YORK BY JOHNSON CONTROLS	PACKAGED ROOFTOP AIR CONDITIONING UNITS	
START-UP CHECKLIST	Supersedes 100.50-CL3 (1207)	Form 100.50-CL3 (1108)

035-21979-020

ECO² PACKAGED ROOFTOP WITH SIMPLICITY ELITE CONTROL START-UP CHECKLIST

OFFICE LOCATION _____	YORK CONTRACT NO. _____
TECHNICIAN'S NAME _____	UNIT MODEL NUMBER _____
JOB NAME _____	UNIT SERIAL NUMBER _____
START DATE _____	SOFTWARE (APPLICATION) REV. _____
COMPRESSOR # 1 SERIAL NO. _____	COMPRESSOR # 2 SERIAL NO. _____
COMPRESSOR # 3 SERIAL NO. _____	COMPRESSOR # 4 SERIAL NO. _____

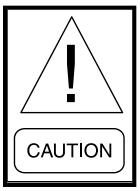
PRE START-UP

GENERAL UNIT INSPECTION		* IOM REFERENCE: (SECTION – Heading)
❑	Unit checked for shipping damage	INSTALLATION – Unit Inspection
❑	Unit installed with proper clearances	INSTALLATION – Location and Clearances
❑	Unit within slope limitations	INSTALLATION – Location and Clearances
❑	Refrigeration system check presence of oil (gross leaks)	START-UP – Unit Checks
❑	Terminal screws and wiring connections tightened in control panel	START-UP – Unit Checks
❑	Clean air Filters installed	INSTALLATION – Filters
❑	Economizer hood installed properly	INSTALLATION – Airhoods For Economizers
❑	Exhaust hoods installed properly	INSTALLATION – Airhood For Exhaust
❑	Condensate drains properly trapped	INSTALLATION – Condensate Drain
❑	VAV heat relay signal to VAV boxes wired (VAV only)	INSTALLATION – VAV Heat Relay Output
❑	All Field wiring complete and inspected	INSTALLATION – Field Wiring, Power Wiring

FAN INSPECTION		* IOM REFERENCE: (SECTION – Heading)
❑	Sheaves properly aligned and tight on shaft - Fan wheels tight on shaft	MAINTENANCE – Sheave Alignment
❑	Belt tension adjusted properly	MAINTENANCE – Belt Tensioning
❑	Bearings greased – Set screws torque checked	MAINTENANCE – Fan Bearing Lubrication / Fan Shaft Bearings
❑	Static Pressure Probe installed on outside of unit (VAV & Modulating Power Exhaust)	INSTALLATION – Static Pressure Probe Installation
❑	Transducer pneumatic tubing installed for duct static and building pressure transducers	INSTALLATION – Static Pressure Control Tubing
❑	Verify proper Fan rotation	START-UP – Fan Rotation

PRE START-UP (CONTINUED)

COMPRESSOR OPERATION	* IOM REFERENCE: (SECTION – Heading)
☐ Verify correct compressor rotation	START-UP – Verifying Compressor Rotation



Scroll compressors will only pump in one direction and MUST be properly phased. To insure proper rotation, observe discharge and suction pressure when the compressor starts. If the compressor is phased correctly, the discharge pressure will increase and the suction pressure will decrease. If this does not occur, phasing of the power supply must be verified.

* Installation, Operation & Maintenance Manual - YPAL 50-61 Ton, Mod F – Form 100.50-NOM6

UNIT SETPOINTS	REFERENCE:
☐ Verify unit setup per Quick-Start Guide, 50 - 61 Ton Units	Form 100.50-SU3

POST START-UP

ELECTRICAL DATA

	NAMEPLATE	ACTUAL
SUPPLY VOLTAGES	_____ _____ _____	_____ _____ _____
PERCEMT IMBALANCE %	N/A	
CONTROL VOLTAGES	N/A	
SUPPLY FAN AMPS	_____ _____ _____	_____ _____ _____
EXHAUST FAN AMPS	_____ _____ _____	_____ _____ _____
CONDENSER FAN 1 AMPS	_____ _____ _____	_____ _____ _____
CONDENSER FAN 2 AMPS	_____ _____ _____	_____ _____ _____
CONDENSER FAN 3 AMPS	_____ _____ _____	_____ _____ _____
CONDENSER FAN 4 AMPS	_____ _____ _____	_____ _____ _____
COMPRESSOR 1 AMPS	_____ _____ _____	_____ _____ _____
COMPRESSOR 2 AMPS	_____ _____ _____	_____ _____ _____
COMPRESSOR 3 AMPS	_____ _____ _____	_____ _____ _____
COMPRESSOR 4 AMPS	_____ _____ _____	_____ _____ _____
AIRFLOW CFM (DESIGN)	_____	_____
AIRFLOW CFM – VAV MIN DESIGN	_____	_____

POST START-UP (CONTINUED)

REFRIGERANT CIRCUITS

	VALUE	
SYSTEM 1 SUBCOOLING		LIQUID PRESSURE:
		LIQUID TEMPERATURE:
SYSTEM 2 SUBCOOLING		LIQUID PRESSURE:
		LIQUID TEMPERATURE:
SYSTEM 1 SUPERHEAT		SUC PRESSURE:
		SUC TEMPERATURE:
SYSTEM 2 SUPERHEAT		SUC PRESSURE:
		SUC TEMPERATURE:
COMP. SIGHT GLASS LEVEL	**SYSTEM 1** **A _____ B _____**	**SYSTEM 2** **A _____ B _____**
OUTSIDE AIR TEMPERATURE		
SUPPLY AIR TEMPERATURE		
RETURN AIR TEMPERATURE		
MIXED AIR TEMP TO EVAP COIL		
HOT GAS BYPASS OPERATION/SETTING	**OPERATION VERIFIED**	**SETTING** **_____ PSIG**

COMMENTS:

UNIT SETUP DATA SHEET

ADDRESS NUMBER	DESCRIPTION	UNITS OF ADJUSTMENT	RANGE OF ADJUSTMENT	DEFAULT VALUE	UNIT SETTING
1	RUN TEST	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
2	HEAT FAN ON DELAY	SECONDS	0-30	30	
3	HEAT FAN OFF DELAY	SECONDS	0-255	60	
4	COOL FAN ON DELAY	SECONDS	0-30	0	
5	COOL FAN OFF DELAY	SECONDS	0-255	30	
6	ADDRESS	DATA	1-250	1	
7	TURN OFF CONTINUOUS FAN WHEN STARTING	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
8	CONSTRUCTION MODE	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
9	UNOCCUPIED OVERRIDE TIME PERIOD	DATA MINUTES	0-240 0 = DISABLED	60 MINUTES	
10	CV OCCUPIED COOLING SETPOINT	DEGREES F	45º - 99º	72º	
11	CV OCCUPIED HEATING SETPOINT	DEGREES F	45º - 99º	68º	
12	CV UNOCCUPIED COOLING SETPOINT	DEGREES F	45º - 99º	85º	
13	CV UNOCCUPIED HEATING SETPOINT	DEGREES F	45º - 99º	60º	
14	SUPPLY AIR TEMP LIMIT FOR COOLING ENABLE	PARAMETER BIT	0 = OFF, 1 = ON	ON	
15	SUPPLY AIR TEMP LIMIT COOLING SETPOINT	DEGREES F	40º - 65º	50º	
16	SUPPLY AIR TEMP LIMIT FOR HEATING ENABLED	PARAMETER BIT	0 = OFF, 1 = ON	ON	
17	SUPPLY AIR TEMP LIMIT HEATING SETPOINT	DEGREES F	100º - 180º	135º	
18	HYDRONIC HEATING ENABLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
19	HYDRONIC HEATING STAGE #1 SUPPLY AIR SETPOINT	DEGREES F	80º - 180º	120º	
20	HYDRONIC HEATING STAGE #2 SUPPLY AIR SETPOINT	DEGREES F	80º - 180º	150º	
21	HYDRONIC HEAT ACTUATOR VALVE REVERSE ACTING	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
22	REMOTE CONTROL INPUT ENABLE FOR THIRD PARTY BAS	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
23	VAV COOLING SUPPLY AIR TEMP UPPER SETPOINT	DEGREES F	40º - 70º	60º	
24	VAV COOLING SUPPLY AIR TEMP LOWER SETPOINT	DEGREES F	40º - 70º	55º	
25	VAV SUPPLY AIR TEMP RESET SETPOINT	DEGREES F	40º - 85º	72º	

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UNIT SETUP DATA SHEET (CONTINUED)

ADDRESS NUMBER	DESCRIPTION	UNITS OF ADJUSTMENT	RANGE OF ADJUSTMENT	DEFAULT VALUE	UNIT SETTING
26	VAV OCCUPIED HEATING ENABLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
27	VAV OCCUPIED HEATING SETPOINT	DEGREES F	40º - 85º	68º	
28	MORNING WARM-UP ENABLE	PARAMETER BIT	0 = OFF, 1 = ON	ON	
29	MORNING WARM-UP / VAV RETURN AIR TEMP SETPOINT	DEGREES F	50º - 85º	70º	
30	DUCT PRESSURE SETPOINT	PRESSURE - INCHES OF H2O	0.000 - 5.000	1.500	
31	BUILDING PRESSURE SETPOINT	PRESSURE - INCHES OF H2O	-.250 -.250	0.1	
32	ECONOMIZER INSTALLED	PARAMETER BIT	0 = OFF, 1 = ON	ON	
33	ECONOMIZER FIRST STAGE SETPOINT	DEGREES F	40º - 65º	55º	
34	ECONOMIZER SECOND STAGE SETPOINT	DEGREES F	40º - 65º	50º	
35	ECONOMIZER MINIMUM POSITION	PERCENT	0 - 100%	20%	
36	OUTSIDE AIR HUMIDITY SENSOR INSTALLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
37	ECONOMIZER OUTSIDE AIR ENTHALPY SETPOINT	BTUS PER POUND	10 - 50	27	
38	RETURN AIR HUMIDITY SENSOR INSTALLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
39	ECONOMIZER OUTSIDE AIR TEMP ENABLE SETPOINT	DEGREES F	40º - 80º	55º	
40	DEMAND VENTILATION (IAQ) ENABLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
41	IAQ SENSOR RANGE	PARTS PER MILLION	0 - 5000 PPM	2000	
42	IAQ SETPOINT	PARTS PER MILLION	0 - 5000 PPM	1000	
43	POWER EXHAUST INSTALLED	PARAMETER BIT	0 = OFF, 1 = ON	ON	
44	MODULATING POWER EXHAUST INSTALLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
45	EXHAUST VFD INSTALLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
46	EXHAUST DAMPER POSITION FOR EXHAUST FAN TO TURN ON (MODULATING ONLY)	PERCENT OF ECONOMIZER POSITION	0 - 100%	80%	
47	EXHAUST DAMPER POSITION FOR EXHAUST FAN TO TURN OFF	PERCENT OF ECONOMIZER POSITION	0 - 100%	20%	
48	ECONOMIZER DAMPER POSITION FOR EXHAUST FAN TO TURN ON (NON-MODULATING ONLY)	PERCENT OF ECONOMIZER POSITION	0 - 100%	60%	

Continued on next page

UNIT SETUP DATA SHEET (CONTINUED)

ADDRESS NUMBER	DESCRIPTION	UNITS OF ADJUSTMENT	RANGE OF ADJUSTMENT	DEFAULT VALUE	UNIT SETTING
49	ECONOMIZER DAMPER POSITION FOR EXHAUST FAN TO TURN OFF (MODULATING ONLY)	PERCENT OF ECONOMIZER POSITION	0 - 100%	20%	
50	APS DATA	0 = CLOSED, 1 = OPEN	0 = CLOSED, 1 = OPEN	OPEN	
51	DIRTY FILTER SWITCH INSTALLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
52	DIRTY FILTER SWITCH DATA	0 = CLOSED, 1 = OPEN	0 = OPEN, 1 = CLOSED	OPEN	
53	COOLING MODE OPERATION ENABLE	PARAMETER BIT	0 = OFF, 1 = ON	ON	
54	HEATING MODE ENABLED FOR OPERATION	PARAMETER BIT	0 = OFF, 1 = ON	ON	
55	CONTINUOUS INDOOR FAN OPERATION WITH SENSOR	PARAMETER BIT	0 = OFF, 1 = ON	ON	
56	SPACE TEMPERATURE OFFSET RANGE	DEGREES F	-5º F - 5º F	0º F	
57	METRIC OPERATION	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
58	THIRD PARTY BAS ECONOMIZER ENABLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
59	YEAR	YEAR (BCD)	00 - 99	4	
60	MONTH	MONTH	1 - 12	1	
61	DAY OF MONTH	DAY OF MONTH	1 - 31	1	
62	DAY OF WEEK	DAY OF WEEK	1 - 7	1	
63	HOUR	HOURS	0 - 23	0	
64	MINUTE	MINUTES	0 - 59	0	
65	SUPPLY AIR TEMP	DEGREES F	-40º - 180º	0	
66	RETURN AIR TEMP	DEGREES F	-40º - 180º	0	
67	OUTSIDE AIR TEMP	DEGREES F	-40º - 180º	0	
68	SPACE TEMP	DEGREES F	-40º - 180º	0	
69	OUTSIDE AIR HUMIDITY	HUMIDITY	0% - 100%	0	
70	RETURN AIR HUMIDITY	HUMIDITY	0% - 100%	0	
71	OCCUPIED INPUT ENABLE	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
72/73/74/ 75/76	ALARM ARRAY	DATA - 5 CHARACTERS	0 - 255	0	
77	VAV / CV SELECTION	READ ONLY FLAG	CV = 0 VAV = 1	0	
78	HOT GAS REHEAT	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
79	HOT GAS PRESENT ON COMPRESSOR # 1	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
80	COMPRESSORS AVAILABLE FOR COOLING	PARAMETER BIT	2 - 4	2	

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UNIT SETUP DATA SHEET (CONTINUED)

ADDRESS NUMBER	DESCRIPTION	UNITS OF ADJUSTMENT	RANGE OF ADJUSTMENT	DEFAULT VALUE	UNIT SETTING
81	STAGES OF HEAT AVAILABLE	PARAMETER BIT	0 - 3 0 = DISABLED	2	
82	DUCT STATIC READING	PRESSURE - INCHES OF H2O	0.000 - 5.000	0000	
83	BUILDING STATIC PRESSURE	PRESSURE - INCHES OF H2O	0.000 - 5.000	0000	
84	LOW AMBIENT KIT INSTALLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
85	BUILDING STATIC PRESSURE SENSOR INSTALLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
86	ERV INSTALLED	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
87	ERV UNOCCUPIED FAN ENABLE	PARAMETER BIT	0 = OFF, 1 = ON	OFF	
88	DUCT STATIC SHUTDOWN SETPOINT	PRESSURE - INCHES OF H2O	0.000 - 5.000	4.500	

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