ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

TIMESHEET REPORT

CUSTOMER NAME A CUSTOMER		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE) A NAME - A POSITION			SHEET NUMBER 00000
SITE NAME & ADDRESS (PLANT OWNER F-GAS) AN ADDRESS, A TOWN, A COUNTY, A COUNTRY. AB0 0AB		ENGINEER	STEVE ORLANDO		CLIENT ASSET NUMBER
		MATE	A MATE		00000
REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	TOTAL REF. CHARGE	240.0 KG
PLANT REFERENCE	A PLANT REFERENCE	REFRIGERANT GWP	1810	IND. REF SYS. CHARGE	60+60+60+60 KG
CLG LOAD SERVED	A COOLING LOAD SERVED	EQUIV. TONNES CO2e	434.4	F-GAS LEAK CHECK FREQ.	HALF YEARLY

WORK CARRIED OUT:

ENGINEERS TIME ON SITE & TRAVEL								MATERIALS USED	
DAY	DATE	START	FINISH	TRAVEL	TOTAL	COMPLETE Y/N	MILEAGE	No. ENG	QUANTITY	DESCRIPTION
MON										
TUES										
WED										
THUR										
FRI										
SAT										
SUN										

CUSTOMER TO SIGN FOR ENGINEERS TIME ON SITE

ENGINEER SIGNATURE: _____

CUSTOMERS SIGNATURE: _____

F-GAS QUALIFICATION: C&G 2079 PART 1

CUSTOMER NAME: A NAME

SIGNATURE DATE: 00/01/1900

CUSTOMERS JOB TITLE: A POSITION

ADDITIONAL WORKS RECOMMENDED / REQUIRED:

ISO9001:2008. CUSTOMER SATISFACTION: _____ **1**= UNSATISFIED **2**= BELOW AVERAGE **3**= MET EXPECTATION **4**= ABOVE AVERAGE **5**= EXCELLENT

CUSTOMER COMMENTS ABOUT PERFORMANCE ON THIS JOB / CONTRACT:

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

F-GAS & BOTTLE LOG

CUSTOMER NAME	SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE)		SHEET NUMBER
ACL ENGINEERING LTD	A NAME - A POSITION		00000
SITE NAME & ADDRESS (PLANT OWNER F-GAS)	ENGINEER	STEVE ORLANDO	CLIENT ASSET NUMBER
CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE	QUALIFICATION	C&G 2079 PART 1	00000

MANUFACTURER	MODEL	SERIAL	DATE INSTALLED	PLANT REFERENCE
A MANUFACTURER	A MODEL NUMBER	A SERIAL NUMBER	01/01/1980	A PLANT REFERENCE

REFRIG TYPE	TOT. REFRIG CHRG.	INDIVIDUAL SYS. REF. CHARGE	REFRIG GWP	EQUIV. TONNES CO2e	F-GAS LEAK CHECK FREQ.	CLG LOAD SERVED
R22	240.0 KG	60+60+60+60 KG	1810	434.4	HALF YEARLY	A COOLING LOAD SERVED

VIRGIN REFRIGERANT BOTTLE LOG (KG)

DATE RECEIVED	DELIVERY NOTE NUMBER	BOTTLE NUMBER	SUPPLIER	REFRIGERANT	BOTTLE TYPE	GROSS WEIGHT	TARE WEIGHT	NET WEIGHT	NET USED	DATE RETURNED	RETURNS NOTE NUMBER

RECOVERY BOTTLE LOG (KG)

DATE RECEIVED	DELIVERY NOTE NUMBER	BOTTLE NUMBER	SUPPLIER	REFRIGERANT	RECOVERY TYPE	TARE WEIGHT	RECOVERED NET	RECOVERED USED	GROSS WEIGHT	DATE RETURNED	WASTE TRANSFER NOTE

F-GAS REFRIGERATION LOG RECORD

REFRIGERANT ADDITIONS

DATE	ENGINEER	AMOUNT ADDED (KG)	REASON FOR ADDITION

REFRIGERANT REMOVALS

DATE	ENGINEER	AMOUNT REMOVED (KG)	REASON FOR REMOVAL

REFRIGERANT LEAK TEST

DATE	ENGINEER	TEST RESULT	FOLLOW UP ACTIONS REQUIRED
00/01/1900	STEVE ORLANDO	**PASS**	PPM -

FOLLOW UP ACTIONS

DATE	ENGINEER	RELATED TO TEST ON	ACTIONS TAKEN

TESTING AUTOMATIC LEAK DETECTION SYSTEM (IF FITTED)

DATE	ENGINEER	TEST RESULT	COMMENTS

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

SYSTEM TEST CERTIFICATES

CUSTOMER NAME ACL ENGINEERING LTD		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE) A NAME - A POSITION			SHEET NUMBER 00000
SITE NAME & ADDRESS CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE		ENGINEER	STEVE ORLANDO		CLIENT ASSET NUMBER 00000
		F-GAS QUALIFICATION	C&G 2079 PART 1		
REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED		

STRENGTH TEST CERTIFICATE

START OF STRENGTH TEST

DATE _____ TIME _____ PRESSURE _____ MOP _____

THE ABOVE SYSTEM / COMPONENT HAD A WITNESSED OFN NITROGEN STRENGTH TEST APPLIED AT 1.5 TIMES MOP (MAXIMUM OPERATING PRESSURE), MAINTAINED FOR 30 SECONDS.

INSTRUMENT USED: ITE HIGH SIDE GAUGE. CALABRATED: 25/11/2014.

INSTRUMENT SERIAL: FTEK-147. CERTIFICATE No. CM248650. NEXT DUE 25/11/2015.

ENGINEERS SIGNATURE _____ CUSTOMERS SIGNATURE _____

F-GAS QUALIFICATION C&G 2079 PART 1 PRINT NAME A NAME

SIGNATURE DATE 00/01/1900 CUSTOMERS JOB TITLE A POSITION

PRESSURE TEST CERTIFICATE

START OF PRESSURE TEST

DATE _____ TIME _____ PRESSURE _____ AMBIENT _____

END OF PRESSURE TEST

DATE _____ TIME _____ PRESSURE _____ AMBIENT _____

TEMPERATURE COMPENSATED NITROGEN PRESSURE FIGURE

CALCULATED CORRECTED END PRESSURE USING START PRESSURE AND START AMBIENT TEMPERATURE RELATIVE WITH FINISH AMBIENT TEMP. _____

THE ABOVE SYSTEM HAD A WITNESSED OFN NITROGEN PRESSURE TEST APPLIED, WHICH WAS MAINTAINED FOR THE PERIOD STATED ABOVE AND HAS BEEN PROVED TO REMAIN LEAK TIGHT

INSTRUMENT USED: CPS PROSET HIGH SIDE GAUGE. CALABRATED: 25/11/2014.

INSTRUMENT SERIAL: FTEK-045. CERTIFICATE No. CM248649. NEXT DUE 25/11/2015.

ENGINEERS SIGNATURE _____ CUSTOMERS SIGNATURE _____

F-GAS QUALIFICATION C&G 2079 PART 1 PRINT NAME A NAME

SIGNATURE DATE 00/01/1900 CUSTOMERS JOB TITLE A POSITION

VACUUM TEST CERTIFICATE

START OF VACUUM TEST

DATE _____ TIME _____ VACUUM _____

END OF VACUUM TEST

DATE _____ TIME _____ VACUUM _____

THE ABOVE SYSTEM HAD A WITNESSED VACUUM PULLED DOWN TO 4 mBar AND MAINTAINED FOR A PERIOD OF 2 HOURS WITHOUT MORE THAN A 1.0 mBar RISE IN PRESSURE.

INSTRUMENT USED: KENT/MOORE. 040362/25 CALABRATED: 23/11/2014

INSTRUMENT SERIAL: FTEK-043. CERTIFICATE No. FT0043I. NEXT DUE 23/11/2015.

ENGINEERS SIGNATURE _____ CUSTOMERS SIGNATURE _____

F-GAS QUALIFICATION C&G 2079 PART 1 PRINT NAME A NAME

SIGNATURE DATE 00/01/1900 CUSTOMERS JOB TITLE A POSITION

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - RECIP. CHILLERS

CUSTOMER NAME ACL ENGINEERING LTD		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE) A NAME - A POSITION			SHEET NUMBER 00000	
SITE NAME & ADDRESS CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE		ENGINEER	STEVE ORLANDO		CLIENT ASSET NUMBER 00000	
		F-GAS QUALIFICATION	C&G 2079 PART 1			
REASON FOR VISI	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER	
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980	
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG	
PLANT REFERENCI	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED			

COMPRESSOR MANUFACTURER:	COPELAND	COMPRESSOR OIL TYPE:	EAL ARTIC 22CC			OIL VOLUME:	2 OFF 7.5 L
COMPRESSOR 1 MODEL:	D8DJ/6000/DWM/D	SERIAL:	991 71640	HRS RUN:	N/A	STARTS:	N/A
COMPRESSOR 2 MODEL:	D8DJ/6000/DWM/D	SERIAL:	991 71674	HRS RUN:	N/A	STARTS:	N/A
COMPRESSOR 3 MODEL:	N/A	SERIAL:	N/A	HRS RUN:	N/A	STARTS:	N/A
COMPRESSOR 4 MODEL:	N/A	SERIAL:	N/A	HRS RUN:	N/A	STARTS:	N/A

BOX CODES Y YES | N NO | G GOOD | F FAIR | P POOR | B BAD | N/A NOT APPLICABLE

COMPRESSOR Min/Maj

G	Check Oil Level
GG	Check Oil Heater Operation
GG	Check Compressor Pumping
GG	Pump Down Test
G	Condition of Oil (One Shot Test)

COMPRESSOR Maj

N	Check Big Ends
N	Check Sump for Metal
N	Oil Sample Taken (Lab Test)
N	Swab Sump
N	Suction Valves & Springs
N	Discharge Valve & Springs
N	Check Cylinder Sleeves
N	Check Suction Strainer
Y	Check Oil Strainer
*1 G	Check Unloader Operation

AIR CONDENSERS Min/Maj

G	Condition of Coils
G	Check Fans

AIR CONDENSERS Maj

Y	Condenser Coils Brushed
N	Condenser Chemical Cleaned

S & TUBE CONDENSERS Maj

N/A	Remove End Covers
N/A	Condition of Tubes
N/A	Condition of Water Boxes
N/A	Check for Water Leaks
N/A	Check Water Valve Operation

CONTROL PANELS Min/Maj

G	Check Main Wiring
G	Check Main Controller
G	Door Seals, Hinges & Latches
G	Load / Unload of Compressor
GG	Check Compressor Contactors
Y	Check & Tighten Connection
G	Check Fan O/L
G	Check Timer Sequences
G	Check Electrical Connections
240 V	L1 Phase Volts to Earth
233 V	L2 Phase Volts to Earth
233 V	L3 Phase Volts to Earth

CONTROL PANELS Min/Maj

Standard	Micro	
25.0 BarG	N/A	H.P Cut-Out
2.5 BarG	N/A	L.P Cut-Out
N/A	N/A	Pumpdown C/O
0.7 BarD	N/A	Oil Press C/O
N/A	3.0 Deg C	LTL Cut-Out
25.2 BarG		Actual H.P Cut-Out Pressure
G		Test Chilled Water Flow Switch
N/A		Test Condenser Water Flow Switch
12.0 Deg C		Temp Control S.P 1
1.5 Deg C		Temp Control D.B/Range 1
N/A		Temp Control S.P 2
1.0 Deg C		Temp Control D.B/Range 2
-4.0 Deg C		Low Ambient Temp C/O
45.0 Deg C		High Ambient Temp C/O
14.0 BarG		Condenser Fan S.P
2.0 BarG		Condenser Fan Range
G		Inverter Condition
N/A		High Pressure Force Unload

UNIT CONDITION Min/Maj

G	Check Panels
G	Check Paintwork
G	Check Insulation
G	Check Pipework
G	Check Solenoid Valves
DRY / N/A	Sight Glass Cond
N/A / N/A	Sight Glass Cond
G	Check Vibration Isolators
NO BINDERS	Evaporator Water Box P.D
N/A	Condenser Water Box P.D

CALIBRATION CHECKS Min/Maj

G	Check Oil Temp Sensor/s
G	Check Ambient Sensor
G	Check Chilled Water Sensor/s
N/A	Check Condenser Water Sensor/s
G	Check EEV Control
N/A	Check S1 Sensor
G	Check S2 Sensor
G	Check LP Transducers
G	Check HP Transducers
N/A	Check OP Transducers

F-GAS REFRIGERANT CHECKS Min/Maj

GG	Check Refrigerant Charge
GG	Carry Out Leak Test with Electronic Leak Detector
N/N	Leaks Found / Repaired
GG	Check Pressure Relief Valves
GG	Check Pressure Relief Valve Vent Line
*4 01/06/2013	*PRV's Five (5) Year Anniversary*
N/A	Check Fixed Leak Detection System
N	Are There Health & Safety Risks

OPERATION CHECKS Min/Maj

Comp #1	Comp #2	Comp #3	Comp #4	
				Evap Pressure
				Cond Pressure
				Oil Pressure
				Chld Water ON
				Chld Water OFF
N/A				Cond Water ON
N/A				Cond Water OFF
				Ambient
				Compressor Amps
				Compressor Load
				Oil Temp
				EEV STEP

OPERATION CHECKS Maj

System #1	System #2	System #3	System #4	
10.1 T-Sat C				Evap Tsat (Dew)
				Suction Temp
-10.1 Deg K	0.0 Deg K	0.0 Deg K	0.0 Deg K	Suct Superheat
38.8 T-Sat C				Cond Tsat (Bubble)
				Discharge Temp
-38.8 Deg K	0.0 Deg K	0.0 Deg K	0.0 Deg K	Disch Superheat
				Liquid Line Temp
38.8 Deg K	0.0 Deg K	0.0 Deg K	0.0 Deg K	Subcooling

MOTOR CHECKS Maj

System #1	System #2	System #3	System #4	
G	G	N/A	N/A	Compressors
N/A	N/A	N/A	N/A	Control ELCB Test
G	N/A	N/A	N/A	Cond Fans 1-4
N/A	N/A	N/A	N/A	Cond Fans 5-8

N	Chiller Print-Out Taken
N	**IS FURTHER WORK NEEDED. (Identify Below)**

* NO FAULTS TO REPORT

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - ENERGYPAK CHILLER

CUSTOMER NAME: ACL ENGINEERING LTD		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE): A NAME - A POSITION			SHEET NUMBER: 00000
SITE NAME & ADDRESS: CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE		ENGINEER	STEVE ORLANDO		CLIENT ASSET NUMBER: 00000
		F-GAS QUALIFICATION	C&G 2079 PART 1		
REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED		

COMPRESSOR MANUFACTURER:	YORK	COMPRESSOR OIL TYPE:	MINERAL 68		OIL VOLUME:	10L	
COMPRESSOR 1 MODEL:	JS63E-P5046L	SERIAL:	TM410851	HRS RUN:	NO METERS FITTED	STARTS:	NO METER

BOX CODES Y YES | N NO | G GOOD | F FAIR | P POOR | B BAD | N/A NOT APPLICABLE

COMPRESSOR Min/Maj

G	*Check Oil Level*
G	*Check Oil Heater Operation*
G	*Check Compressor Pumping*
G	*Pump Down Test*
G	*Condition of Oil (One Shot Test)*
G	Hours Run Inspection Required

COMPRESSOR Maj

N/A	*Check Big Ends*
N/A	*Check Sump for Metal*
N/A	*Oil Sample Taken (Lab Test)*
N/A	*Swab Sump*
N/A	*Suction Valves & Springs*
N/A	*Discharge Valve & Springs*
N/A	*Check Cylinder Sleeves*
N/A	*Check Suction Strainer*
N/A	*Check Oil Strainer*
N/A	*Check Unloader Operation*

AIR CONDENSERS Min/Maj

*1	P	*Condition of Coils*
	G	*Check Fans*

AIR CONDENSERS Maj

Y	*Condenser Coils Brushed*
N	*Condenser Chemical Cleaned*

S & TUBE COND Maj

G	*Check for Water Leaks*
G	*Check Water Valve Operation*
G	*Check Water Diff*

CONTROL PANELS Min/Maj

F	*Check Main Wiring*
G	*Check Main Controller*
F	*Door Seals, Hinges & Latches*
G	*Load / Unload of Compressor*
F	*Check Compressor Contactors*
Y	*Check & Tighten Connection*
G	*Check Fan O/L*
G	*Check Timer Sequences*
G	*Check Electrical Connections*

CONTROL PANELS Min/Maj

Standard	Micro	
24.8 BarG	N/A	*H.P Cut-Out*
2.4 BarG	N/A	*L.P Cut-Out*
2.4 BarG	N/A	*Pumpdown C/O*
1.7 BarD	N/A	*Oil Press C/O*
2.2 Deg C	N/A	*LTL Cut-Out*
25.1 BarG		*Actual H.P Cut-Out Pressure*
G		*Test Chilled Water Flow Switch*
G		*Test Condenser Water Flow Switch*
65.0 Deg C	N/A	*HLLT*
59.0 Deg C	N/A	*HLPS*
4.0 Deg C	N/A	*LALT*
22.0 Deg C	N/A	*HPST*
5.0 Deg C	N/A	*CTH*
53.0 Deg C	N/A	*HTH*
110.0 Deg C	N/A	*HLST*
N/A		*Chiller Print-Out Taken*

UNIT CONDITION Min/Maj

F		*Check Panels*
F		*Check Paintwork*
F		*Check Insulation*
F		*Check Pipework*
G		*Check Solenoid Valves*
G	N/A	*Sight Glass Cond*
N/A	N/A	*Sight Glass Cond*
F		*Check Vibration Isolators*
N/A		*Check Oil Sensors*
G		*Check Ambient Sensor*
G		*Check Chilled Water Sensor/s*
G		*Check Condenser Water Sensor/s*
G		*Check Defrost Control*
N/A		*Check S1 Sensor*
N/A		*Check S2 Sensor*
N/A		*Check LP Transducers*
N/A		*Check HP Transducers*
N/A		*Check OP Transducers*
180 -140 = 40KPaD		Evaporator P.D
180 - 160 = 20KPaD		Condenser P.D

F-GAS REFRIGERANT CHECKS Min/Maj

G	*Check Refrigerant Charge*
G	*Check Pressure Relief Valves*
G	*Check Pressure Relief Valve Vent Line*
N/A	*Check Fixed Leak Detection System*
Y	*Does the Above Conform to BS EN 378 Standard*
N	*Are There Health & Safety Risks*

OPERATION CHECKS Min/Maj

COOLING	HEATING	HEAT REC	
4.2 BarG	3.5 BarG	4.2 BarG	*Evaporator Pressure*
16.8 BarG	34.1 BarG	22.5 BarG	*Condenser Pressure*
3.1 BarG	2.9 BarD	3.1 BarG	*Oil Pressure*
8.6 Deg C	N/A	8.9 Deg C	*Chilled Water ON*
5.2 Deg C	N/A	6.4 Deg C	*Chilled Water OFF*
N/A	46.7 Deg C	48.7 Deg C	*Condenser Water ON*
N/A	49.5 Deg C	51.9 Deg C	*Condenser Water OFF*
18.5 Deg C	18.5 Deg C	N/A	*Air On*
21.8 Deg C	7.9 Deg C	N/A	*Air Off*
17.8 Deg C	17.5 Deg C	18.1 Deg C	*Ambient*
67.0 Amps	85.9 Amps	68.0 Amps	*Compressor Amps*
43.7 Deg C	43.9 Deg C	44.6 Deg C	*Oil Temperature*
33%	66%	33%	*Compressor Loading*

OPERATION CHECKS Maj

COOLING	HEATING	HEAT REC	
N/A	N/A	N/A	*Evaporator Tsat*
N/A	N/A	N/A	*Suction Temperature*
N/A	N/A	N/A	*Suction Superheat*
N/A	N/A	N/A	*Condenser Tsat*
N/A	N/A	N/A	*Discharge Temperature*
N/A	N/A	N/A	*Discharge Superheat*
N/A	N/A	N/A	*Liquid Line Temperature*
N/A	N/A	N/A	*liquid Subcooling*

MOTOR CHECKS Maj

Earth Leakage Tests

N/A	*Fan #1*	N/A	*Fan #2*
N/A	*Fan #3*	N/A	*Fan #4*
N/A	*Compressor*		

N **IS FURTHER WORK NEEDED. (Identify Below)**

FAULTS FOUND:

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - SCREW CHILLERS

CUSTOMER NAME		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE)				SHEET NUMBER	
ACL ENGINEERING LTD		A NAME - A POSITION				00000	
SITE NAME & ADDRESS		ENGINEER	STEVE ORLANDO			CLIENT ASSET NUMBER	
CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE		F-GAS QUALIFICATION	C&G 2079 PART 1			00000	
REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER		
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980		
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG		
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED				

COMPRESSOR MANUFACTURER:	DAIKIN	COMPRESSOR OIL TYPE:	DAPHNE FVC68D			OIL VOLUME:	2 OFF 20L
COMPRESSOR 1 MODEL:	EZHC9WSGYE	SERIAL:	7311020	HRS RUN:	20020 (80H △ PPM)	STARTS:	NOT MONITORED
COMPRESSOR 2 MODEL:	EZHC9WSGYE	SERIAL:	7311021	HRS RUN:	19138 (0H △ PPM)	STARTS:	NOT MONITORED
COMPRESSOR 3 MODEL:	N/A	SERIAL:	N/A	HRS RUN:	N/A	STARTS:	N/A
COMPRESSOR 4 MODEL:	N/A	SERIAL:	N/A	HRS RUN:	N/A	STARTS:	N/A

BOX CODES Y YES | N NO | G GOOD | F FAIR | P POOR | B BAD | N/A NOT APPLICABLE

COMPRESSOR Min/Maj

GG	Check Oil Level
GG	Check Oil Heater Operation
GG	Check Compressor Pumping
GG	Pump Down Test
GG	Check Unloader Operation
*1 YY	20K Hours Inspection Required

COMPRESSOR Maj

	Replace Internal Oil Filter

OIL SEPARATOR Min/Maj

NN	Oil Sample Test (One Shot)
N/A	Oil Separator Level
N/A	Check Heater Operation

OIL SEPARATOR Maj

	Oil Sample Taken (Lab Test)
	Replace External Oil Filter

ECONOMISER Min/Maj

N/A	Check TX Valve Operation
N/A	Check Solenoid Operation
N/A	Check Liquid Level Control

LIQUID INJECTION Min/Maj

GG	Check Injection Valve Operation

AIR CONDENSERS Min/Maj

GG	Condition of Coils
GG	Check Fans

AIR CONDENSERS Maj

	Condenser Coils Brushed
	Condenser Chemical Cleaned

S & T CONDENSERS Maj

N/A	Remove End Covers
N/A	Condition of Tubes
N/A	Condition of Water Boxes
N/A	Check for Water Leaks

CONTROL PANELS Min/Maj

G	Check Main Wiring
B	Check Main Controller
G	Door Seals, Hinges & Latches
G	Load / Unload of Compressor
Y	Chiller Print-Out Taken

CONTROL PANELS Min/Maj

GG	Check Compressor Contactors
Y	Check & Tighten Connection
GG	Check Fan O/L
G	Check Timer Sequences
G	Check Electrical Connections
GG	Check Cond Fan Voltage Regulator

Standard	Micro	
25.5 BarG	25.0 BarG	H.P Cut-Out
1.5 BarG	3.0 BarG	L.P Cut-Out
N/A	N/A	Pumpdown C/O
N/A	5.0 BarD	Oil Press C/O
N/A	3.0 Deg C	LTL Cut-Out
UNTESTED		Actual H.P Cut-Out Pressure
GG		Test Flow Switches
12.0 Deg C		Temp Control S.P
1.0 Deg C		Temp Control D.B/Range
-5.0 Deg C		Low Ambient Temp C/O
45.0 Deg C		High Ambient Temp C/O
14.0 BarG		Condenser Fan S.P
6.0 BarG		Condenser Fan Range
21.5 BarG		High Pressure Force Unload

UNIT CONDITION Min/Maj

G	*Check Panels, Paintwork & AV Mounts*
G	*Check Pipework & Insulation*
G	*Check Solenoid Valves*
G	*Check Motorised Shut-off Valves*
G	*Door Seals, Hinges & Latches*

DRY	DRY	Site Glass Cond.
40.0 KPaD		*Evaporator Water Box P.D*
N/A		*Condenser Water Box P.D*
NOT TESTED		*Glycol CW / CondW*

SENSOR CALIBRATION Min/Maj

G	*Check Ambient Sensor*
GG	*Check Chilled Water Sensor/s*
N/A	*Check Condenser Water Sensor/s*
N/A	*Check Oil Temperature Sensors*
-/G	*Check EEV S1 / S2 Sensors*
GG	*Check L.P Transducer/s*
GG	*Check H.P Transducer/s*
N/A	*Check Oil Pressure Transducer/s*
N/A	*Check Side Load Pressure Transducer/s*
G	*Check Safety Flow Switch/s / Interlocks*

F-GAS REFRIGERANT CHECKS Min/Maj

GG	Check Refrigerant Charge
GG	Carry Out Leak Test with Electronic Leak Detector
N/N	Leaks Found / Repaired
GG	Check Pressure Relief Valves
GG	Check Pressure Relief Valve Vent Line
01/06/2013	*PRV's Five (5) Year Anniversary*
N/A	Check Fixed Leak Detection System
N	Are There Health & Safety Risks

OPERATION CHECKS Min/Maj

System A	System B	System #3	System #4	
184.1 KPaG	N/A	N/A	N/A	Evap Pressure
547.5 KPaG	N/A	N/A	N/A	Cond Pressure
325.5 KPaD	N/A	N/A	N/A	Oil Differential
24.8 KPaD	N/A	N/A	N/A	Oil Filter Differential
8.6 DegC		N/A		Chld Water ON
7.8 DegC		N/A		Chld Water OFF
15.3 DegC		N/A		Cond Water ON
19.2 DegC		N/A		Cond Water OFF
12.7 DegC				Ambient
152.0 Amps	N/A	N/A	N/A	Compressor Amps
21.8 DegC	N/A	N/A	N/A	Oil Temp
N/A	N/A	N/A	N/A	EconTemp Diff.
N/A	N/A	N/A	N/A	EEV Position
88.0%	N/A	N/A	N/A	Slide Valve Position

OPERATION CHECKS Maj

System #1	System #2	System #3	System #4	
-0.8 C Tsat		N/A	N/A	Evap Tsat
5.8 Deg C		N/A	N/A	Suction Temp
6.6 Deg K	0.0 Deg K	N/A	N/A	Suct Superheat
24.1 C Tsat		N/A	N/A	Cond Tsat
34.3 Deg C		N/A	N/A	Discharge Temp
10.2 Deg K	0.0 Deg K	N/A	N/A	Disch Superheat
23.8 Deg C		N/A	N/A	Liquid Line Temp
0.3 Deg K	0.0 Deg K	N/A	N/A	Subcooling
N/A	N/A	N/A	N/A	Winding Thermistor

MOTOR CHECKS Maj

System #1	System #2	System #3	System #4	
G	G	N/A	N/A	Comp. Windings
				Cond Fans 1-4
				Cond Fans 5-8
				Cond Fans 9-12

N **IS FURTHER WORK NEEDED. (Identify Below)**

FAULTS FOUND:

* NO FAULTS TO REPORT

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - INVERTER SCREW CHILLERS

CUSTOMER NAME ACL ENGINEERING LTD		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE) A NAME - A POSITION			SHEET NUMBER 00000	
SITE NAME & ADDRESS CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE		ENGINEER	STEVE ORLANDO		CLIENT ASSET NUMBER 00000	
		F-GAS QUALIFICATION	C&G 2079 PART 1			
REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER	
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980	
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG	
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED			

COMPRESSOR MANUFACTURER:	CARRIER (ThermaCom)	COMPRESSOR OIL TYPE:	CARRIER SW220			OIL VOLUME:	40 LTR + 20 LTR
COMPRESSOR 1 MODEL:	06NA2300S5N-A00	SERIAL:	TZ681649 (REBUILD)	HRS RUN:	18567	STARTS:	45315
COMPRESSOR 2 MODEL:	06NA2300S5NA-A00	SERIAL:	TZ6801423 (REBUILD)	HRS RUN:	18051	STARTS:	45366
COMPRESSOR 3 MODEL:	06NA2300S5NC-A00	SERIAL:	TZ6801648 (REBUILD)	HRS RUN:	18748	STARTS:	48288
COMPRESSOR 4 MODEL:	N/A	SERIAL:	N/A	HRS RUN:	N/A	STARTS:	N/A

BOX CODES Y YES | N NO | G GOOD | F FAIR | P POOR | B BAD | N/A NOT APPLICABLE

COMPRESSOR Min/Maj

GG	*Check Oil Level*
N/A	*Check Oil Heater Operation*
GGG	*Check Compressor Pumping*
GGG	*Pump Down Test*
NN	20K Hours Inspection Required

COMPRESSOR Maj

	Replace Internal Oil Filter

OIL SEPARATOR Min/Maj

GG	*Oil Sample Test (One Shot)*
GG	*Oil Separator Level*
GG	*Check Heater Operation*

OIL SEPARATOR Maj

	Oil Sample Taken (Lab Test)
	Replace External Oil Filter

ECONOMISER Min/Maj

N/A	*Check FEED Valve Operation*
N/A	*Check Solenoid Operation*
N/A	*Check Liquid Level Control*
N/A	*Check DRAIN Valve Operation*

LIQUID INJECT Min/Maj

GGG	*Check Injection Valve Operation*

*1 AIR CONDENSERS Min/Maj

FF	*Condition of Coils*
GG	*Check Fans*

AIR CONDENSERS Maj

	Condenser Coils Brushed
	Condenser Chemical Cleaned

S & T CONDENSERS Maj

N/A	*Remove End Covers*
N/A	*Condition of Tubes*
N/A	*Condition of Water Boxes*
N/A	*Check for Water Leaks*

CONTROL PANELS Min/Maj

*2 G	*Check Main Wiring*
B	*Check Main Controller*
B	*Door Seals, Hinges & Latches*
Y	*Chiller Print-Out Taken*

CONTROL PANELS Min/Maj

GGG	*Check Compressor Contactors*
Y	*Check & Tighten Connection*
GG	*Check Fan O/L*
G	*Check Timer Sequences*
*3 B	*Check Electrical Connections*
N/A	*Check Compressor Soft Starters*

Standard	Micro	
21.8 BarG	21.0 BarG	*H.P Cut-Out*
N/A	0.5 BarG	*L.P Cut-Out*
N/A	0.5 BarG	*Pumpdown C/O*
DP-OP>540KPaG : 6 SEC		*Oil Press C/O*
N/A	2.1 Deg C	*LTL Cut-Out*
UNTESTED		*Actual H.P Cut-Out Pressure*

*4 G	*Test Flow Switches*	
6.0 Deg C	*Temp Control S.P*	
1.0 Deg C	*Temp Control D.B/Range*	
-18.0 Deg C	*Low Ambient Temp C/O*	
45.0 Deg C	*High Ambient Temp C/O*	
14.0 BarG	*Condenser Fan S.P*	
6.0 BarG	*Condenser Fan Range*	
18.0 BarG	*High Pressure Force Unload*	

UNIT CONDITION Min/Maj

G	*Check Panels & Paintwork*	
G	*Check Insulation*	
G	*Check Pipework*	
G	*Check Solenoid Valves*	
DRY	DRY	*Sight Glass Cond*
G	*Check Vibration Isolators*	
N/A	*Check Oil Sensors*	
G	*Check Ambient Sensor*	
GG	*Check Chilled Water Sensor/s*	
N/A	*Check Condenser Water Sensor/s*	
GG	*Check EEV Control*	
N/A	*Check S1 Sensor*	
GG	*Check S2 Sensor*	
GG	*Check LP Transducers*	
GG	*Check HP Transducers*	
GG	*Check OP Transducers*	
*5 50 KPaD	*Evaporator Water Box P.D*	
N/A	*Condenser Water Box P.D*	
NOT TESTED	*Glycol CW / CondW*	

F-GAS REFRIGERANT CHECKS Min/Maj

GGG	*Check Refrigerant Charge*
GGG	*Carry Out Leak Test with Electronic Leak Detector*
N/N	*Leaks Found / Repaired*
GGG	*Check Pressure Relief Valves*
GGG	*Check Pressure Relief Valve Vent Line*
*4 01/06/2014	*PRV's Five (5) Year Anniversary*
N/A	*Check Fixed Leak Detection System*
Y	*Are There Health & Safety Risks*

OPERATION CHECKS Min/Maj

System #1	System #2	System #3	System #4	
2.81 BarG	2.12 BarG	2.15 BarG	N/A	*Evap Pressure*
2.8 BarG	8.6 BarG	8.8 BarG	N/A	*Cond Pressure*
2.8 BarG	7.7 BarG	7.7 BarG	N/A	*Oil Pressure*
8.2 Deg C			N/A	*Chld Water ON*
5.1 Deg C			N/A	*Chld Water OFF*
N/A		N/A		*Cond Water ON*
N/A		N/A		*Cond Water OFF*
16.2 Deg C				*Ambient*
0.0 Amps	184.0 Amps	196.0 BarG	N/A	*Compressor Amps*
28.8 Deg C	38.5 Deg C	35.2 BarG	N/A	*Oil Temp*
OFF	ON	ON	N/A	*EconTemp Pressure*
0.0%	88.1%	71.3%	N/A	*Feed Valve Position*
0.3%	5.8%	14.5%	N/A	*Economiser Level*
0.0%	50.0%	51.8%	N/A	*Drain Valve Position*
0.0%	85.2%	100.0%	N/A	*Compressor Loading*

OPERATION CHECKS Maj

System #1	System #2	System #3	System #4	
-	4.5 Deg K	3.5 Deg K	N/A	*Suct Superheat*
-	13.0 Deg K	11.3 Deg K	N/A	*Disch Superheat*
-	7.2 Deg K	7.5 Deg K	N/A	*Subcooling @ 100%*
160.2 HZ			N/A	*VSD Frequency*
542.0 VDC			N/A	*DC Bus Voltage*
40.0 Deg C			N/A	*Backplate Temp*
28.9 Deg C			N/A	*Internal Ambient*
52.3 Deg C	38.3 Deg C	43.1 Deg C	N/A	*Winding Thermistor*

MOTOR CHECKS Maj

System #1	System #2	System #3	System #4	
G	G	G	N/A	*Comp. Windings*
G	G	G	G	*Cond Fans 1-4*
G	G	G	G	*Cond Fans 5-8*
G	G	G	G	*Cond Fans 9-12*

N **IS FURTHER WORK NEEDED. (Identify Below)**

FAULTS FOUND:

*1 NO FAULTS FOUND

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - SCROLL CHILLERS

CUSTOMER NAME	SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE)	SHEET NUMBER
ACL ENGINEERING LTD	A NAME - A POSITION	00000
SITE NAME & ADDRESS	ENGINEER: STEVE ORLANDO	CLIENT ASSET NUMBER
CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE	F-GAS QUALIFICATION: C&G 2079 PART 1	00000

REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED		

COMPRESSOR MANUFACTURER:	COPELAND	COMPRESSOR OIL TYPE:	ICI EMCARATE RL32CF					OIL VOLUME:	2 OFF 4.1 LTRS
COMPRESSOR A1 MODEL:	ZR16M3E-TWD-551	SERIAL:	RE1400208437	HRS RUN:	0	HRS RUN DIFF:	0	STARTS:	UNLOGGED
COMPRESSOR A2 MODEL:	N/A	SERIAL:	RE1400207352	HRS RUN:	0	HRS RUN DIFF:	0	STARTS:	UNLOGGED
COMPRESSOR A3 MODEL:	N/A	SERIAL:	RE1400208406	HRS RUN:	0	HRS RUN DIFF:	0	STARTS:	UNLOGGED
COMPRESSOR A4 MODEL:	N/A	SERIAL:	RE1400208623	HRS RUN:	0	HRS RUN DIFF:	0	STARTS:	UNLOGGED
COMPRESSOR B1 MODEL:	ZR16M3E-TWD-551	SERIAL:	N/A	HRS RUN:	N/A	HRS RUN DIFF:	N/A	STARTS:	N/A
COMPRESSOR B2 MODEL:	N/A	SERIAL:	N/A	HRS RUN:	N/A	HRS RUN DIFF:	N/A	STARTS:	N/A
COMPRESSOR B3 MODEL:	N/A	SERIAL:	N/A	HRS RUN:	N/A	HRS RUN DIFF:	N/A	STARTS:	N/A
COMPRESSOR B4 MODEL:	N/A	SERIAL:	N/A	HRS RUN:	N/A	HRS RUN DIFF:	N/A	STARTS:	N/A

BOX CODES Y YES | N NO | G GOOD | F FAIR | P POOR | B BAD | N/A NOT APPLICABLE

SYS A COMP Min/Maj

G	*Check Oil Level*
N/A	*Check Oil Heater Operation*
G	*Check Compressor Pumping*
N/A	*Pump Down Test*
N/A	*Check Starting Bypass Operation*
N/A	*Condition of Balance Lines*
N	*Excessive Vibration*
G	*Condition of Oil (One Shot Test)*

SYS B COMP Min/Maj

G	*Check Oil Level*
N/A	*Check Oil Heater Operation*
G	*Check Compressor Pumping*
N/A	*Pump Down Test*
N/A	*Check Starting Bypass Operation*
N/A	*Condition of Balance Lines*
N	*Excessive Vibration*
G	*Condition of Oil (One Shot Test)*

SYS A & B COMP Maj

NN	*Oil Sample to Lab*
GG	*Electrical Terminal Box*
N/A	*IC Card Operation*

AIR CONDENSERS Min/Maj

GG	*Condition of Coils*
GGG	*Check Fans*

AIR CONDENSERS Maj

Y	*Condenser Coils Brushed*
N	*Condenser Chemical Cleaned*

S & T CONDENSERS Maj

N/A	*Remove End Covers*
N/A	*Condition of Tubes*
N/A	*Condition of Water Boxes*
N/A	*Check for Water Leaks*

CONTROL PANELS Min/Maj

G	*Check Main Wiring*
G	*Check Main Controller*
G	*Door Seals, Hinges & Latches*
N/A	*Load / Unload of Compressor*
N	*Chiller Print-Out Taken*

CONTROL PANELS Min/Maj

GG	*Check Compressor Contactors*
Y	*Check & Tighten Connection*
G	*Check Fan O/L*
G	*Check Timer Sequences*
G	*Check Electrical Connections*
N/A	*Check Compressor Soft Starters*

Standard	Micro	
25.0 BarG	N/A	*H.P Cut-Out*
0.5 BarG	N/A	*L.P Cut-Out*
N/A	N/A	*Pumpdown C/O*
N/A		*Oil Press C/O*
N/A	3.0 Deg C	*LTL Cut-Out*
UNTESTED		*Actual H.P Cut-Out Pressure*
*1 G		*Test Flow Switches*
9.0 Deg C		*Temp Control S.P*
1.5 Deg C		*Temp Control D.B/Range*
N/A		*Low Ambient Temp C/O*
N/A		*High Ambient Temp C/O*
N/A		*Condenser Fan S.P*
N/A		*Condenser Fan Range*
N/A		*High Pressure Force Unload*

UNIT CONDITION Min/Maj

G	*Check Panels, Paintwork & AV Mounts*
G	*Check Pipework & Insulation*
G	*Check Solenoid Valves*
G	*Check Motorised Shut-off Valves*
G	*Door Seals, Hinges & Latches*
DRY / DRY	Site Glass Cond.
40.0 KPaD	*Evaporator Water Box P.D*
N/A	*Condenser Water Box P.D*
NOT TESTED	*Glycol CW / CondW*

SENSOR CALIBRATION Min/Maj

G	*Check Ambient Sensor*
GG	*Check Chilled Water Sensor/s*
N/A	*Check Condenser Water Sensor/s*
N/A	*Check Oil Temperature Sensors*
-/G	*Check EEV S1 / S2 Sensors*
GG	*Check L.P Transducer/s*
GG	*Check H.P Transducer/s*
N/A	*Check Oil Pressure Transducer/s*
N/A	*Check Subcooler Pressure Transducer*
G	*Check Safety Flow / Interlocks*

F-GAS REFRIGERANT CHECKS Min/Maj

GG	*Check Refrigerant Charge*
GG	*Carry Out Leak Test with Electronic Leak Detector*
N/N	*Leaks Found / Repaired*
GG	*Check Pressure Relief Valves*
30/06/2018	PRV's Five (5) Year Anniversary
N/A	*Check Pressure Relief Valve Vent Line*
N/A	*Check Fixed Leak Detection System*
N	*Are There Health & Safety Risks*

OPERATION CHECKS Min/Maj

System A	System B	
380.0 KPaG	390.0 KPaG	*Evap Pressure*
1610.0 KPaG	1560.0 KPaG	*Cond Pressure*
10.5 Deg C		*Chld Water ON*
7.3 Deg C		*Chld Water OFF*
N/A		*Cond Water ON*
N/A		*Cond Water OFF*
17.6 Deg C		*Ambient*
18.5 Amps / N/A	N/A / N/A	*System A Amps*
17.6 Amps	N/A / N/A	*System B Amps*
11.9 Deg C	12.5 Deg C	*Oil Temp*
N/A	N/A	*EEV Position*
100.0%	100.0%	*Stages %*

OPERATION CHECKS Maj

System A	System B	
		Evap Tsat
		Suction Temp
0.0 Deg K	0.0 Deg K	*Suct Superheat*
		Cond Tsat
		Discharge Temp
0.0 Deg K	0.0 Deg K	*Disch Superheat*
		Liquid Line Temp
0.0 Deg K	0.0 Deg K	*Subcooling*
G / G	N/A / N/A	*A Winding Therm*
G / G	G / N/A	*B Winding Therm*

MOTOR CHECKS Maj

Comp #1	Comp #2	Comp #3	Comp #4	
0.4 Ohms	N/A	N/A	N/A	*SYS A Windings*
0.4 Ohms	N/A	N/A	N/A	*SYS B Windings*
1.1 AMPS 3PH	1.1 AMPS 3PH	1.1 AMPS 3PH	N/A	*Cond Fans 1-4*
N/A	N/A	N/A	N/A	*Cond Fans 5-8*
N/A	N/A	N/A	N/A	*Cond Fans 9-12*

N **IS FURTHER WORK NEEDED. (Identify Below)**

FAULTS FOUND:

*1 NO OTHER FAULTS TO REPORT.

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - CENTRIFUGAL CHILLERS

CUSTOMER NAME		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE)			SHEET NUMBER
ACL ENGINEERING LTD		A NAME - A POSITION			00000
SITE NAME & ADDRESS		ENGINEER	STEVE ORLANDO		CLIENT ASSET NUMBER
CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE		F-GAS QUALIFICATION	C&G 2079 PART 1		00000
REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED		

COMPRESSOR MANUFACTURER:	McQUAY. SPEED CODE - AR.	COMPRESSOR OIL TYPE:	MOBIL EAL ARCTIC 46			OIL VOLUME:	20 LTRS
COMPRESSOR 1 MODEL:	GEO79 JAR23K OX	SERIAL:	56C0084001	HRS RUN:	36669	STARTS:	28627

BOX CODES Y YES | N NO | G GOOD | F FAIR | P POOR | B BAD | N/A NOT APPLICABLE

COMPRESSOR Min/Maj

N/A	*Check Oil Level*
G	*Check Oil Heater Operation*
G	*Check Compressor Pumping*
G	*Check Inlet Guide Vane*
G	*Hours Run Inspection Required*

COMPRESSOR Maj

	Replace Internal Oil Filter/s

OIL RES Min/Maj

N	*Oil Sample Test (One Shot)*
100%	*Oil Separator Level*
G	*Check Heater Operation*
G	*Internal Oil Pump Operation*
N/A	*External Oil Pump Operation*

OIL RESERVOIR Maj

	Oil Sample Taken (Lab Test)
	Replace External Oil Filter

OIL COOLING Min/Maj

G	*Check TX Valve Operation*
N/A	*Check Plate HX Operation*

LIQUID INJECT Min/Maj

G	*Check Injection Valve Operation*

AIR CONDENSERS Min/Maj

N/A	*Condition of Coils*
N/A	*Check Fans*

AIR CONDENSERS Maj

	Condenser Coils Brushed
	Condenser Chemical Cleaned

S & T CONDENSERS Maj

	Remove End Covers
	Condition of Tubes
	Condition of Water Boxes
G	*Check for Water Leaks*

CONTROL PANELS Min/Maj

G	*Check Main Wiring*
G	*Check Main Controller*
G	*Door Seals, Hinges & Latches*
G	*Load / Unload of Compressor*
F	*Check Compressor Contactors*
Y	*Check & Tighten Connection*
N	*Chiller Print-Out Taken*

CONTROL PANELS Min/Maj

N/A	*Check Fan O/L*
G	*Check Timer Sequences*
G	*Check Electrical Connections*
G	*Check Comp Soft Starters*

Standard	Micro	
14.6 BarG	9.7 BarG	*H.P Cut-Out*
N/A	1.8 BarG	*L.P Cut-Out*
N/A	0.1 BarG	*Pumpdown C/O*
N/A	4.1 BarG	*Oil Press C/O*
N/A	2.0 Deg C	*LTL Cut-Out*
UNTESTED		*Actual H.P Cut-Out Pressure*
8.5 Deg C		*Temp Control S.P*
1.6 Deg C		*Temp Control S.P - C/O*
3.0 Deg C		*Temp Control S.P + CI*
40 Mins		*AR Time Strt - Strt*
20 Mins		*AR Time Stp - Strt*
87.0 Deg C		*High Disch. Temp C/O*
22.0 Deg K		*High Suct Temp C/O*
115.0 BarG		*Winding Temp C/O*
100.0%		*Current Module S.P*
115.0 BarG		*Winding Temp C/O*
100.0%		*Current Module S.P*

UNIT CONDITION Min/Maj

	F		*Check Panels & Paintwork*
	F		*Check Insulation*
	G		*Check Pipework*
	G		*Check Solenoid Valves*
*4	B		*Sight Glass Cond*
	G		*Check Vibration Isolators*
*1	30.0 KPaD		*Evaporator Water Box P.D*
*1	65.0 KPaD		*Condenser Water Box P.D*
	N/A		*Glycol CW / CondW*

SENSOR CALIBRATION Min/Maj

N/A	*Check Ambient Sensor*
GG	*Check Chilled Water Sensor/s*
GG	*Check Condenser Water Sensor/s*
N/A	*Check EEV S1 Sensor*
N/A	*Check EEV S2 Sensor*
GG	*Check L.P Transducer/s*
G	*Check H.P Transducer/s*
G	*Check Oil Pressure Transducer/s*
G/G	*Check Safety Flow Switch/s / Interlocks*

F-GAS REFRIGERANT CHECKS Min/Maj

*4	B	*Check Refrigerant Charge*
	Y	*Carry Out Leak Test with Electronic Leak Detector*
*4	Y/N	*Leaks Found / Repaired*
*2	B	*Check Pressure Relief Valves*
*2	30/06/2013	PRV's Five (5) Year Anniversary
*3	B	*Check Pressure Relief Valve Vent Line*
	G	*Check Fixed Leak Detection System*
	Y	*Are There Health & Safety Risks*

OPERATION CHECKS Min/Maj

System #1	System #2	System #3	System #4	
-	N/A	N/A	N/A	*Evap Pressure*
-	N/A	N/A	N/A	*Cond Pressure*
-	N/A	N/A	N/A	*Oil Pressure*
-	N/A	N/A	N/A	*Oil Differential*
-	N/A	N/A	N/A	*Chld Water ON*
				Chld Water OFF
				Cond Water ON
-	-	-	-	*Cond Water OFF*
-	N/A	N/A	N/A	*Ambient*
-	N/A	N/A	N/A	*Compressor Amps*
-	N/A	N/A	N/A	*Oil Temp*
-	N/A	N/A	N/A	*Oil Clg Temp Diff.*
N/A	N/A	N/A	N/A	*EEV Position*
NO FEEDBACK	N/A	N/A	N/A	*IGV Position*

OPERATION CHECKS Maj

System #1	System #2	System #3	System #4	
				Evap Tsat
				Suction Temp
0.0 Deg K	0.0 Deg K	0.0 Deg K	0.0 Deg K	*Suct Superheat*
				Cond Tsat
				Discharge Temp
0.0 Deg K	0.0 Deg K	0.0 Deg K	0.0 Deg K	*Disch Superheat*
				Liquid Line Temp
0.0 Deg K	0.0 Deg K	0.0 Deg K	0.0 Deg K	*Subcooling*
-				*Winding Thermistor*
0.0 Deg C	0.0 Deg C	0.0 Deg C	0.0 Deg C	*Cond Approach*
0.0 Deg C	0.0 DegC	0.0 DegC	0.0 DegC	*Evap Approach*

MOTOR CHECKS Maj

System #1	System #2	System #3	System #4	
0.5 Ohms	N/A	N/A	N/A	*Comp. Windings*
N/A	N/A	N/A	N/A	*Cond Fans 1-4*
N/A	N/A	N/A	N/A	*Cond Fans 5-8*
N/A	N/A	N/A	N/A	*Cond Fans 9-12*

Y **IS FURTHER WORK NEEDED. (Identify Below)**

FAULTS FOUND:

*1 NO FAULTS FOUND

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - TURBOCOR CHILLERS

CUSTOMER NAME	SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE)	SHEET NUMBER
ACL ENGINEERING LTD	A NAME - A POSITION	00000
SITE NAME & ADDRESS	ENGINEER: STEVE ORLANDO	CLIENT ASSET NUMBER
CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE	F-GAS QUALIFICATION: C&G 2079 PART 1	00000

REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED		

COMPRESSOR 1 MODEL:	TT330-H6-1-ST-E-0-CE	PART No:	194120	SERIAL:	123475130	CAPACITOR EXP.	30/01/2018
COMPRESSOR 2 MODEL:	TT330-H6-1-ST-E-0-CE	PART No:	194120	SERIAL:	123485120	CAPACITOR EXP.	30/01/2018
COMPRESSOR 3 MODEL:	N/A	PART No:	N/A	SERIAL:	N/A	CAPACITOR EXP.	N/A
COMPRESSOR 4 MODEL:	N/A	PART No:	N/A	SERIAL:	N/A	CAPACITOR EXP.	N/A

BOX CODES Y YES | N NO | G GOOD | F FAIR | P POOR | B BAD | N/A NOT APPLICABLE

COMPRESSOR Min/Maj

GGG	*Check Covers are Secure*
GGG	*Check Electrical Harnesses*
	Compressor Pumping

LIQUID INJECT Min/Maj

GGG	*Check Injection Valve Operation*

SUBCOOLER Min/Maj

N/A	*Check TX Valve Operation*
N/A	*Check Plate HX Operation*

AIR CONDENSERS Min/Maj

*1	FF	*Condition of Coils*
	GG	*Check Fans*

AIR CONDENSERS Maj

YY	*Condenser Coils Brushed*
NN	*Condenser Chemical Cleaned*

S & T CONDENSERS Maj

N/A	*Remove End Covers*
N/A	*Condition of Tubes*
N/A	*Condition of Water Boxes*
N/A	*Check for Water Leaks*

CONTROL PANELS Min/Maj

G	*Check Main Wiring*
G	*Check Electrical Connections*
G	*Check Compressor buss Bars*
GGG	*Check Inductor & Harmonic Filter*
G	*Check Main Controller*
N/A	*Check EEV Driver Interface*
G	*Check EEV Battery Pack*
G	*Check Fan O/L*
G	*Check Cond Fan Voltage Reg*
7.0 Deg C	*Temp Control S.P*
1.6 Deg C	*Temp Control Range*
11.0 Deg C	*Seq. / BMS Control S.P*

SAFETY LIMITS Min/Maj

Micro	*Manual*	
14.6 BarG	9.7 BarG	*H.P Cut-Out*
N/A	1.8 BarG	*L.P Cut-Out*
2.0 Deg C		*LTL Cut-Out*
UNTESTED		*Actual H.P Cut-Out Press*
80.0 Deg C		*Cavity Temp Alarm*
75.0 Deg C		*Inverter Temp Limit*
75.0 Deg C		*SCR Temp Limit*

UNIT CONDITION Min/Maj

	GG	*Check Panels & Paintwork*
	GG	*Check Insulation*
*3	FF	*Check Pipe work*
	G	*Check Solenoid Valves*
	G	*Check Motorised Shut-off Valves*
		Door Seals, Hinges & Latches
DRY	DRY	Site Glass Cond.
25.0 KPaD		*Evaporator Water Box P.D*
N/A		*Condenser Water Box P.D*
NOT TESTED		*Glycol CW / CondW*

SENSOR CALIBRATION Min/Maj

	G	*Check Ambient Sensor*
	GG	*Check Chilled Water Sensor/s*
	N/A	*Check Condenser Water Sensor/s*
	GG	*Check Turbocor Temp. Sensors*
	GG	*Check L.P Transducer/s*
*4	GG	*Check H.P Transducer/s*
	G/G	*Check Safety Flow Switch/s / Interlocks*

F-GAS CHECKS Min / Maj

GG	*Check Refrigerant Charge*
YY	*Leak Test with Electronic Detector*
NN	*Leaks Found / Repaired*
GG	*Check Pressure Relief Valves*
30/01/2018	*PRV's Five (5) Year Anniversary*
N/A	*Check PRV Vent Line*
B	*Check Fixed Leak Detection Syst.*
Y	*Are There Health & Safety Risks*

COND FAN MOTOR CHECKS Maj

3.7 A 3PH	3.7 A 3PH	3.8 A 3PH	*1-3*
3.8 A 3PH	3.8 A 3PH	3.7 A 3PH	*4-6*
3.7 A 3PH	3.8 A 3PH	3.7 A 3PH	*7-9*
3.8 A 3PH	3.8 A 3PH	3.7 A 3PH	*10-12*
3.7 A 3PH	3.7 A 3PH	3.7 A 3PH	*13-15*
3.8 A 3PH	3.7 A 3PH	3.8 A 3PH	*16-18*
N/A	N/A	N/A	*19-21*

SOFTWARE REF Min/Maj

W3000	*Chiller Software Ref*
CA.15.02 GB	*Chiller Software Rev*
2.0.2685	*Turbocor BCM Rev*
25 / 25 / 25	*Turbocor Config Ver*
1.3.917	*Turbocor CC Rev*

OPERATIONAL CONTROL Min/Maj

Comp #1	*Comp #2*	*Comp #3*	*Comp #4*	
90.0%	90.0%	N/A	N/A	*Loading Demand*
110.0%	110.0%	N/A	N/A	*Inlet Guide Vane*
249.4 KPaG	250.8 KPaG	N/A	N/A	*Suction Pressure*
1176.2 KPaG	1156.6 KPaG	N/A	N/A	*Discharge Pressure*
4.1 Deg C	7.7 Deg C	N/A	N/A	*Suction Temp*
24.2 Deg C	24.4 Deg C	N/A	N/A	*Discharge Temp*
60.6 Deg C	60.8 Deg C	N/A	N/A	*SCR Temp*
49.7 Deg C	52.9 Deg C	N/A	N/A	*Cavity Temp*
52.5 Deg C	50.0 Deg C	N/A	N/A	*BMCC Temp*
40.9 Deg C	38.8 Deg C	N/A	N/A	*Inverter Temp*
14.3 Deg C		N/A		*Chilled Water On*
7.4 Deg C		N/A		*Chilled Water Off*
2.1 DegC				*Ambient*
N/A		N/A		*Cond Water On*
N/A		N/A		*Cond Water Off*

MAGNETIC BEARING MONITORING Maj

Comp #1	*Comp #2*	*Comp #3*	*Comp #4*	
0.40%	0.30%	0.30%	0.30%	*Axial Un-Balance*
0.20%	1.10%	0.20%	0.20%	*Front Radial Unbalance*
0.20%	0.60%	0.20%	0.20%	*Rear Radial Unbalance*
-0.30 Amps	-0.60 Amps	-0.60 Amps	0.33 Amps	*Axial Bearing Force*
0.20 Amps	0.30 Amps	-0.20 Amps	0.20 Amps	*Front X Bearing Force*
0.30 Amps	-0.40 Amps	0.00 Amps	0.20 Amps	*Front Y Bearing Force*
0.40 Amps	0.20 Amps	0.30 Amps	0.20 Amps	*Rear X Bearing Force*
0.40 Amps	-0.20 Amps	0.30 Amps	0.20 Amps	*Rear Y Bearing Force*

COMPRESSOR MAP Min/Maj

44.4 kW	39.7 kW	N/A	N/A	*Power Input*
20017 RPM	19543 RPM	N/A	N/A	*Shaft Speed*
53.1%	49.0%	N/A	N/A	*Efficiency*
2.120	2.050	N/A	N/A	*Compression Ratio*
889 (889 *Diff*)	890 (890 *Diff*)	N/A	N/A	*Hours Run*
889 (889 *Diff*)	890 (890 *Diff*)	N/A	N/A	*No. Starts*

OPERATION CHECKS Maj

System #1	*System #2*	*System #3*	*System #4*	
1.5 Deg K	N/A	N/A	N/A	*Suct Superheat*
12.0 Deg K	N/A	N/A	N/A	*Disch Superheat*
4.5 Deg K	N/A	N/A	N/A	*Subcooling @ Full Load*
1393	N/A	N/A	N/A	*EEV Position*
2.4 Deg C	N/A	N/A	N/A	*Evap Approach*

N **IS FURTHER WORK NEEDED.**

*1 NO FAULTS TO REPORT

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - SINGLE STAGE ABSORBER

CUSTOMER NAME	SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE)	SHEET NUMBER
ACL ENGINEERING LTD	A NAME - A POSITION	00000

SITE NAME & ADDRESS		ENGINEER	STEVE ORLANDO		
CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE		F-GAS QUALIFICATION	C&G 2079 PART 1		
REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980
PLANT LOCATION	A LOCATION	REFRIGERANT R717	R22	QUANTITY (KG)	240.0 KG
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED		

BOX CODES Y YES | N NO | G GOOD | F FAIR | P POOR | B BAD | N/A NOT APPLICABLE

VACUUM PUMP Min/Maj

N/A	*Check Oil Level / Condition*
G	*Check Drive Belt*
G	*Test Vacuum Achieved*
1.0 Amps	*Motor Current*
G	*Contactor Condition*
52	*Hours Run*
171	*Number Starts*

VACUUM PUMP OIL Maj

	Replace Oil

ABSORB. CHECKS Min/Maj

N	*Motor Rotation Test*
0.8 Amps	*Motor Current*
G	*Contactor Condition*
4605	*Hours Run*
491	*Number Starts*

ABSORB. CHECKS Maj

Y	*Blow Down Refrigerant*
N	*Take Sample for Analysis*

REFRIG. CHECKS Min/Maj

N	*Motor Rotation Test*
1.1 Amps	*Motor Current*
G	*Contactor Condition*
4306	*Hours Run*
9001	*Number Starts*

REFRIG. CHECKS Maj

	Blow Down to Purify
N	*Check Spec Gravity*

CONTROL PANELS Min/Maj

G	*Check Main Wiring*
G	*Check Main Controller*
G	*Door Seals, Hinges & Latches*
G	*Sensor Calibration*
F	*Test Outputs*
Y	*Test Display*
N	*Test Gen High Press Switch*
Y	*Test Low Ref. Lvl Safety Switch*
N	
	Test CW Flow Switch
	Test CondW Flow Switch

ANCILLARY PLANT Min/Maj

G	*Clg Tower/ Dry Clr Condition*
G	*CHW Pump Set Condition*
G	*CondW Pump Set Condition*
G	*LTHW Pump Condition*
F	*Steam Trap Condition*
Y	*Primary Heat Source Vlv Oper.*

CONTROL SAFETIES Min/Maj

	Standard	Micro	
	14.6 BarG	9.7 BarG	*Gen H.P Cut-Out*
	N/A	1.8 BarG	*LTL Cut-Out*
*1	N/A	0.1 BarG	*Chryst. Safety S.P*
	N/A	4.1 BarG	*Ref. Pmp Safety*
	UNTESTED		*Actual Gen H.P Cut-Out Press*
	7.0 Deg C		*Temp Control S.P*
	1.0 Deg C		*Temp Control S.P - C/O*
	55.0 Deg C		*Gen Temp S.P*
	100 Mins		*Max Valve Open Pos*
	-		*Max CondW Temp*
	87.0 Deg C		*Max Generator Temp*
	20 Mins		*Max CondW Temp*
	87.0 Deg C		*Max Generator Temp*
	22.0 Deg K		*Max Loading S.P*

UNIT CONDITION Min/Maj

F			*Check Panels & Paintwork*
F			*Check Insulation*
G			*Check Pipework*
G			*Check Solenoid Valves*
G	G	G	*Sight Glass LVLs*

OPERATION CHECKS Min/Maj

SITE	DESIGN	GENERATOR DATA	
64.0 DegC	65.0 DegC		*LTHW Temperature Inlet*
55.0 DegC	55.0 DegC		*LTHW Temperatur Outlet*
5.0 DegC	5.0 DegC		*LTHW Temp Differential* ***(A)***
-	-		*LTHW Inlet Pressure*
-	-		*LTHW Outlet Pressure*
#VALUE!	#VALUE!		*LTHW Generator P.D Full Flow*
8.0 L/S	10.0 L/S		*LTHW Flow Rate* ***(B)***
	-		*Generator Pressure*
	-		*Strong Solution Temp (GEN)*
	-		*Strong Solution Concerntration*
	100.0		*LTHW Valve Position (% OPEN)*
	-		*Generator Approach*
SITE	DESIGN	EVAPORATOR DATA	
12.0 DegC	12.0 DegC		*CHW Inlet Temperature*
6.3 DegC	6.0 DegC		*CHW Outlet Temperature*
5.7 DegC	6.0 DegC		*CHW Temperature Diff* ***(E)***
	-		*CHW Inlet Pressure*
	-		*CHW Outlet Pressure*
	-		*CHW Pressure Differential*
20.7 L/S	20.7 L/S		*CHW Flow Rate* ***(F)***
	-		*Refrigerant Cond. Temperature*
	-		*Refrigerant Pressure*
	-		*Refrigerant Sat Temperature*

N **IS FURTHER WORK NEEDED. (Identify Below)**

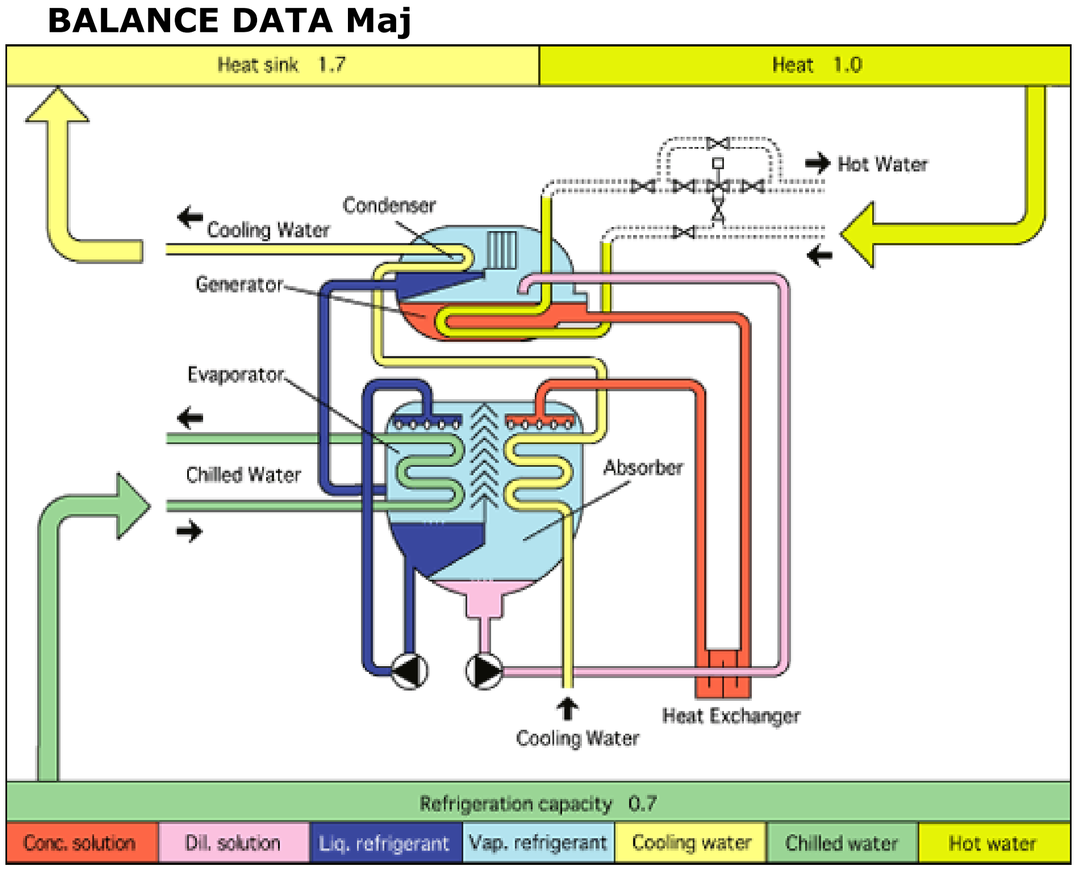
OPERATION CHECKS Min/Maj

SITE	DESIGN	ABSORBER DATA	
28.8 DegC	31.0 DegC		*CDW Inlet Temperature*
33.8 DegC	36.0 DegC		*CDW Outlet Temperature*
	-		*CDW Temperature Leaving Absorber.*
5.0 DegC	5.0 DegC		*CDW Temperature Differential* ***(C)***
-	-		*CDW Inlet Pressure*
-	-		*CDW Outlet Temperature*
-	-		*CDW Pressure Differential*
-	-		*CDW Pressure Differential Full Bypass*
31.1 L/S	31.1 L/S		*CDW Flow Rate* ***(D)***
-	-		*HX Outlet Temperature (ABSORB)*
-	-		*Weak Solution Temperature (TO HX)*
-	-		*HX Outlet Temperature (ABSORB)*
-	-		*Weak Solution Temperature (TO HX)*

SOLUTION MAKE UP

90.0 KG	*Refrigerant (H2O)*
620.0 KG	*Lithium Bromide (LiBr 50WT%)*
360.0 CC	*Inhibitor (Li2MoO4)*
1120.0 CC	*Octyle Alcohol (CH3(CH2)5CH(OH)CH3)*

BALANCE DATA Maj



	GENERATOR	+	EVAPORATOR	=	ABSORBER
	(A * B * 4.187)	+	(E * F * 4.187)	=	(C * D * 4.127)
DESIGN	209.4 kW	+	519.8 kW	=	*651.1 kW*
SITE COND	167.5 kW	+	494.0 kW	=	*651.1 kW*

FAULTS FOUND:

*1 NO FAULTS FOUND

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - CHILLER LOGS

CUSTOMER NAME ACL ENGINEERING LTD		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE) A NAME - A POSITION			SHEET NUMBER 00000
SITE NAME & ADDRESS CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE		ENGINEER F-GAS QUALIFICATION	STEVE ORLANDO C&G 2079 PART 1		CLIENT ASSET NUMBER 00000
REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED		

TURBOCOR COMPRESSOR LOG CAPTURE

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - COMPUTER ROOM A/C

CUSTOMER NAME ACL ENGINEERING LTD		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE) A NAME - A POSITION			SHEET NUMBER 00000
SITE NAME & ADDRESS CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE		ENGINEER	STEVE ORLANDO		CLIENT ASSET NUMBER 00000
		F-GAS QUALIFICATION	C&G 2079 PART 1		
REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED		

A PLANT REFERENCE

AIR HANDLER	MANUFACTURE	MODEL	SERIAL	EVAP FAN A CURRENT	EVAP FAN A BELT COND.	EVAP FAN A PULLEY COND.	EVAP FAN A BEARING COND	EVAP FAN B CURRENT	EVAP FAN B BELT COND.	EVAP FAN B PULLEY COND.	EVAP FAN B BEARING COND	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	CHILLED WATER VALVE OP.
AHU UNIT	DAIKIN	FAQ100BVV1B	C005081	0.2 A 1PH	OK	OK	OK	0.1 A 1PH	OK	OK	OK	18.2 C	8.7 C	N/A
	ELECTRIC RE-HEAT 1 CURRENT	ELECTRIC RE-HEAT 2 CURRENT	ELECTRIC RE-HEAT 3 CURRENT	O/HEAT KLIXON COND.	HUMIDIFIER CURRENT	BOTTLE CONDITION	SOLENOID CONDITION	HUMIDIFIER DRAIN TEST	TEMP SENSOR CAL	HUM SENSOR CAL	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROG
	5.5 A 1PH	5.5 A 1PH	5.5 A 1PH	OK	5.5 A 1PH	OK	OK	OK	LOCAL OK	LOCAL OK	TESTED OK	VACUUMED OK	OK	OK
COMPRESSORS	COMPRESSOR TYPE	COMPRESSOR MODEL	COMPRESSOR SERIAL	COMPRESSOR CURRENT	COMPRESSOR SUCTION PRESSURE	SUCTION REFRIG Tsat C	SUCTION LINE TEMP	COMPRESSOR DISCH PRESSURE	DISCHARGE REFRIG Tsat C	DISCHARGE LINE TEMP	SUBCOOLING	OIL LEVEL	COMP PUMPING	COMP RUN HOURS
COMP 1.	SCROLL	K71002072AF	AASSS33	0.1 A 1PH	1.00 BarG	1.0 C	1.0 DegC	1.00 BarG	1.0 T-Sat C	1.0 C	1.0 K	OK	OK	100
COMP 2.	SCROLL	K71002072AF	AAASSD	0.1 A 1PH	1.00 BarG	1.0 C	1.0 DegC	1.00 BarG	1.0 T-Sat C	1.0 C	1.0 K	OK	OK	100
CONDENSERS	CONDENSER MODEL	FAN 1 CURRENT	FAN 2 CURRENT	FAN 3 CURRENT	FAN 4 CURRENT	SPEED CONTROL OPERATION	PRESSURE RELIEF VALVE CONDITION	REFRIGERANT CHARGE	SYSTEM F-GAS LEAK TEST	SYSTEM LEAKS FOUND / REPAIRED	CONDENSER CONDITION	CONDENSER BRUSHED	REFRIG MOISTURE INDICATOR	ONE SHOT ACID & MOISTURE TEST RESULT
REMOTE COND.1	FDC71VN	0.1 A 1PH	0.1 A 1PH	0.1 A 1PH	0.1 A 1PH	OK	OK	**FULL**	**PASS**	NIL	OK	YES	**DRY**	**PASS**
REMOTE COND.2	FDC71VN	0.1 A 1PH	0.1 A 1PH	0.1 A 1PH	0.1 A 1PH	OK	OK	**FULL**	**PASS**	NIL	OK	YES	**DRY**	**PASS**

FAULTS FOUND:

* NO FAULTS TO REPORT

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - SPLIT AIR-CONDITIONER

CUSTOMER NAME ACL ENGINEERING LTD		SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE) A NAME - A POSITION			SHEET NUMBER 00000
SITE NAME & ADDRESS CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE		ENGINEER	STEVE ORLANDO		CLIENT ASSET NUMBER 00000
		F-GAS QUALIFICATION	C&G 2079 PART 1		
REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED		

A PLANT REFERENCE

REFERENCE	MANUFACT.	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	CONTROLLER PROG.	TEST DRAIN OPERATION	RETURN AIR FILTER	ELECTRIC HARNESS	F-GAS REFRIGERANT LEAK TEST	LEAKS FOUND / REPAIRED
INDOOR FCU	A MANUFACTURER	FAQ100BVV1B	C005081	0.2 A 1PH	22.1 C	9.1 C	29.5 C	OK	CHECKED OK	OK	CLEANED	OK	**PASS**	NIL
	CONDENSER MODEL	SERIAL	COMPRESSOR MODEL	CONTROL MODE	INPUT COMP CURRENT	CONDER FAN/S CURRENT	COMPRESSOR SUCTION PRESSURE	COMPRESSOR DISCHARGE PRESSURE	SUCTION TEMP / SAT SUCT TMP	DISCH TEMP / SAT DISH TMP	SUBCOOLING	SYSTEM REFRIG. CHARGE	F-GAS REFRIGERANT LEAK TEST	ONE SHOT ACID / MOISTURE TEST RESULT
OUTDOOR UNIT	A MODEL NUMBER	A SERIAL NUMBER	INV SCROLL	COOLING	3.2 A 1PH	0.1 A 1PH	-	-	-	-	-	**FULL**	**PASS**	-
				HEATING	3.2 A 1PH	0.2 A 1PH	-	-	-	-	-	**FULL**		

FAULTS FOUND:

* NO FAULTS TO REPORT

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - MULTISPLIT/VRV SYSTEM

CUSTOMER NAME	SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE)				SHEET NUMBER
ACL ENGINEERING LTD	A NAME - A POSITION				00000
SITE NAME & ADDRESS	ENGINEER	STEVE ORLANDO			CLIENT ASSET NUMBER
CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE	F-GAS QUALIFICATION	C&G 2079 PART 1			00000
REASON FOR VISIT: A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER	
JOB NUMBER: A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980	
PLANT LOCATION: A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG	
PLANT REFERENCE: A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED			

VRV CONDENSING UNIT SERVING 1ST FLOOR MEETING ROOMS

REFERENCE	CONDENSER MODEL	SERIAL	COMPRESSOR MODEL	CONDENSER MODE	FIXED COMP CURRENT	VAR. COMP CURRENT	CONDENSER FAN CURRENT	COMP SUCTION PRESSURE	COMP DISCH. PRESSURE	SUCTION TEMPERATURE	DISCHARGE TEMPERATURE	SYSTEM REFRIG. CHARGE	F-GAS REFRIG. LEAK TEST	ONE SHOT ACID / MOIST. RESULT
OUTDOOR UNIT	FDC400KXRE6	W402000513F	INV+FIXED	COOLING	0.0 A 3PH	12.3 A 3PH	1.4 A 1PH	6.90 BarG	26.30 BarG	-	-	FULL	PASS	-
				HEATING	0.0 A 3PH	11.9 A 3PH	2.2 A 1PH	8.40 BarG	32.40 BarG	N/A	N/A	FULL		

1ST FLOOR - MEETING ROOM 1-A (RIGHT) VRV INDOOR UNIT.

REFERENCE	MANUFACTURE	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROGRAMMING	FCU F-GAS LEAK TEST	BRANCH BOX F-GAS LEAK TEST
MEETING RM 1A	MITSI HEAVY	FDUM28KXE6D	928200053PK	0.1 A 1PH	22.5 C	11.5 C	29.8 C	TESTED OK	TESTED OK	WASHED	CHECKED OK	CENTRAL	PASS	PASS

1ST FLOOR - MEETING ROOM 1-B (REAR) VRV INDOOR UNIT.

REFERENCE	MANUFACTURE	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROGRAMMING	FCU F-GAS LEAK TEST	BRANCH BOX F-GAS LEAK TEST
MEETING RM 1B	MITSI HEAVY	FDUM28KXE6D	928200065PK	0.1 A 1PH	24.3 C	13.2 C	31.1 C	TESTED OK	TESTED OK	WASHED	CHECKED OK	CENTRAL	PASS	PASS

1ST FLOOR - MEETING ROOM 2 VRV INDOOR UNIT.

REFERENCE	MANUFACTURE	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROGRAMMING	FCU F-GAS LEAK TEST	BRANCH BOX F-GAS LEAK TEST
MEETING RM 2	MITSI HEAVY	FDUM28KXE6D	928200849PK	0.1 A 1PH	22.8 C	12.8 C	32.5 C	TESTED OK	TESTED OK	WASHED	CHECKED OK	CENTRAL	PASS	PASS

1ST FLOOR - MEETING ROOM 3 VRV INDOOR UNIT.

REFERENCE	MANUFACTURE	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROGRAMMING	FCU F-GAS LEAK TEST	BRANCH BOX F-GAS LEAK TEST
MEETING RM 3	MITSI HEAVY	FDUM28KXE6D	928200122PK	0.1 A 1PH	24.3 C	12.9 C	32.1 C	TESTED OK	TESTED OK	WASHED	CHECKED OK	CENTRAL	PASS	PASS

1ST FLOOR - MEETING ROOM 4 VRV INDOOR UNIT.

REFERENCE	MANUFACTURE	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROGRAMMING	FCU F-GAS LEAK TEST	BRANCH BOX F-GAS LEAK TEST
MEETING RM 4	MITSI HEAVY	FDUM28KXE6D	928200124PK	0.1 A 1PH	22.4 C	11.6 C	29.6 C	TESTED OK	TESTED OK	WASHED	CHECKED OK	CENTRAL	PASS	PASS

1ST FLOOR - MEETING ROOM 5 VRV INDOOR UNIT.

REFERENCE	MANUFACTURE	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROGRAMMING	FCU F-GAS LEAK TEST	BRANCH BOX F-GAS LEAK TEST
MEETING RM 5	MITSI HEAVY	FDUM28KXE6D	928200118PK	0.1 A 1PH	23.2 C	13.2 C	29.5 C	TESTED OK	TESTED OK	WASHED	CHECKED OK	CENTRAL	PASS	PASS

1ST FLOOR - MEETING ROOM 6 VRV INDOOR UNIT.

REFERENCE	MANUFACTURE	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROGRAMMING	FCU F-GAS LEAK TEST	BRANCH BOX F-GAS LEAK TEST
MEETING RM 6	MITSI HEAVY	FDUM28KXE6D	928200199PK	0.1 A 1PH	22.6 C	11.9 C	32.2 C	TESTED OK	TESTED OK	WASHED	CHECKED OK	CENTRAL	PASS	PASS

1ST FLOOR - MEETING ROOM 7 VRV INDOOR UNIT.

REFERENCE	MANUFACTURE	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROGRAMMING	FCU F-GAS LEAK TEST	BRANCH BOX F-GAS LEAK TEST
MEETING RM 7	MITSI HEAVY	FDUM28KXE6D	928200200PK	0.1 A 1PH	20.7 C	10.8 C	29.9 C	TESTED OK	TESTED OK	WASHED	CHECKED OK	CENTRAL	PASS	PASS

1ST FLOOR - MEETING ROOM 8 VRV INDOOR UNIT.

REFERENCE	MANUFACTURE	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROGRAMMING	FCU F-GAS LEAK TEST	BRANCH BOX F-GAS LEAK TEST
MEETING RM 8	MITSI HEAVY	FDUM45KXE6D	945200631PK	0.1 A 1PH	23.7 C	12.4 C	31.5 C	TESTED OK	TESTED OK	WASHED	CHECKED OK	CENTRAL	PASS	PASS

1ST FLOOR - MEETING ROOM 9A (FRONT) VRV INDOOR UNIT.

REFERENCE	MANUFACTURE	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROGRAMMING	FCU F-GAS LEAK TEST	BRANCH BOX F-GAS LEAK TEST
MEETING RM 9A	MITSI HEAVY	FDUM45KXE6D	945200626PK	0.1 A 1PH	21.8 C	10.5 C	32.4 C	TESTED OK	TESTED OK	WASHED	CHECKED OK	CENTRAL	PASS	PASS

1ST FLOOR - MEETING ROOM 9B (REAR)VRV INDOOR UNIT.

REFERENCE	MANUFACTURE	MODEL	SERIAL	EVAP FAN CURRENT	EVAP AIR ON TEMP (C)	EVAP AIR OFF TEMP - GLG (C)	EVAP AIR OFF TEMP - HTG (C)	SENSOR CALIBRATION	DRAIN	RETURN AIR FILTER	ELECTRIC HARNESS	CONTROLLER PROGRAMMING	FCU F-GAS LEAK TEST	BRANCH BOX F-GAS LEAK TEST
MEETING RM 9B	MITSI HEAVY	FDUM45KXE6D	945201892PK	0.1 A 1PH	22.1 C	11.5 C	32.6 C	TESTED OK	TESTED OK	WASHED	CHECKED OK	CENTRAL	PASS	PASS

FAULTS FOUND:

* NO FAULTS TO REPORT

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

PPM REPORT - FCU & CONTROLS

CUSTOMER NAME	SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE)	SHEET NUMBER
ACL ENGINEERING LTD	A NAME - A POSITION	00000

SITE NAME & ADDRESS		ENGINEER	STEVE ORLANDO		
CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE		F-GAS QUALIFICATION	CITY & GUILD 2079 PART I		
REASON FOR VISIT	A VISIT	MANUFACTURER	A MANUFACTURER	MODEL	A MODEL NUMBER
JOB NUMBER	A JOB	SERIAL No.	A SERIAL NUMBER	YEAR INSTALLED	01/01/1980
PLANT LOCATION	A LOCATION	REFRIGERANT TYPE	R22	QUANTITY (KG)	240.0 KG
PLANT REFERENCE	A PLANT REFERENCE	CLG LOAD SERVED	A COOLING LOAD SERVED		

BOX CODES Y YES N NO G GOOD F FAIR P POOR B BAD N/A NOT APPLICABLE

FCU REF:	FCU MAN	FCU MOD:	FCU SER:	CONTROLLER TYPE	SENSOR CAL & SOFTWARE	TEST FAN SPEEDS	HTG VLV & ACTUATORS	CLG VLV & ACTUATORS	SUPP HTG VLV & ACT (RADS)	FILTER STATUS	TEST DRAIN	FAULTS
	DUNHAM BUSH	F6HBL4	137166	TREND IQ212 & SONTAY	OK / BACKED UP	I / II / III ALL OK	N/A	GOOD / GOOD	GOOD / GOOD	VACUUMED	FAIL	Y
3.2	DUNHAM BUSH	F6HBL4	137166	TREND IQ212 & SONTAY	OK / BACKED UP	I / II / III ALL OK	N/A	GOOD / GOOD	GOOD / GOOD	VACUUMED	FAIL	Y

FAULTS FOUND:

*1 NO FAULTS

ENGINEER SIGNATURE: _____ CUSTOMERS SIGNATURE: _____ DATE: 00/01/1900

ORLANDO
REFRIGERATION & AIR CONDITIONING

Address: 83 High Street,
Hemel Hempstead,
Hertfordshire, HP1 3AH.

Tele: +44 (0) 3300884720
Fax: +44 (0) 3300884721
info@orlandoaircon.co.uk

YORK ISN CONTROLS PPM

CUSTOMER NAME	SITE CONTACT (OPERATOR RESPONSIBLE FOR F-GAS COMPLIANCE)	SHEET NUMBER
ACL ENGINEERING LTD	A NAME - A POSITION	00000

SITE NAME & ADDRESS (PLANT OWNER F-GAS)	ENGINEER	STEVE ORLANDO
CRN LTD, BANK HOUSE, PRIMOTT RD, STEVENAGE. SG1 3EE	QUALIFICATION	C&G 2079 PART 1

HARDWARE CHECKS

ITEM	OUTSTATION 1	OUTSTATION 2	OUTSTATION 3	OUTSTATION 4	OUTSTATIONS 5, 6 & 7.
MANUFACTURER	YORK	YORK	YORK	YORK	YORK
MODEL	ISN EDC 4800	ISN LDC 17	ISN EDC 4800	ISN LDC 17	TDC YT
SERIAL					
SOFTWARE VERSION	EDC 4.1	LDC 4.1	EDC 4.4	LDC 6.6	T6.6Y
NODE NUMBER	01	02	06	99	03 & 04 & 05
LAN NUMBER	00	00	00	00	PORT 2 RS485
IDENTIFIER	THAMES HOUSE	BUSH TOWER	PRINCESS HOUSE	SEQUENCER	CHILLER LINCS
CHECK POWER SUPPLIES AND RECORD	OK	OK	OK	OK	OK, OK, OK
CHECK CONDITION OF FUSES AND REPLACE AS NESSESARY	OK	OK	OK	OK	OK, OK, OK
CHECK CONDITION OF HARNESSES AND RIBBON CABLES	POOR	POOR	POOR	OK	OK, OK, OK
CHECK EPROMS AND MICRO-CHIPS ARE CORRECTLY SEATED	OK	BAD	OK	OK	OK, OK, OK
CHECK BATTERY VOLTAGE AND RECORD	3.5	3.5	3.5	3.5	CAPACITOR
CHECK WATCHDOG OPERATION	OK	FAIL	OK	OK	CAPACITOR
CHECK OPERATION OF KEYPAD, DISPLAY AND AUDABLE ALARM	OK	FAIL	OK	OK	OK, OK, OK

SOFTWARE CHECKS

CHECK ALARM TABLES FOR ACTIVE ALARMS RECORD AND CLEAR.	OK	FAIL	OK	OK	OK, OK, OK
CHECH TIME AND DATE, CORRECT FOR DAYLIGHT SAVINGS.	OK	FAIL	OK	OK	OK, OK, OK
CHECK ADVISORY ERRORS AND RECORD AND CLEAR.	OK	FAIL	OK	OK	OK, OK, OK
CHECK OPERATION OF ANOLOGUE AND DIGITAL HISTORIES.	OK	FAIL	OK	OK	OK, OK, OK
CHECK PASSWORDS AND RECORD ALL LEVELS.	5555, 8989, 1, 2, 3.	5555, 1, 2.	5555, 1, 3.	5555, 4444, 3333, 2222, 1111	5555, 1, 7396.
BACK UP SOFTWARE	OK	FAIL	OK	OK	OK, OK, OK
CHECK OPERATION OF ALL COMMUNICATION CHANELS.	OK	FAIL	OK	OK	OK, OK, OK

FIELD INTERFACES

ANOLOG INPUTS. CHECK CALIBRATION OF SENSORS AND RECORD.	OK	FAIL	OK	OK	N/A
STATUS / PULSE INPUTS. CHECK OPERATION.	OK	FAIL	OK	OK	N/A
SWITCHED OUTPUTS. CHECK OPERATION.	OK	FAIL	OK	OK	N/A
MONITORED OUTPUTS. CHECK OPERATION.	N/A	FAIL	N/A	N/A	N/A
MODULATING OUTPUTS. CHECK OPERATION.	OK	FAIL	OK	OK	N/A

* BUSH TOWER CONTROLLER CATASTROFIC FAILURE, REPLACEMENT MOTHER BOARD REQUIRED.