

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض							
	خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)							
شماره پیمان: 053 – 073 – 9184	INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 39 از 1	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
	BK	GCS	HY	120	IN	DS	0001	V04

طرح نگهداشت و افزایش تولید 27 مخزن

INSTRUMENT DATASHEETS / CERTIFICATES

نگهداشت و افزایش تولید میدان نفتی بینک

V04	Oct.2024	IFR	HAVAYAR.Co	M.Fakharian	M.SADEGHIAN	
V03	Jun.2024	IFR	HAVAYAR.Co	M.Fakharian	M.SADEGHIAN	
V02	Dec..2023	IFR	HAVAYAR.Co	M.Fakharian	S.Faramarzpour	
V01	Nov.2023	IFR	HAVAYAR.Co	M.Fakharian	S.Faramarzpour	
V00	SEP.2023	IFR	HAVAYAR.Co	M.Fakharian	M.Mehrshad	
Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Status:

IFA: Issued for Approval
IFR: Issued for Review
IFI: Issued for Information
AFC: Approved for Construction



NISOC

شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض و ابنیه تحت الارض
خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک
(قرارداد ۰۳_۰۰۸-CO-GCS-BK-HD)



INSTRUMENT DATASHEETS / CERTIFICATES

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نسخه	سریال	نوع	رشته	تسهیلات	صادر کنند	بسته کاری	پروژه
V04	0001	DS	IN	120	HY	GCS	BK

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3	X	X	X	X	X
4	X	X	X	X	X
5	X	X	X	X	X
6	X	X	X	X	X
7	X	X	X	X	X
8	X	X	X	X	X
9	X	X	X	X	X
10	X	X	X	X	X
11	X	X	X	X	X
12	X	X	X	X	X
13	X	X	X	X	X
14	X	X	X	X	X
15	X	X	X	X	X
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17	X	X	X	X	X
18	X	X	X	X	X
19	X	X	X	X	X
20	X	X	X	X	X
21	X	X	X	X	X
22	X	X	X	X	X
23	X	X	X	X	X
24	X	X	X	X	X
25	X	X	X	X	X
26	X	X	X	X	X
27	X	X	X	X	X
28	X	X	X	X	X
29	X	X	X	X	X
30	X	X	X	X	X
31	X	X	X	X	X
32	X	X	X	X	X
33	X	X	X	X	X
34	X	X	X	X	X
35	X	X	X	X	X
36	X	X	X	X	X
37	X	X	X	X	X
38	X	X	X	X	X
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NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض و ابنیه تحت الارض
خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک
(قرارداد ۰۳_۰۰۰۸-CO-GCS-HD-BK)



شماره پیمان:

۰۵۳ - ۰۷۳ - ۹۱۸۴

INSTRUMENT DATASHEETS / CERTIFICATES

نسخه	سریال	نوع	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
V04	0001	DS	IN	120	HY	GCS	BK

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12	Diff Pressure Gauge data sheet
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21	Flow transmitter 2121B
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 NISOC شماره پیمان: 053 - 073 – 9184				نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)				 HAVAYAR INDUSTRIAL GROUP							
INSTRUMENT DATASHEETS / CERTIFICATES								شماره صفحه: 4 از 39							
پروژه		بسته کاری		صنعت کننده		تجهیزات		رشته		نوع مدرک		سریال		نسخه	
BK		GCS		HY		120		IN		DS		0001		V04	

1

Type :

Direct Rdg. ☒

Other ☐

liquid filled ☒

2

Mounting :

Surface ☐

Local ☒

Flush ☐

3

Dial :

Diameter ☐

160 mm ☒

Color : White / Black Lettering ,Aluminum Non Rusting Metal (Bar/PSI Scale) ☒

4

Case :

Cast Iron ☐

S.S ☒

Phenol ☐

5

Ring :

Screwed ☐

Std ☒

Hinged ☐

Other ☒

Cam ring (bayonet type) ☒

Slip ☐

6

Blow-out Protection :

None ☐

Back(Disc) ☒

7

Lens :

Glass ☒

Plastic ☐

Other ☐

Safety Glass (shatter proof) ☒

8

Options :

☒ As per List

9

Nominal Accuracy Required :

± 1% of full scale

10

Over range protection :

1.3 times the maximum scale reading

11

MFR. & Model No.

Wika 233.30.160

12

Press Element : Bourdon ☒

Other ☐

Bellows ☐

13

Element Mtl. :

SS ☒

Other ☐

Bronze ☐

Steel ☐

14

Socket Mtl. :

SS ☒

Other ☐

Bronze ☐

Steel ☐

15

Connection-NPT :

SS ☒

Other ☐

1/4 in. ☐

1/2 in. ☒

Other ☐

NPTM (refer to note)

16

Movement:

Bottom ☒

Bronze ☐

Back ☐

SS ☒

Other ☐

Stainless Steel

17

Diaphragm Seal

Nylon ☐

N/A ☐

Other ☐

Stainless Steel

18

Ingress Protection :

IP 65

19

Manifold S.S316 2 valve Wika IV20 ☒

S.S Name plate ☒

Item	Tag No.	Range (barg)	Process Fluid/State	Design		Operating		LINE NO./EQUIPMENTNO.	P&ID NO.	Accessories	NOTE
				Press (barg)	Temp (C°)	Press (barg)	Temp (C°) Summer /Winter				
1	C-PG-2190A	0-10	Sour Gas Comp A	24.5	180	4.9	36.8 / 18.9	1ST STAGE SUCTION SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1A	Cooling Element Wika 910.32 Nace material Over Pressure Protector Set point 10 barg	
2	C-PG-2191A	0-40	Sour Gas Comp A	24.5	180	18	129/116	1ST STAGE DISCHARGE SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1A	Cooling Element Nace material	
3	C-PG-2193A	0-40	Sour Gas Comp A	62	180	17.1	59.9	2nd STAGE SUCTION SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1A	Cooling Element Nace material Over Pressure Protector Set point 40 barg	
4	C-PG-2194A	0-100	Sour Gas Comp A	62	180	54.9	148/149	2nd STAGE DISCHARGE SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1A	Cooling Element Nace material	
5	C-PG-2200A	0-16	Instrument Air Comp A	12.5	85	6	65	ISA-112-0002A-AZ00-2"-IS	BK-GCS-HY-120-PR-PI-0001 Page2A		
6	C-PG-2201A	0-10	Lube Oil Comp A	10	85	5	70	OIL-112-0004A-S.S-1.1/2"-NP	BK-GCS-HY-120-PR-PI-0001 Page3A		
7	C-PG-2202A	0-10	Lube Oil Comp A	10	85	5	70	OIL-112-0003A-S.S-2"-NP	BK-GCS-HY-120-PR-PI-0001 Page3A		
8	C-PG-2203A	0-10	Lube Oil Comp A	10	85	5	60	OIL-112-0004C-S.S-1.1/2"-IS	BK-GCS-HY-120-PR-PI-0001 Page3A		
8	C-PG-2204A	0-10	Lube Oil Comp A	10	85	5	60	OIL-112-0008A-S.S-2"-IS	BK-GCS-HY-120-PR-PI-0001 Page3A		
9	C-PG-2205A	0-4	Sour Gas Comp A	5	85	1.5	65	FLR-112-0009A-AN07-1"-IS	BK-GCS-HY-120-PR-PI-0001 Page1A	Nace material	
10	C-PG-2206A	0-10	Water console Comp A	8	85	4	70	CWS-112-0003A-C.S-3"-IS	BK-GCS-HY-120-PR-PI-0001 Page5A	Pulsation Damper (Snubber)	
11	C-PG-2207A	0-10	Water console Comp A	8	85	4	70	CWS-112-0004A-C.S-3"-IS	BK-GCS-HY-120-PR-PI-0001 Page5A	Pulsation Damper (Snubber)	
12	C-PG-2208A	0-10	Water console Comp A	8	85	3	63	CWS-112-0002A-C.S-3"-IS	BK-GCS-HY-120-PR-PI-0001 Page5A		
13	C-PG-2190B	0-10	Sour Gas Comp B	24.5	180	4.9	36.8 / 18.9	1ST STAGE SUCTION SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1B	Cooling Element Nace material Over Pressure Protector Set point 10 barg	
14	C-PG-2191B	0-40	Sour Gas Comp B	24.5	180	18	129/116	1ST STAGE DISCHARGE SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1B	Cooling Element Nace material	
15	C-PG-2193B	0-40	Sour Gas Comp B	62	180	17.1	59.9	2nd STAGE SUCTION SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1B	Cooling Element Nace material Over Pressure Protector Set point 40 barg	
16	C-PG-2194B	0-100	Sour Gas Comp B	62	180	54.9	148/149	2nd STAGE DISCHARGE SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1B	Cooling Element Nace material	
17	C-PG-2200B	0-16	Instrument Air Comp B	12.5	85	6	65	ISA-112-0002B-AZ00-2"-IS	BK-GCS-HY-120-PR-PI-0001 Page2B		
18	C-PG-2201B	0-10	Lube Oil Comp B	10	85	5	70	OIL-112-0004B-S.S-1.1/2"-NP	BK-GCS-HY-120-PR-PI-0001 Page3B		
19	C-PG-2202B	0-10	Lube Oil Comp B	10	85	5	70	OIL-112-0003B-S.S-2"-NP	BK-GCS-HY-120-PR-PI-0001 Page3B		
19	C-PG-2203B	0-10	Lube Oil Comp B	10	85	5	70	OIL-112-0004C-S.S-1.1/2"-IS	BK-GCS-HY-120-PR-PI-0001 Page3B		
20	C-PG-2204B	0-10	Lube Oil Comp B	10	85	5	60	OIL-112-0008B-S.S-2"-IS	BK-GCS-HY-120-PR-PI-0001 Page3B		
21	C-PG-2205B	0-4	Sour Gas Comp A	5	85	1.5	65	FLR-112-0009B-AN07-1"-IS	BK-GCS-HY-120-PR-PI-0001 Page1B	Nace material	
22	C-PG-2206B	0-10	Water console Comp B	8	85	4	70	CWS-112-0003B-C.S-3"-IS	BK-GCS-HY-120-PR-PI-0001 Page5B	Pulsation Damper (Snubber)	
23	C-PG-2207B	0-10	Water console Comp B	8	85	4	70	CWS-112-0004B-C.S-3"-IS	BK-GCS-HY-120-PR-PI-0001 Page5B	Pulsation Damper (Snubber)	
24	C-PG-2208B	0-10	Water console Comp B	8	85	3	63	CWS-112-0002B-C.S-3"-IS	BK-GCS-HY-120-PR-PI-0001 Page5B		
25	C-PG-2190C	0-10	Sour Gas Comp C	24.5	180	4.9	36.8 / 18.9	1ST STAGE SUCTION SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1C	Cooling Element Nace material Over Pressure Protector Set point 10 barg	
26	C-PG-2191C	0-40	Sour Gas Comp C	24.5	180	18	129/116	1ST STAGE DISCHARGE SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1C	Cooling Element Nace material	
27	C-PG-2193C	0-40	Sour Gas Comp C	62	180	17.1	59.9	2nd STAGE SUCTION SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1C	Cooling Element Nace material Over Pressure Protector Set point 40 barg	
28	C-PG-2194C	0-100	Sour Gas Comp C	62	180	54.9	148/149	2nd STAGE DISCHARGE SNUBBER	BK-GCS-HY-120-PR-PI-0001 Page1C	Cooling Element Nace material	
29	C-PG-2200C	0-16	Instrument Air Comp C	12.5	85	6	65	ISA-112-0002C-AZ00-2"-IS	BK-GCS-HY-120-PR-PI-0001 Page2C		
30	C-PG-2201C	0-10	Lube Oil Comp C	10	85	5	70	OIL-112-0004C-S.S-1.1/2"-NP	BK-GCS-HY-120-PR-PI-0001 Page3C		
31	C-PG-2202C	0-10	Lube Oil Comp C	10	85	5	70	OIL-112-0003C-S.S-2"-NP	BK-GCS-HY-120-PR-PI-0001 Page3C		
31	C-PG-2203C	0-10	Lube Oil Comp C	10	85	5	70	OIL-112-0004C-S.S-1.1/2"-IS	BK-GCS-HY-120-PR-PI-0001 Page3C		
32	C-PG-2204C	0-10	Lube Oil Comp C	10	85	5	60	OIL-112-0008C-S.S-2"-IS	BK-GCS-HY-120-PR-PI-0001 Page3C		
33	C-PG-2205C	0-4	Sour Gas Comp A	5	85	1.5	65	FLR-112-0009C-AN07-1"-IS	BK-GCS-HY-120-PR-PI-0001 Page1C	Nace material	
34	C-PG-2206C	0-10	Water console Comp C	8	85	4	70	CWS-112-0003C-C.S-3"-IS	BK-GCS-HY-120-PR-PI-0001 Page5C	Pulsation Damper (Snubber)	
35	C-PG-2207C	0-10	Water console Comp C	8	85	4	70	CWS-112-0004C-C.S-3"-IS	BK-GCS-HY-120-PR-PI-0001 Page5C	Pulsation Damper (Snubber)	
36	C-PG-2208C	0-10	Water console Comp C	8	85	3	63	CWS-112-0002C-C.S-3"-IS	BK-GCS-HY-120-PR-PI-0001 Page5C		

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)						 HAVAYAR INDUSTRIAL GROUP		
شماره پیمان: 053 - 073 – 9184		INSTRUMENT DATASHEETS / CERTIFICATES							شماره صفحه: 5 از 39	
		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
		Bk	GCS	HY	120	IN	DS	0001		V04

Data Sheet for Pressure Transmitter			
GENERAL	1	Tag No.: (Refer to Next Page)	Service: (Refer to Next Page)
	2	Function	Record ☐ Indicate ☒ Control ☐ Blind ☐ Trans ☒ Integ ☐ (Note1)
	3	Case	MFR STD ☒ Nom Size ☐ Color MFR STD ☒ Other
	4	Mounting	Flush ☐ Surface ☐ Yoke ☒ Other
	5	Enclosure Class	General Purpose ☐ Weather Proof ☒ Explosion-Proof ☐ Class
	6		For use in Intrinsically Safe System ☒ Other EExia, IIB, T4
	7	Power Supply	Ingress Protection : IP 66 117 V 60 Hz ☐ Other: ac ☐ dc ☒ Volts : 24 VDC Loop Powered
	TRANSMITTER	8	Trans. Output
9			Transmitter Accuracy : 0.1% of full scale.
UNIT	10	Service	Gage Press ☒ Vacuum ☐ Absolute ☐ Compound ☐
	11	Element Type	Diaphragm ☒ Helix ☐ Bourdon ☐ Bellows ☐ Fill Fluid:Silicone
	12	Material	Body Aluminum Element 316 S.S. as minimum
	13	Range	Fixed ☐ Adj. Range ☒ Set At (Refer to Next Page)
	14	Rating	Overrange Protection: at least 1.5 times the maximum range
	15	Process Data	Press: Normal Max Element Range (Refer to Next Page)
	16	Process Conn.	½ in. NPT ☒ Other Male with wrench flats
	17		Location: Bottom ☒ Back ☐ Other
OPTIONS	18	Electrical Conn.	MFR STD ☐ Other ISO M20x1.5
	19	Miscellaneous	Filt Reg. ☐ Sup. Gage ☐ Output Gage ☐ Charts
	20	Diaphragm Seal	Diaph Seal ☐ Type : Capillary Length: Mtl. : Conn. Fill Fluid : shall be Suitable for Normal and Max. Operating Temp Flushing Connection :
	21	Manifold	Valve Manifold : See list
	22	MFR. & Model No.	See PT list

Notes:
 1- All transmitters shall be provided complete with LCD type integral indicator .
 2- Repeatability of the transmitter shall be better than 0.1% of the span.
 3- All transmitters shall be reverse polarity protected.
 4- Each Instrument Shall Have a S.S. Tag Plate With Purchaser's Tag Number, The Tag Plate Shall Be Permanently Attached To The Instrument .
 5- NACE MR-01-75 to be considered.



شماره پیمان:
053 - 073 - 9184

برید پکیج های کمپرسور گاز (رفت و برگشتی) به
(فایل: BK-HD-GCS-CO-0008_02)



شماره صفحه: 6 از 39

List of PT

ITEM NO.	TAG NO.	SERVICE	LINE NO. / EQUIPMENT NO.	P&ID No.	PROCESS CONNECTION	FLUID/ STATE	PRESSURE (Bar)	TEMPERATURE (C)	VISCOSITY (cP)	Instrument Range (Bar)	CALIBRATED RANGE (Bar)	ACCESSORIES Option	MFR. & Model No.	REMARKS
							Oper. / Design	Norm. / Design						
1	PT-2123A	Process gas Comp A	GAS-111-0031A-CN05-6" ET	BK-GCS-HY-120-PR-PH-0001-Page1A	1" NPT	Sour Gas	4.9 / 22	36.8 / 180	0.012	-1~-10.3	0~10	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	Loose Item
2	C-PT-2133A	Process gas Comp A	GAS-111-0051A-FN05-6" IS	BK-GCS-HY-120-PR-PH-0001-Page1A	1" NPT	Sour Gas	54.9 / 62	148 / 180	0.016	-1~-275	0~65	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
3	PT-2124A	Process gas Comp A	GAS-111-0036A-CN05-6" PT	BK-GCS-HY-120-PR-PH-0001-Page1A	1" NPT	Sour Gas	18 / 22	129 / 180	0.015	-1~-55.2	0~25	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	Loose Item
4	PT-2132A	Process gas Comp A	GAS-111-0044A-CN05-6" ET	BK-GCS-HY-120-PR-PH-0001-Page1A	1/2" NPT	Sour Gas	17.1 / 22	59.9 / 180	0.013	-1~-55.2	0~25	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	Loose Item
5	C-PT-2201A	Instrument Air Comp A	ISA-112-0002A-AZ00-2" IS	BK-GCS-HY-120-PR-PH-0001-Page2A	1" NPT	Air	6 / 12.5	65 / 85	0.021	-1~-55.2	0~16	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
6	C-PT-2200A	Lubricator Comp A	OIL-112-0008A-S-S-2" NP	BK-GCS-HY-120-PR-PH-0001-Page3A	1/2" NPT	Oil	6 / 10	65 / 85	40	-1~-10.3	0~10	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
7	C-PT-2204A	Lube Oil Comp A	OIL-112-0008A-S-S-2" IS	BK-GCS-HY-120-PR-PH-0001-Page3A	1" NPT	Oil	5 / 10	60 / 85	40	-1~-10.3	0~10	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
8	C-PT-2210A	N2 Gas Supply Comp A	NIT-112-0001A-SS-1" NP	BK-GCS-HY-120-PR-PH-0001-Page4A	1" NPT	N2	2 / 2.8	60 / 85	0.020	-1~-10.3	0~3	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
9	C-PT-2211A	N2 Gas Supply Comp A	NIT-112-0002A-SS-1" NP	BK-GCS-HY-120-PR-PH-0001-Page4A	1" NPT	N2	0.5 / 2.8	60 / 85	0.020	-1~-10.3	0~3	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
10	C-PT-2212A	N2 Gas	FLR-112-0012A-AN07-1.1/2" IS	BK-GCS-HY-120-PR-PH-0001-Page4A	1" NPT	N2	1 / 5	60 / 85	0.020	-1~-2.1	0~2	2 valve manifold S.3316	Rosemount 3051TG / A2B21/BB41 Manifold Wika IV20	
11	C-PT-2220A	Water console Comp A	CWS-112-0002A-C-S-3" IS	BK-GCS-HY-120-PR-PH-0001-Page5A	1" NPT	Water	3 / 10	63 / 85	0.478	-1~-10.3	0~6	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
12	PT-2123B	Process gas Comp B	GAS-111-0031B-CN05-6" ET	BK-GCS-HY-120-PR-PH-0001-Page1B	1" NPT	Sour Gas	4.9 / 22	36.8 / 180	0.012	-1~-10.3	0~10	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	Loose Item
13	C-PT-2133B	Process gas Comp B	GAS-111-0051B-FN05-6" IS	BK-GCS-HY-120-PR-PH-0001-Page1B	1" NPT	Sour Gas	54.9 / 62	148 / 180	0.016	-1~-275	0~65	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
14	PT-2124B	Process gas Comp B	GAS-111-0036B-CN05-6" PT	BK-GCS-HY-120-PR-PH-0001-Page1B	1" NPT	Sour Gas	18 / 22	129 / 180	0.015	-1~-55.2	0~25	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	Loose Item
15	PT-2132B	Process gas Comp B	GAS-111-0044B-CN05-6" ET	BK-GCS-HY-120-PR-PH-0001-Page1B	1" NPT	Sour Gas	17.1 / 22	59.9 / 180	0.013	-1~-55.2	0~25	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	Loose Item
16	C-PT-2201B	Instrument Air Comp B	ISA-112-0002B-AZ00-2" IS	BK-GCS-HY-120-PR-PH-0001-Page2B	1" NPT	Air	6 / 12.5	65 / 85	0.021	-1~-55.2	0~16	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
17	C-PT-2200B	Lubricator Comp B	OIL-112-0008B-S-S-2" NP	BK-GCS-HY-120-PR-PH-0001-Page3B	1/2" NPT	Oil	6 / 10	65 / 85	40	-1~-10.3	0~10	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
18	C-PT-2204B	Lube Oil Comp B	OIL-112-0008B-S-S-2" IS	BK-GCS-HY-120-PR-PH-0001-Page3B	1" NPT	Oil	5 / 10	60 / 85	40	-1~-10.3	0~10	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
19	C-PT-2210B	N2 Gas Supply Comp B	NIT-112-0001B-SS-1" NP	BK-GCS-HY-120-PR-PH-0001-Page4B	1" NPT	N2	2 / 2.8	60 / 85	0.020	-1~-10.3	0~3	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
20	C-PT-2211B	N2 Gas Supply Comp B	NIT-112-0002B-SS-1" NP	BK-GCS-HY-120-PR-PH-0001-Page4B	1" NPT	N2	0.5 / 2.8	60 / 85	0.020	-1~-10.3	0~3	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
21	C-PT-2212B	N2 Gas	FLR-112-0012A-AN07-1.1/2" IS	BK-GCS-HY-120-PR-PH-0001-Page4B	1" NPT	N2	1 / 5	60 / 85	0.020	-1~-2.1	0~2	2 valve manifold S.3316	Rosemount 3051TG / A2B21/BB41 Manifold Wika IV20	
22	C-PT-2220B	Water console Comp B	CWS-112-0002B-C-S-3" IS	BK-GCS-HY-120-PR-PH-0001-Page5B	1" NPT	Water	3 / 10	63 / 85	0.478	-1~-10.3	0~6	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
23	PT-2123C	Process gas Comp C	GAS-111-0031C-CN05-6" ET	BK-GCS-HY-120-PR-PH-0001-Page1C	1" NPT	Sour Gas	4.9 / 22	36.8 / 180	0.012	-1~-10.3	0~10	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	Loose Item
24	C-PT-2133C	Process gas Comp C	GAS-111-0051C-FN05-6" IS	BK-GCS-HY-120-PR-PH-0001-Page1C	1" NPT	Sour Gas	54.9 / 62	148 / 180	0.016	-1~-275	0~65	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
25	PT-2124C	Process gas Comp C	GAS-111-0036C-CN05-6" PT	BK-GCS-HY-120-PR-PH-0001-Page1C	1" NPT	Sour Gas	18 / 22	129 / 180	0.015	-1~-55.2	0~25	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	Loose Item
26	PT-2132	Process gas Comp C	GAS-111-0044C-CN05-6" ET	BK-GCS-HY-120-PR-PH-0001-Page1C	1" NPT	Sour Gas	17.1 / 22	59.9 / 180	0.013	-1~-55.2	0~25	Wetted Part S.3316 Nace 2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	Loose Item
27	C-PT-2201C	Instrument Air Comp C	ISA-112-0002C-AZ00-2" IS	BK-GCS-HY-120-PR-PH-0001-Page2C	1" NPT	Air	6 / 12.5	65 / 85	0.021	-1~-55.2	0~16	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
28	C-PT-2200C	Lubricator Comp C	OIL-112-0008C-S-S-2" NP	BK-GCS-HY-120-PR-PH-0001-Page3C	1/2" NPT	Oil	6 / 10	65 / 85	40	-1~-10.3	0~10	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
29	C-PT-2204C	Lube Oil Comp C	OIL-112-0008C-S-S-2" IS	BK-GCS-HY-120-PR-PH-0001-Page3C	1" NPT	Oil	5 / 10	60 / 85	40	-1~-10.3	0~10	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
30	C-PT-2210C	N2 Gas Supply Comp C	NIT-112-0001C-SS-1" NP	BK-GCS-HY-120-PR-PH-0001-Page4C	1" NPT	N2	2 / 2.8	60 / 85	0.020	-1~-10.3	0~3	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
31	C-PT-2211C	N2 Gas Supply Comp C	NIT-112-0002C-SS-1" NP	BK-GCS-HY-120-PR-PH-0001-Page4C	1" NPT	N2	0.5 / 2.8	60 / 85	0.020	-1~-10.3	0~3	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	
32	C-PT-2212C	N2 Gas	FLR-112-0012A-AN07-1.1/2" IS	BK-GCS-HY-120-PR-PH-0001-Page4C	1" NPT	N2	1 / 5	60 / 85	0.020	-1~-2.1	0~2	2 valve manifold S.3316	Rosemount 3051TG / A2B21/BB41 Manifold Wika IV20	
33	C-PT-2220C	Water console Comp C	CWS-112-0002C-C-S-3" IS	BK-GCS-HY-120-PR-PH-0001-Page5C	1" NPT	Water	3 / 10	63 / 85	0.478	-1~-10.3	0~6	2 valve manifold S.3316	Rosemount 3051TG/A2B21/BB41 Manifold Wika IV20	

 نگهداشت و افزایش تولید میدان نفتی بینک سطح (الارض و ابلنه تحت الارض خرابه بکوح های کمبرسور گاز (رفث و برگشتی) بینک (قراربانه 03_0008-BK-HD-GCS-CO)										 HAVAYAR INDUSTRIAL GROUP															
NISOC										شماره صفحه: 7 از 39															
شماره پیمان: 053 - 073 - 9184																									
INSTRUMENT DATASHEETS / CERTIFICATES																									
پروژه					رشته		نوع سارک		سریال		نسخه														
BK					GCS		HY		120		IN		DS		0001		V04								
BI-METALLIC THERMOMETER WITH WELL (Complete Assembly)																									
THERMOMETER										WELL															
1	ELEMENT TYPE										BI-METAL ■		GAS FILLED CAPILLARY □		15	NONE □		INCLUDED ■							
2	STEM										THREADED (NPTM) ■		UNION □		PLAIN □		16	MATERIAL :		304 SS □ 316 SS ■ OTHER					
MATERIAL:										S.S					17	CONSTRUCTION		BUILT-UP □		DRILLED BAR STOCK ■					
3	STEM OR UNION THREADED :										1/2 IN. ■		3/4 IN. □		OTHER										
4	STEM DIAMETER										MFR. STD □		6 mm. ■		8 mm. □		TAPERED ■					STRAIGHT □			
5	CASE MATERIAL :										MFR. STD □		OTHER		S.S		18					INTERNAL CONNECTION NOMINAL SIZE		1/2" PIPE THREAD	
6	DIAL :										SIZE		160 mm		COLOR		White / Black Lettering Aluminum,Non Rusting Metal					19			
7	SCALE TYPE :										°C		POINTER ADJUSTMENT		YES					20					
8	SCALE LENGTH :										MFR. STD.		COLOR		MFR. STD					21					
9	FORM :										FIG NO. EVERY ANGLE					22					FLANGE RATING		REFER TO BELOW TABLE		
10	EXTERNAL CALIBRATOR ■															23					MANUFACTURER		Wika		
11	PROTECTION CLASS :										IP65					24					MODEL NO.		S5551		
12	ACCURACY :										±1 % OF FULL SCALE RANGE														
13	WINDOW MATERIAL :										SHATTER PROOF TYPE														
14	RING TYPE/MATERIAL :										SCREWED/S.S316														
ITEM NO	TAG NO.	LINE SIZE	Nozzel Projection length mm	WELL "U" mm ("") (NOTE 1)	STEM LENGTH (mm) ("")	OPER. TEMP. (°C)	DESIGN TEMP. (°C)/ PRESSURE (BARG)	Density (kg/m3)	RANGE (°C)	PRESSURE (barg) Norm./ Max.	PROCESS/WELL CONNECTION & RATING (ANSI)	Max. VELOCITY (m/s)	SERVICE	P&ID NO.	NOTES										
1	C-TG-2190A	1ST STAGE SUCTION SNUBBER SCH 80	200	500	540	37	180 / 24.5	5.77	0-60	4.9 / 22	2" #300 1/2" NPT Back	1.67	Process Gas Comp A	BK-GCS-HY-120-PR-Pi-0001-Page1A	Thermowell S.5316 Nace										
2	C-TG-2193A	2nd STAGE SUCTION SNUBBER SCH 160	200	500	540	60	180 / 62	17.1	0-120	17.1 / 22	2" #600 1/2" NPT Back	0.8	Process Gas Comp A	BK-GCS-HY-120-PR-Pi-0001-Page1A	Thermowell S.5316 Nace										
3	C-TG-2204A	2" TO 4" (Expanded) SCH 10	170	230	280	60	85 / 10	870	0-120	5 / 6	1.1/2" #300 1/2" NPT	0.3	Lube Oil Comp A	BK-GCS-HY-120-PR-Pi-0001-Page3A											
4	C-TG-2205A	2" TO 4" (Expanded) SCH 10	170	230	280	60	85 / 10	870	0-120	5 / 6	1.1/2" #300 1/2" NPT	0.3	Lube Oil Comp A	BK-GCS-HY-120-PR-Pi-0001-Page3A											
5	C-TG-2206A	2" TO 4" (Expanded) SCH 10	170	230	280	70	85 / 10	862	0-120	5 / 6	1.1/2" #300 1/2" NPT	0.3	Lube Oil Comp A	BK-GCS-HY-120-PR-Pi-0001-Page3A											
6	C-TG-2210A	2" TO 4" (Expanded) SCH XXS	170	230	280	60	85 / 5	2.5	0-120	2 / 2.2	1.1/2" #300 1/2" NPT	0.03	N2 Gas Supply Comp A	BK-GCS-HY-120-PR-Pi-0001-Page4A	Thermowell S.5316 Nace										
7	C-TG-2211A	2" TO 4" (Expanded) SCH XXS	170	230	280	60	85 / 5	2.5	0-120	2 / 2.2	1.1/2" #300 1/2" NPT	0.03	N2 Gas Supply Comp A	BK-GCS-HY-120-PR-Pi-0001-Page4A	Thermowell S.5316 Nace										
8	C-TG-2217A	Water Reservoir	170	500	540	65	85 / 3.5	1059	0-120	ATM / ATM	2" #300 1/2" NPT Back	-	Water console Comp A	BK-GCS-HY-120-PR-Pi-0001-Page5A											
9	C-TG-2221A	3" TO 4" (Expanded) SCH 40	170	230	280	65	85 / 7	1059	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.6	Water console Comp A	BK-GCS-HY-120-PR-Pi-0001-Page5A											
10	C-TG-2215A	1" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.25	Jacket Cooling Comp A	BK-GCS-HY-120-PR-Pi-0001-Page6A											
11	C-TG-2216A	1/2" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.01	Jacket Cooling Comp A	BK-GCS-HY-120-PR-Pi-0001-Page6A											
12	C-TG-2212A	3" TO 4" (Expanded) SCH 80	170	230	280	58	85 / 7	1065	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.6	Water console Comp A	BK-GCS-HY-120-PR-Pi-0001-Page5A											
13	C-TG-2213A	1/2" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.01	Jacket Cooling Comp A	BK-GCS-HY-120-PR-Pi-0001-Page6A											
14	C-TG-2214A	2 1/2" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.25	Jacket Cooling Comp A	BK-GCS-HY-120-PR-Pi-0001-Page6A											
15	C-TG-2190B	1ST STAGE SUCTION SNUBBER SCH 80	200	500	540	37	180 / 24.5	5.77	0-60	4.9 / 22	2" #300 1/2" NPT Back	1.67	Process Gas Comp B	BK-GCS-HY-120-PR-Pi-0001-Page1B	Thermowell S.5316 Nace										
16	C-TG-2193B	2nd STAGE SUCTION SNUBBER SCH 160	200	500	540	60	180 / 62	17.1	0-120	17.1 / 22	2" #600 1/2" NPT Back	0.8	Process Gas Comp B	BK-GCS-HY-120-PR-Pi-0001-Page1B	Thermowell S.5316 Nace										
17	C-TG-2204B	2" TO 4" (Expanded) SCH 10	170	230	280	60	85 / 10	870	0-120	5 / 6	1.1/2" #300 1/2" NPT	0.3	Lube Oil Comp B	BK-GCS-HY-120-PR-Pi-0001-Page3B											
18	C-TG-2205B	2" TO 4" (Expanded) SCH 10	170	230	280	60	85 / 10	870	0-120	5 / 6	1.1/2" #300 1/2" NPT	0.3	Lube Oil Comp B	BK-GCS-HY-120-PR-Pi-0001-Page3B											
19	C-TG-2206B	2" TO 4" (Expanded) SCH 10	170	230	280	70	85 / 10	862	0-120	5 / 6	1.1/2" #300 1/2" NPT	0.3	Lube Oil Comp B	BK-GCS-HY-120-PR-Pi-0001-Page3B											
20	C-TG-2210B	2" TO 4" (Expanded) SCH XXS	170	230	280	60	85 / 5	2.5	0-120	2 / 2.2	1.1/2" #300 1/2" NPT	0.03	N2 Gas Supply Comp B	BK-GCS-HY-120-PR-Pi-0001-Page4B	Thermowell S.5316 Nace										
21	C-TG-2211B	2" TO 4" (Expanded) SCH XXS	170	230	280	60	85 / 5	2.5	0-120	2 / 2.2	1.1/2" #300 1/2" NPT	0.03	N2 Gas Supply Comp B	BK-GCS-HY-120-PR-Pi-0001-Page4B	Thermowell S.5316 Nace										
22	C-TG-2217B	Water Reservoir	170	500	540	65	85 / 3.5	1059	0-120	ATM / ATM	2" #300 1/2" NPT Back	-	Water console Comp B	BK-GCS-HY-120-PR-Pi-0001-Page5B											
23	C-TG-2221B	3" TO 4" (Expanded) SCH 40	170	230	280	65	85 / 7	1059	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.6	Water console Comp B	BK-GCS-HY-120-PR-Pi-0001-Page5B											
24	C-TG-2215B	1" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.25	Jacket Cooling Comp B	BK-GCS-HY-120-PR-Pi-0001-Page6B											
25	C-TG-2216B	1/2" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.01	Jacket Cooling Comp B	BK-GCS-HY-120-PR-Pi-0001-Page6B											
26	C-TG-2212B	3" TO 4" (Expanded) SCH 80	170	230	280	58	85 / 7	1065	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.6	Water console Comp B	BK-GCS-HY-120-PR-Pi-0001-Page5B											
27	C-TG-2213B	1/2" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.01	Jacket Cooling Comp B	BK-GCS-HY-120-PR-Pi-0001-Page6B											
28	C-TG-2214B	2 1/2" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.25	Jacket Cooling Comp B	BK-GCS-HY-120-PR-Pi-0001-Page6B											
29	C-TG-2190C	1ST STAGE SUCTION SNUBBER SCH 80	200	500	540	37	180 / 24.5	5.77	0-60	4.9 / 22	2" #300 1/2" NPT Back	1.67	Process Gas Comp C	BK-GCS-HY-120-PR-Pi-0001-Page1C	Thermowell S.5316 Nace										
30	C-TG-2193C	2nd STAGE SUCTION SNUBBER SCH 160	200	500	540	60	180 / 62	17.1	0-120	17.1 / 22	2" #600 1/2" NPT Back	0.8	Process Gas Comp C	BK-GCS-HY-120-PR-Pi-0001-Page1C	Thermowell S.5316 Nace										
31	C-TG-2204C	2" TO 4" (Expanded) SCH 10	170	230	280	60	85 / 10	870	0-120	5 / 6	1.1/2" #300 1/2" NPT	0.3	Lube Oil Comp C	BK-GCS-HY-120-PR-Pi-0001-Page3C											
32	C-TG-2205C	2" TO 4" (Expanded) SCH 10	170	230	280	60	85 / 10	870	0-120	5 / 6	1.1/2" #300 1/2" NPT	0.3	Lube Oil Comp C	BK-GCS-HY-120-PR-Pi-0001-Page3C											
33	C-TG-2206C	2" TO 4" (Expanded) SCH 10	170	230	280	70	85 / 10	862	0-120	5 / 6	1.1/2" #300 1/2" NPT	0.3	Lube Oil Comp C	BK-GCS-HY-120-PR-Pi-0001-Page3C											
34	C-TG-2210C	2" TO 4" (Expanded) SCH XXS	170	230	280	60	85 / 5	2.5	0-120	2 / 2.2	1.1/2" #300 1/2" NPT	0.03	N2 Gas Supply Comp C	BK-GCS-HY-120-PR-Pi-0001-Page4C	Thermowell S.5316 Nace										
35	C-TG-2211C	2" TO 4" (Expanded) SCH XXS	170	230	280	60	85 / 5	2.5	0-120	2 / 2.2	1.1/2" #300 1/2" NPT	0.03	N2 Gas Supply Comp C	BK-GCS-HY-120-PR-Pi-0001-Page4C	Thermowell S.5316 Nace										
36	C-TG-2217C	Water Reservoir	170	500	540	65	85 / 3.5	1059	0-120	ATM / ATM	2" #300 1/2" NPT Back	-	Water console Comp C	BK-GCS-HY-120-PR-Pi-0001-Page5C											
37	C-TG-2221C	3" TO 4" (Expanded) SCH 40	170	230	280	65	85 / 7	1059	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.6	Water console Comp C	BK-GCS-HY-120-PR-Pi-0001-Page5C											
38	C-TG-2215C	1" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.25	Jacket Cooling Comp C	BK-GCS-HY-120-PR-Pi-0001-Page6C											
39	C-TG-2216C	1/2" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.01	Jacket Cooling Comp C	BK-GCS-HY-120-PR-Pi-0001-Page6C											
40	C-TG-2212C	3" TO 4" (Expanded) SCH 80	170	230	280	58	85 / 7	1065	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.6	Water console Comp C	BK-GCS-HY-120-PR-Pi-0001-Page5C											
41	C-TG-2213C	1/2" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.01	Jacket Cooling Comp C	BK-GCS-HY-120-PR-Pi-0001-Page6C											
42	C-TG-2214C	2 1/2" TO 4" (Expanded) SCH 80	170	230	280	65	85 / 7	1060	0-120	3 / 4	1.1/2" #300 1/2" NPT	0.25	Jacket Cooling Comp C	BK-GCS-HY-120-PR-Pi-0001-Page6C											

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و اینپیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد 03 BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP		
	INSTRUMENT DATASHEETS / CERTIFICATES								
شماره پیمان: 053 - 073 - 9184	پروژه BK	بسته کاری GCS	صنایع کننده HY	تجهیزات 120	رشته IN	نوع مدرک DS	سریال 0001	نسخه V04	شماره صفحه: 8 از 39

Data Sheet for Temprarure Transmitter/Element/Thermowell		
HEAD		
1 COMPLETE ASSEMBLY	YES	OTHER _____
2 SCREWED COVER ☒	OTHER _____	
3 PROTECTION CLASS	IP-66	
4 HAZ. AREA CLASSIFICATION	EXia IIB T4	
5 MATERIAL	316 S.S.	ELECTRICAL CONN. M20 X 1.5
6 NIPPLE SIZE	1/2"	DIM."N" UNION ☐
7 AMBIENT TEMPERATURE IN DIRECT SUNLIGHT		
ELEMENT		
8 PLATINUM ☒ 100/0°C	NICKEL ☐	OTHER _____
9 TYPE	PT100	
10 TEMPERATURE RANGE	-100°C to 500 °C	
11 LEADS	STD ☐	POTTED ☐ HERM. SEALED ☒
12 SHEAT MATERIAL	316 S.S.	O.D. 6 mm
13 TYPE	SINGLE ☒	DUPLEX ☐
14 SPRING LOADED	YES ☒	NO ☐
15 CONNECTION	2-WIRE ☐	3-WIRE ☒ 4-WIRE ☐
16 LEAD WIRES ☒	RECEPTACLE ☐	TERMINAL BLOCK ☒
OTHER _____		
WELL OR TUBE		
17 NONE ☐	INCLUDE ☒	BY OTHERS ☐
18 MATERIAL	AISI 316 S.S.	
19 CONSTRUCTION	TAPERED ☒	STRAIGHT ☐
20 SOILD BAR-STOCK ☒	BUILT-UP ☐	CLOSE-END TUBE ☐

21 BORE DIAMETER 6.6 mm (NOTE 4)	22 OUTSIDE DIAMETER AT SUPPORT/TIP : 28/22 mm (NOTE 4)
23 LAGGING EXTENTION "I" : VTA	24 TEST : HYDROSTATIC AND PENETRANT TEST
25 CONNECTION TO SENSOR	1/2" NPT F
26 PROCESS CONNECTION	See list
PERFORMANCE CHARACTERISTICS	
27 MIN/MAX. AMBIENT WORKING TEMPERATURE:	BY VENDOR
TRANSMITTER	
28 TRANSMITTER BODY MATERIAL	EXOPXY PAINTED DIE CAST ALUMINIUM
29 POWER SUPPLY	24 VDC, LOOP POWERED WITH HART
30 OUTPUT RANGE	4-20 ma
31 TRANSMITTER MOUNTING	HEAD MOUNTED
32 ELECTRICAL CONNECTION	ISO M20
33 ACCURACY	± 0.1 % OF CALIBRATED SPAN
34 ENCLOSURE APPROVAL	ATEX
35 ZERO ADJUST: YES	SPAN ADJUST: YES
36 ISOLATION TYPE: Barrier	
37 NIPPLE & UNION MATERIAL: S.S	
38 LCD INDICATOR: YES	
39 MANUFACTURER: *	See list
MODEL NO. :	See list

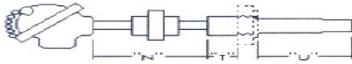


FIG 1

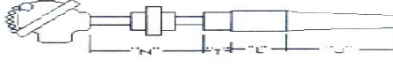


FIG 2

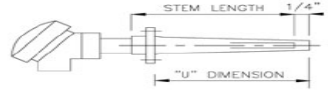


FIG. 3

NOTES :

- * VENDOR TO CONFIRM
- 1) VENDOR SHALL FULLY SUPPLY & ASSEMBLE THERMOWELL WITH THERMOELEMENT AND HEAD MOUNTED TRANSMITTER.
- 2) SURFACE TEMPERATURE WILL REACH TO 85°C IN EXPOSURE OF DIRECT SUNLIGHT.
- 3) HEAD COVER SHALL BE FRONT GLASS TYPE FOR COMPATIBILITY OF INDICATOR REQUIREMENT
- 4) WAKE FREQUENCY CALCULATION SHALL BE SUBMITTED BY MANUFACTURE FOR FINALIZING ALL THERMOWELL SIZE. (ASME PTC 19.3)
- 5) THE LINE SIZE SHALL BE EXPANDED TO 4".
- 6) REFER TO IPS-D-IN-101" FOR THERMOWELL DIMENSION.
- 7) COMPABILITY WITH NACE MR0175/ISO 15156 TO BE CONSIDERED FOR WETTED EQUIPEMNT.

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنيه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)						 HAVAYAR INDUSTRIAL GROUP		
شماره پیمان: 053 - 073 – 9184		INSTRUMENT DATASHEETS / CERTIFICATES							شماره صفحه: 10 از 39	
		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
		Bk	GCS	HY	120	IN	DS	0001		V04
Data Sheet for Differential Pressure Transmitter										
GENERAL	1	Tag No.: (Refer to Next Page)	Service: (Refer to Next Page)							
	2	Function	Record ☐	Indicate ☒	Control ☐	Blind ☐	Trans ☒	Integ ☐	(Note1)	
	3	Case	MFR STD ☒	Nom Size ☐	Color MFR STD ☒	Other				
	4	Mounting	Flush ☐	Surface ☐	Yoke ☒	Other				
	5	Enclosure Class	General Purpose ☐	Weather Proof ☒	Explosion-Proof ☐	Class				
	6		For use in Intrinsically Safe System ☒ Other EExia, IIB, T4							
	7	Power Supply	Ingress Protection : IP 66							
TRANSMITTER	8	Trans. Output	4-20mA ☒	10-50mA ☐	21-10 kpa(3-15 psig) ☐	Other 4-20mA Smart HART				
	9		Transmitter Accuracy : Better than 0.1% of Calibrated Span							
UNIT	10	Service	Flow ☐	Level ☐	Diff. Pressure ☒	Other				
	11	Element Type	Diaphragm ☒	Helix ☐	Bourdon ☐	Bellows ☐	Other			
	12	Material	Body Epoxy Painted Die Cast Aluminum Copper free						Element 316 S.S. as minimum	
	13	Range	Fixed ☐	Adj. Range ☒	Set At	(Refer to Next Page)				
	14	Rating	Overrange Protection: at least 1.5 times the maximum range							
	15	Process Data	Press: Normal	Max	Element Range	(Refer to Next Page)				
	16	Instrument Conn.	1/2 in. NPT ☒ Other Male with wrench flats							
	17		Location: Bottom ☒	Back ☐	Other					
OPTIONS	18	Electrical Conn.	MFR STD ☐	Other ISO M20x1.5						
	19	Miscellaneous	Filt Reg. ☐	Sup. Gage ☐	Output Gage ☐	Charts				
	20	Diaphragm Seal	Diaph Seal ☐ (N/A) Type : Capillary Length: Mtl. : Conn. Fill Fluid : Flushing Connection :							
	21	Manifold	Valve Manifold : See List							
	22	MFR. & Model No.	See list							
Notes: 1- All transmitters shall be provided complete with LCD type integral indicator . 2- Repeatability of the transmitter shall be better than 0.1% of the span. 3- All transmitters shall be reverse polarity protected. 4- All components, particularly if containing electric contacts, shall be vibration resistant. 5- Each Instrument Shall Have a S.S. Tag Plate With Purchaser's Tag Number, The Tag Plate Shall Be Permanently Attached To The Instrument .										

 NISOC		نگهداشت و آزمایش تولید میدان نفتی بینک منطقه الارض و آبیه تحت الارض خرید پمپج های کمپرسور گاز (رگت و برگشتی) بینک (قرارداد 03_BK-HD-GCS-CO-0008)								 HAVAYAR INDUSTRIAL GROUP					
شماره پیغام: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES										شماره صفحه: 11 از 39			
		پروژه	بسته کاری	صفحه کننده	تسهیلات	رشته	نوع متر	سریال	نسخه						
		Bk	GCS	HY	120	IN	DS	0001	V04						
List of DPT															
ITEM NO.	TAG NO.	SERVICE	LINE NO. / EQUIPMENT NO.	P&ID No.	PROCESS CONNECTION	FLUID / STATE	PRESSURE (Barg)		TEMPERATURE (C)	DIFFERENTIAL PRESSURE Norm/Max	Instrument RANGE (Barg)	CALIBRATED RANGE (Barg)	ACCESSORIES	MFR. & Model No.	REMARKS
							Oper. / Design	Norm. / Design							
1	PDT-2122A	Process gas Comp A	GAS-111-0031A-CN05-8"-ET	BK-GCS-HY-120-PR-Pi-0001-Page1A	1/2" NPTM	Sour Gas	4.9 / 22	36.8 / 180	0.1 / 0.2	-0.62~0.62	0~0.4	Wetted Part S.S316 Nace 5 valve manifold S.S316	Rosemount 3051CD2A2B21BB411	Loose Item	
2	PDT-2132A	Process gas Comp A	GAS-111-0044A-CN05-6"-ET	BK-GCS-HY-120-PR-Pi-0001-Page1A	1/2" NPTM	Sour Gas	17.1 / 22	59.9 / 180	0.1 / 0.2	-0.62~0.62	0~0.4	Wetted Part S.S316 Nace 5 valve manifold S.S316	Rosemount 3051CD2A2B21BB411	Loose Item	
3	C-PDT-2204A	Lub Oil Filter	OIL-112-0004A-5.5-2"-NP	BK-GCS-HY-120-PR-Pi-0001-Page3A	1/2" NPTM	Oil	5 / 10	60 / 85	0.1 / 0.5	-2.5~2.5	0~1	5 valve manifold S.S316	Rosemount 3051CD3A2B21BB411		
2	PDT-2122B	Process gas Comp A	GAS-111-0031A-CN05-8"-ET	BK-GCS-HY-120-PR-Pi-0001-Page1B	1/2" NPTM	Sour Gas	4.9 / 22	36.8 / 180	0.1 / 0.2	-0.62~0.62	0~0.4	Wetted Part S.S316 Nace 5 valve manifold S.S316	Rosemount 3051CD2A2B21BB411	Loose Item	
4	PDT-2132B	Process gas Comp B	GAS-111-0044A-CN05-6"-ET	BK-GCS-HY-120-PR-Pi-0001-Page1B	1/2" NPTM	Sour Gas	17.1 / 22	59.9 / 180	0.1 / 0.2	-0.62~0.62	0~0.4	Wetted Part S.S316 Nace 5 valve manifold S.S316	Rosemount 3051CD2A2B21BB411	Loose Item	
5	C-PDT-2204B	Lub Oil Filter	OIL-112-0004A-5.5-2"-NP	BK-GCS-HY-120-PR-Pi-0001-Page3B	1/2" NPTM	Oil	5 / 10	60 / 85	0.1 / 0.5	-2.5~2.5	0~1	5 valve manifold S.S316	Rosemount 3051CD3A2B21BB411		
3	PDT-2122C	Process gas Comp A	GAS-111-0031A-CN05-8"-ET	BK-GCS-HY-120-PR-Pi-0001-Page1C	1/2" NPTM	Sour Gas	4.9 / 22	36.8 / 180	0.1 / 0.2	-0.62~0.62	0~0.4	Wetted Part S.S316 Nace 5 valve manifold S.S316	Rosemount 3051CD2A2B21BB411	Loose Item	
6	PDT-2132C	Process gas Comp C	GAS-111-0044A-CN05-6"-ET	BK-GCS-HY-120-PR-Pi-0001-Page1C	1/2" NPTM	Sour Gas	17.1 / 22	59.9 / 180	0.1 / 0.2	-0.62~0.62	0~0.4	Wetted Part S.S316 Nace 5 valve manifold S.S316	Rosemount 3051CD2A2B21BB411	Loose Item	
7	C-PDT-2204C	Lub Oil Filter	OIL-112-0004A-5.5-2"-NP	BK-GCS-HY-120-PR-Pi-0001-Page3C	1/2" NPTM	Oil	5 / 10	60 / 85	0.1 / 0.5	-2.5~2.5	0~1	5 valve manifold S.S316	Rosemount 3051CD3A2B21BB411		

 NISOC شماره پیمان: 053 - 073 - 9184				نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)						 HAVAYAR INDUSTRIAL GROUP							
INSTRUMENT DATASHEETS / CERTIFICATES										شماره صفحه: 12 از 39							
پروژه				بسته کاری		صنایع کننده		تسهیلات		رشته		نوع مدرک		سریال		نسخه	
BK				GCS		HY		120		IN		DS		0001		V04	
Data Sheet for Differential Pressure Gauge																	
1 Type : Direct Rdg. ☒ Other ☐ liquid filled ☐ 3-15 lb Reciever ☐ 2 Mounting : Direct ☒ Local ☐ Yoke ☐ Other ☐ 3 Dial : Diameter 160 mm Color : White / Black Lettering ,Aluminum Non Rusting Metal 4 Case : SS316 ☒ Cast Aluminum ☐ Phenol ☐ 5 Ring : Screwed ☒ Hinged ☐ Slip ☒ 6 Blow-out Protection : None ☐ Back ☒ Disc ☒ 7 Lens : Solid Front ☐ Glass ☒ Plastic ☐ Other ☐ Safety Glass (shatter proof) 8 Options : Pulsation Dampener ☐ Refer to note ☐ 9 Nominal Accuracy Required : ±1.6% of full scale 10 Over range protection : 1.3 times the maximum scale reading 11 MFR.& Model No. Wika 733.51 12 Press Element : Diaphragm ☒ Bellows ☐ 13 Element Mtl. : Other (Note6) ☐ Steel ☐ 14 Socket Mtl. : SS ☒ Other 316SS ☐ Steel ☐ 15 Connection-NPT : 1/4 in. ☐ 1/2 in. ☒ Other NPTM ☐ 16 Movement: Bottom ☒ Back ☐ SS ☒ 17 Diaphragm Seal Nylon ☐ Other Stainless Steel ☐ 18 Ingress Protection : IP 65																	
Item	Tag No.	Range (barg)	Process Fluid/State	Design		Operating		Differential Pressure		LINE NO./EQUIPMENTNO.	P&ID NO.	Accessories	NOTE				
				Press (barg)	Temp (C°)	Press (barg)	Temp (C°)	Norm. (bar)	Max. (bar)								
1	C-PDG-2204A	0~0.6	Lub Oil Filter	10	85	6	60	0.1	0.5	OIL-112-0004A-S.S-2"-NP	BK-GCS-HY-120-PR-PI-0001-Page3A	5 valve manifold S.S316 Wika IV504					
2	C-PDG-2200A	0~0.6	N2 Gas Supply	10	85	7.5	60	0.15	0.5	OIL-112-0004A-S.S-2"-NP	BK-GCS-HY-120-PR-PI-0001-Page4A	5 valve manifold S.S316 Wika IV504					
3	C-PDG-2201A	0~0.6	Instrument Air	12.5	85	6	65	0.15	0.5	ISA-112-0002A-AZ00-2"-IS	BK-GCS-HY-120-PR-PI-0001-Page2A	5 valve manifold S.S316 Wika IV504					
4	C-PDG-2205A	0~0.6	Jacket Cooling	10	85	3	63	0.1	0.2	CWS-112-0018A-C.S-1/2"-PT	BK-GCS-HY-120-PR-PI-0001-Page6A	5 valve manifold S.S316 Wika IV504					
5	C-PDG-2206A	0~0.6	Jacket Cooling	10	85	3	63	0.1	0.2	CWS-112-0017A-C.S-1/2"-PT	BK-GCS-HY-120-PR-PI-0001-Page6A	5 valve manifold S.S316 Wika IV504					
6	C-PDG-2204B	0~0.6	Lub Oil Filter	10	85	6	60	0.1	0.5	OIL-112-0004B-S.S-2"-NP	BK-GCS-HY-120-PR-PI-0001-Page3B	5 valve manifold S.S316 Wika IV504					
7	C-PDG-2200B	0~0.6	N2 Gas Supply	10	85	7.5	60	0.15	0.5	OIL-112-0004B-S.S-2"-NP	BK-GCS-HY-120-PR-PI-0001-Page4B	5 valve manifold S.S316 Wika IV504					
8	C-PDG-2201B	0~0.6	Instrument Air	12.5	85	6	65	0.15	0.5	ISA-112-0002B-AZ00-2"-IS	BK-GCS-HY-120-PR-PI-0001-Page2B	5 valve manifold S.S316 Wika IV504					
9	C-PDG-2205B	0~0.6	Jacket Cooling	10	85	3	58	0.1	0.2	CWS-112-0018B-C.S-1/2"-PT	BK-GCS-HY-120-PR-PI-0001-Page6B	5 valve manifold S.S316 Wika IV504					
10	C-PDG-2206B	0~0.6	Jacket Cooling	10	85	3	58	0.1	0.2	CWS-112-0017B-C.S-1/2"-PT	BK-GCS-HY-120-PR-PI-0001-Page6B	5 valve manifold S.S316 Wika IV504					
11	C-PDG-2204C	0~0.6	Lub Oil Filter	10	85	6	60	0.1	0.5	OIL-112-0004C-S.S-2"-NP	BK-GCS-HY-120-PR-PI-0001-Page3C	5 valve manifold S.S316 Wika IV504					
12	C-PDG-2200C	0~0.6	N2 Gas Supply	10	85	7.5	60	0.15	0.5	OIL-112-0004C-S.S-2"-NP	BK-GCS-HY-120-PR-PI-0001-Page4C	5 valve manifold S.S316 Wika IV504					
13	C-PDG-2201C	0~0.6	Instrument Air	12.5	85	6	65	0.15	0.5	ISA-112-0002C-AZ00-2"-IS	BK-GCS-HY-120-PR-PI-0001-Page2C	5 valve manifold S.S316 Wika IV504					
14	C-PDG-2205C	0~0.6	Jacket Cooling	10	85	3	58	0.1	0.2	CWS-112-0018C-C.S-1/2"-PT	BK-GCS-HY-120-PR-PI-0001-Page6C	5 valve manifold S.S316 Wika IV504					
15	C-PDG-2206C	0~0.6	Jacket Cooling	10	85	3	58	0.1	0.2	CWS-112-0017C-C.S-1/2"-PT	BK-GCS-HY-120-PR-PI-0001-Page6C	5 valve manifold S.S316 Wika IV504					

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد 03 0008-BK-HD-GCS-CO)						 HAVAYAR INDUSTRIAL GROUP			
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES							شماره صفحه: 13 از 39		
		پروژه	پسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال			نسخه
		BK	GCS	HY	120	IN	DS	0001			V04
INSTRUMENT DATA SHEET FOR FLOW INDICATOR (ROTAMETER)											
GENERAL DATA											
1	TAG NO.		C-FI-2200A		C-FI-2201A		C-FI-2202A		C-FI-2203A		
2	QUANTITY		1		1		1		1		
3	P&ID NO.		BK-GCS-HY-120-PR-PI-0001-Page4A		BK-GCS-HY-120-PR-PI-0001-Page4A		BK-GCS-HY-120-PR-PI-0001-Page4A		BK-GCS-HY-120-PR-PI-0001-Page4A		
4	SERVICE		N2 Gas Supply		N2 Gas Supply		N2 Gas Supply		N2 Gas Supply		
5	LINE NUMBER		1/2" SS316L Tubing		1/2" SS316L Tubing		1/2" SS316L Tubing		1/2" SS316L Tubing		
6	FUNCTION		Local Indicator		Local Indicator		Local Indicator		Local Indicator		
7	MOUNTING		Inline		Inline		Inline		Inline		
FLUID DATA											
8	FLUID		N2 Gas		N2 Gas		N2 Gas		N2 Gas		
9	FLUID STATE		Gas		Gas		Gas		Gas		
10	MAXIMUM FLOW Nm3/h		3		3		3		3		
11	NORMAL FLOW Nm3/h		1.5		1.5		1.5		1.5		
12	PRESS. OPERATING / DESIGN (BARG)		2	12.5	0.5	12.5	0.5	12.5	2	12.5	
13	TEMP. OPERATING / DESIGN (°C)		60	85	60	85	60	85	60	85	
14	DENSITY AT ST. COND. (KG/m³)		1.183		1.183		1.183		1.183		
15	DENSITY AT OP.COND. (KG/m³)		3.251		2.037		2.037		3.251		
16	COMPRESSIBILITY FACTOR (Z)		1		1		1		1		
17	MOL. WEIGHT	CP/CV	28	1.40	28	1.40	28	1.40	28	1.40	
18	OPERATING VISCOSITY (Cp)		-		0.02		0.02		0.02		
19	MAX. PRESSURE DROP @ MAX. FLOW(BAR)		min (nil)		min (nil)		min (nil)		min (nil)		
ROTAMETER DETAIL											
20	TYPE		Metal Type Rotameter-Shall be fitted with Magnetic Follower System For Indication		Metal Type Rotameter-Shall be fitted with Magnetic Follower System For Indication		Metal Type Rotameter-Shall be fitted with Magnetic Follower System For Indication		Metal Type Rotameter-Shall be fitted with Magnetic Follower System For Indication		
21	FLANGE SIZE / RATING / FACING		1/2", 300# R.F		1/2", 300# R.F		1/2", 300# R.F		1/2", 300# R.F		
22	RANGE: FROM / TO (Kg/Hr)		0.39-3.07 Nm3/h		0.39-3.07 Nm3/h		0.39-3.07 Nm3/h		0.39-3.07 Nm3/h		
23	SCALE GRADUATION		Direct Scale		Direct Scale		Direct Scale		Direct Scale		
24	BODY / FLANGE MATERIAL		316 S.S	ASTM A182 F316	316 S.S	ASTM A182 F316	316 S.S	ASTM A182 F316	316 S.S	ASTM A182 F316	
25	FLOAT EXTENSION MATERIAL		316 S.S		316 S.S		316 S.S		316 S.S		
26	Display material		Aluminum		Aluminum		Aluminum		Aluminum		
27	CONNECTION LAYOUT		Bottom-Top , Vertical		Bottom-Top , Vertical		Bottom-Top , Vertical		Bottom-Top , Vertical		
28	INGRESS PROTECTION		IP 65		IP 65		IP 65		IP 65		
29	ACCURACY		±1.6% of full scale or better.		±1.6% of full scale or better.		±1.6% of full scale or better.		±1.6% of full scale or better.		
ACCESSORIES											
30	NEEDLE VALVE		No		No		No		No		
31	SWITCH		No		No		No		No		
PURCHASE											
32	MODEL		BGN		BGN		BGN		BGN		
33	MANUFACTURE		Heinrichs (Kobold Group)		Heinrichs (Kobold Group)		Heinrichs (Kobold Group)		Heinrichs (Kobold Group)		



NISOC

نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض و ابنیه تحت الارض

خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک
(قرارداد 03 0008 BK-HD-GCS-CO)



HAVAYAR
INDUSTRIAL GROUP

شماره پیمان:
053 - 073 – 9184

INSTRUMENT DATASHEETS / CERTIFICATES

رشته

نوع مدرک

سریال

نسخه

تسهیلات

صادرکننده

بسته کاری

پروژه

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BK

شماره صفحه: 14 از 39

INSTRUMENT DATA SHEET FOR FLOW INDICATOR (ROTAMETER)

GENERAL DATA

FLUID DATA

ROTAMETER DETAIL

ACCESSORIES

PURCHASE

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد 03 0008 BK-HD-GCS-CO)						 HAVAYAR INDUSTRIAL GROUP												
شماره پیمان: 053 - 073 – 9184		INSTRUMENT DATASHEETS / CERTIFICATES								شماره صفحه: 15 از 39										
		پروژه		بسته کاری		صادر کننده		تسهیلات				رشته		نوع مدرک		سریال		نسخه		
		BK		GCS		HY		120				IN		DS		0001		V04		
INSTRUMENT DATA SHEET FOR FLOW INDICATOR (ROTAMETER)																				
GENERAL DATA																				
1	TAG NO.		C-FI-2200C				C-FI-2201C				C-FI-2202C				C-FI-2203C					
2	QUANTITY		1				1				1				1					
3	P&ID NO.		BK-GCS-HY-120-PR-PI-0001-Page4C				BK-GCS-HY-120-PR-PI-0001-Page4C				BK-GCS-HY-120-PR-PI-0001-Page4C				BK-GCS-HY-120-PR-PI-0001-Page4C					
4	SERVICE		N2 Gas Supply				N2 Gas Supply				N2 Gas Supply				N2 Gas Supply					
5	LINE NUMBER		1/2" SS316L Tubing				1/2" SS316L Tubing				1/2" SS316L Tubing				1/2" SS316L Tubing					
6	FUNCTION		Local Indicator				Local Indicator				Local Indicator				Local Indicator					
7	MOUNTING		Inline				Inline				Inline				Inline					
FLUID DATA																				
8	FLUID		N2 Gas				N2 Gas				N2 Gas				N2 Gas					
9	FLUID STATE		Gas				Gas				Gas				Gas					
10	MAXIMUM FLOW Nm3/h		3				3				3				3					
11	NORMAL FLOW Nm3/h		1.5				1.5				1.5				1.5					
12	PRESS. OPERATING / DESIGN (BARG)		2		12.5		0.5		12.5		0.5		12.5		2		12.5			
13	TEMP. OPERATING / DESIGN (°C)		60		85		60		85		60		85		60		85			
14	DENSITY AT ST. COND. (KG/m³)		1.183				1.183				1.183				1.183					
15	DENSITY AT OP.COND. (KG/m³)		3.251				2.037				2.037				3.251					
16	COMPRESSIBILITY FACTOR (Z)		1				1				1				1					
17	MOL. WEIGHT		CP/CV		28		1.40		28		1.40		28		1.40		28		1.40	
18	OPERATING VISCOSITY (Cp)		`				0.02				0.02				0.02					
19	MAX. PRESSURE DROP @ MAX. FLOW(BAR)		min (nil)				min (nil)				min (nil)				min (nil)					
ROTAMETER DETAIL																				
20	TYPE		Metal Type Rotameter- Shall be fitted with Magnetic Follower System For Indication				Metal Type Rotameter- Shall be fitted with Magnetic Follower System For Indication				Metal Type Rotameter- Shall be fitted with Magnetic Follower System For Indication				Metal Type Rotameter- Shall be fitted with Magnetic Follower System For Indication					
21	FLANGE SIZE / RATING / FACING		1/2", 300# R.F				1/2", 300# R.F				1/2", 300# R.F				1/2", 300# R.F					
22	RANGE: FROM / TO (Kg/Hr)		0.39–3.07 Nm3/h				0.39–3.07 Nm3/h				0.39–3.07 Nm3/h				0.39–3.07 Nm3/h					
23	SCALE GRADUATION		Direct Scale				Direct Scale				Direct Scale				Direct Scale					
24	BODY / FLANGE MATERIAL		316 S.S		ASTM A182 F316		316 S.S		ASTM A182 F316		316 S.S		ASTM A182 F316		316 S.S		ASTM A182 F316			
25	FLOAT EXTENSION MATERIAL		316 S.S				316 S.S				316 S.S				316 S.S					
26	Display material		Aluminum				Aluminum				Aluminum				Aluminum					
27	CONNECTION LAYOUT		Bottom-Top , Vertical				Bottom-Top , Vertical				Bottom-Top , Vertical				Bottom-Top , Vertical					
28	INGRESS PROTECTION		IP 65				IP 65				IP 65				IP 65					
29	ACCURACY		±1.6% of full scale or better.				±1.6% of full scale or better.				±1.6% of full scale or better.				±1.6% of full scale or better.					
ACCESSORIES																				
30	NEEDLE VALVE		No				No				No				No					
31	SWITCH		No				No				No				No					
PURCHASE																				
32	MODEL		BGN				BGN				BGN				BGN					
33	MANUFACTURE		Heinrichs (Kobold Group)				Heinrichs (Kobold Group)				Heinrichs (Kobold Group)				Heinrichs (Kobold Group)					

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و آبنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)								
شماره پیمان: 053 - 073 – 9184		INSTRUMENT DATASHEETS / CERTIFICATES							شماره صفحه: 16 از 39	
		پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	
		BK	GCS	HY	120	IN	DS	0001	V04	
INSTRUMENT DATA SHEET FOR SIGHT GLASS										
DESIGN DATA										
1	Tag Numbers					See Next Page				
2	Pipe Material Class					C.S				
3	Service					Cooling Water				
4	Operating Pressure					See List				
5	Operating Temperature					See List				
6	Rating					See List				
7	Size Range					See List				
9	P&ID Reference					See List				
SPECIFICATIONS										
10	TYPE					Rotary				
11	End Connection					Flanged R.F				
12	Cover Type					Tempered				
13	Installation Requirements					Horizontal or Vertical				
MATERIALS										
15	Body					C.S				
16	Rotary					Plastic (up to 250 °F)				
17	Glass Cover					TEMPERED GLASS				
18	Gasket					KLINGRIT				
19	Bolts / Studs					C.S				
20	Manufacturer					Kobold				



053 - 073 - 9184

خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک
(قرارداد 03 BK-HD-GCS-CO-0008)



INSTRUMENT DATASHEETS / CERTIFICATES

شماره صفحه: 17 از 39

0392

بسته کاری

صاد: کنندہ

تسهيلات

و شته

عمدی

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نفس

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0001

24

List of Sight Glass

[illegible]

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنيه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)						 HAVAYAR INDUSTRIAL GROUP		
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 18 از 39		
		پروژه	پسته کاری	صادر کننده	تسهیلات	رشته	نوع مدارک			سریال
		BK	GCS	HY	120	IN	DS	0001	V04	
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER										
	1	Tag Number	P&ID No.		FT-2121A		BK-GCS-HY-120-PR-PI-0001-Page1A			
	2	Service	Pipe No.		Sour Gas		GAS-111-0031A-CN05-8"-ET			
	3	Pipe O. D. /I. D. mm	Pipe Sch./Thk.		8"		SCH.20			
	4	Pipe Material	Pipe Insulation		ASTM A106 Gr.B		N/A			
Process Conditions	5	Fluid	State		Sour Hydrocarbon		Gas			
	6	Operating Pressure bar(g)	Design Pressure bar(g)		4.9		22			
	7	Operating Temperature °C	Design Temperature °C		36.8 / 18.9		180			
	8	Flow Rate			Unit	Min. Flow	Nor. Flow	Max. Flow		
		kg/h(Liquid,Steam),Nm3/h(Gas)			Nm3/h	1971	7918	8162.9		
	9	Operating Density kg/m3	Standard Density kg/Nm3		5.771		-			
	10	Kinetic Viscosity(mm2/s)	Dynamic Viscosity (cP)		-		0.0115			
	11	Specific Heat Ratio Cp/Cv	Compress Factor		1.245		0.975			
	12	Vapor Pressure	Vapor Density kg/m3		NA		-			
	13	Molecular Weight	Relative Humidity		24.52		97%			
	14	Allowable Pressure Drop @ Max. Flow				0~10 mbar				
	Element	15	Tag Number	FE-2121A						
		16	Measure Element Type	Concentric Square Edge Orifice Plate						
		17	Measure Element Material	Thickness		S.S316-Nace		6mm		
18		Bore Diameter	84.66mm							
Flange	19	Connection Type	Size		Flange Weld neck		8"			
	20	Flange Standard	Flange Rating		ASME B16.36		ANSI 300#			
	21	Flange Material	Facing		C.S. (Nace)		RF			
	22	Bolt /Nut Material	Bolt /Nut Standard		ASTM A193 Gr.B7M		ASTM A194 Gr. 2HM			
	23	Tapping				1/2" NPTF				
	24	Jackscrews				Yes				
	25	Gasket Type & Material				Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring				
	Transmitter Unit	26	Model	Diff pressure						
27		Available Range	-623 to 623 mbar							
28		Flowmeter Scale	0~8979Nm3/h							
29		Full Scale Differential Pressure (bar)	0~10 mbar							
30		Output Signal	HART 4-20mA							
31		Accuracy	0.2 %							
32		Load Resistance	minimum loop resistance of 250 ohms							
33		Scale Factor	Square Root							
34		Housing Material	Cast aluminum							
35		Allowable Static Pressure	250Barg							
36		Power Supply	24 V DC Loop Powered							
37		Electrical Connection	ISO M20x1.5							
38		Process Connection	1/2" NPTF							
39		Explosion Proof	Exia IIB T3							
40		Enclosure Protection	IP66							
41		Diaphragm Material	S.S316-Nace							
42		Wetted Part Material	S.S316-Nace							
43		Drains/Vents Material	S.S316-Nace							
44		Integral Indicator / Mounting type	Yes / Direct							
Accessories		45	Valve Manifold	5 valve-S.S316						
	46	Upstream Straight Run	10X							
	47	Downstream Straight Run	5X							
Miscell.	48	Manufacturer	Rosemount 3051CD1A2B21BB411							
	49	Requisition No.								
NOTES:										
1) Spiral Wound as per API 601, 316+Graf or CS, Thk 4.5mm with stainless steel winding and flexible graphite filter.										
VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable										

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنيه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد 03 BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP	
		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 19 از 39	
شماره پیمان: 053 - 073 - 9184		پروژه BK	بسته کاری GCS	صادر کننده HY	تسهیلات 120	رشته IN	نوع مترک DS	سریال 0001	نسخه V04
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER									
Process Conditions	1	Tag Number	P&ID No.		FT-2131A		BK-GCS-HY-120-PR-PI-0001-Page1A		
	2	Service	Pipe No.		Sour Gas		GAS-111-0044A-CN05-6"-ET		
	3	Pipe O. D. /I. D. mm	Pipe Sch./Thk.		6"		SCH.20		
	4	Pipe Material	Pipe Insulation		ASTM A106 Gr.B		N/A		
	5	Fluid	State		Sour Hydrocarbon		Gas		
	6	Operating Pressure bar(g)	Design Pressure bar(g)		17.1		22		
	7	Operating Temperature °C	Design Temperature °C		59.9		180		
	8	Flow Rate	Unit		Min. Flow		Nor. Flow		Max. Flow
		kg/h(Liquid,Steam),Nm3/h(Gas)	Nm3/h		1971		7918		8162.9
	9	Operating Density kg/m3	Standard Density kg/Nm3		17.35		-		
	10	Kinetic Viscosity(mm2/s)	Dynamic Viscosity (cP)		-		.0126		
	11	Specific Heat Ratio Cp/Cv	Compress Factor		1.275		0.964		
	12	Vapor Pressure	Vapor Density kg/m3		19.76		-		
	13	Molecular Weight	Relative Humidity		24.52		89%		
14	Allowable Pressure Drop @ Max. Flow				0~10 mbar				
Element	15	Tag Number		FE-2131A					
	16	Measure Element Type		Concentric Square Edge Orifice Plate					
	17	Measure Element Material	Thickness		S.S316-Nace		3mm		
	18	Bore Diameter		84.70mm					
Flange	19	Connection Type	Size		Flange Weld neck		6"		
	20	Flange Standard	Flange Rating		ASME B16.36		ANSI 300#		
	21	Flange Material	Facing		C.S. (Nace)		RF		
	22	Bolt /Nut Material	Bolt /Nut Standard		ASTM A193 Gr.B7M		ASTM A194 Gr. 2HM		
	23	Tapping		1/2" NPTF					
	24	Jackscrews		Yes					
	25	Gasket Type & Material		Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring					
	26	Model		Diff pressure					
Transmitter Unit	27	Available Range		-623 to 623 mbar					
	28	Flowmeter Scale		0~8979Nm3/h					
	29	Full Scale Differential Pressure (bar)		0~10 mbar					
	30	Output Signal		HART 4-20mA					
	31	Accuracy		0.2 %					
	32	Load Resistance		minimum loop resistance of 250 ohms					
	33	Scale Factor		Square Root					
	34	Housing Material		Cast aluminum					
	35	Allowable Static Pressure		250Barg					
	36	Power Supply		24 V DC Loop Powered					
	37	Electrical Connection		ISO M20x1.5					
	38	Process Connection		1/2" NPTF					
	39	Explosion Proof		Exia IIB T3					
	40	Enclosure Protection		IP66					
	41	Diaphragm Material		S.S316-Nace					
	42	Wetted Part Material		S.S316-Nace					
	43	Drains/Vents Material		S.S316-Nace					
	44	Integral Indicator / Mounting type		Yes / Direct					
Accessories	45	Valve Manifold		5 valve-S.S316					
	46	Upstream Straight Run		10X					
	47	Downstream Straight Run		5X					
Miscell.	48	Manufacturer		Rosemount 3051CD1A2B21BB411					
	49	Requisition No.							
NOTES:									
1) Spiral Wound as per API 601, 316+Graf or CS, Thk 4.5mm with stainless steel winding and flexible graphite filter.									
VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable									

 NISOC		دستگاهت و افزایش تولید میدان نفتی بینک سطح الارض و اینیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد 03 BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP		
		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 20 از 39		
شماره پیمان: 053 - 073 - 9184		پروژه BK	بسته کاری GCS	صادر کننده HY	تسهیلات 120	رشته IN	نوع مدرک DS	سریال 0001	نسخه V04	
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER										
	1	Tag Number	P&ID No.		C-FT-2206A		BK-GCS-HY-120-PR-PI-0001-Page6A			
	2	Service	Pipe No.		Water Console		CWR-112-0010A-C.S-3"-IS			
	3	Pipe O. D. /I. D. mm	Pipe Sch./Thk.		3"		SCH.20			
	4	Pipe Material	Pipe Insulation		ASTM A106 Gr.B		N/A			
Process Conditions	5	Fluid	State		Water		Liquid			
	6	Operating Pressure bar(g)	Design Pressure bar(g)		3		8			
	7	Operating Temperature °C	Design Temperature °C		58		85			
	8	Flow Rate kg/h(Liquid,Steam),Nm3/h(Gas)	Unit Kg/h		Min. Flow	Nor. Flow	Max. Flow			
						15300	16830			
	9	Operating Density kg/m3	Standard Density kg/Nm3		1060		-			
	10	Kinetic Viscosity(mm2/s)	Dynamic Viscosity (cP)		-		1.87			
	11	Specific Heat Ratio Cp/Cv	Compress Factor		1.1		0.0053			
	12	Vapor Pressure	Vapor Density kg/m3		-		-			
	13	Molecular Weight	Relative Humidity		~ 40		-			
	14	Allowable Pressure Drop @ Max. Flow				0~100 mbar				
	Element	15	Tag Number			C-FE-2206A				
		16	Measure Element Type			Concentric Square Edge Orifice Plate				
		17	Measure Element Material	Thickness		316SS		3mm		
18		Bore Diameter			44.5mm					
Flange	19	Connection Type	Size		Flange Weld neck		3"			
	20	Flange Standard	Flange Rating		ASME B16.36		ANSI 300#			
	21	Flange Material	Facing		C.S.		RF			
	22	Bolt /Nut Material	Bolt /Nut Standard		ASTM A193 Gr.B7M Galvanized		ASTM A194 Gr. 2HM Galvanized			
	23	Tapping			1/2" NPTF					
	24	Jackscrews			Yes					
	25	Gasket Type & Material								
Transmitter Unit	26	Model			Diff pressure					
	27	Available Range			-623 to 623 mbar					
	28	Flowmeter Scale			0~18513m3/h					
	29	Full Scale Differential Pressure (bar)			0~100 mbar					
	30	Output Signal			HART 4-20mA					
	31	Accuracy			0.2 %					
	32	Load Resistance			minimum loop resistance of 250 ohms					
	33	Scale Factor			Square Root					
	34	Housing Material			Cast aluminum					
	35	Allowable Static Pressure			250Barg					
	36	Power Supply			24 V DC Loop Powered					
	37	Electrical Connection			ISO M20x1.5					
	38	Process Connection			1/2" NPTF					
	39	Explosion Proof			Exia IIB T3					
	40	Enclosure Protection			IP66					
	41	Diaphragm Material			S.S316					
	42	Wetted Part Material			S.S316					
	43	Drains/Vents Material			S.S316					
	44	Integral Indicator / Mounting type			Yes / Direct					
Accessories	45	Valve Manifold			5 valve-S.S316					
	46	Upstream Straight Run			10X					
	47	Downstream Straight Run			5X					
Miscell.	48	Manufacturer			Rosemount 3051CD2A2B21BB411					
	49	Requisition No.								
NOTES:										
1) Spiral Wound as per API 601, 316+Graf or CS, Thk 4.5mm with stainless steel winding and flexible graphite filter.										
VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable										

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و اینیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد 03 BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP	
		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 21 از 39	
شماره پیمان: 053 - 073 - 9184		پروژه BK	بسته کاری GCS	صادر کننده HY	تسهیلات 120	رشته IN	نوع مترک DS	سریال 0001	نسخه V04
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER									
Process Conditions	1	Tag Number	P&ID No.		FT-2121B		BK-GCS-HY-120-PR-PI-0001-Page1B		
	2	Service	Pipe No.		Sour Gas		GAS-111-0031A-CN05-8"-ET		
	3	Pipe O. D. /I. D. mm	Pipe Sch./Thk.		8"		SCH.20		
	4	Pipe Material	Pipe Insulation		ASTM A106 Gr.B		N/A		
	5	Fluid	State		Sour Hydrocarbon		Gas		
	6	Operating Pressure bar(g)	Design Pressure bar(g)		4.9		22		
	7	Operating Temperature °C	Design Temperature °C		36.8 / 18.9		180		
	8	Flow Rate	Unit		Min. Flow	Nor. Flow	Max. Flow		
		kg/h(Liquid,Steam),Nm3/h(Gas)	Nm3/h		7887	7918	8162.9		
	9	Operating Density kg/m3	Standard Density kg/Nm3		5.771		-		
	10	Kinetic Viscosity(mm2/s)	Dynamic Viscosity (cP)		-		0.0115		
	11	Specific Heat Ratio Cp/Cv	Compress Factor		1.245		0.975		
	12	Vapor Pressure	Vapor Density kg/m3		5.102		-		
	13	Molecular Weight	Relative Humidity		24.52		97%		
14	Allowable Pressure Drop @ Max. Flow				0~10 mbar				
Element	15	Tag Number		FE-2121B					
	16	Measure Element Type		Concentric Square Edge Orifice Plate					
	17	Measure Element Material	Thickness		S.S316-Nace		6mm		
	18	Bore Diameter		84.66mm					
Flange	19	Connection Type	Size		Flange Weld neck		8"		
	20	Flange Standard	Flange Rating		ASME B16.36		ANSI 300#		
	21	Flange Material	Facing		C.S. (Nace)		RF		
	22	Bolt /Nut Material	Bolt /Nut Standard		ASTM A193 Gr.B7M		ASTM A194 Gr. 2HM		
	23	Tapping		1/2" NPTF					
	24	Jackscrews		Yes					
	25	Gasket Type & Material		Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring					
	26	Model		Diff pressure					
Transmitter Unit	27	Available Range		-623 to 623 mbar					
	28	Flowmeter Scale		0~8979Nm3/h					
	29	Full Scale Differential Pressure (bar)		0~10 mbar					
	30	Output Signal		HART 4-20mA					
	31	Accuracy		0.2 %					
	32	Load Resistance		minimum loop resistance of 250 ohms					
	33	Scale Factor		Square Root					
	34	Housing Material		Cast aluminum					
	35	Allowable Static Pressure		250Barg					
	36	Power Supply		24 V DC Loop Powered					
	37	Electrical Connection		ISO M20x1.5					
	38	Process Connection		1/2" NPTF					
	39	Explosion Proof		Exia IIB T3					
	40	Enclosure Protection		IP66					
	41	Diaphragm Material		S.S316-Nace					
	42	Wetted Part Material		S.S316-Nace					
	43	Drains/Vents Material		S.S316-Nace					
	44	Integral Indicator / Mounting type		Yes / Direct					
Accessories	45	Valve Manifold		5 valve-S.S316					
	46	Upstream Straight Run		10X					
	47	Downstream Straight Run		5X					
Miscell.	48	Manufacturer		Rosemount 3051CD1A2B21BB411					
	49	Requisition No.							
NOTES:									
1) Spiral Wound as per API 601, 316+Graf or CS, Thk 4.5mm with stainless steel winding and flexible graphite filter.									
VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable									

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و اینیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد 03 BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP	
		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 22 از 39	
شماره پیمان: 053 - 073 - 9184		پروژه BK	بسته کاری GCS	صادر کننده HY	تسهیلات 120	رشته IN	نوع مترک DS	سریال 0001	نسخه V04
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER									
Process Conditions	1	Tag Number	P&ID No.		FT-2131B		BK-GCS-HY-120-PR-PI-0001-Page1B		
	2	Service	Pipe No.		Sour Gas		GAS-111-0044A-CN05-6"-ET		
	3	Pipe O. D. /I. D. mm	Pipe Sch./Thk.		6"		SCH.20		
	4	Pipe Material	Pipe Insulation		ASTM A106 Gr.B		N/A		
	5	Fluid	State		Sour Hydrocarbon		Gas		
	6	Operating Pressure bar(g)	Design Pressure bar(g)		17.1		22		
	7	Operating Temperature °C	Design Temperature °C		59.9		180		
	8	Flow Rate	Unit		Min. Flow	Nor. Flow	Max. Flow		
		kg/h(Liquid,Steam),Nm3/h(Gas)	Nm3/h		7887	7918	8162.9		
	9	Operating Density kg/m3	Standard Density kg/Nm3		17.35		-		
	10	Kinetic Viscosity(mm2/s)	Dynamic Viscosity (cP)		-		.0126		
	11	Specific Heat Ratio Cp/Cv	Compress Factor		1.275		0.964		
	12	Vapor Pressure	Vapor Density kg/m3		19.76		-		
	13	Molecular Weight	Relative Humidity		24.52		89%		
14	Allowable Pressure Drop @ Max. Flow				0~10 mbar				
Element	15	Tag Number		FE-2131B					
	16	Measure Element Type		Concentric Square Edge Orifice Plate					
	17	Measure Element Material	Thickness		S.S316-Nace		3mm		
	18	Bore Diameter		84.70mm					
Flange	19	Connection Type	Size		Flange Weld neck		6"		
	20	Flange Standard	Flange Rating		ASME B16.36		ANSI 300#		
	21	Flange Material	Facing		C.S. (Nace)		RF		
	22	Bolt /Nut Material	Bolt /Nut Standard		ASTM A193 Gr.B7M		ASTM A194 Gr. 2HM		
	23	Tapping		1/2" NPTF					
	24	Jackscrews		Yes					
	25	Gasket Type & Material		Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring					
	26	Model		Diff pressure					
Transmitter Unit	27	Available Range		-623 to 623 mbar					
	28	Flowmeter Scale		0~8979Nm3/h					
	29	Full Scale Differential Pressure (bar)		0~10 mbar					
	30	Output Signal		HART 4-20mA					
	31	Accuracy		0.2 %					
	32	Load Resistance		minimum loop resistance of 250 ohms					
	33	Scale Factor		Square Root					
	34	Housing Material		Cast aluminum					
	35	Allowable Static Pressure		250Barg					
	36	Power Supply		24 V DC Loop Powered					
	37	Electrical Connection		ISO M20x1.5					
	38	Process Connection		1/2" NPTF					
	39	Explosion Proof		Exia IIB T3					
	40	Enclosure Protection		IP66					
	41	Diaphragm Material		S.S316-Nace					
	42	Wetted Part Material		S.S316-Nace					
	43	Drains/Vents Material		S.S316-Nace					
	44	Integral Indicator / Mounting type		Yes / Direct					
Accessories	45	Valve Manifold		5 valve-S.S316					
	46	Upstream Straight Run		10X					
	47	Downstream Straight Run		5X					
Miscell.	48	Manufacturer		Rosemount 3051CD1A2B21BB411					
	49	Requisition No.							
NOTES:									
1) Spiral Wound as per API 601, 316+Graf or CS, Thk 4.5mm with stainless steel winding and flexible graphite filter.									
VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable									

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنيه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد 03 BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP						
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES								شماره صفحه: 23 از 39				
		پروژه	GCS	پسته کاری	HY	تجهیزات	120	رشته	IN		نوع مترک	DS	سریال	0001
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER														
Process Conditions	1	Tag Number	P&ID No.		C-FT-2206B			BK-GCS-HY-120-PR-PI-0001-Page6B						
	2	Service	Pipe No.		Water Console			CWR-112-0010A-C.S-3"-IS						
	3	Pipe O. D. / I. D. mm	Pipe Sch./Thk.		3"			SCH.20						
	4	Pipe Material	Pipe Insulation		ASTM A106 Gr.B			N/A						
	5	Fluid	State		Water			Liquid						
	6	Operating Pressure bar(g)	Design Pressure bar(g)		3			7						
	7	Operating Temperature °C	Design Temperature °C		58			85						
	8	Flow Rate			Unit	Min. Flow	Nor. Flow		Max. Flow					
		kg/h(Liquid,Steam),Nm3/h(Gas)		m3/h			15300		16830					
	9	Operating Density kg/m3	Standard Density kg/Nm3		1060			-						
	10	Kinetic Viscosity(mm2/s)	Dynamic Viscosity (cP)		-			1.87						
	11	Specific Heat Ratio Cp/Cv	Compress Factor		1.1			0.0053						
	12	Vapor Pressure	Vapor Density kg/m3		-			-						
	13	Molecular Weight	Relative Humidity		~ 40			-						
14	Allowable Pressure Drop @ Max. Flow				0~100 mbar									
Element	15	Tag Number			C-FE-2206B									
	16	Measure Element Type			Concentric Square Edge Orifice Plate									
	17	Measure Element Material	Thickness		316SS			3mm						
	18	Bore Diameter			44.5mm									
Flange	19	Connection Type	Size		Flange Weld neck			3"						
	20	Flange Standard	Flange Rating		ASME B16.36			ANSI 300#						
	21	Flange Material	Facing		C.S.			RF						
	22	Bolt /Nut Material	Bolt /Nut Standard		ASTM A193 Gr.B7M			ASTM A194 Gr. 2HM						
	23	Tapping		1/2" NPTF										
	24	Jackscrews		Yes										
	25	Gasket Type & Material												
Transmitter Unit	26	Model			Diff pressure									
	27	Available Range			-623 to 623 mbar									
	28	Flowmeter Scale			0~18513m3/h									
	29	Full Scale Differential Pressure (bar)			0~100 mbar									
	30	Output Signal			HART 4-20mA									
	31	Accuracy			0.2 %									
	32	Load Resistance			minimum loop resistance of 250 ohms									
	33	Scale Factor			Square Root									
	34	Housing Material			Cast aluminum									
	35	Allowable Static Pressure			250Barg									
	36	Power Supply			24 V DC Loop Powered									
	37	Electrical Connection			ISO M20x1.5									
	38	Process Connection			1/2" NPTF									
	39	Explosion Proof			Exia IIB T3									
	40	Enclosure Protection			IP66									
	41	Diaphragm Material			S.S316									
	42	Wetted Part Material			S.S316									
	43	Drains/Vents Material			S.S316									
	44	Integral Indicator / Mounting type			Yes / Direct									
Accessories	45	Valve Manifold			5 valve-S.S316									
	46	Upstream Straight Run			10X									
	47	Downstream Straight Run			5X									
Miscell.	48	Manufacturer			Rosemount 3051CD2A2B21BB411									
	49	Requisition No.												
NOTES:														
1) Spiral Wound as per API 601, 316+Graf or CS, Thk 4.5mm with stainless steel winding and flexible graphite filter.														
VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable														

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنيه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد 03 BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP	
		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 24 از 39	
شماره پیمان: 053 - 073 - 9184		پروژه BK	بسته کاری GCS	صادر کننده HY	تسهیلات 120	رشته IN	نوع مترک DS	سریال 0001	نسخه V04
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER									
Process Conditions	1	Tag Number	P&ID No.		FT-2121C		BK-GCS-HY-120-PR-PI-0001-Page1C		
	2	Service	Pipe No.		Sour Gas		GAS-111-0031A-CN05-8"-ET		
	3	Pipe O. D. /I. D. mm	Pipe Sch./Thk.		8"		SCH.20		
	4	Pipe Material	Pipe Insulation		ASTM A106 Gr.B		N/A		
	5	Fluid	State		Sour Hydrocarbon		Gas		
	6	Operating Pressure bar(g)	Design Pressure bar(g)		4.9		22		
	7	Operating Temperature °C	Design Temperature °C		36.8 / 18.9		180		
	8	Flow Rate	Unit		Min. Flow	Nor. Flow	Max. Flow		
		kg/h(Liquid,Steam),Nm3/h(Gas)	Nm3/h		7887	7918	8162.9		
	9	Operating Density kg/m3	Standard Density kg/Nm3		5.771		-		
	10	Kinetic Viscosity(mm2/s)	Dynamic Viscosity (cP)		-		0.0115		
	11	Specific Heat Ratio Cp/Cv	Compress Factor		1.245		0.975		
	12	Vapor Pressure	Vapor Density kg/m3		5.102		-		
	13	Molecular Weight	Relative Humidity		24.52		97%		
14	Allowable Pressure Drop @ Max. Flow				0~10 mbar				
Element	15	Tag Number		FE-2121C					
	16	Measure Element Type		Concentric Square Edge Orifice Plate					
	17	Measure Element Material	Thickness		S.S316-Nace		6mm		
	18	Bore Diameter		84.66mm					
Flange	19	Connection Type	Size		Flange Weld neck		8"		
	20	Flange Standard	Flange Rating		ASME B16.36		ANSI 300#		
	21	Flange Material	Facing		C.S. (Nace)		RF		
	22	Bolt /Nut Material	Bolt /Nut Standard		ASTM A193 Gr.B7M		ASTM A194 Gr. 2HM		
	23	Tapping		1/2" NPTF					
	24	Jackscrews		Yes					
	25	Gasket Type & Material		Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring					
Transmitter Unit	26	Model		Diff pressure					
	27	Available Range		-623 to 623 mbar					
	28	Flowmeter Scale		0~8979Nm3/h					
	29	Full Scale Differential Pressure (bar)		0~10 mbar					
	30	Output Signal		HART 4-20mA					
	31	Accuracy		0.2 %					
	32	Load Resistance		minimum loop resistance of 250 ohms					
	33	Scale Factor		Square Root					
	34	Housing Material		Cast aluminum					
	35	Allowable Static Pressure		250Barg					
	36	Power Supply		24 V DC Loop Powered					
	37	Electrical Connection		ISO M20x1.5					
	38	Process Connection		1/2" NPTF					
	39	Explosion Proof		Exia IIB T3					
	40	Enclosure Protection		IP66					
	41	Diaphragm Material		S.S316-Nace					
	42	Wetted Part Material		S.S316-Nace					
	43	Drains/Vents Material		S.S316-Nace					
	44	Integral Indicator / Mounting type		Yes / Direct					
Accessories	45	Valve Manifold		5 valve-S.S316					
	46	Upstream Straight Run		10X					
	47	Downstream Straight Run		5X					
Miscell.	48	Manufacturer		Rosemount 3051CD1A2B21BB411					
	49	Requisition No.							
NOTES:									
1) Spiral Wound as per API 601, 316+Graf or CS, Thk 4.5mm with stainless steel winding and flexible graphite filter.									
VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable									

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و اینیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد 03 BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP	
		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 25 از 39	
شماره پیمان: 053 - 073 - 9184		پروژه BK	بسته کاری GCS	صادر کننده HY	تسهیلات 120	رشته IN	نوع مترک DS	سریال 0001	نسخه V04
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER									
Process Conditions	1	Tag Number	P&ID No.		FT-2131C		BK-GCS-HY-120-PR-PI-0001-Page1C		
	2	Service	Pipe No.		Sour Gas		GAS-111-0044A-CN05-6"-ET		
	3	Pipe O. D. /I. D. mm	Pipe Sch./Thk.		6"		SCH.20		
	4	Pipe Material	Pipe Insulation		ASTM A106 Gr.B		N/A		
	5	Fluid	State		Sour Hydrocarbon		Gas		
	6	Operating Pressure bar(g)	Design Pressure bar(g)		17.1		22		
	7	Operating Temperature °C	Design Temperature °C		59.9		180		
	8	Flow Rate	Unit		Min. Flow	Nor. Flow	Max. Flow		
		kg/h(Liquid,Steam),Nm3/h(Gas)	Nm3/h		7887	7918	8162.9		
	9	Operating Density kg/m3	Standard Density kg/Nm3		17.35		-		
	10	Kinetic Viscosity(mm2/s)	Dynamic Viscosity (cP)		-		.0126		
	11	Specific Heat Ratio Cp/Cv	Compress Factor		1.275		0.964		
	12	Vapor Pressure	Vapor Density kg/m3		19.76		-		
	13	Molecular Weight	Relative Humidity		24.52		89%		
14	Allowable Pressure Drop @ Max. Flow				0~10 mbar				
Element	15	Tag Number		FE-2197C					
	16	Measure Element Type		Concentric Square Edge Orifice Plate					
	17	Measure Element Material	Thickness		S.S316-Nace		3mm		
	18	Bore Diameter		84.70mm					
Flange	19	Connection Type	Size		Flange Weld neck		6"		
	20	Flange Standard	Flange Rating		ASME B16.36		ANSI 300#		
	21	Flange Material	Facing		C.S. (Nace)		RF		
	22	Bolt /Nut Material	Bolt /Nut Standard		ASTM A193 Gr.B7M		ASTM A194 Gr. 2HM		
	23	Tapping		1/2" NPTF					
	24	Jackscrews		Yes					
	25	Gasket Type & Material		Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring					
	26	Model		Diff pressure					
Transmitter Unit	27	Available Range		-623 to 623 mbar					
	28	Flowmeter Scale		0~8979Nm3/h					
	29	Full Scale Differential Pressure (bar)		0~10 mbar					
	30	Output Signal		HART 4-20mA					
	31	Accuracy		0.2 %					
	32	Load Resistance		minimum loop resistance of 250 ohms					
	33	Scale Factor		Square Root					
	34	Housing Material		Cast aluminum					
	35	Allowable Static Pressure		250Barg					
	36	Power Supply		24 V DC Loop Powered					
	37	Electrical Connection		ISO M20x1.5					
	38	Process Connection		1/2" NPTF					
	39	Explosion Proof		Exia IIB T3					
	40	Enclosure Protection		IP66					
	41	Diaphragm Material		S.S316-Nace					
	42	Wetted Part Material		S.S316-Nace					
	43	Drains/Vents Material		S.S316-Nace					
	44	Integral Indicator / Mounting type		Yes / Direct					
Accessories	45	Valve Manifold		5 valve-S.S316					
	46	Upstream Straight Run		10X					
	47	Downstream Straight Run		5X					
Miscell.	48	Manufacturer		Rosemount 3051CD1A2B21BB411					
	49	Requisition No.							
NOTES:									
1) Spiral Wound as per API 601, 316+Graf or CS, Thk 4.5mm with stainless steel winding and flexible graphite filter.									
VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable									

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و اینپیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد 03 BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP	
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 26 از 39	
		پروژه	پسته کاری	صنایع کننده	تجهیزات	رشته	نوع متر	سریال	نسخه
		BK	GCS	HY	120	IN	DS	0001	V04
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER									
	1	Tag Number		P&ID No.		C-FT-2206C		BK-GCS-HY-120-PR-PI-0001-Page6C	
	2	Service		Pipe No.		Water Console		CWR-112-0010A-C.S-3-IS	
	3	Pipe O. D. / I. D. mm		Pipe Sch./Thk.		3"			
	4	Pipe Material		Pipe Insulation					
Process Conditions	5	Fluid		State		Water		Liquid	
	6	Operating Pressure bar(g)		Design Pressure bar(g)		3		7	
	7	Operating Temperature °C		Design Temperature °C		58		85	
	8	Flow Rate		Unit		Min. Flow		Nor. Flow	
		kg/h(Liquid,Steam),Nm3/h(Gas)		m3/h				15300	
	9	Operating Density kg/m3		Standard Density kg/Nm3		1060		-	
	10	Kinetic Viscosity(mm2/s)		Dynamic Viscosity (cP)		-		1.87	
	11	Specific Heat Ratio Cp/Cv		Compress Factor		1.1		0.0053	
	12	Vapor Pressure		Vapor Density kg/m3		-		-	
	13	Molecular Weight		Relative Humidity		~ 40		-	
14	Allowable Pressure Drop @ Max. Flow				0~100 mbar				
Element	15	Tag Number				C-FE-2206C			
	16	Measure Element Type				Concentric Square Edge Orifice Plate			
	17	Measure Element Material		Thickness		316SS		3mm	
Flange	18	Bore Diameter				44.5mm			
	19	Connection Type		Size		Flange Weld neck		3"	
	20	Flange Standard		Flange Rating		ASME B16.36		ANSI 300#	
	21	Flange Material		Facing		C.S.		RF	
	22	Bolt /Nut Material		Bolt /Nut Standard		ASTM A193 Gr.B7M		ASTM A194 Gr. 2HM	
	23	Tapping				1/2" NPTF			
	24	Jackscrews				Yes			
Transmitter Unit	25	Gasket Type & Material							
	26	Model				Diff pressure			
	27	Available Range				-623 to 623 mbar			
	28	Flowmeter Scale				0~18513m3/h			
	29	Full Scale Differential Pressure (bar)				0~100 mbar			
	30	Output Signal				HART 4-20mA			
	31	Accuracy				0.2 %			
	32	Load Resistance				minimum loop resistance of 250 ohms			
	33	Scale Factor				Square Root			
	34	Housing Material				Cast aluminum			
	35	Allowable Static Pressure				250Barg			
	36	Power Supply				24 V DC Loop Powered			
	37	Electrical Connection				ISO M20x1.5			
	38	Process Connection				1/2" NPTF			
	39	Explosion Proof				Exia IIB T3			
	40	Enclosure Protection				IP66			
	41	Diaphragm Material				S.S316			
	Accessories	42	Wetted Part Material				S.S316		
43		Drains/Vents Material				S.S316			
44		Integral Indicator / Mounting type				Yes / Direct			
45		Valve Manifold				5 valve-S.S316			
Miscell.	46	Upstream Straight Run				10X			
	47	Downstream Straight Run				5X			
	48	Manufacturer				Rosemount 3051CD2A2B21BB411			
	49	Requisition No.							
NOTES:									
1) Spiral Wound as per API 601, 316+Graf or CS, Thk 4.5mm with stainless steel winding and flexible graphite filter.									
VTA:Vendor to Advise VTC:Vendor to Confirm N/A:Not Applicable									

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)						 HAVAYAR INDUSTRIAL GROUP	
		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 27 از 39	
شماره پیمان: 053 - 073 - 9184		پروژه BK	پسته کاری GCS	صادر کننده HY	تسهیلات 120	رشته IN	نوع مدرک DS	سریال 0001	نسخه V04
General	1	Instrument Name				Level gauge			
	2	Tag Number	P&ID No.		C-LG-2213A		BK-GCS-HY-120-PR-PI-0001-Page5A		
	3	Service	Equipment No.				TK-2101-WR A		
	4	Pipe Class	Vessel Material						
	5	Vessel Class							
Process Conditions	6	Upper Fluid	Lower Fluid		Air		Water / Glycol		
	7	Upper Density kg/m3	Lower Density kg/m3		1.225		1063		
	8	Operating Pressure bar(g)	Design Pressure bar(g)		ATM		3.5		
	9	Operating Temperature °C	Design Temperature °C		70		85		
	10	Upper/Lower Kinetic Viscosity (mm2/S)				-			
	11	Upper/Lower Dynamic Viscosity (cP)				0.0209 / 1.87			
Body & Cage	12	Model/Type				Magnetic			
	13	C to C mm				1250mm			
	14	Allowable Oper. Temp. °C	Pressure Rating						
	15	Mounting Style	Connection Orientation		External		Side-Side		
	16	Visible Length mm					1370mm		
	17	Scale Unit/Material	Accuracy		Cm		5mm		
	18	Indicator Type	Indicator Colour		Magnetic		Flag/White & red		
	19	Chamber Material	Float Material		S.S		Titanium		
	20	Connection Type	Connection Size		Flange		2"		
	21	Flange Standard	Flange Rating		ASME		300		
	22	Flange Material	Facing		S.S316		RF		
	Transmitter/Switch	23	Other Wetted Parts Material				S.S		
24		Float Dimension	Indicator Housing Material		50x175mm		S.S316		
25		Output Signal	Load Resistance		N/A		N/A		
26		Switch Type	Switch Quantity		N/A		N/A		
27		Contact Form	Contact Rating		N/A		N/A		
28		Switch 1 Contact Action				N/A			
29		Switch 2 Contact Action				N/A			
30		Calibration Value (for Switch)				N/A			
31		Power Supply	Electrical Connection		N/A		N/A		
32		Explosion Proof	Enclosure Protection		N/A		N/A		
Accessories	33	Housing Material	Integral Indicator		N/A		N/A		
	34								
	35								
	36	Drain Valve	Drain Valve Material		1/2"NPT		S.S		
	37	Vent Valve	Vent Valve Material		N/A		N/A		
	38	Vent Valve Connection	Vent Valve Size		N/A		N/A		
	39	Drain Plug	Vent Plug		N/A		N/A		
	40	Protective Heat Shield				N/A			
	41	Steam Jacket	Jacket Connection Size		N/A		N/A		
	42	Steam Pressure bar(g)				N/A			
Miscell	43	Non Frosting Extension				N/A			
	44	Stilling Well				N/A			
	45	Surge Protection Device				N/A			
	46								
	47	Manufacturer				AZARSAM MLG55 (Eyvaz Technic)			
	48	Requisition No.							

NOTES: VTA : Vendor to advise VTC : Vendor to confirm N/A : Not Applicable

1. Vendor shall supply and install Swage Nipple 11/2"THREAD(L) × 3/4" PE(S) for vent and drain connections

2. COMPABILITY WITH NACE MR0175/ISO 15156 TO BE CONSIDERED FOR WETTED EQUIPEMNT.

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)						 HAVAYAR INDUSTRIAL GROUP	
		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 28 از 39	
شماره پیمان: 053 - 073 - 9184		پروژه	پسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک		
		BK	GCS	HY	120	IN	DS	0001	V04
General	1	Instrument Name				Level gauge			
	2	Tag Number	P&ID No.		C-LG-2213B		BK-GCS-HY-120-PR-PI-0001-Page5B		
	3	Service	Equipment No.				TK-2101-WR B		
	4	Pipe Class	Vessel Material						
	5	Vessel Class							
Process Conditions	6	Upper Fluid	Lower Fluid		Air		Water / Glycol		
	7	Upper Density kg/m3	Lower Density kg/m3		1.225		1063		
	8	Operating Pressure bar(g)	Design Pressure bar(g)		ATM		3.5		
	9	Operating Temperature °C	Design Temperature °C		70		85		
	10	Upper/Lower Kinetic Viscosity (mm2/S)				-			
	11	Upper/Lower Dynamic Viscosity (cP)				0.0209 / 1.87			
Body & Cage	12	Model/Type				Magnetic			
	13	C to C mm				1250mm			
	14	Allowable Oper. Temp. °C	Pressure Rating						
	15	Mounting Style	Connection Orientation		External		Side-Side		
	16	Visible Length mm					1370mm		
	17	Scale Unit/Material	Accuracy		Cm		5mm		
	18	Indicator Type	Indicator Colour		Magnetic		Flag/White & red		
	19	Chamber Material	Float Material		S.S		Titanium		
	20	Connection Type	Connection Size		Flange		2"		
	21	Flange Standard	Flange Rating		ASME		300		
	22	Flange Material	Facing		S.S316		RF		
	Transmitter/Switch	23	Other Wetted Parts Material				S.S		
24		Float Dimension	Indicator Housing Material		50x175mm		S.S316		
25		Output Signal	Load Resistance		N/A		N/A		
26		Switch Type	Switch Quantity		N/A		N/A		
27		Contact Form	Contact Rating		N/A		N/A		
28		Switch 1 Contact Action				N/A			
29		Switch 2 Contact Action				N/A			
30		Calibration Value (for Switch)				N/A			
31		Power Supply	Electrical Connection		N/A		N/A		
32		Explosion Proof	Enclosure Protection		N/A		N/A		
Accessories	33	Housing Material	Integral Indicator		N/A		N/A		
	34								
	35								
	36	Drain Valve	Drain Valve Material		1/2"NPT		S.S		
	37	Vent Valve	Vent Valve Material		N/A		N/A		
	38	Vent Valve Connection	Vent Valve Size		N/A		N/A		
	39	Drain Plug	Vent Plug		N/A		N/A		
	40	Protective Heat Shield				N/A			
	41	Steam Jacket	Jacket Connection Size		N/A		N/A		
	42	Steam Pressure bar(g)				N/A			
Miscell	43	Non Frosting Extension				N/A			
	44	Stilling Well				N/A			
	45	Surge Protection Device				N/A			
	46								
	47	Manufacturer				AZARSAM MLG55 (Eyvaz Technic)			
	48	Requisition No.							

NOTES: VTA : Vendor to advise VTC : Vendor to confirm N/A : Not Applicable

1. Vendor shall supply and install Swage Nipple 11/2"THREAD(L) × 3/4" PE(S) for vent and drain connections

2. COMPABILITY WITH NACE MR0175/ISO 15156 TO BE CONSIDERED FOR WETTED EQUIPEMNT.

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)						 HAVAYAR INDUSTRIAL GROUP	
		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 29 از 39	
شماره پیمان: 053 - 073 - 9184		پروژه BK	پسته کاری GCS	صادر کننده HY	تسهیلات 120	رشته IN	نوع مدرک DS	سریال 0001	نسخه V04
General	1	Instrument Name				Level gauge			
	2	Tag Number	P&ID No.		C-LG-2213C		BK-GCS-HY-120-PR-PI-0001-Page5C		
	3	Service	Equipment No.				TK-2101-WR C		
	4	Pipe Class	Vessel Material						
	5	Vessel Class							
Process Conditions	6	Upper Fluid	Lower Fluid		Air		Water / Glycol		
	7	Upper Density kg/m3	Lower Density kg/m3		1.225		1063		
	8	Operating Pressure bar(g)	Design Pressure bar(g)		ATM		3.5		
	9	Operating Temperature °C	Design Temperature °C		70		85		
	10	Upper/Lower Kinetic Viscosity (mm2/S)				-			
	11	Upper/Lower Dynamic Viscosity (cP)				0.0209 / 1.87			
Body & Cage	12	Model/Type				Magnetic			
	13	C to C mm				1250mm			
	14	Allowable Oper. Temp. °C	Pressure Rating						
	15	Mounting Style	Connection Orientation		External		Side-Side		
	16	Visible Length mm					1370mm		
	17	Scale Unit/Material	Accuracy		Cm		5mm		
	18	Indicator Type	Indicator Colour		Magnetic		Flag/White & red		
	19	Chamber Material	Float Material		S.S		Titanium		
	20	Connection Type	Connection Size		Flange		2"		
	21	Flange Standard	Flange Rating		ASME		300		
	22	Flange Material	Facing		S.S316		RF		
	Transmitter/Switch	23	Other Wetted Parts Material				S.S		
24		Float Dimension	Indicator Housing Material		50x175mm		S.S316		
25		Output Signal	Load Resistance		N/A		N/A		
26		Switch Type	Switch Quantity		N/A		N/A		
27		Contact Form	Contact Rating		N/A		N/A		
28		Switch 1 Contact Action				N/A			
29		Switch 2 Contact Action				N/A			
30		Calibration Value (for Switch)				N/A			
31		Power Supply	Electrical Connection		N/A		N/A		
32		Explosion Proof	Enclosure Protection		N/A		N/A		
Accessories	33	Housing Material	Integral Indicator		N/A		N/A		
	34								
	35								
	36	Drain Valve	Drain Valve Material		1/2"NPT		S.S		
	37	Vent Valve	Vent Valve Material		N/A		N/A		
	38	Vent Valve Connection	Vent Valve Size		N/A		N/A		
	39	Drain Plug	Vent Plug		N/A		N/A		
	40	Protective Heat Shield				N/A			
	41	Steam Jacket	Jacket Connection Size		N/A		N/A		
	42	Steam Pressure bar(g)				N/A			
Miscell	43	Non Frosting Extension				N/A			
	44	Stilling Well				N/A			
	45	Surge Protection Device				N/A			
	46								
	47	Manufacturer				AZARSAM MLG55 (Eyvaz Technic)			
	48	Requisition No.							

NOTES: VTA : Vendor to advise VTC : Vendor to confirm N/A : Not Applicable

1. Vendor shall supply and install Swage Nipple 11/2"THREAD(L) × 3/4" PE(S) for vent and drain connections

2. COMPABILITY WITH NACE MR0175/ISO 15156 TO BE CONSIDERED FOR WETTED EQUIPEMNT.

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)					 HAVAYAR INDUSTRIAL GROUP			
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES							شماره صفحه: 30 از 39	
		نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری		پروژه
		V04	0001	DS	IN	120	HY	GCS	BK	
General	1	Instrument Name			Diff. Press. Level Transmitter					
	2	Tag Number	P&ID No.		C-LT-2213A		BK-GCS-HY-120-PR-PI-0001-Page5A			
	3	Service	Pipe / Equipment No.		1601-CC-001A		TK-2101-WR C			
	4	Pipe Class	Vessel Material		-					
	5	Vessel Class								
	6	Upper Fluid / Phase	Lower Fluid / Phase		Air / Gas		Water-Glycol / Liquid			
	7	Upper Density(kg/m3)	Lower Density(kg/m3)		1.225		1063			
	8	Operating Pressure bar(g)	Design Pressure bar(g)		ATM		3.5			
	9	Operating Temperature °C	Design Temperature °C		70		85			
	10	Upper/Lower Dynamic Viscosity (cP)		0.0209 / 1.87						
Transmitter	11	C to C mm	-							
	12	Model	3051							
	13	Type	Accuracy		DP level Transmitter		+/- 0.1% Full Scale			
	14	Available Range	Calibration Range (bar)		-6350~6350 mmH2O		0-1250mmH2O			
	15	Output Signal	Power Supply		HART 4-20mA		24VDC Loop Powered			
	16	Load Resistance(Ω)	250 ohms							
	17	Zero Elevation & Suppression		Yes						
	18	Electrical Connection	ISO M20 x 1.5							
	19	Explosion Proof	Enclosure Protection		EXia (Zone 2 IIB T4)		IP65			
	20	Response Time	Housing Material		N/A		Epoxy Painted Die Cast Aluminum Copper Free			
Sensing & Body	21	Failure Mode Alarm	Up Scale							
	22	Element Type	Element Material		Diaphragm (VTC)		316SS			
	23	Max. Static Pressure (barg)	Allowable Oper. Temp. °C		135barg		85 °C			
	24	Body Material	Flange Material		316SS		N/A			
	25	Process Connection	Flange Standard		1/2"NPT		N/A			
	26	Overrange Protection	Connector Material		130 %		316SS			
	27	Vent/Drain Type&Size	Vent/Drain Material		1/4"NPT		316SS			
	28	Gasket/O-Ring Material	Bolts Material		PTFE		ASTM A449			
Diaphragm Seal	29	Seal Type	N/A							
	30	Extended Length	Extended Material		N/A		N/A			
	31	Diaphragm Diameter	Diaphragm Material		N/A		N/A			
	32	Capillary Material	Capillary Length H/L		N/A		N/A			
	33	Capillary Armor Material	Fill Fluid		N/A		N/A			
	34	Fill Fluid Temperature Limits	Fill Fluid Density		N/A		N/A			
	35	Connection Type	Size		N/A		N/A			
	36	Flange Standard	Flange Rating		N/A		N/A			
	37	Flange Material	Facing		N/A		N/A			
	38	Flushing Connection	N/A							
Indicator	39	Indicator Type	Display		Digital		Yes			
	40	Mounting Bracket	Remote installing		No		Yes			
Manifold	41	Manifold Model	Manifold Type		VTA		5 Way			
	42	Manifold Rating	Manifold Material		Min. CL 3000		316 SS			
	43	Manifold Connection	1/2" PROCESS SIDE/FLANG INST SIDE							
Accessories	44	Mounting Bracket	Bracket Material		Yes / 2" Pipe		316SS			
	45	Add Corrosive Envir. Enclosure	Surge Protected Device		N/A		N/A			
Miscell	46									
	47	Manufacturer	Rosemount 3051CD2A2B21BB411							
	48	Requisition No.								
NOTES: VTA : Vendor To Advise VTC : Vendor To Confirm N/A : Not Applicable										

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد 03-BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP	
		شماره پیمان: 053 - 073 - 9184							
		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 31 از 39	
		نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده		
		BK GCS HY 120 IN DS 0001 V04							
General	1	Instrument Name			Diff. Press. Level Transmitter				
	2	Tag Number		P&ID No.		C-LT-2213B		BK-GCS-HY-120-PR-PI-0001-Page5B	
	3	Service		Pipe / Equipment No.				TK-2101-WR B	
	4	Pipe Class		Vessel Material		-			
	5	Vessel Class							
	6	Upper Fluid / Phase		Lower Fluid / Phase		Air / Gas		Water-Glycol / Liquid	
	7	Upper Density(kg/m3)		Lower Density(kg/m3)		1.225		1063	
	8	Operating Pressure bar(g)		Design Pressure bar(g)		ATM		3.5	
	9	Operating Temperature °C		Design Temperature °C		70		85	
	10	Upper/Lower Dynamic Viscosity (cP)						0.0209 / 1.87	
Transmitter	11	C to C mm							
	12	Model				3051			
	13	Type		Accuracy		DP level Transmitter		+/- 0.1% Full Scale	
	14	Available Range		Calibration Range (bar)		-6350~6350 mmH2O		0-1250mmH2O	
	15	Output Signal		Power Supply		HART 4-20mA		24VDC Loop Powered	
	16	Load Resistance(Ω)				250 ohms			
	17	Zero Elevation & Suppression						Yes	
	18	Electrical Connection				ISO M20 x 1.5			
	19	Explosion Proof		Enclosure Protection		EXia (Zone 2 IIB T4)		IP65	
	20	Response Time		Housing Material		N/A		Epoxy Painted Die Cast Aluminum Copper Free	
Sensing & Body	21	Failure Mode Alarm				Up Scale			
	22	Element Type		Element Material		Diaphragm (VTC)		316SS	
	23	Max. Static Pressure (barg)		Allowable Oper. Temp. °C		135barg		85 °C	
	24	Body Material		Flange Material		316SS		N/A	
	25	Process Connection		Flange Standard		1/2"NPT		N/A	
	26	Overrange Protection		Connector Material		130 %		316SS	
	27	Vent/Drain Type&Size		Vent/Drain Material		1/4"NPT		316SS	
	28	Gasket/O-Ring Material		Bolts Material		PTFE		ASTM A449	
Diaphragm Seal	29	Seal Type				N/A		N/A	
	30	Extended Length		Extended Material		N/A		N/A	
	31	Diaphragm Diameter		Diaphragm Material		N/A		N/A	
	32	Capillary Material		Capillary Length H/L		N/A		N/A	
	33	Capillary Armor Material		Fill Fluid		N/A		N/A	
	34	Fill Fluid Temperature Limits		Fill Fluid Density		N/A		N/A	
	35	Connection Type		Size		N/A		N/A	
	36	Flange Standard		Flange Rating		N/A		N/A	
	37	Flange Material		Facing		N/A		N/A	
	38	Flushing Connection				N/A		N/A	
Indicator	39	Indicator Type		Display		Digital		Yes	
	40	Mounting Bracket		Remote installing		No		Yes	
Manifold	41	Manifold Model		Manifold Type		VTA		5 Way	
	42	Manifold Rating		Manifold Material		Min. CL 3000		316 SS	
	43	Manifold Connection				1/2" PROCESS SIDE/FLANG INST SIDE			
Accessories	44	Mounting Bracket		Bracket Material		Yes / 2" Pipe		316SS	
	45	Add Corrosive Envir. Enclosure		Surge Protected Device		N/A		N/A	
	46								
Miscell	47	Manufacturer				Rosemount 3051CD2A2B21BB411			
	48	Requisition No.							

NOTES:
 VTA : Vendor To Advise VTC : Vendor To Confirm N/A : Not Applicable

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد 03-BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP	
		INSTRUMENT DATASHEETS / CERTIFICATES							
شماره پیمان: 053 - 073 - 9184		نسخه سریال نوع مدرک رشته تسهیلات صادر کننده بسته کاری پروژه							شماره صفحه: 32 از 39
		BK GCS HY 120 IN DS 0001 V04							
General	1	Instrument Name			Diff. Press. Level Transmitter				
	2	Tag Number		P&ID No.		C-LT-2213C		BK-GCS-HY-120-PR-PI-0001-Page5C	
	3	Service		Pipe / Equipment No.				TK-2101-WR C	
	4	Pipe Class		Vessel Material		-			
	5	Vessel Class							
	6	Upper Fluid / Phase		Lower Fluid / Phase		Air / Gas		Water-Glycol / Liquid	
	7	Upper Density(kg/m3)		Lower Density(kg/m3)		1.225		1063	
	8	Operating Pressure bar(g)		Design Pressure bar(g)		ATM		3.5	
	9	Operating Temperature °C		Design Temperature °C		70		85	
	10	Upper/Lower Dynamic Viscosity (cP)						0.0209 / 1.87	
Transmitter	11	C to C mm						-	
	12	Model				3051			
	13	Type		Accuracy		DP level Transmitter		+/- 0.1% Full Scale	
	14	Available Range		Calibration Range (bar)		-6350~6350 mmH2O		0-1250mmH2O	
	15	Output Signal		Power Supply		HART 4-20mA		24VDC Loop Powered	
	16	Load Resistance(Ω)				250 ohms			
	17	Zero Elevation & Suppression						Yes	
	18	Electrical Connection				ISO M20 x 1.5			
	19	Explosion Proof		Enclosure Protection		EXia (Zone 2 IIB T4)		IP65	
	20	Response Time		Housing Material		N/A		Epoxy Painted Die Cast Aluminum Copper Free	
Sensing & Body	21	Failure Mode Alarm				Up Scale			
	22	Element Type		Element Material		Diaphragm (VTC)		316SS	
	23	Max. Static Pressure (barg)		Allowable Oper. Temp. °C		135barg		85 °C	
	24	Body Material		Flange Material		316SS		N/A	
	25	Process Connection		Flange Standard		1/2"NPT		N/A	
	26	Overrange Protection		Connector Material		130 %		316SS	
	27	Vent/Drain Type&Size		Vent/Drain Material		1/4"NPT		316SS	
	28	Gasket/O-Ring Material		Bolts Material		PTFE		ASTM A449	
Diaphragm Seal	29	Seal Type				N/A		N/A	
	30	Extended Length		Extended Material		N/A		N/A	
	31	Diaphragm Diameter		Diaphragm Material		N/A		N/A	
	32	Capillary Material		Capillary Length H/L		N/A		N/A	
	33	Capillary Armor Material		Fill Fluid		N/A		N/A	
	34	Fill Fluid Temperature Limits		Fill Fluid Density		N/A		N/A	
	35	Connection Type		Size		N/A		N/A	
	36	Flange Standard		Flange Rating		N/A		N/A	
	37	Flange Material		Facing		N/A		N/A	
	38	Flushing Connection				N/A		N/A	
Indicator	39	Indicator Type		Display		Digital		Yes	
	40	Mounting Bracket		Remote installing		No		Yes	
Manifold	41	Manifold Model		Manifold Type		VTA		5 Way	
	42	Manifold Rating		Manifold Material		Min. CL 3000		316 SS	
	43	Manifold Connection				1/2" PROCESS SIDE/FLANG INST SIDE			
Accessories	44	Mounting Bracket		Bracket Material		Yes / 2" Pipe		316SS	
	45	Add Corrosive Envir. Enclosure		Surge Protected Device		N/A		N/A	
	46								
Miscell	47	Manufacturer				Rosemount 3051CD2A2B21BB411			
	48	Requisition No.							

NOTES:
 VTA : Vendor To Advise VTC : Vendor To Confirm N/A : Not Applicable

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)						 HAVAYAR INDUSTRIAL GROUP		
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES							شماره صفحه: 33 از 39	
		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
		BK	GCS	HY	120	IN	DS	0001		V04
Data Sheet for Solenoid Valve										
GENERAL	1	TAG NO .		See List						
	2	SERVICE		Instrument Air						
	3	LINE NO,		See List						
	4	QUANTITY		See List						
VALVE BODY	5	TYPE		For single acting						
	6	SIZE- BODY /PORT		See List						
	7	RATING & TYPE CONN.		NPTF						
	8	MATERIAL -BODY		Brass						
	9	MATERIAL -SEAT		MFR STD						
	10	MATERIAL -DIAPHRAGM		N/A						
	11	OPERATION DIRECT / PILOT		Pilot operated						
	12	MANUAL RESET		N/A						
	13	MANUAL OPERATOR		N/A						
	14	PAINTING		N/A						
WHEN DEENERGIZED	15	2 WAY VALVE/3 Way		3Way						
	16	NORMALLY OPEN/CLOSE		TAG C-SV-2201~4A/B/C				N.C		
	17	EXTERNAL OVERRIDE		TAG C-SV-2205A/B/C				N.O		
SOLENOID	18	ENCLOSURE		IP 66						
	19	VOLTAGE/POWER		24 VDC /11W						
	20	STYLE OF COIL		MFR STD						
	21	SINGLE OR DOUBLE COIL		SINGLE						
	22	INSULATION CLASS		F						
	23	ENCLOSURE MATERIAL		ALUMINUM						
	24	CERTIFICATION		Eex 'd'-IIB-T4						
	25	ELEC. ENTRY		M20x1.5 ISO						
SERVICE CONDITIONS	26	FLUID		Instrument Air						
	27	OPER.DIFF.MIN (BAR)		See List						
	28	OPER.DIFF.MAX (BAR)		See List						
	29	TEMP. NORMAL /MAX		See List						
	30	SP.GR		1.0						
	31	VISCOSITY		N/A						
	32	VALVE CV		V.T.A						
	33	MANUFACTURER		ASCO						
	34	MODEL NO.								
NOTE: VTA:Vendor To Advise N/A:Not Applicable										

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)							 HAVAYAR INDUSTRIAL GROUP		
شماره پیمان: 053 - 073 – 9184		INSTRUMENT DATASHEETS / CERTIFICATES							شماره صفحه: 34 از 39		
		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال			نسخه
		BK	GCS	HY	120	IN	DS	0001			V04
List of SOV											
ITEM NO.	TAG NO.	SERVICE	LINE NO. / EQUIPMENT NO.	P&ID No.	OPERATING/DESIGN NPRESSURE (Barg)	TEMPERATURE (C)		SOLENOID VALVE SIZE	REMARKS		
					Min. / Des.	Norm. / Design					
1	C-SV-2201A	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2A	6 / 12.5	65 / 85		3/8"			
2	C-SV-2202A	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2A	6 / 12.5	65 / 85		3/8"			
3	C-SV-2203A	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2A	6 / 12.5	65 / 85		3/8"			
4	C-SV-2204A	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2A	6 / 12.5	65 / 85		3/8"			
5	C-SV-2205A	Instrument Air	1/2" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2A	6 / 12.5	65 / 85		1/2"			
6	C-SV-2201B	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2B	6 / 12.5	65 / 85		3/8"			
7	C-SV-2202B	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2B	6 / 12.5	65 / 85		3/8"			
8	C-SV-2203B	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2B	6 / 12.5	65 / 85		3/8"			
9	C-SV-2204B	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2B	6 / 12.5	65 / 85		3/8"			
10	C-SV-2205B	Instrument Air	1/2" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2B	6 / 12.5	65 / 85		1/2"			
11	C-SV-2201C	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2C	6 / 12.5	65 / 85		3/8"			
12	C-SV-2202C	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2C	6 / 12.5	65 / 85		3/8"			
13	C-SV-2203C	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2C	6 / 12.5	65 / 85		3/8"			
14	C-SV-2204C	Instrument Air	3/8" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2C	6 / 12.5	65 / 85		3/8"			
15	C-SV-2205C	Instrument Air	1/2" SS316L Tubing	BK-GCS-HY-120-PR-PI-0001-Page2C	6 / 12.5	65 / 85		1/2"			

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد 03-BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP	
		INSTRUMENT DATASHEETS / CERTIFICATES							
شماره پیمان: 053 - 073 - 9184		نسخه: 35 از 39							
		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
		BK	GCS	HY	120	IN	DS	0001	V04
General	1	Instrument Name				Diff. Press. Level Transmitter			
	2	Tag Number		P&ID No.		C-LT-2200A		BK-GCS-HY-120-PR-PI-0001-Page3A	
	3	Service		Pipe / Equipment No.		crankcase			
	4	Pipe Class		Vessel Material		-			
	5	Vessel Class							
	6	Upper Fluid / Phase		Lower Fluid / Phase		Air / Gas		Lubricant Oil / Liquid	
	7	Upper Density(kg/m3)		Lower Density(kg/m3)		1.225		890	
	8	Operating Pressure bar(g)		Design Pressure bar(g)		6		10	
	9	Operating Temperature °C		Design Temperature °C		70		85	
	10	U/L Dynamic Viscosity (cP)				0.021/0.89			
	11	C to C mm				-			
	12	Model				3051			
	13	Type		Accuracy		DP level Transmitter		+/- 0.1% Full Scale	
	14	Available Range		Calibration Range (bar)		-635~635mmH2O		0-258mmH2O	
	15	Output Signal		Power Supply		HART 4-20MA		24VDC Loop Powered	
Transmitter	16	Load Resistance(Ω)				250 ohms			
	17	Zero Elevation & Suppression				Yes			
	18	Electrical Connection				ISO M20x1.5			
	19	Explosion Proof		Enclosure Protection		EXia (Zone 2 IIB T4)		IP65	
	20	Response Time		Housing Material		N/A		Epoxy Painted Die Cast Aluminum Copper Free	
	21	Failure Mode Alarm				Up Scale			
	22	Element Type		Element Material		Diaphragm		316SS	
	23	Max. Static Pressure (barg)		Allowable Oper. Temp. °C		135barg		85 °C	
	24	Body Material		Flange Material		316SS		N/A	
	25	Process Connection		Flange Standard		1/2"NPT		N/A	
Sensing & Body	26	Overrange Protection		Connector Material		130 %		316SS	
	27	Vent/Drain Type&Size		Vent/Drain Material		1/4"NPT		316SS	
	28	Gasket/O-Ring Material		Bolts Material		PTFE		ASTM A449	
	29	Seal Type				N/A			
	30	Extended Length		Extended Material		N/A		N/A	
Diaphragm Seal	31	Diaphragm Diameter		Diaphragm Material		N/A		N/A	
	32	Capillary Material		Capillary Length H/L		N/A		N/A	
	33	Capillary Armor Material		Fill Fluid		N/A		N/A	
	34	Fill Fluid Temperature Limits		Fill Fluid Density		N/A		N/A	
	35	Connection Type		Size		N/A		N/A	
	36	Flange Standard		Flange Rating		N/A		N/A	
	37	Flange Material		Facing		N/A		N/A	
	38	Flushing Connection				N/A		N/A	
	39	Indicator Type		Display		Digital		Yes	
	40	Mounting Bracket		Remote installing		No		Yes	
Manifold	41	Manifold Model		Manifold Type		VTA		5 Way	
	42	Manifold Rating		Manifold Material		Min. CL 3000		316 SS	
	43	Manifold Connection				1/2" PROCESS SIDE/FLANG INST SIDE			
Accessories	44	Mounting Bracket		Bracket Material		Yes / 2" Pipe		316SS	
	45	Add Corrosive Envir. Enclosure		Surge Protected Device		N/A		N/A	
	46								
Miscell	47	Manufacturer				Rosemount 3051CD1A2B21BB411			
	48	Requisition No.							

NOTES:
 VTA : Vendor To Advise VTC : Vendor To Confirm N/A : Not Applicable

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد 03-BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP	
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES							شماره صفحه: 36 از 39
		نسخه	سرریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	
		V04	0001	DS	IN	120	HY	GCS	BK
General	1	Instrument Name			Diff. Press. Level Transmitter				
	2	Tag Number	P&ID No.		C-LT-2200B		BK-GCS-HY-120-PR-PI-0001-Page3B		
	3	Service	Pipe / Equipment No.		crankcase				
	4	Pipe Class	Vessel Material		-				
	5	Vessel Class							
	6	Upper Fluid / Phase	Lower Fluid / Phase		Air / Gas		Lubricant Oil / Liquid		
	7	Upper Density(kg/m3)	Lower Density(kg/m3)		1.225		890		
	8	Operating Pressure bar(g)	Design Pressure bar(g)		6		10		
	9	Operating Temperature °C	Design Temperature °C		70		85		
	10	U/L Dynamic Viscosity (cP)	0.021/0.89						
Transmitter	11	C to C mm	-						
	12	Model	3051						
	13	Type	Accuracy		DP level Transmitter		+/- 0.1% Full Scale		
	14	Available Range	Calibration Range (bar)		-635~635mmH2O		0-258mmH2O		
	15	Output Signal	Power Supply		HART 4-20MA		24VDC Loop Powered		
	16	Load Resistance(Ω)	250 ohms						
	17	Zero Elevation & Suppression	Yes						
	18	Electrical Connection	ISO M20x1.5						
	19	Explosion Proof	Enclosure Protection		EXia (Zone 2 IIB T4)		IP65		
	20	Response Time	Housing Material		N/A		Epoxy Painted Die Cast Aluminum Copper Free		
Sensing & Body	21	Failure Mode Alarm	Up Scale						
	22	Element Type	Element Material		Diaphragm		316SS		
	23	Max. Static Pressure (barg)	Allowable Oper. Temp. °C		135barg		85 °C		
	24	Body Material	Flange Material		316SS		N/A		
	25	Process Connection	Flange Standard		1/2"NPT		N/A		
	26	Overrange Protection	Connector Material		130 %		316SS		
	27	Vent/Drain Type&Size	Vent/Drain Material		1/4"NPT		316SS		
	28	Gasket/O-Ring Material	Bolts Material		PTFE		ASTM A449		
Diaphragm Seal	29	Seal Type	N/A						
	30	Extended Length	Extended Material		N/A		N/A		
	31	Diaphragm Diameter	Diaphragm Material		N/A		N/A		
	32	Capillary Material	Capillary Length H/L		N/A		N/A		
	33	Capillary Armor Material	Fill Fluid		N/A		N/A		
	34	Fill Fluid Temperature Limits	Fill Fluid Density		N/A		N/A		
	35	Connection Type	Size		N/A		N/A		
	36	Flange Standard	Flange Rating		N/A		N/A		
	37	Flange Material	Facing		N/A		N/A		
	38	Flushing Connection	N/A						
Indicator	39	Indicator Type	Display		Digital		Yes		
	40	Mounting Bracket	Remote installing		No		Yes		
Manifold	41	Manifold Model	Manifold Type		VTA		5 Way		
	42	Manifold Rating	Manifold Material		Min. CL 3000		316 SS		
	43	Manifold Connection	1/2" PROCESS SIDE/FLANG INST SIDE						
Accessories	44	Mounting Bracket	Bracket Material		Yes / 2" Pipe		316SS		
	45	Add Corrosive Envir. Enclosure	Surge Protected Device		N/A		N/A		
Miscell	46	Manufacturer	Rosemount 3051CD1A2B21BB41						
	47	Requisition No.							
NOTES: VTA : Vendor To Advise VTC : Vendor To Confirm N/A : Not Applicable									

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد 03-BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP		
		INSTRUMENT DATASHEETS / CERTIFICATES								
شماره پیمان: 053 - 073 - 9184		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 37 از 39
		BK	GCS	HY	120	IN	DS	0001	V04	
General	1	Instrument Name			Diff. Press. Level Transmitter					
	2	Tag Number	P&ID No.		C-LT-2200C		BK-GCS-HY-120-PR-PI-0001-Page3C			
	3	Service	Pipe / Equipment No.		crankcase					
	4	Pipe Class	Vessel Material		-					
	5	Vessel Class								
	6	Upper Fluid / Phase	Lower Fluid / Phase		Air / Gas		Lubricant Oil / Liquid			
	7	Upper Density(kg/m3)	Lower Density(kg/m3)		1.225		890			
	8	Operating Pressure bar(g)	Design Pressure bar(g)		6		10			
	9	Operating Temperature °C	Design Temperature °C		70		85			
	10	U/L Dynamic Viscosity (cP)					0.021/0.89			
Transmitter	11	C to C mm			-					
	12	Model			3051					
	13	Type	Accuracy		DP level Transmitter		+/- 0.1% Full Scale			
	14	Available Range	Calibration Range (bar)		-635~635mmH2O		0-258mmH2O			
	15	Output Signal	Power Supply		HART 4-20MA		24VDC Loop Powered			
	16	Load Resistance(Ω)			250 ohms					
	17	Zero Elevation & Suppression			Yes					
	18	Electrical Connection			ISO M20x1.5					
	19	Explosion Proof	Enclosure Protection		EXia (Zone 2 IIB T4)		IP65			
	20	Response Time	Housing Material		N/A		Epoxy Painted Die Cast Aluminum Copper Free			
Sensing & Body	21	Failure Mode Alarm			Up Scale					
	22	Element Type	Element Material		Diaphragm		316SS			
	23	Max. Static Pressure (barg)	Allowable Oper. Temp. °C		135barg		85 °C			
	24	Body Material	Flange Material		316SS		N/A			
	25	Process Connection	Flange Standard		1/2"NPT		N/A			
	26	Overrange Protection	Connector Material		130 %		316SS			
	27	Vent/Drain Type&Size	Vent/Drain Material		1/4"NPT		316SS			
	28	Gasket/O-Ring Material	Bolts Material		PTFE		ASTM A449			
	29	Seal Type			N/A					
	30	Extended Length	Extended Material		N/A		N/A			
Diaphragm Seal	31	Diaphragm Diameter	Diaphragm Material		N/A		N/A			
	32	Capillary Material	Capillary Length H/L		N/A		N/A			
	33	Capillary Armor Material	Fill Fluid		N/A		N/A			
	34	Fill Fluid Temperature Limits	Fill Fluid Density		N/A		N/A			
	35	Connection Type	Size		N/A		N/A			
Indicator	36	Flange Standard	Flange Rating		N/A		N/A			
	37	Flange Material	Facing		N/A		N/A			
	38	Flushing Connection			N/A		N/A			
	39	Indicator Type	Display		Digital		Yes			
	40	Mounting Bracket	Remote installing		No		Yes			
Manifold	41	Manifold Model	Manifold Type		VTA		5 Way			
	42	Manifold Rating	Manifold Material		Min. CL 3000		316 SS			
	43	Manifold Connection			1/2" PROCESS SIDE/FLANG INST SIDE					
Accessories	44	Mounting Bracket	Bracket Material		Yes / 2" Pipe		316SS			
	45	Add Corrosive Envir. Enclosure	Surge Protected Device		N/A		N/A			
Miscell	46	Manufacturer	Rosemount							
	47	Requisition No.	3051CD1A2B21BB41							

NOTES:
 VTA : Vendor To Advise VTC : Vendor To Confirm N/A : Not Applicable

		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03)									
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 38 از 39			
		پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدارک	سریال	نسخه		
		BK	GCS	HY	120	IN	DS	0001	V04		
Instrument Data Sheet For Pressure Switch											
GENERAL					SWITCH						
1	Press.	●	Vacuum	○		8	Type:	Mercury	○	Snap	●
	Comp.	○	Diff. Press.	○				Other :			
2	Set In Field	●	Factory Set			9	Quantity:	Single	○	Dual	●
	Internal	●	External	○	Dial	10	Form:	SPST	○	SPDT	○
3	Fixed		Adj.	●	Min.	○		Other:			DPDT ●
ELEMENT						11	Max Rating:	10 Amps	24vdc		
4	Diaphragm	●	Bourdon	○	Bellows	○		Other:			
						12	Load:	Inductive	○	Non-Inductive	●
5	Material		Aluminum			13	IP	IP66 Exd/IIB T4			SIL2 Certified
6	Connection	1/2"NPT ●	Other Size :			14	Electrical Connection:	M20x1.5			
	Bottom	●	Back			15	Manufacturer & Model No.	Wika			
7	Local	●	Surface	○	Flush	16	Accessories	Manifold 2Valve			
Tag No.	Process Connection	Adj. Range (Bar G)	Set Point (Bar G)	Pressure Design Working		Service or Line Number		Remark			
PS-2133A	1 " NPT	10~100	57	62Bar	54.9Bar	GAS-111-0051A-FN05-6"-IS		Nace material Loose item			
C-PS-2204A	1 " NPT	0~10	1.2	10Bar	5 Bar	OIL-112-0008A-S.S-2"-IS					
C-PS-2220A	1 " NPT	0~10	2	10Bar	3 Bar	CWS-112-0002A-C.S-3"-IS					
PS-2133B	1 " NPT	10~100	57	62Bar	54.9Bar	GAS-111-0051A-FN05-6"-IS		Nace material Loose item			
C-PS-2204B	1 " NPT	0~10	1.2	10Bar	5 Bar	OIL-112-0008A-S.S-2"-IS					
C-PS-2220B	1 " NPT	0~10	2	10Bar	3Bar	CWS-112-0002A-C.S-3"-IS					
PS-2133C	1 " NPT	10~100	57	62Bar	54.9Bar	GAS-111-0051A-FN05-6"-IS		Nace material Loose item			
C-PS-2204C	1 " NPT	0~10	1.2	10Bar	5 Bar	OIL-112-0008A-S.S-2"-IS					
C-PS-2220C	1 " NPT	0~10	2	10Bar	3Bar	CWS-112-0002A-C.S-3"-IS					

		تجهیزات و افزایش تولید میدان نفتی بیک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رخت و برگشتی) بیک (فراردا 03 BK-HD-GCS-CO-0008)									
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 39 از 39			
		پروژه	پسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک			سریال	نسخه
		BK	GCS	HY	120	IN	DS			0001	V04
Instrument Data Sheet For Temperature Switch											
GENERAL											
1.TAG.NO		C-TS-2191A		C-TS-2194A		C-TS-2191B		C-TS-2194B			
2.Equipment		1ST STAGE DISCHARGE SNUBBER		2ND STAGE DISCHARGE SNUBBER		1ST STAGE DISCHARGE SNUBBER		2ND STAGE DISCHARGE SNUBBER			
3.ENCLOSURE MATERIAL		Cast Aluminum		Cast Aluminum		Cast Aluminum		Cast Aluminum			
4.SERVICE		Gas		Gas		Gas		Gas			
5.RANGE		0-200C		0-200'C		0-200'C		0-200'C			
6.Ingress Protection		IP 66/Exd-IIB-T4 SIL2 Certified									
THERMOWELL											
7.TYPE SYSTEM		Flange/RF		Flange/RF		Flange/RF		Flange/RF			
8 MATERIAL		AISI 316/Nace		AISI 316/Nace		AISI 316/Nace		AISI 316/Nace			
9.CONNECTION LOCATION		Bottom		Bottom		Bottom		Bottom			
10.TUBING LENGTH		N/A		N/A		N/A		N/A			
11.TUBING TYPE & MATERIAL		N/A		N/A		N/A		N/A			
12.WELL CONN.SIZE & TYPE		2"#300		2"#600		2"#300		2"#600			
13.WELL MATERIAL		316 S.S		316 S.S		316 S.S		316 S.S			
14.'U' DIMENSION(NOMINAL)		500mm		500mm		500mm		500mm			
15.PROJECTION NOZZEL		200mm		200mm		200mm		200mm			
SWITCH											
16.TYPE		Snap Action		Snap Action		Snap Action		Snap Action			
17.QUANTITY	FORM	1/DPDT		1/DPDT		1/DPDT		1/DPDT			
18.ENCLOSURE		IP66		IP66		IP66		IP66			
19.RATING:VOLTS		24 VDC		24 VDC		24 VDC		24 VDC			
20.AMPS		2		2		2		5			
21.LOAD TYPE		INDUCTIVE		INDUCTIVE		INDUCTIVE		INDUCTIVE			
22.DIFF.:FIXED	ADJUST	YES/-		YES/-		YES/-		YES/-			
23.ELECTRICAL CONNECTION		M20*1.5		M20*1.5		M20*1.5		M20*1.5			
24.Accuracy		1% Of Span		1% Of Span		1% Of Span		1% Of Span			
SERVICE CONDITIONS											
25.TEMP.:OPER °C		129°C		148°C		129°C		148°C			
26.OPER PRESS	DESIGN PRESS BARG	18	24.5	54.9	62	18	24.5	54.9	62		
27.TRIP POINT °C		150		170		150		170			
28.MANUFACTURER'S MODEL NO.		Ashcroft		Ashcroft		Ashcroft		Ashcroft			