

RECIPROCATING COMPRESSOR DATA SHEET		DATE	19. APRIL. 2006	REV.	0
		PAGE NO.	1 OF 3		
1	CUSTOMER	Mr. Umer Shariif			PREPARED BY
2	PJT. NAME	CNG REFUELING STATION EQUIPMENT			PREPARED BY
3	DOC. NO.	MODEL NO.	GEO-A-150		REVIEWED BY
4	SERVICE	CNG GAS COMPRESSOR			REVIEWED BY
5	NO. REQ'D	WORKING	STAND-BY	TOTAL	1
6	OPERATION CONDITIONS				
7	NO. OF STAGE(S)	FOUR (4)			
8	GAS HANDLED	CH4 - 96.27, C2H6 - 1.82, C3H8 - 0.43, C4H10 - 1.13, N2 - 0.35 (%)			
9	BAROMETRIC PRESSUF (mmHg)	760			
10	CAPACITY (DRY) (WET) (kg/hr)	226.81 / 314			
11	(DRY) (WET) (Nm ³ /hr)	300 - 480			
12	(m ³ /hr)	480.0			
13	SUCTION CONDITIONS				
14	STAGE	1ST	2ND	3RD	4TH
15	PRESSURE (kg/cm ² . G)	0.250 / .760	4.02 / 5.77	11.91 / 16.58	67.41
16	TEMPERATURE (□)	30	50	50	50
17	RELATIVE HUMIDITY (%)	DRY	DRY	DRY	DRY
18	MOLECULAR WEIGHT	16.935	16.935	16.935	16.935
19	Cp/Cv (K1)	1.3103	1.3103	1.3103	1.3103
20	COMPRESSIBILITY (Zs)	0.991	0.983	0.953	0.873
21	DISCHARGE CONDITIONS				
22	PRESSURE (kg/cm ² . G)	4.47 / 6.22	12.36 / 17.03	51.74 / 70.61	255
23	TEMPERATURE (□)	133 / 134	134 / 134	178 / 177	197 / 164
24	Cp/Cv (K2)	1.3103	1.3103	1.3103	1.3103
25	COMPRESSIBILITY (Zd)	0.989	0.98	0.953	0.985
26	INTER STAGE PRESS. DROP (kg/cm ² . G)	0.45	0.45	0.45	0.45
27	COMPRESSION RATIO (Rc)	3.449 / 3.474	2.65 / 2.655	4.077 / 4.068	4.892 / 3.595
28	BHP OF EACH STAGE (kw)	16.389 / 20.861	13.742 / 18.018	19.969 / 26.098	22.827 / 23.656
29	TOTAL BHP (kw)	72.93 / 89			
30	ROTATIONAL SPEED OF COMP'R (rpm)	1480			
31	OTHER CONDITIONS				
32	COMP'R TYPE	<input type="checkbox"/> "D" TYPE <input type="checkbox"/> "Y" TYPE <input type="checkbox"/> "L" TYPE <input type="checkbox"/> "C" TYPE <input type="checkbox"/> "W" TYPE <input checked="" type="checkbox"/> "GEO-A" TYPE			
33		<input type="checkbox"/> NON-LUBRICATED <input checked="" type="checkbox"/> LUBRICATED			
34		<input type="checkbox"/> WATER COOLED <input checked="" type="checkbox"/> AIR COOLED			
35	DRIVER	<input type="checkbox"/> V-BELT TYPE : PCS : LENGTHS : C mm), inch.			
36		COMP' PULLEY DIA. mm MOTOR PULLEY DIA mm.			
37		<input checked="" type="checkbox"/> DIRECT BY COUPLING (DIA : 276) FLY-WHEEL DIA 500			
38	COMP'R ROTATION (view comp'r coupling side)	<input checked="" type="checkbox"/> CW <input type="checkbox"/> CCW			
39	ELECTRIC MOTOR SPEC.	TYPE	TEFC (Exd IIB T4)		MANUFACTURE
40		SPEC.	110 kw	415 volts	3 phase
41			50 Hz	4 poles	1480 rpm
42		STARTING METHOD	<input type="checkbox"/> DIRECT ON LINE START <input type="checkbox"/> Y-□ <input checked="" type="checkbox"/> START DELTA		
43		INSULATION CLASS	<input checked="" type="checkbox"/> F <input checked="" type="checkbox"/> B(temp.) LOCATION <input checked="" type="checkbox"/> INDOOR <input type="checkbox"/> OUTDOOR		
44	CAPACITY CONTROL	<input type="checkbox"/> POCKET VALVE <input type="checkbox"/> ON AIR / POWER FAILURE : LOAD			
45		<input checked="" type="checkbox"/> START-STOP <input type="checkbox"/> 2-STEP <input type="checkbox"/> 3-STEP (70%, 80%, 90% POCKET VALVE) <input type="checkbox"/> BY-PASS CONTR			
46		<input type="checkbox"/> BY RECEIVER PRESSURE <input checked="" type="checkbox"/> BY PURCHASER'S INSTRUMENT			
46	COMP'R LOCATION	<input checked="" type="checkbox"/> INDOOR <input type="checkbox"/> OUTDOOR <input type="checkbox"/> UNDER ROOF			
47	ELECTRIC AREA	<input type="checkbox"/> NON-HAZARDOUS <input checked="" type="checkbox"/> HAZARDOUS <input type="checkbox"/>			
48	CONTROL POWER	<input checked="" type="checkbox"/> AC 220 volts 1 phase 50 Hz			
49	PAINTING COLOR (Munsell N)	<input checked="" type="checkbox"/> MANUFACTURER'S STANDARD (2.5G 6/2) <input type="checkbox"/> 5B 7.5/4			
50	APPLICABLE CODE	<input checked="" type="checkbox"/> MANUFACTURER'S STANDARD <input checked="" type="checkbox"/> JOB SPEC. <input checked="" type="checkbox"/> KS & JIS			
51	REMARKS :				
52	SUCTION PRESSURE : 3 ~ 11 PSIG				
53	DISCHARGE PRESSURE : 3600 PSIG				
54					

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		PAGE NO.	2 OF 3		
1	CUSTOMER	ITEM NO.			
2	PJT. NAME	M/O NO.			
3	SERVICE				
4	CYLINDER DATA				
5	STAGE	1ST	2ND	3RD	4TH
6	NO. OF CYLINDER PER STAGE	1	1	1	1
7	SINGLE / DOUBLE ACTING	SINGLE	SINGLE	SINGLE	SINGLE
8	CYLINDER LINER YES / NO	NO	NO	NO	NO
9	CYLINDER LINER WET / DRY	-	-	-	-
10	OUTSIDE DIA. LINER (mm)	-	-	-	-
11	BORE (mm)	280	237	98	36
12	STROKE (mm)	80	80	80	80
13	PISTON DISPLACEMENT (m ³ /hr)	435.96	123.62	48.4	7.21
14	VOLUMETRIC EFFICIENCY (%)	65.95	65.95	65.95	65.95
15	NO. OF PISTON RING PER STAGE	3 PCS	3 PCS twIN	5 PCS	7 PCS
16	NO. OF RIDER RING PER STAGE	1 PC	-	1 PC	1 PC
17	NO. OF SUC. / DIS. VALVE PER STAGE	2 / 2	1 / 1	1 / 1	1
18	TYPE OF VALVES	PLATE (PEEK)	PLATE (PEEK)	PLATE (PEEK)	PLATE (PEEK/SS)
19	PISTON SPEED (m/s)	3.93	3.933	3.93	3.93
20	ROD DIAMETER (mm)	-	30	30	-
21	ROD LOAD-C (kg)	1369 / 1790	-	TANDEM	2228 / 2247
22	ROD LOAD-T (kg)	-	1890 / 2556	2141 / 2898	TANDEM
23	DESIGN PRESS. (kg/cm ² . G)	29	67	168	305
24	DESIGN TEMP. (°C)	204	204	204	204
25	HYDRO. TEST PRESS. (kg/cm ² . G)	44	100.5	252	381
26	SUCTION FLANGE SIZE	3"	2.5"	2"	1"
27	RATING / FACING	M/S	M/S	M/S	M/S
28	DISCHARGE FLANGE SIZE	3"	2.5"	2"	1"
29	RATING / FACING	M/S	M/S	M/S	M/S
30	TYPE OF MAIN BEARING	<input checked="" type="checkbox"/> SPHERICAL ROLLER B/R #23222CE4 x 2		<input type="checkbox"/> METAL B/R	
31	COMPRESSOR MATERIALS				
32	CYLINDER (S)	GCD500 / SCM440 (NITRIDING)	VALVE SEAT (S)	SS431 (HOERBIGER)	
33	CYLINDER LINER (S)	NONE	VALVE GUARD (S)	SS431 (HOERBIGER)	
34	PISTON (S)	AC4C-T6 / SCM440	VALVE PLATE (S)	PEEK (HOERBIGER)	
35	PISTON RING (S)	FILLED PTFE / FILLED PEEK (HOER)	VALVE SPRING (S)	SS304-WPB (HOERBIGER)	
36	RIDER RING (S)	FILLED PTFE / FILLED PEEK (HOER)	CRANK SHAFT	SCM440	
37	DIAPHRAGM	-	CROSS HEAD (S)	SC480	
38	PISTON ROD (S)	SCM440 (ION NITRIDING)	CONNECTING ROD	SC480	
39	COMP'R PACKING	<input type="checkbox"/> NON-LUBRICATED		<input checked="" type="checkbox"/> LUBRICATED(3RD)	
40		<input checked="" type="checkbox"/> SELF COOLED		<input type="checkbox"/> WATER COOLED	
41		<input checked="" type="checkbox"/> FILLED PTFE / BRONZE		<input type="checkbox"/> BRONZE	<input type="checkbox"/> CAF
42	DISTANCE PIECE	<input checked="" type="checkbox"/> STANDARD		<input type="checkbox"/> EXTRA LONG SINGLE COMPARTME	<input type="checkbox"/> TWO COMPARTMENT ("C" TYPE)
43	LUBRICATION	<input type="checkbox"/> SPLASH SYSTEM			
44		<input checked="" type="checkbox"/> PRESS. SYSTEM			
45		OIL PUMP DRIVEN			
46		<input checked="" type="checkbox"/> COMP'R SHAFT FOR MAIN PUMP			
47		<input checked="" type="checkbox"/> ELECTRIC MOTOR FOR AUX. PUMP			
48	<input type="checkbox"/> MANUAL FOR START				
48	LUBRICATOR OIL CAPACITY	22 (l)	<input type="checkbox"/>		
49	<input checked="" type="checkbox"/> ELECTRIC HEATER (W/THERMOSTART)		<input type="checkbox"/> STEAM		
50	REMARKS	SUCTION & DISCHARGE VALVE : HOERBIGER			
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RECIRCATING COMPRESSOR DATA SHEET						DATE	REV.	0
						PAGE NO.	3 OF 3	
1	CUSTOMER					ITEM NO.		
2	PJT. NAME					M/O NO.		
3	SERVICE							
4	ACCESSORIES							
5	■ SEPARATOR				■ 3RD INTER COOLER			
6	TYPE ■ VOLUME BOTTLES □				TYPE : FIN/ TUBE Q'TY : 1 SET(S)			
7	Q'TY: ■ SUCTION □ DISCHARGE				FIN DIA. : 37.1 HEAD MAT'L : A105			
8	3 □ EACH STAGE SUCTION & DISCHARGE				TUBE SIZE (OD x L x TH'K) 15.9 x 2036 x 2.11			
9	■ SUCTION LINE FILTER				TUBE MAT'L A179 TUBE Q'TY : 36 PCS			
10	TYPE ■ DRY □ OIL BATH ■ INDOOR □ OUTDOOR				■ 4TH AFTER COOLER			
11	■ 2 1/2" ANSI 150LB SO.RF				TYPE : FIN / TUBE Q'TY : 1 SET(S)			
12	Q'TY: 1				FIN DIA. : 37.1 HEAD MAT'L : A105			
13	□ UNLOADER SYSTEM				TUBE SIZE (OD x L x TH'K) 15.9 x 2016 x 2.77			
14	□ MAGNETIC TYPE □ FILTER & REGULATOR				TUBE MAT'L A179 TUBE Q'TY : 36 PCS			
15	□ MANUAL TYPE □ PRESSURE TRANSMITT				■ OIL COOLER			
16	□ SOLENOID VALVE				TYPE : FIN / TUBE Q'TY : 1 SET(S)			
17	■ LUBRICATION				FIN DIA. : 37.1 HEAD MAT'L : A105			
18	■ CYLINDER PART		■ LUBRICATOR		TUBE SIZE (OD x L x TH'K) 15.9 x 2036 x 1.65			
19			■ CHECK VALVE		TUBE MAT'L A179 TUBE Q'TY : 8 PCS			
20			■ INTER PIPING		■ CHECK VALVE			
21	■ CRANK CASE PART		■ LEVEL GAUGE		TYPE LIFT Q'TY : 1 SET(S)			
22			■ GEAR PUMP		SIZE ■ 0.75" TUBE 600LB			
23			■ OIL COOLER		■ BED			
24			■ OIL FILTER		FOR ■ COMMON BED Q'TY : 1 SET(S)			
25			■ OIL STRAINER		■ MOTOR SLIDE BED Q'TY : 1 SET(S)			
26			■ INTER PIPING		■ GUARD (NON-SPARKING)			
27	■ 1ST / 2ND INTER COOLER				FOR □ V-BELT Q'TY : SET(S)			
28	TYPE : FIN / TUBE		Q'TY : 1+1 SET(S)		■ DIRECT COUPLING Q'TY : 1 SET(S)			
29	FIN DIA. : 37.1		HEAD MAT'L : A105					
30	TUBE SIZE (OD x L x TH'K)		15.9 x 2036 x 1.65					
31	TUBE MAT'L A179		TUBE Q'TY : 36/35 PCS					
32								
33	■ THE OTHERS		■ ANCHOR BOLT & NUT		■ COUNTER FLANGES		■ NAME PLATE	
34	■ SAFETY VALVE							
35	LOCATION	■ 1ST COOLER	■ 2ND COOLER	■ 3RD COOLER	■ 4TH COOLER			
36	SIZE	1" (SCREWED)	1" (SCREWED)	1" (SCREWED)	1" (SCREWED)			
37	SET POINT (kg/cm ² . G)	24	50	168	300			
38	Q'TY :	1	1	1	1			
39	DATA OF AIR							
40	SERVICE	1ST COOLER	2ND COOLER	3RD COOLER	4TH COOLER	OIL COOLER		
41	SURF. AREA/(m2)	48.7	47.35	48.7	48.7	10.82		
42	INLET TEMF(□)	133 / 134	134	178 / 177	197 / 164	71		
43	OUTLET TEM(□)	50	50	50	50	50		
44	PRESSURE (kg/cm ² . G)	4.47 / 6.22	12.36 / 17.03	51.74 / 70.61	255	2.5 ~ 11		
45	NUMBER.OF PASS	4	5	8	12	4		
46	ELECTRIC SERVICE				ALARM & SHUT DOWN			
47		kw	volts	phase	Hz	poles	■ LUBE OIL PRESS. LOW ■ ALARM □ SHUTDOWN	
48	MAIN DRIVER	110	415	3	50	4	■ LUB. OIL PRESS. LOW.LOW □ ALARM ■ SHUTDOWN	
49	AUX. OIL PUMP	0.75	415	3	50	4	■ SUCTION PRESS. LOW ■ ALARM ■ SHUTDOWN	
50	CONTROL	1.0	220	1	50	-	■ DISCHARGE PRESS. HIGH ■ ALARM ■ SHUTDOWN	
51	OIL HEATER	0.346	220	1	50		■ DISCHARGE TEMP. HIGH ■ ALARM ■ SHUTDOWN	
52	FAN MOTOR	3.7	415	3	50	8	■ VIBRATION HIGH ■ ALARM □ SHUTDOWN	
53	REMARKS :							