

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج های کمپرسور گاز (رفت و برگشتی) بینک (قرارداد ۰۳-۰۰۰۸-۰۳-BK-HD-GCS-CO)	 HAVAYAR INDUSTRIAL GROUP																
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	INSTRUMENT DATASHEETS / CERTIFICATES	شماره صفحه: 1 از 39																
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نسخه	سریال	نوع	رشته	تسهیلات	صادر کنند	پسته کاری	پروژه											
V03	0001	DS	IN	120	HY	GCS	BK											
طرح نگهداشت و افزایش تولید ۲۷ مخزن																		
INSTRUMENT DATASHEETS / CERTIFICATES نگهداشت و افزایش تولید میدان نفتی بینک																		
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												
CLIENT Doc. Number:																		
status:																		
IFA: Issued For Approval																		
IFR:Issued For Review																		
IFI: Issued For Information																		
AFC: Approved For Construction																		



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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)



INSTRUMENT DATASHEETS / CERTIFICATES

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نسخه	سریال	نوع	رشته	تسهیلات	صادر کنند	بسته کاری	پروژه
V03	0001	DS	IN	120	HY	GCS	BK

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4	X	X	X	X	
5	X	X	X	X	
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8	X	X	X	X	
9	X	X	X	X	
10	X	X	X	X	
11	X	X	X	X	
12	X	X	X	X	
13	X	X	X	X	
14	X	X	X	X	
15	X	X	X	X	
16	X	X	X	X	
17	X	X	X	X	
18	X	X	X	X	
19	X	X	X	X	
20	X	X	X	X	
21	X	X	X	X	
22	X	X	X	X	
23	X	X	X	X	
24	X	X	X	X	
25	X	X	X	X	
26	X	X	X	X	
27	X	X	X	X	
28	X	X	X	X	
29	X	X	X	X	
30	X	X	X	X	
31	X	X	X	X	
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33	X	X	X	X	
34	X	X	X	X	
35	X	X	X	X	
36	X	X	X	X	
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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_۰۰۰۸-CO-GCS-HD-BK)



INSTRUMENT DATASHEETS / CERTIFICATES

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نسخه	سریال	نوع	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
V03	0001	DS	IN	120	HY	GCS	BK

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 شماره پیمان: 053 - 073 – 9184		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابدیه تحت الارض خرید پکیج های کمپرسور گاز (رقت و برگشتی) بینک (قرارداد BK-HD-GCS-CO-0008_03) INSTRUMENT DATASHEETS / CERTIFICATES <table><tr><td>پروژه</td><td>بسته کاری</td><td>مصارف کننده</td><td>تسهیلات</td><td>رشته</td><td>نوع مترک</td><td>سریال</td><td>نسخه</td></tr><tr><td>BK</td><td>GCS</td><td>HY</td><td>120</td><td>IN</td><td>DS</td><td>0001</td><td>V03</td></tr></table>					پروژه	بسته کاری	مصارف کننده	تسهیلات	رشته	نوع مترک	سریال	نسخه	BK	GCS	HY	120	IN	DS	0001	V03	 شماره صفحه: 4 از 39	
پروژه	بسته کاری	مصارف کننده	تسهیلات	رشته	نوع مترک	سریال	نسخه																	
BK	GCS	HY	120	IN	DS	0001	V03																	

1Type :
2Mounting :
3Dial :
4Case :
5Ring :
6Blow-out Protection :
7Lens :
8Options :
9Nominal Accuracy Required :
10Over range protection :

Direct Rdg. ☒
Other liquid filled ☒
Surface ☐ Local ☒
Diameter 160 mm Color : White / Black Lettering , Aluminum Non Rusting Metal
Cast Iron ☐ S.S ☒
Other ☒ Phenol ☐
Screwed ☒ Hinged ☐ Slip ☐
Std ☐ None ☒ Back ☐ Disc ☒
Solid Front ☒
Glass ☒ Plastic ☐
Safety Glass (shatter proof)
As per List ☒
± 1% of full scale
1.3 times the maximum scale reading

11MFR. & Model No.
12Press Element : Bourdon
13Element Mtl. :
14Socket Mtl. :
15Connection-NPT :
16Movement:
17Diaphragm Seal
18Ingress Protection :
19Manifold S.S316 2 valve

Wika 233.30.160
☒ Bellows ☐
Other Bronze ☐ Steel ☐
Other 316SS ☐ Steel ☐
Other 316SS ☐
1/4 in. ☐ 1/2 in. ☒ Other NPTM (refer to note)
Bottom ☒ Back ☐
Bronze ☐ SS ☒
Nylon ☐ Other Stainless Steel
As per List
MFR. ☐ Type
Wetted Part Mtl. ☐ Other Mtl.
Fill Fluid :
Process Conn. :
IP 65
☒

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	Process 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 Nace material Over Pressure Protector Set point 10 barg	
2	C-PG-2191A	0-40	Process 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	Process 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	Process 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-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	0-6	GAS	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	Process 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	Process 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	Process 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	Process 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		
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	0-6	GAS	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-112-0002A-C.S-3"-IS	BK-GCS-HY-120-PR-PI-0001 Page5B		
25	C-PG-2190C	0-10	Process 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	Process 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	Process 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	Process 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		
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	0-6	GAS	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		V03
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	4-20mA ☒ 10-50mA ☐ 21-10 kpa(3-15 psig) ☐ Other 4-20mA Smart HART							
	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.										

NISOC		INSTRUMENT DATASHEETS / CERTIFICATES								
شماره پیمان: 053 - 073 - 9184		برق‌رود	جست‌های	صهارش‌کننده	شبه‌هلات	رشته	توج‌خارک	سریال	نسبه	شماره صفحه: 7 / 39
		BK	GCS	HY	120	IN	DS	0001	V03	
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 ■									
11	PROTECTION CLASS :	IP65								
12	ACCURACY :	±1 % OF FULL SCALE RANGE								
13	WINDOW MATERIAL :	SHATTER PROOF TYPE								
14	RING TYPE/MATERIAL :	SCREWED/S.S.316								
						23	MANUFACTURER	Wilo		
						24	MODEL NO.	S5551		

ITEM NO.	TAG NO.	LINE SIZE	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 (FPI)	SERVICE	P&ID NO.	NOTES
1	C7G-2190A	1ST STAGE SUCTION SNUBBER SCH 80	500	540	37	180 / 24.5	5.77	0-200	4.9 / 22	2" #800 1/2" NPT Back	40	Process Gas Comp A	BR-GCS-HY-120-PH-Pi-0001-Page1A	Thermowell S.5316 Nace
2	C7G-2193A	2nd STAGE SUCTION SNUBBER SCH 160	500	540	60	180 / 62	17.1	0-200	17.3 / 22	2" #800 1/2" NPT Back	40	Process Gas Comp A	BR-GCS-HY-120-PH-Pi-0001-Page1A	Thermowell S.5316 Nace
3	C7G-2204A	2" TO 4" (Expanded) SCH 10	200	200	60	85 / 10	870	0-120	5 / 6	1 1/2" #800 1/2" NPT	40	Lube Oil Comp A	BR-GCS-HY-120-PH-Pi-0001-Page3A	
4	C7G-2205A	2" TO 4" (Expanded) SCH 10	200	200	60	85 / 10	870	0-120	5 / 6	1 1/2" #800 1/2" NPT	40	Lube Oil Comp A	BR-GCS-HY-120-PH-Pi-0001-Page3A	
5	C7G-2206A	2" TO 4" (Expanded) SCH 10	200	200	70	85 / 10	862	0-120	5 / 6	1 1/2" #800 1/2" NPT	40	Lube Oil Comp A	BR-GCS-HY-120-PH-Pi-0001-Page3A	
6	C7G-2213A	2" TO 4" (Expanded) SCH XXX	200	200	60	85 / 5	2.5	0-120	2 / 2.2	1 1/2" #800 1/2" NPT	40	N2 Gas Supply Comp A	BR-GCS-HY-120-PH-Pi-0001-Page4A	Thermowell S.5316 Nace
7	C7G-2211A	2" TO 4" (Expanded) SCH XXX	200	200	60	85 / 5	2.5	0-120	2 / 2.2	1 1/2" #800 1/2" NPT	40	N2 Gas Supply Comp A	BR-GCS-HY-120-PH-Pi-0001-Page4A	Thermowell S.5316 Nace
8	C7G-2217A	Water Reservoir	400	450	65	85 / 3.5	1059	0-120	ATM / ATM	2" #800 1/2" NPT Back	40	Water comp C	BR-GCS-HY-120-PH-Pi-0001-Page5A	
9	C7G-2221A	3" TO 4" (Expanded) SCH 40	200	200	65	85 / 7	1059	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Water comp C	BR-GCS-HY-120-PH-Pi-0001-Page5A	
10	C7G-2215A	1" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp A	BR-GCS-HY-120-PH-Pi-0001-Page6A	
11	C7G-2216A	1/2" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp A	BR-GCS-HY-120-PH-Pi-0001-Page6A	
12	C7G-2212A	3" TO 4" (Expanded) SCH 80	200	200	58	85 / 7	1065	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Water comp C	BR-GCS-HY-120-PH-Pi-0001-Page6A	
13	C7G-2213A	1/2" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp A	BR-GCS-HY-120-PH-Pi-0001-Page6A	
14	C7G-2214A	2 1/2" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp A	BR-GCS-HY-120-PH-Pi-0001-Page6A	
15	C7G-2190B	1ST STAGE SUCTION SNUBBER SCH 80	500	540	37	180 / 24.5	5.77	0-200	4.9 / 22	2" #800 1/2" NPT Back	40	Process Gas Comp B	BR-GCS-HY-120-PH-Pi-0001-Page1B	Thermowell S.5316 Nace
16	C7G-2193B	2nd STAGE SUCTION SNUBBER SCH 160	500	540	60	180 / 62	17.1	0-200	17.3 / 22	2" #800 1/2" NPT Back	40	Process Gas Comp B	BR-GCS-HY-120-PH-Pi-0001-Page1B	Thermowell S.5316 Nace
17	C7G-2204B	2" TO 4" (Expanded) SCH 10	200	200	60	85 / 10	870	0-120	5 / 6	1 1/2" #800 1/2" NPT	40	Lube Oil Comp B	BR-GCS-HY-120-PH-Pi-0001-Page3B	
18	C7G-2205B	2" TO 4" (Expanded) SCH 10	200	200	60	85 / 10	870	0-120	5 / 6	1 1/2" #800 1/2" NPT	40	Lube Oil Comp B	BR-GCS-HY-120-PH-Pi-0001-Page3B	
19	C7G-2206B	2" TO 4" (Expanded) SCH 10	200	200	70	85 / 10	862	0-120	5 / 6	1 1/2" #800 1/2" NPT	40	Lube Oil Comp B	BR-GCS-HY-120-PH-Pi-0001-Page3B	
20	C7G-2210B	2" TO 4" (Expanded) SCH XXX	200	200	60	85 / 5	2.5	0-120	2 / 2.2	1 1/2" #800 1/2" NPT	40	N2 Gas Supply Comp B	BR-GCS-HY-120-PH-Pi-0001-Page4B	Thermowell S.5316 Nace
21	C7G-2211B	2" TO 4" (Expanded) SCH XXX	200	200	60	85 / 5	2.5	0-120	2 / 2.2	1 1/2" #800 1/2" NPT	40	N2 Gas Supply Comp B	BR-GCS-HY-120-PH-Pi-0001-Page4B	Thermowell S.5316 Nace
22	C7G-2217B	Water Reservoir	400	450	65	85 / 3.5	1059	0-120	ATM / ATM	2" #800 1/2" NPT Back	40	Water comp C	BR-GCS-HY-120-PH-Pi-0001-Page5B	
23	C7G-2221B	3" TO 4" (Expanded) SCH 40	200	200	65	85 / 7	1059	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Water comp C	BR-GCS-HY-120-PH-Pi-0001-Page5B	
24	C7G-2215B	1" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp B	BR-GCS-HY-120-PH-Pi-0001-Page6B	
25	C7G-2216B	1/2" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp B	BR-GCS-HY-120-PH-Pi-0001-Page6B	
26	C7G-2212B	3" TO 4" (Expanded) SCH 80	200	200	58	85 / 7	1065	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Water comp C	BR-GCS-HY-120-PH-Pi-0001-Page6B	
27	C7G-2213B	1/2" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp B	BR-GCS-HY-120-PH-Pi-0001-Page6B	
28	C7G-2214B	2 1/2" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp B	BR-GCS-HY-120-PH-Pi-0001-Page6B	
29	C7G-2190C	1ST STAGE SUCTION SNUBBER SCH 80	500	540	37	180 / 24.5	5.77	0-200	4.9 / 22	2" #800 1/2" NPT Back	40	Process Gas Comp C	BR-GCS-HY-120-PH-Pi-0001-Page1C	Thermowell S.5316 Nace
30	C7G-2193C	2nd STAGE SUCTION SNUBBER SCH 160	500	540	60	180 / 62	17.1	0-200	17.3 / 22	2" #800 1/2" NPT Back	40	Process Gas Comp C	BR-GCS-HY-120-PH-Pi-0001-Page1C	Thermowell S.5316 Nace
31	C7G-2204C	2" TO 4" (Expanded) SCH 10	200	200	60	85 / 10	870	0-120	5 / 6	1 1/2" #800 1/2" NPT	40	Lube Oil Comp C	BR-GCS-HY-120-PH-Pi-0001-Page3C	
32	C7G-2205C	2" TO 4" (Expanded) SCH 10	200	200	60	85 / 10	870	0-120	5 / 6	1 1/2" #800 1/2" NPT	40	Lube Oil Comp C	BR-GCS-HY-120-PH-Pi-0001-Page3C	
33	C7G-2206C	2" TO 4" (Expanded) SCH 10	200	200	70	85 / 10	862	0-120	5 / 6	1 1/2" #800 1/2" NPT	40	Lube Oil Comp C	BR-GCS-HY-120-PH-Pi-0001-Page3C	
34	C7G-2210C	2" TO 4" (Expanded) SCH XXX	200	200	60	85 / 5	2.5	0-120	2 / 2.2	1 1/2" #800 1/2" NPT	40	N2 Gas Supply Comp C	BR-GCS-HY-120-PH-Pi-0001-Page4C	Thermowell S.5316 Nace
35	C7G-2211C	2" TO 4" (Expanded) SCH XXX	200	200	60	85 / 5	2.5	0-120	2 / 2.2	1 1/2" #800 1/2" NPT	40	N2 Gas Supply Comp C	BR-GCS-HY-120-PH-Pi-0001-Page4C	Thermowell S.5316 Nace
36	C7G-2217C	Water Reservoir	400	450	65	85 / 3.5	1059	0-120	ATM / ATM	2" #800 1/2" NPT Back	40	Water comp C	BR-GCS-HY-120-PH-Pi-0001-Page5C	
37	C7G-2221C	3" TO 4" (Expanded) SCH 40	200	200	65	85 / 7	1059	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Water comp C	BR-GCS-HY-120-PH-Pi-0001-Page5C	
38	C7G-2215C	1" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp C	BR-GCS-HY-120-PH-Pi-0001-Page6C	
39	C7G-2216C	1/2" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp C	BR-GCS-HY-120-PH-Pi-0001-Page6C	
40	C7G-2212C	3" TO 4" (Expanded) SCH 80	200	200	58	85 / 7	1065	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Water comp C	BR-GCS-HY-120-PH-Pi-0001-Page6C	
41	C7G-2213C	1/2" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp C	BR-GCS-HY-120-PH-Pi-0001-Page6C	
42	C7G-2214C	2 1/2" TO 4" (Expanded) SCH 80	200	200	65	85 / 7	1060	0-120	3 / 4	1 1/2" #800 1/2" NPT	40	Jacket Cooling Comp C	BR-GCS-HY-120-PH-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 BK-HD-GCS-CO-0008_03) INSTRUMENT DATASHEETS / CERTIFICATES						 HAVAYAR INDUSTRIAL GROUP		
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	شماره صفحه: 8 از 39
	BK	GCS	HY	120	IN	DS	0001	V03	

Data Sheet for Temprarure Transmitter/Element/Thermowell

HEAD									
1	COMPLETE ASSEMBLY	YES	OTHER		21	BORE DIAMETER	6.6 mm	(NOTE 4)	
2	SCREWED COVER		OTHER		22	OUTSIDE DIAMETER AT SUPPORT/TIP	: 28/22 mm	(NOTE 4)	
3	PROTECTION CLASS			IP-66	23	LAGGING EXTENTION "T"	: VTA		
4	HAZ. AREA CLASSIFICATION			EXia IIB T4	24	TEST	: HYDROSTATIC AND PENETRANT TEST		
5	MATERIAL	316 S.S	ELECTRICAL CONN.	M20 X 1.5	25	CONNECTION TO SENSOR		1/2" NPT F	
6	NIPPLE SIZE	1/2"	DIM."N"	UNION	26	PROCESS CONNECTION		See list	
7	AMBIENT TEMPERATURE IN DIRECT SUNLIGHT				PERFORMANCE CHARACTERISTICS				
ELEMENT					27	MIN/MAX. AMBIENT WORKING TEMPERATURE:		BY VENDOR	
8	PLATINUM	100/0°C	NICKEL	OTHER	TRANSMITTER				
9	TYPE			PT100	28	TRANSMITTER BODY MATERIAL		EXOPXY PAINTED DIE CAST ALUMINIUM	
10	TEMPERATURE RANGE			-100°C to 500 °C	29	POWER SUPPLY		24 VDC, LOOP POWERED WITH HART	
11	LEADS	STD	POTTED	HERM. SEALED	30	OUTPUT RANGE		4-20 ma	
12	SHEAT MATERIAL	316 S.S.	O.D.	6 mm	31	TRANSMITTER MOUNTING		HEAD MOUNTED	
13	TYPE	SINGLE	DUPLEX		32	ELECTRICAL CONNECTION		ISO M20	
14	SPRING LOADED	YES	NO		33	ACCURACY		± 0.1 % OF CALIBRATED SPAN	
15	CONNECTION	2-WIRE	3-WIRE	4-WIRE	34	ENCLOSURE APPROVAL		ATEX	
16	LEAD WIRES	RECEPTACLE	TERMINAL BLOCK		35	ZERO ADJUST: YES	SPAN ADJUST: YES		
OTHER					36	ISOLATION TYPE:	Barrier		
WELL OR TUBE					37	NIPPLE & UNION MATERIAL:	S.S		
17	NONE	INCLUDE	BY OTHERS		38	LCD INDICATOR:	YES		
18	MATERIAL			AISI 316 S.S.	39	MANUFACTURER: *	See list	MODEL NO. : See list	
19	CONSTRUCTION	TAPERED	STRAIGHT						
20	SOILD BAR-STOCK		BUILT-UP	CLOSE-END TUBE					



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		V03
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 66 117 V 60 Hz ☒ Other: ac ☐ dc ☐ Volts : 24 VDC Loop Powered							
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	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 ☐ (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

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)



شماره صفحه: 11 از 39

INSTRUMENT DATASHEETS / CERTIFICATES

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سازگاری کنند

تسهيلات

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Bk

GCS

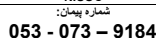
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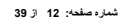
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List of DPT

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



053 - 073 - 9184

INSTRUMENT DATASHEETS / CERTIFICATES						
نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادرکننده	پست
V03	0001	DS	IN	120	HY	CS

شماره صفحه: 12 از 39

Data Sheet for Differential Pressure Gauge

[illegible]

Item	Tag No.	Range (barg)	Process Fluid/State	Design		Operating		Differential Pressure		LINE NO./EQUIPMENTNO.	P&ID NO.	Accessories	MFR.& Model	NOTE
				Press (barg)	Temp (C°)	Press (barg)	Temp (C°)	Norm. (bar)	Max. (bar)					
1	C-PDG-2204A	0~1	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		
2	C-PDG-2200A	0~1	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		
3	C-PDG-2201A	0~1	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		
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		
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		
6	C-PDG-2204B	0~1	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		
7	C-PDG-2200B	0~1	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		
8	C-PDG-2201B	0~1	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		
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		
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		
11	C-PDG-2204C	0~1	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		
12	C-PDG-2200C	0~1	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		
13	C-PDG-2201C	0~1	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		
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		
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		

NOTES -

 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-CO-GCS-HD-BK)						 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	V03		
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", 150# R.F		1/2", 150# R.F		1/2", 150# R.F		1/2", 150# R.F		
22	RANGE: FROM / TO (Kg/Hr)		3 Nm3/h		3 Nm3/h		3 Nm3/h		3 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	CONNECTION LAYOUT		Bottom-Top , Vertical		Bottom-Top , Vertical		Bottom-Top , Vertical		Bottom-Top , Vertical		
27	INGRESS PROTECTION		IP 65		IP 65		IP 65		IP 65		
28	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											
29	NEEDLE VALVE		No		No		No		No		
30	SWITCH		No		No		No		No		
PURCHASE											
31	MODEL		H250		H250		H250		H250		
32	MANUFACTURE		KROHNE		KROHNE		KROHNE		KROHNE		

 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								شماره صفحه: 14 از 39			
		پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه				
		BK	GCS	HY	120	IN	DS	0001	V03				
INSTRUMENT DATA SHEET FOR FLOW INDICATOR (ROTAMETER)													
GENERAL DATA													
1	TAG NO.		C-FI-2200B			C-FI-2201B			C-FI-2202B			C-FI-2203B	
2	QUANTITY		1			1			1			1	
3	P&ID NO.		BK-GCS-HY-120-PR-PI-0001-Page4B			BK-GCS-HY-120-PR-PI-0001-Page4B			BK-GCS-HY-120-PR-PI-0001-Page4B			BK-GCS-HY-120-PR-PI-0001-Page4B	
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. WEIGH T		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", 150# R.F			1/2", 150# R.F			1/2", 150# R.F			1/2", 150# R.F	
22	RANGE: FROM / TO (Kg/Hr)		3 Nm3/h			3 Nm3/h			3 Nm3/h			3 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	CONNECTION LAYOUT		Bottom-Top , Vertical			Bottom-Top , Vertical			Bottom-Top , Vertical			Bottom-Top , Vertical	
27	INGRESS PROTECTION		IP 65			IP 65			IP 65			IP 65	
28	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													
29	NEEDLE VALVE		No			No			No			No	
30	SWITCH		No			No			No			No	
PURCHASE													
31	MODEL		H250			H250			H250			H250	
32	MANUFACTURE		KROHNE			KROHNE			KROHNE			KROHNE	

		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)									
شماره پیمان: 053 - 073 – 9184		INSTRUMENT DATASHEETS / CERTIFICATES								شماره صفحه: 15 از 39	
		نسخه		سریال		نوع مدرک		رشته			
		V03		0001		DS		IN			
پروژه		بسته کاری		صادرکننده		تسهیلات		BK		GCS	
HY		120									

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		0.5		0.5		2	
13	TEMP. OPERATING / DESIGN (°C)		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	
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", 150# R.F		1/2", 150# R.F		1/2", 150# R.F		1/2", 150# R.F	
22	RANGE: FROM / TO (Kg/Hr)		3 Nm3/h		3 Nm3/h		3 Nm3/h		3 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	
25	FLOAT EXTENSION MATERIAL		316 S.S		316 S.S		316 S.S		316 S.S	
26	CONNECTION LAYOUT		Bottom-Top , Vertical		Bottom-Top , Vertical		Bottom-Top , Vertical		Bottom-Top , Vertical	
27	INGRESS PROTECTION		IP 65		IP 65		IP 65		IP 65	
28	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										
29	NEEDLE VALVE		No		No		No		No	
30	SWITCH		No		No		No		No	
PURCHASE										
31	MODEL		H250		H250		H250		H250	
32	MANUFACTURE		KROHNE		KROHNE		KROHNE		KROHNE	

		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)									
شماره پیمان: 053 - 073 – 9184		INSTRUMENT DATASHEETS / CERTIFICATES							شماره صفحه: 16 از 39		
		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال			نسخه
		BK	GCS	HY	120	IN	DS	0001			V03
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	Glass Cover					TEMPERED GLASS					
17	Gasket					KLINGRIT					
18	Bolts / Studs					C.S					



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

شماره پیمان:
9184 - 073 - 53

INSTRUMENT DATASHEETS / CERTIFICATES

شماره صفحه: 17 از 39

0592

بستہ کاری

صاد: کنندہ

تسهيلات

رشته

نوعی

سریال

نسخه

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List of Sight Glass

[illegible]

 NISOC		نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنيه تحت الارض خرید پکیج های کمپرسور گاز (رگفت و برگشتی) بینک (قرارداد 03 BK-HD-GCS-CO-0008)						 HAVAYAR INDUSTRIAL GROUP		
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 18 از 39		
		پروژه	پسند کاری	صادر کننده	تسهيلات	رشته	نوع مدرک	سریال	نسخه	
		BK	GCS	HY	120	IN	DS	0001	V03	
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.		Process 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		Orifice					
17		Measure Element Material	Thickness		S.S316-Nace		6mm			
18		Bore Diameter		Hold						
19		Connection Type	Size		Flange Weld neck		8"			
20		Flange Standard	Flange Rating		ASME B16.5		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		Gasket Type & Material		Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring						
Transmitter Unit	24	Model		Diff pressure						
	25	Available Range		-623 to 623 mbar						
	26	Flowmeter Scale		0~8163Nm3/h						
	27	Full Scale Differential Pressure (bar)		0~10 mbar						
	28	Output Signal		HART 4-20mA						
	29	Accuracy		0.2 %						
	30	Load Resistance		minimum loop resistance of 250 ohms						
	31	Scale Factor		Square Root						
	32	Housing Material		Cast aluminum						
	33	Allowable Static Pressure		250Barg						
	34	Power Supply		24 V DC Loop Powered						
	35	Electrical Connection		ISO M20x1.5						
	36	Explosion Proof		Exia IIB T3						
	37	Enclosure Protection		IP66						
	38	Diaphragm Material		S.S316-Nace						
	39	Wetted Part Material		S.S316-Nace						
	40	Drains/Vents Material		S.S316-Nace						
Accessories	41	Integral Indicator / Mounting type		Yes / Direct						
	42	Valve Manifold		5 valve-S.S316						
	43	Upstream Straight Run		10X						
Miscell.	44	Downstream Straight Run		5X						
	45	Manufacturer		Rosemount 3051CD1A2B21BB41i						
	45	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.										
2) Integral orifice with dual D.P Transmitter										
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 0008 BK-HD-GCS-CO)						 HAVAYAR INDUSTRIAL GROUP		
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 19 از 39		
		پروژه	پسته کاری	صادر کننده	تسهيلات	رشته	نوع مترک	سریال	نسخه	
		BK	GCS	HY	120	IN	DS	0001	V03	
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER										
	1	Tag Number	P&ID No.		FT-2131A		BK-GCS-HY-120-PR-PI-0001-Page1A			
	2	Service	Pipe No.		Process 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			
Process Conditions	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			Orifice				
17		Measure Element Material	Thickness		S.S316-Nace		3mm			
18		Bore Diameter			Hold					
19		Connection Type	Size		Flange Weld neck		6"			
20		Flange Standard	Flange Rating		ASME B16.5		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	Gasket Type & Material				Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring					
Transmitter Unit	24	Model			Diff pressure					
	25	Available Range			-623 to 623 mbar					
	26	Flowmeter Scale			0~8163Nm3/h					
	27	Full Scale Differential Pressure (bar)			0~10 mbar					
	28	Output Signal			HART 4-20mA					
	29	Accuracy			0.2 %					
	30	Load Resistance			minimum loop resistance of 250 ohms					
	31	Scale Factor			Square Root					
	32	Housing Material			Cast aluminum					
	33	Allowable Static Pressure			250Barg					
	34	Power Supply			24 V DC Loop Powered					
	35	Electrical Connection			ISO M20x1.5					
	36	Explosion Proof			Exia IIB T3					
	37	Enclosure Protection			IP66					
	38	Diaphragm Material			S.S316-Nace					
	38	Wetted Part Material			S.S316-Nace					
	39	Drains/Vents Material			S.S316-Nace					
Accessories	40	Integral Indicator / Mounting type			Yes / Direct					
	41	Valve Manifold			5 valve-S.S316					
	42	Upstream Straight Run			10X					
Miscell.	43	Downstream Straight Run			5X					
	44	Manufacturer			Rosemount 3051CD1A2B21BB41i					
	45	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.										
2) Integral orifice with dual D.P Transmitter										
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 (رفت و برگشتی) بینک (قرارداد 03 0008 BK-HD-GCS-CO)					 HAVAYAR INDUSTRIAL GROUP		
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES					شماره صفحه: 20 از 39		
		پروژه	پسته کاری	صنایع کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
		BK	GCS	HY	120	IN	DS	0001	V03
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		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)			Kg/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-2206A					
	16	Measure Element Type		Orifice					
	17	Measure Element Material	Thickness		316SS		3mm		
	18	Bore Diameter		Hold					
	19	Connection Type	Size		Flange Weld neck		3"		
	20	Flange Standard	Flange Rating		ASME B16.5		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	Gasket Type & Material								
Transmitter Unit	24	Model		Diff pressure					
	25	Available Range		-623 to 623 mbar					
	26	Flowmeter Scale		0~16830m3/h					
	27	Full Scale Differential Pressure (bar)		0~100 mbar					
	28	Output Signal		HART 4-20mA					
	29	Accuracy		0.2 %					
	30	Load Resistance		minimum loop resistance of 250 ohms					
	31	Scale Factor		Square Root					
	32	Housing Material		Cast aluminum					
	33	Allowable Static Pressure		250Barg					
	34	Power Supply		24 V DC Loop Powered					
	35	Electrical Connection		ISO M20x1.5					
	36	Explosion Proof		Exia IIB T3					
	37	Enclosure Protection		IP66					
	38	Diaphragm Material		S.S316					
	38	Wetted Part Material		S.S316					
	39	Drains/Vents Material		S.S316					
40	Integral Indicator / Mounting type		Yes / Direct						
Accessories	41	Valve Manifold		5 valve-S.S316					
	42	Upstream Straight Run		10X					
	43	Downstream Straight Run		5X					
Miscell.	44	Manufacturer		Rosemount 3051CD2A2B21BB41i					
	45	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.									
2) Integral orifice with dual D.P Transmitter									
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 0008 BK-HD-GCS-CO)						 HAVAYAR INDUSTRIAL GROUP		
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 21 از 39		
		پروژه	پسته کاری	صادر کننده	تسهیلات	رشته	نوع مترک	سریال	نسخه	
		BK	GCS	HY	120	IN	DS	0001	V03	
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER										
	1	Tag Number	P&ID No.		FT-2121B		BK-GCS-HY-120-PR-PI-0001-Page1B			
	2	Service	Pipe No.		Process 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		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			Orifice				
17		Measure Element Material	Thickness		S.S316-Nace		6mm			
18		Bore Diameter			Hold					
19		Connection Type	Size		Flange Weld neck		8"			
20		Flange Standard	Flange Rating		ASME B16.5		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	Gasket Type & Material				Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring					
Transmitter Unit	24	Model			3051CD					
	25	Available Range			-623 to 623 mbar					
	26	Flowmeter Scale			0~8163Nm3/h					
	27	Full Scale Differential Pressure (bar)			0~10 mbar					
	28	Output Signal			HART 4-20mA					
	29	Accuracy			0.2 %					
	30	Load Resistance			minimum loop resistance of 250 ohms					
	31	Scale Factor			Square Root					
	32	Housing Material			Cast aluminum					
	33	Allowable Static Pressure			250Barg					
	34	Power Supply			24 V DC Loop Powered					
	35	Electrical Connection			ISO M20x1.5					
	36	Explosion Proof			Exia IIB T3					
	37	Enclosure Protection			IP66					
	38	Diaphragm Material			S.S316-Nace					
	38	Wetted Part Material			S.S316-Nace					
	39	Drains/Vents Material			S.S316-Nace					
40	Integral Indicator / Mounting type			Yes / Direct						
Accessories	41	Valve Manifold			5 valve-S.S316					
	42	Upstream Straight Run			10X					
	43	Downstream Straight Run			5X					
Miscell.	44	Manufacturer			Rosemount 3051CD1A2B21BB41i					
	45	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.										
2) Integral orifice with dual D.P Transmitter										
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 0008 BK-HD-GCS-CO)						 HAVAYAR INDUSTRIAL GROUP		
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 22 از 39		
		پروژه	بسته کاری	صادر کننده	تسهيلات	رشته	نوع مترک	سریال	نسخه	
		BK	GCS	HY	120	IN	DS	0001	V03	
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER										
	1	Tag Number	P&ID No.		FT-2131B		BK-GCS-HY-120-PR-PI-0001-Page1B			
	2	Service	Pipe No.		Process 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			
Process Conditions	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	Orifice						
17		Measure Element Material	Thickness		S.S316-Nace		3mm			
18		Bore Diameter	Hold							
19		Connection Type	Size		Flange Weld neck		6"			
20		Flange Standard	Flange Rating		ASME B16.5		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	Gasket Type & Material				Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring					
Transmitter Unit	24	Model	3051CD							
	25	Available Range	-623 to 623 mbar							
	26	Flowmeter Scale	0~8163Nm3/h							
	27	Full Scale Differential Pressure (bar)	0~10 mbar							
	28	Output Signal	HART 4-20mA							
	29	Accuracy	0.2 %							
	30	Load Resistance	minimum loop resistance of 250 ohms							
	31	Scale Factor	Square Root							
	32	Housing Material	Cast aluminum							
	33	Allowable Static Pressure	250Barg							
	34	Power Supply	24 V DC Loop Powered							
	35	Electrical Connection	ISO M20x1.5							
	36	Explosion Proof	Exia IIB T3							
	37	Enclosure Protection	IP66							
	38	Diaphragm Material	S.S316-Nace							
	38	Wetted Part Material	S.S316-Nace							
	39	Drains/Vents Material	S.S316-Nace							
40	Integral Indicator / Mounting type	Yes / Direct								
Accessories	41	Valve Manifold	5 valve-S.S316							
	42	Upstream Straight Run	10X							
	43	Downstream Straight Run	5X							
Miscell.	44	Manufacturer	Rosemount 3051CD1A2B21BB41i							
	45	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.										
2) Integral orifice with dual D.P Transmitter										
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 BK-HD-GCS-CO-0008_03)						 HAVAYAR INDUSTRIAL GROUP			
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES								شماره صفحه: 23 از 39	
		پروژه	پسند کار	صادر کننده	تسهيلات	رشته	نوع مدرک	سریال	نسخه		
		BK	GCS	HY	120	IN	DS	0001	V03		
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER											
	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				
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		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			Orifice					
17		Measure Element Material	Thickness		316SS		3mm				
18		Bore Diameter			Hold						
19		Connection Type	Size		Flange Weld neck		3"				
20		Flange Standard	Flange Rating		ASME B16.5		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		Gasket Type & Material									
Transmitter Unit	24	Model	3051CD								
	25	Available Range	-623 to 623 mbar								
	26	Flowmeter Scale	0~16830m3/h								
	27	Full Scale Differential Pressure (bar)	0~100 mbar								
	28	Output Signal	HART 4-20mA								
	29	Accuracy	0.2 %								
	30	Load Resistance	minimum loop resistance of 250 ohms								
	31	Scale Factor	Square Root								
	32	Housing Material	Cast aluminum								
	33	Allowable Static Pressure	250Barg								
	34	Power Supply	24 V DC Loop Powered								
	35	Electrical Connection	ISO M20x1.5								
	36	Explosion Proof	Exia IIB T3								
	37	Enclosure Protection	IP66								
	38	Diaphragm Material	S.S316								
	38	Wetted Part Material	S.S316								
	39	Drains/Vents Material	S.S316								
	40	Integral Indicator / Mounting type	Yes / Direct								
	Accessories	41	Valve Manifold	5 valve-S.S316							
		42	Upstream Straight Run	10X							
43		Downstream Straight Run	5X								
Miscell.	44	Manufacturer	Rosemount 3051CD2A2B21BB41i								
	45	Requisition No.									
NOTES:											
1) Spiral Wound as per API 601, 316+Graf or CS, Thk 4.5mm with stainless steel winding and flexible graphite filler.											
2) Integral orifice with dual D.P Transmitter											
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: 24 از 39	
		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مترک	سریال		نسخه
		BK	GCS	HY	120	IN	DS	0001	V03	
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER										
	1	Tag Number	P&ID No.		FT-2121C		BK-GCS-HY-120-PR-PI-0001-Page1C			
	2	Service	Pipe No.		Process 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		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			Orifice				
17		Measure Element Material	Thickness		S.S316-Nace		6mm			
18		Bore Diameter			Hold					
19		Connection Type	Size		Flange Weld neck		8"			
20		Flange Standard	Flange Rating		ASME B16.5		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	Gasket Type & Material				Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring					
Transmitter Unit	24	Model			3051CD					
	25	Available Range			-623 to 623 mbar					
	26	Flowmeter Scale			0~8163Nm3/h					
	27	Full Scale Differential Pressure (bar)			0~10 mbar					
	28	Output Signal			HART 4-20mA					
	29	Accuracy			0.2 %					
	30	Load Resistance			minimum loop resistance of 250 ohms					
	31	Scale Factor			Square Root					
	32	Housing Material			Cast aluminum					
	33	Allowable Static Pressure			250Barg					
	34	Power Supply			24 V DC Loop Powered					
	35	Electrical Connection			ISO M20x1.5					
	36	Explosion Proof			Exia IIB T3					
	37	Enclosure Protection			IP66					
	38	Diaphragm Material			S.S316-Nace					
	38	Wetted Part Material			S.S316-Nace					
	39	Drains/Vents Material			S.S316-Nace					
40	Integral Indicator / Mounting type			Yes / Direct						
Accessories	41	Valve Manifold			5 valve-S.S316					
	42	Upstream Straight Run			10X					
	43	Downstream Straight Run			5X					
Miscell.	44	Manufacturer			Rosemount 3051CD1A2B21BB41i					
	45	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.										
2) Integral orifice with dual D.P Transmitter										
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: 25 از 39		
		پروژه	پسته کاری	صادر کننده	تسهيلات	رشته	نوع مترک	سریال	نسخه	
		BK	GCS	HY	120	IN	DS	0001	V03	
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER										
	1	Tag Number	P&ID No.		FT-2131C		BK-GCS-HY-120-PR-PI-0001-Page1C			
	2	Service	Pipe No.		Process 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			
Process Conditions	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			Orifice				
17		Measure Element Material	Thickness		S.S316-Nace		3mm			
18		Bore Diameter			Hold					
19		Connection Type	Size		Flange Weld neck		6"			
20		Flange Standard	Flange Rating		ASME B16.5		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	Gasket Type & Material				Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring					
Transmitter Unit	24	Model			3051CD					
	25	Available Range			-623 to 623 mbar					
	26	Flowmeter Scale			0~8163Nm3/h					
	27	Full Scale Differential Pressure (bar)			0~10 mbar					
	28	Output Signal			HART 4-20mA					
	29	Accuracy			0.2 %					
	30	Load Resistance			minimum loop resistance of 250 ohms					
	31	Scale Factor			Square Root					
	32	Housing Material			Cast aluminum					
	33	Allowable Static Pressure			250Barg					
	34	Power Supply			24 V DC Loop Powered					
	35	Electrical Connection			ISO M20x1.5					
	36	Explosion Proof			Exia IIB T3					
	37	Enclosure Protection			IP66					
	38	Diaphragm Material			S.S316-Nace					
	38	Wetted Part Material			S.S316-Nace					
	39	Drains/Vents Material			S.S316-Nace					
	40	Integral Indicator / Mounting type			Yes / Direct					
Accessories	41	Valve Manifold			5 valve-S.S316					
	42	Upstream Straight Run			10X					
	43	Downstream Straight Run			5X					
Miscell.	44	Manufacturer			Rosemount 3051CD1A2B21BB41i					
	45	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.										
2) Integral orifice with dual D.P Transmitter										
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 (رفت و برگشتی) بینک (قرارداد 03-0008-BK-HD-GCS-CO)						 HAVAYAR INDUSTRIAL GROUP		
شماره پیمان: 053 - 073 - 9184		INSTRUMENT DATASHEETS / CERTIFICATES						شماره صفحه: 26 از 39		
		پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدارک	سریال	نسخه	
		BK	GCS	HY	120	IN	DS	0001	V03	
INSTRUMENT DATA SHEET FOR FLOW TRANSMITTER										
	1	Tag Number	P&ID No.		C-FT-2206C		BK-GCS-HY-120-PR-PI-0001-Page0C			
	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	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-2206C				
		16	Measure Element Type			Orifice				
		17	Measure Element Material	Thickness		316SS		3mm		
18		Bore Diameter			Hold					
19		Connection Type	Size		Flange Weld neck		3"			
20		Flange Standard	Flange Rating		ASME B16.5		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		Gasket Type & Material			Spiral Wound,S.S 316 Winding /Graphite Filler, C.S. Outer& S.S 316L Inner Ring					
Transmitter Unit	24	Model			3051CD					
	25	Available Range			-623 to 623 mbar					
	26	Flowmeter Scale			0~16830m3/h					
	27	Full Scale Differential Pressure (bar)			0~100 mbar					
	28	Output Signal			HART 4-20mA					
	29	Accuracy			0.2 %					
	30	Load Resistance			minimum loop resistance of 250 ohms					
	31	Scale Factor			Square Root					
	32	Housing Material			Cast aluminum					
	33	Allowable Static Pressure			250Barg					
	34	Power Supply			24 V DC Loop Powered					
	35	Electrical Connection			ISO M20x1.5					
	36	Explosion Proof			Exia IIB T3					
	37	Enclosure Protection			IP66					
	38	Diaphragm Material			S.S316					
	38	Wetted Part Material			S.S316					
	39	Drains/Vents Material			S.S316					
	40	Integral Indicator / Mounting type			Yes / Direct					
Accessories	41	Valve Manifold			5 valve-S.S316					
	42	Upstream Straight Run			10X					
	43	Downstream Straight Run			5X					
Miscell.	44	Manufacturer			Rosemount 3051CD2A2B21BB41i					
	45	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.										
2) Integral orifice with dual D.P Transmitter										
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	پسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک		
		BK	GCS	HY	120	IN	DS	0001	V03
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				1350mm			
	14	Allowable Oper. Temp. °C	Pressure Rating						
	15	Mounting Style	Connection Orientation		External		Side-Side		
	16	Visible Length mm			1250mm				
	17	Scale Unit/Material	Accuracy		Cm		5mm		
	18	Indicator Type	Indicator Colour		Magnetic		Flag/White & red		
	19	Chamber Material	Float Material		S.S		S.S		
	20	Connection Type	Connection Size		Flange		2"		
	21	Flange Standard	Flange Rating		ASME		300		
	22	Flange Material	Facing		C.S		RF		
	Transmitter/Switch	23	Other Wetted Parts Material				S.S		
24		Float Dimension	Indicator Housing Material		HOLD		S.S		
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 (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	V03
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				1350mm			
	14	Allowable Oper. Temp. °C	Pressure Rating						
	15	Mounting Style	Connection Orientation		External		Side-Side		
	16	Visible Length mm			1250mm				
	17	Scale Unit/Material	Accuracy		Cm		5mm		
	18	Indicator Type	Indicator Colour		Magnetic		Flag/White & red		
	19	Chamber Material	Float Material		S.S		S.S		
	20	Connection Type	Connection Size		Flange		2"		
	21	Flange Standard	Flange Rating		ASME		300		
	22	Flange Material	Facing		C.S		RF		
	Transmitter/Switch	23	Other Wetted Parts Material				S.S		
24		Float Dimension	Indicator Housing Material		HOLD		S.S		
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 (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 1 1/2"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	پسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک		
		BK	GCS	HY	120	IN	DS	0001	V03
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)				-			
Body & Cage	11	Upper/Lower Dynamic Viscosity (cP)				0.0209 / 1.87			
	12	Model/Type				Magnetic			
	13	C to C mm				1350mm			
	14	Allowable Oper. Temp. °C	Pressure Rating						
	15	Mounting Style	Connection Orientation		External		Side-Side		
	16	Visible Length mm			1250mm				
	17	Scale Unit/Material	Accuracy		Cm		5mm		
	18	Indicator Type	Indicator Colour		Magnetic		Flag/White & red		
	19	Chamber Material	Float Material		S.S		S.S		
	20	Connection Type	Connection Size		Flange		2"		
	21	Flange Standard	Flange Rating		ASME		300		
	22	Flange Material	Facing		C.S		RF		
	23	Other Wetted Parts Material				S.S			
	24	Float Dimension	Indicator Housing Material		HOLD		S.S		
	Transmitter/Switch	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		
33		Housing Material	Integral Indicator		N/A		N/A		
34									
Accessories		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			
	43	Non Frosting Extension				N/A			
	44	Stilling Well				N/A			
Miscell	45	Surge Protection Device				N/A			
	46								
	47	Manufacturer				AZARSAM (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	
		V03	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			
	11	C to C mm							
Transmitter	12	Model	3051						
	13	Type	Accuracy	DP level Transmitter		+/- 0.1% Full Scale			
	14	Available Range	Calibration Range (bar)	-6350~6350 mmH2O		0-1350mmH2O			
	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						
	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						
Sensing & Body	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		ASTM A105			
	25	Process Connection	Flange Standard	2"		ASME B16.5			
	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						
Diaphragm Seal	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						
	39	Indicator Type	Display	Integral LCD type		Digital			
Indicator	40	Mounting Bracket	Remo. Indic. Connection	No		YES			
	41	Manifold Model	Manifold Type	VTA		5 Way			
Manifold	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		شماره صفحه: 31 از 39							
		نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
		V03	0001	DS	IN	120	HY	GCS	BK
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					
	11	C to C mm							
Transmitter	12	Model			3051				
	13	Type	Accuracy		DP level Transmitter		+/- 0.1% Full Scale		
	14	Available Range	Calibration Range (bar)		-6350~6350 mmH2O		0-1350mmH2O		
	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				
	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				
Sensing & Body	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		ASTM A105		
	25	Process Connection	Flange Standard		2"		ASME B16.5		
	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		N/A		
Diaphragm Seal	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		
	39	Indicator Type	Display		Integral LCD type		Digital		
Indicator	40	Mounting Bracket	Remo. Indic. Connection		No		YES		
	41	Manifold Model	Manifold Type		VTA		5 Way		
Manifold	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 (BK-HD-GCS-CO-0008_03 قرارداد)						 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 V03							
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					
	11	C to C mm							
Transmitter	12	Model	3051						
	13	Type	Accuracy	DP level Transmitter		+/- 0.1% Full Scale			
	14	Available Range	Calibration Range (bar)	-6350~6350 mmH2O		0-1350mmH2O			
	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						
	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						
Sensing & Body	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		ASTM A105			
	25	Process Connection	Flange Standard	2"		ASME B16.5			
	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						
Diaphragm Seal	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						
	39	Indicator Type	Display	Integral LCD type		Digital			
Indicator	40	Mounting Bracket	Remo. Indic. Connection	No		YES			
	41	Manifold Model	Manifold Type	VTA		5 Way			
Manifold	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		V03
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 TAG C-SV-2205A/B/C N.O						
	17	EXTERNAL OVERRIDE		No						
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 (رفت 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			V03
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 صفحه: 35 از 39	
شماره پیمان: 053 - 073 - 9184		پروژه BK	بسته کاری GCS	صادر کننده HY	تسهیلات 120	رشته IN	نوع مدرک DS		
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				-			
Transmitter	12	Model				3051			
	13	Type		Accuracy		DP level Transmitter		+/- 0.1% Full Scale	
	14	Available Range		Calibration Range (bar)		-635~635mmH2O		425mmH2O	
	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	
	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		ASTM A105	
Sensing & Body	25	Process Connection		Flange Standard		1/2"		ASME B16.5	
	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		N/A	
Indicator	39	Indicator Type		Display		Integral LCD type		Digital	
	40	Mounting Bracket		Remo. Indic. Connection		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	
		INSTRUMENT DATASHEETS / CERTIFICATES							
شماره پیمان: 053 - 073 - 9184		نسخه: 36 از 39							
		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه
		BK	GCS	HY	120	IN	DS	0001	V03
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			
	11	C to C mm				-			
Transmitter	12	Model				3051			
	13	Type		Accuracy		DP level Transmitter		+/- 0.1% Full Scale	
	14	Available Range		Calibration Range (bar)		-635~635mmH2O		425mmH2O	
	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	
	21	Failure Mode Alarm				Up Scale			
Sensing & Body	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		ASTM A105	
	25	Process Connection		Flange Standard		1/2"		ASME B16.5	
	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			
Diaphragm Seal	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		Integral LCD type		Digital
40		Mounting Bracket		Remo. Indic. Connection		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.				3051CD1A2B21BB411			
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	V03		
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			
	11	C to C mm						-			
Transmitter	12	Model			3051						
	13	Type	Accuracy		DP level Transmitter		+/- 0.1% Full Scale				
	14	Available Range	Calibration Range (bar)		-635~635mmH2O		425mmH2O				
	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				
	21	Failure Mode Alarm			Up Scale						
	22	Element Type	Element Material		Diaphragm		316SS				
Sensing & Body	23	Max. Static Pressure (barg)	Allowable Oper. Temp. °C		135barg		85 °C				
	24	Body Material	Flange Material		316SS		ASTM A105				
	25	Process Connection	Flange Standard		1/2"		ASME B16.5				
	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		N/A				
Indicator	39	Indicator Type	Display		Integral LCD type		Digital				
	40	Mounting Bracket	Remo. Indic. Connection		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 3051CD1A2B21BB411								
	47	Requisition No.									
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	V03
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 ○	DPDT ●
3	Fixed	Adj. ●	Min. ○			Other:			
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	SIL 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			

 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		
		INSTRUMENT DATASHEETS / CERTIFICATES								شماره صفحه: 39 از 39		
شماره پیمان: 053 - 073 – 9184		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه			
		BK	GCS	HY	120	IN	DS	0001	V03			
Instrument Data Sheet For Temperature Switch												
GENERAL												
1.TAG.NO		C-TS-2191A		C-TS-2194A		C-TS-2191B		C-TS-2194B		C-TS-2191C		C-TS-2194C
2.Equipment		1ST STAGE DISCHARGE SNUBBER		2ND STAGE DISCHARGE SNUBBER		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		Cast Aluminum		Cast Aluminum
4.SERVICE		Gas		Gas		Gas		Gas		Gas		Gas
5.RANGE		0-200C		0-200'C		0-200'C		0-200'C		0-200'C		0-200'C
6.Ingress Protection		IP 66/Exd-IIB-T4 SIL Certified										
THERMOWELL												
7.TYPE SYSTEM		Flnage/RF		Flange/RF		Flange/RF		Flange/RF		Flange/RF		Flange/RF
8 MATERIAL		AISI 316/Nace		AISI 316/Nace		AISI 316/Nace		AISI 316/Nace		AISI 316/Nace		AISI 316/Nace
9.CONNECTION LOCATION		Bottom		Bottom		Bottom		Bottom		Bottom		Bottom
10.TUBING LENGTH		N/A		N/A		N/A		N/A		N/A		N/A
11.TUBING TYPE & MATERIAL		N/A		N/A		N/A		N/A		N/A		N/A
12.WELL CONN.SIZE & TYPE		2"#300		2"#600		2"#300		2"#600		2"#300		2"#600
13.WELL MATERIAL		316 S.S		316 S.S		316 S.S		316 S.S		316 S.S		316 S.S
14.'U' DIMENSION(NOMINAL)		500mm		500mm		500mm		500mm		500mm		500mm
SWITCH												
15.TYPE		Snap Action		Snap Action		Snap Action		Snap Action		Snap Action		Snap Action
16.QUANTITY	FORM	1/DPDT		1/DPDT		1/DPDT		1/DPDT		1/DPDT		1/DPDT
17.ENCLOSURE		IP66		IP66		IP66		IP66		IP66		IP66
18.RATING.VOLTS		24 VDC		24 VDC		24 VDC		24 VDC		24 VDC		24 VDC
19.AMPS		2		2		2		2		2		5
20.LOAD TYPE		INDUCTIVE		INDUCTIVE		INDUCTIVE		INDUCTIVE		INDUCTIVE		INDUCTIVE
21.DIFF.:FIXED	ADJUST	YES/-		YES/-		YES/-		YES/-		YES/-		YES/-
22.ELECTRICAL CONNECTION		M20*1.5		M20*1.5		M20*1.5		M20*1.5		M20*1.5		M20*1.5
23.Accuracy		1% Of Spna		1% Of Spna		1% Of Spna		1% Of Spna		1% Of Spna		1% Of Spna
SERVICE CONDITIONS												
27.TEMP.:OPER 'C		129'C		148'C		129'C		148'C		129'C		148'C
28.PRESS.:OPER BARG		18		54.9		18		54.9		18		54.9
29.TRIP POINT 'C		150		170		150		170		150		170
30.MANUFACTURER'S MODEL NO.		Ashcroft		Ashcroft		Ashcroft		Ashcroft		Ashcroft		Ashcroft