PREMIUM G

Premium Forced Air Geothermal Comfort System

Geothermal Heat Pumps
R-410A Refrigerant
1 - 6 Ton Single Speed
2 - 6 Ton Dual Capacity

ENERGY STAR

Intertek

AHRI CERTIFIED

GEOSMART ENERGY

SPECIFICATION CATALOGUE

Table of Contents

GEOSMART PREMIUM G

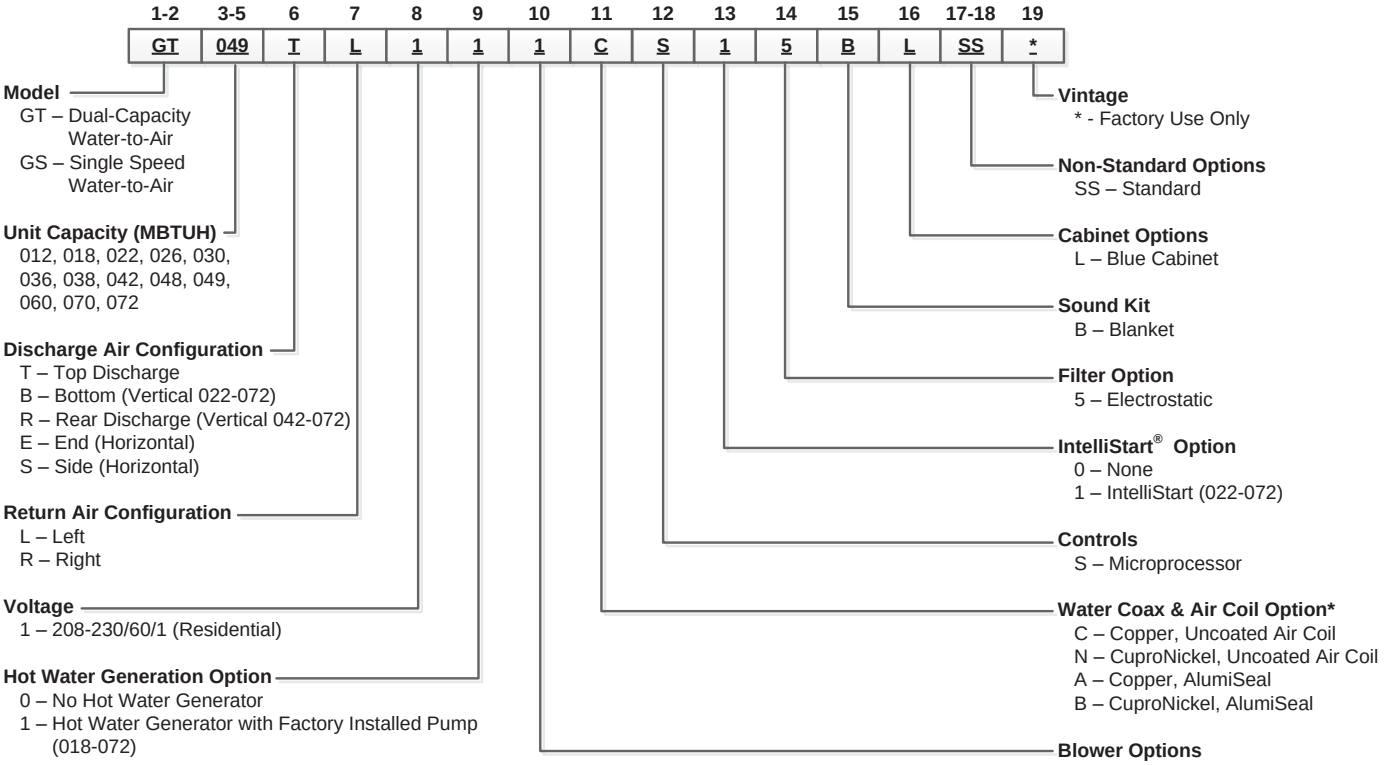
The Premium G Series products establishes a new industry standard for efficiency, performance, reliability and quiet operation. The Premium G Series is available in nine single speed sizes (1 to 6 ton) with Copeland Scroll™ (rotary in 012 and 018) compressors. The product is also available in five dual capacity sizes (2 to 6 ton) with Copeland Scroll UltraTech™ compressors.

These Premium G Series units utilize ozone-safe R-410A refrigerant to meet the most stringent EPA requirements. 5-Speed ECM blower motors bridge the gap of high efficiency ECM capability with great value. Variable speed ECM blowers are used to increase comfort, efficiency, and airflow flexibility. A sophisticated microprocessor control sequences all components during operation for optimum performance, and provides easy-to-use troubleshooting features with fault lights and on-board diagnostics. Unit configurations include vertical top, bottom, or rear discharge (left or right return) and horizontal units with left or right return a side or end discharge. Heavy-gauge metal cabinets are fully insulated and coated with an attractive and durable powder coat paint for long lasting protection.

Premium G Series products are performance-certified to AHRI/ISO 13256-1 standards, ETL listed, ENERGY STAR® qualified, and tested in an ISO 17025 accredited testing lab.

As a leader in the industry, we are dedicated to innovation, quality, and customer satisfaction. In fact, every unit built is exposed to a wide range of quality control procedures throughout the assembly process in our ISO 9001:2008 certified manufacturing facility. At the end, it is subjected to a rigorous battery of computerized run tests to certify that it meets or exceeds performance standards for efficiency and safety, and will perform flawlessly at startup. As further affirmation of our quality standards, each unit carries our exclusive Quality Assurance emblem, signed by the final test technician.

Model Nomenclature



Rev.: 19 June 2015D

Aluminum Air Coil Implementation

Models: 012, 018, 022, 026, and 030; Vintage 'H' as of September 1st, 2015
Models: 036, 038, 042, 048, and 049; Vintage 'H' as of November 1st, 2015
Models: 060, 064, 070, and 072; Vintage 'H' as of January 1st, 2016
*Uncoated and AlumiSeal option only available for units with aluminum air coils
VIntages prior to 'H' have copper tube/aluminum fin e-coated coils

AHRI/ISO 13256-1 Performance Ratings

Variable Speed ECM or 5-Speed ECM Motor

AHRI/ASHRAE/ISO 13256-1
English (IP) Units

Model	Capacity Modulation	Flow Rate		Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
				Cooling EWT 86° F		Heating EWT 68° F		Cooling EWT 59° F		Heating EWT 50° F		Cooling Brine Full Load 77° F Part Load 68° F		Heating Brine Full Load 32°F Part Load 41°F	
		gpm	cfm	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER	Heating Capacity	COP
ND026	Full	8	950	24,900	16.8	30,100	5.5	27,700	24.0	23,900	4.8	26,400	19.6	19,500	4.0
ND026	Part	7	750	18,900	18.6	22,000	6.1	22,200	29.7	17,500	4.9	21,000	26.0	16,400	4.5
ND038	Full	9	1300	36,500	17.0	43,300	5.5	40,000	24.4	35,000	4.9	38,200	19.7	28,500	4.2
ND038	Part	8	1150	26,500	19.0	31,300	6.4	29,900	32.1	24,900	5.1	29,500	28.0	22,900	4.8
ND049	Full	12	1600	49,100	17.2	59,000	5.5	54,100	24.5	47,200	4.6	50,800	19.3	38,200	4.0
ND049	Part	11	1400	36,300	19.1	41,700	6.1	41,600	33.0	33,600	4.7	39,800	27.4	31,000	4.4
ND064	Full	16	1800	62,300	16.4	73,900	5.2	69,000	23.9	60,400	4.6	65,500	19.3	47,300	3.8
ND064	Part	14	1500	45,800	18.1	53,200	5.9	53,000	30.7	43,500	4.8	50,500	26.5	38,200	4.3
ND072	Full	18	2000	70,100	15.6	88,000	4.8	79,000	22.0	71,000	4.3	73,800	18.2	55,400	3.7
ND072	Part	16	1500	54,200	17.0	66,000	5.1	61,500	27.6	52,700	4.3	59,400	24.9	47,400	3.9
NS018	Single	5	600	17,400	15.7	23,000	5.3	20,600	26.0	18,700	4.6	18,500	18.3	14,500	3.8
NS022	Single	8	800	18,100	15.6	23,700	6.0	21,900	27.5	19,500	5.0	19,200	18.7	15,000	4.0
NS030	Single	8	1000	27,000	18.9	32,900	5.6	31,200	29.5	26,000	4.8	28,100	22.0	20,500	3.9
NS036	Single	9	1200	32,300	18.8	36,500	5.7	36,800	28.8	29,200	4.9	33,700	22.0	24,400	4.2
NS042	Single	11	1300	39,000	18.6	45,600	5.8	43,900	28.1	36,100	4.9	40,700	21.7	28,900	4.0
NS048	Single	12	1500	44,100	16.3	55,600	5.4	50,300	25.9	44,700	4.7	45,900	18.8	36,400	4.0
NS060	Single	15	1800	61,100	16.4	74,100	5.5	66,900	24.3	59,200	4.7	62,200	18.4	47,900	4.0
NS070	Single	18	2000	66,200	15.3	85,000	5.0	75,000	22.9	68,000	4.4	69,100	17.6	54,000	3.7

NOTE: 018 not available with 5-Speed ECM motor

7/15/2015

Cooling capacities based upon 80.6°F DB, 66.2°F WB entering air temperature
Heating capacities based upon 68°F DB, 59°F WB entering air temperature
All ratings based upon 208V operation

PSC Motors

AHRI/ASHRAE/ISO 13256-1
English (IP) Units

Model	Modulation Capacity	Flow Rate		Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
				Cooling EWT 86°F		Heating EWT 68°F		Cooling EWT 59°F		Heating EWT 50°F		Cooling Brine Full Load 77°F Part Load 68°F		Heating Brine Full Load 32°F Part Load 41°F	
		gpm	cfm	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
NS012	Single	4	400	11280	14	14800	5	13200	23.1	12000	4.2	12000	16.5	9500	3.5
NS018	Single	5	600	17400	14.8	23000	5.1	20600	24.7	18700	4.3	18500	17.3	14500	3.5
NS022	Single	8	850	17200	13.6	23500	5.9	20100	25.5	19400	4.8	17700	16.2	15000	3.8
NS030	Single	8	900	26800	17.9	32900	5.3	30800	27.1	26000	4.7	27900	21.1	20300	3.7
NS036	Single	9	1200	31500	14.8	40200	5.3	35100	24.4	29200	4.5	32900	19.2	24400	3.8
NS042	Single	11	1300	38300	15.4	45600	5.2	42300	23.3	36000	4.3	40300	18.5	28900	3.5
NS048	Single	12	1500	43200	13.3	55600	4.9	48900	22.3	44700	4.2	45500	16	36400	3.7
NS060	Single	15	1800	61000	15.2	74100	5.2	66600	22.8	57300	4.4	62300	17.4	46100	3.7
NS070	Single	18	2000	66200	14.4	85000	4.6	73500	20.8	67100	4	69100	16.6	53500	3.4

Cooling capacities based upon 80.6°F DB, 66.2°F WB entering air temperature
Heating capacities based upon 68°F DB, 59°F WB entering air temperature
All ratings based upon 208V operation

7/15/2015

AHRI/ISO 13256-1 Performance Ratings cont.

Energy Star Compliance Table

Model	Tier 3	
	Ground Water	Ground Loop
012	P	P
018	E, P	E, P
022	E, X, P	E, X, P
026	E, X	E, X
030	E, X, P	E, X, P
036	E, X, P	E, X, P
038	E, X	E, X
042	E, X, P	E, X, P
048	E, X, P	E, X, P
049	E, X	E, X
060	E, X, P	E, X, P
064	E, X	E, X
070	E, X	E, X
072	E, X	E, X

1/29/12

E - Unit with Variable Speed ECM Blower
X - Unit with 5-Speed ECM Blower
P - Unit with PSC Blower

Energy Star Rating Criteria
In order for water-source heat pumps to be Energy Star rated they must meet or exceed the minimum efficiency requirements listed below. Tier 3 represents the current minimum efficiency water source heat pumps must have in order to be Energy Start rated.

Tier 3: 1/1/2012 – No Effective End Date Published

	EER	COP
Water-to-Air		
Ground Loop	17.1	3.6
Ground Water	21.1	4.1
Water-to-Water		
Ground Loop	16.1	3.1
Ground Water	20.1	3.5

AHRI/ISO 13256-1 Performance Ratings cont.

The performance standard AHRI/ASHRAE/ISO 13256-1 became effective January 1, 2000 and replaces ARI Standards 320, 325, and 330. This new standard has three major categories: Water Loop (comparable to ARI 320), Ground Water (ARI 325), and Ground Loop (ARI 330). Although these standards are similar there are some differences:

Unit of Measure: The Cooling COP

The cooling efficiency is measured in EER (US version measured in Btu/h per Watt. The Metric version is measured in a cooling COP (Watt per Watt) similar to the traditional COP measurement.

Water Conditions Differences

Entering water temperatures have changed to reflect the centigrade temperature scale. For instance the water loop heating test is performed with 68°F (20°C) water rounded down from the old 70°F (21.1°C).

Air Conditions Differences

Entering air temperatures have also changed (rounded down) to reflect the centigrade temperature scale. For instance the cooling tests are performed with 80.6°F (27°C) dry bulb and 66.2°F (19°C) wet bulb entering air instead of the traditional 80°F (26.7°C) DB and 67°F (19.4°C) WB entering air temperatures. 80.6/66.2 data may be converted to 80/67 using the entering air correction table. This represents a significantly lower relative humidity than the old 80/67 of 50% and will result in lower latent capacities.

Pump Power Correction Calculation

Within each model, only one water flow rate is specified for all three groups and pumping Watts are calculated using the following formula. This additional power is added onto the existing power consumption.

- Pump power correction = (gpm x 0.0631) x (Press Drop x 2990) / 300
  Where ‘gpm’ is waterflow in gpm and ‘Press Drop’ is the pressure drop through the unit heat exchanger at rated water flow in feet of head.

Blower Power Correction Calculation

Blower power is corrected to zero external static pressure using the following equation. The nominal airflow is rated at a specific external static pressure. This effectively reduces the power consumption of the unit and increases cooling capacity but decreases heating capacity. These Watts are significant enough in most cases to increase EER and COPs fairly dramatically over ARI 320, 325, and 330 ratings.

- Blower Power Correction = (cfm x 0.472) x (esp x 249) / 300
  Where ‘cfm’ is airflow in cfm and ‘esp’ is the external static pressure at rated airflow in inches of water gauge.

ISO Capacity and Efficiency Calculations

The following equations illustrate cooling calculations:

- ISO Cooling Capacity = Cooling Capacity (Btu/h) + (Blower Power Correction (Watts) x 3.412)
- ISO EER Efficiency (W/W) = ISO Cooling Capacity (Btu/h) x 3.412 / [Power Input (Watts) - Blower Power Correction (Watts) + Pump Power Correction (Watt)]

The following equations illustrate heating calculations:

- ISO Heating Capacity = Heating Capacity (Btu/h) - (Blower Power Correction (Watts) x 3.412)
- ISO COP Efficiency (W/W) = ISO Heating Capacity (Btu/h) x 3.412 / [Power Input (Watts) - Blower Power Correction (Watts) + Pump Power Correction (Watt)]

Comparison of Test Conditions

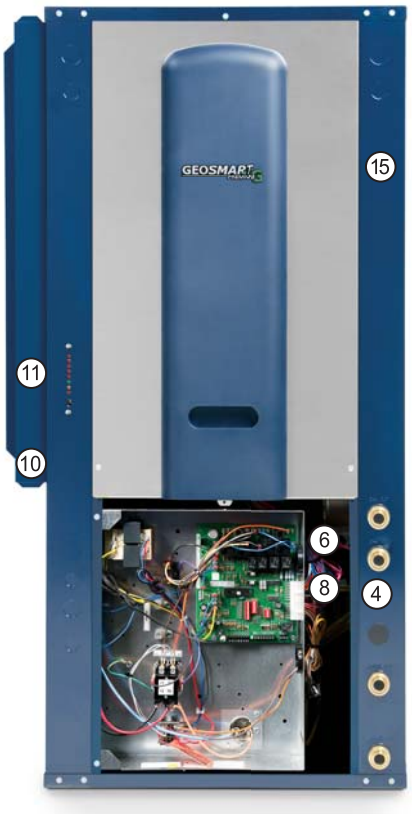
	ARI 320	ISO/AHRI 13256-1 WLHP	ARI 325	ISO/AHRI 13256-1 GWHP	ARI 330	ISO/AHRI 13256-1 GLHP
Cooling						
Entering Air - DB/WB °F	80/67	80.6/66.2	80/67	80.6/66.2	80/67	80.6/66.2
Entering Water - °F	85	86	50/70	59	77	77
Fluid Flow Rate	*	**	**	**	**	**
Heating						
Entering Air - DB/WB °F	70	68	70	68	70	68
Entering Water - °F	70	68	50/70	50	32	32
Fluid Flow Rate	*	**	**	**	**	**

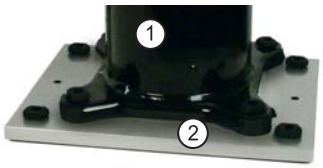
NOTES: * Flow rate is set by 10°F rise in standard cooling test
** Flow rate is specified by the manufacturer
Part load entering water conditions not shown
WLHP = Water Loop Heat Pump; GWHP = Ground Water Heat Pump; GLHP = Ground Loop Heat Pump

Conversions:

Airflow (lps) = cfm x 0.472; WaterFlow (lps) = gpm x 0.0631;
ESP (Pascals) = ESP (in wg) x 249; Press Drop (Pascals) = Press Drop (ft hd) x 2990

Premium G Design Features





1. **COMPRESSOR:** Rotary (012-018), Copeland Scroll™ (022-070 single speed) and Copeland Scroll UltraTech™ (dual capacity) represent the latest technology
2. **DOUBLE ISOLATED COMPRESSOR:** Double isolated compressor mounting to reduce noise and vibration
3. **MICROPROCESSOR CONTROLS:**
4. **OPTIONAL HOT WATER ASSIST:** Provides free hot water in cooling and very high efficiency hot water generation in heating mode
5. **COAXIAL HEAT EXCHANGER:** Standard large high efficiency copper (optional cupronickel) coax with our exclusive void-free and robotically applied ThermaShield insulation coating
6. **BALANCED PORT/BIDIRECTIONAL EXPANSION VALVE:** Balanced port bidirectional expansion valve for rock steady superheat control and reliable efficiency and operation at any condition
7. **AIR COIL:** Large air coil is designed for maximum efficiency, moisture removal; and provides superior protection from formicary corrosion
8. **DISCHARGE MUFFLER:** Helps quiet compressor gas pulsations
9. **PSC/5-Speed/ECM BLOWER MOTOR OPTIONS:** Choice of standard PSC, high efficiency 5-Speed ECM, or high efficiency and ultra-flexible variable speed ECM blower motors
10. **FILTER RACK:** Filter rack holds 1 in. or 2 in. filters (field changeable) with exclusive snap on filter door
11. **FILTER:** High holding capacity 1 in. electrostatic air filter is standard
12. **SWIVEL LOOP CONNECTIONS:** Leak free swivel water connections provide a hand tight gasket connection that easily handles the temperature extremes of geothermal earth loops
13. **IntelliStart®:** Optional single phase soft starter
14. **INSULATION:** Cleanable foil lined insulation to prevent mold growth; corrosion resistant composite drain pan
15. **CABINET FINISH:** Heavy gauge galvanized sheet metal cabinet has 1,000 hr. salt spray rated powder coat paint for long life
16. **ACCESS PANELS:** Lift out front bottom access panel, lift out panels for easier removal and servicing
17. **LED STATUS LIGHTS:** Mounted higher on the unit
18. **COMPOSITE DRAIN PAN:** Custom moulded and positively sloped for condensate drainage

Premium G Design Features cont.

What's New?

- Exceptional AHRI/ISO 13256-1 Ratings for traditional geothermal
  - 28 EER and 4.8 COP
- Latest technology compressors
  - LG Rotary in single speed units (sizes 012 and 018)
  - Copeland K5 Scrolls™ in single speed units (sizes 022, 030, 036, 042, 048, 060, 070)
  - Copeland UltraTech™ K5 Compressors in dual capacity units (sizes 026, 038, 049, 064, 072)
- Discharge line mufflers on models 022-072 to help quiet compressor discharge gas pulsations.
- PSC/5-Speed ECM/ECM blower motor options
  - Standard PSC for low cost and solid performance
  - 5-Speed ECM for high efficiency
  - Variable speed ECM blower motors for the highest in efficiency and airflow flexibility
- Cabinet Design – Improved design of access panels, control box and filter rack
- Cabinet Configurations – Vertical left or right return, downflow left or right return; Horizontal left or right return with either end or side air discharge
- Cupronickel heat exchanger
- High static blower on some models

Application Flexibility

- Safe, efficient operation in a wide range of liquid temperatures (20°F to 120°F) and flow rates (as low as 1.5 gpm/ton in open loop applications when EWT >50°F)
- Top or rear air discharge for upflow, or bottom discharge for counterflow installations in vertical units, side or end discharge for horizontal units
- True left or right return air locations—vertical units include filter rack/duct collar
- Variable-speed ECM blowers permit various duct applications with flexible airflow selection; optional 5-Speed ECM blower motors provide ECM efficiency at PSC capability; optional PSC motors available on single speed units.
- Narrow cabinet for easy movement through doorways
- Internally trapped condensate piping on vertical units for neat, compact installation
- Optional field-installed auxiliary electric heater
- Corner-located electrical box for field wiring from two sides
- Circuit breaker protected loop pump power block for easy wiring
- Relay to control field-mounted accessories
- Field-selectable freeze detection setting for well or closed loop systems

Operating Efficiencies

- AHRI/ISO 13256-1 rating for heating COPs, cooling EERs, and low water flow requirements
- Optional hot water generator with internal pump generates hot water at considerable savings while improving overall system efficiency
- High-stability expansion valve delivers optimum refrigerant flow over a wide range of conditions and provides bidirectional operation without troublesome check valves
- Efficient rotary and scroll compressors operate quietly
- Oversized coaxial tube water-to-refrigerant heat exchanger operates at low liquid pressure drops
- Convoluted copper water tube functions efficiently at low flow rates
- Oversized all aluminum coils with lanced fin or rifled copper tube/lanced aluminum fin air-to refrigerant heat exchanger provides high efficiencies at low-face velocity with patented 11 element fin design
- Large, low-RPM blowers with variable speed ECM or 5-Speed ECM motors provide quiet and efficient air movement with high static capability; optional 3-Speed PSC motors available on single speed units
- Utilizes the ozone-friendly R-410A refrigerant which produces higher efficiencies and warmer discharge air temperatures

Service Advantages

- Removable panels: three for the compressor compartment and one (on horizontals) or two (on verticals) for the air handling compartment to provide quick access to all internal components with ductwork in place
- Easily accessible thermal expansion valve
- Brass, swivel-type water connections for quick connection union, and elimination of wrenches and sealants during installation
- Insulated divider and separate air handling/compressor access panels permit service testing without air bypass
- Designed for front access in tight applications
- LED fault and status lights
- Hot water pump shut-off switch for easy startup and service
- Control box and blower motors have quick-attach wiring plugs for easy removal
- Internal drop-out blower with permanently-lubricated ball bearing motor
- High- and low-pressure service ports in refrigerant circuit.
- Blower and transformer powered from auxiliary heat supply (when installed) to provide emergency heat with open compressor circuit breaker

Premium G Design Features cont.

Product Quality

- Heavy-gauge steel cabinets are painted with durable powder coat paint for long lasting beauty and service
- Coaxial heat exchanger, refrigerant suction lines, hot water generator coil, and all water pipes are fully insulated to reduce condensation problems in low temperature operation
- Copper tube/aluminum fin air coils are double electro-coated for extended life
- Noise reduction features include double isolation mounted compressors and soft starting blower motors; insulated compressor compartment; interior cabinet insulation using 1/2 in. coated glass fiber; all units include compressor blanket for quiet operation
- Safety features include high- and low-pressure refrigerant controls to protect the compressor, condensate overflow protection, freeze detection sensor to safeguard the coaxial heat exchanger, blower start detection, hot water high-limit hot water generator pump shutdown, and fault lockout enables emergency heat and prevents compressor operation until thermostat or circuit breaker is reset

Microprocessor Benefits

- Digital auto-changeover thermostat with 3-stage heating/2-stage cooling holds precise temperature and provides varying blower speed control.
- Component sequencing delays for quiet startup, shutdown, and timed staging of auxiliary electric heat.
- Variable speed ECM blower speed control provides higher supply air temperature in heating, better dehumidification in cooling, and quiet operation at reduced airflows in all modes.
- Hot water limit prevents scalding, and pump shuts down automatically when full unit capacity is needed for heating.

Options and Accessories

- Optional cupronickel heat exchangers for open loop applications
- Optional hot water generator with internally mounted pump and water heater plumbing connector
- Optional 3-speed PSC motors available on single speed units (4-speed on 012)
- Optional constant torque 5-Speed ECM motors available (022-072)
- Optional high static PSC blower motor for high static applications on single speed units (022-048)
- Optional high static variable speed ECM blower motor for high static applications on all units from 036 to 049
- Electronic auto-changeover thermostat with 3-stage heating/2-stage cooling and indicator LEDs (non-communicating)
- 24 Volt 1 in. electronic air cleaner
- Closed loop flow center in several sizes
- Auxiliary electric heater
- Hose kits
- Additional accessory relay
- AlpinePure 2 in. MERV 13 filter
- IntelliStart soft starter

Manufacturing Quality

- All units are computer run-tested, with conditioned source water, in all modes to ensure efficiency and reliability
- All refrigerant brazing is performed in a nitrogen atmosphere
- All units are deep evacuated to less than 150 microns prior to refrigerant charging
- All joints are helium leak-tested to ensure an annual leak rate of less than 1/4 ounce
- All major components bar coded; eliminating possibility of mismatched parts built into unit
- All assembly technicians thoroughly trained in proper quality procedures
- All units have model number and serial number embedded in control for local or remote retrieval
- Manufacturing facility is ISO 9001:2008 certified
- Engineering labs are ISO 17025 accredited

Microprocessor Control System

Startup

The unit will not operate until all the inputs and safety controls are checked for normal conditions. At first power-up, a four minute delay is employed before the compressor is energized.

Component Sequencing Delays

Components are sequenced and delayed for optimum space conditioning performance.

Accessory Relay

An accessory relay on the control board allows for field connection of solenoid valves, electronic air cleaners, etc. The accessory relay has a normally open output and a normally closed output.

Short Cycle Protection

The control employs a minimum "off" time of four minutes to provide for short cycle protection of the compressor.

Condensate Overflow Protection

The microprocessor control board incorporates an impedance sensing liquid sensor at the top of the drain pan. Upon a continuous 30-second sensing of the condensate, compressor operation is suspended (see Fault Retry), and the condensate overflow lockout LED begins flashing.

Shutdown Mode

A 24VAC common signal to the “shutdown” input on the control board puts the unit into shutdown mode. Compressor, hot water pump and fan operation are suspended.

Safety Controls

The microprocessor control receives separate signals for a high pressure switch for safety, a low pressure switch to prevent loss of charge damage, and a low suction temperature thermistor for freeze sensing. Upon a continuous 30-second measurement of the fault (immediate for high pressure), compressor operation is suspended, the appropriate lockout LED begins flashing. (Refer to the "Fault Retry" section below.)

Testing

The microprocessor control allows service personnel to shorten most timing delays for faster diagnostics. (Refer to the Field Selection DIP switch SW2-1 in the Microprocessor Control section.)

Fault Retry

All faults (except for low RPM faults with the variable speed ECM fan motor) are retried twice before finally locking the unit out. An output signal is made available for a fault LED at the thermostat. The “fault retry” feature is designed to prevent nuisance service calls.

Diagnostics

The microprocessor control board allows all inputs and outputs to be displayed on the LEDs for fast and simple control board diagnosis. (Refer to the Field Selection DIP Switch SW2-1 in the Microprocessor Control section.)

Resistance Heat Control (208-230 Units)

The electric heat control module contains the appropriate high-voltage control relays. Control signals energize the relays in the proper sequence, and the LED display board indicates which stages are energized.

Hot Water High Limit (Domestic Hot Water Option)

This mode occurs when the hot water input temperature is at or above 130°F for 30 continuous seconds. The HWG limit status LED on the unit illuminates and the hot water pump de-energizes. Hot water pump operations resume on the next compressor cycle or after 15 minutes of continuous compressor operation during the current thermostat demand cycle.

Hot Water Justification

Since compressor hot gas temperature is dependant on loop temperature in cooling mode, loop temperatures may be too low to allow proper heating of water. The control will monitor water and refrigerant temperatures to determine if conditions are satisfactory for heating water. The HWG limit status LED on the unit illuminates when conditions are not favorable for heating water.

Heating Operation Heat, 1st Stage (Y1)

The fan motor is started on low speed immediately (PSC ON), the loop pump is energized 5 seconds after the “Y1” input is received, and the compressor is energized on low capacity 10 seconds after the “Y1” input. The fan is switched to medium speed 15 seconds after “Y1” input (ECM only). The hot water pump is cycled 30 seconds after the "Y1" input.

Heat, 2nd Stage (Y1,Y2) Single-Speed Units

The hot water pump is de-energized, which directs all heat to satisfying the thermostat, and the fan changes to high speed 15 seconds after the "Y2" input (ECM only).

Heat, 2nd Stage (Y1,Y2) Dual Capacity Units

The second stage compressor will be activated 5 seconds after receiving a “Y2” input as long as the minimum first stage compressor run time of 1 minute has expired. The ECM blower changes from medium to high speed 15 seconds after the “Y2” input.

Microprocessor Control System cont.

Heat, 3rd Stage (Y1,Y2,W) - Single-Speed Units

The first stage of resistance heat is energized 10 seconds after “W” input, and with continuous 3rd stage demand, the second stage of resistance heat will engage after 5 minutes.

Heat, 3rd Stage (Y1,Y2,W) - Dual Capacity Units

The hot water pump is de-energized which directs all heat to satisfy the thermostat. The 1st stage of resistance heat is energized 10 seconds after “W” input, and with continuous 3rd stage demand, the second stage of resistance heat will engage after 5 minutes.

Emergency Heat (W only)

The fan is started on high speed, and the first stage of resistance heat is energized 10 seconds after the "W" input. Continuing demand will engage the second stage of resistance heat after 2 minutes.

Cooling Operation

In all cooling operations, the reversing valve directly tracks the “O” input. Thus, anytime the “O” input is present, he reversing valve will be energized.

Cool, 1st Stage (Y1,O)

The blower motor and hot water pump are started immediately, the loop pump(s) is energized 5 seconds after the “Y1” input is received. The compressor will be energized (on low capacity for Dual Capacity units) 10 seconds after the “Y1” input. The ECM blower will shift from low to medium speed 15 seconds after the “Y1” input (85% of medium speed if in dehumidification mode).

Cool, 2nd Stage (Y1, Y2, O) - Single Speed Units

The fan changes to high speed (85% of high speed if in dehumidification mode) 15 seconds after the “Y2” input (ECM only).

Cool, 2nd Stage (Y1, Y2, O) - Dual Capacity Units

The second stage compressor will be activated 5 seconds after receiving a “Y2” input as long as the minimum first stage compressor run time of 1 minute has expired. The ECM blower changes to high speed 15 seconds after the “Y2” input. (85% of high speed if in dehumidification mode).

Fan (G only)

The fan starts on low speed. Regardless of fan input “G” from thermostat, the fan will remain on low speed for 30 seconds at the end of each heating, cooling or emergency heat cycle.
A DIP switch on the microprocessor control allows field selection of 15% reduced fan speeds for cooling in the dehumidification mode or medium and high fan speeds for cooling in the normal mode.
NOTE: Fan speed can change automatically only with a Variable Speed ECM Motor.

Variable Speed ECM Airflow Selection DIP Switches (SW1)

A 12-position DIP switch package on the microprocessor control allows the airflow levels to be set for low, medium and high speed. (Refer to the Variable Speed ECM Blower table in the Fan Performance Data - Variable Speed ECM section.)

Only three of the DIP switches can be in the “on” position. The first “on” switch (the lowest position number) determines the “low speed fan” setting. The second “on” switch determines the “medium speed fan” setting, and the third “on” switch determines the “high speed fan” setting, (see the Fan Performance Data - Variable Speed ECM section).

Lockout Conditions

During lockout mode, the appropriate unit and thermostat lockout LEDs will illuminate. The compressor, loop pump, hot water pump, and accessory outputs are de-energized. Unless the lockout is caused by an ECM low RPM fault, the fan will continue to run on low speed. If the thermostat calls for heating, emergency heat operation will occur.

All lockout modes can be reset at the thermostat after turning the unit off, then on, which restores normal operation but keeps the unit lockout LED illuminated. Interruption of power to the unit will reset a lockout without a waiting period and clear all lockout LEDs.

High Pressure

This lockout mode occurs when the normally closed safety switch is opened momentarily (set at 600 PSI).

Low Pressure

This lockout mode occurs when the normally closed low pressure switch is opened for 30 continuous seconds (set at 40 PSI).

Microprocessor Control System cont.

Freeze Sensing (Water Flow)

This lockout mode occurs when the freeze thermistor temperature is at or below the selected freeze sensing point (well 30°F or loop 15°F) for 30 continuous seconds.

Condensate Overflow

This lockout mode occurs when the condensate overflow level has been reached for 30 continuous seconds.

Fan RPM

The control board monitors fan RPM to sense operation. This lockout mode occurs if the fan RPM falls below the low RPM limit (100 RPM) for 30 continuous seconds.

Thermostat Displays

Fault Flash

When using a TA32W02 or TP32W03 thermostat and SW2-8 is in the pulsing “L” position, FaultFlash will enable a user to view the thermostat and count the fault indicator flashes to determine the lockout condition the unit is experiencing.

FaultFlash Thermostats

TA32W02 and TP32W03 Thermostats	
Thermostat Display Lockout Code	Lockout Description
2 Flashes	High Pressure Fault
3 Flashes	Low Pressure Fault
4 Flashes	Not Applicable
5 Flashes	Water Flow Fault
6 Flashes	Not Applicable
7 Flashes	Condensate Fault
8 Flashes	Voltage out of Range
9 Flashes	RPM Fault

Microprocessor Control System cont.

DIP Switch Settings

Prior to powering unit, ensure that all DIP switches on SW2 & SW3 are set properly according to the tables below.

FACTORY SETUP DIP SWITCHES (SW3)				
DIP SWITCH NUMBER		**DESCRIPTION**	**OFF POSITION**	**ON POSITION**
SW 3-	**1**	**Dual Capacity/Single-Speed** Configures the control for single-speed compressor operation or dual capacity operation.	Dual Capacity Operation	Single-Speed Operation
SW 3-	**2**	**Zoned/Finish on Second Stage** This switch allows the unit to down stage with the thermostat when off and finish with second stage when on. Finish on second stage reduces stage changing in reciprocating dual capacity compressors.	Normal - All Other Systems	Finish on 2nd - Unzoned Dual Capacity
SW 3-	**3**	**No RPM/RPM** Configures the control to monitor the RPM output of an Variable Speed ECM blower motor. When using IntelliZone, 5-Speed ECM or a PSC fan motor, the control should be configured for “NO RPM” sensing.	PSC or 5-Speed ECM Fan/RPM Monitoring Disabled	Variable Speed ECM Fan/ RPM Monitoring Enabled
SW 3-	**4**	**Electric heat and ECM** Allows backward compatibility with older models. In the Off position this switch allows older electric heat board (17P501A01) and older ECM (square end) compatibility. On is for all newer EH board (17P514A01) and ECM (round end).	Old EH & Old ECM	Normal
SW 3-	**5**	On dual capacity units this switch allows stage change: on the fly when off, and 1 minute delay when on. A delay is required on all reciprocating dual capacity units.	Dual-Capacity Models	N/A

FIELD SELECTION DIP SWITCHES (SW2)				
DIP SWITCH NUMBER		**DESCRIPTION**	**OFF POSITION**	**ON POSITION**
SW 2-	**1**	**Service Test Mode** On the control, allows field selection of “NORMAL” or “TEST” operational modes. Test mode accelerates most timing functions 16 times to allow faster troubleshooting. Test mode also allows viewing the “CURRENT” status of the fault inputs on the LED display.	Test Mode	Normal Speed Operation
SW 2-	**2**	**Freeze Sensing Setting** Allows field selection of freeze thermistor fault sensing temperatures for well water (30°F) or antifreeze-protected (15°F) earth loops.	Loop Water Freeze Protection 15° F	Well Water Freeze Protection 30° F
SW 2-	**3**	**Accessory Relay** Allows field selection of the accessory relay to operate with the compressor or fan.	Acc Relay Tracks Fan	Acc Relay Tracks Compressor
SW 2-	**4**	**Fan Speed Control** Allows field selection of reduced fan speed (85% of selected medium and high speed – Variable Speed ECM only) for cooling in the dehumidification mode.	Dehumidification Fan Speeds	Normal Fan Speeds
SW 2-	**5**	**Auxiliary Off** Disables 3rd-stage Heating. Full emergency heat would still be available if needed.	Disable Heating Stage 3	Enable Heating Stage 3
SW 2-	**6**	**Diagnostics Inputs** Allows viewing the inputs from the thermostat to the control board such as Y1, Y2, O, G, W, SL1-In on the LED display.	Diagnostic Inputs Viewed at LEDs	Normal Display Viewed at LEDs
SW 2-	**7**	**Diagnostics Outputs** Allows viewing the outputs from the control board such as compressor, reversing valve, blower, hot water pump, and loop pump on the LED display.	Diagnostic Outputs Viewed at LEDs	Normal Display Viewed at LEDs
SW 2-	**8**	**Thermostat Selection** Configures the control for a pulsed lockout signal (FaultFlash thermostats) or continuous 5 VAC lockout signal.	Pulsed “L” signal	Continuous “L” signal

Operation Logic Data Table

OPERATION LOGIC	HEATING				COOLING		FAN ON	SL1 - IN ON
	STG1	STG2	STG3	EMERG	STG1	STG2		
SINGLE SPEED UNITS								
Compressor	On	On	On	Off	On	On	-	-
ECM Normal	Med	High	High	High	Med	High	Low	-
ECM Dehumidify	Med	High	High	High	85% Med	85% High	Low	-
Rev Valve	Off	Off	Off	Off	On	On	-	-
Loop Pump	On	On	On	Off	On	On	-	On
HWG Pump	On	Off	Off	Off	On	On	-	-
Aux Heater	Off	Off	Staged	Staged	Off	Off	-	-
Secondary 1- Out	On	On	On	Off	On	On	-	-
Emerg LED	Off	Off	Off	On	Off	Off	Off	-
T-Stat Signal	Y1	Y1, Y2	Y1, Y2, W	W	Y1, O	Y1, Y2, O	G	-
DUAL CAPACITY UNITS								
Compressor-Lo	On	Off	Off	Off	On	Off	-	-
Compressor-Hi	Off	On	On	Off	Off	On	-	-
ECM Normal	Med	High	High	High	Med	High	Low	-
ECM Dehumidify	Med	High	High	High	85% Med	85% High	Low	-
Rev Valve	Off	Off	Off	Off	On	On	-	-
Loop Pumps	On	On	On	Off	On	On	-	On
HWG Pump	On	On	Off	Off	On	On	-	-
Aux Heater	Off	Off	Staged	Staged	Off	Off	-	-
Secondary 1- Out	On	On	On	Off	On	On	-	-
Secondary 2- Out	Off	On	On	Off	Off	On	-	-
Emerg LED	Off	Off	Off	On	Off	Off	-	-
T-Stat Signal	Y1	Y1, Y2	Y1, Y2, W	W	Y1, O	Y1, Y2, O	G	-

Water Quality

It is the responsibility of the system designer and installing contractor to ensure that acceptable water quality is present and that all applicable codes have been met in these installations. Failure to adhere to the guidelines in the water quality table could result in loss of warranty. In ground water situations where scaling could be heavy or where biological growth such as iron bacteria will be present, a closed loop system is recommended. The heat exchanger coils in ground water systems may, over a period of time, lose heat exchange capabilities due to a buildup of mineral deposits inside. These can be cleaned, but only by a qualified service mechanic, as special solutions and pumping equipment are required. Hot water generator coils can likewise become scaled and possibly plugged. In areas with extremely hard water, the owner should be informed that the heat exchanger may require occasional flushing.

Heat pumps with cupronickel heat exchangers are recommended for open loop applications due to the increased resistance to build-up and corrosion, along with reduced wear caused by acid cleaning. Failure to adhere to the guidelines in the water quality table could result in the loss of warranty.

Water Treatment

Do not use untreated or improperly treated water. Equipment damage may occur. The use of improperly treated or untreated water in this equipment may result in scaling, erosion, corrosion, algae or slime. Purchase of a pre-mix antifreeze could significantly improve system reliability if the water quality is controlled and there are additives in the mixture to inhibit corrosion. There are many examples of such fluids on the market today such as Environol™ 1000 (pre-mix ethanol), and others. The services of a qualified water treatment specialist should be engaged to determine what treatment, if any, is required. The product warranty specifically excludes liability for corrosion, erosion or deterioration of equipment.

The heat exchangers and water lines in the units are copper or cupronickel tube. There may be other materials in the buildings piping system that the designer may need to take into consideration when deciding the parameters of the water quality. If antifreeze or water treatment solution is to be used, the designer should confirm it does not have a detrimental effect on the materials in the system.

Contaminated Water

In applications where the water quality cannot be held to prescribed limits, the use of a secondary or intermediate heat exchanger is recommended to separate the unit fro the contaminated water. The table above outlines the water quality guidelines for unit heat exchangers. If these conditions are exceeded, a secondary heat exchanger is required. Failure to supply a secondary heat exchanger where needed will result in a warranty exclusion for primary heat exchanger corrosion or failure.

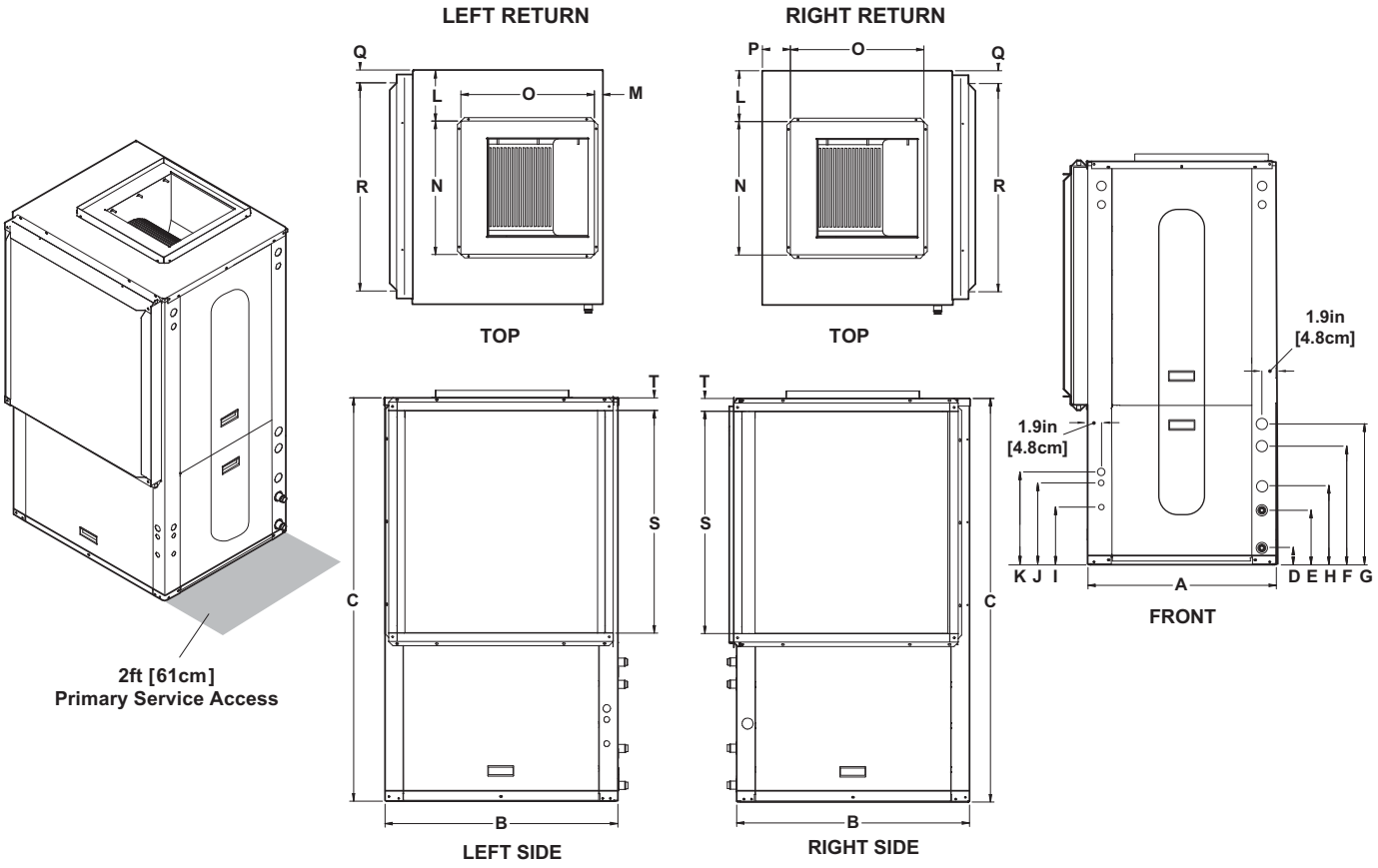
Material		Copper	90/10 Cupronickel	316 Stainless Steel
pH	**Acidity/Alkalinity**	7 - 9	7 - 9	7 - 9
Scaling	Calcium and Magnesium Carbonate	(Total Hardness) less than 350 ppm	(Total Hardness) less than 350 ppm	(Total Hardness) less than 350 ppm
Corrosion	Hydrogen Sulfide	Less than 0.5 ppm (rotten egg smell appears at 0.5 ppm)	10 - 50 ppm	Less than 1 ppm
	Sulfates	Less than 125 ppm	Less than 125 ppm	Less than 200 ppm
	Chlorine	Less than 0.5 ppm	Less than 0.5 ppm	Less than 0.5 ppm
	Chlorides	Less than 20 ppm	Less than 125 ppm	Less than 300 ppm
	Carbon Dioxide	Less than 50 ppm	10 - 50 ppm	10 - 50 ppm
	Ammonia	Less than 2 ppm	Less than 2 ppm	Less than 20 ppm
	Ammonia Chloride	Less than 0.5 ppm	Less than 0.5 ppm	Less than 0.5 ppm
	Ammonia Nitrate	Less than 0.5 ppm	Less than 0.5 ppm	Less than 0.5 ppm
	Ammonia Hydroxide	Less than 0.5 ppm	Less than 0.5 ppm	Less than 0.5 ppm
	Ammonia Sulfate	Less than 0.5 ppm	Less than 0.5 ppm	Less than 0.5 ppm
	Total Dissolved Solids (TDS)	Less than 1000 ppm	1000 - 1500 ppm	1000 - 1500 ppm
	LSI Index	+0.5 to -0.5	+0.5 to -0.5	+0.5 to -0.5
Iron Fouling (Biological Growth)	Iron, FE^{2}+ (Ferrous) Bacterial Iron Potential	< 0.2 ppm	< 0.2 ppm	< 0.2 ppm
	Iron Oxide	Less than 1 ppm, above this level deposition will occur	Less than 1 ppm, above this level deposition will occur	Less than 1 ppm, above this level deposition will occur
Erosion	Suspended Solids	Less than 10 ppm and filtered for max. of 600 micron size	Less than 10 ppm and filtered for max. of 600 micron size	Less than 10 ppm and filtered for max. of 600 micron size
	Threshold Velocity (Fresh Water)	< 6 ft/sec	< 6 ft/sec	< 6 ft/sec

NOTES: Grains = ppm divided by 17
mg/L is equivalent to ppm

2/22/12

Vertical Dimensional Data

Top Air Discharge

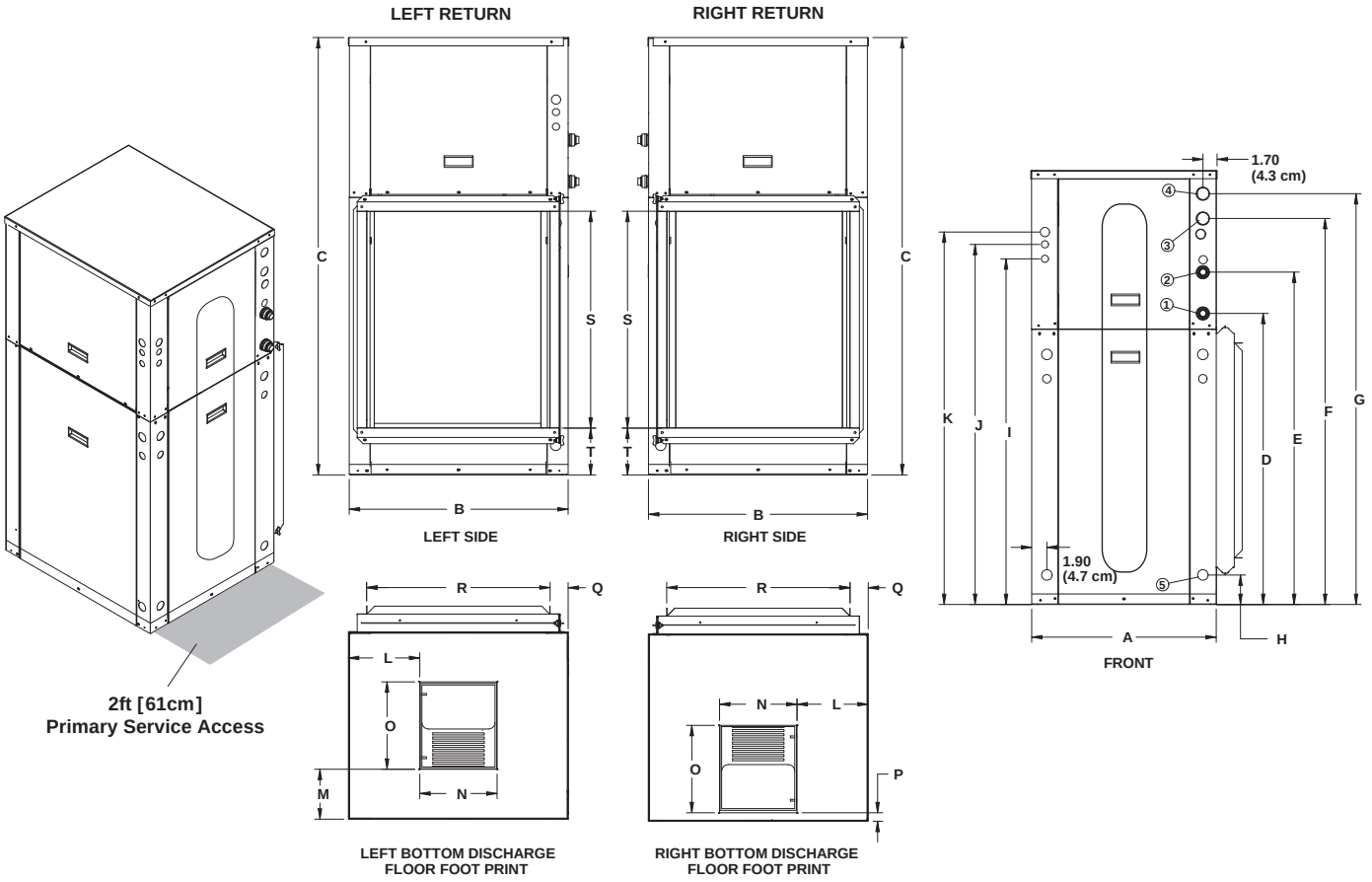


Vertical Top Flow Model		Overall Cabinet			Water Connections							Electrical Connections			Discharge Connection duct flange installed (±0.10 in)					Return Connection using std deluxe filter rack (±0.10 in)			
		A	B	C	D	E	F	G	H			I 3/4 in. cond	J 1/2 in. cond	K 1/2 in. cond	L	M	N	O	P	Q	R	S	T
		Width	Depth	Height	Loop In	Loop Out	HWG In	HWG Out	Cond-ensate	Loop Water FPT	HWG FPT	Power Supply	Ext Pump	Low Voltage			Supply Width	Supply Depth			Return Depth	Return Height	
012	in.	22.2	22.5	34.5	2.3	5.3	11.9	14.9	8.6	1 in.	1 in.	6.9	9.4	11.7	6.1	3.7	10.0	10.0	0.7	2.4	18.1	14.2	1.7
	cm.	56.4	57.2	87.6	5.9	13.5	30.2	37.8	21.8	Swivel	Swivel	17.5	23.9	29.7	15.5	9.4	25.4	25.4	1.8	6.1	46.0	36.1	4.3
018	in.	22.5	26.5	39.4	2.3	5.3	13.4	16.4	9.6	1 in.	1 in.	6.9	9.4	11.7	6.3	0.7	14.0	14.0	2.7	2.3	22.0	18.0	2.0
	cm.	57.2	67.3	100.1	5.8	13.5	34.0	41.7	24.4	Swivel	Swivel	17.5	23.9	29.7	16.0	1.8	35.6	35.6	6.9	5.8	55.9	45.7	5.1
022-030	in.	22.5	26.5	48.5	2.0	7.0	13.5	16.5	10.2	1 in.	1 in.	9.5	12.1	14.3	6.1	0.8	14.0	14.0	4.4	1.7	22.2	26.0	1.7
	cm.	57.2	67.3	123.2	5.1	17.8	34.3	41.9	25.9	Swivel	Swivel	24.1	30.7	36.3	15.5	2.0	35.6	35.6	11.2	4.3	56.4	66.0	4.3
036-038	in.	25.6	31.6	50.4	2.3	7.3	15.9	18.9	10.6	1 in.	1 in.	9.5	12.1	14.3	6.9	1.1	18.0	18.0	3.8	1.7	28.1	26.0	1.7
	cm.	65.0	80.3	128.0	5.8	18.5	40.4	48.0	26.9	Swivel	Swivel	24.1	30.7	36.3	17.5	2.8	45.7	45.7	9.7	4.3	71.4	66.0	4.3
042-049	in.	25.6	31.6	54.4	2.3	7.3	15.9	18.9	10.6	1 in.	1 in.	9.5	12.1	14.3	6.9	1.1	18.0	18.0	3.8	1.7	28.1	30.0	1.7
	cm.	65.0	80.3	138.2	5.8	18.5	40.4	48.0	26.9	Swivel	Swivel	24.1	30.7	36.3	17.5	2.8	45.7	45.7	9.7	4.3	71.4	76.2	4.3
060-072	in.	25.6	31.6	58.4	2.3	7.3	15.9	18.9	10.6	1 in.	1 in.	9.5	12.1	14.3	6.9	1.1	18.0	18.0	3.8	1.7	28.1	34.0	1.7
	cm.	65.0	80.3	148.3	5.8	18.5	40.4	48.0	26.9	Swivel	Swivel	24.1	30.7	36.3	17.5	2.8	45.7	45.7	9.7	4.3	71.4	86.4	4.3

Condensate is 3/4 in. PVC female glue socket and is switchable from side to front 7/11/13
Unit shipped with deluxe 2 in. (field adjustable to 1 in.) duct collar/filter rack extending from unit 3.25 in. and is suitable for duct connection.
Discharge flange is field installed and extends 1 in. [25.4 mm] from cabinet
Decorative molding and/or water connections extend 1.2 in. [30.5 mm] beyond front of cabinet.
Models 012 and 018 do not include decorative molding on front of cabinet.

Vertical Dimensional Data cont.

Bottom Air Discharge



Bottom Flow Models		Overall Cabinet			Water Connections							Electrical Knockouts			Discharge Connection duct flange installed (±0.10 in)					Return Connection using std deluxe filter rack (±0.10 in)			
					1	2	3	4	5			I 3/4 in. cond	J 1/2 in. cond	K 1/2 in. cond									
		A	B	C	D	E	F	G	H	Loop Water FPT	HWG FPT				L	M	N	O	P	Q	R	S	T
		Width	Depth	Height	In	Out	HWG In	HWG Out	Con-densate			Power Supply	Ext Pump	Low Voltage			Supply Width	Supply Depth			Return Depth	Return Height	
022-030	in.	22.5	26.5	52.5	35.3	40.2	46.7	49.7	3.6	1 in. Swivel	1 in. Swivel	41.9	43.6	45.1	8.6	6.0	9.3	10.5	1.0	2.2	22.2	26.0	5.6
	cm.	57.2	67.3	133.4	89.7	102.1	118.6	126.2	9.1			106.4	110.7	114.6	21.8	15.2	23.6	26.7	2.5	5.6	56.4	66.0	14.2
036-072	in.	25.5	31.5	62.5	43.4	48.4	57.0	60.0	3.6	1 in. Swivel	1 in. Swivel	48.9	50.8	52.2	9.1	4.8	13.4	13.6	1.5	1.8	28.1	34.0	5.6
	cm.	64.8	80.0	158.8	110.2	122.9	144.8	152.4	9.1			124.2	129.0	132.6	23.1	12.2	34.0	34.5	3.8	4.6	71.4	86.4	14.2

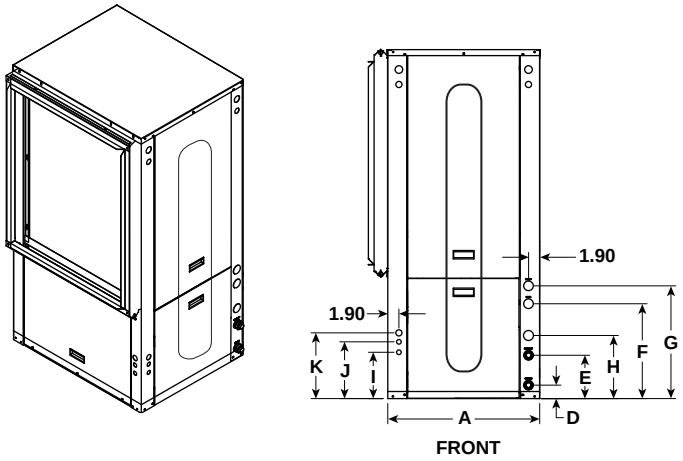
Condensate is 3/4 in. PVC female glue socket and is switchable from side to front 7/11/13

Vertical bottom flow unit shipped with deluxe 2 in. (field adjustable to 1 in.) duct collar/filter rack extending from unit 3.25 in. and is suitable for duct connection.

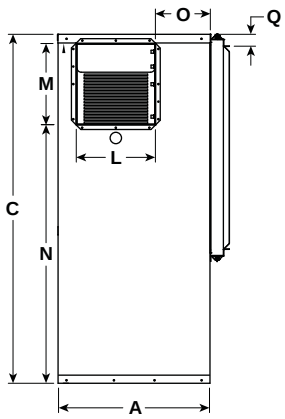
Decorative molding and/or water connections extend 1.2 in. (30.5mm) beyond front of cabinet.

Vertical Dimensional Data cont.

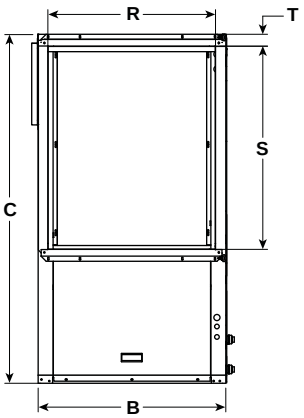
Rear Air Discharge



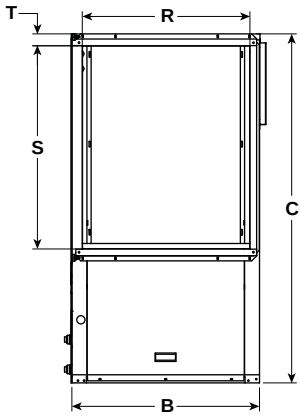
FRONT



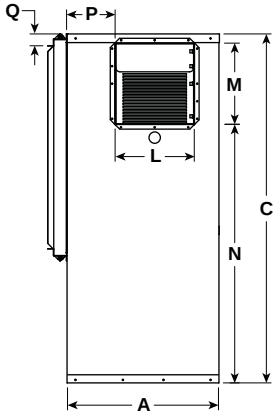
REAR VIEW
LEFT RETURN



SIDE VIEW
LEFT RETURN



SIDE VIEW
RIGHT RETURN

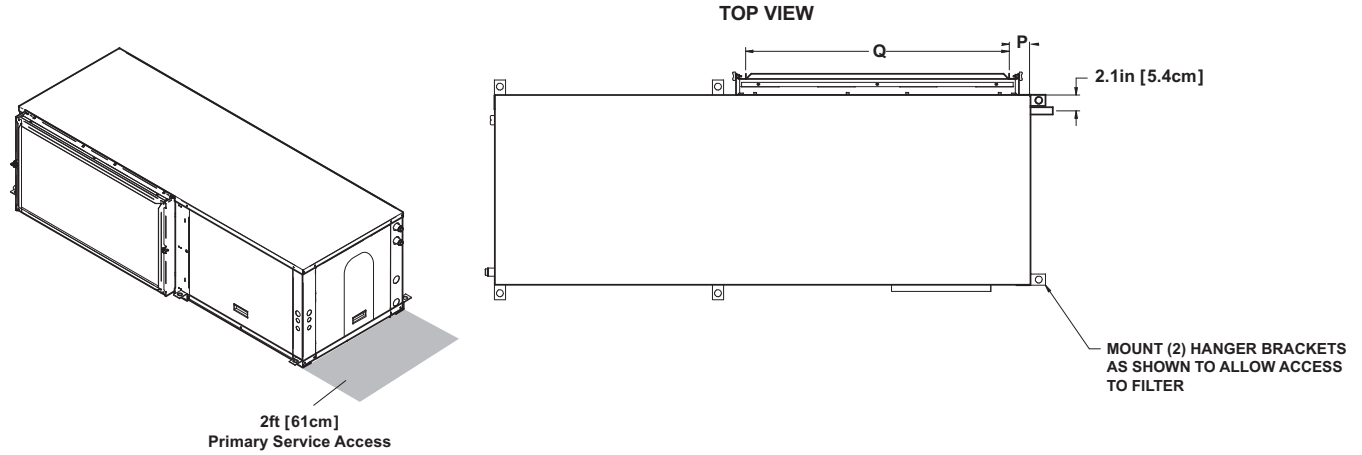


REAR VIEW
RIGHT RETURN

Vertical Rear Discharge Models		Overall Cabinet			Water Connections							Electrical Connections			Discharge Connection duct flange installed (±0.10 in)					Return Connection using std deluxe filter rack (±0.10 in)			
		A	B	C	D	E	F	G	H	Loop Water FPT	HWG FPT	I 3/4 in. cond	J 1/2 in. cond	K 1/2 in. cond	L	M	N	O	P	Q	R	S	T
		Width	Depth	Height	Loop In	Loop Out	HWG In	HWG Out	Cond-ensate			Power Supply	Ext Pump	Low Voltage	Supply Width	Supply Depth					Return Depth	Return Height	
042-049	in.	25.6	31.6	54.4	2.3	7.3	15.9	18.9	10.6	1" Swivel	1 in. Swivel	9.5	12.1	14.3	13.3	13.6	39.4	9.1	8.1	1.7	28.1	30.0	1.7
	cm.	65.0	80.3	138.2	5.8	18.5	40.4	48.0	26.9			24.1	30.7	36.3	33.8	34.5	100.1	23.1	20.6	4.3	71.4	76.2	4.3
060-072	in.	25.6	31.6	58.4	2.3	7.3	15.9	18.9	10.6	1" Swivel	1 in. Swivel	9.5	12.1	14.3	13.3	13.6	43.4	9.1	8.1	1.7	28.1	34.0	1.7
	cm.	65.0	80.3	148.3	5.8	18.5	40.4	48.0	26.9			24.1	30.7	36.3	33.8	34.5	110.2	23.1	20.6	4.3	71.4	86.4	4.3

Condensate is 3/4 in. PVC female glue socket and is switchable from side to front 7/11/13
Unit shipped with deluxe 2 in. (field adjustable to 1 in.) duct collar/filter rack extending from unit 3.25 in. and is suitable for duct connection.
Discharge flange is field installed and extends 1 in. [25.4mm] from cabinet
Decorative molding and/or water connections extend 1.2 in. [30.5mm] beyond front of cabinet.

Horizontal Dimensional Data



AS SHOWN LR UNIT (RR UNIT ON OPPOSITE SIDE—SAME DIMENSIONS)

Horizontal Model		Overall Cabinet			Water Connections							Electrical Connections			Discharge Connection duct flange installed (±0.10 in)				Return Connection using std deluxe filter rack (±0.10 in)			
		A	B	C	D	E	F	G	H	Loop Water FPT	HWG FPT	I 3/4 in. cond	J 1/2 in. cond	K 1/2 in. cond	L	M	N	O	P	Q	R	S
		Width	Depth	Height	In	Out	HWG In	HWG Out	Cond-ensate			Power Supply	Ext Pump	Low Voltage		Supply Height	Supply Depth			Return Depth	Return Height	
012	in.	22.5	44.0	17.3	2.3	5.3	11.9	14.9	8.0	1 in. Swivel	1 in. Swivel	6.9	9.5	11.7	4.1	7.3	9.7	5.8	1.7	17.8	14.6	1.4
	cm.	57.2	111.8	43.9	5.8	13.5	30.2	37.8	20.3			17.5	24.1	29.7	10.4	18.5	24.6	14.7	4.3	45.2	37.1	3.6
018	in.	22.5	53.0	19.3	2.3	5.3	13.8	16.8	8.0	1 in. Swivel	1 in. Swivel	6.9	9.5	11.7	1.8	10.5	9.5	8.2	2.2	21.8	16.5	1.5
	cm.	57.2	134.6	49.0	5.8	13.5	35.1	42.7	20.3			17.5	24.1	29.7	4.6	26.7	24.1	20.8	5.6	55.4	41.9	3.8
022-030	in.	22.5	63.0	19.3	2.0	7.0	13.5	16.5	0.8	1 in. Swivel	1 in. Swivel	9.5	12.1	14.3	2.3	10.5	9.4	5.8	2.8	30.5	16.9	1.3
	cm.	57.2	160.0	49.0	5.1	17.8	34.3	41.9	2.0			24.1	30.7	36.3	5.8	26.7	23.9	14.7	7.1	77.5	42.9	3.3
036-038	in.	25.6	72.0	21.3	2.3	7.3	15.9	18.9	0.8	1 in. Swivel	1 in. Swivel	9.5	12.1	14.3	SEE	13.6	13.2	SEE	2.8	35.5	18.9	1.3
	cm.	65.0	182.9	54.1	5.8	18.5	40.4	48.0	2.0			24.1	30.7	36.3	CHART	34.5	33.5	CHART	7.1	90.2	48.0	3.3
042-049	in.	25.6	77.0	21.3	2.3	7.3	15.9	18.9	0.8	1 in. Swivel	1 in. Swivel	9.5	12.1	14.3	SEE	13.6	13.2	SEE	2.8	40.4	18.9	1.3
	cm.	65.0	195.6	54.1	5.8	18.5	40.4	48.0	2.0			24.1	30.7	36.3	CHART	34.5	33.5	CHART	7.1	102.6	48.0	3.3
060-072	in.	25.6	82.0	21.3	2.3	7.3	15.9	18.9	0.8	1 in. Swivel	1 in. Swivel	9.5	12.1	14.3	SEE	13.6	13.2	SEE	2.8	45.4	18.9	1.3
	cm.	65.0	208.3	54.1	5.8	18.5	40.4	48.0	2.0			24.1	30.7	36.3	CHART	34.5	33.5	CHART	7.1	115.3	48.0	3.3

Condensate is 3/4 in. PVC female glue socket and is switchable from side to front 7/11/13
Unit shipped with deluxe 2 in. (field adjustable to 1 in.) duct collar/filter rack extending from unit 3.25 in. and is suitable for duct connection.
Discharge flange is field installed and extends 1 in. [25.4mm] from cabinet
Decorative molding and/or water connections extend 1.2 in. [30.5mm] beyond front of cabinet.
Models 012 and 018 do not include decorative molding on front of cabinet.

Units Not Shown Above		L	O
Right Return End Discharge	in	2.8	4.6
	cm	7.1	11.8
Right Return Side Discharge	in	4.9	6.9
	cm	12.4	17.5
Left Return End Discharge	in	4.9	7.6
	cm	12.4	19.4
Left Return Side Discharge	in	2.8	6.9
	cm	7.1	17.5

Physical Data

Single Speed

Model		SINGLE SPEED								
		012	018	022	030	036	042	048	060	070
Compressor (1 each)		Rotary		Scroll						
Factory Charge R410a, oz [kg] (Aluminum tube and fin air coil)	Vertical	36 [1.02]	42 [1.19]	56 [1.58]	64 [1.81]	82 [2.32]	84 [2.38]	92 [2.60]	112 [3.17]	134 [3.79]
Factory Charge R410a, oz [kg] (Aluminum tube and fin air coil)	Horizontal	36 [1.02]	48 [1.36]	54 [1.53]	64 [1.81]	76 [2.15]	84 [2.38]	92 [2.60]	88 [2.49]	110 [3.11]
Factory Charge R410a, oz [kg] (Copper tube/Aluminum fin air coil)	Vertical	42 [1.19]	40 [1.13]	62 [1.76]	80 [2.26]	84 [2.38]	92 [2.60]	100 [2.83]	120 [3.40]	150 [4.25]
Factory Charge R410a, oz [kg] (Copper tube/Aluminum fin air coil)	Horizontal	42 [1.19]	40 [1.13]	60 [1.70]	80 [2.26]	84 [2.38]	92 [2.60]	100 [2.83]	120 [3.40]	122 [3.46]
Blower Motor & Blower										
Blower Motor Type/Speeds	VS ECM	n/a	Variable Speed ECM							
	5-Spd ECM	n/a	n/a	5 Speed ECM						
	PSC	PSC - 4 Speeds	PSC - 3 Speeds							
Blower Motor- hp [W]	VS ECM	n/a	1/2 [373]	1/2 [373]	1/2 [373]	1/2 [373]	1/2 [373]	1/2 [373]	1 [746]	1 [746]
	5-Spd ECM	n/a	n/a	1/2 [373]	1/2 [373]	1/2 [373]	1 [746]	1 [746]	1 [746]	1 [746]
	PSC	1/10 [75]	1/6 [134]	1/5 [149]	1/3 [249]	1/2 [373]	1/2 [373]	1/2 [373]	1 [746]	1 [746]
High Static Blower Motor - hp [W]	VS ECM	n/a	n/a	n/a	n/a	1 [746]	1 [746]	1 [746]	n/a	n/a
	PSC	n/a	n/a	1/ [249]	1/3 [249]	1/2 [373]	3/4 [560]	3/4 [560]	n/a	n/a
Blower Wheel Size (Dia x W), in. [mm]	VS ECM & 5-Spd ECM	n/a	9 x 7 [229 x 178]	9 x 7 [229 x 178]	9 x 7 [229 x 178]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
	PSC	6 x 8 [152 x 203]	9 x 7 [229 x 178]	9 x 7 [229 x 178]	9 x 7 [229 x 178]	10 x 10 [254 x 254]	10 x 10 [254 x 254]	10 x 10 [254 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
High Static Blower Wheel Size (Dia x W), in. [mm]	VS ECM	n/a	n/a	n/a	n/a	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	n/a	n/a
	PSC	n/a	n/a	9 x 7 [229 x 178]	9 x 7 [229 x 178]	10 x 10 [254 x 254]	10 x 10 [254 x 254]	10 x 10 [254 x 254]	n/a	n/a
Coax and Water Piping										
Water Connections Size - Swivel - in [mm]		1" [25.4]	1" [25.4]	1" [25.4]	1" [25.4]	1" [25.4]	1" [25.4]	1" [25.4]	1" [25.4]	1" [25.4]
HWG Connection Size - Female Sweat I.D. - in [mm]		n/a	1/2" [12.7]	1/2" [12.7]	1/2" [12.7]	1/2" [12.7]	1/2" [12.7]	1/2" [12.7]	1/2" [12.7]	1/2" [12.7]
Coax & Piping Water Volume - gal [l]		0.35 [1.3]	0.40 [1.5]	0.7 [2.6]	1.0 [3.8]	1.3 [4.9]	1.3 [4.9]	1.6 [6.1]	1.6 [6.1]	2.3 [8.7]
Vertical										
Air Coil Dimensions (H x W), in. [mm]		16 x 16 [406 x 406]	19 x 20 [483 x 508]	24 x 20 [610 x 542]	28 x 20 [711 x 542]	28 x 25 [711 x 635]	32 x 25 [813 x 635]	32 x 25 [813 x 635]	36 x 25 [914 x 635]	36 x 25 [914 x 635]
Air Coil Total Face Area, ft2 [m2]		1.8 [0.167]	2.6 [0.242]	3.3 [0.310]	3.9 [0.362]	4.9 [0.451]	5.6 [0.570]	5.6 [0.570]	6.3 [0.641]	6.3 [0.641]
Air Coil Tube Size, in [mm]		3/8 [9.5]	5/16 [7.9]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]
Air Coil Number of rows		3	3	3	3	3	3	3	4	4
Filter Standard - 2" [51mm] Pleated MERV11 Throwaway, in [mm]		16 x 20 [406 x 508]	20 x 24 [508 x 610]	28 x 24 [712 x 610]	28 x 24 [712 x 610]	28 x 30 [712 x 762]	32 x 30 [813 x 762]	32 x 30 [813 x 762]	36 x 30 [914 x 762]	36 x 30 [914 x 762]
Weight - Operating, lb [kg]		165 [75]	200 [91]	293 [133]	308 [140]	353 [160]	368 [167]	408 [185]	443 [201]	468 [212]
Weight - Packaged, lb [kg]		185 [84]	220 [100]	313 [142]	328 [149]	373 [169]	388 [176]	428 [194]	463 [210]	488 [221]
Horizontal										
Air Coil Dimensions (H x W), in. [mm]		16 x 16 [406 x 406]	18 x 21 [457 x 533]	18 x 27 [457 x 686]	18 x 30 [457 x 762]	20 x 35 [508 x 889]	20 x 40 [508 x 1016]	20 x 40 [508 x 1016]	20 x 45 [508 x 1143]	20 x 45 [508 x 1143]
Air Coil Total Face Area, ft2 [m2]		1.8 [0.167]	2.6 [0.242]	3.4 [0.316]	3.9 [0.362]	4.9 [0.451]	5.6 [0.570]	5.6 [0.570]	6.3 [0.641]	6.3 [0.641]
Air Coil Tube Size, in [mm]		3/8 [9.5]	5/16 [7.9]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]
Air Coil Number of rows		3	3	3	3	3	3	3	3	3
Filter Standard - 2" [51mm] Pleated MERV11 Throwaway, in [mm]		1 - 16 x 20 [406 x 508]	1 - 18 x 24 [457 x 610]	1 - 18 x 32 [457 x 813]	1 - 18 x 32 [457 x 813]	1 - 20 x 37 [686 x 940]	1 - 20 x 20 [508 x 508] 1 - 20 x 22 [508 x 559]	1 - 20 x 20 [508 x 508] 1 - 20 x 22 [508 x 559]	1 - 20 x 25 [508 x 635] 1 - 20 x 22 [508 x 559]	1 - 20 x 25 [508 x 635] 1 - 20 x 22 [508 x 559]
Weight - Operating, lb [kg]		165 [75]	200 [91]	300 [136]	315 [143]	368 [167]	403 [183]	418 [190]	453 [205]	478 [217]
Weight - Packaged, lb [kg]		185 [84]	220 [100]	320 [145]	335 [152]	388 [176]	423 [192]	438 [199]	473 [215]	498 [226]

7/15/15

Aluminum Air Coil Implementation

Models: 012, 018, 022, 026, and 030; Vintage 'H' as of September 1st, 2015
Models: 036, 038, 042, 048, and 049; Vintage 'H' as of November 1st, 2015
Models: 060, 064, 070, and 072; Vintage 'H' as of January 1st, 2016
*Uncoated and AlumiSeal option only available for units with aluminum air coils
VIntages prior to 'H' have copper tube/aluminum fin e-coated coils

Physical Data cont.

Dual Capacity

Model		DUAL CAPACITY				
		ND026	ND038	ND049	ND064	ND072
Compressor (1 each)		Copeland UltraTech, Dual Capacity Scroll				
Factory Charge R410a, oz [kg] (Aluminum tube and fin air coil)	Vertical	56 [1.58]	70 [1.98]	93 [2.63]	112 [3.17]	130 [3.68]
Factory Charge R410a, oz [kg] (Aluminum tube and fin air coil)	Horizontal	58 [1.64]	76 [2.15]	93 [2.63]	112 [3.17]	136 [3.85]
Factory Charge R410a, oz [kg] (Copper tube / Aluminum fin air coil)	Vertical	60 [1.70]	82 [2.32]	93 [2.63]	128 [3.63]	138 [3.91]
Factory Charge R410a, oz [kg] (Copper tube / Aluminum fin air coil)	Horizontal	60 [1.70]	82 [2.32]	93 [2.63]	128 [3.63]	138 [3.91]
ECM Blower Motor & Blower						
Blower Motor Type/Speeds	VS ECM	Variable Speed ECM				
	5-Spd ECM	5 Speed ECM				
Blower Motor- hp [W]	VS ECM	1/2 [373]	1/2 [373]	1/2 [373]	1 [746]	1 [746]
	5-Spd ECM	1/2 [373]	1/2 [373]	1 [746]	1 [746]	1 [746]
High Static Blower Motor - hp [W]	VS ECM	n/a	1 [746]	1 [746]	n/a	n/a
Blower Wheel Size (Dia x W), in. [mm]	VS ECM	9 x 7 [229 x 178]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
	5-Spd ECM	9 x 7 [229 x 178]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
High Static Blower Wheel Size - [Dia. x W], in. [mm]	VS ECM	n/a	11 x 10 [279 x 254]	11 x 10 [279 x 254]	n/a	n/a
Coax and Water Piping						
Water Connections Size - Swivel - in [mm]		1" [25.4]	1" [25.4]	1" [25.4]	1" [25.4]	1" [25.4]
HWG Connection Size - Female Sweat I.D. - in [mm]		1/2" [12.7]	1/2" [12.7]	1/2" [12.7]	1/2" [12.7]	1/2" [12.7]
Coax & Piping Water Volume - gal [l]		0.7 [2.6]	1.3 [4.9]	1.6 [6.1]	1.6 [6.1]	2.3 [8.7]
Vertical						
Air Coil Dimensions (H x W), in. [mm]		24 x 20 [610 x 542]	28 x 25 [711 x 635]	32 x 25 [813 x 635]	36 x 25 [914 x 635]	36 x 25 [914 x 635]
Air Coil Total Face Area, ft2 [m2]		3.3 [0.310]	4.9 [0.451]	5.6 [0.570]	6.3 [0.641]	6.3 [0.641]
Air Coil Tube Size, in [mm]		3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]
Air Coil Number of rows		3	3	3	4	4
Filter Standard - 2" [51mm] Pleated MERV11 Throwaway, in [mm]		28 x 24 [712 x 610]	28 x 30 [712 x 762]	32 x 30 [813 x 762]	36 x 30 [914 x 762]	36 x 30 [914 x 762]
Weight - Operating, lb [kg]		293 [133]	358 [162]	408 [185]	453 [205]	468 [212]
Weight - Packaged, lb [kg]		313 [142]	378 [172]	428 [194]	473 [215]	488 [221]
Horizontal						
Air Coil Dimensions (H x W), in. [mm]		18 x 27 [457 x 686]	20 x 35 [508 x 889]	20 x 40 [508 x 1016]	20 x 45 [508 x 1143]	20 x 45 [508 x 1143]
Air Coil Total Face Area, ft2 [m2]		3.4 [0.316]	4.9 [0.451]	5.6 [0.570]	6.3 [0.641]	6.3 [0.641]
Air Coil Tube Size, in [mm]		3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]
Air Coil Number of rows		3	3	3	4	4
Filter Standard - 2" [51mm] Pleated MERV11 Throwaway, in [mm]		1 - 18 x 32 [457 x 813]	1 - 20 x 37 [686 x 940]	1 - 20 x 20 [508 x 508] 1 - 20 x 22 [508 x 559]	1 - 20 x 25 [508 x 635] 1 - 20 x 22 [508 x 559]	1 - 20 x 25 [508 x 635] 1 - 20 x 22 [508 x 559]
Weight - Operating, lb [kg]		300 [136]	368 [167]	418 [190]	463 [210]	480 [218]
Weight - Packaged, lb [kg]		320 [145]	388 [176]	438 [199]	483 [219]	500 [227]

7/15/2015

Aluminum Air Coil Implementation

Models: 012, 018, 022, 026, and 030; Vintage 'H' as of September 1st, 2015
Models: 036, 038, 042, 048, and 049; Vintage 'H' as of November 1st, 2015
Models: 060, 064, 070, and 072; Vintage 'H' as of January 1st, 2016
*Uncoated and AlumiSeal option only available for units with aluminum air coils
VIntages prior to 'H' have copper tube/aluminum fin e-coated coils

Auxiliary Heat Ratings

Model	kW		Stages	Btu/h		Min cfm	Model Size Compatibility					
	208V	230V		208V	230V		012	018	022	026 - 030	036 - 042	048 - 072
EAS(H)4A	2.9	3.8	1	9,700	12,900	250	•					
EAM(H)5A	3.6	4.8	1	12,300	16,300	450		•	•	•		
EAM(H)8A	5.7	7.6	2	19,400	25,900	550		•	•	•		
EAM(H)10A	7.2	9.6	2	24,600	32,700	650				•		
EAL(H)10A	7.2	9.6	2	24,600	32,700	1100					•	•
EAL(H)15A	10.8	14.4	3	36,900	49,100	1250					•	•
EAL(H)20A	14.4	19.2	4	49,200	65,500	1500						•

Order the “H” part number when installed on horizontal and vertical rear discharge units 6/11/15
Air flow level for auxiliary heat (Aux) must be above the minimum cfm in this table

Auxiliary Heat Electrical Data

Model	Supply Circuit	Heater Amps		Min Circuit Amp		Fuse (USA)		Fuse (CAN)		CKT BRK	
		208 V	240 V	208 V	240 V	208 V	240 V	208 V	240 V	208 V	240 V
EAS(H)4A	Single	13.7	15.8	17.9	20.5	20	20	20	20	20	20
EAM(H)5A	Single	17.3	20.0	26.7	30.0	30	30	30	30	30	30
EAM(H)8A	Single	27.5	31.7	39.3	44.6	40	45	40	45	40	45
EAM(H)10A	Single	34.7	40.0	48.3	55.0	50	60	50	60	50	60
EAL(H)10A	Single	34.7	40.0	53.3	60.0	60	60	60	60	60	60
EAL(H)15A	Single	52.0	60.0	75.0	85.0	80	90	80	90	70	100
	L1/L2	34.7	40.0	53.3	60.0	60	60	60	60	60	60
	L3/L4	17.3	20.0	21.7	25.0	25	25	25	25	20	30
EAL(H)20A	Single	69.3	80.0	96.7	110.0	100	110	100	110	100	100
	L1/L2	34.7	40.0	53.3	60.0	60	60	60	60	60	60
	L3/L4	34.7	40.0	43.3	50.0	45	50	45	50	40	50

All heaters rated single phase 60 cycle and include unit blower load 6/11/15
All fuses type “D” time delay (or HACR circuit breaker in USA)
Supply wire size to be determined by local codes

Electrical Data

Single Speed Unit with Variable Speed ECM Motor

Model	Rated Voltage	Voltage Min/Max	Compressor				HWG Pump FLA	Ext Loop FLA	Blower Motor FLA	Total Unit FLA	Min Circ Amp	Max Fuse/ HACR
			MCC	RLA	LRA	LRA**						
018	208-230/60/1	187/253	10.4	6.7	33.5	N/A	0.4	5.4	4.0	16.5	18.1	20
022	208-230/60/1	187/253	14.0	9.0	48.0	17.0	0.4	5.4	4.0	18.8	21.0	30
030	208-230/60/1	187/253	20.0	12.8	58.3	21.0	0.4	5.4	4.0	22.6	25.8	35
036	208-230/60/1	187/253	22.0	14.1	73.0	26.0	0.4	5.4	4.0	23.9	27.4	40
036*	208-230/60/1	187/253	22.0	14.1	73.0	26.0	0.4	5.4	7.0	26.9	30.4	40
042	208-230/60/1	187/253	26.0	16.6	79.0	28.0	0.4	5.4	4.0	26.4	30.6	45
042*	208-230/60/1	187/253	26.0	16.6	79.0	28.0	0.4	5.4	7.0	29.4	33.6	50
048	208-230/60/1	187/253	31.0	19.8	109.0	38.0	0.4	5.4	4.0	29.6	34.6	50
048*	208-230/60/1	187/253	31.0	19.8	109.0	38.0	0.4	5.4	7.0	32.6	37.6	50
060	208-230/60/1	187/253	41.2	26.4	134.0	47.0	0.4	5.4	7.0	39.2	45.8	70
070	208-230/60/1	187/253	44.2	28.3	178.0	63.0	0.4	5.4	7.0	41.1	48.2	70

7/15/13

* With optional 1 hp variable speed ECM motor
** With optional IntelliStart®
Rated voltage of 208/230/60/1
All fuses Class RK-5
HACR circuit breaker in USA only

Single Speed Unit with 5-Speed ECM Motor

Model	Rated Voltage	Voltage Min/Max	Compressor				HWG Pump FLA	Ext Loop FLA	Blower Motor FLA	Total Unit FLA	Min Circ Amp	Max Fuse/ HACR
			MCC	RLA	LRA	LRA**						
022	208-230/60/1	187/253	14.0	9.0	48.0	17.0	0.4	5.4	4.1	18.9	21.1	30
030	208-230/60/1	187/253	20.0	12.8	58.3	21.0	0.4	5.4	4.1	22.7	25.9	35
036	208-230/60/1	187/253	22.0	14.1	73.0	26.0	0.4	5.4	4.1	24.0	27.5	40
042	208-230/60/1	187/253	26.0	16.6	79.0	28.0	0.4	5.4	7.6	30.0	34.2	50
048	208-230/60/1	187/253	31.0	19.8	109.0	38.0	0.4	5.4	7.6	33.2	38.2	50
060	208-230/60/1	187/253	41.2	26.4	134.0	47.0	0.4	5.4	7.6	39.8	46.4	70
070	208-230/60/1	187/253	44.2	28.3	178.0	63.0	0.4	5.4	7.6	41.7	48.8	70

7/15/13

** With optional IntelliStart®
Rated voltage of 208/230/60/1
All fuses Class RK-5
HACR circuit breaker in USA only

Single Speed Unit with PSC Motor

Model	Rated Voltage	Voltage Min/Max	Compressor				HWG Pump FLA	Ext Loop FLA	Blower Motor FLA	Total Unit FLA	Min Circ Amp	Max Fuse/ HACR
			MCC	RLA	LRA	LRA**						
012	208-230/60/1	187/253	7.7	4.9	25.0	N/A	-	5.4	0.6	10.9	12.2	15
018	208-230/60/1	187/253	10.4	6.7	33.5	N/A	0.4	5.4	1.1	13.6	15.2	20
022	208-230/60/1	187/253	14.0	9.0	48.0	17.0	0.4	5.4	1.2	16.0	18.2	25
022*	208-230/60/1	187/253	14.0	9.0	48.0	17.0	0.4	5.4	1.5	16.3	18.5	25
030	208-230/60/1	187/253	20.0	12.8	58.3	21.0	0.4	5.4	1.5	20.1	23.3	35
030*	208-230/60/1	187/253	20.0	12.8	58.3	21.0	0.4	5.4	2.8	21.4	24.6	35
036	208-230/60/1	187/253	22.0	14.1	73.0	26.0	0.4	5.4	2.8	22.7	26.2	40
036*	208-230/60/1	187/253	22.0	14.1	73.0	26.0	0.4	5.4	3.5	23.4	26.9	40
042	208-230/60/1	187/253	26.0	16.6	79.0	28.0	0.4	5.4	3.5	25.9	30.1	45
042*	208-230/60/1	187/253	26.0	16.6	79.0	28.0	0.4	5.4	4.6	27.0	31.2	45
048	208-230/60/1	187/253	31.0	19.8	109.0	38.0	0.4	5.4	3.5	29.1	34.1	50
048*	208-230/60/1	187/253	31.0	19.8	109.0	38.0	0.4	5.4	4.6	30.2	35.2	50
060	208-230/60/1	187/253	41.2	26.4	134.0	47.0	0.4	5.4	5.9	38.1	44.7	70
070	208-230/60/1	187/253	44.2	28.3	158.0	63.0	0.4	5.4	5.9	41.8	49.3	70

07/15/13

* With optional high static motor
** With optional IntelliStart®
Rated voltage of 208/230/60/1
All fuses Class RK-5
HACR circuit breaker in USA only

Electrical Data cont.

Dual Capacity Unit with Variable Speed ECM Motor

Model	Rated Voltage	Voltage Min/Max	Compressor				HWG Pump FLA	Ext Loop FLA	Blower Motor FLA	Total Unit FLA	Min Circ Amp	Max Fuse/ HACR
			MCC	RLA	LRA	LRA**						
026	208-230/60/1	187/253	18.2	11.6	58.3	21.0	0.4	5.4	4.0	21.4	24.4	35
038	208-230/60/1	187/253	23.8	15.2	83.0	30.0	0.4	5.4	4.0	25.0	28.8	40
038*	208-230/60/1	187/253	23.8	15.2	83.0	30.0	0.4	5.4	7.0	28.0	31.8	50
049	208-230/60/1	187/253	33.0	21.1	104.0	37.0	0.4	5.4	4.0	30.9	36.2	50
049*	208-230/60/1	187/253	33.0	21.1	104.0	37.0	0.4	5.4	7.0	33.9	39.2	60
064	208-230/60/1	187/253	42.3	27.1	152.9	54.0	0.4	5.4	7.0	39.9	46.6	70
072	208-230/60/1	187/253	46.3	29.6	179.2	63.0	0.4	5.4	7.0	42.4	49.8	70

9/1/15

* With optional 1 hp variable speed ECM motor
** With optional IntelliStart®
Rated voltage of 208/230/60/1
All fuses Class RK-5
HACR circuit breaker in USA only

Dual Capacity Unit with 5-Speed ECM Motor

Model	Rated Voltage	Voltage Min/Max	Compressor				HWG Pump FLA	Ext Loop FLA	Blower Motor FLA	Total Unit FLA	Min Circ Amp	Max Fuse/ HACR
			MCC	RLA	LRA	LRA**						
026	208-230/60/1	187/253	18.2	11.6	58.3	21.0	0.4	5.4	4.1	21.5	24.5	35
038	208-230/60/1	187/253	23.8	15.2	83.0	30.0	0.4	5.4	4.1	25.1	28.9	40
049	208-230/60/1	187/253	33.0	21.1	104.0	37.0	0.4	5.4	7.6	34.5	39.8	60
064	208-230/60/1	187/253	42.3	27.1	152.9	54.0	0.4	5.4	7.6	40.5	47.2	70
072	208-230/60/1	187/253	46.3	29.6	179.2	63.0	0.4	5.4	7.6	43.0	50.4	80

9/1/15

** With optional IntelliStart®
Rated voltage of 208/230/60/1
All fuses Class RK-5
HACR circuit breaker in USA only

Blower Performance Data

Single Speed Unit with Variable Speed ECM Motor

MODEL	MAX ESP	AIR FLOW DIP SWITCH SETTINGS											
		1	2	3	4	5	6	7	8	9	10	11	12
022	**0.50**		400	500 L	**600 M**	**700**	**800 H**	**900**	1000	1100	1200		
030	**0.50**		400	500 L	600	**700 M**	**800**	**900 H**	**1000**	**1100**	1200		
036	**0.50**	650	750	850 L	1000	**1100 M**	**1200**	**1300 H**	**1400**	**1500**			
036 w/1hp*	**0.75**	800	1000 L	**1100 M**	**1300 H**	**1500**	**1600**	1800					
042	**0.50**	650	800	900 L	1050	**1150 M**	**1250**	**1350**	**1450 H**	**1550**			
042 w/1hp*	**0.75**	800	900 L	1000	**1200 M**	**1400 H**	**1600**	**1700**	**1850**	2000	2200	2300	2400
048	**0.50**	650	800	900	1050 L	1150	**1250**	**1350 M**	**1450**	**1550 H**			
048 w/1hp*	**0.75**	800	900	1000 L	1200	**1400 M**	**1600 H**	**1700**	**1850**	2000	2200	2300	2400
060	**0.75**	800	950	1100 L	1300	**1500 M**	**1750**	**1950 H**	**2100**	**2300**			
070	**0.75**	800	950	1100 L	1300	**1500**	**1750 M**	**1950**	**2100 H**	**2300**			

5/30/06

Factory settings are at recommended L-M-H DIP switch locations
M-H settings MUST be located within boldface CFM range
Lowest and Highest DIP switch settings are assumed to be L and H respectively

CFM is controlled within ±5% up to the maximum ESP
Max ESP includes allowance for wet coil and standard filter

Dual Capacity Unit with Variable Speed ECM Motor

MODEL	MAX ESP	AIR FLOW DIP SWITCH SETTINGS											
		1	2	3	4	5	6	7	8	9	10	11	12
026	**0.50**		400	500 L	600	**700 M**	**800**	**900 H**	**1000**	1100	1200		
038	**0.50**	650	750 L	850	1000	**1100 M**	**1200**	**1300 H**	**1400**	**1500**			
038 w/1hp*	**0.75**	800 L	1000	**1100 M**	**1300 H**	**1500**	**1600**	1800					
049	**0.50**	650	800 L	900	1050	1150	**1250**	**1350 M**	**1450**	**1550 H**			
049 w/1hp*	**0.75**	800 L	900	1000	1200	**1400 M**	**1600 H**	**1700**	**1850**	2000	2200	2300	2400
064	**0.75**	800	950 L	1100	1300	**1500 M**	**1750**	**1950 H**	**2100**	**2300**			
072	**0.75**	800	950	1100 L	1300	**1500**	**1750 M**	**1950**	**2100 H**	**2300**			

5/30/06

Factory settings are at recommended L-M-H DIP switch locations
M-H settings MUST be located within boldface CFM range
Lowest and Highest DIP switch settings are assumed to be L and H respectively

CFM is controlled within ±5% up to the maximum ESP
Max ESP includes allowance for wet coil and standard filter

Blower Performance Data cont.

Setting Variable Speed ECM Blower Speed

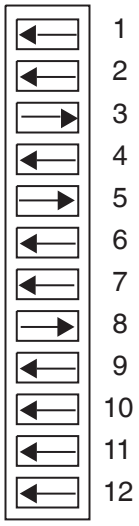
ECM blower motors have a 12-speed selector dip switch on the logic board (SW1) and are factory set for optimum performance. To change speeds, select the appropriate speeds on dip switch SW1. Consult the ECM blower performance table below for specific airflow and switch information.

A 12-position DIP switch package on the control allows the airflow levels to be set for low, medium, and high speed when using the ECM blower motor. Only three of the DIP switches can be in the "on" position.

- The first "on" switch (the lowest position number) determines the low speed blower setting.
- The second "on" switch determines the medium speed blower setting.
- The third "on" switch determines the high speed blower setting.

The example to the right shows SW1 on the control board configured for the following 042 airflow settings.

- Low Speed Blower: 900 CFM
- Medium Speed Blower: 1150 CFM
- High Speed Blower: 1450 CFM



CAUTION: Disconnect all power before performing this operation.

Blower Performance Data cont.

Single Speed Unit with 5-Speed ECM Motor

Model	Motor Speed	Motor Tap	T'stat Cnct.	Blower Size	Motor HP	Airflow (cfm) at External Static Pressure (in. wg)															
						0	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.60	0.70	0.80	0.90	1.00
	High	**5**	W			980	960	940	930	920	905	890	875	860	840	820	800	745	-	-	-
	Med High	**4**	Y1			890	878	865	845	825	813	800	785	770	753	735	710	665	-	-	-
022	Med	3		9 x 7	1/2	830	815	800	788	775	755	735	723	710	690	670	640	600	-	-	-
	Med Low	**2**	G			780	760	740	703	665	653	640	620	600	585	570	-	-	-	-	-
	Low	1				625	593	560	535	510	495	480	455	430	410	390	-	-	-	-	-
	High	5				1407	1381	1354	1327	1300	1267	1233	1201	1168	1131	1094	1009	-	-	-	-
	Med High	**4**	W			1146	1134	1122	1111	1099	1085	1071	1062	1052	1042	1031	966	-	-	-	-
030	**Med**	**3**	Y1	9 x 7	1/2	1023	1012	1001	985	969	959	949	937	925	913	901	-	-	-	-	-
	Med Low	2				978	962	946	934	922	907	891	882	872	858	843	-	-	-	-	-
	Low	**1**	G			795	777	759	748	737	718	698	686	673	650	626	-	-	-	-	-
	High	**5**	W			1530	1503	1476	1453	1429	1413	1397	1376	1355	1342	1329	1276	1231	1173	-	-
	Med High	**4**	Y1			1413	1388	1363	1342	1321	1303	1285	1263	1240	1226	1212	1173	1016	946	-	-
036	Med	3		11 x 10	1/2	1355	1325	1294	1276	1258	1235	1212	1188	1164	1144	1123	982	909	883	-	-
	Med Low	2				1336	1299	1261	1242	1222	1202	1181	1157	1132	1111	1090	937	874	830	-	-
	Low	**1**	G			1243	1182	1121	1061	1000	964	928	856	784	744	703	647	592		-	-
	High	5				1934	1910	1886	1871	1855	1827	1799	1780	1760	1747	1734	1700	1659	1617	-	-
	Med High	**4**	W			1799	1783	1767	1744	1720	1693	1666	1649	1631	1617	1603	1560	1530	1492	-	-
042	Med	3		11 x 10	1	1694	1680	1666	1642	1617	1592	1567	1552	1537	1519	1500	1453	1421	1372	-	-
	Med Low	2	Y1			1575	1560	1540	1520	1502	1487	1471	1448	1424	1409	1393	1351	1308	1266	-	-
	Low	1	G			1454	1406	1358	1333	1308	1285	1261	1239	1217	1198	1179	1072	1002	988	-	-
	High	5				1934	1910	1886	1871	1855	1827	1799	1780	1760	1747	1734	1700	1659	1617	-	-
	Med High	**4**	W			1799	1783	1767	1744	1720	1693	1666	1649	1631	1617	1603	1560	1530	1492	-	-
048	**Med**	**3**	Y1	11 x 10	1	1694	1680	1666	1642	1617	1592	1567	1552	1537	1519	1500	1453	1421	1372	-	-
	Med Low	2				1575	1560	1540	1520	1502	1487	1471	1448	1424	1409	1393	1351	1308	1266	-	-
	Low	**1**	G			1454	1406	1358	1333	1308	1285	1261	1239	1217	1198	1179	1072	1002	988	-	-
	High	**5**	W			2245	2230	2214	2194	2173	2155	2136	2120	2103	2087	2070	2032	1998	1957	1910	1825
	Med High	4				2092	2073	2054	2035	2015	1995	1975	1958	1940	1922	1904	1880	1843	1806	1767	1728
060	Med	3		11 x 10	1	1951	1931	1910	1889	1868	1850	1831	1812	1793	1774	1755	1722	1688	1654	1612	1562
	Med Low	**2**	Y1			1812	1796	1780	1761	1741	1718	1695	1682	1668	1651	1633	1591	1555	1518	1480	1433
	Low	**1**	G			1682	1661	1640	1616	1591	1573	1555	1533	1510	1495	1480	1441	1400	1351	1316	1263
	High	**5**	W			2472	2454	2435	2414	2393	2371	2349	2328	2306	2289	2271	2230	2189	2121	2033	1936
	Med High	**4**	Y1			2271	2248	2225	2205	2184	2166	2147	2129	2110	2094	2078	2039	2011	1977	1930	1846
070	Med	3		11 x 10	1	2133	2115	2096	2072	2047	2030	2013	1996	1979	1965	1950	1909	1873	1837	1793	1748
	Med Low	2				2008	1985	1962	1939	1915	1898	1880	1862	1843	1828	1812	1774	1742	1703	1669	1635
	Low	**1**	G			1806	1784	1761	1742	1722	1696	1669	1656	1642	1625	1607	1564	1527	1490	1443	1404

Factory speed settings are in Bold 6/14/12

Air flow values are with dry coil and standard filter

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [fpm] = Airflow [cfm] / Face Area [sq ft]).

Then for velocities of 200 fpm reduce the static capability by 0.03 in. wg, 300 fpm by 0.08 in. wg, 400 fpm by 0.12in. wg., and 500 fpm by 0.16 in. wg.

Highest setting is for auxiliary heat (W) and lowest setting is for constant blower (G). The "Y1" and "Y2" settings must be between the "G" and "W" settings.

The gray wire is not factory wired to the motor and is tied to the wire harness. This wire can be field connected and can be used with 3HT/2CL thermostats or IntelliZone2 to deliver the required air flow for the Y2 signal.

5-Speed ECM Constant Torque Motors

The 5-Speed ECM is a 'Constant Torque' ECM motor and delivers air flow similar to a PSC but operates as efficiently as an ECM Motor. Because it's an ECM Motor, the 5-Speed ECM can ramp slowly up or down like the ECM motor. There are 5 possible speed taps available on the 5-Speed ECM motor with #1 being the lowest airflow and #5 being the highest airflow. These speed selections are preset at the time of manufacture and are easily changed in the field if necessary.

If more than one tap are energized at the same time, built in logic gives precedence to the highest tap number and allows air flow to change with G, Y1, Y2 and W signals or with Fan, CC, CC2, and E1 output signals. Each of those 5 speeds has a specific 'Torque' value programmed into the motor for each speed selection. As static pressure increases, airflow decreases resulting in less torque on the rotor. The motor responds only to changes in torque and adjusts its speed accordingly.

The 5-Speed ECM motor is powered by line voltage but the motor speed is energized by 24 VAC.

5-Speed ECM Benefits:

- High efficiency
- Soft start
- 5 speeds with up to 4 speeds on-line
- Built in logic allows air flow to change with G, Y1, Y2 and W signals
- Super efficient low airflow continuous blower setting (G)

Blower Performance Data cont.

Dual Capacity Unit with 5-Speed ECM

Model	Motor Speed	Motor Tap	T'stat Cnct.	Blower Size	Motor HP	Airflow (cfm) at External Static Pressure (in. wg)															
						0	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.60	0.70	0.80	0.90	1.00
026	**High**	**5**	W	9 x 7	1/2	1120	1109	1097	1082	1066	1055	1044	1028	1011	1001	991	932	839	-	-	-
	Med High	**4**	Y2			1020	1006	991	980	968	950	932	922	911	894	876	849	812	-	-	-
	Med	3				917	906	895	884	872	854	836	824	812	792	772	754	719	-	-	-
	Med Low	**2**	Y1			836	824	812	794	776	765	754	735	715	703	691	653	631	-	-	-
	Low	**1**	G			735	721	707	687	666	653	640	622	603	589	574	533	-	-	-	-
038	**High**	**5**	W	11 x 10	1/2	1530	1503	1476	1453	1429	1413	1397	1376	1355	1342	1329	1276	1231	1173	-	-
	Med High	**4**	Y2			1413	1388	1363	1342	1321	1303	1285	1263	1240	1226	1212	1173	1016	946	-	-
	Med	**3**	Y1			1355	1325	1294	1276	1258	1235	1212	1188	1164	1144	1123	982	909	883	-	-
	Med Low	2				1336	1299	1261	1242	1222	1202	1181	1157	1132	1111	1090	937	874	830	-	-
	Low	**1**	G			1243	1182	1121	1061	1000	964	928	856	784	744	703	647	592		-	-
049	**High**	**5**	W	11 x 10	1	1934	1910	1886	1871	1855	1827	1799	1780	1760	1747	1734	1700	1659	1617	-	-
	Med High	4				1799	1783	1767	1744	1720	1693	1666	1649	1631	1617	1603	1560	1530	1492	-	-
	Med	**3**	Y2			1694	1680	1666	1642	1617	1592	1567	1552	1537	1519	1500	1453	1421	1372	-	-
	Med Low	**2**	Y1			1575	1560	1540	1520	1502	1487	1471	1448	1424	1409	1393	1351	1308	1266	-	-
	Low	**1**	G			1454	1406	1358	1333	1308	1285	1261	1239	1217	1198	1179	1072	1002	988	-	-
064	**High**	**5**	W	11 x 10	1	2245	2230	2214	2194	2173	2155	2136	2120	2103	2087	2070	2032	1998	1957	1910	1825
	Med High	**4**	Y2			2092	2073	2054	2035	2015	1995	1975	1958	1940	1922	1904	1880	1843	1806	1767	1728
	Med	3				1951	1931	1910	1889	1868	1850	1831	1812	1793	1774	1755	1722	1688	1654	1612	1562
	Med Low	**2**	Y1			1812	1796	1780	1761	1741	1718	1695	1682	1668	1651	1633	1591	1555	1518	1480	1433
	Low	**1**	G			1682	1661	1640	1616	1591	1573	1555	1533	1510	1495	1480	1441	1400	1351	1316	1263
072	**High**	**5**	W	11 x 10	1	2472	2454	2435	2414	2393	2371	2349	2328	2306	2289	2271	2230	2189	2121	2033	1936
	Med High	**4**	Y2			2271	2248	2225	2205	2184	2166	2147	2129	2110	2094	2078	2039	2011	1977	1930	1846
	Med	3				2133	2115	2096	2072	2047	2030	2013	1996	1979	1965	1950	1909	1873	1837	1793	1748
	Med Low	**2**	Y1			2008	1985	1962	1939	1915	1898	1880	1862	1843	1828	1812	1774	1742	1703	1669	1635
	Low	**1**	G			1806	1784	1761	1742	1722	1696	1669	1656	1642	1625	1607	1564	1527	1490	1443	1404

Factory speed settings are in Bold 6/14/12

Air flow values are with dry coil and standard filter

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [fpm] = Airflow [cfm] / Face Area [sq ft]).

Then for velocities of 200 fpm reduce the static capability by 0.03 in. wg, 300 fpm by 0.08 in. wg, 400 fpm by 0.12in. wg., and 500 fpm by 0.16 in. wg.

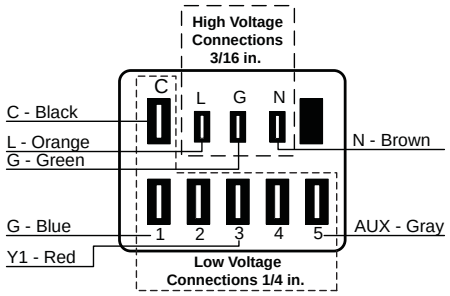
Highest setting is for auxiliary heat (W) and lowest setting is for constant blower (G). The "Y1" and "Y2" settings must be between the "G" and "W" settings.

Setting Blower Speed - 5-Speed ECM

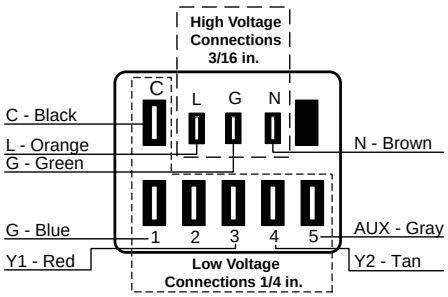
5-Speed ECM blower motors have five (5) speeds of which three (3) are selectable on single speed and four (4) are selectable on dual capacity.

CAUTION: Disconnect all power before performing this operation.

5-Speed ECM Motor Connections - Single Speed



5-Speed ECM Motor Connections - Dual Capacity



Blower Performance Data cont.

Unit with Standard PSC Motor

Model	Motor Spd	Blower Size	Motor HP	Airflow (cfm) at External Static Pressure (in. wg)															
				0	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.60	0.70	0.80	0.90	1.00
012	**H**	6 x 8	1/10	480	450	440	420	410	380	360	340	330	310	300	-	-	-	-	-
	MH*			440	410	400	380	370	350	330	310	300	280	270	-	-	-	-	-
	ML			395	370	360	340	330	310	290	280	270	250	240	-	-	-	-	-
	L			325	310	300	280	270	250	240	230	220	210	200	-	-	-	-	-
018	H	9 x 7	1/6	845	835	825	815	800	790	775	755	735	710	680	565	-	-	-	-
	M			735	730	725	715	705	700	690	675	660	630	600	485	-	-	-	-
	L			620	615	610	605	600	590	580	565	550	520	490	-	-	-	-	-
022	H	9 x 7	1/5	1110	1095	1080	1065	1045	1020	995	970	945	915	880	810	-	-	-	-
	M			850	845	835	825	815	805	795	775	755	735	715	-	-	-	-	-
	L			750	745	740	735	725	715	700	685	670	650	630	-	-	-	-	-
030	H	9 x 7	1/3	1290	1270	1245	1220	1190	1160	1125	1090	1055	1020	985	880	760	-	-	-
	M			1100	1090	1075	1060	1045	1020	995	970	940	910	875	785	625	-	-	-
	L			910	905	900	895	885	875	865	850	835	810	780	710	560	-	-	-
036	H	10 x 10	1/2	1665	1640	1610	1580	1550	1515	1480	1450	1415	1315	1215	1090	980	-	-	-
	M			1465	1445	1425	1400	1375	1350	1325	1260	1190	1140	1090	990	890	-	-	-
	L			1130	1115	1100	1090	1075	1035	995	965	930	895	860	795	730	-	-	-
042	H	10 x 10	1/2	2010	1975	1940	1905	1870	1825	1780	1735	1690	1640	1590	1470	1210	-	-	-
	M			1670	1650	1630	1610	1590	1560	1530	1495	1460	1425	1390	1190	1080	-	-	-
	L			1220	1215	1210	1295	1200	1180	1160	1130	1100	1060	1020	930	-	-	-	-
048	H	10 x 10	1/2	2010	1975	1940	1905	1870	1825	1780	1735	1690	1640	1590	1470	1210	-	-	-
	M			1670	1650	1630	1610	1590	1560	1530	1495	1460	1425	1390	1190	1080	-	-	-
	L			1220	1215	1210	1295	1200	1180	1160	1130	1100	1060	1020	930	-	-	-	-
060	H	11 x 10	1	2430	2400	2365	2330	2290	2255	2215	2180	2140	2095	2045	1945	1835	1715	1510	1330
	M			2265	2235	2205	2175	2145	2110	2070	2035	2000	1960	1915	1825	1730	1605	1440	1260
	L			2075	2050	2020	1995	1965	1940	1915	1885	1850	1820	1785	1720	1610	1505	1335	1175
070	**H**	11 x 10	1	2430	2400	2365	2330	2290	2255	2215	2180	2140	2095	2045	1945	1835	1715	1510	1330
	M			2265	2235	2205	2175	2145	2110	2070	2035	2000	1960	1915	1825	1730	1605	1440	1260
	L			2075	2050	2020	1995	1965	1940	1915	1885	1850	1820	1785	1720	1610	1505	1335	1175

2/7/12

Unit with Optional High Static PSC Motor

Model	Motor Spd	Blower Size	Motor HP	Airflow (cfm) at External Static Pressure (in. wg)															
				0	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.60	0.70	0.80	0.90	1.00
022	H	9 x 7	1/3	1290	1270	1245	1220	1190	1160	1125	1090	1055	1020	985	880	760	-	-	-
	M			1100	1090	1075	1060	1045	1020	995	970	940	910	875	785	625	-	-	-
	L			910	905	900	895	885	875	865	850	835	810	780	710	560	-	-	-
030	H	9 x 7	1/2	1365	1340	1325	1305	1280	1250	1215	1180	1140	1100	1055	960	850	-	-	-
	M			1040	1040	1035	1030	1020	1005	990	970	945	915	885	810	735	-	-	-
	L			880	880	880	880	875	870	860	840	820	800	775	730	480	-	-	-
036	H	10 x 10	1/2	1930	1905	1875	1840	1805	1765	1725	1680	1635	1530	1425	1270	1150	1025	-	-
	M			1635	1620	1600	1580	1555	1530	1505	1465	1425	1335	1240	1135	1035	775	-	-
	L			1230	1230	1225	1215	1200	1165	1130	1095	1060	1035	1005	935	795	675	-	-
042	H	10 x 10	3/4	2115	2075	2035	1980	1920	1900	1880	1840	1795	1730	1660	1390	1225	1070	-	-
	M			2005	1980	1950	1910	1865	1815	1765	1725	1685	1585	1485	1315	1140	1025	-	-
	L			1860	1835	1805	1780	1750	1715	1675	1635	1590	1540	1490	1260	1115	980	-	-
048	H	10 x 10	3/4	2115	2075	2035	1980	1920	1900	1880	1840	1795	1730	1660	1390	1225	1070	-	-
	M			2005	1980	1950	1910	1865	1815	1765	1725	1685	1585	1485	1315	1140	1025	-	-
	L			1860	1835	1805	1780	1750	1715	1675	1635	1590	1540	1490	1260	1115	980	-	-

Factory settings are in Bold 1/25/12

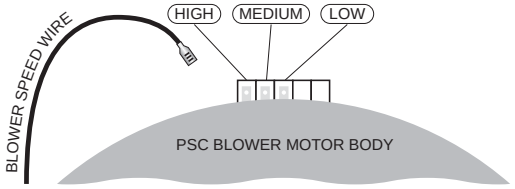
High-Static option not available for 012, 018, 060, and 070

Air flow values are with dry coil and standard filter

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [fpm] = Airflow [cfm] / Face Area [sq ft]).
Then for velocities of 200 fpm reduce the static capability by 0.03 in. wg, 300 fpm by 0.08 in. wg, 400 fpm by 0.12in. wg. and 500 fpm by 0.16 in. wg.

Setting Blower Speed - PSC

CAUTION: Disconnect all power before performing this operation.



Reference Calculations

Heating Calculations:	Cooling Calculations:
$LWT = EWT - \frac{HE}{gpm \times 500}$	$LWT = EWT + \frac{HR}{gpm \times 500}$
$LAT = EAT + \frac{HC}{cfm \times 1.08}$	$LAT\ (DB) = EAT\ (DB) - \frac{SC}{cfm \times 1.08}$
$TH = HC + HW$	$LC = TC - SC$
	$S/T = \frac{SC}{TC}$

Legend and Notes

Abbreviations and Definitions

cfm = airflow, cubic feet/minute
EWT = entering water temperature, Fahrenheit
gpm = water flow in gallons/minute
WPD = water pressure drop, psi and feet of water
EAT = entering air temperature, Fahrenheit (dry bulb/wet bulb)
HC = air heating capacity, MBtu/h
TC = total cooling capacity, MBtu/h
SC = sensible cooling capacity, MBtu/h
kW = total power unit input, kilowatts
HR = total heat of rejection, MBtu/h
HE = total heat of extraction, MBtu/h
HWC = hot water generator capacity, MBtu/h
EER = Energy Efficient Ratio
= Btu output/Watt input
COP = Coefficient of Performance
= Btu output/Btu input
LWT = leaving water temperature, °F
LAT = leaving air temperature, °F
TH = total heating capacity, MBtu/h
LC = latent cooling capacity, MBtu/h
S/T = sensible to total cooling ratio

Notes to Performance Data Tables

The following notes apply to all performance data tables:

- Performance ratings are based on 80°F DB/67°F WB EAT for cooling and 70°F DB EAT for heating.
- Three flow rates are shown for each unit. The lowest flow rate shown is used for geothermal open loop/well water systems with a minimum of 50°F EWT. The middle flow rate shown is the minimum geothermal closed loop flow rate. The highest flow rate shown is optimum for geothermal closed loop systems and the suggested flow rate for boiler/tower applications.
- The hot water generator numbers are based on a flow rate of 0.4 gpm/ton of rated capacity with an EWT of 90°F.
- Entering water temperatures below 40°F assumes 15% antifreeze solution.
- For non-standard EAT conditions, apply the appropriate Correction Factor tables.
- Interpolation between EWT, gpm, and cfm data is permissible, extrapolation is not.

Operating Limits

Operating Limits	Cooling		Heating	
	(°F)	(°C)	(°F)	(°C)
Air Limits				
Min. Ambient Air	45	7.2	45	7.2
Rated Ambient Air	80	26.7	70	21.1
Max. Ambient Air	100	37.8	85	29.4
Min. Entering Air	50	10.0	40	4.4
Rated Entering Air db/wb	80.6/66.2	27/19	68	20.0
Max. Entering Air db/wb	110/83	43/28.3	80	26.7
Water Limits				
Min. Entering Water	30	-1.1	20	-6.7
Normal Entering Water	50-110	10-43.3	30-70	-1.1
Max. Entering Water	120	48.9	90	32.2

NOTE: Minimum/maximum limits are only for start-up conditions, and are meant for bringing the space up to occupancy temperature. Units are not designed to operate at the minimum/maximum conditions on a regular basis. The operating limits are dependent upon three primary factors: 1) water temperature, 2) return air temperature, and 3) ambient temperature. When any of the factors are at the minimum or maximum levels, the other two factors must be at the normal level for proper and reliable unit operation.

Antifreeze Corrections

Catalog performance can be corrected for antifreeze use. Please use the following table and note the example given.

Antifreeze Type	Antifreeze % by wt	Heating	Cooling	Pressure Drop
EWT - °F [°C]		**30 [-1.1]**	**90 [32.2]**	**30 [-1.1]**
Water	0	1.000	1.000	1.000
Ethylene Glycol	10	0.973	0.991	1.075
	20	0.943	0.979	1.163
	30	0.917	0.965	1.225
	40	0.890	0.955	1.324
	50	0.865	0.943	1.419
Propylene Glycol	10	0.958	0.981	1.130
	20	0.913	0.969	1.270
	30	0.854	0.950	1.433
	40	0.813	0.937	1.614
	50	0.770	0.922	1.816
Ethanol	10	0.927	0.991	1.242
	20	0.887	0.972	1.343
	30	0.856	0.947	1.383
	40	0.815	0.930	1.523
	50	0.779	0.911	1.639
Methanol	10	0.957	0.986	1.127
	20	0.924	0.970	1.197
	30	0.895	0.951	1.235
	40	0.863	0.936	1.323
	50	0.833	0.920	1.399

WARNING: Gray area represents antifreeze concentrations greater than 35% by weight and should be avoided due to the extreme performance penalty they represent.

Antifreeze Correction Example

Antifreeze solution is Propylene Glycol 20% by weight. Determine the corrected heating and cooling performance at 30°F and 90°F respectively as well as pressure drop at 30°F for a Aston Series Single Speed Model 022-ECM.

The corrected cooling capacity at 90°F would be: 22,400 MBtu/h x 0.969 = 21,706 MBtu/h

The corrected heating capacity at 30°F would be: 14,500 MBtu/h x 0.913 = 13,239 MBtu/h

The corrected pressure drop at 30°F and 6 gpm would be: 6.6 feet of head x 1.270 = 8.38 feet of head

Correction Factor Tables

Air Flow Corrections (Dual Capacity Part Load)

Airflow		Cooling				Heating		
cfm Per Ton of Clg	% of Nominal	Total Cap	Sens Cap	Power	Heat of Rej	Htg Cap	Power	Heat of Ext
240	60	0.922	0.778	0.956	0.924	0.943	1.239	0.879
275	69	0.944	0.830	0.962	0.944	0.958	1.161	0.914
300	75	0.957	0.866	0.968	0.958	0.968	1.115	0.937
325	81	0.970	0.900	0.974	0.970	0.977	1.075	0.956
350	88	0.982	0.933	0.981	0.980	0.985	1.042	0.972
375	94	0.991	0.968	0.991	0.991	0.993	1.018	0.988
400	**100**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**
425	106	1.007	1.033	1.011	1.008	1.007	0.990	1.010
450	113	1.013	1.065	1.023	1.015	1.012	0.987	1.018
475	119	1.017	1.099	1.037	1.022	1.018	0.984	1.025
500	125	1.020	1.132	1.052	1.027	1.022	0.982	1.031
520	130	1.022	1.159	1.064	1.030	1.025	0.979	1.034

5/30/06

Air Flow Corrections (Dual Capacity Full Load and Single Speed)

Airflow		Cooling				Heating		
cfm Per Ton of Clg	% of Nominal	Total Cap	Sens Cap	Power	Heat of Rej	Htg Cap	Power	Heat of Ext
240	60	0.922	0.786	0.910	0.920	0.943	1.150	0.893
275	69	0.944	0.827	0.924	0.940	0.958	1.105	0.922
300	75	0.959	0.860	0.937	0.955	0.968	1.078	0.942
325	81	0.971	0.894	0.950	0.967	0.977	1.053	0.959
350	88	0.982	0.929	0.964	0.978	0.985	1.031	0.973
375	94	0.992	0.965	0.982	0.990	0.993	1.014	0.988
400	**100**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**	**1.000**
425	106	1.007	1.034	1.020	1.010	1.007	0.990	1.011
450	113	1.012	1.065	1.042	1.018	1.013	0.983	1.020
475	119	1.017	1.093	1.066	1.026	1.018	0.980	1.028
500	125	1.019	1.117	1.092	1.033	1.023	0.978	1.034
520	130	1.020	1.132	1.113	1.038	1.026	0.975	1.038

5/30/06

Cooling Capacity Corrections

Entering Air WB °F	Total Clg Cap	Sensible Cooling Capacity Multipliers - Entering DB °F										Power Input	Heat of Rejection
		60	65	70	75	80	80.6	85	90	95	100		
55	0.898	0.723	0.866	1.048	1.185	*	*	*	*	*	*	0.985	0.913
60	0.912		0.632	0.880	1.078	1.244	1.260	*	*	*	*	0.994	0.927
63	0.945			0.768	0.960	1.150	1.175	*	*	*	*	0.996	0.954
65	0.976			0.694	0.881	1.079	1.085	1.270	*	*	*	0.997	0.972
66.2	0.983			0.655	0.842	1.040	1.060	1.232	*	*	*	0.999	0.986
67	**1.000**			0.616	0.806	**1.000**	1.023	1.193	1.330	1.480	*	**1.000**	**1.000**
70	1.053				0.693	0.879	0.900	1.075	1.205	1.404	*	1.003	1.044
75	1.168					0.687	0.715	0.875	1.040	1.261	1.476	1.007	1.141

NOTE: * Sensible capacity equals total capacity at conditions shown. 3/28/12

Heating Capacity Corrections

Ent Air DB °F	Heating Corrections		
	Htg Cap	Power	Heat of Ext
45	1.062	0.739	1.158
50	1.050	0.790	1.130
55	1.037	0.842	1.096
60	1.025	0.893	1.064
65	1.012	0.945	1.030
68	1.005	0.976	1.012
70	**1.000**	**1.000**	**1.000**
75	0.987	1.048	0.970
80	0.975	1.099	0.930

11/10/09

Pressure Drop

Single Speed

Model	gpm	Pressure Drop (psi)				
		30°F	50°F	70°F	90°F	110°F
012	1.5	0.3	0.3	0.3	0.3	0.3
	2.5	1.0	1.0	1.0	1.0	1.0
	3.5	1.7	1.7	1.7	1.6	1.6
	4.5	2.5	2.4	2.4	2.4	2.3
018	3.0	1.6	1.6	1.5	1.5	1.4
	4.0	2.9	2.9	2.8	2.8	2.7
	5.0	4.2	4.2	4.1	4.0	3.9
	6.0	6.0	5.8	5.7	5.6	5.5
022	3	0.9	0.9	0.8	0.7	0.7
	4.5	1.7	1.6	1.5	1.4	1.3
	6	2.8	2.7	2.5	2.3	2.2
	8	4.7	4.4	4.1	3.9	3.6
030	4	1.3	1.2	1.2	1.1	1.0
	6	2.7	2.5	2.4	2.2	2.2
	8	4.5	4.2	3.9	3.7	3.4
	10	6.8	6.3	5.4	5.4	5.0
036	5	1.0	1.0	0.9	0.8	0.8
	7	2.1	1.9	1.8	1.7	1.6
	9	3.6	3.3	3.0	2.8	2.6
	12	6.3	5.9	5.5	5.1	4.8
042	5	0.8	0.7	0.7	0.7	0.6
	8	2.1	2.1	1.9	1.8	1.7
	11	4.2	4.1	3.8	3.5	3.3
	14	7.6	6.7	6.3	5.8	5.4
048	6	1.1	1.0	1.0	0.9	0.8
	9	2.3	2.1	2.0	1.9	1.7
	12	3.9	3.7	3.4	3.2	3.0
	16	6.7	6.3	5.9	5.5	5.1
060	9	2.4	2.2	2.1	2.0	1.8
	12	3.9	3.6	3.4	3.2	2.9
	15	5.7	5.3	5.0	4.7	4.3
	20	9.5	8.9	8.3	7.8	7.2
070	12	3.0	2.8	2.6	2.4	2.2
	15	4.4	4.0	3.8	3.5	3.3
	18	6.0	5.5	5.1	4.8	4.4
	24	9.7	9.1	8.5	7.9	7.3

2/7/12

Dual Capacity

Model	gpm	Pressure Drop (psi)				
		30°F	50°F	70°F	90°F	110°F
026 full load	4	1.4	1.3	1.2	1.1	1.0
	6	2.8	2.6	2.4	2.3	2.1
	8	4.7	4.4	4.1	3.8	3.5
	10	7.0	6.6	6.2	5.8	5.3
026 part load	3	0.8	0.7	0.7	0.7	0.6
	5	2.0	1.8	1.7	1.6	1.5
	7	3.6	3.4	3.2	3.0	2.8
	9	5.8	5.5	5.1	4.8	4.4
038 full load	5	1.2	1.2	1.1	1.0	1.0
	7	2.2	2.1	1.9	1.8	1.7
	9	3.4	3.2	3.0	2.8	2.6
	11	4.9	4.6	4.3	4	3.7
038 part load	4	0.9	0.8	0.8	0.7	0.7
	6	1.7	1.6	1.5	1.4	1.3
	8	2.8	2.6	2.5	2.3	2.1
	10	4.2	3.9	3.7	3.4	3.2
049 full load	6	1.2	1.2	1.1	1.0	1.0
	9	2.4	2.2	2.1	2.0	1.8
	12	3.9	3.6	3.4	3.2	2.9
	15	5.7	5.3	5	4.7	4.3
049 part load	5	0.9	0.9	0.8	0.8	0.7
	8	2.0	1.8	1.7	1.6	1.5
	11	3.4	3.1	2.9	2.8	2.5
	14	5.0	4.7	4.4	4.1	3.8
064 full load	8	1.8	1.7	1.6	1.4	1.3
	12	3.8	3.5	3.3	3.0	2.8
	16	6.5	6.0	5.6	5.2	4.8
	20	9.7	9.1	8.5	8.0	7.4
064 part load	6	1.0	0.9	0.9	0.8	0.8
	10	2.6	2.5	2.3	2.1	2.0
	14	5.0	4.7	4.4	4.1	3.8
	18	8.1	7.6	7.1	6.6	6.1
072 full load	12	3.2	3.0	2.8	2.6	2.4
	15	4.5	4.2	4.0	3.7	3.4
	18	6.0	5.7	5.3	4.9	4.6
	21	7.8	7.3	6.8	6.4	5.9
072 part load	10	2.3	2.1	2.0	1.9	1.7
	13	3.6	3.3	3.0	2.8	2.6
	16	5.0	4.6	4.3	4.0	3.7
	19	6.5	6.2	5.8	5.4	5.0

1/26/12

Performance Data

Model 012 - Single Speed PSC (400 cfm)

EWT °F	Flow Rate GPM	WPD		Heating - EAT 70 °F					Cooling - EAT 80/67 °F					
		PSI	FT/HD	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR MBtu/h	EER
20	1.5	0.3	0.7	Operation not recommended					Operation not recommended					
	2.5	1.0	2.3											
	3.5	1.7	3.9	7.5	0.78	4.8	85.3	2.80						
30	1.5	0.3	0.7	Operation not recommended					Operation not recommended					
	2.5	1.0	2.3	9.0	0.80	6.3	88.8	3.29	16.3	10.3	0.63	0.43	17.8	37.7
	3.5	1.7	3.9	9.1	0.81	6.3	89.1	3.29	16.5	10.3	0.62	0.41	18.0	40.2
40	1.5	0.3	0.7	Operation not recommended					Operation not recommended					
	2.5	1.0	2.3	10.0	0.82	7.2	91.1	3.57	15.8	10.1	0.64	0.49	17.4	31.9
	3.5	1.7	3.9	10.3	0.83	7.4	91.7	3.64	16.0	10.1	0.63	0.46	17.6	34.9
50	1.5	0.3	0.7	10.6	0.83	7.8	92.5	3.75	15.0	10.0	0.66	0.61	17.1	24.6
	2.5	1.0	2.3	11.0	0.83	8.2	93.5	3.86	15.2	9.9	0.65	0.56	17.1	27.3
	3.5	1.7	3.8	11.4	0.84	8.5	94.4	3.97	15.5	9.9	0.64	0.51	17.2	30.6
60	1.5	0.3	0.7	11.8	0.85	8.9	95.2	4.08	14.5	9.7	0.67	0.69	16.9	21.1
	2.5	1.0	2.3	12.2	0.85	9.3	96.3	4.21	14.7	9.7	0.66	0.64	16.9	23.1
	3.5	1.7	3.8	12.7	0.86	9.8	97.4	4.33	14.9	9.7	0.65	0.59	16.9	25.3
70	1.5	0.3	0.7	12.9	0.86	10.0	98.0	4.40	14.1	9.4	0.67	0.77	16.7	18.3
	2.5	1.0	2.3	13.5	0.87	10.5	99.2	4.54	14.2	9.5	0.67	0.72	16.7	19.8
	3.5	1.7	3.8	14.0	0.88	11.0	100.4	4.67	14.4	9.6	0.67	0.67	16.7	21.4
80	1.5	0.3	0.7	14.3	0.88	11.3	101.2	4.76	13.6	9.2	0.68	0.87	16.6	15.7
	2.5	1.0	2.2	14.9	0.89	11.9	102.6	4.92	13.8	9.3	0.68	0.82	16.6	16.8
	3.5	1.6	3.8	15.3	0.90	12.2	103.4	5.00	13.9	9.4	0.68	0.76	16.5	18.2
90	1.5	0.3	0.7	15.8	0.90	12.8	104.7	5.15	13.2	9.0	0.68	0.97	16.5	13.6
	2.5	1.0	2.2	16.5	0.91	13.4	106.3	5.34	13.3	9.2	0.69	0.93	16.5	14.2
	3.5	1.6	3.8	16.6	0.92	13.5	106.4	5.32	13.4	9.2	0.69	0.85	16.3	15.7
100	1.5	0.3	0.7	Operation not recommended					Operation not recommended					
	2.5	1.0	2.2						12.9	9.0	0.70	1.06	16.5	12.1
	3.5	1.6	3.7						13.0	9.1	0.70	0.95	16.2	13.7
110	1.5	0.3	0.7						Operation not recommended					
	2.5	1.0	2.2						12.4	8.8	0.71	1.21	16.5	10.3
	3.5	1.6	3.6						12.6	8.9	0.71	1.05	16.2	12.0
120	1.5	0.3	0.7						Operation not recommended					
	2.5	1.0	2.2						12.0	8.6	0.72	1.37	16.7	8.8
	3.5	1.5	3.5						12.1	8.7	0.72	1.16	16.0	10.5

10/1/10

Performance Data cont.

Model 018 - Single Speed PSC (600 cfm)

EWT °F	Flow Rate GPM	WPD		Heating - EAT 70 °F						Cooling - EAT 80/67 °F						
		PSI	FT/HD	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC MBtu/h	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR MBtu/h	EER	HWC MBtu/h
20	3.0	1.6	3.8	Operation not recommended						Operation not recommended						
	4.0	2.9	6.8													
	5.0	4.3	9.9	12.7	1.18	8.7	87.6	3.16	1.4							
30	3.0	1.6	3.7	Operation not recommended						Operation not recommended						
	4.0	2.9	6.7	14.4	1.25	10.1	90.2	3.36	1.5	19.5	12.9	0.66	0.76	22.1	25.8	--
	5.0	4.2	9.7	14.6	1.26	10.3	90.5	3.40	1.5	18.8	12.4	0.66	0.74	21.4	25.4	--
40	3.0	1.6	3.6	Operation not recommended						Operation not recommended						
	4.0	2.9	6.6	15.9	1.31	11.4	92.5	3.55	1.6	19.9	13.0	0.65	0.81	22.7	24.7	--
	5.0	4.2	9.6	16.3	1.32	11.8	93.1	3.61	1.6	19.8	12.7	0.64	0.75	22.3	26.2	--
50	3.0	1.6	3.6	17.1	1.36	12.4	94.3	3.69	1.7	20.1	13.2	0.65	0.95	23.3	21.3	0.9
	4.0	2.9	6.6	17.5	1.37	12.8	95.0	3.75	1.7	20.4	13.1	0.64	0.86	23.3	23.8	0.9
	5.0	4.2	9.6	17.9	1.38	13.2	95.7	3.81	1.8	20.7	13.1	0.63	0.77	23.3	27.0	0.9
60	3.0	1.5	3.5	19.0	1.42	14.2	97.4	3.94	1.9	19.2	12.6	0.66	1.00	22.6	19.2	1.1
	4.0	2.8	6.5	19.4	1.43	14.5	98.0	3.98	1.9	19.4	12.6	0.65	0.94	22.6	20.6	1.1
	5.0	4.1	9.5	19.8	1.45	14.9	98.6	4.02	2.0	19.6	12.6	0.64	0.88	22.6	22.3	1.0
70	3.0	1.5	3.5	21.0	1.48	16.0	100.4	4.17	2.1	18.3	12.1	0.66	1.05	21.9	17.4	1.3
	4.0	2.8	6.5	21.4	1.50	16.3	101.0	4.18	2.1	18.4	12.1	0.66	1.02	21.9	18.0	1.3
	5.0	4.1	9.5	21.7	1.52	16.6	101.6	4.20	2.2	18.5	12.1	0.66	0.99	21.9	18.6	1.2
80	3.0	1.5	3.4	23.3	1.54	18.1	104.0	4.44	2.4	17.5	11.6	0.66	1.11	21.3	15.8	1.7
	4.0	2.8	6.4	23.7	1.57	18.3	104.5	4.43	2.4	17.5	11.6	0.67	1.12	21.3	15.6	1.6
	5.0	4.1	9.4	24.0	1.58	18.6	105.1	4.45	2.5	17.7	11.8	0.67	1.12	21.5	15.8	1.5
90	3.0	1.5	3.4	25.9	1.61	20.4	108.0	4.72	2.8	16.7	11.1	0.66	1.17	20.7	14.3	2.2
	4.0	2.8	6.4	26.1	1.64	20.5	108.3	4.68	2.8	16.6	11.2	0.67	1.22	20.8	13.6	2.0
	5.0	4.0	9.2	26.3	1.65	20.7	108.6	4.67	2.8	16.8	11.4	0.68	1.24	21.1	13.6	1.9
100	3.0	1.4	3.3	Operation not recommended						Operation not recommended						
	4.0	2.7	6.3							15.8	10.7	0.68	1.34	20.4	11.8	2.5
	5.0	4.0	9.1							15.8	11.0	0.70	1.37	20.4	11.5	2.3
110	3.0	1.4	3.2							Operation not recommended						
	4.0	2.7	6.2							15.0	10.3	0.69	1.46	20.0	10.3	3.2
	5.0	3.9	9.0							14.7	10.7	0.73	1.50	19.8	9.8	3.0
120	3.0	1.4	3.2							Operation not recommended						
	4.0	2.7	6.2							14.3	9.9	0.70	1.60	19.7	8.9	4.0
	5.0	3.9	8.9							13.7	10.2	0.75	1.66	19.4	8.3	3.6

10/1/10

Performance Data cont.

Model 022 - Single Speed PSC (700 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F						COOLING - EAT 80/67 °F						
		PSI	FT/HD	HC Mbtu/h	Power kW	HE Mbtu/h	LAT °F	COP	HWC Mbtu/h	TC Mbtu/h	SC MBtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC MBtu/h
20	3.0	0.9	2.2	Operation not recommended						Operation not recommended						
	4.5	1.8	4.2													
	6.0	2.9	6.8	12.6	1.30	8.1	86.6	2.84	1.5							
30	3.0	0.9	2.1	Operation not recommended						Operation not recommended						
	4.5	1.7	4.0	14.8	1.31	10.3	89.5	3.31	1.6	24.1	18.0	0.75	0.81	26.6	29.7	---
	6.0	2.8	6.6	15.0	1.32	10.5	89.8	3.33	1.6	24.4	17.1	0.70	0.79	26.8	30.9	---
40	3.0	0.9	2.0	Operation not recommended						Operation not recommended						
	4.5	1.7	3.9	17.3	1.33	12.8	92.9	3.82	1.8	24.9	17.1	0.68	0.87	27.3	28.6	---
	6.0	2.8	6.4	17.6	1.34	13.0	93.3	3.85	1.8	25.2	17.1	0.68	0.85	27.5	29.8	---
50	3.0	0.9	2.0	18.8	1.33	14.2	94.8	4.14	2.0	25.4	16.8	0.66	0.99	27.7	25.7	1.2
	4.5	1.6	3.8	19.7	1.36	15.0	96.0	4.25	2.0	25.7	16.9	0.66	0.95	28.0	27.1	1.1
	6.0	2.7	6.2	20.0	1.36	15.4	96.5	4.30	2.1	26.0	16.9	0.65	0.93	28.2	28.1	1.1
60	3.0	0.8	1.9	21.2	1.36	16.5	98.0	4.55	2.2	24.6	16.6	0.68	1.09	26.9	22.5	1.4
	4.5	1.6	3.7	22.2	1.39	17.5	99.4	4.67	2.3	24.9	16.8	0.68	1.04	27.2	23.8	1.3
	6.0	2.6	6.0	22.6	1.40	17.8	99.8	4.72	2.3	25.1	16.8	0.67	1.02	27.4	24.7	1.3
70	3.0	0.8	1.8	23.6	1.40	18.8	101.2	4.94	2.5	24.3	16.4	0.68	1.22	26.6	19.9	1.7
	4.5	1.5	3.6	24.8	1.43	19.9	102.8	5.06	2.5	24.6	16.6	0.68	1.16	26.9	21.1	1.7
	6.0	2.5	5.8	25.1	1.44	20.2	103.2	5.11	2.6	24.7	16.6	0.67	1.13	27.0	21.9	1.6
80	3.0	0.8	1.8	25.8	1.45	20.8	104.1	5.22	2.8	23.2	16.1	0.69	1.36	25.6	17.1	2.2
	4.5	1.5	3.4	27.0	1.48	21.9	105.7	5.36	2.8	23.5	16.2	0.69	1.30	25.8	18.1	2.1
	6.0	2.4	5.6	27.4	1.49	22.3	106.3	5.40	2.9	23.7	16.2	0.69	1.26	26.0	18.8	2.0
90	3.0	0.7	1.7	28.0	1.50	22.9	107.0	5.47	3.1	21.5	15.6	0.73	1.52	24.0	14.1	2.7
	4.5	1.4	3.3	29.2	1.52	24.0	108.6	5.62	3.2	21.7	15.8	0.73	1.45	24.2	15.0	2.6
	6.0	2.3	5.4	29.7	1.54	24.5	109.3	5.66	3.3	21.9	15.8	0.72	1.41	24.4	15.5	2.4
100	3.0	0.7	1.7	Operation not recommended						Operation not recommended						
	4.5	1.4	3.2							20.8	15.4	0.74	1.62	23.3	12.8	3.2
	6.0	2.2	5.2							21.0	15.4	0.74	1.58	23.5	13.2	3.0
110	3.0	0.7	1.6							Operation not recommended						
	4.5	1.3	3.1							18.6	14.9	0.80	1.81	21.3	10.2	3.9
	6.0	2.2	5.0							18.7	14.9	0.79	1.77	21.5	10.6	3.7
120	3.0	0.7	1.5							Operation not recommended						
	4.5	1.3	2.9							17.2	14.4	0.84	2.04	20.0	8.4	4.7
	6.0	2.1	4.8							17.4	14.4	0.83	1.99	20.2	8.8	4.4

2/10/12

Performance Data cont.

Model 030 - Single Speed PSC (900 cm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F						COOLING - EAT 80/67 °F						
		PSI	FT/HD	HC Mbtu/h	Power kW	HE Mbtu/h	LAT °F	COP	HWC Mbtu/h	TC Mbtu/h	SC MBtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC MBtu/h
20	4.0	1.4	3.5	Operation not recommended						Operation not recommended						
	6.0	2.8	7.2													
	8.0	4.6	12.1	17.6	1.67	11.9	88.1	3.09	2.0							
30	4.0	1.4	3.4	Operation not recommended						Operation not recommended						
	6.0	2.7	7.0	20.2	1.66	14.6	90.8	3.57	2.2	26.4	18.9	0.71	1.06	30.0	24.9	---
	8.0	4.4	11.8	20.7	1.68	14.9	91.2	3.61	2.2	26.9	18.8	0.70	1.03	30.4	26.1	---
40	4.0	1.3	3.3	Operation not recommended						Operation not recommended						
	6.0	2.6	6.8	23.7	1.70	17.9	94.4	4.07	2.4	28.7	20.4	0.71	1.14	32.6	25.1	---
	8.0	4.3	11.4	24.2	1.72	18.3	94.9	4.12	2.5	29.1	20.3	0.70	1.11	32.9	26.1	---
50	4.0	1.3	3.2	25.9	1.74	20.0	96.6	4.36	2.6	30.7	21.8	0.71	1.29	35.1	23.8	1.5
	6.0	2.5	6.6	26.8	1.75	20.8	97.6	4.49	2.7	30.8	21.9	0.71	1.25	35.0	24.7	1.4
	8.0	4.2	11.1	27.4	1.76	21.3	98.1	4.55	2.8	31.2	21.9	0.70	1.22	35.3	25.5	1.4
60	4.0	1.2	3.1	29.1	1.80	23.0	99.9	4.75	3.0	30.0	21.4	0.72	1.40	34.7	21.4	1.8
	6.0	2.4	6.4	30.1	1.81	23.9	101.0	4.89	3.0	30.0	21.5	0.71	1.35	34.7	22.2	1.7
	8.0	3.9	10.7	30.7	1.82	24.5	101.6	4.93	3.1	30.4	21.5	0.71	1.32	34.9	22.9	1.6
70	4.0	1.2	3.0	32.4	1.87	26.0	103.3	5.08	3.3	30.1	21.7	0.72	1.54	35.4	19.5	2.2
	6.0	2.4	6.2	33.5	1.88	27.1	104.5	5.22	3.4	30.2	21.7	0.72	1.49	35.3	20.3	2.1
	8.0	3.9	10.4	34.1	1.90	27.6	105.1	5.24	3.5	30.6	21.8	0.71	1.46	35.5	20.9	2.0
80	4.0	1.2	2.9	35.1	1.93	28.5	106.1	5.32	3.7	28.9	21.4	0.74	1.70	34.7	17.0	2.8
	6.0	2.3	5.9	36.4	1.95	29.7	107.4	5.46	3.8	29.0	21.4	0.74	1.64	34.6	17.7	2.7
	8.0	3.8	10.0	36.9	1.98	30.2	108.0	5.48	3.9	29.3	21.5	0.73	1.61	34.8	18.2	2.5
90	4.0	1.1	2.8	37.9	2.01	31.0	108.9	5.51	4.2	26.7	20.2	0.76	1.87	33.1	14.3	3.5
	6.0	2.2	5.7	39.3	2.04	32.3	110.4	5.64	4.3	26.9	20.2	0.75	1.80	33.0	14.9	3.3
	8.0	3.6	9.6	39.9	2.06	32.8	111.0	5.66	4.4	27.1	20.3	0.75	1.77	33.2	15.3	3.2
100	4.0	11.1	2.7	Operation not recommended						Operation not recommended						
	6.0	2.1	5.5							25.6	20.2	0.79	2.01	32.5	12.8	4.1
	8.0	3.5	9.3							25.9	20.3	0.78	1.97	32.6	13.1	3.9
110	4.0	1.0	2.6							Operation not recommended						
	6.0	2.0	5.3							21.7	18.9	0.87	2.22	29.3	9.8	5.0
	8.0	3.4	8.9							22.0	19.0	0.87	2.17	29.4	10.1	4.7
120	4.0	1.0	2.5							Operation not recommended						
	6.0	2.0	5.1							21.0	18.3	0.87	2.47	29.5	8.5	6.0
	8.0	3.2	8.6							21.3	18.3	0.86	2.42	29.5	8.8	5.7

2/10/12

Performance Data cont.

Model 036 - Single Speed PSC (1250 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F						COOLING - EAT 80/67 °F						
		PSI	FT/HD	HC Mbtu/h	Power kW	HE Mbtu/h	LAT °F	COP	HWC Mbtu/h	TC Mbtu/h	SC MBtu/h	S/T Ratio	Power kW	HR kBtuh	EER	HWC MBtu/h
20	5.0	1.0	2.4	Operation not recommended						Operation not recommended						
	7.0	2.1	4.9													
	9.0	3.6	8.2	21.8	1.99	15.0	86.1	3.21	2.4							
30	5.0	1.0	2.3	Operation not recommended						Operation not recommended						
	7.0	2.1	4.7	24.5	1.99	17.7	88.1	3.60	2.6	30.6	22.0	0.72	1.26	33.1	24.4	---
	9.0	3.5	8.0	25.0	2.01	18.1	88.5	3.64	2.7	31.1	21.4	0.69	1.22	33.5	25.6	---
40	5.0	1.0	2.3	Operation not recommended						Operation not recommended						
	7.0	2.0	4.6	28.4	2.04	21.5	91.1	4.09	3.0	33.6	23.9	0.71	1.36	36.0	24.8	---
	9.0	3.4	7.8	29.0	2.06	22.0	91.5	4.14	3.0	34.1	23.9	0.70	1.32	36.5	25.8	---
50	5.0	1.0	2.2	30.9	2.07	23.8	92.9	4.37	3.2	36.3	25.9	0.71	1.53	38.7	23.7	1.7
	7.0	1.9	4.5	32.0	2.08	24.9	93.7	4.51	3.3	36.4	26.0	0.72	1.48	38.8	24.6	1.6
	9.0	3.3	7.5	32.6	2.10	25.5	94.2	4.56	3.4	36.8	26.0	0.71	1.45	39.2	25.5	1.6
60	5.0	0.9	2.1	34.7	2.11	27.5	95.7	4.81	3.6	36.0	26.5	0.74	1.65	38.5	21.8	2.1
	7.0	1.9	4.3	35.9	2.12	28.6	96.6	4.95	3.7	36.1	26.6	0.74	1.60	38.6	22.6	2.0
	9.0	3.1	7.3	36.6	2.15	29.2	97.1	4.99	3.8	36.5	26.6	0.73	1.56	39.0	23.4	1.9
70	5.0	0.9	2.1	38.6	2.16	31.3	98.6	5.24	4.1	36.5	27.5	0.75	1.81	39.1	20.1	2.6
	7.0	1.8	4.2	40.0	2.18	32.6	99.6	5.38	4.2	36.6	27.5	0.75	1.75	39.2	20.9	2.5
	9.0	3.0	7.0	40.7	2.20	33.2	100.1	5.41	4.3	37.0	27.6	0.75	1.72	39.6	21.6	2.4
80	5.0	0.9	2.0	41.8	2.20	34.3	101.0	5.57	4.6	35.6	27.4	0.77	1.99	38.3	17.9	3.3
	7.0	1.7	4.0	43.4	2.23	35.8	102.1	5.71	4.7	35.8	27.4	0.76	1.91	38.4	18.7	3.1
	9.0	2.9	6.8	44.1	2.25	36.4	102.6	5.73	4.8	36.2	27.5	0.76	1.88	38.8	19.2	3.0
90	5.0	0.8	1.9	45.3	2.25	37.6	103.5	5.89	5.1	33.4	26.6	0.80	2.17	36.1	15.4	4.1
	7.0	1.7	3.9	47.0	2.28	39.2	104.8	6.03	5.3	33.6	26.6	0.79	2.09	36.3	16.1	3.9
	9.0	2.8	6.6	47.7	2.31	39.8	105.3	6.05	5.4	33.9	26.7	0.79	2.05	36.6	16.5	3.7
100	5.0	0.8	1.8	Operation not recommended						Operation not recommended						
	7.0	1.6	3.8							32.7	26.3	0.81	2.31	35.4	14.1	4.8
	9.0	2.7	6.3							33.0	26.5	0.80	2.27	35.7	14.5	4.6
110	5.0	0.8	1.8							Operation not recommended						
	7.0	1.6	3.6							29.4	24.5	0.83	2.54	32.2	11.6	5.9
	9.0	2.6	6.1							29.7	24.6	0.83	2.49	32.5	11.9	5.6
120	5.0	0.7	1.7							Operation not recommended						
	7.0	1.5	3.5							27.5	24.1	0.88	2.81	30.5	9.8	7.1
	9.0	2.5	5.8							27.8	24.2	0.87	2.75	30.8	10.1	6.7

2/10/12

Performance Data cont.

Model 042 - Single Speed PSC (1350 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F						COOLING - EAT 80/67 °F						
		PSI	FT/HD	HC Mbtu/h	Power kW	HE Mbtu/h	LAT °F	COP	HWC Mbtu/h	TC Mbtu/h	SC MBtu/h	S/T Ratio	Power kW	HR kBtuh	EER	HWC MBtu/h
20	5.0	0.8	1.9	Operation not recommended						Operation not recommended						
	8.0	2.3	5.3													
	11.0	4.4	10.3	25.4	2.41	17.1	87.4	3.09	3.7							
30	5.0	0.8	1.8	Operation not recommended						Operation not recommended						
	8.0	2.2	5.1	29.3	2.45	21.0	90.1	3.51	3.9	41.0	28.4	0.69	1.73	43.4	23.8	---
	11.0	4.3	10.0	29.7	2.45	21.4	90.4	3.56	4.0	41.4	27.8	0.67	1.69	43.7	24.6	---
40	5.0	0.8	1.8	Operation not recommended						Operation not recommended						
	8.0	2.1	4.9	33.3	2.52	24.7	92.9	3.88	4.3	42.7	29.7	0.70	1.81	45.1	23.5	---
	11.0	4.2	9.7	33.9	2.52	25.3	93.3	3.94	4.4	43.1	29.7	0.69	1.77	45.5	24.4	---
50	5.0	0.7	1.7	35.8	2.52	27.2	94.6	4.16	4.7	43.3	30.7	0.71	2.01	45.7	21.6	2.6
	8.0	2.1	4.8	37.3	2.57	28.5	95.6	4.26	4.8	43.8	31.0	0.71	1.93	46.2	22.7	2.5
	11.0	4.1	9.4	38.0	2.58	29.3	96.1	4.33	5.0	44.2	31.0	0.70	1.88	46.6	23.5	2.4
60	5.0	0.7	1.7	39.3	2.57	30.5	97.0	4.48	5.3	43.1	31.4	0.73	2.17	45.6	19.8	3.2
	8.0	2.0	4.6	41.1	2.63	32.1	98.2	4.58	5.4	43.6	31.7	0.73	2.08	46.1	20.9	3.0
	11.0	3.9	9.1	42.0	2.65	33.0	98.8	4.66	5.6	44.1	31.7	0.72	2.03	46.5	21.7	2.9
70	5.0	0.7	1.6	42.7	2.63	33.7	99.3	4.76	6.0	43.1	32.4	0.75	2.37	45.7	18.2	4.0
	8.0	1.9	4.5	44.8	2.70	35.5	100.7	4.86	6.1	43.8	32.8	0.75	2.26	46.4	19.4	3.8
	11.0	3.8	8.8	45.9	2.73	36.6	101.5	4.94	6.3	44.3	32.8	0.74	2.21	46.8	20.1	3.6
80	5.0	0.7	1.6	45.9	2.65	36.9	101.5	5.09	6.7	41.4	31.7	0.77	2.59	44.0	15.9	5.1
	8.0	1.9	4.3	48.4	2.73	39.0	103.2	5.18	6.9	42.1	32.0	0.76	2.47	44.7	17.0	4.8
	11.0	3.7	8.5	49.8	2.77	40.3	104.1	5.28	7.1	42.6	32.0	0.75	2.41	45.1	17.7	4.6
90	5.0	0.7	1.5	49.1	2.68	40.0	103.7	5.37	7.5	39.0	30.8	0.79	2.86	41.7	13.7	6.4
	8.0	1.8	4.2	51.8	2.78	42.4	105.6	5.47	7.8	39.8	31.1	0.78	2.72	42.5	14.7	6.1
	11.0	3.5	8.2	53.5	2.82	43.9	106.7	5.57	8.0	40.2	31.1	0.77	2.64	42.9	15.2	5.8
100	5.0	0.6	1.5	Operation not recommended						Operation not recommended						
	8.0	1.7	4.0							38.2	30.5	0.80	2.98	40.9	12.8	7.5
	11.0	3.4	7.9							38.6	30.5	0.79	2.91	41.3	13.3	7.2
110	5.0	0.6	1.4							Operation not recommended						
	8.0	1.7	3.9							34.6	28.2	0.82	3.29	37.4	10.5	9.2
	11.0	3.3	7.6							35.0	28.2	0.81	3.20	37.7	10.9	8.8
120	5.0	0.6	1.3							Operation not recommended						
	8.0	1.6	3.7							32.5	27.9	0.86	3.61	35.4	9.0	11.1
	11.0	3.2	7.3							32.8	27.9	0.85	3.52	35.7	9.3	10.6

2/10/12

Performance Data cont.

Model 048 - Single Speed PSC (1500 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F						COOLING - EAT 80/67 °F						
		PSI	FT/HD	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC MBtu/h	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR kBtuh	EER	HWC MBtu/h
20	6.0	1.1	2.6	Operation not recommended						Operation not recommended						
	9.0	2.3	5.4													
	12.0	4.0	9.2	32.8	3.05	22.4	90.2	3.15	4.8							
30	6.0	1.1	2.5	Operation not recommended						Operation not recommended						
	9.0	2.3	5.3	37.5	3.13	26.8	93.1	3.51	5.2	49.7	34.1	0.69	1.90	52.0	26.1	---
	12.0	3.9	9.0	38.0	3.13	27.3	93.5	3.56	5.3	50.2	33.5	0.67	1.85	52.5	27.1	---
40	6.0	1.1	2.5	Operation not recommended						Operation not recommended						
	9.0	2.2	5.1	43.0	3.23	32.0	96.6	3.90	5.7	51.5	35.3	0.69	2.06	53.9	25.0	---
	12.0	3.8	8.7	43.8	3.24	32.7	97.0	3.96	5.8	52.1	35.3	0.68	2.01	54.4	25.9	---
50	6.0	1.0	2.4	46.2	3.26	35.1	98.5	4.16	6.2	52.5	36.7	0.70	2.35	54.9	22.3	3.1
	9.0	2.1	4.9	48.1	3.32	36.7	99.7	4.25	6.4	53.1	37.1	0.70	2.26	55.5	23.5	2.9
	12.0	3.7	8.4	49.0	3.33	37.7	100.3	4.31	6.5	53.6	37.1	0.69	2.20	56.0	24.4	2.8
60	6.0	1.0	2.3	50.8	3.33	39.5	101.4	4.48	7.0	51.1	36.3	0.71	2.58	53.5	19.8	3.7
	9.0	2.1	4.8	53.1	3.41	41.5	102.8	4.57	7.2	51.8	36.6	0.71	2.47	54.2	21.0	3.6
	12.0	3.5	8.2	54.4	3.43	42.7	103.6	4.64	7.4	52.3	36.6	0.70	2.40	54.7	21.8	3.4
70	6.0	1.0	2.2	55.5	3.41	43.9	104.3	4.78	7.9	50.8	36.7	0.72	2.86	53.2	17.8	4.7
	9.0	2.0	4.6	58.2	3.51	46.3	105.9	4.87	8.1	51.5	37.1	0.72	2.72	54.0	18.9	4.5
	12.0	3.4	7.9	59.7	3.54	47.7	106.9	4.95	8.3	52.1	37.1	0.71	2.65	54.5	19.6	4.2
80	6.0	0.9	2.1	59.4	3.46	47.5	106.6	5.03	8.8	48.5	35.9	0.74	3.17	51.0	15.3	5.9
	9.0	1.9	4.5	62.5	3.58	50.3	108.6	5.11	9.1	49.4	36.2	0.73	3.01	51.9	16.4	5.6
	12.0	3.3	7.6	64.3	3.62	51.9	109.7	5.20	9.4	49.9	36.2	0.73	2.93	52.4	17.0	5.4
90	6.0	0.9	2.1	63.2	3.52	51.2	109.0	5.26	9.9	45.1	34.2	0.76	3.50	47.7	12.9	7.4
	9.0	1.9	4.3	66.8	3.66	54.3	111.2	5.35	10.2	46.0	34.6	0.75	3.32	48.6	13.9	7.1
	12.0	3.2	7.4	68.9	3.71	56.2	112.5	5.44	10.6	46.5	34.6	0.74	3.23	49.0	14.4	6.7
100	6.0	0.9	2.0	Operation not recommended						Operation not recommended						
	9.0	1.8	4.2							44.3	34.1	0.77	3.69	46.9	12.0	8.8
	12.0	3.1	7.1							44.8	34.1	0.76	3.58	47.4	12.5	8.4
110	6.0	0.8	1.9							Operation not recommended						
	9.0	1.7	4.0							39.9	31.7	0.79	4.07	42.6	9.8	10.8
	12.0	3.0	6.8							40.3	31.7	0.79	3.96	43.0	10.2	10.2
120	6.0	0.8	1.8							Operation not recommended						
	9.0	1.7	3.8							37.6	31.1	0.83	4.50	40.4	8.4	13.0
	12.0	2.8	6.6							38.0	31.1	0.82	4.38	40.8	8.7	12.4

2/10/12

Performance Data cont.

Model 060 - Single Speed PSC (2000 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F						COOLING - EAT 80/67 °F						
		PSI	FT/HD	HC Mbtu/h	Power kW	HE Mbtu/h	LAT °F	COP	HWC Mbtu/h	TC Mbtu/h	SC MBtu/h	S/T Ratio	Power kW	HR kBtuh	EER	HWC MBtu/h
20	9.0	2.5	5.7	Operation not recommended						Operation not recommended						
	12.0	4.0	9.2													
	15.0	5.9	13.5	40.4	4.06	26.5	88.7	2.92	5.8							
30	9.0	2.4	5.5	Operation not recommended						Operation not recommended						
	12.0	3.9	8.9	45.4	4.06	31.5	91.0	3.28	6.2	68.8	47.6	0.69	2.91	71.2	23.7	---
	15.0	5.7	13.1	46.8	4.16	32.6	91.7	3.30	6.4	70.0	48.1	0.69	2.74	72.3	25.6	---
40	9.0	2.3	5.3	Operation not recommended						Operation not recommended						
	12.0	3.7	8.7	53.6	4.23	39.1	94.8	3.71	6.9	70.3	49.8	0.71	3.10	72.7	22.7	---
	15.0	5.5	12.7	54.8	4.30	40.1	95.4	3.73	7.1	71.1	49.6	0.70	2.95	73.5	24.1	---
50	9.0	2.2	5.2	58.9	4.35	44.1	97.3	3.97	7.5	71.4	50.5	0.71	3.44	73.8	20.8	4.1
	12.0	3.6	8.4	60.4	4.39	45.5	98.0	4.04	7.7	71.4	51.0	0.71	3.38	73.9	21.1	3.9
	15.0	5.3	12.3	61.5	4.43	46.4	98.5	4.07	7.9	72.2	51.0	0.71	3.23	74.6	22.3	3.7
60	9.0	2.2	5.0	65.4	4.47	50.1	100.3	4.29	8.4	69.1	49.4	0.71	3.63	71.5	19.0	5.0
	12.0	3.5	8.1	66.8	4.51	51.4	100.9	4.34	8.7	69.4	49.6	0.71	3.53	71.9	19.7	4.8
	15.0	5.2	11.9	68.7	4.58	53.1	101.8	4.40	8.9	69.8	49.9	0.71	3.41	72.2	20.5	4.6
70	9.0	2.1	4.9	72.0	4.60	56.3	103.4	4.59	9.5	67.8	49.4	0.73	3.97	70.3	17.1	6.3
	12.0	3.4	7.9	73.4	4.65	57.5	104.0	4.63	9.8	68.5	49.4	0.72	3.83	71.0	17.9	6.0
	15.0	5.0	11.6	76.1	4.74	59.9	105.2	4.71	10.0	68.5	49.9	0.73	3.73	71.0	18.4	5.7
80	9.0	2.0	4.7	76.7	4.71	60.7	105.5	4.78	10.7	64.8	48.0	0.74	4.35	67.3	14.9	8.0
	12.0	3.3	7.6	79.4	4.73	63.2	106.7	4.92	11.0	65.4	48.0	0.73	4.16	67.9	15.7	7.6
	15.0	4.8	11.2	81.5	4.87	64.9	107.7	4.91	11.3	65.8	48.5	0.74	4.05	68.3	16.2	7.2
90	9.0	2.0	4.5	81.6	4.83	65.2	107.8	4.96	12.0	60.3	45.8	0.76	4.74	62.9	12.7	10.0
	12.0	3.2	7.3	85.5	4.83	69.1	109.6	5.19	12.4	61.0	45.8	0.75	4.49	63.5	13.6	9.5
	15.0	4.7	10.8	87.2	5.02	70.1	110.4	5.09	12.8	61.6	46.3	0.75	4.37	64.1	14.1	9.1
100	9.0	1.9	4.4	Operation not recommended						Operation not recommended						
	12.0	3.1	7.1							58.5	45.0	0.77	4.99	61.1	11.7	11.8
	15.0	4.5	10.4							59.1	45.5	0.77	4.87	61.7	12.1	11.2
110	9.0	1.8	4.2							Operation not recommended						
	12.0	2.9	6.8							53.4	41.8	0.78	5.43	56.1	9.8	14.5
	15.0	4.3	10.0							54.0	42.3	0.78	5.30	56.6	10.2	13.8
120	9.0	1.7	4.0							Operation not recommended						
	12.0	2.8	6.5							49.8	41.5	0.83	6.09	52.6	8.2	17.5
	15.0	4.2	9.6							50.7	41.9	0.83	5.92	53.5	8.6	16.7

2/10/12

Performance Data cont.

Model 070 - Single Speed PSC (2200 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F						COOLING - EAT 80/67 °F						
		PSI	FT/HD	HC Mbtu/h	Power kW	HE Mbtu/h	LAT °F	COP	HWC Mbtu/h	TC Mbtu/h	SC MBtu/h	S/T Ratio	Power kW	HR kBtuh	EER	HWC MBtu/h
20	12.0	3.0	7.0	Operation not recommended						Operation not recommended						
	15.0	4.4	10.2													
	18.0	6.0	13.9	46.9	4.62	31.2	89.8	2.98	6.9							
30	12.0	3.0	6.8	Operation not recommended						Operation not recommended						
	15.0	4.3	9.9	54.1	4.73	37.9	92.8	3.35	7.4	72.1	48.7	0.68	2.87	74.4	25.1	---
	18.0	5.8	13.5	54.3	4.75	38.1	92.8	3.35	7.6	72.5	49.1	0.68	2.86	74.8	25.3	---
40	12.0	2.9	6.6	Operation not recommended						Operation not recommended						
	15.0	4.1	9.6	63.1	4.89	46.4	96.5	3.78	8.2	75.8	52.8	0.70	3.11	78.2	24.4	---
	18.0	5.7	13.1	63.5	4.91	46.7	96.7	3.79	8.4	76.4	52.6	0.69	3.09	78.7	24.7	---
50	12.0	2.8	6.4	69.5	5.00	52.4	99.3	4.07	8.9	79.1	55.5	0.70	3.51	81.5	22.5	4.5
	15.0	4.0	9.3	70.9	5.04	53.7	99.9	4.13	9.2	79.5	55.7	0.70	3.41	81.9	23.3	4.3
	18.0	5.5	12.7	71.6	5.06	54.3	100.1	4.14	9.4	80.3	56.0	0.70	3.38	82.7	23.8	4.1
60	12.0	2.7	6.2	77.1	5.15	59.5	102.4	4.39	10.0	75.8	53.7	0.71	3.81	78.2	19.9	5.5
	15.0	3.9	9.0	79.3	5.21	61.6	103.4	4.47	10.3	76.1	53.9	0.71	3.70	78.6	20.6	5.2
	18.0	5.3	12.3	80.3	5.24	62.4	103.8	4.49	10.6	77.1	54.6	0.71	3.65	79.5	21.1	5.0
70	12.0	2.6	6.0	85.1	5.31	66.9	105.8	4.69	11.3	75.2	54.5	0.72	4.19	77.7	17.9	6.9
	15.0	3.8	8.7	88.2	5.39	69.8	107.1	4.79	11.6	75.5	54.6	0.72	4.08	78.0	18.5	6.6
	18.0	5.1	11.9	89.4	5.43	70.9	107.6	4.83	11.9	76.7	55.8	0.73	4.01	79.1	19.1	6.3
80	12.0	2.5	5.8	91.0	5.46	72.3	108.3	4.89	12.7	71.9	52.2	0.73	4.61	74.3	15.6	8.7
	15.0	3.6	8.4	95.1	5.56	76.2	110.0	5.01	13.1	72.1	52.2	0.72	4.49	74.6	16.1	8.3
	18.0	5.0	11.5	96.8	5.60	77.6	110.7	5.06	13.5	73.3	53.8	0.73	4.40	75.8	16.7	7.9
90	12.0	2.4	5.6	97.3	5.62	78.1	110.9	5.07	14.3	65.7	48.5	0.74	5.06	68.2	13.0	10.9
	15.0	3.5	8.1	102.5	5.75	82.9	113.1	5.23	14.7	65.9	48.4	0.73	4.93	68.4	13.4	10.4
	18.0	4.8	11.1	104.5	5.80	84.7	114.0	5.28	15.2	67.2	50.3	0.75	4.81	69.7	14.0	9.9
100	12.0	2.3	5.4	Operation not recommended						Operation not recommended						
	15.0	3.4	7.8							63.7	47.8	0.75	5.47	66.3	11.6	13.0
	18.0	4.6	10.7							65.1	50.2	0.77	5.33	67.7	12.2	12.3
110	12.0	2.2	5.2							Operation not recommended						
	15.0	3.3	7.5							56.2	42.5	0.76	6.03	58.8	9.3	15.9
	18.0	4.4	10.2							57.6	45.0	0.78	5.85	60.3	9.9	15.1
120	12.0	2.2	5.0							Operation not recommended						
	15.0	3.1	7.2							53.2	43.1	0.81	6.69	55.9	7.9	19.2
	18.0	4.3	9.8							54.6	46.0	0.84	6.47	57.5	8.4	18.2

2/10/12

Performance Data cont.

Model 018 - Single Speed with Variable Speed ECM (600 cfm)

EWT °F	Flow Rate GPM	WPD		Heating - EAT 70°F							Cooling - EAT 80/67 °F							
		PSI	FT/HD	Airflow cfm	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC MBtu/h	Airflow cfm	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR MBtu/h	EER	HWC MBtu/h
20	3.0	1.8	4.1	Operation not recommended							Operation not recommended							
	4.0	3.0	6.9															
	5.0	4.3	9.9	500	12.3	1.09	8.6	90.8	3.30	1.6								
				600	12.7	1.12	8.9	87.6	3.34	1.5								
30	3.0	1.7	3.9	Operation not recommended							Operation not recommended							
	4.0	3.0	6.8	500	13.9	1.16	10.0	93.8	3.51	1.6	500	19.0	11.6	0.61	0.65	21.2	29.4	--
				600	14.4	1.19	10.3	90.2	3.55	1.6	600	19.5	12.9	0.66	0.70	21.9	28.1	--
	5.0	4.2	9.7	500	14.2	1.17	10.2	94.2	3.54	1.7	500	18.3	11.2	0.61	0.63	20.4	29.1	--
				600	14.6	1.20	10.5	90.5	3.58	1.6	600	18.8	12.4	0.66	0.68	21.1	27.9	--
40	3.0	1.7	3.8	Operation not recommended							Operation not recommended							
	4.0	2.9	6.7	500	15.4	1.22	11.2	96.5	3.70	1.8	500	19.4	11.7	0.60	0.69	21.8	28.0	--
				600	15.9	1.24	11.6	92.5	3.74	1.6	600	20.0	13.0	0.65	0.75	22.5	26.8	--
	5.0	4.2	9.6	500	15.8	1.23	11.6	97.2	3.76	1.8	500	19.2	11.5	0.60	0.64	21.4	29.9	--
				600	16.3	1.26	12.0	93.1	3.79	1.7	600	19.8	12.8	0.65	0.69	22.1	28.6	--
50	3.0	1.6	3.7	500	16.6	1.27	12.3	98.7	3.83	1.9	500	19.6	11.9	0.61	0.82	22.4	23.8	0.9
				600	17.1	1.30	12.7	94.4	3.87	1.7	600	20.1	13.2	0.66	0.89	23.1	22.7	1.0
	4.0	2.9	6.6	500	17.0	1.28	12.6	99.4	3.89	1.9	500	19.8	11.8	0.60	0.74	22.4	26.8	0.8
				600	17.5	1.31	13.0	95.0	3.93	1.8	600	20.4	13.2	0.64	0.80	23.1	25.7	0.9
	5.0	4.2	9.6	500	17.4	1.29	13.0	100.2	3.95	1.9	500	20.1	11.8	0.59	0.66	22.4	30.7	0.8
				600	17.9	1.32	13.4	95.6	3.99	1.9	600	20.7	13.1	0.63	0.71	23.1	29.4	0.9
60	3.0	1.6	3.6	500	18.5	1.33	13.9	102.2	4.08	2.1	500	18.7	11.4	0.61	0.87	21.6	21.5	1.0
				600	19.1	1.36	14.4	97.4	4.12	2.0	600	19.2	12.7	0.66	0.94	22.4	20.5	1.1
	4.0	2.8	6.6	500	18.8	1.34	14.3	102.9	4.11	2.1	500	18.9	11.4	0.60	0.81	21.7	23.2	1.0
				600	19.4	1.37	14.8	98.0	4.16	2.0	600	19.4	12.6	0.65	0.88	22.4	22.2	1.1
	5.0	4.1	9.5	500	19.2	1.36	14.6	103.6	4.15	2.2	500	19.1	11.3	0.59	0.76	21.7	25.2	0.9
				600	19.8	1.39	15.1	98.6	4.19	2.0	600	19.6	12.6	0.64	0.82	22.4	24.0	1.0
70	3.0	1.5	3.5	500	20.4	1.39	15.6	105.7	4.31	2.4	500	17.8	10.9	0.61	0.92	20.9	19.4	1.2
				600	21.0	1.42	16.2	100.4	4.35	2.2	600	18.3	12.1	0.66	0.99	21.7	18.6	1.3
	4.0	2.8	6.5	500	20.7	1.41	15.9	106.4	4.32	2.4	500	17.9	10.9	0.61	0.89	20.9	20.2	1.1
				600	21.4	1.44	16.5	100.9	4.36	2.2	600	18.4	12.1	0.66	0.96	21.7	19.3	1.3
	5.0	4.1	9.5	500	21.0	1.43	16.2	107.0	4.33	2.4	500	18.0	10.9	0.60	0.86	20.9	20.9	1.1
				600	21.7	1.46	16.7	101.5	4.37	2.2	600	18.5	12.1	0.65	0.93	21.7	20.0	1.2
80	3.0	1.5	3.4	500	22.6	1.45	17.7	109.9	4.57	2.7	500	17.0	10.4	0.61	0.97	20.3	17.6	1.6
				600	23.3	1.48	18.3	104.0	4.62	2.5	600	17.5	11.6	0.66	1.04	21.0	16.8	1.7
	4.0	2.8	6.4	500	22.9	1.48	17.9	110.4	4.55	2.7	500	17.0	10.4	0.61	0.97	20.3	17.5	1.5
				600	23.6	1.51	18.5	104.5	4.60	2.4	600	17.5	11.6	0.66	1.05	21.1	16.7	1.6
	5.0	4.1	9.4	500	23.3	1.49	18.2	111.1	4.58	2.7	500	17.2	10.6	0.62	0.95	20.4	18.1	1.4
				600	24.0	1.52	18.8	105.0	4.63	2.5	600	17.7	11.8	0.67	1.02	21.1	17.3	1.5
90	3.0	1.4	3.2	500	25.1	1.52	19.9	114.4	4.85	3.0	500	16.2	10.0	0.62	1.02	19.7	15.9	1.9
				600	25.8	1.55	20.6	107.9	4.90	2.8	600	16.7	11.1	0.67	1.10	20.4	15.2	2.1
	4.0	2.7	6.3	500	25.3	1.55	20.0	114.9	4.79	3.0	500	16.2	10.0	0.62	1.07	19.8	15.1	1.8
				600	26.1	1.58	20.7	108.3	4.84	2.8	600	16.6	11.1	0.67	1.15	20.5	14.5	2.0
	5.0	4.0	9.2	500	25.5	1.55	20.2	115.2	4.81	3.1	500	16.3	10.3	0.63	1.04	19.9	15.7	1.7
				600	26.3	1.59	20.9	108.6	4.86	2.9	600	16.8	11.4	0.68	1.12	20.6	15.0	1.9
100	3.0	1.4	3.1	Operation not recommended							Operation not recommended							
	4.0	2.7	6.2								500	15.3	9.6	0.63	1.17	19.3	13.1	2.2
											600	15.8	10.7	0.68	1.26	20.1	12.5	2.4
	5.0	4.0	9.1								500	15.3	9.9	0.65	1.19	19.4	12.9	2.0
											600	15.8	11.1	0.70	1.28	20.1	12.3	2.3
110	3.0	1.3	3.0								Operation not recommended							
	4.0	2.7	6.1								500	14.6	9.2	0.63	1.28	19.0	11.4	2.9
											600	15.0	10.2	0.68	1.38	19.7	10.9	3.2
	5.0	3.9	9.0								500	14.3	9.6	0.67	1.33	18.9	10.7	2.6
											600	14.7	10.7	0.73	1.44	19.6	10.2	3.0
120	3.0	1.3	2.9								Operation not recommended							
	4.0	2.6	6.1								500	13.8	8.8	0.64	1.41	18.6	9.8	3.5
											600	14.2	9.8	0.69	1.51	19.4	9.4	4.0
	5.0	3.9	8.9								500	13.3	9.2	0.69	1.48	18.4	9.0	3.1
											600	13.7	10.2	0.74	1.60	19.1	8.6	3.5

10/1/10

Performance Data cont.

Model 022 - Single Speed with Variable Speed ECM or 5-Speed ECM (700 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	3.0	0.9	2.2	Operation not recommended							Operation not recommended							
	4.5	1.8	4.2															
	6.0	2.9	6.8	600	12.0	1.16	8.0	88.4	3.03	1.6								
				700	12.1	1.17	8.1	86.0	3.04	1.5								
30	3.0	0.9	2.1	Operation not recommended							Operation not recommended							
	4.5	1.7	4.0	600	14.0	1.17	10.0	91.6	3.53	1.7	600	23.4	15.8	0.68	0.66	25.7	35.6	---
				700	14.3	1.18	10.3	88.9	3.57	1.6	700	23.8	17.3	0.73	0.69	26.2	34.4	---
	6.0	2.8	6.6	600	14.3	1.18	10.3	92.1	3.57	1.8	600	23.6	15.8	0.67	0.64	25.7	36.9	---
				700	14.5	1.19	10.5	89.2	3.59	1.6	700	24.1	17.3	0.72	0.67	26.4	36.0	---
40	3.0	0.9	2.0	Operation not recommended							Operation not recommended							
	4.5	1.7	3.9	600	16.5	1.19	12.5	95.5	4.06	1.9	600	24.9	16.3	0.65	0.71	27.3	35.3	---
				700	16.9	1.20	12.8	92.3	4.12	1.8	700	25.4	17.8	0.70	0.74	27.9	34.3	---
	6.0	2.8	6.4	600	16.8	1.21	12.7	96.0	4.08	2.0	600	25.1	16.3	0.65	0.68	27.5	36.7	---
				700	17.1	1.21	13.0	92.7	4.16	1.8	700	25.7	17.8	0.69	0.72	28.1	35.9	---
50	3.0	0.9	2.0	600	18.0	1.20	13.9	97.7	4.39	2.1	600	25.4	16.0	0.63	0.83	28.2	30.7	1.1
				700	18.3	1.20	14.2	94.2	4.48	2.0	700	25.9	17.5	0.67	0.86	28.8	30.1	1.2
	4.5	1.6	3.8	600	18.9	1.23	14.7	99.1	4.51	2.2	600	25.6	16.2	0.63	0.79	28.3	32.6	1.0
				700	19.2	1.23	15.0	95.4	4.60	2.0	700	26.2	17.7	0.67	0.82	29.0	31.9	1.1
	6.0	2.7	6.2	600	19.1	1.24	14.9	99.5	4.51	2.2	600	25.9	16.2	0.63	0.76	28.5	34.0	1.0
				700	19.6	1.23	15.4	95.9	4.65	2.1	700	26.4	17.7	0.67	0.79	29.2	33.3	1.1
60	3.0	0.8	1.9	600	20.3	1.25	16.0	101.3	4.77	2.4	600	24.6	15.9	0.65	0.93	27.7	26.5	1.3
				700	20.7	1.23	16.5	97.4	4.93	2.2	700	25.1	17.3	0.69	0.96	28.4	26.0	1.4
	4.5	1.6	3.7	600	21.2	1.27	16.9	102.7	4.89	2.4	600	24.8	16.1	0.65	0.88	27.8	28.3	1.2
				700	21.8	1.26	17.5	98.8	5.05	2.3	700	25.3	17.5	0.69	0.91	28.5	27.7	1.3
	6.0	2.6	6.0	600	21.6	1.29	17.2	103.3	4.91	2.5	600	25.1	16.1	0.64	0.85	28.0	29.4	1.1
				700	22.1	1.27	17.8	99.3	5.10	2.3	700	25.6	17.5	0.68	0.89	28.6	28.9	1.3
70	3.0	0.8	1.8	600	22.6	1.30	18.2	104.9	5.11	2.7	600	24.3	15.8	0.65	1.05	27.8	23.1	1.6
				700	23.2	1.27	18.8	100.6	5.34	2.5	700	24.7	17.1	0.69	1.09	28.5	22.7	1.7
	4.5	1.5	3.6	600	23.6	1.32	19.1	106.4	5.23	2.7	600	24.5	15.9	0.65	0.99	27.8	24.6	1.5
				700	24.3	1.30	19.9	102.2	5.46	2.5	700	25.0	17.3	0.69	1.03	28.6	24.2	1.7
	6.0	2.5	5.8	600	24.1	1.34	19.5	107.1	5.27	2.8	600	24.7	15.9	0.64	0.97	28.0	25.6	1.4
				700	24.7	1.31	20.2	102.7	5.51	2.6	700	25.2	17.3	0.69	1.00	28.6	25.2	1.6
80	3.0	0.8	1.8	600	24.6	1.35	20.0	108.0	5.34	3.0	600	23.2	15.4	0.66	1.19	27.3	19.5	2.0
				700	25.3	1.32	20.8	103.5	5.64	2.8	700	23.7	16.7	0.71	1.23	27.9	19.2	2.2
	4.5	1.5	3.4	600	25.7	1.38	21.0	109.6	5.45	3.1	600	23.4	15.6	0.66	1.13	27.3	20.8	1.9
				700	26.5	1.35	21.9	105.1	5.78	2.8	700	24.0	16.9	0.71	1.16	27.9	20.6	2.1
	6.0	2.4	5.6	600	26.1	1.40	21.4	110.3	5.48	3.2	600	23.7	15.6	0.66	1.09	27.4	21.7	1.8
				700	27.0	1.36	22.3	105.7	5.82	2.9	700	24.2	16.9	0.70	1.13	28.0	21.4	2.0
90	3.0	0.7	1.7	600	26.6	1.41	21.8	111.1	5.53	3.3	600	21.5	15.0	0.70	1.35	26.1	15.9	2.5
				700	27.5	1.37	22.9	106.4	5.90	3.1	700	22.0	16.3	0.74	1.39	26.8	15.8	2.7
	4.5	1.4	3.3	600	27.8	1.44	22.9	112.9	5.64	3.4	600	21.7	15.2	0.70	1.28	26.1	17.0	2.4
				700	28.8	1.39	24.0	108.0	6.05	3.2	700	22.2	16.5	0.74	1.32	26.7	16.9	2.6
	6.0	2.3	5.4	600	28.2	1.46	23.2	113.6	5.66	3.5	600	22.0	15.2	0.69	1.24	26.2	17.8	2.2
				700	29.3	1.41	24.5	108.7	6.09	3.3	700	22.4	16.5	0.74	1.28	26.8	17.5	2.4
100	3.0	0.7	1.7	Operation not recommended							Operation not recommended							
	4.5	1.4	3.2								600	20.8	14.8	0.71	1.45	25.7	14.3	2.9
											700	21.2	16.1	0.76	1.49	26.3	14.2	3.2
	6.0	2.2	5.2								600	21.0	14.8	0.70	1.41	25.8	15.0	2.7
											700	21.4	16.1	0.75	1.45	26.4	14.8	3.0
110	3.0	0.7	1.6								Operation not recommended							
	4.5	1.3	3.1								600	18.6	14.3	0.76	1.63	24.2	11.4	3.6
											700	19.0	15.5	0.81	1.68	24.8	11.3	3.9
	6.0	2.2	5.0								600	18.8	14.3	0.76	1.59	24.2	11.9	3.3
											700	19.2	15.5	0.81	1.63	24.8	11.8	3.7
120	3.0	0.7	1.5								Operation not recommended							
	4.5	1.3	2.9								600	17.3	13.8	0.79	1.86	23.7	9.3	4.3
											700	17.6	14.9	0.85	1.91	24.2	9.3	4.7
	6.0	2.1	4.8								600	17.5	13.8	0.79	1.80	23.6	9.7	4.0
											700	17.9	14.9	0.84	1.86	24.2	9.6	4.4

2/13/12

Performance Data cont.

Model 030 - Single Speed with Variable Speed ECM or 5-Speed ECM (900 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	4.0	1.4	3.5	Operation not recommended							Operation not recommended							
	6.0	2.8	7.2															
	8.0	4.6	12.1	700	16.9	1.52	11.7	92.4	3.26	2.2								
				900	17.2	1.55	11.9	87.7	3.25	2.0								
30	4.0	1.4	3.4	Operation not recommended							Operation not recommended							
	6.0	2.7	7.0	700	19.4	1.51	14.2	95.7	3.77	2.4	700	26.1	16.7	0.64	0.87	29.1	30.0	---
				900	19.8	1.54	14.6	90.4	3.77	2.2	900	26.8	18.7	0.70	0.94	30.0	28.5	---
	8.0	4.4	11.8	700	19.9	1.53	14.7	96.3	3.82	2.4	700	26.3	16.7	0.63	0.85	29.2	30.8	---
				900	20.2	1.56	14.9	90.8	3.81	2.2	900	27.3	18.7	0.68	0.91	30.4	30.0	---
40	4.0	1.3	3.3	Operation not recommended							Operation not recommended							
	6.0	2.6	6.8	700	22.7	1.56	17.4	100.1	4.27	2.6	700	28.3	18.0	0.64	0.95	31.5	29.7	---
				900	23.3	1.58	17.9	93.9	4.31	2.4	900	29.1	20.2	0.70	1.02	32.6	28.4	---
	8.0	4.3	11.4	700	23.3	1.58	17.9	100.8	4.32	2.7	700	28.5	18.0	0.63	0.93	31.7	30.5	---
				900	23.8	1.60	18.3	94.5	4.36	2.5	900	29.5	20.2	0.68	0.99	32.9	29.7	---
50	4.0	1.3	3.2	700	24.9	1.60	19.4	102.9	4.55	2.8	700	30.2	19.3	0.64	1.10	34.0	27.5	1.4
				900	25.5	1.62	20.0	96.2	4.61	2.6	900	31.1	21.7	0.70	1.17	35.1	26.6	1.5
	6.0	2.5	6.6	700	25.7	1.61	20.2	104.0	4.68	2.9	700	30.3	19.5	0.64	1.06	33.9	28.6	1.3
				900	26.4	1.63	20.8	97.1	4.75	2.7	900	31.2	21.8	0.70	1.13	35.0	27.7	1.4
	8.0	4.2	11.1	700	26.3	1.63	20.7	104.8	4.72	3.0	700	30.6	19.5	0.64	1.04	34.1	29.5	1.2
				900	26.9	1.64	21.3	97.7	4.81	2.8	900	31.6	21.8	0.69	1.10	35.3	28.7	1.4
60	4.0	1.2	3.1	700	27.9	1.67	22.2	107.0	4.90	3.2	700	29.5	18.9	0.64	1.21	33.6	24.4	1.7
				900	28.7	1.67	23.0	99.5	5.02	3.0	900	30.4	21.3	0.70	1.28	34.7	23.7	1.8
	6.0	2.4	6.4	700	28.9	1.69	23.1	108.2	5.01	3.3	700	29.6	19.1	0.65	1.16	33.5	25.4	1.6
				900	29.7	1.69	23.9	100.6	5.16	3.0	900	30.5	21.3	0.70	1.23	34.7	24.7	1.7
	8.0	4.0	10.7	700	29.5	1.71	23.6	109.0	5.05	3.4	700	29.9	19.1	0.64	1.14	33.8	26.2	1.5
				900	30.3	1.70	24.5	101.1	5.21	3.1	900	30.8	21.4	0.69	1.20	34.9	25.6	1.6
70	4.0	1.2	3.0	700	31.1	1.76	25.1	111.1	5.19	3.6	700	29.7	19.2	0.65	1.35	34.3	22.0	2.1
				900	32.0	1.75	26.0	102.9	5.36	3.3	900	30.6	21.6	0.71	1.42	35.4	21.5	2.2
	6.0	2.4	6.2	700	32.1	1.78	26.0	112.5	5.28	3.7	700	29.7	19.3	0.65	1.30	34.2	22.9	2.0
				900	33.1	1.76	27.1	104.1	5.50	3.4	900	30.6	21.6	0.70	1.37	35.3	22.4	2.1
	8.0	3.9	10.4	700	32.7	1.81	26.5	113.2	5.31	3.8	700	30.1	19.3	0.64	1.27	34.4	23.6	1.8
				900	33.7	1.78	27.6	104.6	5.53	3.5	900	31.0	21.7	0.70	1.34	35.5	23.1	2.0
80	4.0	1.2	2.9	700	33.6	1.84	27.3	114.4	5.36	4.0	700	28.4	19.0	0.67	1.51	33.6	18.9	2.6
				900	34.7	1.81	28.5	105.7	5.61	3.7	900	29.3	21.3	0.73	1.58	34.7	18.5	2.8
	6.0	2.3	5.9	700	34.8	1.87	28.4	116.0	5.46	4.1	700	28.6	19.1	0.67	1.45	33.5	19.7	2.5
				900	36.0	1.83	29.7	107.0	5.75	3.8	900	29.4	21.3	0.72	1.52	34.6	19.4	2.7
	8.0	3.8	10.0	700	35.3	1.89	28.9	116.7	5.47	4.3	700	28.8	19.1	0.66	1.42	33.7	20.3	2.3
				900	36.5	1.85	30.2	107.6	5.77	3.9	900	29.7	21.4	0.72	1.49	34.8	19.9	2.5
90	4.0	1.1	2.8	700	36.2	1.94	29.6	117.8	5.47	4.5	700	26.3	18.0	0.68	1.68	32.0	15.6	3.3
				900	37.4	1.89	31.0	108.5	5.80	4.2	900	27.1	20.1	0.74	1.75	33.1	15.5	3.5
	6.0	2.2	5.7	700	37.5	1.97	30.8	119.6	5.59	4.6	700	26.5	18.0	0.68	1.62	32.0	16.4	3.1
				900	38.9	1.92	32.3	110.0	5.93	4.3	900	27.3	20.1	0.74	1.68	33.0	16.2	3.3
	8.0	3.6	9.6	700	38.0	2.00	31.2	120.3	5.58	4.8	700	26.7	18.1	0.68	1.58	32.1	16.9	2.8
				900	39.5	1.94	32.8	110.6	5.95	4.4	900	27.6	20.2	0.73	1.65	33.2	16.7	3.2
100	4.0	1.1	2.7	Operation not recommended							Operation not recommended							
	6.0	2.1	5.5								700	25.3	18.0	0.71	1.83	31.5	13.8	3.8
											900	26.0	20.1	0.77	1.89	32.5	13.8	4.1
	8.0	3.5	9.3								700	25.5	18.1	0.71	1.79	31.6	14.3	3.5
											900	26.3	20.2	0.77	1.85	32.6	14.2	3.9
110	4.0	1.0	2.6								Operation not recommended							
	6.0	2.0	5.3								700	21.5	16.9	0.79	2.04	28.5	10.6	4.6
											900	22.2	18.8	0.85	2.10	29.3	10.6	5.0
	8.0	3.4	8.9								700	21.7	17.0	0.78	1.99	28.5	10.9	4.3
											900	22.4	18.9	0.84	2.05	29.4	10.9	4.7
120	4.0	1.0	2.5								Operation not recommended							
	6.0	2.0	5.1								700	20.8	16.3	0.78	2.30	28.7	9.1	5.5
											900	21.4	18.1	0.85	2.35	29.5	9.1	6.0
	8.0	3.2	8.6								700	20.9	16.4	0.78	2.25	28.6	9.3	5.1
											900	21.7	18.2	0.84	2.30	29.5	9.4	5.7

2/10/12

Performance Data cont.

Model 036 - Single Speed with Variable Speed ECM or 5-Speed ECM (1250 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	5.0	1.0	2.4	Operation not recommended							Operation not recommended							
	7.0	2.1	4.9															
	9.0	3.6	8.2	1050	21.0	1.83	14.8	88.5	3.36	2.7								
				1250	21.4	1.87	15.0	85.8	3.35	2.4								
30	5.0	1.0	2.3	Operation not recommended							Operation not recommended							
	7.0	2.1	4.7	1050	23.6	1.84	17.3	90.8	3.76	2.9	1050	30.2	19.5	0.65	1.05	33.8	28.6	---
				1250	24.1	1.88	17.7	87.8	3.76	2.6	1250	31.0	21.9	0.70	1.14	34.9	27.2	---
	9.0	3.5	8.0	1050	24.2	1.86	17.9	91.3	3.82	3.0	1050	30.4	19.4	0.64	1.04	34.0	29.4	---
				1250	24.6	1.89	18.1	88.2	3.81	2.7	1250	31.5	21.8	0.69	1.10	35.3	28.7	---
40	5.0	1.0	2.3	Operation not recommended							Operation not recommended							
	7.0	2.0	4.6	1050	27.4	1.89	20.9	94.2	4.24	3.2	1050	33.1	21.7	0.66	1.15	37.0	28.7	---
				1250	28.0	1.92	21.5	90.8	4.28	3.0	1250	34.0	24.3	0.71	1.24	38.3	27.5	---
	9.0	3.4	7.8	1050	28.0	1.92	21.5	94.7	4.29	3.3	1050	33.4	21.6	0.65	1.13	37.2	29.5	---
				1250	28.6	1.94	22.0	91.2	4.33	3.0	1250	34.5	24.3	0.70	1.20	38.6	28.7	---
50	5.0	1.0	2.2	1050	29.8	1.94	23.2	96.3	4.52	3.5	1050	35.6	23.4	0.66	1.33	40.2	26.8	1.7
				1250	30.5	1.95	23.8	92.6	4.58	3.2	1250	36.7	26.3	0.72	1.41	41.5	26.0	1.8
	7.0	1.9	4.5	1050	30.8	1.94	24.2	97.1	4.64	3.6	1050	35.7	23.6	0.66	1.28	40.1	27.9	1.6
				1250	31.6	1.96	24.9	93.4	4.72	3.3	1250	36.8	26.4	0.72	1.36	41.4	27.0	1.7
	9.0	3.3	7.5	1050	31.5	1.97	24.7	97.7	4.68	3.7	1050	36.1	23.6	0.65	1.25	40.4	28.8	1.4
				1250	32.2	1.98	25.5	93.9	4.78	3.4	1250	37.2	26.4	0.71	1.33	41.8	28.0	1.6
60	5.0	0.9	2.1	1050	33.4	1.99	26.6	99.4	4.92	3.9	1050	35.4	24.0	0.68	1.45	40.3	24.4	2.0
				1250	34.3	1.99	27.5	95.4	5.04	3.6	1250	36.4	26.9	0.74	1.54	41.7	23.7	2.1
	7.0	1.9	4.3	1050	34.5	2.01	27.6	100.4	5.03	4.0	1050	35.4	24.1	0.68	1.40	40.2	25.4	1.9
				1250	35.5	2.01	28.6	96.3	5.18	3.7	1250	36.5	27.0	0.74	1.48	41.6	24.7	2.0
	9.0	3.1	7.3	1050	35.2	2.04	28.2	101.0	5.06	4.2	1050	35.8	24.1	0.67	1.37	40.5	26.2	1.7
				1250	36.2	2.03	29.2	96.8	5.23	3.8	1250	36.9	27.0	0.73	1.45	41.9	25.6	1.9
70	5.0	0.9	2.1	1050	37.1	2.05	30.1	102.8	5.31	4.4	1050	35.9	24.9	0.69	1.61	41.3	22.3	2.5
				1250	38.2	2.04	31.3	98.3	5.48	4.1	1250	36.9	28.0	0.76	1.70	42.7	21.8	2.6
	7.0	1.8	4.2	1050	38.4	2.09	31.3	103.9	5.40	4.5	1050	36.0	25.0	0.70	1.55	41.2	23.2	2.3
				1250	39.6	2.06	32.6	99.3	5.63	4.2	1250	37.0	28.0	0.76	1.63	42.6	22.7	2.5
	9.0	3.0	7.0	1050	39.1	2.11	31.9	104.5	5.43	4.7	1050	36.3	25.0	0.69	1.52	41.5	24.0	2.2
				1250	40.3	2.09	33.2	99.8	5.66	4.3	1250	37.4	28.1	0.75	1.60	42.9	23.4	2.4
80	5.0	0.9	2.0	1050	40.1	2.11	32.9	105.4	5.57	4.9	1050	35.0	24.8	0.71	1.78	41.0	19.6	3.1
				1250	41.4	2.08	34.3	100.7	5.83	4.6	1250	36.0	27.8	0.77	1.87	42.4	19.3	3.3
	7.0	1.7	4.0	1050	41.6	2.15	34.3	106.7	5.68	5.1	1050	35.1	24.9	0.71	1.72	41.0	20.4	2.9
				1250	43.0	2.11	35.8	101.8	5.97	4.7	1250	36.2	27.8	0.77	1.80	42.3	20.2	3.1
	9.0	2.9	6.8	1050	42.2	2.18	34.8	107.2	5.69	5.2	1050	35.5	24.9	0.70	1.68	41.2	21.1	2.7
				1250	43.7	2.13	36.4	102.3	6.00	4.8	1250	36.6	27.9	0.76	1.76	42.6	20.7	3.0
90	5.0	0.8	1.9	1050	43.3	2.18	35.9	108.2	5.82	5.5	1050	32.8	24.2	0.74	1.97	39.5	16.6	3.9
				1250	44.9	2.13	37.6	103.2	6.16	5.1	1250	33.8	27.0	0.80	2.05	40.8	16.5	4.1
	7.0	1.7	3.9	1050	45.0	2.22	37.4	109.6	5.95	5.7	1050	33.0	24.2	0.73	1.90	39.5	17.4	3.6
				1250	46.6	2.17	39.2	104.5	6.31	5.3	1250	34.0	27.0	0.79	1.97	40.7	17.3	3.9
	9.0	2.8	6.6	1050	45.5	2.25	37.9	110.2	5.93	5.9	1050	33.3	24.3	0.73	1.85	39.6	17.9	3.4
				1250	47.3	2.19	39.8	105.0	6.32	5.4	1250	34.3	27.1	0.79	1.94	40.9	17.7	3.7
100	5.0	0.8	1.8	Operation not recommended							Operation not recommended							
	7.0	1.6	3.8								1050	32.1	24.0	0.75	2.12	39.3	15.1	4.5
											1250	33.1	26.8	0.81	2.20	40.6	15.0	4.8
	9.0	2.7	6.3								1050	32.4	24.1	0.75	2.08	39.4	15.6	4.1
											1250	33.4	26.9	0.81	2.15	40.7	15.5	4.6
110	5.0	0.8	1.8								Operation not recommended							
	7.0	1.6	3.6								1050	28.9	22.3	0.77	2.35	36.9	12.3	5.4
											1250	29.8	24.9	0.84	2.42	38.0	12.3	5.9
	9.0	2.6	6.1								1050	29.1	22.4	0.77	2.30	37.0	12.7	5.0
											1250	30.1	25.0	0.83	2.37	38.2	12.7	5.6
120	5.0	0.7	1.7								Operation not recommended							
	7.0	1.5	3.5								1050	27.1	22.0	0.81	2.63	36.1	10.3	6.5
											1250	27.9	24.5	0.88	2.70	37.1	10.4	7.1
	9.0	2.5	5.8								1050	27.3	22.2	0.81	2.57	36.1	10.6	6.1
											1250	28.2	24.6	0.87	2.63	37.2	10.7	6.7

2/10/12

Performance Data cont.

Model 042 - Single Speed with Variable Speed ECM or 5-Speed ECM (1350 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	5.0	0.8	1.9	Operation not recommended							Operation not recommended							
	8.0	2.3	5.3															
	11.0	4.4	10.3	1150	24.0	2.12	16.8	89.3	3.32	4.1								
				1350	24.3	2.10	17.1	86.7	3.39	3.7								
30	5.0	0.8	1.8	Operation not recommended							Operation not recommended							
	8.0	2.2	5.1	1150	27.9	2.16	20.6	92.5	3.80	4.3	1150	40.2	24.5	0.61	1.34	44.8	29.9	---
				1350	28.3	2.14	21.0	89.4	3.87	3.9	1350	42.1	27.5	0.65	1.42	46.9	29.6	---
	11.0	4.3	10.0	1150	28.3	2.16	21.0	92.8	3.85	4.4	1150	40.6	24.5	0.60	1.31	45.0	31.1	---
				1350	28.7	2.14	21.4	89.7	3.93	4.0	1350	42.5	27.5	0.65	1.38	47.2	30.8	---
40	5.0	0.8	1.8	Operation not recommended							Operation not recommended							
	8.0	2.1	4.9	1150	31.8	2.24	24.1	95.6	4.15	4.7	1150	41.9	26.2	0.62	1.43	46.8	29.3	---
				1350	32.3	2.21	24.7	92.1	4.28	4.3	1350	43.8	29.4	0.67	1.51	48.9	29.0	---
	11.0	4.2	9.7	1150	32.4	2.25	24.7	96.1	4.21	4.9	1150	42.3	26.2	0.62	1.39	47.1	30.5	---
				1350	32.9	2.21	25.3	92.5	4.35	4.4	1350	44.2	29.4	0.66	1.47	49.2	30.1	---
50	5.0	0.7	1.7	1150	34.2	2.26	26.5	97.5	4.44	5.1	1150	42.6	27.0	0.63	1.62	48.1	26.3	2.5
				1350	34.8	2.21	27.2	93.8	4.61	4.7	1350	44.4	30.4	0.68	1.71	50.2	26.0	2.6
	8.0	2.1	4.8	1150	35.6	2.31	27.7	98.7	4.52	5.3	1150	43.1	27.3	0.63	1.55	48.3	27.9	2.3
				1350	36.2	2.26	28.5	94.8	4.71	4.8	1350	44.8	30.7	0.68	1.63	50.4	27.6	2.5
	11.0	4.1	9.4	1150	36.3	2.32	28.4	99.3	4.58	5.4	1150	43.5	27.3	0.63	1.50	48.6	29.0	2.1
				1350	37.0	2.27	29.3	95.4	4.78	5.0	1350	45.3	30.7	0.68	1.58	50.7	28.7	2.4
60	5.0	0.7	1.7	1150	37.5	2.32	29.6	100.2	4.73	5.7	1150	42.5	27.7	0.65	1.78	48.5	23.8	3.0
				1350	38.3	2.26	30.5	96.2	4.96	5.3	1350	44.1	31.1	0.71	1.87	50.5	23.6	3.2
	8.0	2.0	4.6	1150	39.2	2.39	31.0	101.6	4.80	5.9	1150	43.0	28.0	0.65	1.70	48.8	25.4	2.8
				1350	40.0	2.32	32.1	97.4	5.06	5.4	1350	44.7	31.4	0.70	1.78	50.8	25.1	3.0
	11.0	3.9	9.1	1150	40.1	2.41	31.9	102.3	4.87	6.1	1150	43.4	28.0	0.64	1.65	49.1	26.4	2.6
				1350	41.0	2.34	33.0	98.1	5.14	5.6	1350	45.1	31.4	0.70	1.73	51.0	26.1	2.9
70	5.0	0.7	1.6	1150	40.7	2.40	32.5	102.8	4.97	6.4	1150	42.6	28.6	0.67	1.97	49.4	21.6	3.8
				1350	41.6	2.32	33.7	98.6	5.26	6.0	1350	44.2	32.1	0.73	2.06	51.2	21.4	4.0
	8.0	1.9	4.5	1150	42.7	2.48	34.2	104.4	5.04	6.6	1150	43.3	28.9	0.67	1.87	49.7	23.1	3.5
				1350	43.7	2.39	35.5	100.0	5.36	6.1	1350	44.9	32.5	0.72	1.96	51.5	22.9	3.8
	11.0	3.8	8.8	1150	43.8	2.51	35.2	105.2	5.11	6.8	1150	43.7	28.9	0.66	1.82	49.9	24.1	3.3
				1350	44.9	2.42	36.6	100.8	5.45	6.3	1350	45.3	32.5	0.72	1.90	51.8	23.8	3.6
80	5.0	0.7	1.6	1150	43.7	2.44	35.4	105.2	5.26	7.2	1150	41.0	27.9	0.68	2.19	48.5	18.7	4.8
				1350	44.9	2.34	36.9	100.8	5.63	6.7	1350	42.4	31.4	0.74	2.29	50.2	18.5	5.1
	8.0	1.9	4.3	1150	46.0	2.54	37.4	107.0	5.32	7.5	1150	41.8	28.2	0.68	2.08	48.9	20.1	4.5
				1350	47.3	2.42	39.0	102.4	5.72	6.9	1350	43.2	31.7	0.73	2.17	50.6	19.9	4.8
	11.0	3.7	8.5	1150	47.3	2.57	38.6	108.1	5.39	7.7	1150	42.2	28.2	0.67	2.02	49.1	20.9	4.1
				1350	48.7	2.46	40.3	103.4	5.82	7.1	1350	43.6	31.7	0.73	2.11	50.8	20.7	4.6
90	5.0	0.7	1.5	1150	46.7	2.48	38.2	107.6	5.51	8.1	1150	38.9	27.1	0.70	2.45	47.2	15.9	6.0
				1350	48.0	2.37	40.0	102.9	5.95	7.5	1350	40.1	30.5	0.76	2.55	48.8	15.7	6.4
	8.0	1.8	4.2	1150	49.2	2.60	40.4	109.6	5.55	8.4	1150	39.7	27.4	0.69	2.31	47.6	17.1	5.6
				1350	50.8	2.47	42.4	104.8	6.03	7.8	1350	40.9	30.8	0.75	2.41	49.1	17.0	6.1
	11.0	3.5	8.2	1150	50.8	2.64	41.8	110.9	5.63	8.6	1150	40.1	27.4	0.68	2.25	47.7	17.8	5.2
				1350	52.4	2.51	43.9	106.0	6.14	8.0	1350	41.3	30.8	0.75	2.34	49.3	17.6	5.8
100	5.0	0.6	1.5	Operation not recommended							Operation not recommended							
	8.0	1.7	4.0								1150	38.2	26.9	0.70	2.58	47.0	14.8	6.9
											1350	39.2	30.2	0.77	2.68	48.4	14.6	7.5
	11.0	3.4	7.9								1150	38.5	26.9	0.70	2.50	47.1	15.4	6.4
											1350	39.6	30.2	0.76	2.60	48.5	15.2	7.2
110	5.0	0.6	1.4								Operation not recommended							
	8.0	1.7	3.9								1150	34.8	24.9	0.71	2.88	44.6	12.1	8.5
											1350	35.7	27.9	0.78	2.98	45.9	12.0	9.2
	11.0	3.3	7.6								1150	35.1	24.9	0.71	2.79	44.7	12.6	7.9
											1350	36.0	27.9	0.77	2.89	45.9	12.5	8.8
120	5.0	0.6	1.3								Operation not recommended							
	8.0	1.6	3.7								1150	32.8	24.6	0.75	3.20	43.7	10.2	10.3
											1350	33.5	27.6	0.82	3.31	44.8	10.1	11.1
	11.0	3.2	7.3								1150	33.1	24.6	0.74	3.11	43.7	10.7	9.5
											1350	33.9	27.6	0.81	3.21	44.8	10.6	10.6

2/10/12

Performance Data cont.

Model 048 - Single Speed with Variable Speed ECM or 5-Speed ECM (1500 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	6.0	1.1	2.6	Operation not recommended							Operation not recommended							
	9.0	2.3	5.4															
	12.0	4.0	9.2	1300	31.6	2.84	21.9	92.5	3.26	5.3								
				1500	32.0	2.82	22.4	89.7	3.33	4.8								
30	6.0	1.1	2.5	Operation not recommended							Operation not recommended							
	9.0	2.3	5.3	1300	36.3	2.92	26.3	95.8	3.64	5.6	1300	48.2	29.6	0.61	1.58	53.6	30.5	---
				1500	36.7	2.90	26.8	92.6	3.71	5.2	1500	50.5	33.3	0.66	1.67	56.2	30.2	---
	12.0	3.9	9.0	1300	36.8	2.93	26.8	96.2	3.68	5.8	1300	48.7	29.6	0.61	1.53	53.9	31.8	---
				1500	37.2	2.90	27.3	93.0	3.76	5.3	1500	51.0	33.3	0.65	1.62	56.5	31.4	---
40	6.0	1.1	2.5	Operation not recommended							Operation not recommended							
	9.0	2.2	5.1	1300	41.7	3.05	31.3	99.7	4.00	6.2	1300	50.1	31.2	0.62	1.74	56.0	28.9	---
				1500	42.2	3.00	32.0	96.1	4.13	5.7	1500	52.3	35.1	0.67	1.83	58.6	28.6	---
	12.0	3.8	8.7	1300	42.4	3.06	31.9	100.2	4.06	6.4	1300	50.6	31.2	0.62	1.68	56.4	30.0	---
				1500	43.0	3.01	32.7	96.5	4.19	5.8	1500	52.9	35.1	0.66	1.78	58.9	29.7	---
50	6.0	1.0	2.4	1300	44.7	3.09	34.1	101.8	4.24	6.7	1300	51.2	32.5	0.63	2.02	58.1	25.3	2.9
				1500	45.4	3.02	35.1	98.0	4.40	6.2	1500	53.3	36.5	0.68	2.13	60.6	25.1	3.1
	9.0	2.1	4.9	1300	46.5	3.16	35.7	103.1	4.32	6.9	1300	51.7	32.8	0.63	1.93	58.3	26.8	2.7
				1500	47.3	3.08	36.7	99.2	4.49	6.4	1500	53.9	36.8	0.68	2.03	60.8	26.6	2.9
	12.0	3.7	8.4	1300	47.4	3.18	36.6	103.8	4.37	7.2	1300	52.2	32.8	0.63	1.87	58.6	27.9	2.5
				1500	48.2	3.10	37.7	99.8	4.56	6.5	1500	54.4	36.8	0.68	1.97	61.1	27.6	2.8
60	6.0	1.0	2.3	1300	49.1	3.18	38.2	105.0	4.52	7.6	1300	50.0	32.1	0.64	2.24	57.6	22.3	3.5
				1500	50.0	3.10	39.5	100.9	4.74	7.0	1500	51.9	36.0	0.69	2.35	59.9	22.1	3.7
	9.0	2.1	4.8	1300	51.3	3.28	40.1	106.5	4.59	7.8	1300	50.6	32.4	0.64	2.13	57.9	23.7	3.3
				1500	52.3	3.18	41.5	102.3	4.83	7.2	1500	52.6	36.4	0.69	2.24	60.2	23.5	3.6
	12.0	3.5	8.2	1300	52.5	3.31	41.2	107.4	4.65	8.0	1300	51.1	32.4	0.63	2.07	58.2	24.7	3.0
				1500	53.6	3.20	42.7	103.1	4.91	7.4	1500	53.1	36.4	0.69	2.17	60.5	24.4	3.4
70	6.0	1.0	2.2	1300	53.6	3.29	42.4	108.2	4.78	8.5	1300	49.7	32.4	0.65	2.51	58.3	19.8	4.4
				1500	54.7	3.17	43.9	103.8	5.05	7.9	1500	51.5	36.5	0.71	2.63	60.5	19.6	4.7
	9.0	2.0	4.6	1300	56.1	3.40	44.5	110.0	4.84	8.8	1300	50.5	32.8	0.65	2.38	58.6	21.2	4.1
				1500	57.4	3.27	46.3	105.5	5.14	8.1	1500	52.3	36.8	0.70	2.50	60.9	21.0	4.5
	12.0	3.4	7.9	1300	57.6	3.44	45.8	111.0	4.91	9.0	1300	51.0	32.8	0.64	2.31	58.9	22.0	3.8
				1500	59.0	3.31	47.7	106.4	5.22	8.3	1500	52.9	36.8	0.70	2.42	61.1	21.8	4.2
80	6.0	0.9	2.1	1300	57.1	3.37	45.6	110.7	4.97	9.6	1300	47.7	31.7	0.67	2.81	57.3	17.0	5.6
				1500	58.6	3.23	47.5	106.2	5.32	8.8	1500	49.3	35.6	0.72	2.94	59.3	16.8	5.9
	9.0	1.9	4.5	1300	60.1	3.50	48.1	112.8	5.03	9.8	1300	48.5	32.0	0.66	2.66	57.6	18.2	5.2
				1500	61.7	3.35	50.3	108.1	5.40	9.1	1500	50.2	36.0	0.72	2.78	59.7	18.0	5.6
	12.0	3.3	7.6	1300	61.8	3.55	49.7	114.0	5.10	10.1	1300	49.0	32.0	0.65	2.59	57.8	19.0	4.8
				1500	63.5	3.39	51.9	109.2	5.49	9.4	1500	50.7	36.0	0.71	2.70	59.9	18.8	5.4
90	6.0	0.9	2.1	1300	60.7	3.45	48.9	113.2	5.16	10.7	1300	44.5	30.3	0.68	3.14	55.2	14.2	7.0
				1500	62.4	3.29	51.2	108.5	5.56	9.9	1500	45.9	34.0	0.74	3.27	57.0	14.0	7.4
	9.0	1.9	4.3	1300	64.1	3.61	51.7	115.6	5.20	11.1	1300	45.4	30.6	0.67	2.97	55.5	15.3	6.5
				1500	66.0	3.43	54.3	110.7	5.64	10.2	1500	46.8	34.3	0.73	3.09	57.4	15.1	7.1
	12.0	3.2	7.4	1300	66.1	3.67	53.5	117.0	5.27	11.4	1300	45.9	30.6	0.67	2.88	55.7	15.9	6.1
				1500	68.1	3.48	56.2	112.0	5.74	10.6	1500	47.3	34.3	0.73	3.00	57.5	15.7	6.7
100	6.0	0.9	2.0	Operation not recommended							Operation not recommended							
	9.0	1.8	4.2								1300	43.9	30.1	0.69	3.33	55.2	13.2	8.1
											1500	45.1	33.9	0.75	3.46	56.9	13.0	8.8
	12.0	3.1	7.1								1300	44.3	30.1	0.68	3.23	55.3	13.7	7.5
											1500	45.6	33.9	0.74	3.36	57.0	13.6	8.4
110	6.0	0.8	1.9								Operation not recommended							
	9.0	1.7	4.0								1300	39.7	28.0	0.71	3.71	52.3	10.7	9.9
											1500	40.7	31.4	0.77	3.84	53.8	10.6	10.8
	12.0	3.0	6.8								1300	40.1	28.0	0.70	3.60	52.3	11.1	9.2
											1500	41.1	31.4	0.77	3.73	53.8	11.0	10.2
120	6.0	0.8	1.8								Operation not recommended							
	9.0	1.7	3.8								1300	37.6	27.4	0.73	4.13	51.7	9.1	12.0
											1500	38.4	30.8	0.80	4.27	53.0	9.0	13.0
	12.0	2.8	6.6								1300	37.9	27.4	0.72	4.01	51.6	9.5	11.1
											1500	38.8	30.8	0.79	4.15	53.0	9.4	12.4

2/10/12

Performance Data cont.

Model 060 - Single Speed with Variable Speed ECM or 5-Speed ECM (2000 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	9.0	2.5	5.7	Operation not recommended							Operation not recommended							
	12.0	4.0	9.2															
	15.0	5.9	13.5	1500	38.6	3.70	26.0	93.8	3.06	6.5								
				2000	39.4	3.77	26.5	88.2	3.06	5.8								
30	9.0	2.4	5.5	Operation not recommended							Operation not recommended							
	12.0	3.9	8.9	1500	43.5	3.70	30.9	96.9	3.45	6.8	1500	73.6	46.9	0.64	2.16	81.0	34.1	---
				2000	44.4	3.77	31.5	90.5	3.45	6.2	2000	71.2	48.3	0.68	2.61	80.2	27.3	---
	15.0	5.7	13.1	1500	44.9	3.80	31.9	97.7	3.46	7.0	1500	74.3	47.0	0.63	2.16	81.7	34.4	---
				2000	45.8	3.86	32.6	91.2	3.47	6.4	2000	72.4	47.8	0.66	2.44	80.8	29.6	---
40	9.0	2.3	5.3	Operation not recommended							Operation not recommended							
	12.0	3.7	8.7	1500	51.3	3.86	38.2	101.7	3.90	7.5	1500	71.9	47.4	0.66	2.40	80.1	30.0	---
				2000	52.5	3.94	39.1	94.3	3.91	6.9	2000	71.3	49.5	0.69	2.81	80.9	25.4	---
	15.0	5.5	12.7	1500	52.8	3.94	39.3	102.6	3.92	7.8	1500	72.6	47.6	0.66	2.39	80.8	30.4	---
				2000	53.8	4.01	40.1	94.9	3.93	7.1	2000	72.1	49.3	0.68	2.65	81.2	27.2	---
50	9.0	2.2	5.2	1500	57.3	4.00	43.6	105.4	4.19	8.1	1500	72.2	48.4	0.67	2.81	81.8	25.7	3.9
				2000	57.9	4.05	44.1	96.8	4.19	7.5	2000	72.4	50.2	0.69	3.15	83.1	23.0	4.1
	12.0	3.6	8.4	1500	57.9	3.99	44.3	105.7	4.25	8.4	1500	72.3	48.5	0.67	2.71	81.6	26.7	3.6
				2000	59.4	4.09	45.5	97.5	4.26	7.7	2000	72.4	50.7	0.70	3.09	82.9	23.5	3.9
	15.0	5.3	12.3	1500	59.4	4.08	45.5	106.6	4.27	8.6	1500	73.0	48.7	0.67	2.70	82.2	27.1	3.4
				2000	60.5	4.13	46.4	98.0	4.29	7.9	2000	73.1	50.7	0.69	2.94	83.2	24.9	3.7
60	9.0	2.2	5.0	1500	63.3	4.14	49.2	109.1	4.48	9.1	1500	68.5	46.2	0.68	3.04	78.9	22.5	4.7
				2000	64.4	4.17	50.1	99.8	4.52	8.4	2000	70.0	49.1	0.70	3.33	81.4	21.0	5.0
	12.0	3.5	8.1	1500	64.9	4.16	50.7	110.0	4.57	9.4	1500	68.7	46.4	0.68	2.93	78.7	23.4	4.4
				2000	65.8	4.21	51.4	100.5	4.57	8.7	2000	70.4	49.3	0.70	3.24	81.4	21.7	4.8
	15.0	5.2	11.9	1500	66.3	4.23	51.9	110.9	4.59	9.7	1500	69.4	46.7	0.67	2.91	79.3	23.9	4.1
				2000	67.7	4.28	53.1	101.3	4.63	8.9	2000	70.8	49.6	0.70	3.12	81.4	22.7	4.6
70	9.0	2.1	4.9	1500	69.5	4.29	54.9	112.9	4.75	10.3	1500	65.9	45.2	0.69	3.42	77.5	19.3	5.9
				2000	71.0	4.31	56.3	102.9	4.83	9.5	2000	68.8	49.1	0.71	3.68	81.3	18.7	6.3
	12.0	3.4	7.9	1500	72.0	4.33	57.2	114.5	4.87	10.6	1500	66.2	45.5	0.69	3.29	77.4	20.1	5.5
				2000	72.4	4.35	57.5	103.5	4.87	9.8	2000	69.5	49.1	0.71	3.54	81.6	19.6	6.0
	15.0	5.0	11.6	1500	73.4	4.40	58.4	115.3	4.89	10.9	1500	66.8	45.8	0.69	3.25	77.9	20.6	5.1
				2000	75.1	4.44	59.9	104.7	4.95	10.0	2000	69.5	49.6	0.71	3.44	81.2	20.2	5.7
80	9.0	2.0	4.7	1500	74.3	4.41	59.3	115.9	4.94	11.5	1500	64.1	44.6	0.70	3.81	77.0	16.8	7.5
				2000	75.7	4.41	60.6	105.0	5.03	10.7	2000	65.7	47.7	0.73	4.06	79.6	16.2	8.0
	12.0	3.3	7.6	1500	77.7	4.48	62.4	117.9	5.08	11.9	1500	64.4	45.0	0.70	3.66	76.9	17.6	7.0
				2000	78.3	4.44	63.2	106.3	5.18	11.0	2000	66.4	47.7	0.72	3.87	79.6	17.2	7.6
	15.0	4.8	11.2	1500	78.9	4.54	63.4	118.7	5.10	12.2	1500	65.1	45.4	0.70	3.60	77.4	18.1	6.5
				2000	80.5	4.57	64.9	107.3	5.16	11.3	2000	66.7	48.2	0.72	3.76	79.6	17.8	7.2
90	9.0	2.0	4.5	1500	79.3	4.54	63.8	119.0	5.12	13.0	1500	60.9	43.2	0.71	4.20	75.2	14.5	9.4
				2000	80.6	4.53	65.1	107.3	5.21	12.0	2000	61.3	45.5	0.74	4.45	76.5	13.8	10.0
	12.0	3.2	7.3	1500	83.5	4.65	67.7	121.6	5.27	13.4	1500	61.3	43.7	0.71	4.03	75.1	15.2	8.8
				2000	84.5	4.53	69.1	109.1	5.47	12.4	2000	61.9	45.5	0.73	4.20	76.3	14.7	9.5
	15.0	4.7	10.8	1500	84.7	4.69	68.6	122.3	5.29	13.8	1500	61.9	44.1	0.71	3.96	75.4	15.7	8.2
				2000	86.2	4.72	70.0	109.9	5.35	12.8	2000	62.6	46.0	0.73	4.08	76.5	15.3	9.1
100	9.0	1.9	4.4	Operation not recommended							Operation not recommended							
	12.0	3.1	7.1								1500	58.8	42.9	0.73	4.59	74.5	12.8	10.9
											2000	59.4	44.7	0.75	4.70	75.5	12.6	11.8
	15.0	4.5	10.4								1500	59.4	43.4	0.73	4.49	74.8	13.2	10.1
											2000	60.0	45.2	0.75	4.58	75.7	13.1	11.2
110	9.0	1.8	4.2								Operation not recommended							
	12.0	2.9	6.8								1500	53.8	39.9	0.74	5.08	71.2	10.6	13.4
											2000	54.4	41.5	0.76	5.14	71.9	10.6	14.5
	15.0	4.3	10.0								1500	54.4	40.4	0.74	4.96	71.3	11.0	12.4
											2000	54.9	42.1	0.77	5.01	72.0	11.0	13.8
120	9.0	1.7	4.0								Operation not recommended							
	12.0	2.8	6.5								1500	51.8	40.5	0.78	5.78	71.5	9.0	16.1
											2000	50.8	41.2	0.81	5.80	70.6	8.8	17.5
	15.0	4.2	9.6								1500	52.3	41.1	0.78	5.62	71.5	9.3	15.0
											2000	51.7	41.7	0.81	5.63	70.9	9.2	16.7

2/10/12

Performance Data cont.

Model 070 - Single Speed with Variable Speed ECM or 5-Speed ECM (2200 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	12.0	3.0	7.0	Operation not recommended							Operation not recommended							
	15.0	4.4	10.2															
	18.0	6.0	13.9	1700	45.6	4.45	30.4	94.8	3.00	7.7								
				2200	46.6	4.54	31.2	89.6	3.01	6.9								
30	12.0	3.0	6.8	Operation not recommended							Operation not recommended							
	15.0	4.3	9.9	1700	52.5	4.55	37.0	98.6	3.38	8.1	1700	69.3	43.4	0.63	2.39	77.5	29.0	---
				2200	53.8	4.65	37.9	92.6	3.39	7.4	2200	73.9	49.6	0.67	2.79	83.4	26.5	---
	18.0	5.8	13.5	1700	52.7	4.57	37.1	98.7	3.38	8.4	1700	69.7	42.9	0.62	2.38	77.8	29.3	---
				2200	54.0	4.66	38.1	92.7	3.39	7.6	2200	74.3	49.0	0.66	2.78	83.8	26.7	---
40	12.0	2.9	6.6	Operation not recommended							Operation not recommended							
	15.0	4.1	9.6	1700	61.3	4.75	45.1	103.4	3.78	8.9	1700	71.7	46.1	0.64	2.63	80.6	27.3	---
				2200	62.8	4.80	46.4	96.4	3.83	8.2	2200	76.1	52.7	0.69	3.03	86.4	25.1	---
	18.0	5.7	13.1	1700	61.7	4.77	45.4	103.6	3.79	9.2	1700	72.2	45.9	0.64	2.61	81.1	27.7	---
				2200	63.2	4.82	46.7	96.6	3.84	8.4	2200	76.6	52.5	0.68	3.01	86.9	25.5	---
50	12.0	2.8	6.4	1700	67.6	4.89	50.9	106.8	4.05	9.7	1700	75.1	48.4	0.64	3.01	85.4	24.9	4.3
				2200	69.2	4.91	52.4	99.1	4.13	8.9	2200	79.4	55.4	0.70	3.43	91.1	23.2	4.5
	15.0	4.0	9.3	1700	68.9	4.94	52.1	107.5	4.09	10.0	1700	75.5	48.7	0.64	2.92	85.5	25.8	4.0
				2200	70.6	4.95	53.7	99.7	4.18	9.2	2200	79.8	55.7	0.70	3.33	91.2	24.0	4.3
	18.0	5.5	12.7	1700	69.5	4.97	52.6	107.9	4.10	10.3	1700	76.3	48.9	0.64	2.89	86.1	26.4	3.7
				2200	71.3	4.98	54.3	100.0	4.20	9.4	2200	80.6	55.9	0.69	3.29	91.9	24.5	4.1
60	12.0	2.7	6.2	1700	74.9	5.09	57.5	110.8	4.31	10.8	1700	72.3	46.9	0.65	3.31	83.5	21.8	5.2
				2200	76.8	5.06	59.5	102.3	4.45	10.0	2200	76.1	53.6	0.70	3.72	88.8	20.4	5.5
	15.0	3.9	9.0	1700	77.1	5.16	59.5	112.0	4.38	11.2	1700	72.6	47.0	0.65	3.22	83.5	22.6	4.8
				2200	79.1	5.12	61.6	103.3	4.53	10.3	2200	76.4	53.8	0.70	3.62	88.8	21.1	5.2
	18.0	5.3	12.3	1700	78.0	5.20	60.2	112.5	4.39	11.5	1700	73.5	47.6	0.65	3.17	84.3	23.2	4.5
				2200	80.0	5.15	62.4	103.7	4.55	10.6	2200	77.4	54.5	0.70	3.57	89.5	21.7	5.0
70	12.0	2.6	6.0	1700	82.6	5.30	64.5	115.0	4.57	12.2	1700	72.0	47.5	0.66	3.69	84.6	19.5	6.5
				2200	84.8	5.22	66.9	105.7	4.76	11.3	2200	75.5	54.4	0.72	4.11	89.5	18.4	6.9
	15.0	3.8	8.7	1700	85.6	5.40	67.2	116.6	4.65	12.6	1700	72.3	47.6	0.66	3.59	84.5	20.2	6.1
				2200	87.9	5.30	69.8	107.0	4.86	11.6	2200	75.8	54.5	0.72	3.99	89.4	19.0	6.6
	18.0	5.1	11.9	1700	86.8	5.44	68.2	117.3	4.67	13.0	1700	73.4	48.7	0.66	3.53	85.4	20.8	5.6
				2200	89.1	5.34	70.9	107.5	4.89	11.9	2200	76.9	55.7	0.72	3.93	90.3	19.6	6.3
80	12.0	2.5	5.8	1700	88.2	5.50	69.4	118.0	4.70	13.7	1700	69.1	45.5	0.66	4.12	83.1	16.8	8.2
				2200	90.7	5.37	72.3	108.2	4.95	12.7	2200	72.1	52.1	0.72	4.53	87.6	15.9	8.7
	15.0	3.6	8.4	1700	92.2	5.62	73.0	120.2	4.81	14.1	1700	69.3	45.5	0.66	4.00	82.9	17.3	7.7
				2200	94.8	5.47	76.2	109.9	5.08	13.1	2200	72.4	52.1	0.72	4.40	87.4	16.4	8.3
	18.0	5.0	11.5	1700	93.6	5.68	74.3	121.0	4.83	14.6	1700	70.5	46.9	0.67	3.92	83.9	18.0	7.1
				2200	96.5	5.52	77.6	110.6	5.12	13.5	2200	73.6	53.7	0.73	4.31	88.3	17.1	7.9
90	12.0	2.4	5.6	1700	94.2	5.72	74.7	121.3	4.83	15.4	1700	63.4	42.2	0.67	4.57	79.0	13.9	10.3
				2200	97.0	5.53	78.1	110.8	5.14	14.3	2200	66.0	48.4	0.73	4.98	83.0	13.3	10.9
	15.0	3.5	8.1	1700	99.2	5.87	79.2	124.1	4.96	15.9	1700	63.6	42.1	0.66	4.45	78.8	14.3	9.6
				2200	102.2	5.66	82.9	113.0	5.29	14.7	2200	66.2	48.3	0.73	4.84	82.7	13.7	10.4
	18.0	4.8	11.1	1700	100.9	5.93	80.7	125.0	4.99	16.4	1700	64.9	43.8	0.68	4.35	79.7	14.9	8.9
				2200	104.2	5.71	84.8	113.9	5.35	15.2	2200	67.5	50.3	0.74	4.73	83.6	14.3	9.9
100	12.0	2.3	5.4	Operation not recommended							Operation not recommended							
	15.0	3.4	7.8								1700	61.7	41.6	0.67	5.01	78.9	12.3	12.0
											2200	64.0	47.7	0.75	5.39	82.4	11.9	13.0
	18.0	4.6	10.7								1700	63.1	43.7	0.69	4.88	79.8	12.9	11.1
											2200	65.4	50.1	0.77	5.24	83.3	12.5	12.3
110	12.0	2.2	5.2								Operation not recommended							
	15.0	3.3	7.5								1700	54.8	37.0	0.67	5.58	73.8	9.8	14.6
											2200	56.5	42.4	0.75	5.94	76.8	9.5	15.9
	18.0	4.4	10.2								1700	56.1	39.1	0.70	5.41	74.6	10.4	13.6
											2200	57.9	44.9	0.78	5.76	77.6	10.0	15.1
120	12.0	2.2	5.0								Operation not recommended							
	15.0	3.1	7.2								1700	52.0	37.4	0.72	6.27	73.4	8.3	17.7
											2200	53.4	43.0	0.80	6.60	76.0	8.1	19.2
	18.0	4.3	9.8								1700	53.4	40.0	0.75	6.06	74.1	8.8	16.4
											2200	54.9	45.9	0.84	6.38	76.7	8.6	18.2

2/10/12

Performance Data cont.

Model 026 - Part Load Dual Capacity with Variable Speed ECM or 5-Speed ECM (700 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	3.0	0.8	1.9	Operation not recommended							Operation not recommended							
	5.0	2.0	4.7															
	7.0	3.7	8.7	500	11.9	1.06	8.3	92.0	3.28	1.8								
				700	12.4	1.09	8.7	86.4	3.33	1.6								
30	3.0	0.8	1.8	Operation not recommended							Operation not recommended							
	5.0	2.0	4.5	500	13.1	1.06	9.5	94.3	3.61	1.8	500	22.5	14.1	0.63	0.52	24.3	43.3	-
				700	13.7	1.09	9.9	88.1	3.66	1.6	700	22.9	15.4	0.67	0.55	24.8	41.8	-
	7.0	3.6	8.4	500	13.9	1.09	10.2	95.8	3.75	1.8	500	22.6	14.1	0.62	0.50	24.4	44.9	-
				700	14.5	1.12	10.7	89.2	3.80	1.6	700	23.2	15.4	0.66	0.53	25.0	43.8	-
40	3.0	0.8	1.8	Operation not recommended							Operation not recommended							
	5.0	1.9	4.4	500	15.3	1.06	11.7	98.3	4.21	1.8	500	23.3	14.7	0.63	0.58	25.3	40.1	-
				700	15.8	1.08	12.1	90.9	4.28	1.7	700	23.7	16.0	0.67	0.61	25.8	38.9	-
	7.0	3.5	8.2	500	16.1	1.09	12.4	99.8	4.33	1.9	500	23.5	14.7	0.62	0.56	25.4	41.6	-
				700	16.7	1.11	12.9	92.0	4.40	1.7	700	24.0	16.0	0.67	0.59	26.0	40.7	-
50	3.0	0.7	1.7	500	16.8	1.06	13.2	101.2	4.65	1.9	500	23.5	14.5	0.62	0.66	25.8	35.6	0.7
				700	17.4	1.08	13.7	93.0	4.73	1.7	700	24.2	16.1	0.67	0.67	26.5	35.9	0.8
	5.0	1.8	4.3	500	17.4	1.06	13.8	102.3	4.81	1.9	500	23.7	14.6	0.62	0.64	25.9	36.9	0.7
				700	18.0	1.08	14.3	93.8	4.90	1.8	700	24.4	16.2	0.66	0.66	26.6	37.2	0.7
	7.0	3.4	7.9	500	18.3	1.09	14.6	103.8	4.92	2.0	500	24.1	15.0	0.62	0.64	26.3	37.8	0.6
				700	18.8	1.10	15.0	94.9	5.01	1.8	700	24.8	16.6	0.67	0.65	27.0	38.2	0.7
60	3.0	0.7	1.7	500	19.4	1.08	15.7	105.9	5.28	2.1	500	23.1	14.5	0.63	0.75	25.7	30.7	1.0
				700	19.9	1.09	16.2	96.3	5.37	1.9	700	23.7	16.0	0.68	0.77	26.4	31.0	1.0
	5.0	1.8	4.1	500	20.2	1.08	16.5	107.4	5.50	2.1	500	23.3	14.6	0.63	0.73	25.8	31.8	0.9
				700	20.7	1.08	17.0	97.3	5.60	2.0	700	24.0	16.1	0.67	0.75	26.5	32.1	1.0
	7.0	3.3	7.6	500	20.9	1.10	17.1	108.7	5.56	2.2	500	23.7	15.0	0.63	0.73	26.2	32.6	0.8
				700	21.4	1.11	17.6	98.2	5.66	2.0	700	24.4	16.6	0.68	0.74	26.9	32.9	0.9
70	3.0	0.7	1.6	500	21.9	1.09	18.2	110.6	5.88	2.3	500	22.7	14.5	0.64	0.84	25.6	26.9	1.3
				700	22.4	1.09	18.6	99.6	5.99	2.1	700	23.3	16.0	0.69	0.86	26.2	27.1	1.4
	5.0	1.7	4.0	500	22.9	1.09	19.2	112.4	6.16	2.4	500	22.9	14.5	0.64	0.82	25.7	27.8	1.3
				700	23.3	1.09	19.6	100.8	6.28	2.2	700	23.5	16.1	0.68	0.84	26.4	28.1	1.4
	7.0	3.2	7.4	500	23.5	1.11	19.7	113.5	6.19	2.4	500	23.3	14.9	0.64	0.81	26.0	28.6	1.2
				700	23.9	1.11	20.1	101.6	6.31	2.2	700	23.9	16.5	0.69	0.83	26.7	28.8	1.3
80	3.0	0.7	1.6	500	24.4	1.12	20.5	115.1	6.35	2.6	500	21.1	13.8	0.65	0.97	24.4	21.8	1.8
				700	24.7	1.12	20.9	102.7	6.47	2.4	700	21.7	15.3	0.70	0.99	25.1	21.9	1.9
	5.0	1.7	3.9	500	25.5	1.12	21.7	117.3	6.70	2.6	500	21.3	13.9	0.65	0.95	24.5	22.5	1.7
				700	25.8	1.11	22.0	104.2	6.83	2.4	700	21.9	15.4	0.70	0.96	25.2	22.7	1.9
	7.0	3.1	7.1	500	25.9	1.14	22.0	117.9	6.65	2.7	500	21.6	14.2	0.66	0.94	24.8	23.1	1.6
				700	26.2	1.13	22.3	104.6	6.78	2.5	700	22.3	15.8	0.71	0.96	25.5	23.3	1.8
90	3.0	0.7	1.5	500	26.8	1.16	22.8	119.6	6.79	2.9	500	19.5	13.1	0.67	1.10	23.3	17.8	2.4
				700	27.0	1.14	23.1	105.7	6.93	2.7	700	20.1	14.5	0.72	1.12	23.9	18.0	2.6
	5.0	1.6	3.7	500	28.1	1.15	24.2	122.1	7.20	3.0	500	19.7	13.2	0.67	1.07	23.4	18.4	2.3
				700	28.3	1.13	24.5	107.5	7.35	2.8	700	20.3	14.6	0.72	1.09	24.0	18.6	2.5
	7.0	3.0	6.9	500	28.3	1.17	24.3	122.4	7.09	3.1	500	20.0	13.6	0.68	1.06	23.7	18.9	2.1
				700	28.4	1.15	24.5	107.6	7.24	2.8	700	20.6	15.0	0.73	1.08	24.3	19.1	2.4
100	3.0	0.6	1.5	Operation not recommended							Operation not recommended							
	5.0	1.6	3.6								500	18.2	12.6	0.69	1.23	22.4	14.9	3.0
											700	18.7	14.0	0.75	1.25	23.0	15.0	3.2
	7.0	2.9	6.6								500	18.5	13.0	0.70	1.22	22.7	15.2	2.8
											700	19.1	14.4	0.75	1.24	23.3	15.4	3.1
110	3.0	0.6	1.4								Operation not recommended							
	5.0	1.5	3.4								500	16.8	12.1	0.72	1.39	21.5	12.1	3.8
											700	17.2	13.4	0.78	1.41	22.0	12.2	4.1
	7.0	2.8	6.4								500	17.0	12.4	0.73	1.37	21.7	12.4	3.5
											700	17.5	13.7	0.78	1.40	22.3	12.5	3.9
120	3.0	0.6	1.3								Operation not recommended							
	5.0	1.4	3.3								500	16.2	12.4	0.77	1.59	21.6	10.2	4.7
											700	16.5	13.5	0.82	1.63	22.1	10.1	5.1
	7.0	2.7	6.1								500	16.4	12.4	0.76	1.54	21.6	10.6	4.3
											700	16.7	13.5	0.81	1.59	22.1	10.5	4.8

Performance capacities shown in thousands of Btuh

9/16/14

Performance Data cont.

Model 026 - Full Load Dual Capacity with Variable Speed ECM or 5-Speed ECM (900 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	4.0	1.4	3.2	Operation not recommended							Operation not recommended							
	6.0	2.9	6.6															
	8.0	4.8	11.1	700	16.5	1.42	11.6	91.8	3.40	2.1								
				900	17.0	1.46	12.0	87.5	3.41	2.0								
30	4.0	1.4	3.2	Operation not recommended							Operation not recommended							
	6.0	2.8	6.4	700	18.9	1.45	13.9	95.0	3.82	2.3	700	29.8	18.6	0.62	0.93	33.0	32.0	---
				900	19.4	1.50	14.3	90.0	3.81	2.1	900	30.3	20.3	0.67	0.98	33.6	30.8	---
	8.0	4.7	10.8	700	19.2	1.47	14.2	95.4	3.84	2.3	700	30.0	18.6	0.62	0.90	33.1	33.1	---
				900	19.8	1.51	14.7	90.4	3.85	2.2	900	30.7	20.3	0.66	0.95	33.9	32.3	---
40	4.0	1.3	3.1	Operation not recommended							Operation not recommended							
	6.0	2.7	6.2	700	21.5	1.50	16.4	98.5	4.21	2.5	700	30.1	19.1	0.63	1.02	33.6	29.4	-
				900	22.2	1.53	17.0	92.8	4.25	2.3	900	30.7	20.8	0.68	1.07	34.3	28.5	-
	8.0	4.5	10.4	700	22.0	1.51	16.8	99.1	4.25	2.6	700	30.3	19.1	0.63	0.99	33.7	30.5	-
				900	22.7	1.55	17.4	93.3	4.30	2.4	900	31.0	20.8	0.67	1.04	34.5	29.8	-
50	4.0	1.3	3.0	700	23.3	1.51	18.2	100.9	4.53	2.7	700	28.8	17.8	0.62	1.17	32.8	24.6	1.3
				900	24.0	1.53	18.8	94.7	4.60	2.5	900	30.3	19.7	0.65	1.23	34.5	24.6	1.4
	6.0	2.6	6.0	700	24.2	1.55	18.9	102.0	4.59	2.8	700	29.4	18.0	0.61	1.10	33.2	26.7	1.3
				900	25.0	1.57	19.6	95.7	4.67	2.6	900	31.0	20.0	0.64	1.16	34.9	26.8	1.4
	8.0	4.4	10.1	700	24.7	1.56	19.4	102.7	4.65	2.9	700	29.7	19.2	0.65	1.08	33.4	27.6	1.2
				900	25.5	1.58	20.1	96.2	4.73	2.7	900	31.3	21.3	0.68	1.13	35.2	27.7	1.3
60	4.0	1.2	2.9	700	26.0	1.58	20.6	104.4	4.82	3.1	700	28.5	17.9	0.63	1.28	32.9	22.3	1.6
				900	26.8	1.59	21.4	97.6	4.94	2.9	900	29.9	19.9	0.67	1.34	34.4	22.3	1.7
	6.0	2.5	5.8	700	27.2	1.63	21.6	105.9	4.90	3.2	700	29.2	18.1	0.62	1.22	33.3	24.0	1.5
				900	28.1	1.64	22.5	98.9	5.02	2.9	900	30.5	20.1	0.66	1.27	34.9	24.1	1.6
	8.0	4.2	9.8	700	27.8	1.64	22.2	106.8	4.96	3.3	700	29.4	19.1	0.65	1.19	33.5	24.8	1.4
				900	28.8	1.65	23.1	99.6	5.11	3.0	900	30.9	21.2	0.68	1.24	35.1	24.9	1.6
70	4.0	1.2	2.8	700	28.7	1.65	23.1	108.0	5.09	3.5	700	28.2	18.0	0.64	1.39	32.9	20.3	2.0
				900	29.7	1.65	24.0	100.5	5.27	3.2	900	29.4	20.1	0.68	1.44	34.3	20.4	2.1
	6.0	2.4	5.6	700	30.2	1.71	24.3	109.9	5.18	3.6	700	28.9	18.2	0.63	1.33	33.4	21.7	1.9
				900	31.2	1.71	25.3	102.1	5.35	3.3	900	30.1	20.2	0.67	1.38	34.8	21.9	2.0
	8.0	4.1	9.5	700	30.9	1.73	25.1	110.9	5.25	3.7	700	29.2	19.0	0.65	1.30	33.6	22.5	1.7
				900	32.0	1.72	26.1	102.9	5.45	3.4	900	30.5	21.0	0.69	1.35	35.1	22.6	1.9
80	4.0	1.2	2.7	700	31.2	1.75	25.3	111.3	5.23	3.9	700	27.0	17.8	0.66	1.54	32.2	17.5	2.5
				900	32.3	1.74	26.4	103.3	5.46	3.6	900	28.0	19.8	0.71	1.59	33.5	17.7	2.7
	6.0	2.4	5.4	700	33.0	1.82	26.8	113.7	5.32	4.0	700	27.7	18.0	0.65	1.49	32.8	18.6	2.3
				900	34.2	1.80	28.0	105.1	5.56	3.7	900	28.8	20.0	0.69	1.53	34.0	18.8	2.5
	8.0	4.0	9.2	700	34.0	1.84	27.7	115.0	5.41	4.1	700	28.0	18.5	0.66	1.46	33.0	19.2	2.2
				900	35.2	1.82	29.0	106.2	5.68	3.8	900	29.2	20.5	0.70	1.50	34.3	19.4	2.4
90	4.0	1.1	2.6	700	33.8	1.85	27.5	114.7	5.36	4.3	700	25.7	17.6	0.68	1.69	31.5	15.2	3.1
				900	35.0	1.82	28.8	106.0	5.63	4.0	900	26.7	19.5	0.73	1.73	32.6	15.4	3.3
	6.0	2.3	5.2	700	35.9	1.93	29.3	117.5	5.45	4.5	700	26.5	17.8	0.67	1.64	32.1	16.1	2.9
				900	37.2	1.90	30.7	108.2	5.74	4.1	900	27.5	19.8	0.72	1.68	33.2	16.3	3.2
	8.0	3.8	8.8	700	37.0	1.96	30.3	119.0	5.54	4.6	700	26.8	18.0	0.67	1.62	32.3	16.6	2.7
				900	38.3	1.91	31.8	109.4	5.88	4.3	900	27.8	19.9	0.72	1.65	33.4	16.8	3.0
100	4.0	1.1	2.5	Operation not recommended							Operation not recommended							
	6.0	2.2	5.1								700	24.9	17.3	0.69	1.85	31.2	13.5	3.6
											900	25.7	19.2	0.74	1.88	32.1	13.7	3.9
	8.0	3.7	8.5								700	25.2	17.2	0.68	1.82	31.4	13.9	3.3
											900	26.0	19.1	0.73	1.85	32.3	14.1	3.7
110	4.0	1.0	2.4								Operation not recommended							
	6.0	2.1	4.9								700	23.3	16.7	0.72	2.05	30.3	11.4	4.4
											900	24.0	18.6	0.78	2.07	31.0	11.6	4.7
	8.0	3.5	8.2								700	23.6	16.5	0.70	2.02	30.4	11.7	4.1
											900	24.2	18.2	0.75	2.04	31.2	11.9	4.5
120	4.0	1.0	2.3								Operation not recommended							
	6.0	2.0	4.7								700	21.6	16.1	0.74	2.28	29.4	9.5	5.3
											900	22.0	17.5	0.79	2.34	30.0	9.4	5.7
	8.0	3.4	7.9								700	21.8	16.1	0.74	2.21	29.4	9.9	4.9
											900	22.3	17.5	0.78	2.28	30.1	9.8	5.4

9/16/14

Performance Data cont.

Model 038 - Part Load Dual Capacity with Variable Speed ECM or 5-Speed ECM (1050 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	4.0	0.9	2.1	Operation not recommended							Operation not recommended							
	6.0	1.7	4.0															
	8.0	2.9	6.7	900	17.6	1.63	12.1	88.1	3.17	2.5								
				1050	18.4	1.67	12.7	86.2	3.22	2.3								
30	4.0	0.9	2.0	Operation not recommended							Operation not recommended							
	6.0	1.7	3.9	900	19.2	1.58	13.8	89.8	3.57	2.4	900	29.5	19.1	0.65	0.74	32.0	40.1	---
				1050	20.0	1.62	14.5	87.7	3.62	2.2	1050	30.0	20.9	0.70	0.78	32.6	38.7	---
	8.0	2.8	6.5	900	20.5	1.62	14.9	91.0	3.71	2.5	900	29.7	19.1	0.64	0.71	32.1	41.5	---
				1050	21.3	1.66	15.6	88.8	3.76	2.3	1050	30.4	20.9	0.69	0.75	33.0	40.5	---
40	4.0	0.8	1.9	Operation not recommended							Operation not recommended							
	6.0	1.6	3.8	900	22.5	1.60	17.0	93.1	4.11	2.5	900	30.8	20.6	0.67	0.81	33.5	37.8	-
				1050	23.3	1.63	17.7	90.5	4.17	2.3	1050	31.3	22.5	0.72	0.85	34.3	36.8	-
	8.0	2.7	6.3	900	23.7	1.64	18.1	94.4	4.23	2.6	900	31.0	20.6	0.66	0.79	33.7	39.3	-
				1050	24.5	1.67	18.8	91.6	4.29	2.4	1050	31.7	22.5	0.71	0.83	34.5	38.4	-
50	4.0	0.8	1.9	900	24.8	1.63	19.3	95.5	4.47	2.6	900	31.3	21.1	0.67	0.91	34.4	34.2	1.0
				1050	25.6	1.65	20.0	92.6	4.55	2.4	1050	32.2	23.4	0.73	0.93	35.4	34.5	1.1
	6.0	1.6	3.7	900	25.7	1.63	20.1	96.4	4.62	2.7	900	31.6	21.2	0.67	0.89	34.6	35.5	0.9
				1050	26.5	1.65	20.8	93.3	4.70	2.5	1050	32.5	23.5	0.72	0.91	35.6	35.8	1.0
	8.0	2.6	6.1	900	26.9	1.67	21.2	97.7	4.73	2.8	900	32.1	21.8	0.68	0.88	35.1	36.4	0.9
				1050	27.7	1.69	21.9	94.4	4.81	2.5	1050	33.0	24.1	0.73	0.90	36.1	36.7	1.0
60	4.0	0.8	1.8	900	28.1	1.67	22.4	98.9	4.94	2.9	900	30.5	20.8	0.68	1.04	34.0	29.4	1.3
				1050	28.8	1.68	23.1	95.4	5.03	2.6	1050	31.3	23.1	0.74	1.06	35.0	29.7	1.4
	6.0	1.5	3.6	900	29.3	1.67	23.6	100.1	5.15	3.0	900	30.8	21.0	0.68	1.01	34.2	30.5	1.3
				1050	29.9	1.68	24.2	96.4	5.24	2.7	1050	31.6	23.2	0.73	1.03	35.1	30.7	1.4
	8.0	2.5	5.9	900	30.3	1.70	24.5	101.2	5.21	3.0	900	31.3	21.5	0.69	1.00	34.7	31.3	1.2
				1050	31.0	1.71	25.1	97.3	5.30	2.8	1050	32.2	23.8	0.74	1.02	35.6	31.5	1.3
70	4.0	0.8	1.8	900	31.4	1.71	25.6	102.3	5.39	3.2	900	29.7	20.6	0.69	1.16	33.6	25.6	1.9
				1050	32.0	1.71	26.2	98.3	5.49	2.9	1050	30.5	22.8	0.75	1.18	34.5	25.8	2.0
	6.0	1.5	3.5	900	32.8	1.70	27.0	103.7	5.64	3.3	900	30.0	20.7	0.69	1.13	33.8	26.6	1.7
				1050	33.4	1.70	27.6	99.4	5.75	3.0	1050	30.8	22.9	0.74	1.15	34.7	26.8	1.9
	8.0	2.5	5.7	900	33.6	1.74	27.7	104.6	5.67	3.4	900	30.5	21.2	0.70	1.12	34.3	27.2	1.6
				1050	34.2	1.74	28.3	100.2	5.78	3.1	1050	31.3	23.5	0.75	1.14	35.2	27.5	1.8
80	4.0	0.7	1.7	900	35.0	1.77	29.0	106.0	5.80	3.6	900	28.1	19.8	0.70	1.33	32.6	21.1	2.5
				1050	35.5	1.76	29.5	101.3	5.91	3.3	1050	28.9	21.9	0.76	1.36	33.5	21.3	2.7
	6.0	1.4	3.3	900	36.7	1.76	30.7	107.7	6.12	3.7	900	28.3	19.9	0.70	1.30	32.8	21.9	2.4
				1050	37.1	1.74	31.1	102.7	6.24	3.4	1050	29.1	22.0	0.76	1.32	33.6	22.0	2.6
	8.0	2.4	5.5	900	37.2	1.79	31.1	108.3	6.08	3.8	900	28.8	20.4	0.71	1.29	33.2	22.4	2.2
				1050	37.6	1.78	31.5	103.1	6.20	3.5	1050	29.6	22.6	0.76	1.31	34.1	22.6	2.5
90	4.0	0.7	1.6	900	38.6	1.83	32.3	109.7	6.19	4.0	900	26.5	18.9	0.71	1.50	31.6	17.6	3.4
				1050	38.9	1.81	32.7	104.3	6.31	3.7	1050	27.2	20.9	0.77	1.53	32.4	17.7	3.6
	6.0	1.4	3.2	900	40.5	1.81	34.4	111.7	6.56	4.2	900	26.7	19.0	0.71	1.46	31.7	18.2	3.2
				1050	40.8	1.79	34.7	106.0	6.70	3.8	1050	27.4	21.1	0.77	1.49	32.5	18.4	3.4
	8.0	2.3	5.3	900	40.7	1.85	34.4	111.9	6.46	4.3	900	27.1	19.5	0.72	1.45	32.1	18.7	2.9
				1050	40.9	1.82	34.7	106.1	6.59	4.0	1050	27.9	21.6	0.77	1.48	32.9	18.9	3.3
100	4.0	0.7	1.6	Operation not recommended							Operation not recommended							
	6.0	1.3	3.1								900	24.9	18.6	0.75	1.68	30.6	14.8	4.1
											1050	25.6	20.6	0.80	1.72	31.4	14.9	4.5
	8.0	2.2	5.1								900	25.3	19.1	0.75	1.67	31.0	15.2	3.8
											1050	26.0	21.1	0.81	1.70	31.8	15.3	4.2
110	4.0	0.7	1.5								Operation not recommended							
	6.0	1.3	3.0								900	23.1	18.1	0.79	1.90	29.6	12.1	5.2
											1050	23.7	20.1	0.85	1.94	30.3	12.2	5.7
	8.0	2.1	4.9								900	23.4	18.6	0.79	1.88	29.9	12.4	4.8
											1050	24.1	20.6	0.85	1.92	30.7	12.6	5.4
120	4.0	0.6	1.5								Operation not recommended							
	6.0	1.2	2.9								900	22.2	18.8	0.85	2.18	29.7	10.2	6.5
											1050	22.6	20.4	0.90	2.24	30.3	10.1	7.0
	8.0	2.0	4.7								900	22.4	18.8	0.84	2.11	29.6	10.6	6.0
											1050	22.9	20.4	0.89	2.18	30.3	10.5	6.7

9/16/14

Performance Data cont.

Model 038 - Full Load Dual Capacity with Variable Speed ECM or 5-Speed ECM (1250 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	5.0	1.3	3.0	Operation not recommended							Operation not recommended							
	7.0	2.3	5.2															
	9.0	3.5	8.1	1050	25.2	2.21	17.7	92.2	3.34	2.9								
				1250	26.0	2.28	18.2	89.3	3.34	2.6								
30	5.0	1.2	2.9	Operation not recommended							Operation not recommended							
	7.0	2.2	5.1	1050	28.8	2.24	21.1	95.4	3.77	3.1	1050	39.3	25.2	0.64	1.43	44.2	27.4	-
				1250	29.6	2.31	21.7	91.9	3.76	2.8	1250	40.0	27.5	0.69	1.51	45.1	26.5	-
	9.0	3.4	7.9	1050	29.2	2.26	21.5	95.8	3.79	3.2	1050	39.5	25.2	0.64	1.39	44.3	28.4	-
				1250	30.2	2.33	22.3	92.4	3.80	2.9	1250	40.5	27.5	0.68	1.46	45.5	27.7	-
40	5.0	1.2	2.8	Operation not recommended							Operation not recommended							
	7.0	2.1	4.9	1050	32.7	2.32	24.8	98.8	4.12	3.4	1050	40.6	26.4	0.65	1.60	46.0	25.4	-
				1250	33.7	2.37	25.6	95.0	4.16	3.1	1250	41.3	28.8	0.70	1.67	47.0	24.7	-
	9.0	3.3	7.6	1050	33.3	2.35	25.3	99.4	4.16	3.5	1050	40.9	26.4	0.65	1.55	46.2	26.4	-
				1250	34.4	2.40	26.2	95.5	4.21	3.2	1250	41.8	28.8	0.69	1.62	47.3	25.8	-
50	5.0	1.2	2.7	1050	35.3	2.36	27.3	101.1	4.39	3.7	1050	39.7	25.1	0.63	1.84	46.0	21.5	1.9
				1250	36.4	2.39	28.2	96.9	4.46	3.4	1250	41.8	27.9	0.67	1.94	48.4	21.5	2.0
	7.0	2.1	4.8	1050	36.6	2.41	28.4	102.3	4.45	3.8	1050	40.5	25.4	0.63	1.74	46.5	23.3	1.8
				1250	37.8	2.44	29.4	98.0	4.53	3.5	1250	42.6	28.2	0.66	1.82	48.8	23.4	1.9
	9.0	3.2	7.4	1050	37.4	2.43	29.1	103.0	4.51	3.9	1050	40.9	27.1	0.66	1.69	46.7	24.1	1.7
				1250	38.6	2.47	30.2	98.6	4.59	3.6	1250	43.1	30.1	0.70	1.78	49.2	24.2	1.8
60	5.0	1.1	2.6	1050	38.7	2.47	30.3	104.1	4.60	4.2	1050	39.4	25.8	0.66	2.00	46.2	19.7	2.3
				1250	40.0	2.48	31.5	99.6	4.72	3.8	1250	41.3	28.7	0.70	2.09	48.4	19.8	2.4
	7.0	2.0	4.6	1050	40.5	2.54	31.8	105.7	4.68	4.3	1050	40.4	26.1	0.65	1.90	46.8	21.3	2.2
				1250	41.8	2.55	33.1	100.9	4.80	4.0	1250	42.3	29.0	0.69	1.98	49.0	21.4	2.3
	9.0	3.1	7.2	1050	41.4	2.56	32.7	106.5	4.74	4.4	1050	40.7	27.5	0.68	1.85	47.1	22.0	2.0
				1250	42.8	2.57	34.0	101.7	4.88	4.1	1250	42.8	30.6	0.71	1.94	49.4	22.1	2.2
70	5.0	1.1	2.5	1050	42.1	2.57	33.4	107.2	4.80	4.7	1050	39.2	26.6	0.68	2.15	46.5	18.2	2.9
				1250	43.6	2.57	34.8	102.3	4.96	4.3	1250	40.9	29.6	0.72	2.23	48.5	18.3	3.0
	7.0	1.9	4.5	1050	44.3	2.66	35.2	109.1	4.88	4.8	1050	40.2	26.9	0.67	2.06	47.2	19.5	2.7
				1250	45.8	2.66	36.7	103.9	5.04	4.4	1250	41.9	29.8	0.71	2.13	49.2	19.7	2.9
	9.0	3.0	6.9	1050	45.5	2.69	36.3	110.1	4.95	5.0	1050	40.6	28.0	0.69	2.01	47.4	20.2	2.5
				1250	47.0	2.68	37.9	104.8	5.14	4.6	1250	42.4	31.0	0.73	2.09	49.5	20.3	2.8
80	5.0	1.1	2.5	1050	45.4	2.72	36.2	110.1	4.89	5.2	1050	37.5	26.1	0.70	2.34	45.4	16.0	3.6
				1250	47.0	2.70	37.8	104.8	5.10	4.8	1250	39.0	29.0	0.74	2.41	47.2	16.1	3.8
	7.0	1.9	4.3	1050	48.1	2.83	38.4	112.4	4.98	5.4	1050	38.5	26.4	0.69	2.26	46.2	17.0	3.3
				1250	49.7	2.80	40.1	106.8	5.20	5.0	1250	40.0	29.2	0.73	2.33	48.0	17.2	3.6
	9.0	2.9	6.7	1050	49.5	2.87	39.7	113.6	5.05	5.6	1050	38.9	27.0	0.69	2.21	46.4	17.6	3.1
				1250	51.2	2.83	41.5	107.9	5.31	5.1	1250	40.5	30.0	0.74	2.28	48.3	17.8	3.4
90	5.0	1.0	2.4	1050	48.8	2.87	39.0	113.0	4.97	5.9	1050	35.8	25.5	0.71	2.53	44.4	14.1	4.4
				1250	50.5	2.83	40.8	107.4	5.23	5.4	1250	37.0	28.4	0.77	2.59	45.9	14.3	4.7
	7.0	1.8	4.2	1050	51.8	3.00	41.6	115.7	5.06	6.0	1050	36.8	25.9	0.70	2.46	45.2	15.0	4.1
				1250	53.7	2.95	43.6	109.8	5.33	5.6	1250	38.2	28.7	0.75	2.52	46.8	15.1	4.5
	9.0	2.8	6.5	1050	53.5	3.05	43.1	117.1	5.14	6.2	1050	37.2	26.1	0.70	2.42	45.5	15.4	3.9
				1250	55.3	2.97	45.2	111.0	5.46	5.8	1250	38.6	28.9	0.75	2.47	47.0	15.6	4.3
100	5.0	1.0	2.3	Operation not recommended							Operation not recommended							
	7.0	1.7	4.0								1050	34.6	25.0	0.72	2.73	43.9	12.7	5.1
											1250	35.7	27.7	0.78	2.77	45.2	12.9	5.5
	9.0	2.7	6.2								1050	35.0	24.9	0.71	2.68	44.1	13.1	4.8
											1250	36.1	27.6	0.76	2.72	45.4	13.3	5.3
110	5.0	1.0	2.2								Operation not recommended							
	7.0	1.7	3.9								1050	32.4	24.1	0.74	2.99	42.6	10.8	6.2
											1250	33.3	26.7	0.80	3.01	43.5	11.0	6.8
	9.0	2.6	6.0								1050	32.7	23.7	0.73	2.94	42.7	11.1	5.8
											1250	33.6	26.2	0.78	2.97	43.7	11.3	6.4
120	5.0	0.9	2.1								Operation not recommended							
	7.0	1.6	3.7								1050	30.6	23.3	0.76	3.31	41.9	9.2	7.5
											1250	31.1	25.3	0.81	3.39	42.7	9.2	8.1
	9.0	2.5	5.8								1050	30.8	23.3	0.76	3.20	41.8	9.6	7.0
											1250	31.5	25.3	0.80	3.30	42.8	9.5	7.7

9/16/14

Performance Data cont.

Model 049 - Part Load Dual Capacity with Variable Speed ECM or 5-Speed ECM (1350 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	5.0	0.9	2.2	Operation not recommended							Operation not recommended							
	8.0	2.0	4.6															
	11.0	3.4	7.8	1150	23.5	2.20	15.9	88.9	3.12	4.2								
				1350	24.3	2.24	16.7	86.7	3.19	3.8								
30	5.0	0.9	2.1	Operation not recommended							Operation not recommended							
	8.0	1.9	4.4	1150	26.5	2.20	19.0	91.3	3.52	4.3	1150	37.5	21.5	0.57	1.10	41.2	34.1	---
				1350	27.3	2.22	19.7	88.7	3.61	3.9	1350	38.1	23.5	0.62	1.16	42.0	32.9	---
	11.0	3.3	7.6	1150	27.1	2.22	19.6	91.8	3.59	4.4	1150	37.7	21.5	0.57	1.07	41.3	35.3	---
				1350	28.1	2.25	20.4	89.3	3.66	4.0	1350	38.6	23.5	0.61	1.12	42.4	34.5	---
40	5.0	0.9	2.0	Operation not recommended							Operation not recommended							
	8.0	1.9	4.3	1150	29.9	2.23	22.3	94.1	3.93	4.5	1150	39.5	23.4	0.59	1.21	43.6	32.6	-
				1350	31.0	2.23	23.3	91.2	4.06	4.2	1350	40.2	25.6	0.64	1.27	44.6	31.7	-
	11.0	3.2	7.4	1150	30.9	2.25	23.2	94.9	4.03	4.7	1150	39.8	23.4	0.59	1.18	43.8	33.8	-
				1350	32.0	2.26	24.2	91.9	4.14	4.2	1350	40.7	25.6	0.63	1.23	44.9	33.1	-
50	5.0	0.9	2.0	1150	31.0	2.19	23.5	94.9	4.14	4.8	1150	40.4	23.3	0.58	1.56	45.7	25.9	1.6
				1350	32.0	2.19	24.5	91.9	4.27	4.4	1350	41.7	27.5	0.66	1.63	47.2	25.6	1.7
	8.0	1.8	4.2	1150	33.4	2.26	25.7	96.9	4.32	4.9	1150	41.3	23.5	0.57	1.35	45.9	30.5	1.5
				1350	34.7	2.25	27.0	93.8	4.51	4.5	1350	42.5	27.6	0.65	1.42	47.4	30.0	1.6
	11.0	3.1	7.2	1150	34.7	2.28	26.9	97.9	4.46	5.1	1150	41.5	23.5	0.56	1.27	45.9	32.6	1.4
				1350	35.8	2.28	28.0	94.6	4.60	4.6	1350	42.8	27.6	0.65	1.34	47.4	31.9	1.5
60	5.0	0.8	1.9	1150	33.7	2.23	26.1	97.1	4.42	5.2	1150	39.5	23.3	0.59	1.69	45.3	23.4	2.3
				1350	34.9	2.22	27.3	93.9	4.61	4.8	1350	40.7	27.5	0.67	1.76	46.8	23.1	2.4
	8.0	1.8	4.0	1150	36.5	2.29	28.6	99.3	4.67	5.4	1150	40.2	23.5	0.59	1.50	45.3	26.8	2.1
				1350	37.9	2.26	30.2	96.0	4.91	5.0	1350	41.4	27.7	0.67	1.57	46.7	26.4	2.3
	11.0	3.0	6.9	1150	38.0	2.31	30.1	100.6	4.83	5.5	1150	40.6	23.6	0.58	1.42	45.5	28.6	1.9
				1350	39.4	2.28	31.6	97.0	5.06	5.1	1350	41.9	27.7	0.66	1.49	46.9	28.2	2.2
70	5.0	0.8	1.8	1150	36.4	2.27	28.7	99.3	4.71	5.8	1150	38.6	23.3	0.60	1.81	44.8	21.3	3.2
				1350	37.9	2.24	30.2	96.0	4.95	5.4	1350	39.8	27.4	0.69	1.90	46.3	21.0	3.4
	8.0	1.7	3.9	1150	39.5	2.31	31.7	101.8	5.02	6.0	1150	39.0	23.6	0.60	1.64	44.6	23.8	3.0
				1350	41.1	2.27	33.4	98.2	5.31	5.5	1350	40.2	27.7	0.69	1.72	46.1	23.5	3.2
	11.0	2.9	6.7	1150	41.3	2.33	33.4	103.3	5.19	6.1	1150	39.7	23.7	0.60	1.57	45.0	25.3	2.8
				1350	42.9	2.28	35.1	99.4	5.51	5.7	1350	40.9	27.8	0.68	1.63	46.5	25.1	3.1
80	5.0	0.8	1.8	1150	39.3	2.31	31.4	101.6	4.99	6.5	1150	37.5	22.3	0.60	2.01	44.3	18.6	4.4
				1350	40.8	2.27	33.1	98.0	5.27	6.0	1350	38.7	26.2	0.68	2.10	45.8	18.4	4.6
	8.0	1.6	3.8	1150	42.6	2.33	34.7	104.3	5.36	6.7	1150	37.7	22.5	0.60	1.87	44.1	20.1	4.1
				1350	44.4	2.27	36.6	100.4	5.72	6.1	1350	38.8	26.5	0.68	1.95	45.4	19.9	4.4
	11.0	2.8	6.5	1150	44.8	2.36	36.8	106.1	5.57	6.9	1150	38.5	22.7	0.59	1.79	44.6	21.5	3.8
				1350	46.6	2.29	38.8	102.0	5.95	6.3	1350	39.7	26.7	0.67	1.87	46.1	21.3	4.2
90	5.0	0.7	1.7	1150	42.1	2.35	34.1	103.9	5.26	7.2	1150	36.3	21.3	0.59	2.21	43.9	16.4	5.9
				1350	43.7	2.30	35.9	100.0	5.58	6.7	1350	37.5	25.0	0.67	2.30	45.3	16.3	6.2
	8.0	1.6	3.6	1150	45.8	2.36	37.7	106.8	5.68	7.4	1150	36.3	21.5	0.59	2.10	43.5	17.3	5.5
				1350	47.6	2.28	39.9	102.7	6.12	6.9	1350	37.3	25.4	0.68	2.18	44.8	17.2	5.9
	11.0	2.7	6.2	1150	48.3	2.38	40.1	108.9	5.93	7.7	1150	37.3	21.8	0.58	2.01	44.2	18.6	5.1
				1350	50.3	2.31	42.4	104.5	6.39	7.1	1350	38.5	25.6	0.66	2.10	45.7	18.3	5.6
100	5.0	0.7	1.7	Operation not recommended							Operation not recommended							
	8.0	1.5	3.5								1150	35.2	22.5	0.64	2.42	43.5	14.6	7.1
											1350	36.3	26.5	0.73	2.51	44.9	14.4	7.7
	11.0	2.6	6.0								1150	36.5	22.8	0.63	2.33	44.5	15.7	6.6
											1350	37.6	26.8	0.71	2.43	45.9	15.5	7.3
110	5.0	0.7	1.6								Operation not recommended							
	8.0	1.5	3.4								1150	31.6	21.2	0.67	2.69	40.8	11.7	9.0
											1350	32.6	24.9	0.76	2.80	42.2	11.6	9.8
	11.0	2.5	5.8								1150	33.1	21.6	0.65	2.61	42.0	12.7	8.4
											1350	34.0	25.3	0.74	2.72	43.3	12.5	9.3
120	5.0	0.7	1.5								Operation not recommended							
	8.0	1.4	3.3								1150	29.1	20.6	0.71	3.01	39.4	9.7	11.2
											1350	30.1	24.2	0.80	3.14	40.8	9.6	12.1
	11.0	2.4	5.6								1150	30.8	21.0	0.68	2.92	40.8	10.6	10.4
											1350	31.6	24.7	0.78	3.06	42.0	10.3	11.5

9/16/14

Performance Data cont.

Model 049 - Full Load Dual Capacity with Variable Speed ECM or 5-Speed ECM (1550 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	6.0	1.3	3.0	Operation not recommended							Operation not recommended							
	9.0	2.5	5.7															
	12.0	4.0	9.2	1350	32.6	2.94	22.6	92.4	3.25	5.3								
				1550	33.8	2.98	23.6	90.2	3.32	4.8								
30	6.0	1.2	2.9	Operation not recommended							Operation not recommended							
	9.0	2.4	5.5	1350	36.2	2.99	26.0	94.8	3.55	5.6	1350	51.5	28.2	0.55	1.80	57.6	28.6	---
				1550	37.3	3.01	27.0	92.3	3.63	5.2	1550	52.3	30.8	0.59	1.89	58.8	27.6	---
	12.0	3.9	8.9	1350	37.1	3.01	26.8	95.4	3.61	5.6	1350	51.7	28.2	0.54	1.74	57.7	29.7	---
				1550	38.4	3.05	28.0	92.9	3.69	5.3	1550	53.0	30.8	0.58	1.83	59.2	29.0	---
40	6.0	1.2	2.8	Operation not recommended							Operation not recommended							
	9.0	2.3	5.3	1350	40.9	3.11	30.3	98.0	3.86	6.2	1350	52.9	29.7	0.56	2.01	59.8	26.3	-
				1550	42.3	3.11	31.7	95.3	3.99	5.7	1550	53.9	32.5	0.60	2.11	61.1	25.6	-
	12.0	3.7	8.7	1350	42.2	3.13	31.5	98.9	3.96	6.4	1350	53.3	29.7	0.56	1.95	60.0	27.3	-
				1550	43.7	3.15	32.9	96.1	4.07	5.8	1550	54.5	32.5	0.60	2.04	61.5	26.7	-
50	6.0	1.2	2.7	1350	42.3	3.12	31.7	99.0	3.98	6.7	1350	52.9	28.8	0.54	2.63	61.8	20.1	3.0
				1550	43.7	3.12	33.0	96.1	4.10	6.2	1550	54.5	34.0	0.62	2.74	63.9	19.9	3.2
	9.0	2.2	5.2	1350	45.6	3.22	34.6	101.3	4.15	6.9	1350	54.0	28.9	0.54	2.27	61.8	23.8	2.8
				1550	47.3	3.20	36.4	98.3	4.34	6.4	1550	55.7	34.1	0.61	2.38	63.8	23.4	3.0
	12.0	3.6	8.4	1350	47.3	3.24	36.3	102.5	4.28	7.2	1350	54.4	28.9	0.53	2.14	61.7	25.4	2.6
				1550	48.9	3.24	37.8	99.2	4.42	6.5	1550	56.0	34.1	0.61	2.25	63.7	24.9	2.9
60	6.0	1.1	2.6	1350	46.3	3.26	35.2	101.8	4.16	7.6	1350	52.5	29.1	0.55	2.78	62.0	18.9	3.7
				1550	48.0	3.24	36.9	98.7	4.34	7.0	1550	54.1	34.3	0.63	2.90	64.0	18.7	3.9
	9.0	2.2	5.0	1350	50.1	3.34	38.7	104.4	4.40	7.8	1350	53.4	29.3	0.55	2.47	61.8	21.6	3.4
				1550	52.1	3.30	40.8	101.1	4.62	7.2	1550	55.0	34.5	0.63	2.58	63.8	21.3	3.7
	12.0	3.5	8.1	1350	52.2	3.37	40.7	105.8	4.54	8.0	1350	54.0	29.4	0.55	2.34	61.9	23.0	3.2
				1550	54.1	3.33	42.7	102.3	4.76	7.4	1550	55.6	34.6	0.62	2.45	63.9	22.7	3.5
70	6.0	1.1	2.5	1350	50.4	3.40	38.8	104.5	4.34	8.5	1350	52.1	29.4	0.56	2.94	62.1	17.7	4.6
				1550	52.3	3.36	40.9	101.3	4.56	7.9	1550	53.7	34.6	0.64	3.07	64.2	17.5	4.9
	9.0	2.1	4.9	1350	54.7	3.46	42.9	107.5	4.63	8.8	1350	52.6	29.7	0.56	2.66	61.7	19.8	4.3
				1550	56.8	3.40	45.2	103.9	4.90	8.1	1550	54.3	34.9	0.64	2.78	63.8	19.5	4.6
	12.0	3.4	7.9	1350	57.2	3.50	45.2	109.2	4.79	9.0	1350	53.6	29.9	0.56	2.54	62.2	21.1	4.0
				1550	59.3	3.42	47.6	105.4	5.08	8.3	1550	55.2	35.1	0.64	2.64	64.2	20.9	4.4
80	6.0	1.1	2.5	1350	54.3	3.56	42.2	107.2	4.47	9.6	1350	49.7	28.5	0.57	3.11	60.3	16.0	5.8
				1550	56.4	3.50	44.5	103.7	4.73	8.8	1550	51.3	33.5	0.65	3.25	62.3	15.8	6.2
	9.0	2.0	4.7	1350	59.0	3.60	46.7	110.5	4.80	9.8	1350	50.0	28.8	0.58	2.89	59.8	17.3	5.4
				1550	61.4	3.51	49.4	106.7	5.13	9.1	1550	51.4	33.9	0.66	3.01	61.7	17.1	5.9
	12.0	3.3	7.6	1350	62.0	3.64	49.6	112.5	4.99	10.1	1350	51.1	29.1	0.57	2.77	60.5	18.5	5.0
				1550	64.5	3.54	52.4	108.5	5.34	9.4	1550	52.7	34.2	0.65	2.88	62.5	18.3	5.6
90	6.0	1.0	2.4	1350	58.2	3.72	45.6	109.9	4.59	10.7	1350	47.3	27.6	0.58	3.30	58.5	14.3	7.3
				1550	60.5	3.63	48.1	106.1	4.88	9.9	1550	48.8	32.4	0.66	3.43	60.5	14.2	7.7
	9.0	2.0	4.5	1350	63.3	3.74	50.6	113.4	4.97	11.1	1350	47.3	27.9	0.59	3.13	57.9	15.1	6.8
				1550	65.9	3.61	53.6	109.4	5.35	10.2	1550	48.6	32.9	0.68	3.24	59.6	15.0	7.4
	12.0	3.2	7.3	1350	66.8	3.78	53.9	115.8	5.18	11.4	1350	48.6	28.2	0.58	2.99	58.8	16.2	6.3
				1550	69.6	3.66	57.1	111.6	5.58	10.6	1550	50.1	33.2	0.66	3.13	60.8	16.0	7.0
100	6.0	1.0	2.3	Operation not recommended							Operation not recommended							
	9.0	1.9	4.4								1350	44.3	27.1	0.61	3.49	56.2	12.7	8.4
											1550	45.6	31.9	0.70	3.62	58.0	12.6	9.2
	12.0	3.1	7.1								1350	45.9	27.5	0.60	3.36	57.4	13.7	7.8
											1550	47.3	32.3	0.68	3.51	59.2	13.5	8.7
110	6.0	1.0	2.2								Operation not recommended							
	9.0	1.8	4.2								1350	41.2	26.3	0.64	3.85	54.4	10.7	10.3
											1550	42.6	30.9	0.73	4.01	56.3	10.6	11.2
	12.0	2.9	6.8								1350	43.2	26.8	0.62	3.73	55.9	11.6	9.6
											1550	44.4	31.4	0.71	3.89	57.7	11.4	10.7
120	6.0	0.9	2.1								Operation not recommended							
	9.0	1.7	4.0								1350	40.1	27.7	0.69	4.35	54.9	9.2	12.5
											1550	40.8	30.1	0.74	4.46	56.0	9.1	13.5
	12.0	2.8	6.5								1350	40.4	27.7	0.69	4.21	54.8	9.6	11.6
											1550	41.3	30.1	0.73	4.34	56.1	9.5	12.9

9/16/14

Performance Data cont.

Model 064 - Part Load Dual Capacity with Variable Speed ECM or 5-Speed ECM (1500 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	6.0	1.0	2.4	Operation not recommended							Operation not recommended							
	10.0	2.7	6.2															
	14.0	5.1	11.8	1250	28.6	2.73	19.3	91.2	3.07	4.9								
				1500	29.6	2.77	20.1	88.3	3.13	4.5								
30	6.0	1.0	2.3	Operation not recommended							Operation not recommended							
	10.0	2.6	6.0	1250	31.9	2.70	22.7	93.6	3.46	5.0	1250	50.0	30.0	0.60	1.38	54.7	36.3	-
				1500	33.1	2.74	23.7	90.4	3.54	4.6	1500	50.8	32.8	0.65	1.45	55.8	35.0	-
	14.0	5.0	11.5	1250	33.1	2.70	23.8	94.5	3.58	5.1	1250	50.3	30.0	0.60	1.34	54.8	37.6	-
				1500	34.2	2.74	24.9	91.1	3.66	4.7	1500	51.5	32.8	0.64	1.40	56.3	36.7	-
40	6.0	1.0	2.3	Operation not recommended							Operation not recommended							
	10.0	2.5	5.9	1250	37.4	2.79	27.9	97.7	3.92	5.3	1250	51.5	30.7	0.60	1.54	56.8	33.5	-
				1500	38.4	2.80	28.9	93.7	4.02	4.9	1500	52.5	33.6	0.64	1.61	58.0	32.5	-
	14.0	4.8	11.1	1250	38.6	2.80	29.1	98.6	4.04	5.5	1250	51.9	30.7	0.59	1.49	57.0	34.8	-
				1500	39.7	2.81	30.1	94.5	4.14	5.0	1500	53.1	33.6	0.63	1.56	58.4	34.0	-
50	6.0	0.9	2.2	1250	42.2	2.83	32.5	101.2	4.37	5.6	1250	52.8	30.0	0.57	1.74	58.7	30.4	2.0
				1500	43.3	2.83	33.7	96.7	4.49	5.2	1500	54.3	34.0	0.63	1.83	60.6	29.7	2.1
	10.0	2.5	5.7	1250	42.8	2.88	33.0	101.7	4.36	5.7	1250	52.9	30.2	0.57	1.67	58.7	31.7	1.9
				1500	43.8	2.86	34.0	97.0	4.48	5.3	1500	54.5	34.3	0.63	1.75	60.5	31.1	2.0
	14.0	4.7	10.8	1250	44.1	2.90	34.2	102.7	4.46	5.9	1250	53.1	30.2	0.57	1.64	58.7	32.3	1.7
				1500	45.1	2.88	35.3	97.8	4.59	5.4	1500	54.6	34.3	0.63	1.72	60.5	31.8	1.9
60	6.0	0.9	2.1	1250	46.6	2.91	36.7	104.5	4.70	6.1	1250	51.4	29.8	0.58	1.96	58.1	26.2	2.8
				1500	47.6	2.89	37.8	99.4	4.84	5.7	1500	53.0	33.7	0.64	2.06	60.0	25.8	3.0
	10.0	2.4	5.5	1250	48.1	2.96	38.0	105.6	4.76	6.3	1250	51.6	30.1	0.58	1.90	58.1	27.2	2.6
				1500	48.9	2.92	38.9	100.2	4.90	5.8	1500	53.2	34.0	0.64	1.99	60.0	26.8	2.9
	14.0	4.5	10.4	1250	49.2	2.99	39.0	106.5	4.83	6.5	1250	51.9	30.2	0.58	1.86	58.2	27.9	2.5
				1500	50.0	2.95	40.0	100.9	4.98	6.0	1500	53.4	34.1	0.64	1.95	60.1	27.4	2.7
70	6.0	0.9	2.0	1250	51.1	2.99	40.9	107.9	5.01	6.8	1250	50.0	29.7	0.59	2.19	57.5	22.9	4.0
				1500	52.0	2.94	42.0	102.1	5.18	6.3	1500	51.6	33.3	0.64	2.28	59.4	22.6	4.2
	10.0	2.3	5.3	1250	53.3	3.04	42.9	109.5	5.13	7.0	1250	50.3	29.9	0.59	2.13	57.6	23.7	3.7
				1500	53.9	2.98	43.7	103.3	5.31	6.5	1500	51.9	33.7	0.65	2.22	59.5	23.4	4.0
	14.0	4.4	10.1	1250	54.3	3.08	43.8	110.2	5.17	7.2	1250	50.7	30.1	0.59	2.08	57.8	24.3	3.5
				1500	54.9	3.01	44.6	103.9	5.35	6.6	1500	52.2	33.8	0.65	2.17	59.6	24.0	3.9
80	6.0	0.9	2.0	1250	55.4	3.09	44.9	111.0	5.26	7.6	1250	47.2	28.5	0.60	2.49	55.7	18.9	5.5
				1500	55.9	3.02	45.6	104.5	5.43	7.0	1500	48.6	31.8	0.65	2.58	57.4	18.9	5.9
	10.0	2.2	5.1	1250	58.5	3.14	47.8	113.4	5.47	7.8	1250	47.6	28.7	0.60	2.43	55.9	19.6	5.2
				1500	58.8	3.04	48.4	106.3	5.66	7.2	1500	49.0	32.2	0.66	2.52	57.6	19.4	5.6
	14.0	4.2	9.8	1250	59.2	3.18	48.4	113.9	5.46	8.0	1250	47.9	28.9	0.60	2.39	56.0	20.0	4.8
				1500	59.5	3.09	48.9	106.7	5.65	7.4	1500	49.4	32.4	0.65	2.48	57.8	19.9	5.3
90	6.0	0.8	1.9	1250	59.7	3.18	48.9	114.2	5.51	8.5	1250	44.3	27.2	0.61	2.80	53.8	15.8	7.4
				1500	59.8	3.09	49.3	106.9	5.67	7.8	1500	45.6	30.2	0.66	2.88	55.4	15.9	7.8
	10.0	2.1	5.0	1250	63.7	3.23	52.7	117.2	5.79	8.7	1250	44.8	27.5	0.61	2.73	54.1	16.4	6.9
				1500	63.7	3.11	53.1	109.3	6.01	8.1	1500	46.1	30.6	0.66	2.83	55.8	16.3	7.5
	14.0	4.1	9.4	1250	64.1	3.28	53.0	117.5	5.74	9.0	1250	45.1	27.8	0.62	2.70	54.3	16.7	6.4
				1500	64.0	3.16	53.2	109.5	5.94	8.3	1500	46.6	30.9	0.66	2.78	56.1	16.8	7.1
100	6.0	0.8	1.8	Operation not recommended							Operation not recommended							
	10.0	2.1	4.8								1250	41.7	26.8	0.64	3.13	52.4	13.3	9.0
											1500	43.0	29.6	0.69	3.22	54.0	13.4	9.7
	14.0	3.9	9.1								1250	42.2	27.1	0.64	3.09	52.7	13.6	8.3
											1500	43.5	30.0	0.69	3.17	54.3	13.7	9.2
110	6.0	0.8	1.8								Operation not recommended							
	10.0	2.0	4.6								1250	38.7	26.0	0.67	3.53	50.7	10.9	11.3
											1500	39.9	28.6	0.72	3.60	52.2	11.1	12.3
	14.0	3.8	8.7								1250	39.2	26.4	0.67	3.48	51.1	11.3	10.5
											1500	40.4	29.0	0.72	3.55	52.5	11.4	11.7
120	6.0	0.7	1.7								Operation not recommended							
	10.0	1.9	4.4								1250	36.7	26.7	0.73	4.01	50.4	9.2	14.0
											1500	37.4	29.0	0.78	4.11	51.4	9.1	15.2
	14.0	3.6	8.4								1250	37.0	26.7	0.72	3.88	50.2	9.5	13.0
											1500	37.8	29.0	0.77	4.00	51.4	9.5	14.5

9/16/14

Performance Data cont.

Model 064 - Full Load Dual Capacity with Variable Speed ECM or 5-Speed ECM (1800 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	8.0	1.8	4.2	Operation not recommended							Operation not recommended							
	12.0	3.8	8.8															
	16.0	6.5	15.1	1500	39.7	3.44	28.0	94.5	3.39	6.2								
				1800	40.7	3.60	28.4	90.9	3.31	5.6								
30	8.0	1.8	4.1	Operation not recommended							Operation not recommended							
	12.0	3.7	8.6	1500	45.8	3.46	34.1	98.3	3.89	6.5	1500	64.3	41.0	0.64	2.29	72.1	28.1	---
				1800	47.1	3.68	34.6	94.2	3.75	6.0	1800	65.3	44.8	0.69	2.41	73.5	27.1	---
	16.0	6.4	14.7	1500	46.5	3.54	34.4	98.7	3.84	6.7	1500	64.6	41.0	0.63	2.22	72.2	29.1	---
				1800	47.6	3.71	34.9	94.5	3.76	6.1	1800	66.2	44.8	0.68	2.33	74.1	28.4	---
40	8.0	1.7	4.0	Operation not recommended							Operation not recommended							
	12.0	3.6	8.3	1500	52.7	3.68	40.1	102.5	4.19	7.2	1500	66.8	41.9	0.63	2.66	75.9	25.1	---
				1800	53.9	3.84	40.8	97.7	4.11	6.6	1800	68.1	45.8	0.67	2.79	77.6	24.4	---
	16.0	6.2	14.2	1500	53.5	3.75	40.7	103.0	4.18	7.4	1500	67.4	41.9	0.62	2.58	76.2	26.1	---
				1800	54.7	3.88	41.5	98.1	4.13	6.7	1800	68.9	45.8	0.66	2.70	78.1	25.5	---
50	8.0	1.7	3.8	1500	56.3	3.84	43.2	104.7	4.30	7.8	1500	68.7	42.2	0.61	3.00	78.9	22.9	4.0
				1800	57.4	3.95	44.0	99.6	4.26	7.2	1800	70.1	45.9	0.65	3.19	81.0	22.0	4.2
	12.0	3.5	8.1	1500	59.5	3.91	46.2	106.7	4.46	8.0	1500	69.4	42.6	0.61	2.94	79.4	23.6	3.7
				1800	60.7	4.01	47.0	101.2	4.44	7.4	1800	70.8	46.4	0.65	3.12	81.5	22.7	4.0
	16.0	6.0	13.8	1500	60.5	3.95	47.0	107.3	4.48	8.2	1500	70.1	43.1	0.61	2.89	80.0	24.3	3.4
				1800	61.8	4.05	48.0	101.8	4.47	7.5	1800	71.5	46.8	0.65	3.07	82.0	23.3	3.8
60	8.0	1.6	3.7	1500	63.1	4.12	49.1	109.0	4.49	8.7	1500	68.2	42.2	0.62	3.30	79.5	20.7	4.8
				1800	64.5	4.18	50.2	103.2	4.52	8.0	1800	70.0	45.9	0.66	3.51	81.9	19.9	5.1
	12.0	3.4	7.8	1500	66.0	4.18	51.7	110.7	4.62	9.0	1500	68.9	42.6	0.62	3.23	79.9	21.3	4.5
				1800	67.4	4.24	53.0	104.7	4.66	8.3	1800	70.7	46.3	0.66	3.43	82.4	20.6	4.9
	16.0	5.8	13.4	1500	67.4	4.23	53.0	111.6	4.67	9.2	1500	69.6	43.1	0.62	3.18	80.4	21.9	4.2
				1800	69.0	4.28	54.3	105.5	4.72	8.5	1800	71.4	46.8	0.66	3.38	82.9	21.1	4.6
70	8.0	1.6	3.6	1500	69.9	4.39	55.0	113.2	4.66	9.8	1500	67.7	42.2	0.62	3.60	80.0	18.8	6.1
				1800	71.5	4.42	56.4	106.8	4.74	9.0	1800	69.8	45.9	0.66	3.83	82.9	18.2	6.4
	12.0	3.3	7.5	1500	72.5	4.46	57.3	114.8	4.77	10.1	1500	68.4	42.6	0.62	3.53	80.4	19.4	5.7
				1800	74.2	4.47	58.9	108.1	4.86	9.3	1800	70.6	46.3	0.66	3.75	83.4	18.8	6.1
	16.0	5.6	12.9	1500	74.4	4.51	59.0	115.9	4.83	10.4	1500	69.0	43.0	0.62	3.46	80.9	19.9	5.3
				1800	76.1	4.51	60.7	109.1	4.95	9.6	1800	71.2	46.8	0.66	3.69	83.8	19.3	5.8
80	8.0	1.5	3.5	1500	76.9	4.70	60.9	117.5	4.80	11.0	1500	63.2	40.8	0.65	3.89	76.5	16.3	7.7
				1800	78.7	4.67	62.7	110.5	4.94	10.2	1800	65.5	44.3	0.68	4.14	79.7	15.8	8.1
	12.0	3.2	7.3	1500	78.7	4.76	62.5	118.6	4.85	11.3	1500	63.9	41.1	0.64	3.81	76.9	16.8	7.1
				1800	80.6	4.71	64.6	111.5	5.02	10.5	1800	66.2	44.7	0.68	4.06	80.0	16.3	7.7
	16.0	5.4	12.5	1500	81.1	4.81	64.7	120.1	4.94	11.7	1500	64.5	41.6	0.65	3.75	77.3	17.2	6.6
				1800	83.2	4.76	66.9	112.8	5.13	10.8	1800	66.9	45.2	0.68	3.99	80.5	16.8	7.4
90	8.0	1.4	3.3	1500	83.9	5.00	66.8	121.8	4.92	12.4	1500	58.7	39.3	0.67	4.18	72.9	14.0	9.6
				1800	85.9	4.93	69.1	114.2	5.11	11.4	1800	61.3	42.7	0.70	4.45	76.5	13.8	10.2
	12.0	3.0	7.0	1500	85.0	5.05	67.7	122.5	4.93	12.7	1500	59.3	39.6	0.67	4.10	73.3	14.5	9.0
				1800	87.1	4.95	70.2	114.8	5.16	11.8	1800	61.8	43.1	0.70	4.36	76.7	14.2	9.7
	16.0	5.2	12.0	1500	87.9	5.12	70.4	124.3	5.03	13.1	1500	59.9	40.1	0.67	4.03	73.7	14.9	8.3
				1800	90.2	5.00	73.1	116.4	5.29	12.2	1800	62.5	43.5	0.70	4.29	77.2	14.6	9.2
100	8.0	1.4	3.2	Operation not recommended							Operation not recommended							
	12.0	2.9	6.8								1500	55.2	37.5	0.68	4.47	70.4	12.3	11.1
											1800	57.8	40.7	0.70	4.77	74.0	12.1	12.1
	16.0	5.0	11.6								1500	55.7	37.9	0.68	4.39	70.7	12.7	10.3
											1800	58.4	41.2	0.71	4.69	74.3	12.5	11.5
110	8.0	1.3	3.1								Operation not recommended							
	12.0	2.8	6.5								1500	51.0	35.3	0.69	4.84	67.5	10.5	13.6
											1800	53.7	38.3	0.71	5.17	71.4	10.4	14.8
	16.0	4.8	11.2								1500	51.5	35.7	0.69	4.76	67.7	10.8	12.7
											1800	54.2	38.8	0.72	5.08	71.5	10.7	14.1
120	8.0	1.3	3.0								Operation not recommended							
	12.0	2.7	6.3								1500	51.4	36.4	0.71	5.62	70.6	9.2	16.5
											1800	52.4	39.5	0.75	5.76	72.0	9.1	17.9
	16.0	4.6	10.7								1500	51.9	36.4	0.70	5.44	70.4	9.5	15.3
											1800	53.0	39.5	0.75	5.61	72.1	9.4	17.0

9/16/14

Performance Data cont.

Model 072 - Part Load Dual Capacity with Variable Speed ECM or 5-Speed ECM (1700 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	10.0	2.3	5.4	Operation not recommended							Operation not recommended							
	13.0	3.6	8.2															
	16.0	5.0	11.6	1400	37.2	3.74	24.4	94.6	2.91	6.0								
				1700	39.0	3.79	26.0	91.2	3.02	5.4								
30	10.0	2.3	5.3	Operation not recommended							Operation not recommended							
	13.0	3.5	8.0	1400	41.0	3.81	28.0	97.1	3.15	6.1	1400	54.1	34.6	0.64	1.81	60.3	29.9	---
				1700	43.0	3.86	29.8	93.4	3.27	5.6	1700	55.0	37.8	0.69	1.91	61.5	28.8	---
	16.0	4.9	11.3	1400	42.8	3.81	29.8	98.3	3.29	6.3	1400	54.4	34.6	0.64	1.76	60.4	30.9	---
				1700	44.8	3.86	31.6	94.4	3.40	5.7	1700	55.7	37.8	0.68	1.85	62.0	30.2	---
40	10.0	2.2	5.1	Operation not recommended							Operation not recommended							
	13.0	3.4	7.8	1400	47.6	3.92	34.2	101.5	3.56	6.5	1400	56.7	36.5	0.64	2.02	63.6	28.0	---
				1700	49.7	3.93	36.3	97.1	3.71	5.9	1700	57.8	39.8	0.69	2.12	65.0	27.2	---
	16.0	4.7	11.0	1400	49.3	3.93	35.9	102.6	3.68	6.7	1400	57.2	36.5	0.64	1.96	63.9	29.1	---
				1700	51.5	3.94	38.0	98.0	3.83	6.1	1700	58.5	39.8	0.68	2.05	65.5	28.5	---
50	10.0	2.1	4.9	1400	53.4	3.98	39.8	105.3	3.93	6.8	1400	59.1	36.5	0.62	2.28	66.9	25.9	2.3
				1700	55.8	3.94	42.3	100.4	4.15	6.3	1700	60.9	41.4	0.68	2.40	69.1	25.4	2.4
	13.0	3.3	7.5	1400	54.2	4.02	40.5	105.8	3.95	7.0	1400	59.2	36.8	0.62	2.20	66.7	26.9	2.1
				1700	56.4	4.00	42.7	100.7	4.13	6.4	1700	61.0	41.8	0.68	2.32	69.0	26.3	2.3
	16.0	4.6	10.6	1400	55.8	4.04	42.0	106.9	4.04	7.2	1400	59.4	36.8	0.62	2.14	66.7	27.7	2.0
				1700	58.1	4.02	44.4	101.7	4.24	6.6	1700	61.2	41.8	0.68	2.26	68.9	27.1	2.2
60	10.0	2.1	4.8	1400	59.5	4.11	45.5	109.3	4.25	7.5	1400	58.1	36.5	0.63	2.54	66.8	22.8	3.2
				1700	62.0	4.02	48.3	103.8	4.52	6.9	1700	59.8	41.3	0.69	2.66	68.9	22.5	3.4
	13.0	3.2	7.3	1400	61.1	4.15	47.0	110.4	4.32	7.7	1400	58.3	36.9	0.63	2.46	66.7	23.7	3.0
				1700	63.6	4.07	49.7	104.6	4.57	7.1	1700	60.1	41.7	0.69	2.57	68.9	23.4	3.2
	16.0	4.4	10.3	1400	62.5	4.19	48.2	111.4	4.37	7.9	1400	58.6	37.0	0.63	2.41	66.8	24.3	2.8
				1700	65.0	4.12	51.0	105.4	4.63	7.3	1700	60.4	41.8	0.69	2.52	69.0	24.0	3.1
70	10.0	2.0	4.6	1400	65.6	4.23	51.1	113.4	4.54	8.3	1400	57.1	36.6	0.64	2.81	66.7	20.4	4.5
				1700	68.2	4.11	54.2	107.2	4.87	7.7	1700	58.8	41.2	0.70	2.91	68.7	20.2	4.8
	13.0	3.0	7.0	1400	68.1	4.27	53.5	115.0	4.67	8.5	1400	57.4	37.0	0.64	2.72	66.7	21.2	4.2
				1700	70.7	4.15	56.6	108.5	5.00	7.9	1700	59.1	41.6	0.70	2.82	68.7	20.9	4.5
	16.0	4.3	9.9	1400	69.3	4.34	54.5	115.8	4.68	8.8	1400	57.8	37.2	0.64	2.68	66.9	21.6	3.9
				1700	72.0	4.21	57.6	109.2	5.01	8.1	1700	59.6	41.8	0.70	2.77	69.1	21.5	4.3
80	10.0	1.9	4.5	1400	71.4	4.32	56.7	117.2	4.84	9.2	1400	53.4	35.3	0.66	3.12	64.1	17.1	6.2
				1700	74.0	4.17	59.8	110.3	5.21	8.5	1700	54.8	39.5	0.72	3.21	65.7	17.1	6.6
	13.0	2.9	6.8	1400	75.2	4.37	60.3	119.7	5.04	9.5	1400	53.6	35.7	0.67	3.04	64.0	17.6	5.8
				1700	77.9	4.20	63.6	112.4	5.44	8.8	1700	55.2	39.9	0.72	3.13	65.9	17.6	6.3
	16.0	4.2	9.6	1400	76.0	4.43	60.9	120.3	5.03	9.8	1400	54.0	35.9	0.66	2.99	64.2	18.0	5.4
				1700	78.7	4.27	64.1	112.8	5.40	9.1	1700	56.0	40.2	0.72	3.08	66.4	18.2	6.0
90	10.0	1.9	4.3	1400	77.3	4.41	62.2	121.1	5.14	10.3	1400	49.7	34.0	0.68	3.43	61.4	14.5	8.3
				1700	79.8	4.23	65.4	113.5	5.54	9.5	1700	51.3	37.7	0.74	3.50	63.2	14.6	8.8
	13.0	2.8	6.6	1400	82.3	4.47	67.0	124.4	5.39	10.6	1400	50.2	34.3	0.68	3.36	61.7	14.9	7.7
				1700	85.0	4.25	70.5	116.3	5.87	9.8	1700	51.8	38.2	0.74	3.43	63.5	15.1	8.4
	16.0	4.0	9.3	1400	82.8	4.53	67.3	124.7	5.36	11.0	1400	50.7	34.6	0.68	3.31	62.0	15.3	7.2
				1700	85.4	4.33	70.6	116.5	5.78	10.2	1700	52.3	38.5	0.74	3.38	63.8	15.5	8.0
100	10.0	1.8	4.2	Operation not recommended							Operation not recommended							
	13.0	2.7	6.3								1400	46.9	33.3	0.71	3.83	60.0	12.3	10.0
											1700	48.5	36.9	0.76	3.88	61.7	12.5	10.9
	16.0	3.9	8.9								1400	47.6	33.7	0.71	3.77	60.4	12.6	9.3
											1700	49.0	37.3	0.76	3.82	62.0	12.8	10.4
110	10.0	1.7	4.0								Operation not recommended							
	13.0	2.6	6.1								1400	43.7	32.2	0.74	4.30	58.3	10.2	12.7
				Operation not recommended							1700	45.1	35.5	0.79	4.32	59.9	10.5	13.8
	16.0	3.7	8.6								1400	44.4	32.7	0.74	4.24	58.9	10.5	11.8
											1700	45.7	36.0	0.79	4.26	60.2	10.7	13.1
120	10.0	1.7	3.8								Operation not recommended							
	13.0	2.5	5.8								1400	40.8	32.1	0.79	4.71	56.8	8.7	15.8
											1700	41.5	34.8	0.84	4.83	58.0	8.6	17.1
	16.0	3.6	8.2								1400	41.1	32.1	0.78	4.56	56.7	9.0	14.6
											1700	42.0	34.8	0.83	4.70	58.0	8.9	16.3

9/17/14

Performance Data cont.

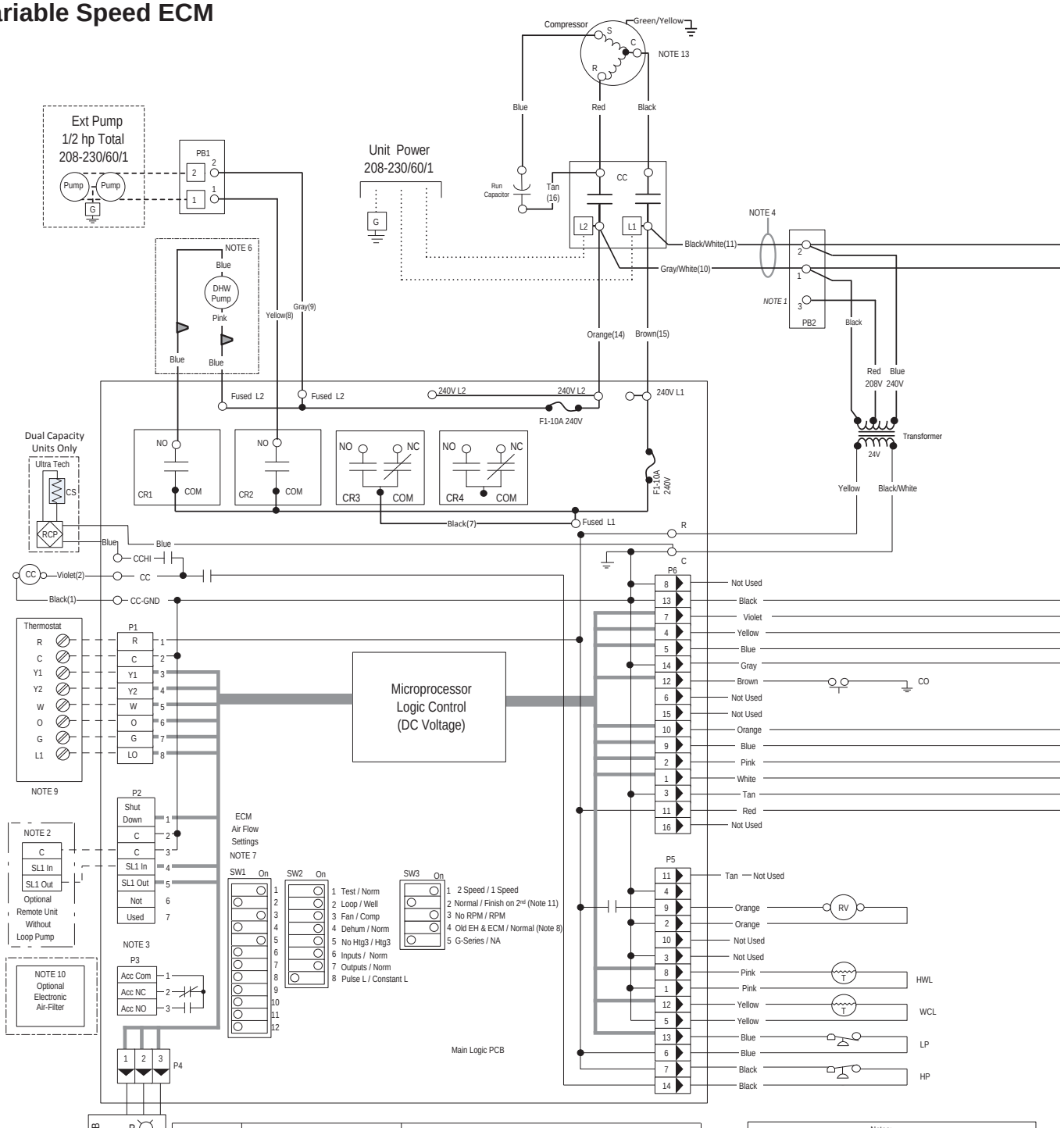
Model 072 - Full Load Dual Capacity with Variable Speed ECM or 5-Speed ECM (2200 cfm)

EWT °F	Flow Rate GPM	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT/HD	Airflow CFM	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC Mbtu/h	Airflow CFM	TC Mbtu/h	SC Mbtu/h	S/T Ratio	Power kW	HR Mbtu/h	EER	HWC Mbtu/h
20	12.0	3.3	7.6	Operation not recommended							Operation not recommended							
	15.0	4.7	10.8															
	18.0	6.2	14.3	1850	50.9	4.60	35.2	95.5	3.24	7.9								
				2200	52.8	4.90	36.1	92.2	3.16	7.1								
30	12.0	3.2	7.4	Operation not recommended							Operation not recommended							
	15.0	4.5	10.5	1850	57.3	4.74	41.2	98.7	3.55	8.3	1850	70.4	43.1	0.61	2.57	79.2	27.4	---
				2200	59.3	5.04	42.1	95.0	3.45	7.6	2200	71.5	47.1	0.66	2.71	80.8	26.4	---
	18.0	6.0	13.9	1850	57.8	4.78	41.5	98.9	3.54	8.6	1850	70.8	43.1	0.61	2.50	79.3	28.4	---
				2200	59.9	5.09	42.6	95.2	3.45	7.8	2200	72.5	47.1	0.65	2.62	81.4	27.7	---
40	12.0	3.1	7.1	Operation not recommended							Operation not recommended							
	15.0	4.4	10.2	1850	65.0	4.97	48.0	102.5	3.83	9.2	1850	72.9	45.8	0.63	3.15	83.6	23.2	---
				2200	67.2	5.21	49.4	98.3	3.78	8.4	2200	74.3	50.0	0.67	3.30	85.5	22.5	---
	18.0	5.8	13.5	1850	65.9	5.03	48.8	103.0	3.84	9.5	1850	73.5	45.8	0.62	3.06	83.9	24.0	---
				2200	68.2	5.26	50.2	98.7	3.80	8.6	2200	75.1	50.0	0.67	3.20	86.0	23.5	---
50	12.0	3.0	6.9	1850	68.8	5.10	51.4	104.4	3.95	9.9	1850	74.6	47.6	0.64	3.68	87.2	20.3	4.3
				2200	71.1	5.28	53.1	99.9	3.94	9.2	2200	76.2	51.7	0.68	3.91	89.6	19.5	4.6
	15.0	4.3	9.9	1850	72.7	5.20	54.9	106.4	4.10	10.3	1850	75.4	48.1	0.64	3.60	87.7	20.9	4.0
				2200	75.1	5.37	56.8	101.6	4.10	9.4	2200	76.9	52.3	0.68	3.83	90.0	20.1	4.4
	18.0	5.7	13.1	1850	74.0	5.26	56.0	107.0	4.12	10.6	1850	76.2	49.1	0.64	3.54	88.3	21.5	3.7
				2200	76.4	5.42	57.9	102.2	4.13	9.7	2200	77.7	52.8	0.68	3.77	90.6	20.6	4.2
60	12.0	2.9	6.7	1850	77.2	5.40	58.8	108.6	4.19	11.1	1850	74.0	48.1	0.65	4.01	87.7	18.4	5.3
				2200	79.7	5.50	60.9	103.5	4.24	10.3	2200	75.5	52.0	0.69	4.26	90.1	17.7	5.6
	15.0	4.1	9.6	1850	80.6	5.49	61.9	110.3	4.30	11.5	1850	74.7	48.6	0.65	3.93	88.1	19.0	4.9
				2200	83.2	5.58	64.2	105.0	4.37	10.6	2200	76.2	52.5	0.69	4.17	90.5	18.3	5.3
	18.0	5.5	12.7	1850	82.4	5.56	63.4	111.2	4.35	11.8	1850	75.5	49.4	0.65	3.86	88.7	19.6	4.6
				2200	85.1	5.63	65.9	105.8	4.43	10.9	2200	77.1	53.1	0.69	4.11	91.1	18.7	5.1
70	12.0	2.8	6.5	1850	85.5	5.68	66.1	112.8	4.41	12.5	1850	73.3	48.6	0.66	4.34	88.2	16.9	6.6
				2200	88.2	5.72	68.7	107.1	4.52	11.6	2200	74.9	52.3	0.70	4.62	90.6	16.2	7.0
	15.0	4.0	9.2	1850	88.5	5.77	68.8	114.3	4.49	12.9	1850	74.1	49.1	0.66	4.25	88.6	17.4	6.2
				2200	91.3	5.78	71.6	108.4	4.63	11.9	2200	75.6	52.8	0.70	4.52	91.0	16.7	6.7
	18.0	5.3	12.2	1850	90.8	5.85	70.9	115.4	4.55	13.3	1850	74.9	49.6	0.66	4.18	89.1	17.9	5.7
				2200	93.8	5.85	73.9	109.5	4.70	12.3	2200	76.4	53.4	0.70	4.45	91.6	17.2	6.4
80	12.0	2.7	6.3	1850	93.6	6.03	73.0	116.9	4.55	14.1	1850	69.6	46.8	0.67	4.63	85.4	15.0	8.4
				2200	96.6	5.98	76.2	110.7	4.73	13.0	2200	71.1	50.6	0.71	4.92	87.9	14.4	8.9
	15.0	3.9	8.9	1850	95.8	6.11	75.0	118.0	4.60	14.5	1850	70.3	47.3	0.67	4.53	85.8	15.5	7.8
				2200	98.9	6.03	78.3	111.6	4.81	13.4	2200	71.8	51.0	0.71	4.82	88.2	14.9	8.4
	18.0	5.1	11.8	1850	98.7	6.19	77.6	119.4	4.68	15.0	1850	71.1	48.0	0.67	4.46	86.3	16.0	7.2
				2200	102.0	6.09	81.2	112.9	4.91	13.8	2200	72.5	51.6	0.71	4.75	88.7	15.3	8.0
90	12.0	2.6	6.0	1850	101.7	6.37	79.9	120.9	4.68	15.8	1850	65.9	45.0	0.68	4.92	82.7	13.4	10.5
				2200	105.0	6.24	83.7	114.2	4.93	14.7	2200	67.3	48.9	0.73	5.23	85.2	12.9	11.1
	15.0	3.7	8.6	1850	103.1	6.44	81.1	121.6	4.69	16.3	1850	66.6	45.4	0.68	4.81	83.0	13.8	9.8
				2200	106.5	6.27	85.0	114.8	4.97	15.1	2200	67.9	49.3	0.73	5.13	85.4	13.3	10.6
	18.0	4.9	11.4	1850	106.7	6.53	84.4	123.4	4.79	16.8	1850	67.3	46.3	0.69	4.73	83.5	14.2	9.1
				2200	110.2	6.34	88.6	116.4	5.09	15.6	2200	68.7	49.8	0.73	5.04	85.9	13.6	10.1
100	12.0	2.5	5.8	Operation not recommended							Operation not recommended							
	15.0	3.6	8.3								1850	63.2	44.4	0.70	5.29	81.2	12.0	12.2
											2200	64.5	48.0	0.74	5.63	83.7	11.5	13.2
	18.0	4.8	11.0								1850	63.9	45.1	0.71	5.20	81.6	12.3	11.3
											2200	65.2	48.5	0.74	5.53	84.1	11.8	12.5
110	12.0	2.4	5.6								Operation not recommended							
	15.0	3.5	8.0								1850	59.8	43.5	0.73	5.76	79.4	10.4	14.9
											2200	61.0	46.8	0.77	6.13	81.9	10.0	16.1
	18.0	4.6	10.6								1850	60.4	43.9	0.73	5.66	79.8	10.7	13.8
											2200	61.7	47.2	0.77	6.02	82.2	10.2	15.3
120	12.0	2.3	5.4								Operation not recommended							
	15.0	3.3	7.7								1850	55.6	41.7	0.75	6.52	77.9	8.5	18.0
											2200	56.6	45.3	0.80	6.69	79.4	8.5	19.5
	18.0	4.4	10.2								1850	56.1	41.7	0.74	6.31	77.6	8.9	16.7
											2200	57.3	45.3	0.79	6.51	79.5	8.8	18.5

9/17/14

Wiring Schematics cont.

Variable Speed ECM



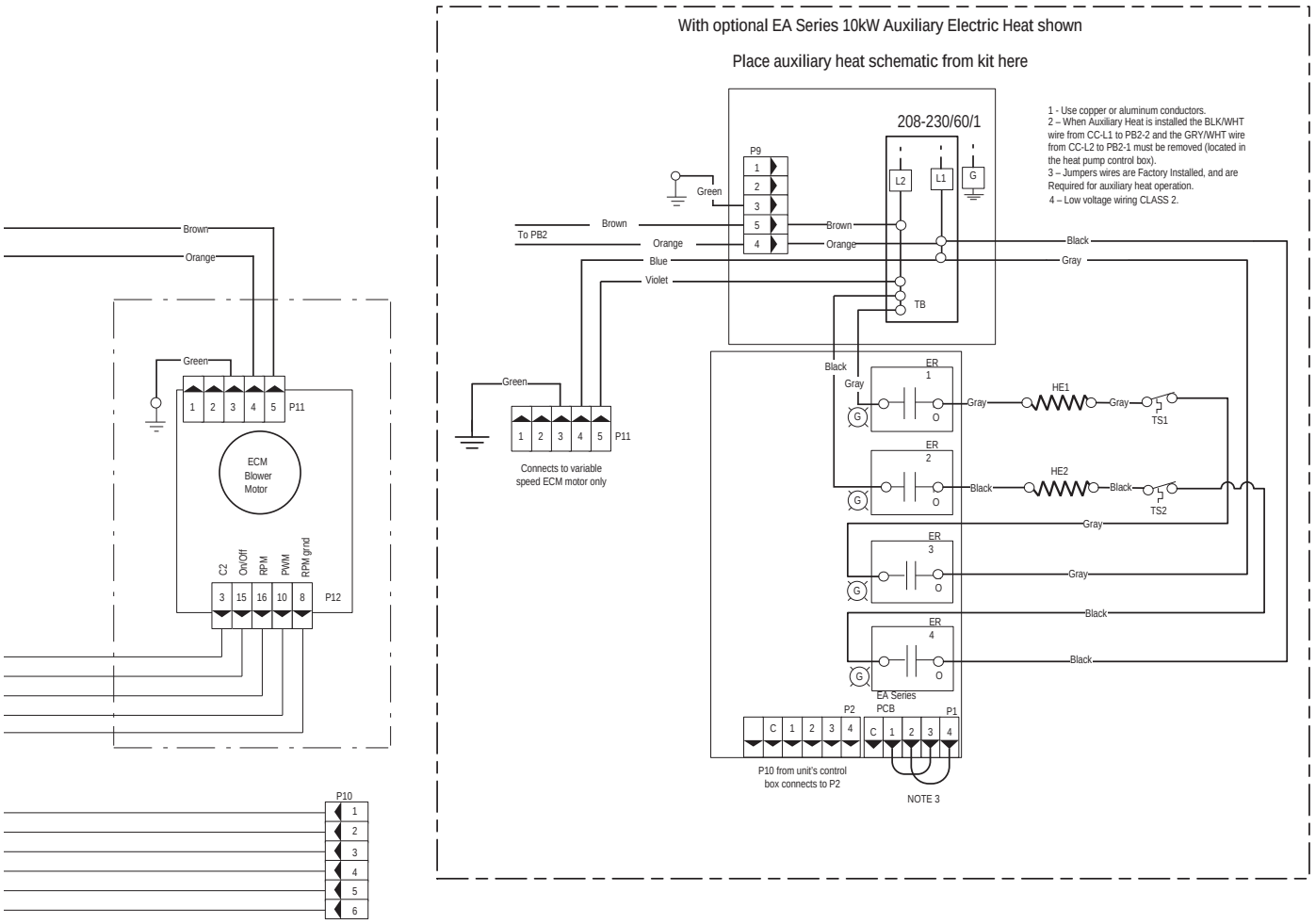
LED	Normal Display Mode	Diagnostic Modes			
		Current Fault Status	Inputs	Outputs	Outputs2
	Field Selection Dips - #1 On, #6 On, #7 On	#1 Off, #6 On, #7 On	#6 Off, #7 On	#6 On, #7 Off	#6 Off, #7 Off
Drain	Drain pan overflow Lockout	Drain pan overflow	Y1	Compressor Lo	Blower Lo
Water Flow	WCL thermistor (loop<15°F,well<30°F) Lockout	WCL thermistor (loop<15°F,well<30°F)	Y2	Compressor Hi	Blower Med
High Press	High Pressure	High Pressure	O	RV	Blower Hi
Low Press / CA	Low Pressure / Comfort Alert	Low Pressure / Comfort Alert	G	FAN	Aux Heat #1
Air Flow / Fan	ECM2 RPM < 100 rpm Lockout	ECM2 RPM < 100 rpm	W	DHW Pump	Aux Heat #2
Status	Microprocessor malfunction*	Not Used	SL1	Loop Pump 1	AuxHeat #3
DHW Limit	HWL thermistor > 130°F	HWL thermistor > 130°F	SL2	Loop Pump 2	Aux Heat #4
DHW off	DHW pump switch off	DHW pump switch off	--	--	--

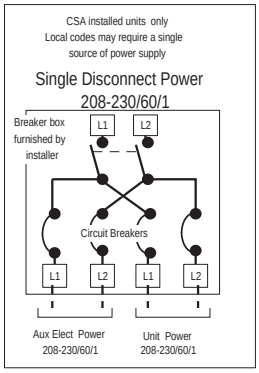
*Green LED not flashing

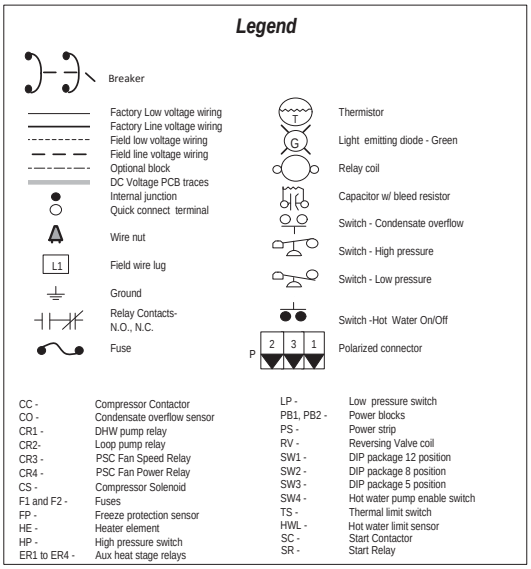
Notes:
1 – Switch Blue and Red wires for 208V operation.
2 - Connection of remote unit that does not have a loop pump for slave operation.
3 - 24V Accessory relay (see SW2 - 3 for description of operation)
4 - The blk/wh and gray/wh wires are removed when Aux Heat is installed.
5 – Use manufacturer's part number 19P592-01 (jumper bar assembly) when single source power is required.
6 - DHW pump only in models with hot water generation option.
7 - Air Flow Configuration Example: SW1 configured for dip 1 as low, dip 3 as medium, and dip 5 as high Speed ECM2 fan
8 – SW3-4 should be in the OFF position when using ECM motor and 17P501A01 electric heat board and should be ON when using ECM2 with 17P514A01 electric heat board
9 – SW2-8 must be in the OFF position for pulsed "L" lockout signal and in the ON position for constant "L" lockout signal.
10 - When optional electronic air-filter is installed, power for the electronic air-filter is provided by P2-2 and 24 VAC.
11 – This Switch allows the unit to down stage with the t-stat when OFF and finish on second stage when ON.
12 – Low voltage wiring CLASS 2.
13 – Ground wire only on units with aluminum air coils.

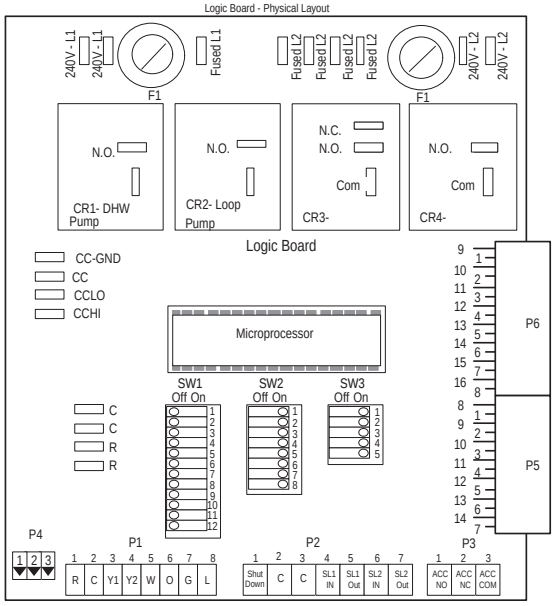
Wiring Schematics cont.

Variable Speed ECM



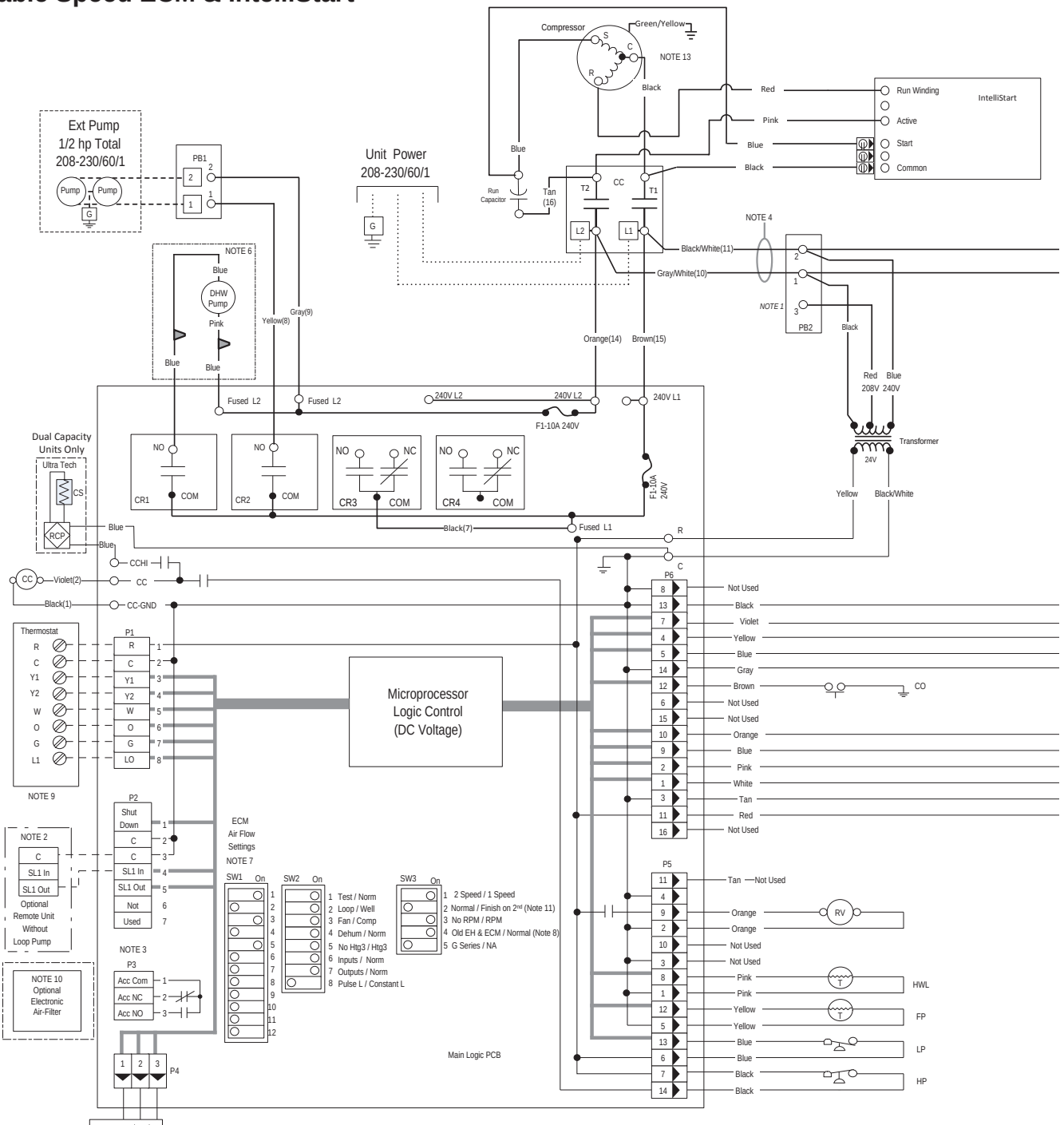






Wiring Schematics cont.

Variable Speed ECM & IntelliStart



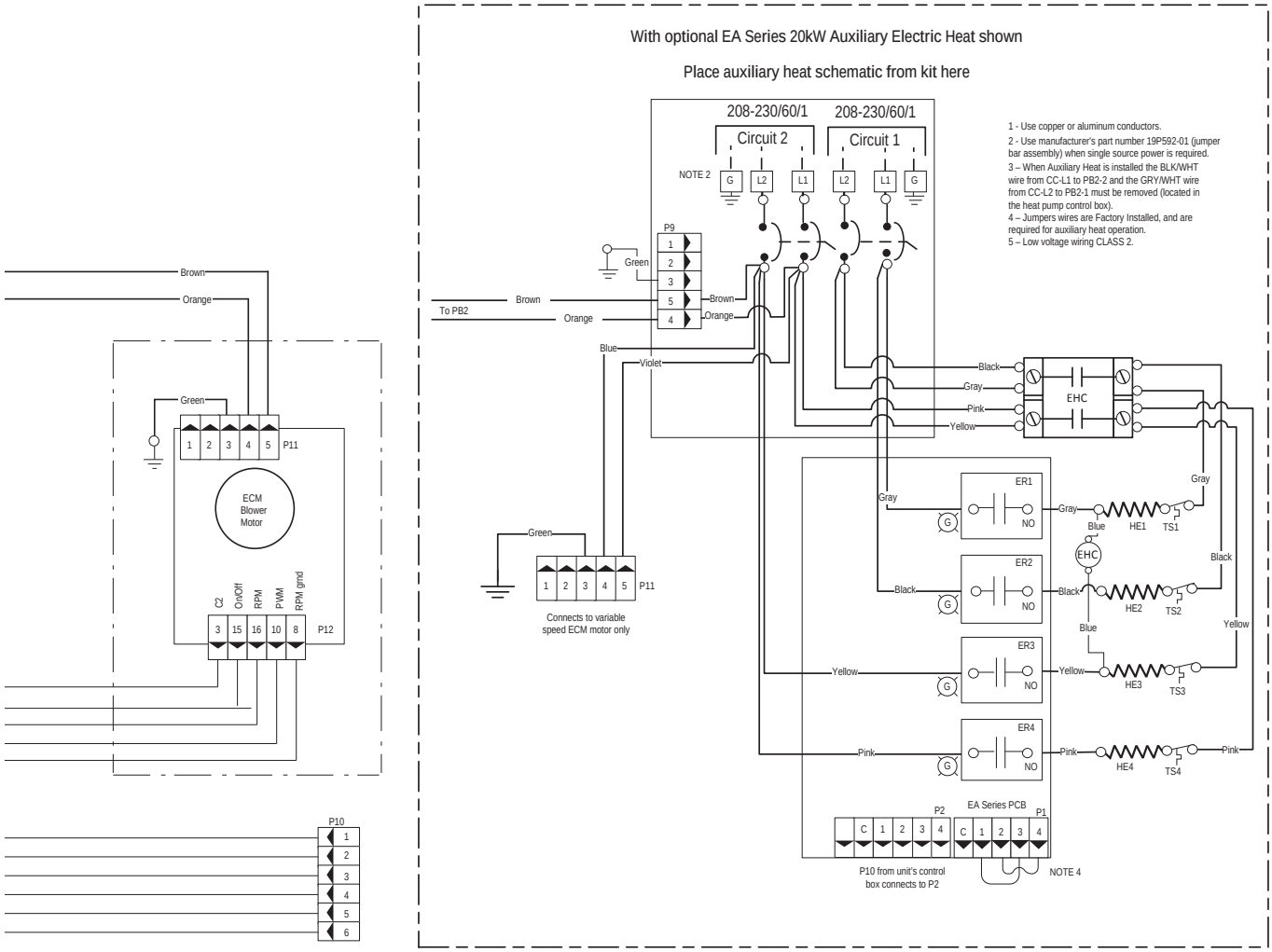
LED	Normal Display Mode	Diagnostic Modes			
		Current Fault Status	Inputs	Outputs	Outputs2
	Field Selection Dips - #1 On, #6 On, #7 On	#1 Off, #6 On, #7 On	#6 Off, #7 On	#6 On, #7 Off	#6 Off, #7 Off
Drain	Drain pan overflow Lockout	Drain pan overflow	Y1	Compressor Lo	Blower Lo
Water Flow	FP thermistor (loop<15°F,well<30°F) Lockout	FP thermistor (loop<15°F, well<30°F)	Y2	Compressor Hi	Blower Med
High Press	High Pressure	High Pressure	O	RV	Blower Hi
Low Press / CA	Low Pressure / Comfort Alert	Low Pressure / Comfort Alert	G	FAN	Aux Heat #1
Air Flow / Fan	ECM2 RPM < 100 rpm Lockout	ECM2 RPM < 100 rpm	W	DHW Pump	Aux Heat #2
Status	Microprocessor malfunction*	Not Used	SL1	Loop Pump 1	AuxHeat #3
DHW Limit	HWL thermistor > 130°F	HWL thermistor > 130°F	SL2	Loop Pump 2	Aux Heat #4
DHW off	DHW pump switch off	DHW pump switch off	--	--	--

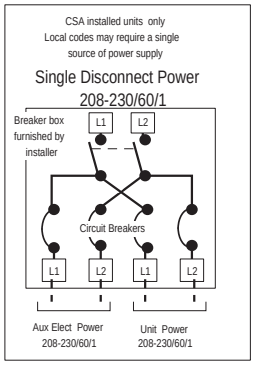
*Green LED not flashing

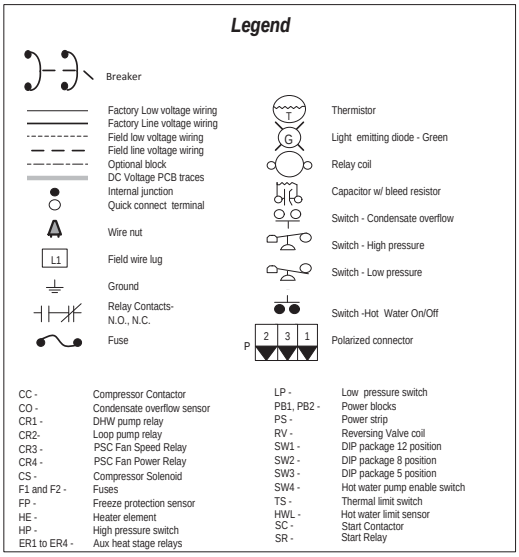
Notes:
1 – Switch Blue and Red wires for 208V operation.
2 - Connection of remote unit that does not have a loop pump for slave operation.
3 - 24V Accessory relay (see SW2 - 3 for description of operation)
4 - The blk/wh and gray/wh wires are removed when Aux Heat is installed.
5 – Use manufacturer's part number 19P592-01 (jumper bar assembly) when single source power is required.
6 - DHW pump only in models with hot water generation option.
7 - Air Flow Configuration Example: SW1 configured for dip 1 as low, dip 3 as medium, and dip 5 as high Speed ECM2 fan
8 – SW3-4 should be in the OFF position when using ECM motor and 17P501A01 electric heat board and should be ON when using ECM2 with 17P514A01 electric heat board
9 – SW2-8 must be in the OFF position for pulsed "L" lockout signal and in the ON position for constant "L" lockout signal.
10 - When optional electronic air-filter is installed, power for the electronic air-filter is provided by P2-2 and 24 VAC.
11 – This Switch allows the unit to down stage with the t-stat when OFF and finish on second stage when ON.
12 – Low voltage wiring CLASS 2.
13 – Ground wire only on units with aluminum air coils.

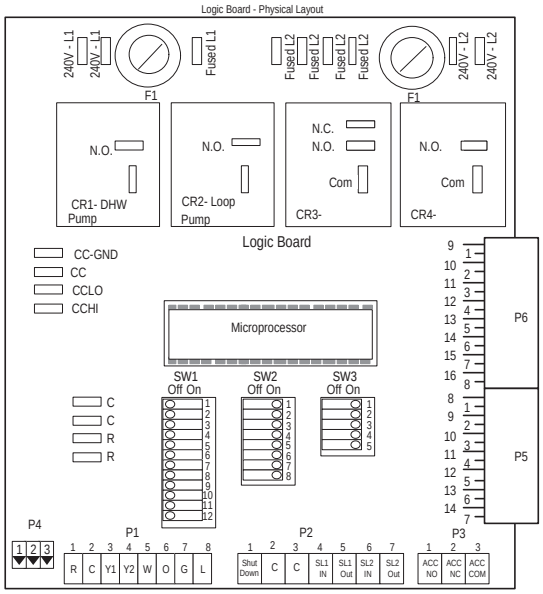
Wiring Schematics cont.

Variable Speed ECM & IntelliStart cont.



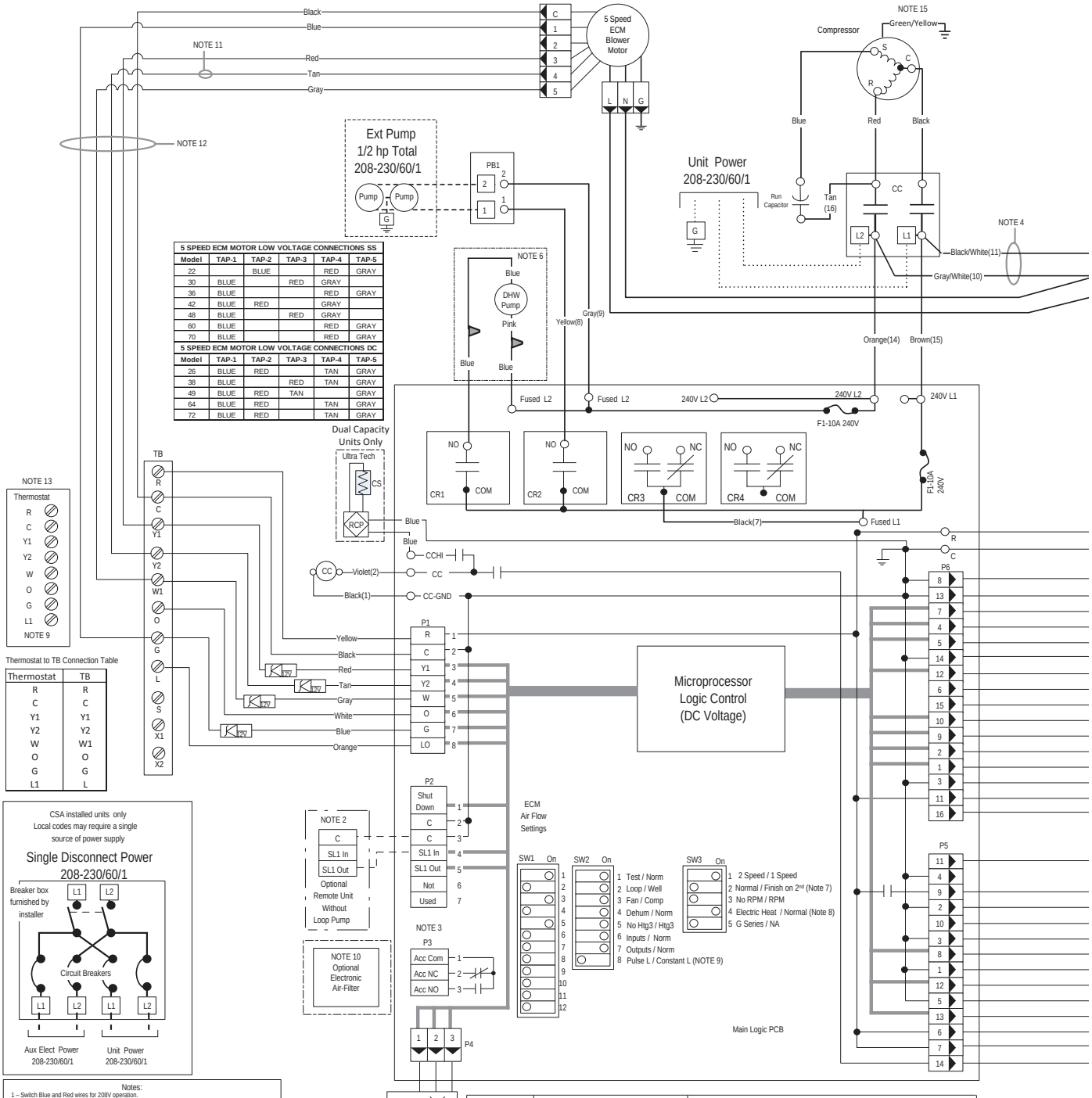






Wiring Schematics cont.

5-Speed ECM



5 SPEED ECM MOTOR LOW VOLTAGE CONNECTIONS SS					
Model	TAP-1	TAP-2	TAP-3	TAP-4	TAP-5
22		BLUE		RED	GRAY
30	BLUE		RED	GRAY	
36	BLUE			RED	GRAY
42	BLUE	RED		GRAY	
48	BLUE		RED	GRAY	
60	BLUE			RED	GRAY
70	BLUE			RED	GRAY
5 SPEED ECM MOTOR LOW VOLTAGE CONNECTIONS DC					
Model	**TAP-1**	**TAP-2**	**TAP-3**	**TAP-4**	**TAP-5**
26	BLUE	RED		TAN	GRAY
38	BLUE		RED	TAN	GRAY
49	BLUE	RED	TAN		GRAY
64	BLUE	RED		TAN	GRAY
72	BLUE	RED		TAN	GRAY

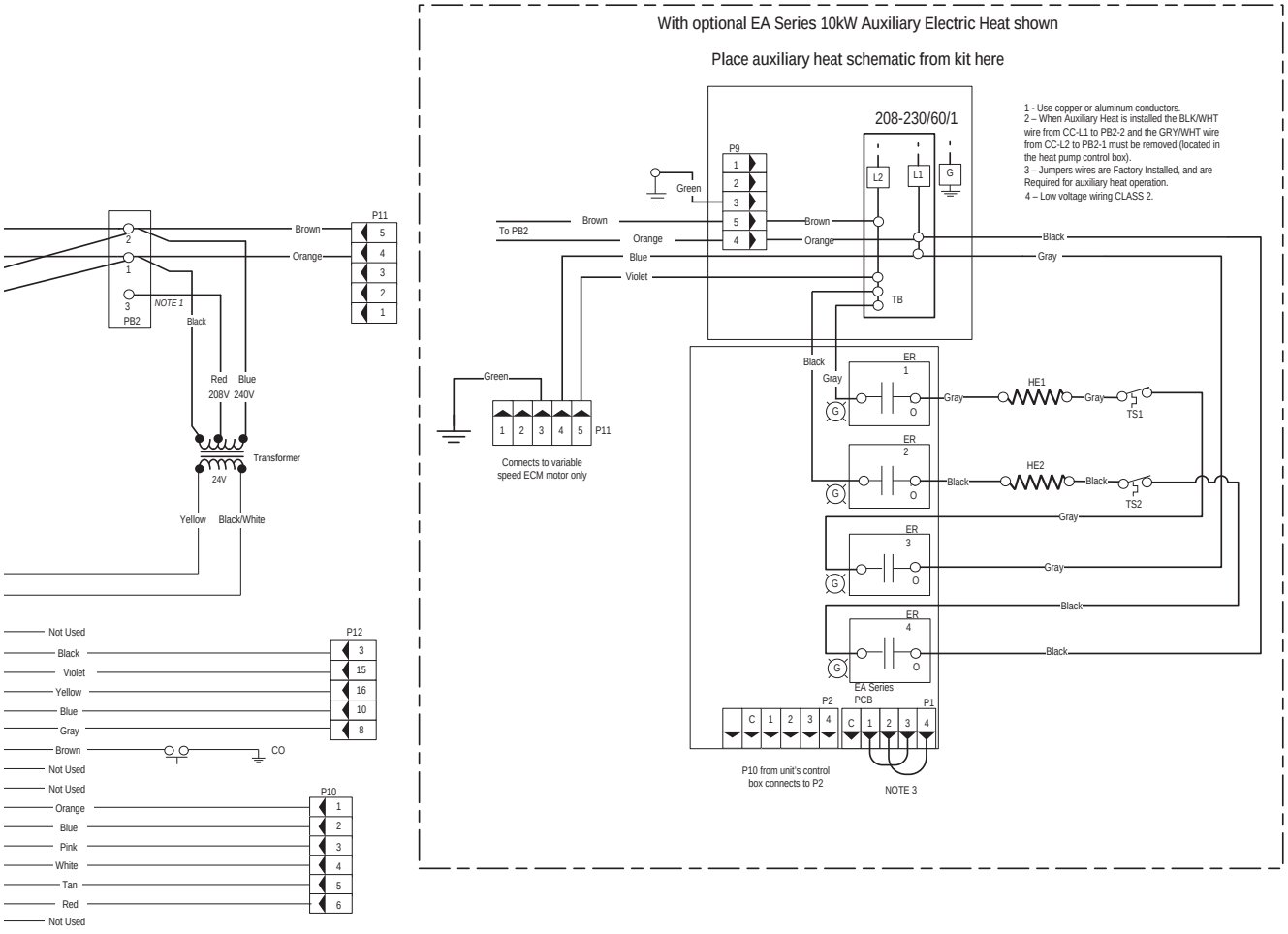
LED	Normal Display Mode	Diagnostic Modes			
		Current Fault Status	Inputs	Outputs	Outputs2
	Field Selection Dips - #1 On, #6 On, #7 On	#1 Off, #6 On, #7 On	#6 Off, #7 On	#6 On, #7 Off	#6 Off, #7 Off
Drain	Drain pan overflow Lockout	Drain pan overflow	Y1	Compressor Lo	Blower Lo
Water Flow	WCL thermistor (loop<15°F,well<30°F) Lockout	WCL thermistor (loop<15°F,well<30°F)	Y2	Compressor Hi	Blower Med
High Press	High Pressure	High Pressure	O	RV	Blower Hi
Low Press / CA	Low Pressure / Comfort Alert	Low Pressure / Comfort Alert	G	FAN	Aux Heat #1
Air Flow	ECM2 RPM < 100 rpm Lockout	ECM2 RPM < 100 rpm	W	DHW Pump	Aux Heat #2
Status	Microprocessor malfunction*	Not Used	SL1	Loop Pump 1	AuxHeat #3
DHW Limit	HWL thermistor > 130°F	HWL thermistor > 130°F	SL2	Loop Pump 2	Aux Heat #4
DHW off	DHW pump switch off	DHW pump switch off	--	--	--

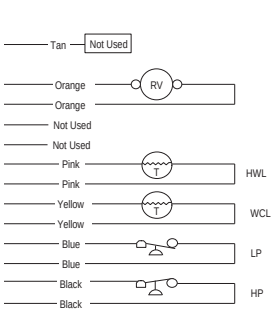
*Green LED not flashing

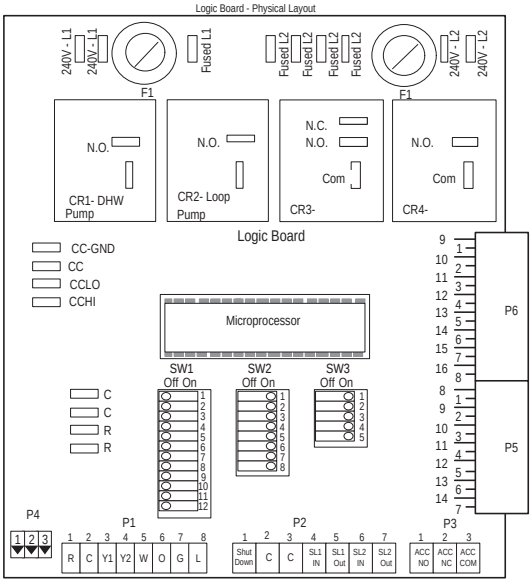
Notes:
1 – Switch Blue and Red wires for 208V operation.
2 - Connection of remote unit that does not have a loop pump for slave operation.
3 - 24V Accessory relay (see SW2 - 3 for description of operation)
4 - The blk/wh and gray/wh wires are removed when Aux Heat is installed.
5 – Use WaterFurnace part number 19P592-01 (jumper bar assembly) when single source power is required.
6 - DHW pump only in models with hot water generation option.
7 – This Switch allows the unit to down stage with the t-stat when OFF and finish on second stage when ON.
8 – SW3-4 should be in the OFF position when using the 17P501A01 electric heat board and should be ON when using the 17P514A01 electric heat board .
9 – SW2-8 must be in the OFF position for pulsed "L" lockout signal and in the ON position for constant "L" lockout signal.
10 - When optional electronic air-filter is installed, power for the electronic air-filter is provided by P2-2 and 24 VAC.
11- Y2 TAN wire not connected on Single Speed units. Wire secured at blower.
12- Refer to 5 Speed ECM Motor Low Voltage Connection Table for factory settings.
13- Refer to Thermostat/TB Connection table for thermostat connections to unit.
14 – Low voltage wiring CLASS 2.
15 – Ground wire only on units with aluminum air coils.

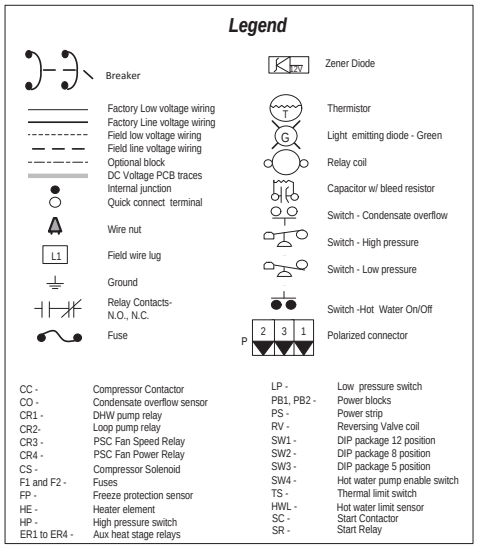
Wiring Schematics cont.

5-Speed ECM cont.



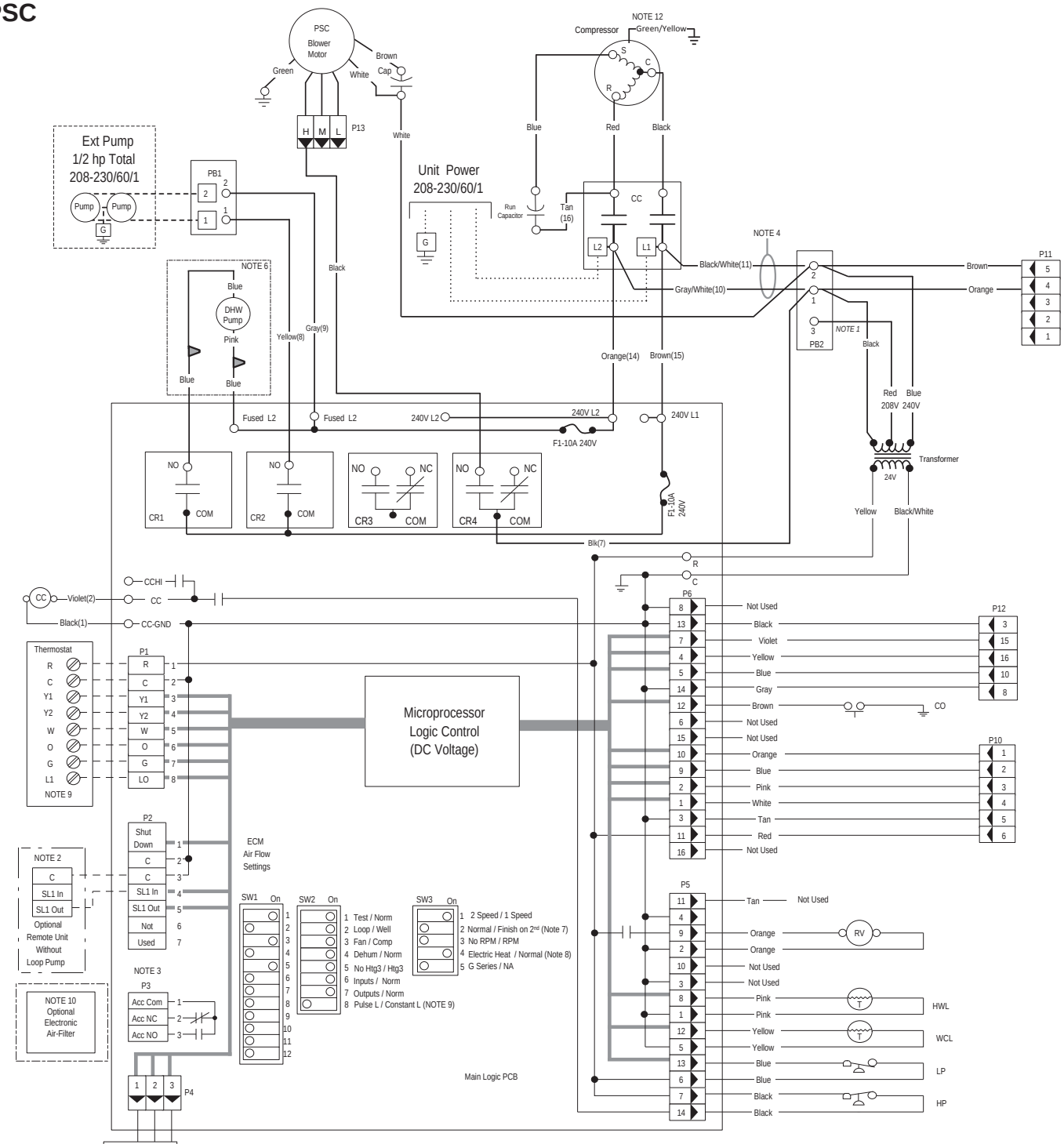






Wiring Schematics

PSC



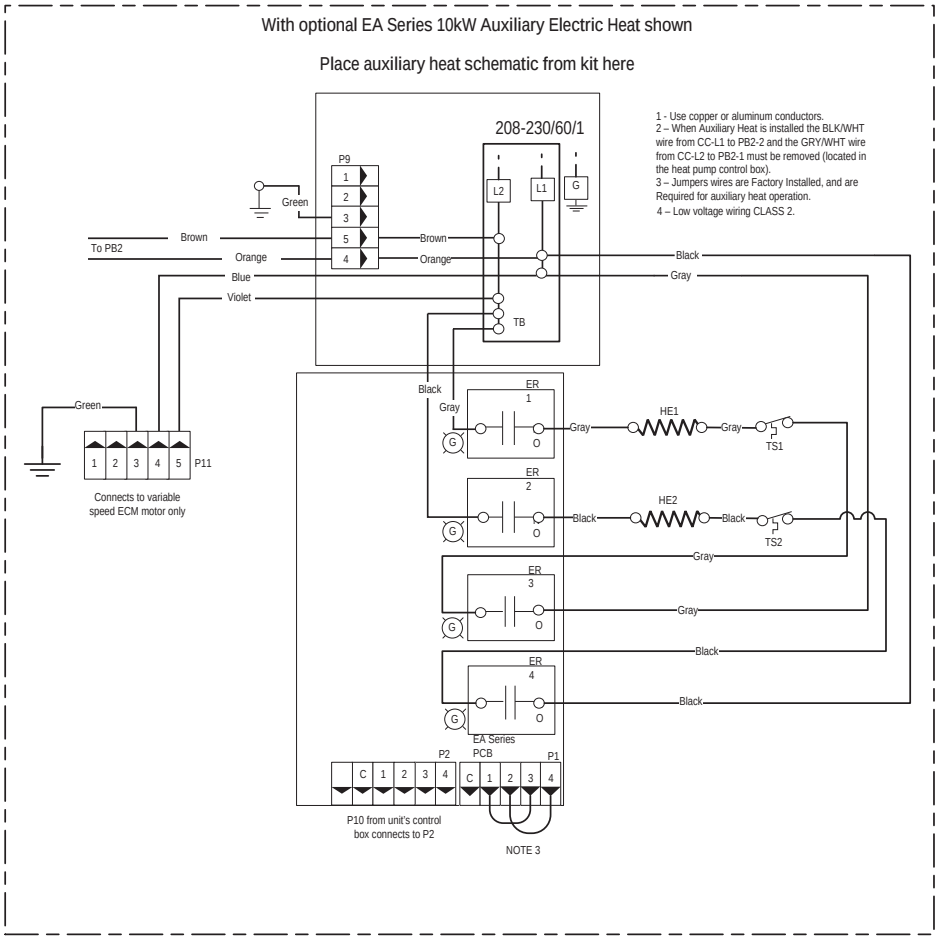
LED	Normal Display Mode	Diagnostic Modes			
		Current Fault Status	Inputs	Outputs	Outputs2
	Field Selection Dips - #1 On, #6 On, #7 On	#1 Off, #6 On, #7 On	#6 Off, #7 On	#6 On, #7 Off	#6 Off, #7 Off
Drain	Drain pan overflow Lockout	Drain pan overflow	Y1	Compressor Lo	Blower Lo
Water Flow	WCL thermistor (loop<15°F,well<30°F) Lockout	WCL thermistor (loop<15°F,well<30°F)	Y2	Compressor Hi	Blower Med
High Press	High Pressure	High Pressure	O	RV	Blower Hi
Low Press / CA	Low Pressure / Comfort Alert	Low Pressure / Comfort Alert	G	FAN	Aux Heat #1
Air Flow	ECM2 RPM < 100 rpm Lockout	ECM2 RPM < 100 rpm	W	DHW Pump	Aux Heat #2
Status	Microprocessor malfunction*	Not Used	SL1	Loop Pump 1	AuxHeat #3
DHW Limit	HWL thermistor > 130°F	HWL thermistor > 130°F	SL2	Loop Pump 2	Aux Heat #4
DHW off	DHW pump switch off	DHW pump switch off	--	--	--

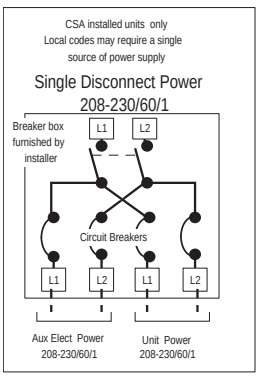
*Green LED not flashing

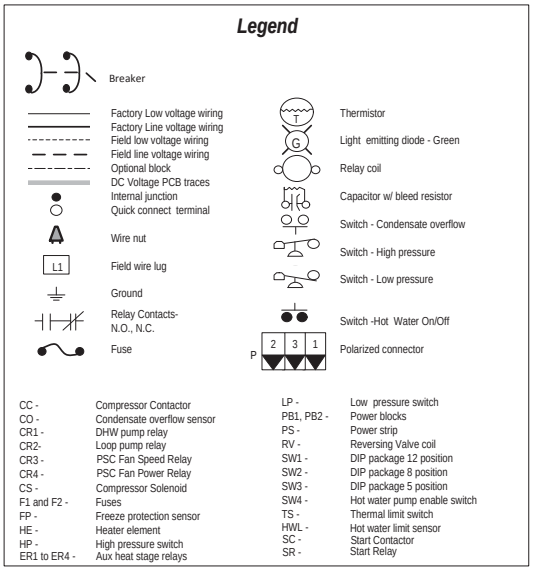
Notes:
1 – Switch Blue and Red wires for 208V operation.
2 - Connection of remote unit that does not have a loop pump for slave operation.
3 - 24V Accessory relay (see SW2 - 3 for description of operation)
4 - The blk/wh and gray/wh wires are removed when Aux Heat is installed.
5 – Use manufacturer part number 19P592-01 (jumper bar assembly) when single source power is required.
6 - DHW pump only in models with hot water generation option.
7 – This Switch allows the unit to down stage with the t-stat when OFF and finish on second stage when ON.
8 – SW3-4 should be in the OFF position when using the 17P501A01 electric heat board and should be ON when using the 17P514A01 electric heat board .
9 – SW2-8 must be in the OFF position for pulsed "L" lockout signal and in the ON position for constant "L" lockout signal.
10 - When optional electronic air-filter is installed, power for the electronic air-filter is provided by P2-2 and 24 VAC.
11 – Low voltage wiring CLASS 2.
12 – Ground wire only on units with aluminum air coils.

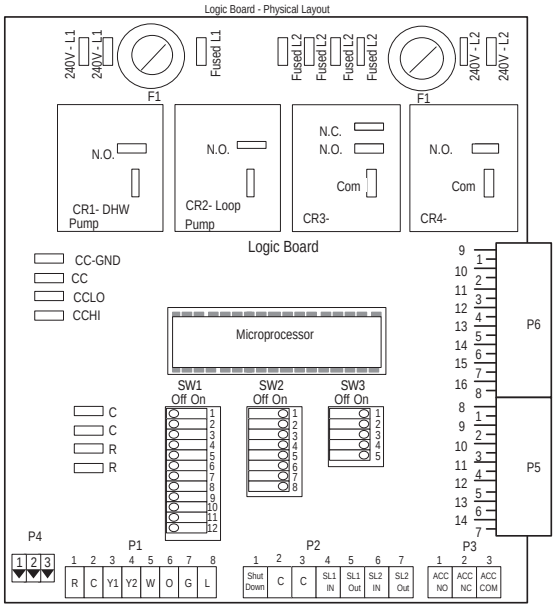
Wiring Schematics cont.

PSC cont.









Engineering Guide Specifications

General

Furnish and install GeoSmart Water Source Heat Pumps, as indicated on the plans. Equipment shall be completely assembled, piped and internally wired. Capacities and characteristics as listed in the schedule and the specifications that follow. The reverse cycle heating/cooling units shall be either suspended type with horizontal air inlet and discharge or floor mounted type with horizontal air inlet and vertical upflow, downflow, or rear air discharge. Units shall be AHRI/ISO 13256-1 certified and listed by a nationally recognized safety-testing laboratory or agency, such as ETL Testing Laboratory. Each unit shall be computer run-tested at the factory with conditioned water and operation verified to catalog data. Each unit shall be mounted on a pallet and shipped in a corrugated box or stretch-wrapped. The units shall be designed to operate with entering liquid temperature between 20°F and 120°F [-6.7°C and 48.9°C].

Casing and Cabinet

The cabinet shall be fabricated from heavy-gauge galvanized steel and finished with corrosion-resistant powder coating. This corrosion protection system shall meet the stringent 1000 hour salt spray test per ASTM B117. The interior shall be insulated with 1/2-inch thick, multi-density, cleanable aluminum foil coated glass fiber with edges sealed or tucked under flanges to prevent the introduction of glass fibers into the discharge air. Standard cabinet panel insulation must meet NFPA 90A requirements, air erosion and mold growth limits of UL-181, stringent fungal resistance test per ASTM-C1071 and ASTM G21, and shall meet zero level bacteria growth per ASTM G22. Unit insulation must meet these stringent requirements or unit(s) will not be accepted.

One (horizontal) to two (vertical) blower and three compressor compartment access panels shall be ‘lift-out’ removable with supply and return ductwork in place. The front access panel shall be lift-out to provide easy access to the electrical/compressor section. The internal component layout shall provide for service access from the front side for restricted installations.

A duct collar shall be provided on the supply air opening. Standard size 1 in. [25.4mm] electrostatic air filters shall be provided with each unit. Vertical units shall have a return air filter rack/duct collar; the horizontal units shall have a filter bracket each field convertible from 1 in. [25.4mm] to 2 in. [50.8mm]. The upflow vertical (022-072) units shall have a removable insulated divider panel between the air handling section and the compressor section to minimize the transmission of compressor noise and to permit operational service testing without air bypass. Vertical units shall be supplied with left or right horizontal air inlet and top, bottom (022-072), or rear vertical (042-072) air discharge. Horizontal units shall be supplied with left or right air inlet and side or end air discharge.

The compressor shall be double isolation mounted using selected durometer grommets to provide vibration free compressor mounting.

The drain pan shall be of plastic construction to inhibit corrosion and bacterial growth. Drain outlet shall be located on pan as to allow complete and unobstructed drainage of condensate. The unit as standard will be supplied with solid-state electronic condensate overflow protection. Mechanical float switches WILL NOT be accepted. Vertical units shall be furnished with a PVC slip condensate drain connection and an internal factory installed condensate trap.

Refrigerant Circuit

All units shall contain a sealed refrigerant circuit including a hermetic motor-compressor, discharge line muffler (022-072), bidirectional thermostatic expansion valve, finned tube air-to-refrigerant heat exchanger, reversing valve, coaxial tube water-to-refrigerant heat exchanger, optional hot water generator coil (018-072), and service ports.

Compressors shall be high-efficiency single speed rotary or scroll, or dual capacity scroll type designed for heat pump duty and mounted on vibration isolators. Compressor motors shall be single-phase PSC with overload protection. The finned tube air-to-refrigerant heat exchanger will be aluminum tube/fin or copper tube/aluminum fin and shall be sized for low-face velocity and constructed of lanced aluminum fins bonded to performance enhanced tubes in a staggered pattern not less than three rows deep for superior performance. The aluminum tube and fin air-to-refrigerant heat exchanger has as optional to be electro-coated with AlumiSeal. The copper tube aluminum fin air-to-refrigerant heat exchanger will be constructed of patented 11 element fin and double electro-coated for corrosion protection. Models 022-072 shall include discharge mufflers to help quiet compressor discharge gas pulsations. Refrigerant to air heat exchangers shall utilize enhanced tube construction rated to withstand 600 psig (4135 kPa) refrigerant working pressure.

The coaxial water-to-refrigerant heat exchanger shall be designed for low water pressure drop and constructed of a convoluted copper (cupronickel option) inner tube and a steel outer tube. Refrigerant to water heat exchangers shall be of copper inner water tube and steel refrigerant outer tube design, rated to withstand 600 psig (4135 kPa) working refrigerant pressure and 450 psig (3101 kPa) working water pressure. The thermostatic expansion valve shall provide proper superheat over the entire liquid temperature range with minimal “hunting.” The valve shall operate bidirectionally without the use of check valves.

All units shall have the source coaxial tube refrigerant-to-water heat exchanger and the optional hot water generator coil shall be coated with ThermaShield. Refrigerant suction lines shall be insulated to prevent condensation at low liquid temperatures.

Blower Motor and Assembly

The blower shall be a direct drive centrifugal type with a dynamically balanced wheel. The housing and wheel shall be designed for quiet low outlet velocity operation. The blower housing shall be removable from the unit without disconnecting the supply air ductwork for servicing of the blower motor. The blower motor shall be a 3-speed PSC, 5-speed ECM, or variable speed ECM type. The variable speed ECM blower motor shall be soft starting, shall maintain constant cfm over its operating static range, and shall provide 12 cfm settings. An optional constant torque 5-speed ECM is available on model sizes 022-072. An optional 3-speed PSC blower motor is available on all single speed

Engineering Guide Specifications cont.

models. The blower motor shall be isolated from the housing by rubber grommets. The motor shall be permanently lubricated and have thermostatic overload protection. Variable speed ECM and 5-speed ECM motors shall be long-life ball bearing type.

Electrical

A control box shall be located within the unit compressor compartment and shall contain a 75VA transformer, 24 volt activated, 2 pole compressor contactor, circuit breakers for protecting loop pumps, terminal block for thermostat wiring, and solid-state controller for complete unit operation. Electromechanical operation WILL NOT be accepted. Units shall be name-plated for use with time delay fuses or HACR circuit breakers. Unit controls shall be 24 volt and provide heating or cooling as required by the remote thermostat/sensor. A microprocessor-based controller that interfaces with a multi-stage electronic thermostat to monitor and control unit operation shall be provided. The control shall provide operational sequencing, blower speed control, blower failure, high and low pressure switch monitoring, freeze detection, hot water limit thermistor sensing, condensate overflow sensing, auxiliary heat staging, lockout mode control, hot water and loop pump control, LED status and fault indicators, fault memory, field selectable options, and accessory output. The Lockout signal output shall have a pulsed option so that DDC systems can read specific lockout conditions from the control.

A detachable terminal block with screw terminals will be provided for field control wiring. All units shall have knockouts for entrance of low and line voltage wiring. The blower motor and control box shall be harness plug wired for easy removal.

Optional IntelliStart® (compressor Soft Starter) shall be factory installed for use in applications that require low starting amps, reduced compressor start-up noise, off-grid, and improved start-up behavior. IntelliStart shall reduce normal starting current by up to 60%.

Piping

Supply and return water connections, as well as the optional hot water generator, shall be 1 in. [25.4 mm] FPT brass swivel fittings, which provide a union and eliminate the need for pipe wrenches and sealants when making field connections. All water piping shall be insulated to prevent condensation at low liquid temperatures, on the vertical units, the condensate connection shall be a 3/4 in. [19.1 mm] PVC socket with internally-trapped hose that can be routed to front or side locations.

Hanger Kit

(field-installed horizontal units only)

The hanger kit shall consist of galvanized steel brackets, bolts, lock washers, and isolators and shall be designed to fasten to the unit bottom panel for suspension from 3/8-inch threaded rods. Unit sizes 012-030 shall include four brackets. Unit sizes 036-072 shall include six brackets.

Options and Accessories

Cupronickel Heat Exchanger

An optional cupronickel water-to-refrigerant heat exchanger shall be provided.

Hot Water Generator (available on 018-072)

An optional ThermaShield coated heat reclaiming hot water generator coil of vented double-wall copper construction suitable for potable water shall be provided. The coil and hot water circulating pump shall be factory mounted inside the unit with integral electronic high limit temperature monitoring and external on/off switch.

5-Speed ECM Blower Motor

An optional constant torque 5-speed ECM blower motor is available on model sizes 022-072.

PSC Blower Motor

An optional 3-speed PSC blower motor is available on all single speed models.

Thermostat (field-installed)

A multi-stage auto-changeover electronic digital thermostat shall be provided. The thermostat shall offer three heating and two cooling stages with precise temperature control. An OFF-HEAT-AUTO-COOL-EMERG system switch, OFF-AUTO blower switch, and indicating LEDs shall be provided. The thermostat shall display in °F or °C. The thermostat shall be either a communicating type or a traditional 24 VAC type.

Electronic Air Cleaner (field-installed)

A 1 in. [25 mm] electronic air cleaner, cleanable 97% efficiency at 0.3 microns and larger, shall be provided in lieu of the standard throwaway filter. The initial pressure drop across the filter shall not exceed 0.2 in. w.g. at 300 fpm force velocity.

AlpinePure MERV 13 Filter (field-installed)

A 2 in. [50 mm] thick MERV 13 filter shall be provided in lieu of the standard filter and fits the factory filter rack. The filter maintains MERV 13 rating in full ASHRAE 52.2 independent testing as required for LEED® certification. Helps fulfill a full credit under the LEED rating system.

AlpinePure HEPA Filter (field-installed)

For the ultimate in air filtration, the AlpinePure Series HEPA filter captures 99.97% of all particles down to 0.30 microns in size.

Engineering Guide Specifications cont.

AlpinePure Drain Pan Treatment (field-installed)

Provides dependable, sustained time-release protection from slime build-up and foul smelling odors in the drain pan. Also adds a light, pleasant scent to the air.

Earth Loop Flow Center (field-installed)

A self-contained module shall provide all liquid flow, fill and connection requirements for ground source closed loop systems up to 20 gpm. The pumps shall be wired to a power block located in the nearest unit. The heat pump units shall contain low voltage pump linking control so that two units may share one flow center.

Auxiliary Heater (field-installed)

An electric resistance heater shall provide supplemental and/or emergency heating capability. Vertical units shall have the control panel and resistance heater coil assembly mounted internally. For horizontal units, the control panel shall be mounted internally while the resistance heater coil assembly shall be mounted externally. A low voltage plug shall be provided in each unit for quick auxiliary heat connection. The heater shall operate in sequenced stages as controlled by the unit's microprocessor. The heater shall feed line voltage power to the unit blower and transformer to provide emergency heat capability in the event of an open compressor circuit breaker.

Revision Guide

Pages:	Description:	Date:	By:
All	Released Aluminum Air Coil Option	1 Sept 2015	MA
All	Updated for Electric Heating Changes, Updated Wiring Schematics	11 June 2015	MA
All	First Published.	21 Aug 2013	DS

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Product:	**Premium G Series**
Type:	Premium Forced Air Geothermal Comfort System
Size:	1-6 Ton Single Speed 2-6 Ton Dual Capacity
Document Type:	Specification Catalog
Ref. Number:	SC2500AG2
Revision Date:	09/15
Revision Number:	
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