-0016_D04

P&ID - Close Drain System

BK-GCS-PEDCO-120-PR-PI-0017_D04

P&ID - Corrosion Inhibitor Package

BK-GCS-PEDCO-120-PR-PI-0018_D04

P&ID - Methanol Injection Package

BK-GCS-PEDCO-120-PR-PI-0019_D04

P&ID - LP Flare System

BK-GCS-PEDCO-120-PR-PI-0020_D04

P&ID - Oily Water Sewer

BK-GCS-PEDCO-120-PR-PI-0021_D04

P&ID - Fuel Gas System

BK-GCS-PEDCO-120-PR-PI-0022_D04

P&ID - Diesel Oil System

BK-GCS-PEDCO-120-PR-PI-0023_D04

P&ID - Potable Water System

BK-GCS-PEDCO-120-PR-PI-0024_D04

P&ID - Glycol Sump Drum

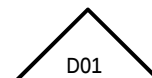
BK-GCS-PEDCO-120-PR-PI-0025_D04

P&ID - Fire Water Network

BK-GCS-PEDCO-120-SA-PI-0001_D01

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

BK-GCS-PEDCO-120-SA-PI-0002_D01





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سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES

شماره پیمان:	پروژه	پسته کاری	صادر کننده	تمهيلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 4 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

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

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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: 5 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

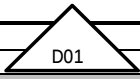
PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2111				D01
	2	Service				GAS				
	3	Line No.	Vessel No.			GAS-111-0013-AN07-2"-PT		V-2104		
	4	Pipe Class	P&ID No.			AN07		BK-GCS-PEDCO-120-PR-PI-0004-D04 (1 of 2)		
	5	Discharge to				To LP FLARE HEADER				
	6	Protect Equipment				-				
	7	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				
PROCESS CONDITIONS	12	Bonnet Type				Closed				
	13	Fluid	State			GAS		Singel Phase		
	14	Required Capacity				27770.90		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp			37.85 kg/kmol		1.300 kg/m3		
	16	Oper. Pressure	Set Pressure			5.3 /		9 bar-g		
	17	Oper. Temperature	Relieving Temp.			31.86 /		284 °C		
	18	Back Pressure	Constant			-		bar-g		
	19		Variable			3.3		bar-g		
	20		Total			3.3		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				6.021 kg/m3				
	27	Operating Viscosity				0.011 cP				
	28	Barometric Pressure				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				3458.068(VTC)				
	34	Required Area MM²				4358 (VTC)				
	35	Orifice Designation				P (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet			4" in		6" in		
	37	Rating & Facing :In	Outlet			#150 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				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				
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required				
	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-D01-D01 ".

 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	تجهیزات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 6 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2112				 D01
	2	Service				GAS				
	3	Line No.	Vessel No.			GAS-111-0014-AN07-2"-PT		V-2104		
	4	Pipe Class	P&ID No.			AN07		BK-GCS-PEDCO-120-PR-PI-0004-D04 (1 of 2)		
	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				
PROCESS CONDITIONS	12	Bonnet Type				Closed				
	13	Fluid	State			GAS		Singel Phase		
	14	Required Capacity				27770.90		kg/h		
	15	Molecular Mass	Sp. Gr. @ relief Tmp			37.85 kg/kmol		1.300 kg/m3		
	16	Oper. Pressure	Set Pressure			5.3 / 9		bar-g		
	17	Oper. Temperature	Relieving Temp.			31.86 / 284		°C		
	18	Back Pressure	Constant			-		bar-g		
	19		Variable			3.3		bar-g		
	20		Total			3.3		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				6.021 kg/m3				
	27	Operating Viscosity				0.011 cP				
	28	Barometric Pressure				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				3458.068(VTC)				
	34	Required Area MM²				4358 (VTC)				
	35	Orifice Designation				P (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet			4" in		6" in		
	37	Rating & Facing :In	Outlet			#150 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				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				
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required				
	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-D01-D01 ".

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 
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شماره پیمان:	پروژه	پسته کاری	صادر کننده	تهیهات	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01

شماره صفحه: 7 از 38

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number	PVSV-2111						
	2	Service	GAS						
	3	Line No.	Vessel No.	TK-2101					
	4	Pipe Class	P&ID No.	BK-GCS-PEDCO-120-PR-PI-0004					
	5	Discharge to	FLARE						
	6	Protect Equipment							
	7	Area Clacification	Zone1, IIB T4						
	8	NACE MR0175/ISO 15156 Compliance	No						
BASIS	9	Nozzle (Full, Semi)	Full Nozzle						
	10	Design							
	11								
PROCESS CONDITIONS	12	Bonnet							
	13	Fluid	Phase						
	14	Req	kg/h						
	15	Mol	kg/m3						
	16	Ope	bar-g						
	17	Ope	°C						
	18		bar-g						
	19	Bac	bar-g						
	20		bar-g						
	21	% A							
	22	Over							
	23	Compre							
	24	Latent Heat of Vaporization (Kj/Kg)							
	25	Ratio of Specific Heats(Cp/Cv)	1.17						
26	Density @ flowing temprature	2.56 kg/m3							
27	Operating Viscosity	0.009 cP							
28	Barometric Pressure	14.27-13.26 psia							
SELECTION	29	Design Code	Sizing Basis	API 520					
	30	Construction Code	API 520						
	31	Fire	By tank vendor						
	32	Basis of Selection	By tank vendor						
	33	Calculated Area	CM²	By tank vendor					
	34	Selected Area	CM²	By tank vendor					
	35	Orifice Designation	By tank vendor						
CONNECTIONS	36	Size: Inlet	Outlet	in in					
	37	Rating & Facing :In	Outlet	#300 FLANGED RF #150 FLANGED RF					
MATERIALS (VTC)	38	Body and Bonnet	ASTM A216 GR. WCB						
	39	Seat and Disc	316 SS						
	40	Nozzle	316 SS						
	41	Guide and Rings	VTA						
	42	Spring	316 SS						
	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	Compliance Standard	N/A						
PURCHASE (will be finalized later)	50	Manufacturer	VTA						
	51	Model	VTA						
	52								

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-D01 ".

 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 صفحه: 8 از 38	
شماره پیمان: 053 - 073 - 9184	پروژه: BK	بسته کاری: GCS	صادر کننده: PEDCO	تجهیزات: 120	رشته: IN	نوع مدرک: DT	سریال: 0009	نسخه: D01

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number			PSV-2113				D01	
	2	Service			GAS					
	3	Line No.	Vessel No.		GAS-111-0021-AN07-2"-PT		V-2105			
	4	Pipe Class	P&ID No.		AN07		BK-GCS-PEDCO-120-PR-PI-0005_D04			
	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	0.840		kg/m3	
	16	Oper. Pressure	Set Pressure		5.1		/		9 bar-g	
	17	Oper. Temperature	RelievingTemp.		36.92		/		280 °C	
	18	Back Pressure	Constant		-		bar-g			
	19		Variable		2.4		bar-g			
	20		Total		2.4		bar-g			
	21	% Allowable Overpressure			10%					
	22	Over Pressure Factor			1.10					
	23	Compressibility Factor(Z)			0.973					
	24	Latent Heat of Vaporization (Kj/Kg)			753.2					
	25	Ratio of Specific Heats(Cp/Cv)			1.246					
	26	Density @ flowing temprature			5.969	kg/m3				
	27	Operating Viscosity			0.011	cP				
	28	Barometric Pressure			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		3024.427 (VTC)					
	34	Required Area	MM²		3769.279 (VTC)					
	35	Orifice Designation			P (VTC)					
CONNECTIONS	36	Size: Inlet	Outlet		4" in		6" in			
	37	Rating & Facing :In	Outlet		#150 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			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-D01 ".

 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	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 9 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2114				D01
	2	Service				GAS				
	3	Line No.	Vessel No.			GAS-111-0022-AN07-2"-PT		V-2105		
	4	Pipe Class	P&ID No.			AN07		BK-GCS-PEDCO-120-PR-PI-0005_D04		
	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				
PROCESS CONDITIONS	12	Bonnet Type				Closed				
	13	Fluid	State			GAS		Singel Phase		
	14	Required Capacity				17833.1		kg/h		
	15	Molecular Mass	Sp. Gr. @ relief Tmp			24.52 kg/kmol		0.840 kg/m3		
	16	Oper. Pressure	Set Pressure			5.1 / 9		bar-g		
	17	Oper. Temperature	Relieving Temp.			36.92 / 280		°C		
	18	Back Pressure	Constant			-		bar-g		
	19		Variable			2.4		bar-g		
	20		Total			2.4		bar-g		
	21	% Allowable Overpressure				10%				
	22	Over Pressure Factor				1.10				
	23	Compressibility Factor(Z)				0.973				
	24	Latent Heat of Vaporization (Kj/Kg)				753.2				
	25	Ratio of Specific Heats(Cp/Cv)				1.246				
	26	Density @ flowing temprature				5.969 kg/m3				
	27	Operating Viscosity				0.011 cP				
	28	Barometric Pressure				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			3024.427 (VTC)				
	34	Required Area	MM²			3769.279 (VTC)				
	35	Orifice Designation				P (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet			4" in		6" in		
	37	Rating & Facing :In	Outlet			#150 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				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				
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required				
	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-D01 ".

 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	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 10 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2121A				D01
	2	Service				GAS				
	3	Line No.	Vessel No.			GAS-111-0029A-AN07-2"-PT		V-2101A		
	4	Pipe Class	P&ID No.			AN07		BK-GCS-PEDCO-120-PR-PI-0006_D04 (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				
	10	Design Type	Safety, Relief, Safety-Relief			Safety				
	11		Conventional, bellows, Pilot Op.			Bellows				
PROCESS CONDITIONS	12	Bonnet Type				Closed				
	13	Fluid	State			GAS		Singel Phase		
	14	Required Capacity				342.89		kg/h		
	15	Molecular Mass	Sp. Gr. @ relief Tmp			20.5		kg/kmol		
	16	Oper. Pressure	Set Pressure			4.9		bar-g		
	17	Oper. Temperature	Relieving Temp.			36.78		°C		
	18	Back Pressure	Constant			-		bar-g		
	19		Variable			3.0		bar-g		
	20		Total			3.0		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)				754.3				
	25	Ratio of Specific Heats(Cp/Cv)				1.245				
	26	Density @ flowing temprature				5.771		kg/m3		
	27	Operating Viscosity				0.011		cP		
	28	Barometric Pressure				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				53.556 (VTC)				
	34	Required Area MM²				120.246 (VTC)				
	35	Orifice Designation				D (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet			1" in		2" in		
	37	Rating & Facing :In	Outlet			#150 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				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				
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required				
	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-D01 ".

 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	تهیه کننده	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01

شماره صفحه: 11 از 38

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2121B				D01
	2	Service				GAS				
	3	Line No.	Vessel No.			GAS-111-0029B-AN07-2"-PT		V-2101B		
	4	Pipe Class	P&ID No.			AN07		BK-GCS-PEDCO-120-PR-PI-0006_D04 (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		Conventional, bellows, Pilot Op.			Bellows				
PROCESS CONDITIONS	12	Bonnet Type				Closed				
	13	Fluid	State			GAS		Singel Phase		
	14	Required Capacity				342.89		kg/h		
	15	Molecular Mass	Sp. Gr. @ relief Tmp			20.5		kg/kmol		
	16	Oper. Pressure	Set Pressure			4.9		bar-g		
	17	Oper. Temperature	Relieving Temp.			36.78		°C		
	18	Back Pressure	Constant			-		bar-g		
	19		Variable			3.0		bar-g		
	20		Total			3.0		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)				754.3				
	25	Ratio of Specific Heats(Cp/Cv)				1.245				
	26	Density @ flowing temprature				5.771		kg/m3		
	27	Operating Viscosity				0.011		cP		
	28	Barometric Pressure				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				53.556 (VTC)				
	34	Required Area MM²				120.246 (VTC)				
	35	Orifice Designation				D (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet			1" in		2" in		
	37	Rating & Facing :In	Outlet			#150 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				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				
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required				
	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-D01 ".

 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	تجهیزات	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number			PSV-2121C				D01	
	2	Service			GAS					
	3	Line No.	Vessel No.		GAS-111-0029C-AN07-2"-PT		V-2101C			
	4	Pipe Class	P&ID No.		AN07		BK-GCS-PEDCO-120-PR-PI-0006_D04 (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			342.89		kg/h			
	15	Molecular Mass	Sp. Gr.@ relief Tmp		20.5	kg/kmol	0.700		kg/m3	
	16	Oper. Pressure	Set Pressure		4.9		/	9	bar-g	
	17	Oper. Temperature	RelievingTemp.		36.78		/	350.7	°C	
	18	Back Pressure	Constant		-		bar-g			
	19		Variable		3.0		bar-g			
	20		Total		3.0		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)			754.3					
	25	Ratio of Specific Heats(Cp/Cv)			1.245					
	26	Density @ flowing temprature			5.771	kg/m3				
	27	Operating Viscosity			0.011	cP				
	28	Barometric Pressure			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		53.556 (VTC)					
34		Required Area	MM²		120.246 (VTC)					
35		Orifice Designation			D (VTC)					
CONNECTIONS	36	Size: Inlet	Outlet		1" in		2" in			
	37	Rating & Facing :In	Outlet		#150 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			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-D01 ".

 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 صفحه: 38 از 13	
شماره پیمان: 053 - 073 - 9184	پروژه: BK	بسته کاری: GCS	صادر کننده: PEDCO	تجهیزات: 120	رشته: IN	نوع مدرک: DT	سریال: 0009	نسخه: D01

PRESSURE SAFETY VALVE						
GENERAL	1	Tag Number		PSV-2122A		
	2	Service		GAS		
	3	Line No.	Vessel No.	GAS-111-0032A-CN05-2"-PT	-	
	4	Pipe Class	P&ID No.	CN05	BK-GCS-PEDCO-120-PR-PI-0007_D04 (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.	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	0.84 kg/m3
	16	Oper. Pressure	Set Pressure	19	/	22 bar-g
	17	Oper. Temperature	RelievingTemp.	124.8	/	204 °C
	18	Back Pressure	Constant	- bar-g		
	19		Variable	1.3 bar-g		
	20		Total	1.3 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		15.38	kg/m3	
	27	Operating Viscosity		0.011	cP	
	28	Barometric Pressure		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	591.135 (VTC)		
	34	Required Area	MM²	719.546 (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		
	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-D01 "

 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	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 14 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2122B				D01
	2	Service				GAS				
	3	Line No.	Vessel No.		GAS-111-0032B-CN05-2"-PT		-			
	4	Pipe Class	P&ID No.		CN05		BK-GCS-PEDCO-120-PR-PI-0007_D04 (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		Conventional, bellows, Pilot Op.		Conventional					
PROCESS CONDITIONS	12	Bonnet Type				Closed				
	13	Fluid	State		GAS		Singel Phase			
	14	Required Capacity		8664.0		kg/h				
	15	Molecular Mass	Sp. Gr. @ relief Tmp		24.52		kg/kmol			
	16	Oper. Pressure	Set Pressure		19		bar-g			
	17	Oper. Temperature	Relieving Temp.		124.8		°C			
	18	Back Pressure	Constant		-		bar-g			
	19		Variable		1.3		bar-g			
	20		Total		1.3		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				15.38		kg/m3		
	27	Operating Viscosity				0.011		cP		
	28	Barometric Pressure				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		591.135		(VTC)		
	34	Required Area		MM²		719.546		(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				
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required				
	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-D01 "

 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	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 15 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2122C				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0032C-CN05-2"-PT		-		
	4	Pipe Class	P&ID No.		CN05		BK-GCS-PEDCO-120-PR-PI-0007_D04 (3 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		Conventional, bellows, Pilot Op.		Conventional				
PROCESS CONDITIONS	12	Bonnet Type			Closed				
	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity			8664.0		kg/h		
	15	Molecular Mass	Sp. Gr. @ relief Tmp		24.52 kg/kmol		0.84 kg/m3		
	16	Oper. Pressure	Set Pressure		19 / 22		bar-g		
	17	Oper. Temperature	Relieving Temp.		124.8 / 204		°C		
	18	Back Pressure	Constant		-		bar-g		
	19		Variable		1.3		bar-g		
	20		Total		1.3		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			15.38 kg/m3				
	27	Operating Viscosity			0.011 cP				
	28	Barometric Pressure			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		591.135 (VTC)				
	34	Required Area	MM²		719.546 (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				
PURCHASE (will be finalized later)	50	Seat Leakage Test			Required				
	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-D01 ".

 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	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 16 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number			PSV-2123A					
	2	Service			GAS					
	3	Line No.	Vessel No.		GAS-111-0033A-CN05-2"-PT		-			
	4	Pipe Class	P&ID No.		CN05		BK-GCS-PEDCO-120-PR-PI-0007_D04 (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					
	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			8664.0		kg/h			
	15	Molecular Mass	Sp. Gr. @ relief Tmp		24.52		kg/kmol		0.84	
	16	Oper. Pressure	Set Pressure		19		/		22 bar-g	
	17	Oper. Temperature	Relieving Temp.		124.8		/		204 °C	
	18	Back Pressure	Constant		-				bar-g	
	19		Variable		1.3				bar-g	
	20		Total		1.3				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			15.38		kg/m3			
	27	Operating Viscosity			0.011		cP			
	28	Barometric Pressure			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		591.135		(VTC)			
	34	Required Area	MM²		719.546		(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					
PURCHASE (will be finalized later)	50	Seat Leakage Test			Required					
	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-D01 ".

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض							  	
	DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES								
	احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 17 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2123B				D01
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0033B-CN05-2"-PT		-		
	4	Pipe Class	P&ID No.		CN05		BK-GCS-PEDCO-120-PR-PI-0007_D04 (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.		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		0.84 kg/m3		
	16	Oper. Pressure	Set Pressure		19 /		22 bar-g		
	17	Oper. Temperature	RelievingTemp.		124.8 /		204 °C		
	18	Back Pressure	Constant		-		bar-g		
	19		Variable		1.3		bar-g		
	20		Total		1.3		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			15.38 kg/m3				
	27	Operating Viscosity			0.011 cP				
	28	Barometric Pressure			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		591.135 (VTC)				
	34	Required Area	MM²		719.546 (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				
	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-D01 ".

 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	تجهیزات	رشته	نوع مدرک	سریال	
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	شماره صفحه: 18 از 38

PRESSURE SAFETY VALVE						
GENERAL	1	Tag Number		PSV-2123C		
	2	Service		GAS		
	3	Line No.	Vessel No.	GAS-111-0033C-CN05-2"-PT	-	
	4	Pipe Class	P&ID No.	CN05	BK-GCS-PEDCO-120-PR-PI-0007_D04 (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.	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	0.84
	16	Oper. Pressure	Set Pressure	19	/	22 bar-g
	17	Oper. Temperature	RelievingTemp.	124.8	/	204 °C
	18	Back Pressure	Constant	-		
	19		Variable	1.3		
	20		Total	1.3		
	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		15.38	kg/m3	
	27	Operating Viscosity		0.011	cP	
	28	Barometric Pressure		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	591.135 (VTC)		
	34	Required Area	MM²	719.546 (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		
	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-D01 "

 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	تجهیزات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 38 از 19
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

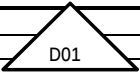
PRESSURE SAFETY VALVE							
GENERAL	1	Tag Number		PSV-2131A		D01	
	2	Service		GAS			
	3	Line No.	Vessel No.	GAS-111-0042A-CN05-2"-PT	-		
	4	Pipe Class	P&ID No.	CN05	BK-GCS-PEDCO-120-PR-PI-0009_D04 (1 OF 3)		
	5	Discharge to		To FLARE			
	6	Protect Equipment		-			
	7	Area Clacification		Zone 2, IIB T4			
	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	0.84	kg/m3
	16	Oper. Pressure	Set Pressure	18.1	/	22	bar-g
	17	Oper. Temperature	RelievingTemp.	60	/	208.3	°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)		0.936			
	24	Latent Heat of Vaporization (Kj/Kg)		696.7			
	25	Ratio of Specific Heats(Cp/Cv)		1.278			
	26	Density @ flowing temprature		18.08	kg/m3		
	27	Operating Viscosity		0.012	cP		
	28	Barometric Pressure		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		127.757 (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		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-D01 "

 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	تسهيلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 20 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

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	P&ID No.		CN05		BK-GCS-PEDCO-120-PR-PI-0009_D04 (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				
PROCESS CONDITIONS	12	Bonnet Type				Closed			
	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity				982.27		kg/h	
	15	Molecular Mass	Sp. Gr.@ relief Tmp		24.52 kg/kmol		0.84 kg/m3		
	16	Oper. Pressure	Set Pressure		18.1 / 22		bar-g		
	17	Oper. Temperature	RelievingTemp.		60 / 208.3		°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)				0.936			
	24	Latent Heat of Vaporization (Kj/Kg)				696.7			
	25	Ratio of Specific Heats(Cp/Cv)				1.278			
	26	Density @ flowing temprature				18.08 kg/m3			
	27	Operating Viscosity				0.012 cP			
	28	Barometric Pressure				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		127.757 (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				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			
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required			
	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-D01 ".

 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	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 21 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2131C				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0042C-CN05-2"-PT		-		
	4	Pipe Class	P&ID No.		CN05		BK-GCS-PEDCO-120-PR-PI-0009_D04 (3 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		Conventional, bellows, Pilot Op.		Bellows				
PROCESS CONDITIONS	12	Bonnet Type			Closed				
	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity			982.27		kg/h		
	15	Molecular Mass	Sp. Gr. @ relief Tmp		24.52 kg/kmol		0.84 kg/m3		
	16	Oper. Pressure	Set Pressure		18.1 / 22		bar-g		
	17	Oper. Temperature	Relieving Temp.		60 / 208.3		°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)			0.936				
	24	Latent Heat of Vaporization (Kj/Kg)			696.7				
	25	Ratio of Specific Heats(Cp/Cv)			1.278				
	26	Density @ flowing temprature			18.08 kg/m3				
	27	Operating Viscosity			0.012 cP				
	28	Barometric Pressure			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			127.757 (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			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				
PURCHASE (will be finalized later)	50	Seat Leakage Test			Required				
	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-D01 "

 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	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 22 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2132A				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0047A-FN05-2"-PT		-		
	4	Pipe Class	P&ID No.		FN05		BK-GCS-PEDCO-120-PR-PI-0010_D04 (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				
	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			8664.0		kg/h		
	15	Molecular Mass	Sp. Gr. @ relief Tmp		24.52 kg/kmol		0.84 kg/m3		
	16	Oper. Pressure	Set Pressure		54.80 / 62		bar-g		
	17	Oper. Temperature	Relieving Temp.		142.3 / 233		°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)			0.923				
	24	Latent Heat of Vaporization (Kj/Kg)			566.7				
	25	Ratio of Specific Heats(Cp/Cv)			1.28				
	26	Density @ flowing temprature			42.92 kg/m3				
	27	Operating Viscosity			0.016 cP				
	28	Barometric Pressure			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			213.771 (VTC)				
	34	Required Area MM²			260.208 (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				
PURCHASE (will be finalized later)	50	Seat Leakage Test			Required				
	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-D01 "

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض							  	
	DATA SHEETS FOR PRESSURE & SAFETY RELIEF VALVES								
	احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 38 از 23
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

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	P&ID No.	FN05	BK-GCS-PEDCO-120-PR-PI-0010_D04 (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.	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	0.84	
	16	Oper. Pressure	Set Pressure	54.80	/	62 bar-g	
	17	Oper. Temperature	RelievingTemp.	142.3	/	233 °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)		0.923			
	24	Latent Heat of Vaporization (Kj/Kg)		566.7			
	25	Ratio of Specific Heats(Cp/Cv)		1.28			
	26	Density @ flowing temprature		42.92	kg/m3		
	27	Operating Viscosity		0.016	cP		
	28	Barometric Pressure		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	213.771 (VTC)			
34		Required Area	MM²	260.208 (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			
	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-D01 "

 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 صفحه: 38 از 24	
شماره پیمان: 053 - 073 - 9184	پروژه: BK	بسته کاری: GCS	صادر کننده: PEDCO	تجهیزات: 120	رشته: IN	نوع مدرک: DT	سریال: 0009	نسخه: D01

PRESSURE SAFETY VALVE							
GENERAL	1	Tag Number		PSV-2132B			
	2	Service		GAS			
	3	Line No.	Vessel No.	GAS-111-0047B-FN05-2"-PT	-		
	4	Pipe Class	P&ID No.	FN05	BK-GCS-PEDCO-120-PR-PI-0010_D04 (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.	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	0.84	
	16	Oper. Pressure	Set Pressure	54.80	/	62 bar-g	
	17	Oper. Temperature	RelievingTemp.	142.3	/	233 °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)		0.923			
	24	Latent Heat of Vaporization (Kj/Kg)		566.7			
	25	Ratio of Specific Heats(Cp/Cv)		1.28			
	26	Density @ flowing temprature		42.92	kg/m3		
	27	Operating Viscosity		0.016	cP		
	28	Barometric Pressure		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	213.771 (VTC)			
34		Required Area	MM²	260.208 (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			
	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-D01 ".

 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	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 38 از 25
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2133B				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0048B-FN05-2"-PT		-		
	4	Pipe Class	P&ID No.		FN05		BK-GCS-PEDCO-120-PR-PI-0010_D04 (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		Conventional, bellows, Pilot Op.		Conventional				
PROCESS CONDITIONS	12	Bonnet Type			Closed				
	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity			8664.0		kg/h		
	15	Molecular Mass	Sp. Gr. @ relief Tmp		24.52 kg/kmol		0.84 kg/m3		
	16	Oper. Pressure	Set Pressure		54.80 / 62		bar-g		
	17	Oper. Temperature	Relieving Temp.		142.3 / 233		°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)			0.923				
	24	Latent Heat of Vaporization (Kj/Kg)			566.7				
	25	Ratio of Specific Heats(Cp/Cv)			1.28				
	26	Density @ flowing temprature			42.92 kg/m3				
	27	Operating Viscosity			0.016 cP				
	28	Barometric Pressure			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		213.771 (VTC)				
	34	Required Area	MM²		260.208 (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				
	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-D01 "

 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	تهیه کننده	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01

شماره صفحه: 26 از 38

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number				PSV-2132C			
	2	Service				GAS			
	3	Line No.	Vessel No.		GAS-111-0047C-FN05-2"-PT		-		
	4	Pipe Class	P&ID No.		FN05		BK-GCS-PEDCO-120-PR-PI-0010_D04 (3 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		Conventional, bellows, Pilot Op.		Conventional				
PROCESS CONDITIONS	12	Bonnet Type				Closed			
	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity				8664.0		kg/h	
	15	Molecular Mass	Sp. Gr. @ relief Tmp		24.52 kg/kmol		0.84 kg/m3		
	16	Oper. Pressure	Set Pressure		54.80 / 62		bar-g		
	17	Oper. Temperature	Relieving Temp.		142.3 / 233		°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)				0.923			
	24	Latent Heat of Vaporization (Kj/Kg)				566.7			
	25	Ratio of Specific Heats(Cp/Cv)				1.28			
	26	Density @ flowing temprature				42.92 kg/m3			
	27	Operating Viscosity				0.016 cP			
	28	Barometric Pressure				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		213.771 (VTC)			
	34	Required Area		MM²		260.208 (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			
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required			
	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-D01".

 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	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 27 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2133C				D01
	2	Service				GAS				
	3	Line No.	Vessel No.		GAS-111-0048C-FN05-2"-PT		-			
	4	Pipe Class	P&ID No.		FN05		BK-GCS-PEDCO-120-PR-PI-0010_D04 (3 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		Conventional, bellows, Pilot Op.		Conventional					
PROCESS CONDITIONS	12	Bonnet Type				Closed				
	13	Fluid	State		GAS		Singel Phase			
	14	Required Capacity		8664.0		kg/h				
	15	Molecular Mass	Sp. Gr. @ relief Tmp		24.52	kg/kmol	0.84	kg/m3		
	16	Oper. Pressure	Set Pressure		54.80	/	62	bar-g		
	17	Oper. Temperature	Relieving Temp.		142.3	/	233	°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)				0.923				
	24	Latent Heat of Vaporization (Kj/Kg)				566.7				
	25	Ratio of Specific Heats(Cp/Cv)				1.28				
	26	Density @ flowing temprature		42.92		kg/m3				
	27	Operating Viscosity		0.016		cP				
	28	Barometric Pressure		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		213.771 (VTC)					
	34	Required Area	MM²		260.208 (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						
PURCHASE (will be finalized later)	50	Seat Leakage Test		Required						
	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-D01 ".

 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	تهیهات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 28 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2141				D01
	2	Service				GAS				
	3	Line No.	Vessel No.		GAS-111-0060-FN05-2"-PT		-			
	4	Pipe Class	P&ID No.		FN05		BK-GCS-PEDCO-120-PR-PI-0012 _D04			
	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.		Conventional					
PROCESS CONDITIONS	12	Bonnet Type				Closed				
	13	Fluid	State		GAS		Singel Phase			
	14	Required Capacity		17763.10		kg/h				
	15	Molecular Mass	Sp. Gr.@ relief Tmp		18.96	kg/kmol	0.65	kg/m3		
	16	Oper. Pressure	Set Pressure		53.9	/	62	bar-g		
	17	Oper. Temperature	RelievingTemp.		60	/	286	°C		
	18	Back Pressure	Constant		-		bar-g			
	19		Variable		2.1		bar-g			
	20		Total		2.1		bar-g			
	21	% Allowable Overpressure				21%				
	22	Over Pressure Factor				1.21				
	23	Compressibility Factor(Z)				0.823				
	24	Latent Heat of Vaporization (Kj/Kg)				513.0				
	25	Ratio of Specific Heats(Cp/Cv)				1.461				
	26	Density @ flowing temprature				59.17	kg/m3			
	27	Operating Viscosity				0.014	cP			
28	Barometric Pressure				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		430 (VTC)				
	34	Required Area		MM²		523.298 (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				
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required				
	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-D01 ".

 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	تهیهات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 29 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number				PSV-2142			
	2	Service				GAS			
	3	Line No.	Vessel No.		GAS-111-0062-FN05-2"-PT		-		D01
	4	Pipe Class	P&ID No.		FN05		BK-GCS-PEDCO-120-PR-PI-0012_D04		
	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.		Conventional				
PROCESS CONDITIONS	12	Bonnet Type				Closed			
	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity		17763.10		kg/h			
	15	Molecular Mass	Sp. Gr.@ relief Tmp		18.96	kg/kmol	0.65	kg/m3	
	16	Oper. Pressure	Set Pressure		53.9	/	62	bar-g	
	17	Oper. Temperature	RelievingTemp.		60	/	286	°C	
	18	Back Pressure	Constant		-		bar-g		
	19		Variable		2.1		bar-g		
	20		Total		2.1		bar-g		
	21	% Allowable Overpressure				21%			
	22	Over Pressure Factor				1.21			
	23	Compressibility Factor(Z)				0.823			
	24	Latent Heat of Vaporization (Kj/Kg)				513.0			
	25	Ratio of Specific Heats(Cp/Cv)				1.461			
	26	Density @ flowing temprature				59.17	kg/m3		
	27	Operating Viscosity				0.014	cP		
	28	Barometric Pressure				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		430 (VTC)			
	34	Required Area		MM²		523.298 (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			
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required			
	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-D01 ".

 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	تهیهات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 30 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number				PVSV-2161			
	2	Service				GAS			
	3	Line No.	Vessel No.			TK-2102			
	4	Pipe Class	P&ID No.			BK-GCS-PEDCO-120-PR-PI-0014-D03			
	5	Discharge to				To ATM			
	6	Protect Equipment							
	7	Area Clacification				Zone1, IIB T4			
	8	NACE MR0175/ISO 15156 Compliance				YES			
BASIS	9	Nozzle (Full, Semi)				Full Nozzle			
	10	Design Type	Safety, Relief, Safety-Relief			Safety			
	Conventional, bellows, Pilot Op.			By tank vendor					
	12	Bonnet Type				Closed			
PROCESS CONDITIONS	13	Fluid	State			Nitrogen		Singel Phase	
	14	Required P						kg/h	
	15	Molecul						kg/m3	
	16	Oper. P						bar-g	
	17	Oper. T						°C	
	18							bar-g	
	19	Back P						bar-g	
	20							bar-g	
	21	% Allow							
	22	Over P							
	23	Compr							
	24	Latent							
	25	Ratio o							
	26	Density							
	27	Operati							
	SELECTION	28	Barometri						
29		Design Code	Sizing Basis			API 520			
30		Construction Code				API 520			
31		Fire				By tank vendor			
32		Basis of Selection				By tank vendor			
33		Calculated Area			CM²	By tank vendor			
34		Selected Area			CM²	By tank vendor			
35		Orifice Designation				By tank vendor			
CONNECTIONS	36	Size: Inlet	Outlet			HOLD in NOTE 2		HOLD in NOTE 2	
	37	Rating & Facing :In	Outlet			#300 FLANGED RF		#150 FLANGED RF	
MATERIALS (VTC)	38	Body and Bonnet				ASTM A216 GR. WCB			
	39	Seat and Disc				316 SS			
	40	Nozzle				316 SS			
	41	Guide and Rings				VTA			
	42	Spring				316 SS			
	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	Compliance Standard				N/A			
PURCHASE (will be finalized later)	50	Manufacturer				VTA			
	51	Model				VTA			
52									

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-D01-D01 ".
 2-Numbering And Size Are Hold For PVSV Vendor Information

 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	تهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 31 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number				PVSV-2162			
	2	Service				GAS			
	3	Line No.	Vessel No.			TK-2102			
	4	Pipe Class	P&ID No.			BK-GCS-PEDCO-120-PR-PI-0014-D03			
	5	Discharge to				To ATM			
	6	Protect Equipment							
	7	Area Clacification				Zone1, 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.			By tank vendor			
PROCESS CONDITIONS	12	Bonnet Type				Closed			
	13	Fluid	State			Nitrogen		Singel Phase	
	14	Required Capacity				By tank vendor		kg/h	
	15	Molecular Mass	Sp. Gr.@ relief Tmp			28	kg/kmol	2.2	kg/m3
	16	Oper. Pressure	Set Pressure			0.5		/By tank vendor bar-g	
	17	Oper. Temperature	RelievingTemp.			amb.		/ amb. °C	
	18		Constant			atm.		bar-g	
	19	Back Pressure	Variable					bar-g	
	20							bar-g	
	21	%							
	22	O							
	23	C							
	24	L							
	SELECTION	25	R						
26		D							
27		O							
28		B							
29		D							
30		C							
31		F							
32		B							
33		Cal							
34		Selected Area	CM			By tank vendor			
CONNECTIONS	35	Orifice Designation				By tank vendor			
	36	Size: Inlet	Outlet			HOLD in NOTE 2		HOLD in NOTE 2	
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				316 SS			
	40	Nozzle				316 SS			
	41	Guide and Rings				VTA			
	42	Spring				316 SS			
	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	Compliance Standard				N/A			
PURCHASE (will be finalized later)	50	Manufacturer				VTA			
	51	Model				VTA			
52									

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-D01 ".

2-Numbering And Size Are Hold For PVSV Vendor Information

 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	تهیهات	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01

شماره صفحه: 32 از 38

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number				PSV-2201			
	2	Service				GAS			
	3	Line No.	Vessel No.		ISA-112-0008-AZ00-2"-NP		-		
	4	Pipe Class	P&ID No.		AZ00		BK-GCS-PEDCO-120-PR-PI-0015_D04		
	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			
	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				1071.8		kg/h	
	15	Molecular Mass	Sp. Gr.@ relief Tmp		28.95 kg/kmol		0.18		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		0.5		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)				340.1			
	25	Ratio of Specific Heats(Cp/Cv)				1.42			
	26	Density @ flowing temprature				9.27		kg/m3	
	27	Operating Viscosity				0.020		cP	
	28	Barometric Pressure				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		116.23 (VTC)				
	35	Orifice Designation				E (VTC)			
CONNECTIONS	36	Size: Inlet	Outlet		1" in		2" in		
	37	Rating & Facing :In	Outlet		#150 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			
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			
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required			
	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-D01 ".

 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	تجهیزات	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01

شماره صفحه: 33 از 38

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number				PSV-2201B			
	2	Service				GAS			
	3	Line No.	Vessel No.		ISA-112-0008-AZ00-2"-NP		-		D01
	4	Pipe Class	P&ID No.		AZ00		BK-GCS-PEDCO-120-PR-PI-0015-D04		
	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			
	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							
	15	Molecular Mass				kg/m3			
	16	Oper. Pressure							
	17	Oper. Temperature							
	18								
	19	Back Pressure							
	20								
	21	% Allowable Overpre							
	22	Over Pressure Facto							
	23	Compressibility Facto							
	24	Latent Heat of Vapor							
25	Ratio of Specific Hea								
26	Density @ flowing te								
27	Operating Viscosity								
28	Barometric Pressure				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		116.23 (VTC)				
	35	Orifice Designation				E (VTC)			
CONNECTIONS	36	Size: Inlet	Outlet		1" in		2" in		
	37	Rating & Facing :In	Outlet		#150 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet				ASTM A216 GR. WCB			
	39	Seat and Disc				316 SS			
	40	Nozzle				316 SS			
	41	Guide and Rings				VTA			
	42	Spring				Cadmium plated carbon steel			
	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			
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required			
	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-D01 ".

 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	تهیلات	رشته	نوع مدرک	سریال
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01

شماره صفحه: 34 از 38

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2211A				D01
	2	Service				GAS				
	3	Line No.	Vessel No.		NIT-112-0022-AN01-2"-PT		-			
	4	Pipe Class	P&ID No.		AN01		BK-GCS-PEDCO-120-PR-PI-0016_D04			
	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				
	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		500.4		kg/h				
	15	Molecular Mass	Sp. Gr. @ relief Tmp		28		kg/kmol			
	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)				293.3				
	25	Ratio of Specific Heats(Cp/Cv)				1.40				
	26	Density @ flowing temprature				8.65		kg/m3		
	27	Operating Viscosity				0.019		cP		
28	Barometric Pressure				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		116.23 (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				
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required				
	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-D01".

 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	تهیهات	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01

شماره صفحه: 35 از 38

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number				PSV-2211B			
	2	Service				GAS			
	3	Line No.	Vessel No.			NIT-112-0023-AN01-2"-PT		-	
	4	Pipe Class	P&ID No.			AN01		BK-GCS-PEDCO-120-PR-PI-0016-D04	
	5	Discharge to				To ATM		D01	
	6	Protect Equipment				-			
	7	Area Clacification				Zone1, IIB T4			
	8	NACE MR0175/ISO 15156 Compliance				No			
BASIS	9	Nozzle (Full, Semi)				Full Nozzle			
	10	Design Type	Safety, Relief, Safety-Relief			Safety			
	11		Conventional, bellows, Pilot Op.			Conventional			
PROCESS CONDITIONS	12	Bonnet Type				Closed			
	13	Fluid				Phase			
	14	Requir				kg/h			
	15	Molec				0.17 kg/m3			
	16	Oper.				bar-g			
	17	Oper.				°C			
	18					bar-g			
	19	Back				bar-g			
	20					bar-g			
	21	% Allc							
	22	Over f							
	23	Comp							
	24	Latent							
	25	Ratio							
	26	Density							
SELECTION	27	Operating Pressure				13.26 psia			
	28	Barometric Pressure							
	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				116.23 (VTC)				
CONNECTIONS	35	Orifice Designation				D (VTC)			
	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			
	39	Seat and Disc				316 SS			
	40	Nozzle				316 SS			
	41	Guide and Rings				VTA			
	42	Spring				Cadmium plated carbon steel			
	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			
PURCHASE (will be finalized later)	49	Compliance Standard				N/A			
	50	Manufacturer				VTA			
	51	Model				VTA			

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D01

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-D01 ".

 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	تهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 36 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2271				D01
	2	Service				GAS				
	3	Line No.	Vessel No.			FLG-111-0011-AN07-2"-PT				-
	4	Pipe Class	P&ID No.			AN07				BK-GCS-PEDCO-120-PR-PI-0022_D04
	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				
PROCESS CONDITIONS	12	Bonnet Type				Closed				
	13	Fluid	State			GAS				Singel Phase
	14	Required Capacity				174.5				kg/h
	15	Molecular Mass	Sp. Gr. @ relief Tmp			20.05				kg/kmol
	16	Oper. Pressure	Set Pressure			4.90				9 bar-g
	17	Oper. Temperature	RelievingTemp.			36.78				/ 350.7 °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)				754.3				
	25	Ratio of Specific Heats(Cp/Cv)				1.24				
	26	Density @ flowing temprature				5.77				kg/m3
27	Operating Viscosity				0.011				cP	
28	Barometric Pressure				13.26				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				27.258 (VTC)				
	34	Required Area MM²				61.787 (VTC)				
	35	Orifice Designation				E (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet			1" in				2" in
	37	Rating & Facing :In	Outlet			#150 FLANGED RF				#150 FLANGED RF
MATERIALS (VTC)	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				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				
PURCHASE (will be finalized later)	50	Seat Leakage Test				Required				
	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-D01 ".

 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	تهیه کننده	رشته	نوع مدارک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01

شماره صفحه: 37 از 38

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2271B				
	2	Service			GAS				
	3	Line No.	Vessel No.		FLG-111-0009-AN07-2"-PT		-		
	4	Pipe Class	P&ID No.		AN07		BK-GCS-PEDCO-120-PR-PI-0022-D04		
	5	Discharge to			To FLARE		D01		
	6	Protect Equipment			-				
	7	Area Classification			Zone1, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance			Yes				
BASIS	9	Nozzle (Full, Semi)			Full Nozzle				
	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			174.5		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp		20.05		kg/kmol		0.12 kg/m3
	16	Oper. Pressure	Set Pressure		4.90		9		bar-g
	17	Oper. Temperature	RelievingTemp.		36.78		/		350.7 °C
	18	Back Pressure	Constant		3.2				bar-g
	Variable		0.0				bar-g		
	19	Total		3.2				bar-g	
	21	% Allowable Overpressure			21%				
	22	Over Pressure F							
	23	Compressibility							
	24	Latent Heat o							
SELECTION	25	Ratio of Spec							
	26	Density @ flo							
	27	Operating Vis							
	28	Barometric Pi							
	29	Design Code							
	30	Construction							
	31	Fire							
32	Basis of Sele								
33	Calculated Ar								
34	Required Area								
35	Orifice Design								
CONNECTIONS	36	Size: Inlet			in				
	37	Rating & Facing :In	Outlet		#150 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet			ASTM A216 GR. WCB				
	39	Seat and Disc			316 SS				
	40	Nozzle			316 SS				
	41	Guide and Rings			VTA				
	42	Spring			Cadmium plated carbon steel				
	43	Bellows			N/A				
OPTIONS	44								
	45								
	46	Cap: Screwed or Bolted			Screwed				
	47	Lever: Plain or Packed			N/A				
	48	Test Gage			Yes				
PURCHASE (will be finalized later)	49	With Rupture Disc			No				
	50	Compliance Standard			N/A				
	51	Manufacturer			VTA				
	52	Model			VTA				

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Notes: D01

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-D01 ".

 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:	شماره پروژه	پسته کاری	صادر کننده	تهیهات	رشته	بوع مدرک	سریال	نسخه	شماره صفحه: 38 از 38
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D01	

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2293				D01
	2	Service				GAS				
	3	Line No.	Vessel No.			TEG-111-0113-AN04-2"-PT		-		
	4	Pipe Class	P&ID No.			AN04		BK-GCS-PEDCO-120-PR-PI-0025_D04		
	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.			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			88.11 kg/kmol		3.03 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			0.0		bar-g		
	20		Total			0.0		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				5.77 kg/m3				
	27	Operating Viscosity				0.011 cP				
	28	Barometric Pressure				13.26 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			350.982 (VTC)				
	34	Required Area	MM²			427.226 (VTC)				
	35	Orifice Designation				H (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet			1 1/2" in		3" in		
	37	Rating & Facing :In	Outlet			#150 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				
	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-D01 ".