



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

تجهیزات

120

رشته

IN

نوع مدرک

DT

سریال

0009

نسخه

D03

شماره صفحه: 1 از 34

طرح نگهداشت و افزایش تولید 27 مخزن

DATA SHEETS FOR PRESSURE SAFETY RELIEF VALVES

نگهداشت و افزایش تولید میدان نفتی بینک

D03	OCT.2023	AFC	P.Hajisadeghi	M.Fakharian	S.Faramarzpour	
D02	SEP.2023	AFC	P.Hajisadeghi	M.Fakharian	A.M.Mohseni	
D01	OCT.2022	IFA	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D00	MAY.2022	IFC	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 1

CLIENT Doc. Number: F9Z-708930

status:

IDC: Inter-Discipline Check

IFC: Issued For Comment

IFA: Issued For Approval

AFD: Approved For Design

AFC: Approved For Construction

AFP: Approved For PURCHASE (will be finalized later)

AFQ: Approved For Quotation

IFI: Issued For Information

AB-R: As-Built for CLIENT Review

AB-A: As-Built -Approved



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سطح الارض

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DATA SHEETS FOR PRESSURE SAFETY RELIEF VALVES

شماره پیمان:

053 - 073 - 9184

پروژه

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25	X	X	X	X	
26	X	X	X	X	
27	X	X	X	X	
28	X	X	X	X	
29	X	X	X	X	
30	X	X	X	X	
31	X	X	X	X	
32	X	X	X	X	
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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE SAFETY RELIEF VALVES

شماره پیمان:

053 - 073 - 9184

پروژه

پسته کاری

صادر کننده

تجهیزات

رشته

نوع مدرک

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REFERENCE DOCUMENTS :

Specification For Instrumentation

Process Basis Of Design

Specification For Painting

Piping Material Specification

Specification For Pressure Safety Valves(PSV)

Instrument & Control System Design Criteria

Symbol & Legend For PFD and P&ID

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

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

P&ID - Slug Catcher System

P&ID - Gas Compression Inlet Knock Out Drum

P&ID - 1st Stage Gas Compression Suction Drums

P&ID - 1st Stage Gas Compression Compressors

P&ID - 1st Stage Gas Compression Air Coolers

P&ID - 2nd Stage Gas Compression Suction Drums

P&ID - 2nd Stage Gas Compression Compressors

P&ID - 2nd Stage Gas Compression Air Coolers

P&ID - 2nd Stage Gas Compression Discharge Drum

P&ID - Gas Compression Dehydration Package

P&ID - Lean Glycol Storage Tank

P&ID - Instrument & Plant Air System

P&ID - Nitrogen Generation System

P&ID - Close Drain System

P&ID - Corrosion Inhibitor Package

P&ID - Methanol Injection Package

P&ID - LP Flare System

P&ID - Oily Water Sewer

P&ID - Fuel Gas System

P&ID - Diesel Oil System

P&ID - Potable Water System

P&ID - Glycol Sump Drum

P&ID - Fire Water Network

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



DATA SHEETS FOR PRESSURE SAFETY RELIEF VALVES

شماره پیمان:

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نسخه	سریال	نوع مدرک	رشته	تهیهات	صادر کننده	پسته کاری	پروژه
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GENERAL NOTES:

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

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

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

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

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

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

6- Gasket material shall be suitable for the application.

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

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

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

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

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

Relative Humidity:

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

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

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

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

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

15- Balanced bellows valves shall have open bonnet construction.

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

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

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

"BK-GNRL-PEDCO-000-PI-SP-0006", (Paint system 2-A as per table 2 of reference specification is required).

D03

 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: 5 از 34
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PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2111		D03		
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0013-AN07-8"-PT		V-2104		
	4	Pipe Class / C.A.	P&ID No.		AN07 / 6mm		BK-GCS-PEDCO-120-PR-PI-0004-D07 (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			37247.20		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp		48.1 kg/kmol		1.659 kg/m3		
	16	Oper. Pressure	Set Pressure		5.3 / 9		bar-g		
	17	Oper. Temperature	RelievingTemp.		32 / 284		°C		
	18	Back Pressure	Constant		-		bar-g		
	19		Variable		3.4		bar-g		
	20		Total		3.4		bar-g		
	21	% Allowable Overpressure			21%				
	22	Over Pressure Factor			1.21				
	23	Compressibility Factor(Z)			0.95				
	24	Latent Heat of Vaporization (Kj/Kg)			427.9				
	25	Ratio of Specific Heats(Cp/Cv)			1.223				
	26	Density @ flowing temprature			8.355 kg/m3				
	27	Operating Viscosity			0.0108 cP				
28	Barometric Pressure			13.26 ~ 14.37 psia					
SELECTION	29	Design Code	Sizing Basis		API 520				
	30	Construction Code			API 520				
	31	Fire			YES				
	32	Basis of Selection			FIRE				
	33	Calculated Area			4134(VTC)				
	34	Required Area			8742 (VTC)				
CONNECTIONS	35	Orifice Designation			Q (VTC)				
	36	Size: Inlet			in		8" in		
MATERIALS (VTC)	37	Rating & Facing :In			#300 FLANGED RF		#150 FLANGED RF		
	38	Body and Bonnet			A216 GR. WCB (VTC)				
	39	Seat and Disc (Trim)			PTFE (VTC)				
	40	Nozzle			(VTC)				
	41	Guide and Rings			VTA				
	42	Spring			ASTM A216 GR. WCB (VTC)(Note2)				
OPTIONS	43	Bellows			SS316+PTFE (VTC)				
	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	Hydro Test			Required				
	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-D03 ".

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

 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: 6 از 34
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PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2112				D03
	2	Service				GAS				
	3	Line No.	Vessel No.			GAS-111-0014-AN07-8"-PT		V-2104		
	4	Pipe Class / C.A.	P&ID No.			AN07 / 6mm		BK-GCS-PEDCO-120-PR-PI-0004-D07 (1 of 2)		
	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				37247.20		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp			48.1 kg/kmol		1.659 kg/m3		
	16	Oper. Pressure	Set Pressure			5.3 /		9 bar-g		
	17	Oper. Temperature	RelievingTemp.			32 /		284 °C		
	18	Back Pressure	Constant			-		bar-g		
	19		Variable			3.4		bar-g		
	20		Total			3.4		bar-g		
	21	% Allowable Overpressure				21%				
	22	Over Pressure Factor				1.21				
	23	Compressibility Factor(Z)				0.95				
	24	Latent Heat of Vaporization (Kj/Kg)				427.9				
	25	Ratio of Specific Heats(Cp/Cv)				1.223				
	26	Density @ flowing temprature				8.355 kg/m3				
27	Operating Viscosity				0.0108 cP					
28	Barometric Pressure				13.26 ~ 14.37 psia					
SELECTION	29	Design Code	S							
	30	Construction Code				API 520				
	31	Fire				YES				
	32	Basis of Selection				FIRE				
	33	Calculated Area				4134(VTC)				
	34	Required Area				8742 (VTC)				
	35	Orifice Designation				Q (VTC)				
CONNECTIONS	36	Size: Inlet	O			6" in		8" in		
	37	Rating & Facing :In	O			#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet				A216 GR. WCB (VTC)				
	39	Seat and Disc				5+PTFE (VTC)				
	40	Nozzle				SS316 (VTC)				
	41	Guide and Rings				VTA				
	42	Spring				ASTM A216 GR. WCB (VTC) (Note2)				
OPTIONS	43	Bellows				SS316+PTFE (VTC)				
	44									
	45	Cap: Screwed or Bolted				Screwed				
	46	Lever: Plain or Packed				N/A				
PURCHASE (will be finalized later)	47	Test Gage				Yes				
	48	With Rupture Disc				No				
	49	Hydro Test				Required				
	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-D03 ".

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

 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	بسته کاری	صادر کننده	تهیه کننده	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 7 از 34
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PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number				PSV-2113		D03	
	2	Service				GAS			
	3	Line No.	Vessel No.		GAS-111-0021-AN07-6"-PT		V-2105		
	4	Pipe Class / C.A.	P&ID No.		AN07 / 6mm		BK-GCS-PEDCO-120-PR-PI-0005_D07		
	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				
	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		0.846 kg/m3		
	16	Oper. Pressure	Set Pressure		5.1 / 9		bar-g		
	17	Oper. Temperature	Relieving Temp.		36.92 / 36.92		°C		
	18	Back Pressure	Constant		-		bar-g		
	Variable		1.2		bar-g				
	Total		1.2		bar-g				
	21	% Allowable Overpressure				10%			
	22	Over Pressure Factor				1.10			
	23	Compressibility Factor(Z)				0.954			
	24	Latent Heat of Vaporization (Kj/Kg)				-			
	25	Ratio of Specific Heats(Cp/Cv)				1.246			
	26	Density @ flowing temprature		5.970		kg/m3			
	27	Operating Viscosity		0.011		cP			
	28	Barometric Pressure		13.26 ~ 14.37		psia			
SELECTION	29	Design Code	Sizing Basis		API 520		-		
	30	Construction Code		API 520					
	31	Fire		NO					
	32	Basis of Selection		Blocked Outlet					
	33	Calculated Area	MM		2240.6 (VTC)				
	34	Required Area	MM		3421 (VTC)				
	35	Orifice Designation		N (VTC)					
CONNECTIONS	36	Size: Inlet	Outlet		in		6" in		
	37	Rating & Facing :In	Outlet		#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet		GR. WCB (VTC)					
	39	Seat and Disc		E (VTC)					
	40	Nozzle		E (VTC)					
	41	Guide and Rings		E (VTC)					
	42	Spring		GR. WCB (VTC) (Note2)					
	43	Bellows		E (VTC)					
	44								
OPTIONS	45	Cap: Screwed or Bolted		Screwed					
	46	Lever: Plain or Packed		N/A					
	47	Test Gage		Yes					
	48	With Rupture Disc		No					
	49	Hydro Test		Required					
	50	Seat Leakage Test		Required					
	51	Compliance Standard		N/A					
PURCHASE (will be finalized later)	52	Manufacturer		Will Be Finalized Later					
	53	Model		Will Be Finalized Later					
	54	Serial No.		Will Be Finalized Later					

Notes:

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

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D03 ".

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

 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
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PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number				PSV-2114			
	2	Service				GAS			
	3	Line No.	Vessel No.			GAS-111-0022-AN07-6"-PT		V-2105	
	4	Pipe Class / C.A.	P&ID No.			AN07 / 6mm		BK-GCS-PEDCO-120-PR-PI-0005_D07	
	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				17833.1		kg/h	
	15	Molecular Mass	Sp. Gr. @ relief Tmp			24.55		kg/kmol	
	16	Oper. Pressure	Set Pressure			5.1		bar-g	
	17	Oper. Temperature	RelievingTemp.			36.92		°C	
	18	Back Pressure	Constant			-		bar-g	
	19		Variable			1.2		bar-g	
	20		Total			1.2		bar-g	
	21	% Allowable Overpressure				10%			
	22	Over Pressure Factor				1.10			
	23	Compressibility Factor(Z)				0.954			
	24	Latent Heat of Vaporization (Kj/Kg)				-			
	25	Ratio of Specific Heats(Cp/Cv)				1.246			
	26	Density @ flowing temprature				5.970		kg/m3	
	27	Operating Viscosity				0.011		cP	
	28	Barometric Pressure				13.26 ~ 14.37		psia	
SELECTION	29	Design Code	Sizin						
	30	Construction Code				API 520			
	31	Fire				NO			
	32	Basis of Selection				Blocked Outlet			
	33	Calculated Area				2240.6 (VTC)			
	34	Required Area				3421 (VTC)			
CONNECTIONS	35	Orifice Designation				N (VTC)			
	36	Size: Inlet	Outlet			in		6" in	
MATERIALS (VTC)	37	Rating & Facing :In	Outlet			#300 FLANGED RF		#150 FLANGED RF	
	38	Body and Bonnet				16 GR. WCB (VTC)			
	39	Seat and Disc				TFE (VTC)			
	40	Nozzle				TC			
	41	Guide and Rings							
	42	Spring				ASTM A216 GR. WCB (VTC) (Note2)			
OPTIONS	43	Bellows				SS316+PTFE (VTC)			
	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	Hydro Test				Required			
	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-D03".

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

 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
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03
شماره صفحه: 9 از 34								

GENERAL	1	Tag Number	PSV-2121A		D03
	2	Service	GAS		
	3	Line No.	Vessel I	29A/CN07-2"-PT	V-2101A
	4	Pipe Class / C.A.	P&ID No	BK-GCS-PEDCO-120-PR-PI-0006_D07 (1 OF 3)	
	5	Discharge to			
	6	Protect Equipment			
	7	Area Classification			
	8	NACE MR0175/ISO 15156 Compliance			
	9	Nozzle (Full, Semi)			
BASIS	10	Design Type	Safety, Relief, Safety-Relief	Safety	
	11		Conventional, bellows, Pilot Op.	Bellows	
	12	Bonnet Type	Closed		
PROCESS CONDITIONS	13	Fluid	State	GAS	Singel Phase
	14	Required Capacity	2166.00		kg/h
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.55	kg/kmol
	16	Oper. Pressure	Set Pressure	4.9	bar-g
	17	Oper. Temperature	Relieving Temp.	60	°C
	18		Constant	-	bar-g
	19	Back Pressure	Variable	0.5	bar-g
	20		Total	0.5	bar-g
	21	% Allowable Overpressure	10%		
	22	Over Pressure Factor	1.10		
	23	Compressibility Factor(Z)	0.822		
	24	Latent Heat of Vaporization (Kj/Kg)	-		
	25	Ratio of Specific Heats(Cp/Cv)	1.457		
	26	Density @ flowing temprature	5.770	kg/m3	
	SELECTION	27	Operating Viscosity	0.11	cP
28		Barometric Pressure	16 ~ 14.37	psia	
29		Design Code	Sizing	-	
30		Construction Code	API 520		
31		Fire	YES		
32		Basis of Selection	Control Valve Failure		
33		Calculated Area	107.25 (VTC)		
CONNECTIONS	34	Required Area	153.938 (VTC)		
	35	Orifice Designation	E (VTC)		
	36	Size: Inlet	Outlet	in	2" in
MATERIALS (VTC)	37	Rating & Facing :In	Outlet	#300 FLANGED RF	#150 FLANGED RF
	38	Body and Bonnet	5 GR. WCB (VTC)		
	39	Seat and Disc	FE (VTC)		
	40	Nozzle	C		
	41	Guide and Rings	VTA		
	42	Spring	ASTM A216 GR. WCB (VTC) (Note2)		
OPTIONS	43	Bellows	SS316+PTFE (VTC)		
	44				
	45	Cap: Screwed or Bolted	Screwed		
	46	Lever: Plain or Packed	N/A		
	47	Test Gage	Yes		
PURCHASE (will be finalized later)	48	With Rupture Disc	No		
	49	Hydro Test	Required		
	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-D03 ".

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

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک				 	
شماره پیمان: 053 - 073 - 9184		پروژه: BK	بسته کاری: GCS	DATA	F VALVES	نسخه: D03	شماره صفحه: 10 از 34

GENERAL	1	Tag Number		PSV-2121B		D03
	2	Service		GAS		
	3	Line No.	Vessel No.	GAS-111-0029B-CN07.2"-PT	V-2101B	
	4	Pipe Class / C.A.	P&ID No.	AN07 / 6mm	BK-GCS-PEDCO-120-PR-PI-0006_D07 (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		2166.00	kg/h	
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.55	kg/kmol	0.847 kg/m3
	16	Oper. Pressure	Set Pressure	4.9	bar-g	22
	17	Oper. Temperature	RelievingTemp.	60	°C	60
	18	Back Pressure	Constant	-	bar-g	
	19		Variable	0.5	bar-g	
	20		Total	0.5	bar-g	
	21	% Allowable Overpressure		10%		
	22	Over Pressure Factor		1.10		
	23	Compressibility Factor(Z)		0.822		
	24	Latent Heat of Vaporization (Kj/Kg)		-		
	25	Ratio of Specific Heats(Cp/Cv)		1.457		
	26	Density @ flowing temprature		5.70	kg/m3	
27	Operating Viscosity		11	cP		
28	Barometric Pressure		6 ~ 14.37	psia		
SELECTION	29	Design Code	Sizing			
	30	Construction Code		API 520		
	31	Fire		YES		
	32	Basis of Selection		Control Valve Failiure		
	33	Calculated Area	M	107.25	(VTC)	
	34	Required Area	M	153.938	(VTC)	
	35	Orifice Designation		E (VTC)		
CONNECTIONS	36	Size: Inlet	Outlet	in	2" in	
	37	Rating & Facing :In	Outlet	#300 FLANGED RF	#150 FLANGED RF	
MATERIALS (VTC)	38	Body and Bonnet		GR. WCB (VTC)		
	39	Seat and Disc		FE (VTC)		
	40	Nozzle		C		
	41	Guide and Rings		VTA		
	42	Spring		ASTM A216 GR. WCB (VTC) (Note2)		
	43	Bellows		SS316+PTFE (VTC)		
OPTIONS	44					
	45	Cap: Screwed or Bolted		Screwed		
	46	Lever: Plain or Packed		N/A		
	47	Test Gage		Yes		
	48	With Rupture Disc		No		
	49	Hydro Test		Required		
	50	Seat Leakage Test		Required		
	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-D03 ".
 2- Suitable coating such as cadmiun plated shall be considered (vendor to advise)

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض				 	
	با PID تناقض دارد. PID بطور مطابق اصلاح گردد. پاسخ هیرگان: اصلاح گردید.				احداث ردیف RELIEF VALVES	
شماره پیمان: 053 - 073 - 9184	پروژه: BK	کاری: GCS	نسخه: 0009	شماره صفحه: 11 از 34		

PRESSURE SAFETY VALVE							
GENERAL	1	Tag Number	PSV-2121C				
	2	Service	GAS				
	3	Line No.	Vessel No.	GAS-111-0029C CN07 2"-PT			
	4	Pipe Class / C.A.	P&ID No.	AN07 / 6mm			
	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			
	Conventional, bellows, Pilot Op.		Bellows				
PROCESS CONDITIONS	12	Bonnet Type	Closed				
	13	Fluid	State	GAS Singel Phase			
	14	Required Capacity	2166.00		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.55	kg/kmol	0.847	
	16	Oper. Pressure	Set Pressure	4.9	/	22 bar-g	
	17	Oper. Temperature	Relieving Temp.	60	/	60 °C	
	18	Back Pressure	Constant	-	bar-g		
	19		Variable	0.5	bar-g		
	20		Total	0.5	bar-g		
	21	% Allowable Overpressure	10%				
	22	Over Pressure Factor	1.10				
	23	Compressibility Factor(Z)	0.822				
	24	Latent Heat of Vaporization (Kj/Kg)	-				
	25	Ratio of Specific Heats(Cp/Cv)	1.457				
	26	Density @ flowing temprature	5.770	kg/m3			
	27	Operating Viscosity	0.011	cP			
	28	Barometric Pressure	3.26 ~ 14.37		psia		
SELECTION	29	Design Code	Size				
	30	Construction Code	API 520				
	31	Fire	YES				
	32	Basis of Selection	Control Valve Failure				
	33	Calculated Area	107.25 (VTC)				
	34	Required Area	153.938 (VTC)				
	35	Orifice Designation	E (VTC)				
CONNECTIONS	36	Size: Inlet	Out				
	37	Rating & Facing :In	Out				
MATERIALS (VTC)	38	Body and Bonnet	216 GR. WCB (VTC)				
	39	Seat and Disc	PTFE (VTC)				
	40	Nozzle	VTC				
	41	Guide and Rings					
	42	Spring	ASTM A216 GR. WCB (VTC) (Note2)				
	43	Bellows	SS316+PTFE (VTC)				
OPTIONS	44						
	45	Cap: Screwed or Bolted	Screwed				
	46	Lever: Plain or Packed	N/A				
	47	Test Gage	Yes				
	48	With Rupture Disc	No				
	49	Hydro Test	Required				
	50	Seat Leakage Test	Required				
PURCHASE (will be finalized later)	51	Compliance Standard	N/A				
	52	Manufacturer	Will Be Finalized Later				
	53	Model	Will Be Finalized Later				
	54	Serial No.	Will Be Finalized Later				

Notes:

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

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D03 ".

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

 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	D03
								شماره صفحه: 12 از 34

PRESSURE SAFETY VALVE						
GENERAL	1	Tag Number			PSV-2122A	
	2	Service			GAS	
	3	Line No.	Vessel No.		GAS-111-0032A-CN05-3"-PT	
	4	Pipe Class / C.A.	P&ID No.		CN05 / 3mm	
	5	Discharge to			To FLARE	
	6	Protect Equipment			-	
	7	Area Clacification			Zone 2, IIB T4	
	8	NACE MR0175/ISO 15156 Compliance			YES	
BASIS	9	Nozzle (Full, Semi)			Full Nozzle, Spring Loaded Type	
	10	Design Type	Safety, Relief, Safety-Relief		Safety	
	11		Conventional, bellows, Pilot Op.		Conventional	
	12	Bonnet Type			Closed	
PROCESS CONDITIONS	13	Fluid	State		GAS	
	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	RelievingTemp.		124.8 °C	
	18	Back Pressure	Constant		bar-g	
	19		Variable		0.9 bar-g	
	20		Total		0.9 bar-g	
	21	% Allowable Overpressure			10%	
	22	Over Pressure Factor			1.10	
	23	Compressibility Factor(Z)			0.964	
	24	Latent Heat of Vaporization (Kj/Kg)			693.3	
	25	Ratio of Specific Heats(Cp/Cv)			1.225	
	26	Density @ flowing temprature			15.3 kg/m3	
	27	Operating Viscosity			0.015 cP	
	28	Barometric Pressure			13.26 ~ 14.37 psia	
SELECTION	29	Design Code	Sizing Basis		API 520	
	30	Construction Code			API 520	
	31	Fire			NO	
	32	Basis of Selection			Blocked Outlet	
	33	Calculated Area	MM²		539.85 (VTC)	
	34	Required Area	MM²		1017(VTC)	
	35	Orifice Designation			J (VTC)	
CONNECTIONS	36	Size: Inlet	Outlet		2" in	
	37	Rating & Facing :In	Outlet		#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) (Note2)	
	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-D03 "

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

 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
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03
								شماره صفحه: 13 از 34

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2122B				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0032B-CN05-3"-PT		-		
	4	Pipe Class / C.A.	P&ID No.		CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0007_D07 (2 OF 3)		
	5	Discharge to			To FLARE				
	6	Protect Equipment			-				
	7	Area Clacification			Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance			YES				
BASIS	9	Nozzle (Full, Semi)			Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	11		Conventional, bellows, Pilot Op.		Conventional				
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		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure		19 / 22		bar-g		
	17	Oper. Temperature	RelievingTemp.		124.8 / 124.8		°C		
	18	Back Pressure	Constant		-		bar-g		
	19		Variable		0.9		bar-g		
	20		Total		0.9		bar-g		
	21	% Allowable Overpressure			10%				
	22	Over Pressure Factor			1.10				
	23	Compressibility Factor(Z)			0.964				
	24	Latent Heat of Vaporization (Kj/Kg)			693.3				
	25	Ratio of Specific Heats(Cp/Cv)			1.225				
	26	Density @ flowing temprature			kg/m3				
27	Operating Viscosity			cP					
28	Barometric Pressure			~ 14.37		psia			
SELECTION	29	Design Code	Sizing Basis						
	30	Construction Code			API 520				
	31	Fire			NO				
	32	Basis of Selection			Blocked Outlet				
	33	Calculated Area	MM²		539.85 (VTC)				
	34	Required Area	MM²		1017(VTC)				
CONNECTIONS	35	Orifice Designation			J (VTC)				
	36	Size: Inlet	Outlet		2" in		3" in		
MATERIALS (VTC)	37	Rating & Facing :In	Outlet		#300 FLANGED RF		#150 FLANGED RF		
	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) (Note2)				
	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-D03 "

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

 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	D03
								شماره صفحه: 14 از 34

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2122C				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0032C-CN05-3"-PT		-		
	4	Pipe Class / C.A.	P&ID No.		CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0007_D07 (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, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	Conventional, bellows, Pilot Op.		Conventional						
	12	Bonnet Type			Closed				
PROCESS CONDITIONS	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity			8664		kg/h		
	15	Molecular Mass	Sp. Gr. @ relief Tmp		24.52 kg/kmol		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure		19		22 bar-g		
	17	Oper. Temperature	Relieving Temp.		124.8		124.8 °C		
	18	Back Pressure	Constant				bar-g		
	Variable				bar-g				
	Total		0.9		bar-g				
	21	% Allowable Overpressure			10%				
	22	Over Pressure Factor			1.10				
	23	Compressibility Factor(Z)			0.964				
	24	Latent Heat of Vaporization (Kj/Kg)			693.3				
	25	Ratio of Specific Heats(Cp/Cv)			1.225				
	26	Density @ flowing temprature			15.38		kg/m3		
27	Operating Viscosity			0.015		cP			
28	Barometric Pressure			13.26 ~ 14.37		psia			
SELECTION	29	Design Code	Sizing Basis		API 520				
	30	Construction Code			API 520				
	31	Fire			NO				
	32	Basis of Selection			Blocked Outlet				
	33	Calculated Area MM²			539.85 (VTC)				
	34	Required Area MM²			1017(VTC)				
CONNECTIONS	35	Orifice Designation			J (VTC)				
	36	Size: Inlet	Outlet		2" in		3" in		
MATERIALS (VTC)	37	Rating & Facing :In	Outlet		#300 FLANGED RF		#150 FLANGED RF		
	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) (Note2)				
	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-D03".

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

 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: 15 از 34
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2123A				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0033A-CN05-3"-PT		-		
	4	Pipe Class / C.A.	P&ID No.		CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0007_D07(1 OF 3)		
	5	Discharge to			To FLARE				
	6	Protect Equipment			-				
	7	Area Clacification			Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance			YES				
BASIS	9	Nozzle (Full, Semi)			Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	11		Conventional, bellows, Pilot Op.		Conventional				
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		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure		19		22 bar-g		
	17	Oper. Temperature	RelievingTemp.		124.8		124.8 °C		
	18	Back Pressure	Constant				bar-g		
	19		Variable				bar-g		
	20		Total		0.9		bar-g		
	21	% Allowable Overpressure			10%				
	22	Over Pressure Factor			1.10				
	23	Compressibility Factor(Z)			0.964				
	24	Latent Heat of Vaporization (Kj/Kg)			693.3				
	25	Ratio of Specific Heats(Cp/Cv)			1.225				
	26	Density @ flowing temprature					kg/m3		
27	Operating Viscosity					cP			
28	Barometric Pressure			13.26 ~ 14.37		psia			
SELECTION	29	Design Code	Sizing Basis		API 520		-		
	30	Construction Code			API 520				
	31	Fire			NO				
	32	Basis of Selection			Blocked Outlet				
	33	Calculated Area MM²			539.85 (VTC)				
	34	Required Area MM²			1017(VTC)				
CONNECTIONS	35	Orifice Designation			J (VTC)				
	36	Size: Inlet	Outlet		2" in		3" in		
MATERIALS (VTC)	37	Rating & Facing :In	Outlet		#300 FLANGED RF		#150 FLANGED RF		
	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) (Note2)				
	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-D03".

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

 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	ایستگاه کاری	صادر کننده	تهیه کننده	رشته	نوع مدارک	سریال	نسخه	شماره صفحه: 16 از 34
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2123B				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0033B-CN05-3"-PT		-		
	4	Pipe Class / C.A.	P&ID No.		CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0007_D07 (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, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	11		Conventional, bellows, Pilot Op.		Conventional				
PROCESS CONDITIONS	12	Bonnet Type			Closed				
	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity			8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp		24.52 kg/kmol		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure		19		22 bar-g		
	17	Oper. Temperature	Relieving Temp.		124.8		124.8 °C		
	18	Back Pressure	Constant				bar-g		
	19		Variable				bar-g		
	20		Total				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			15.3		kg/m3		
27	Operating Viscosity			0.015		cP			
28	Barometric Pressure			13.26 ~ 14.37		psia			
SELECTION	29	Design Code	Sizing Basis		API 520		-		
	30	Construction Code			API 520				
	31	Fire			NO				
	32	Basis of Selection			Blocked Outlet				
	33	Calculated Area			MM²		539.85 (VTC)		
	34	Required Area			MM²		1017(VTC)		
CONNECTIONS	35	Orifice Designation			J (VTC)				
	36	Size: Inlet	Outlet		2" in		3" in		
MATERIALS (VTC)	37	Rating & Facing :In	Outlet		#300 FLANGEDRF		#150 FLANGED RF		
	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) (Note2)				
	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-D03 ".

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

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 	
	DATA SHEETS FOR PRESSURE SAFETY RELIEF VALVES								
شماره پیمان: 053 - 073 - 9184	پروژه: BK	بسته کاری: GCS	صادر کننده: PEDCO	تسهيلات: 120	رشته: IN	نوع مدرک: DT	سریال: 0009	نسخه: D03	شماره صفحه: 17 از 34

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2123C				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0033C-CN05-3"-PT		-		
	4	Pipe Class / C.A.	P&ID No.		CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0007_D07 (3 OF 3)		
	5	Discharge to			To FLARE				
	6	Protect Equipment			-				
	7	Area Clacification			Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance			YES				
BASIS	9	Nozzle (Full, Semi)			Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	11		Conventional, bellows, Pilot Op.		Conventional				
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		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure		19		22 bar-g		
	17	Oper. Temperature	RelievingTemp.		124.8		124.8 °C		
	18	Back Pressure	Constant				bar-g		
	19		Variable		9		bar-g		
	20		Total		0.9		bar-g		
	21	% Allowable Overpressure			10%				
	22	Over Pressure Factor			1.10				
	23	Compressibility Factor(Z)			0.964				
	24	Latent Heat of Vaporization (Kj/Kg)			693.3				
	25	Ratio of Specific Heats(Cp/Cv)			1.225				
	26	Density @ flowing temprature			15		kg/m3		
	27	Operating Viscosity			0.015		cP		
28	Barometric Pressure			13.26 ~ 14.37		psia			
SELECTION	29	Design Code	Sizing Basis		API 520		-		
	30	Construction Code			API 520				
	31	Fire			NO				
	32	Basis of Selection			Blocked Outlet				
	33	Calculated Area	MM²		539.85 (VTC)				
	34	Required Area	MM²		1017(VTC)				
CONNECTIONS	35	Orifice Designation			J (VTC)				
	36	Size: Inlet	Outlet		2" in		3" in		
MATERIALS (VTC)	37	Rating & Facing :In	Outlet		#300 FLANGED RF		#150 FLANGED RF		
	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) (Note2)				
	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-D03 "

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

 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: 18 از 34
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2131A				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0042A-CN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.		CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0009_D07 (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				
	Conventional, bellows, Pilot Op.		Bellows						
	12	Bonnet Type			Closed				
PROCESS CONDITIONS	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity			982.27		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp		24.52		kg/kmol		0.85
	16	Oper. Pressure	Set Pressure		18.1		/		22
	17	Oper. Temperature	RelievingTemp.		60		/		208
	18	Back Pressure	Constant		-		bar-g		
	19		Variable		3.4		bar-g		
	20		Total		3.4		bar-g		
	21	% Allowable Overpressure			21%				
	22	Over Pressure Factor			1.21				
	23	Compressibility Factor(Z)			0.936				
	24	Latent Heat of Vaporization (Kj/Kg)			-				
	25	Ratio of Specific Heats(Cp/Cv)			1.278				
	26	Density @ flowing temprature			18.08		kg/m3		
	27	Operating Viscosity			0.013		cP		
	28	Barometric Pressure			13.26 - 14.37		psia		
SELECTION	29	Design Code	Sizing Basis		API 520		-		
	30	Construction Code			API 520				
	31	Fire			YES				
	32	Basis of Selection			FIRE				
	33	Calculated Area	MM²		59.62 (VTC)				
	34	Required Area	MM²		153.93 (VTC)				
	35	Orifice Designation			D (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet		1" in		2" in		
	37	Rating & Facing :In	Outlet		#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet			ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc			SS316+RPTFE (VTC)				
	40	Nozzle			316 SS				
	41	Guide and Rings			VTA				
	42	Spring			ASTM A216 GR. WCB (VTC) (Note2)				
	43	Bellows			SS316+PTFE (VTC)				
	44								
OPTIONS	45	Cap: Screwed or Bolted			Screwed				
	46	Lever: Plain or Packed			N/A				
	47	Test Gage			Yes				
	48	With Rupture Disc			No				
	49	Hydro Test			Required				
	50	Seat Leakage Test			Required				
	51	Compliance Standard			N/A				
PURCHASE (will be finalized later)	52	Manufacturer			Will Be Finalized Later				
	53	Model			Will Be Finalized Later				
	54	Serial No.			Will Be Finalized Later				

Notes:

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

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D03 ".

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

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 
	DATA SHEETS FOR PRESSURE SAFETY RELIEF VALVES							
شماره پیمان:	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03

شماره صفحه: 19 از 34

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2131B				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0042B-CN05-2"-PT			-	
	4	Pipe Class / C.A.	P&ID No.		CN05 / 3mm			BK-GCS-PEDCO-120-PR-PI-0009_D03 (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				
	Conventional, bellows, Pilot Op.		Bellows						
	12	Bonnet Type			Closed				
PROCESS CONDITIONS	13	Fluid	State		GAS			Singel Phase	
	14	Required Capacity			982.27			kg/h	
	15	Molecular Mass	Sp. Gr.@ relief Tmp		24.52 kg/kmol			0.85 kg/m3	
	16	Oper. Pressure	Set Pressure		18.1 /			22 bar-g	
	17	Oper. Temperature	RelievingTemp.		60 /			208 °C	
	18	Back Pressure	Constant		-			bar-g	
	Variable		3.4			bar-g			
	Total		3.4			bar-g			
	21	% Allowable Overpressure			21%				
	22	Over Pressure Factor			1.21				
	23	Compressibility Factor(Z)			0.936				
	24	Latent Heat of Vaporization (Kj/Kg)			-				
	25	Ratio of Specific Heats(Cp/Cv)			1.278				
	26	Density @ flowing temprature			18.08			kg/m3	
	27	Operating Viscosity			0.013			cP	
	28	Barometric Pressure			13.26 ~ 14.37			psia	
SELECTION	29	Design Code	Sizing Basis		API 520			-	
	30	Construction Code			API 520				
	31	Fire			YES				
	32	Basis of Selection			FIRE				
	33	Calculated Area	MM²		59.62 (VTC)				
	34	Required Area	MM²		153.93 (VTC)				
	35	Orifice Designation			D (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet		1" in			2" in	
	37	Rating & Facing :In	Outlet		#300 FLANGED RF			#150 FLANGED RF	
MATERIALS (VTC)	38	Body and Bonnet			ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc			SS316+RPTFE(VTC)				
	40	Nozzle			316 SS				
	41	Guide and Rings			VTA				
	42	Spring			ASTM A216 GR. WCB (VTC) (Note2)				
	43	Bellows			SS316+PTFE (VTC)				
	44								
OPTIONS	45	Cap: Screwed or Bolted			Screwed				
	46	Lever: Plain or Packed			N/A				
	47	Test Gage			Yes				
	48	With Rupture Disc			No				
	49	Hydro Test			Required				
	50	Seat Leakage Test			Required				
	51	Compliance Standard			N/A				
PURCHASE (will be finalized later)	52	Manufacturer			Will Be Finalized Later				
	53	Model			Will Be Finalized Later				
	54	Serial No.			Will Be Finalized Later				

Notes:

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

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D03 ".

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

 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: 20 از 34
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03	

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 / C.A.	P&ID No.		CN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0009_D06(3 OF 3)			
	5	Discharge to			To FLARE					
	6	Protect Equipment			-					
	7	Area Clacification			Zone 2, IIB T4					
	8	NACE MR0175/ISO 15156 Compliance			YES					
BASIS	9	Nozzle (Full, Semi)			Full Nozzle					
	10	Design Type	Safety, Relief, Safety-Relief		Safety					
	11		Conventional, bellows, Pilot Op.		Bellows					
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		0.85 kg/m3			
	16	Oper. Pressure	Set Pressure		18.1 / 22		bar-g			
	17	Oper. Temperature	RelievingTemp.		60 / 208		°C			
	18	Back Pressure	Constant		-		bar-g			
	19		Variable		3.4		bar-g			
	20		Total		3.4		bar-g			
	21	% Allowable Overpressure			21%					
	22	Over Pressure Factor			1.21					
	23	Compressibility Factor(Z)			0.936					
	24	Latent Heat of Vaporization (Kj/Kg)			-					
	25	Ratio of Specific Heats(Cp/Cv)			1.278					
	26	Density @ flowing temprature			18.80		kg/m3			
	27	Operating Viscosity			0.013		cP			
	28	Barometric Pressure			13.26 ~ 14.37		psia			
SELECTION	29	Design Code	Sizing Basis		API 520		-			
	30	Construction Code			API 520					
	31	Fire			YES					
	32	Basis of Selection			FIRE					
	33	Calculated Area	MM²		59.62 (VTC)					
	34	Required Area	MM²		153.93 (VTC)					
	35	Orifice Designation			D (VTC)					
CONNECTIONS	36	Size: Inlet	Outlet		1" in		2" in			
	37	Rating & Facing :In	Outlet		#300 FLANGED RF		#150 FLANGED RF			
MATERIALS (VTC)	38	Body and Bonnet			ASTM A216 GR. WCB (VTC)					
	39	Seat and Disc			SS316+RPTFE(VTC)					
	40	Nozzle			316 SS					
	41	Guide and Rings			VTA					
	42	Spring			ASTM A216 GR. WCB (VTC) (Note2)					
	43	Bellows			SS316+PTFE (VTC)					
	44									
OPTIONS	45	Cap: Screwed or Bolted			Screwed					
	46	Lever: Plain or Packed			N/A					
	47	Test Gage			Yes					
	48	With Rupture Disc			No					
	49	Hydro Test			Required					
	50	Seat Leakage Test			Required					
	51	Compliance Standard			N/A					
PURCHASE (will be finalized later)	52	Manufacturer			Will Be Finalized Later					
	53	Model			Will Be Finalized Later					
	54	Serial No.			Will Be Finalized Later					

Notes:

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

1- For material details refer to "Piping Material Specification Doc No." BK-GCS-PEDCO-120-PI-SP-0001-D03 ".

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

 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 34
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2137				
	2	Service			GA D03				
	3	Line No.	Vessel No.		GAS-111-0047A-FN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.		FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0010_D05 (1 OF 3)		
	5	Discharge to			To FLARE				
	6	Protect Equipment			-				
	7	Area Classification			Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance			YES				
BASIS	9	Nozzle (Full, Semi)			Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	11		Conventional, bellows, Pilot Op.		Conventional				
PROCESS CONDITIONS	12	Bonnet Type			Closed				
	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity			8664.0		kg/h		
	15	Molecular Mass	Sp. Gr. @ relief Tmp		24.52 kg/kmol		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure		54.80		62 bar-g		
	17	Oper. Temperature	Relieving Temp.		142.3		142.3 °C		
	18	Back Pressure	Constant				bar-g		
	19		Variable				bar-g		
	20		Total				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					kg/m3		
27	Operating Viscosity					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			193.67 (VTC)				
	34	Required Area MM²			397.60 (VTC)				
CONNECTIONS	35	Orifice Designation			G (VTC)				
	36	Size: Inlet	Outlet		1 1/2" in		3" in		
MATERIALS (VTC)	37	Rating & Facing :In	Outlet		#600 FLANGED RF		#150 FLANGED RF		
	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) (Note2)				
	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-D03 "

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

 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	D03
								شماره صفحه: 22 از 34

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2133A				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0048A-FN05-2"-PT		D03		
	4	Pipe Class / C.A.	P&ID No.		FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0010_D03 (1 OF 3)		
	5	Discharge to			To FLARE				
	6	Protect Equipment							
	7	Area Clacification			Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance			YES				
BASIS	9	Nozzle (Full, Semi)			Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	Conventional, bellows, Pilot Op.		Conventional						
	12	Bonnet Type			Closed				
PROCESS CONDITIONS	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity			8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp		24.52 kg/kmol		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure		54.80		62 bar-g		
	17	Oper. Temperature	RelievingTemp.		142.3		142.3 °C		
	18	Back Pressure	Constant				bar-g		
	Variable				bar-g				
	Total				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			0.01		kg/m3		
27	Operating Viscosity			0.01		cP			
28	Barometric Pressure			13.26 ~ 14.37		psia			
SELECTION	29	Design Code	Sizing Basis		API 520				
	30	Construction Code			API 520				
	31	Fire			NO				
	32	Basis of Selection			Blocked Outlet				
	33	Calculated Area MM²			193.67 (VTC)				
	34	Required Area MM²			397.60 (VTC)				
CONNECTIONS	35	Orifice Designation			G (VTC)				
	36	Size: Inlet	Outlet		1 1/2" in		3" in		
MATERIALS (VTC)	37	Rating & Facing :In	Outlet		#600 FLANGED RF		#150 FLANGED RF		
	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) (Note2)				
	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-D03 "

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

 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
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03
								شماره صفحه: 23 از 34

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 / C.A.	P&ID No.	FN05 / 3mm
	5	Discharge to		To FLARE
	6	Protect Equipment		-
	7	Area Clacification		Zone 2, IIB T4
	8	NACE MR0175/ISO 15156 Compliance		YES
BASIS	9	Nozzle (Full, Semi)		Full Nozzle, Spring Loaded Type
	10	Design Type	Safety, Relief, Safety-Relief	Safety
	Conventional, bellows, Pilot Op.		Conventional	
	12	Bonnet Type		Closed
PROCESS CONDITIONS	13	Fluid	State	GAS Singel Phase
	14	Required Capacity		8664.0 kg/h
	15	Molecular Mass	Sp. Gr.@ relief Tmp	24.52 kg/kmol 0.85 kg/m3
	16	Oper. Pressure	Set Pressure	62 bar-g
	17	Oper. Temperature	RelievingTemp.	142.3 °C
	18	Back Pressure	Constant	bar-g
	19		Variable	1.0 bar-g
	20		Total	1.0 bar-g
	21	% Allowable Overpressure		10%
	22	Over Pressure Factor		1.10
	23	Compressibility Factor(Z)		0.923
	24	Latent Heat of Vaporization (Kj/Kg)		566.7
	25	Ratio of Specific Heats(Cp/Cv)		1.28
	26	Density @ flowing temprature		54.06 kg/m3
	27	Operating Viscosity		0.017 cP
	28	Barometric Pressure		13.26 ~ 14.37 psia
SELECTION	29	Design Code	Sizing Basis	API 520
	30	Construction Code		API 520
	31	Fire		NO
	32	Basis of Selection		Blocked Outlet
	33	Calculated Area	MM²	193.67 (VTC)
	34	Required Area	MM²	397.60 (VTC)
	35	Orifice Designation		G (VTC)
CONNECTIONS	36	Size: Inlet	Outlet	1 1/2" in 3" in
	37	Rating & Facing :In	Outlet	#600 FLANGED RF #150 FLANGED RF
MATERIALS (VTC)	38	Body and Bonnet		ASTM A216 GR. WCB (VTC)
	39	Seat and Disc		SS316+RPTFE
	40	Nozzle		316 SS
	41	Guide and Rings		VTA
	42	Spring		ASTM A216 GR. WCB (VTC) (Note2)
	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-D03".

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

 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	D03
شماره صفحه: 24 از 34								

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 / C.A.	P&ID No.		FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0010_D03 (2 OF 3)		
	5	Discharge to			To FLARE				
	6	Protect Equipment			-				
	7	Area Clacification			Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance			YES				
BASIS	9	Nozzle (Full, Semi)			Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	Conventional, bellows, Pilot Op.		Conventional						
	12	Bonnet Type			Closed				
PROCESS CONDITIONS	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity			8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp		24.52 kg/kmol		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure		60		bar-g		
	17	Oper. Temperature	RelievingTemp.		142.3		°C		
	18	Back Pressure	Constant		-		bar-g		
	Variable		1.0		bar-g				
	Total		1.0		bar-g				
	21	% Allowable Overpressure			10%				
	22	Over Pressure Factor			1.10				
	23	Compressibility Factor(Z)			0.923				
	24	Latent Heat of Vaporization (Kj/Kg)			566.7				
	25	Ratio of Specific Heats(Cp/Cv)			1.28				
	26	Density @ flowing temprature			0.06		kg/m3		
27	Operating Viscosity			0.017		cP			
28	Barometric Pressure			13.26 ~ 14.37		psia			
SELECTION	29	Design Code	Sizing Basis		API 520		-		
	30	Construction Code			API 520				
	31	Fire			NO				
	32	Basis of Selection			Blocked Outlet				
	33	Calculated Area MM²			193.67 (VTC)				
	34	Required Area MM²			397.60 (VTC)				
CONNECTIONS	35	Orifice Designation			G (VTC)				
	36	Size: Inlet	Outlet		1 1/2" in		3" in		
MATERIALS (VTC)	37	Rating & Facing :In	Outlet		#600 FLANGED RF		#150 FLANGED RF		
	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) (Note2)				
	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-D03 "

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

 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	D03
شماره صفحه: 25 از 34									
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 / C.A.	P&ID No.		FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0010_D03 (3 OF 3)		
	5	Discharge to					To FLARE		
	6	Protect Equipment					-		
	7	Area Clacification					Zone 2, IIB T4		
	8	NACE MR0175/ISO 15156 Compliance					YES		
BASIS	9	Nozzle (Full, Semi)					Full Nozzle, Spring Loaded Type		
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	11		Conventional, bellows, Pilot Op.		Conventional				
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		0.85		kg/m3
	16	Oper. Pressure	Set Pressure		54.80		62		bar-g
	17	Oper. Temperature	RelievingTemp.		142.3		142.3		°C
	18	Back Pressure	Constant						bar-g
	19		Variable						bar-g
	20		Total						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					kg/m3		
27	Operating Viscosity					cP			
28	Barometric Pressure					13.2 - 14.37		psia	
SELECTION	29	Design Code	Sizing Basis		API 520				
	30	Construction Code		API 520					
	31	Fire		NO					
	32	Basis of Selection		Blocked Outlet					
	33	Calculated Area	MM²		193.67 (VTC)				
	34	Required Area	MM²		397.60 (VTC)				
CONNECTIONS	35	Orifice Designation					G (VTC)		
	36	Size: Inlet	Outlet		1 1/2" in		3" in		
MATERIALS (VTC)	37	Rating & Facing :In	Outlet		#600 FLANGED RF		#150 FLANGED RF		
	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) (Note2)		
	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-D03 ". 2- Suitable coating such as cadmiun plated shall be considered (vendor to advise)									

 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	D03
								شماره صفحه: 26 از 34

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2133C				
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0048C-FN05-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.		FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0010_D05 (3 OF 3)		
	5	Discharge to			To FLARE				
	6	Protect Equipment			-				
	7	Area Clacification			Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance			YES				
BASIS	9	Nozzle (Full, Semi)			Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	Conventional, bellows, Pilot Op.		Conventional						
	12	Bonnet Type			Closed				
PROCESS CONDITIONS	13	Fluid	State		GAS		Singel Phase		
	14	Required Capacity			8664.0		kg/h		
	15	Molecular Mass	Sp. Gr.@ relief Tmp		24.52 kg/kmol		0.85 kg/m3		
	16	Oper. Pressure	Set Pressure		54.80		62 bar-g		
	17	Oper. Temperature	RelievingTemp.		142.3		142.3 °C		
	18	Back Pressure	Constant				bar-g		
	Variable				bar-g				
	Total				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					kg/m3		
27	Operating Viscosity					cP			
28	Barometric Pressure			13.26 ~ 14.37		psia			
SELECTION	29	Design Code	Sizing Basis		API 520		-		
	30	Construction Code			API 520				
	31	Fire			NO				
	32	Basis of Selection			Blocked Outlet				
	33	Calculated Area MM²			193.67 (VTC)				
	34	Required Area MM²			397.60 (VTC)				
CONNECTIONS	35	Orifice Designation			G (VTC)				
	36	Size: Inlet	Outlet		1 1/2" in		3" in		
MATERIALS (VTC)	37	Rating & Facing :In	Outlet		#600 FLANGED RF		#150 FLANGED RF		
	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) (Note2)				
	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-D03".

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

 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 34
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03	

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2141			D03	
	2	Service			GAS				
	3	Line No.	Vessel No.		GAS-111-0060-FN05-3"-PT				
	4	Pipe Class / C.A.	P&ID No.		FN05 / 3mm			BK-GCS-PEDCO-120-PR-PI-0012 _D07	
	5	Discharge to			To FLARE				
	6	Protect Equipment							
	7	Area Classification			Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance			YES				
BASIS	9	Nozzle (Full, Semi)			Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	11		Conventional, bellows, Pilot Op.		Conventional				
PROCESS CONDITIONS	12	Bonnet Type			Closed				
	13	Fluid	State		GAS			Singel Phase	
	14	Required Capacity			17252.50			kg/h	
	15	Molecular Mass	Sp. Gr.@ relief Tmp		24.562 kg/kmol			0.85 kg/m3	
	16	Oper. Pressure	Set Pressure		53.9 / 62			bar-g	
	17	Oper. Temperature	RelievingTemp.		60 / 60			°C	
	18	Back Pressure	Constant		-			bar-g	
	19		Variable		1.0			bar-g	
	20		Total		1.0			bar-g	
	21	% Allowable Overpressure			10%				
	22	Over Pressure Factor			1.10				
	23	Compressibility Factor(Z)			0.823				
	24	Latent Heat of Vaporization (Kj/Kg)			-				
	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			13.26 ~ 14.37 psia					
SELECTION	29	Design Code	Sizing Basis		API 520				
	30	Construction Code			API 520				
	31	Fire			NO				
	32	Basis of Selection			Blocked Outlet				
	33	Calculated Area MM²			311 (VTC)				
	34	Required Area MM²			629.01 (VTC)				
	35	Orifice Designation			H (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet		2" in			3" in	
	37	Rating & Facing :In	Outlet		#600 FLANGEDRF			#150 FLANGEDRF	
MATERIALS (VTC)	38	Body and Bonnet			ASTM A216 GR. WCB (VTC)				
	39	Seat and Disc			SS316+RPTFE(VTC)				
	40	Nozzle			316 SS				
	41	Guide and Rings			VTA				
	42	Spring			ASTM A216 GR. WCB (VTC) (Note2)				
	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-D03 ".

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

 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
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03

شماره صفحه: 28 از 34

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number				PSV-2142			
	2	Service				GAS			
	3	Line No.	Vessel No.			GAS-111-0062-FN05-3"-PT		-	
	4	Pipe Class / C.A.	P&ID No.			FN05 / 3mm		BK-GCS-PEDCO-120-PR-PI-0012_D07	
	5	Discharge to				To FLARE			
	6	Protect Equipment				-			
	7	Area Clacification				Zone 2, IIB T4			
	8	NACE MR0175/ISO 15156 Compliance				YES			
BASIS	9	Nozzle (Full, Semi)				Full Nozzle, Spring Loaded Type			
	10	Design Type	Safety, Relief, Safety-Relief			Safety			
	11		Conventional, bellows, Pilot Op.			Conventional			
PROCESS CONDITIONS	12	Bonnet Type				Closed			
	13	Fluid	State			GAS		Singel Phase	
	14	Required Capacity				17252.50		kg/h	
	15	Molecular Mass	Sp. Gr.@ relief Tmp			24.562 kg/kmol		0.85 kg/m3	
	16	Oper. Pressure	Set Pressure			53.9 / 62		bar-g	
	17	Oper. Temperature	RelievingTemp.			60 / 60		°C	
	18	Back Pressure	Constant			-		bar-g	
	19		Variable			1.0		bar-g	
	20		Total			1.0		bar-g	
	21	% Allowable Overpressure				10%			
	22	Over Pressure Factor				1.10			
	23	Compressibility Factor(Z)				0.823			
	24	Latent Heat of Vaporization (Kj/Kg)				-			
	25	Ratio of Specific Heats(Cp/Cv)				1.461			
	26	Density @ flowing temprature				59.17 kg/m3		0.014 cP	
	27	Operating Viscosity				0.014		cP	
	28	Barometric Pressure				13.26 ~ 14.37		psia	
SELECTION	29	Design Code	Sizing Basis			API 520		-	
	30	Construction Code				API 520			
	31	Fire				NO			
	32	Basis of Selection				Blocked Outlet			
	33	Calculated Area MM²				311 (VTC)			
	34	Required Area MM²				629.01 (VTC)			
	35	Orifice Designation				H (VTC)			
CONNECTIONS	36	Size: Inlet	Outlet			2" in		3" in	
	37	Rating & Facing :In	Outlet			#600 FLANGEDRF		#150 FLANGEDRF	
MATERIALS (VTC)	38	Body and Bonnet				ASTM A216 GR. WCB (VTC)			
	39	Seat and Disc				SS316+RPTFE(VTC)			
	40	Nozzle				316 SS			
	41	Guide and Rings				VTA			
	42	Spring				ASTM A216 GR. WCB (VTC) (Note2)			
	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-D03 ".

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

 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	D03

شماره صفحه: 29 از 34

PRESSURE SAFETY VALVE									
GENERAL	1	Tag Number			PSV-2201			D03	
	2	Service			GAS				
	3	Line No.	Vessel No.		ISA-112-0009-AZ00-2"-NP				
	4	Pipe Class / C.A.	P&ID No.		AZ00 / 0mm			BK-GCS-PEDCO-120-PR-PI-0015_D07	
	5	Discharge to			To ATM				
	6	Protect Equipment							
	7	Area Clacification			Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance			No				
BASIS	9	Nozzle (Full, Semi)			Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety				
	11		Conventional, bellows, Pilot Op.		Conventional				
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			1.00 kg/m3	
	16	Oper. Pressure	Set Pressure		8.00			12.5 bar-g	
	17	Oper. Temperature	RelievingTemp.		65 /			323.4 °C	
	18	Back Pressure	Constant		-			bar-g	
	19		Variable		0.0			bar-g	
	20		Total		0.0			bar-g	
	21	% Allowable Overpressure			21%				
	22	Over Pressure Factor			1.21				
	23	Compressibility Factor(Z)			0.99				
	24	Latent Heat of Vaporization (Kj/Kg)			-				
	25	Ratio of Specific Heats(Cp/Cv)			1.42				
	26	Density @ flowing temprature			9.29 kg/m3				
	27	Operating Viscosity			0.021 cP				
28	Barometric Pressure			13.26 ~ 14.37 psia					
SELECTION	29	Design Code	Sizing Basis		API 520				
	30	Construction Code			API 520				
	31	Fire			Yes				
	32	Basis of Selection			FIRE				
	33	Calculated Area			113.24 (VTC)				
	34	Required Area			153.95 (VTC)				
CONNECTIONS	35	Orifice Designation			E (VTC)				
	36	Size: Inlet	O		in			2" in	
MATERIALS (VTC)	37	Rating & Facing :In	O		#300 FLANGED RF			#150 FLANGED RF	
	38	Body and Bonnet			148 UNS C95800				
	39	Seat and Disc			148 UNS C95800				
	40	Nozzle							
	41	Guide and Rings							
	42	Spring			216 GR. WCB (VTC) (Note2)				
OPTIONS	43	Bellows							
	44								
	45	Cap: Screwed or Bolted							
	46	Lever: Plain or Packed							
	47	Test Gage							
PURCHASE (will be finalized later)	48	With Rupture Disc			No				
	49	Hydro Test			Required				
	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-D03 ".

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

 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
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03

شماره صفحه: 30 از 34

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2211A				D03
	2	Service				GAS				
	3	Line No.	Vessel No.		NIT-112-0022-AN01-2"-PT		-			
	4	Pipe Class / C.A.	P&ID No.		AN01 / 1mm		BK-GCS-PEDCO-120-PR-PI-0016_D07			
	5	Discharge to				To ATM				
	6	Protect Equipment				-				
	7	Area Clacification				Zone 2, IIB T4				
	8	NACE MR0175/ISO 15156 Compliance				No				
BASIS	9	Nozzle (Full, Semi)				Full Nozzle, Spring Loaded Type				
	10	Design Type	Safety, Relief, Safety-Relief		Safety					
	11		Conventional, bellows, Pilot Op.		Conventional					
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)				-				
	25	Ratio of Specific Heats(Cp/Cv)				1.40				
	26	Density @ flowing temprature				9.12		kg/m3		
27	Operating Viscosity				0.030		cP			
28	Barometric Pressure				13.26 ~ 14.37		psia			
SELECTION	29	Design Code	Sizing Basis		API 520		-			
	30	Construction Code				API 520				
	31	Fire				Yes				
	32	Basis of Selection				FIRE				
	33	Calculated Area	MM²		54.241 (VTC)					
	34	Required Area	MM²		153.9 (VTC)					
	35	Orifice Designation				D (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet		1" in		2" in			
	37	Rating & Facing :In	Outlet		#300 FLANGED RF		#150 FLANGED RF			
MATERIALS (VTC)	38	Body and Bonnet				A216 Gr. WCB				
	39	Seat and Disc				13Cr+PTFE(VTC)				
	40	Nozzle				316 SS				
	41	Guide and Rings				VTA				
	42	Spring				ASTM A216 GR. WCB (VTC) (Note2)				
	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-D03 ".

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

 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
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03
شماره صفحه: 31 از 34								

PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number				PSV-2271				D03
	2	Service				GAS				
	3	Line No.	Vessel No.			FLG-111-0011-AN07-2"-PT		-		
	4	Pipe Class / C.A.	P&ID No.			AN07 / 6mm		BK-GCS-PEDCO-120-PR-PI-0022_D07		
	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			18.02 kg/kmol		0.62 kg/m3		
	16	Oper. Pressure	Set Pressure			4.90		9 bar-g		
	17	Oper. Temperature	RelievingTemp.			36.78 /		182.6 °C		
	18	Back Pressure	Constant			-		bar-g		
	19		Variable			3.2		bar-g		
	20		Total			3.2		bar-g		
	21	% Allowable Overpressure				21%				
	22	Over Pressure Factor				1.21				
	23	Compressibility Factor(Z)				0.975				
	24	Latent Heat of Vaporization (Kj/Kg)				1994.0				
	25	Ratio of Specific Heats(Cp/Cv)				1.25				
	26	Density @ flowing temprature				5.77 kg/m3				
	27	Operating Viscosity				0.012 cP				
	28	Barometric Pressure				13.26 ~ 14.37 psia				
SELECTION	29	Design Code	Sizing							
	30	Construction Code				API 520				
	31	Fire				NO				
	32	Basis of Selection				FIRE				
	33	Calculated Area				28.75(VTC)				
	34	Required Area				153.9 (VTC)				
	35	Orifice Designation				D (VTC)				
CONNECTIONS	36	Size: Inlet	Outlet			in		2" in		
	37	Rating & Facing :In	Outlet			#300 FLANGED RF		#150 FLANGED RF		
MATERIALS (VTC)	38	Body and Bonnet				6 GR. WCB				
	39	Seat and Disc				FE (VTC)				
	40	Nozzle								
	41	Guide and Rings								
	42	Spring				ASTM A216 GR. WCB (VTC) (Note2)				
OPTIONS	43	Bellows				SS316+PTFE (VTC)				
	44									
	45	Cap: Screwed or Bolted				Screwed				
	46	Lever: Plain or Packed				N/A				
	47	Test Gage				Yes				
PURCHASE (will be finalized later)	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-D03 ".

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

 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	پسته کاری	صادر کننده	تهیهات	رشته	بوع مدرک	سریال	نسخه	
053 - 073 - 9184		BK	GCS	PEDCO	120	IN	DT	0009	D03	
									شماره صفحه: 32 از 33	
PRESSURE SAFETY VALVE										
GENERAL	1	Tag Number	PSV-2293						D03	
	2	Service	GAS							
	3	Line No.	Vessel No.	TEG-111-0113-AN04-2"-PT						
	4	Pipe Class / C.A.	P&ID No.	AN04 / 3mm						
	5	Discharge to	To FLARE							
	6	Protect Equipment	-							
	7	Area Classification	Zone 2, IIB T4							
	8	NACE MR0175/ISO 15156 Compliance	Yes							
BASIS	9	Nozzle (Full, Semi)	Full Nozzle, Spring Loaded Type							
	10	Design Type	Safety, Relief, Safety-Relief	Safety						
	11		Conventional, bellows, Pilot Op.	Conventional						
PROCESS CONDITIONS	12	Bonnet Type	Closed							
	13	Fluid	State	GAS						
	14	Required Capacity	2098.0 kg/h							
	15	Molecular Mass	Sp. Gr.@ relief Tmp	143.6	kg/kmol	4.95			kg/m3	
	16	Oper. Pressure	Set Pressure	0.10		3.5			bar-g	
	17	Oper. Temperature	Relieving Temp.	33		335.9			°C	
	18	Back Pressure	Constant	-		bar-g				
	19		Variable	0.1		bar-g				
	20		Total	0.1		bar-g				
	21	% Allowable Overpressure	21%							
	22	Over Pressure Factor	1.21							
	23	Compressibility Factor(Z)	0.646							
	24	Latent Heat of Vaporization (Kj/Kg)	314.3							
	25	Ratio of Specific Heats(Cp/Cv)	1.08							
	26	Density @ flowing temprature	10.29		kg/m3					
	27	Operating Viscosity	0.010		cP					
	28	Barometric Pressure	1026 ~ 14.37		psia					
SELECTION	29	Design Code	API 520							
	30	Construction Code	NO							
	31	Fire	FIRE							
	32	Basis of Selection	275(VTC)							
	33	Calculated Area	397.6 (VTC)							
	34	Required Area	G (VTC)							
	35	Orifice Designation								
CONNECTIONS	36	Size: Inlet	Out	in		3" in				
	37	Rating & Facing :In	Out	#300 FLANGED RF		#150 FLANGED RF				
MATERIALS (VTC)	38	Body and Bonnet	305							
	39	Seat and Disc	TFE(VTC)							
	40	Nozzle								
	41	Guide and Rings								
	42	Spring	ASTM A105 (VTC) (Note2)							
	43	Bellows	N/A							
OPTIONS	44									
	45	Cap: Screwed or Bolted	Screwed							
	46	Lever: Plain or Packed	N/A							
	47	Test Gage	Yes							
	48	With Rupture Disc	No							
	49	Hydro Test	Required							
	50	Seat Leakage Test	Required							
PURCHASE (will be finalized later)	51	Compliance Standard	N/A							
	52	Manufacturer	Will Be Finalized Later							
	53	Model	Will Be Finalized Later							
52	Serial No.	Will Be Finalized Later								

با PID تناقض دارد.
 PID بطور مطابق
 اصلاح گردد.
 پاسخ هیرگان: در مدرک
 PID اصلاح و متعاقبا
 ارسال خواهد شد

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-D03".

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

 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	پسته کاری	صادر کننده	تهیهات	رشته	بوع مدرک	سریال	نسخه
053 - 073 - 9184	BK	GCS	PEDCO	120	IN	DT	0009	D03	

TEMPERATURE SAFETY VALVE									
GENERAL	1	Tag Number	TSV-2281		D03				
	2	Service	LIQUID						
	3	Line No.	Vessel No.	DO-112-0005A-AN01-1"-PT					
	4	Pipe Class / C.A.	P&ID No.	AN01 / 1mm					
	5	Discharge to	BK-GCS-PEDCO-120-PR-PI-0023_D07(1 OF 3)						
	6	Protect Equipment	To DIESEL OIL DRUM						
	7	Area Clacification	-						
	8	NACE MR0175/ISO 15156 Compliance	Zone 2, IIB T4						
BASIS	9	Nozzle (Full, Semi)	Full Nozzle, Spring Loaded Type						
	10	Design Type	Safety, Relief, Safety-Relief	Safety					
	11		Conventional, bellows, Pilot Op.	Conventional					
PROCESS CONDITIONS	12	Bonnet Type	Closed						
	13	Fluid	State	LIQUID Singel Phase					
	14	Required Capacity	39.537 (V.T.C) kg/h						
	15	Molecular Mass	Sp. Gr.@ relief Tmp	184.4 0.85					
	16	Oper. Pressure	Set Pressure	0.10 3.5 bar-g					
	17	Oper. Temperature	RelievingTemp.	AMB / VTA °C					
	18	Back Pressure	Constant	- bar-g					
	19		Variable	0.0 bar-g					
	20		Total	0.0 bar-g					
	21	% Allowable Overpressure	10%						
	22	Over Pressure Factor	110%						
	23	Compressibility Factor(Z)	-						
	24	Latent Heat of Vaporization (Kj/Kg)	-						
	25	Ratio of Specific Heats(Cp/Cv)	1.118						
	26	Density @ flowing temprature	850.00						
	27	Operating Viscosity (cp)	2.143						
	28	Barometric Pressure	13.26 ~ 14.37						
	SELECTION	29	Design Code	Sizing Basis	-				
30		Construction Code	-						
31		Fire	-						
32		Basis of Selection	Thermal Expansion						
33		Calculated Area	MM²	0.00003464509 (V.T.C)					
34		Required Area	MM²	0.0000709676 (V.T.C)					
35		Orifice Designation	D						
CONNECTIONS	36	Size: Inlet	Outlet	3/4" in 1" in					
	37	Rating & Facing :In	Outlet	#300 FLANGED RF #150 FLANGED RF					
MATERIALS (VTC)	38	Body and Bonnet	ASTM A105						
	39	Seat and Disc	SS316+PTFE(VTC)						
	40	Nozzle	316 SS						
	41	Guide and Rings	VTA						
	42	Spring	ASTM A105 (VTC) (Note2)						
	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-D03 ".
 2- Suitable coating such as cadmiun plated shall be considered (vendor to advise)

 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	پسته کاری	صادر کننده	تهیهات	رشته	بوع مدرک	سریال	نسخه
053 - 073 - 9184		BK	GCS	PEDCO	120	IN	DT	0009	D03
									شماره صفحه: 34 از 34

TEMPERATURE SAFETY VALVE										
GENERAL	1	Tag Number					TSV-2281A			D03
	2	Service					LIQUID			
	3	Line No.	Vessel No.				CHD-112-0116-CN07-1"-PT		-	
	4	Pipe Class / C.A.	P&ID No.				AN01 / 1mm		BK-GCS-PEDCO-120-PR-PI-0004_D07(2 OF 2)	
	5	Discharge to					To Close Drain 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, Spring Loaded Type			
	10	Design Type	Safety, Relief, Safety-Relief				Safety			
	11		Conventional, bellows, Pilot Op.				Conventional			
PROCESS CONDITIONS	12	Bonnet Type					Closed			
	13	Fluid	State				LIQUID		Singel Phase	
	14	Required Capacity					VTC			
	15	Molecular Mass	Sp. Gr.@ relief Tmp				18.03		0.562	
	16	Oper. Pressure	Set Pressure				19.3		24	
	17	Oper. Temperature	Relieving Temp.				32.14		143.8	
	18	Back Pressure	Constant				-			
	19		Variable				0			
	20		Total				0			
	21	% Allowable Overpressure					10%			
	22	Over Pressure Factor					110%			
	23	Compressibility Factor(Z)					-			
	24	Latent Heat of Vaporization (Kj/Kg)					-			
	25	Ratio of Specific Heats(Cp/Cv)					1.151			
	26	Density @ flowing temprature					1003			
	27	Operating Viscosity (cp)					0.762			
	28	Barometric Pressure					13.26 ~ 14.37			
	SELECTION	29	Design Code	Sizing Basis				-		-
30		Construction Code					-			
31		Fire					-			
32		Basis of Selection					Thermal Expansion			
33		Calculated Area	MM²				VTC			
34		Required Area	MM²				VTC			
35		Orifice Designation					D			
CONNECTIONS	36	Size: Inlet	Outlet				3/4" in		1" in	
	37	Rating & Facing :In	Outlet				#300 FLANGED RF		#150 FLANGED RF	
MATERIALS (VTC)	38	Body and Bonnet					ASTM A105			
	39	Seat and Disc					SS316+PTFE(VTC)			
	40	Nozzle					316 SS			
	41	Guide and Rings					VTA			
	42	Spring					ASTM A105 (VTC) (Note2)			
	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			
	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-D03 ".
 2- Suitable coating such as cadmiun plated shall be considered (vendor to advise)