Unit Specifications

Horizontal and Vertical Packaged Systems

GT-G 50YC Series
Geothermal Heating
and Cooling System
Sizes 015-070

Carrier®

GT-G

Residential Geothermal Heat Pumps

Specifications Catalog

Revised 06/08/04

Table of Contents

Geothermal Advantages

Geothermal systems transfer heat from a building to the earth in the cooling mode, or from the earth to the building in the heating mode. Water is used as the heat transfer medium, either in a closed loop piping system, or by directly pumping well water. By using this stable thermal source, geothermal heat pumps provide energy efficient comfort the year around.

Highest Efficiency
The extremely high levels of efficiency are possible because a geothermal heat pump only uses electricity to move heat, not produce it. A GT-G unit typically supplies 4 kilowatts of heat for every kilowatt of electricity used. Three of these kilowatts of heat come directly from the earth itself, and are clean, free, and renewable. Overall, geothermal technology offers the highest cooling EER's and heating COP's available in the industry.

Maximum Comfort
Geothermal heat pumps also provide higher comfort levels than traditional space conditioning equipment.

By using a relatively warm source of heat such as the earth, supply air temperatures are significantly higher in the heating mode than traditional air-source heat pumps. Geothermal heat pumps also cycle much less often than fossil furnaces, creating a consistent indoor temperature with comfortable relative humidity.

Environmentally Friendly
The environmental advantages of geothermal systems have caught the eye of governmental agencies such as the Environmental Protection Agency (EPA) and the Department of Energy (DOE). Because it is lowest in CO_2 emissions, geothermal technology provides a solution to global warming by primarily using the natural energy of the earth. In contrast, traditional space conditioning systems depend upon the exploitation and burning of fossil energy sources with the resultant greenhouse gas emissions.

Better Investment
Low life-cycle costs are provided by the low operating and maintenance costs of geothermal systems, even when the higher initial installation costs are considered. In new construction, monthly energy savings typically exceed the increased mortgage payments. Therefore, cash flow can be positive from the start. In retrofit systems, a buyer who purchases with cash usually realizes a return on investment well above certificate of deposit rates. And, with equipment life exceeding 20 years, a GT-G Series unit is a lasting investment.

Electric utilities, recognizing the dual benefits of high efficiency and low electric peak demand, may provide incentives to purchase these systems.

Geothermal System Types

Before choosing a geothermal system, many application factors must be evaluated, including:

- ground water availability and quality
- loop installation costs
- land area available
- sub-soil conditions
- local codes
- owner preferences

Carrier dealers have the expertise and computer software to determine the best type of system. Many regions have contractors specializing in the installation of the ground loop portion of the system.

Closed Loop Systems
Closed Loop Systems consist of an underground heat exchange network of sealed, high strength, polyethylene plastic pipe, and a Flow Controller pumping module. When cooling, the loop fluid temperature will rise, and rejected heat is dissipated into the cooler earth. Conversely, while heating, the loop fluid temperature falls, and heat is absorbed from the earth. Carrier Flow Controller pumping modules utilize low wattage pumps to circulate the water/antifreeze fluid within the piping system. The plastic heat exchange loop is closed and thermally fusion-welded at all connections in the same manner as natural gas distribution lines. Closed loops do not require a ground water supply or drain, and they are not subject to mineral build-up.

Closed Loops can be installed in vertical or horizontal configurations or submerged in a pond or lake. When designed properly, all three alternatives operate with similar efficiency. Carrier high density polyethylene plastic pipe is used for all closed loop installations. Pipe connections are heat fused to form joints that are stronger than the pipe itself. Carrier loop piping has a life expectancy in excess of 50 years.

Horizontal Loops are often considered when adequate land space is available. The pipes are placed in trenches, excavated by a backhoe or chain trencher to a depth of 4-6 feet. Depending on design, from 1-6 pipes are installed in each trench. Multiple pipe and coiled "slinky" configurations are often used to conserve land requirements and reduce overall installed loop costs. Horizontal boring technology can also be used to install u-bend loops 10-15 feet deep with minimal landscaping disruption. Trench lengths range from 100-400 feet per system ton. Trenches must be spaced from 6-10 feet apart. The overall land area required ranges from 750-1,500 square feet per system ton.

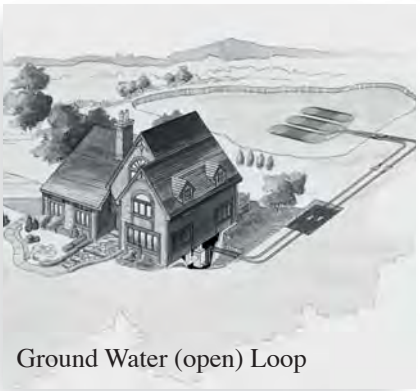
Vertical Loops are the ideal choice when available land area is limited. Drilling equipment is used to bore small-diameter vertical holes. Two pipes joined together with a u-bend fitting are inserted into the vertical bore. Bore hole depth ranges from 100-300 feet per system ton. Bores must be spaced from 10-15 feet apart and properly grouted. The land space required ranges from 100-200 square feet per system ton.

Pond (Lake) Loops are very economical to install when a body of surface water is available, because excavation costs are mostly eliminated. Coils or "slinky" mats of pipe are simply placed on the bottom of the pond (lake). In most cases, 1/4 to 1/2 acre of water surface, with a minimum depth of 8-10 feet, is needed for a typical residence.

Ground Water Systems
Open loop systems utilize ground water as a direct energy source when good quality water is available at a reasonable pumping depth. A well must have enough capacity to deliver a minimum of 1.5 gpm per system ton during peak operation. Ditches, field tiles, ponds, and streams are the most common discharge systems. Reinjection or semi-closed recirculation wells can also be utilized in some regions. In ideal conditions, an open loop application can be the most economical type of system to install.


Horizontal Closed Loop


Vertical Closed Loop


Ground Water (open) Loop

GT-G Packaged System Design Features

Design Features

- Efficient operation from 20°F to 110°F entering water temperatures. Flow rates may be as low as 1.5 gpm/ton.
- Top or bottom supply air discharge for upflow or counterflow applications when using the vertical cabinets; and side or end supply air discharge for horizontal cabinets.
- Left or right hand return air positions for all models. Vertical cabinets include a deluxe filter rack/duct collar.
- Standard three-speed, high static capable PSC fan motor.
- Optional variable speed-ICM2-blower motors adjusts to multiple duct system applications and provides soft start for added comfort and quiet operation.
- Narrow cabinet design for easy movement through doorways.
- Internally trapped condensate piping for easy, compact installations on vertical cabinets.
- Internal electric heat unit (optional) designed for easy field installation.
- Electrical box located at corner for easy field wiring from two sides.
- Loop pump power block with circuit breaker.
- Coax freeze protection is field selectable for well or closed loop installations.
- Air coil freeze protection using high accuracy thermistors.

Operating Efficiencies

- Top of the industry ARI/ASHRAE/ISO 13256-1 ratings for heating COP's, cooling EER's.
- Optional hot water generator (HWG) with internal pump generates hot water at dramatic savings while improving system performance.
- High efficiency scroll or rotary compressors for quiet, reliable operation.
- Oversized coaxial tube water-to-refrigerant heat exchanger for high efficiency and extra heating capacity. Convoluted copper (optional cupro nickel available) water tube functions efficiently at low flow rates and provides resistance to freeze-damage.
- Oversized rifled copper tube/lanced aluminum fin air-to-refrigerant heat exchanger offers high efficiencies at low air velocity.
- Large, low RPM blower is both quiet and efficient and provides high static capability.

Service Advantages

- Three removable access panels for the compressor compartment and one or two for the air handler compartment offer quick access to all internal components even with ductwork in place.
- Bi-directional thermal expansion valve.
- Brass, swivel-water connections for easy connections of loop and hot water piping.
- Insulated divider and separate air handling/ compressor access panels allow service testing without air bypass.
- Designed for in-place service in tight installations spaces.
- CXM control features LED status light with memory feature for easy diagnostics.
- Control box and fan motors have quick-attach wiring connections for fast removal.
- Internal drop-out blower assembly for easy servicing.
- High and low pressure service ports in refrigerant circuit.
- E-Coated refrigerant-to-air coil helps protect the coil from corrosion and extends life expectancy.

Factory Quality

- All units are built on our Integrated Process Control Assembly System (IPCS). The IPCS is a unique state of the art manufacturing system that is designed to assure quality of the highest standards of any manufacturer in the water-source industry.

Our IPCS system:

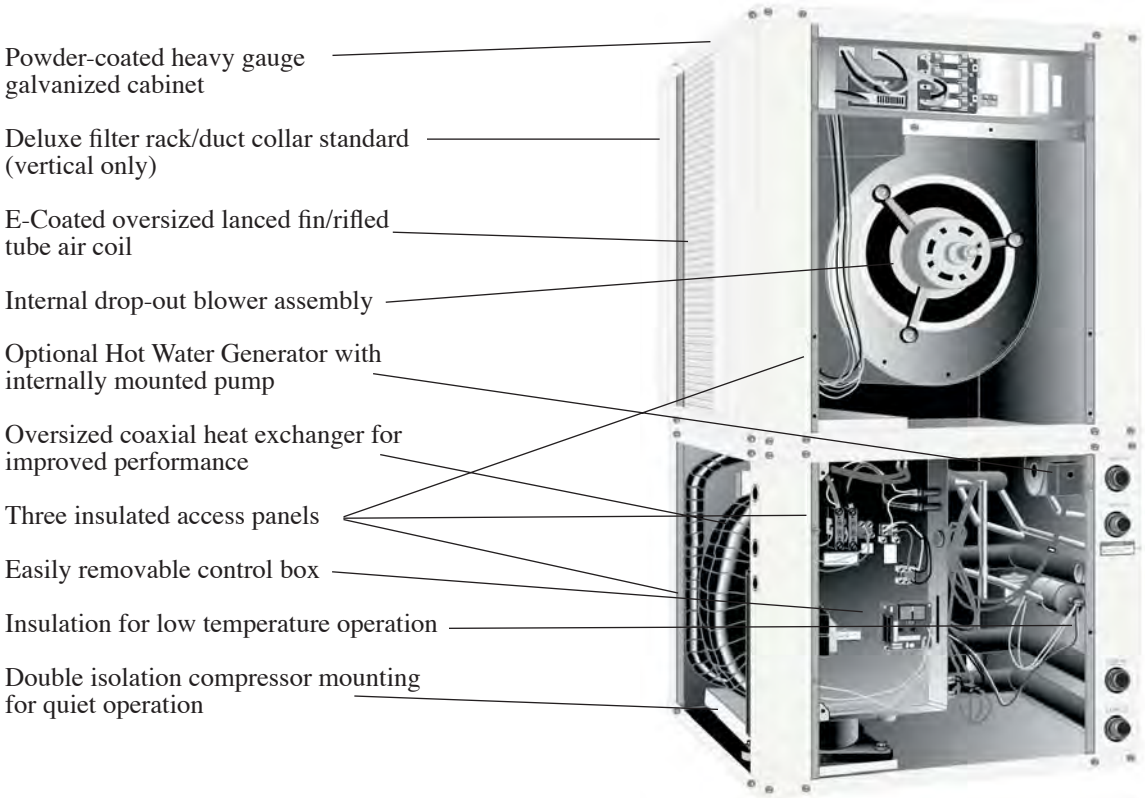
- Verifies that the correct components are being assembled.
- Automatically performs special leak tests on all joints.
- Conducts pressure tests.
- Performs highly detailed run test unparalleled in the HVAC industry.
- System automatically won't allow a "failed" unit to be packaged for shipment.
- Run-test creates computer database for future service analysis and diagnostics.

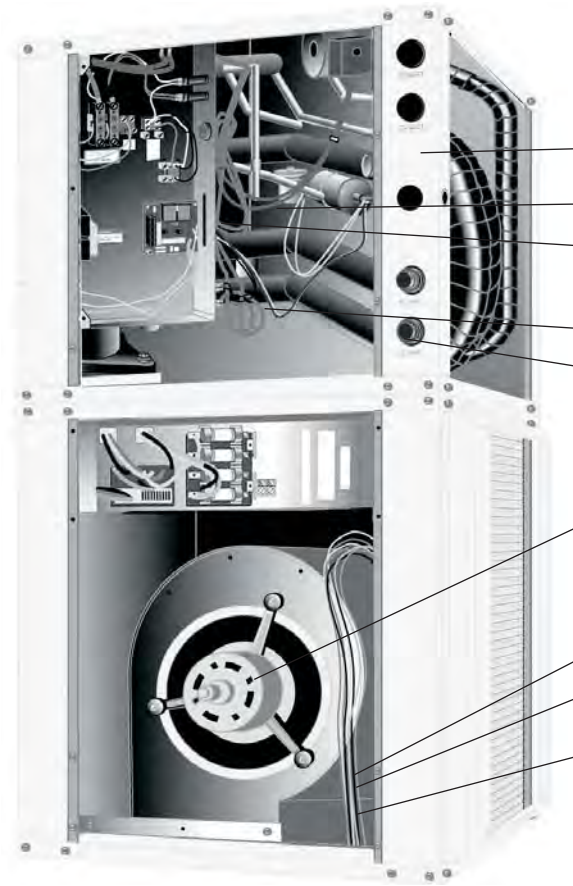
- Heavy-gauge steel cabinets are painted with durable epoxy for a long-lasting finish.
- All refrigerant brazing is performed in a nitrogen-rich environment.
- Units are deep evacuated to less than 50 microns prior to refrigerant charging.
- All joints are halogen leak-tested to ensure leak rate of less than 1/4 ounce per year.
- Coaxial heat exchanger, refrigerant suction lines, hot water generator coil, and all water pipes are fully insulated to reduce condensation in low temperature conditions.
- Isolation mounted compressors and low RPM blowers are used to reduce noise. Compressor compartment and interior cabinet is insulated with 1/2" coated glass fiber.
- Safety features include: high pressure and loss of charge to protect the compressor; condensate overflow protection; freeze protection sensors to safeguard the coaxial heat exchanger and air coil; hot water high-limit hot water generator pump shutdown; fault lockout enables emergency heat and prevents compressor operation until thermostat or circuit breaker has been reset.

Options & Accessories

- Optional hot water generator with internally mounted pump and includes special water heater plumbing connections.
- Optional cupro nickel coaxial heat exchanger.
- Optional internal auxiliary electric heat .
- Electronic auto-changeover thermostats with 2-stage heat and 1-stage cool and indicator LED's.
- Closed loop flow controller and hose kits.
- Filter racks/duct collar on horizontal units.

GT-G Packaged System Design Features





About ARI/ISO/ASHRAE 13256-1

The performance standard ARI/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:

Cooling EER unit of measure
The cooling efficiency is measured in EER (US version measured in Btuh per Watt. Metric version measured in Watt per Watt.) similar to the traditional COP measurement.

Entering Water Conditions Changes
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 instead of 70°F.

Entering air Conditions Changes
Entering air temperatures have changed 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 DB and 67°F WB entering air temperatures. 80.6/66.2 data may be converted to 80/67 using the entering air correction table.

Pump Power Correction
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.

Fan Power Correction
Fan 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 COP's fairly dramatically over ARI 320, 325, and 330 ratings.

• Fan 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 Equations
The following equations illustrate cooling calculations:
• ISO Cooling Capacity = Cooling Capacity (Btuh) + (Fan Power Correction (Watts) x 3.412)
• ISO EER Efficiency (W/W) = ISO Cooling Capacity (Btuh) x 3.412 /
[Power Input (Watts) - Fan Power Correction (Watts) + Pump Power Correction (Watt)]

The following equations illustrate heating calculations:
• ISO Heating Capacity = Heating Capacity (Btuh) - (Fan Power Correction (Watts) x 3.412)
• ISO COP Efficiency (W/W) = ISO Heating Capacity (Btuh) x 3.412 /
[Power Input (Watts) - Fan Power Correction (Watts) + Pump Power Correction (Watt)]

Test Condition Comparison Table

	ARI 320	ISO WLHP	ARI 325	ISO GWHP	ARI 330	ISO 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	Note 1	Note 2	Note 2	Note 2	Note 2	Note 2
Heating						
Entering Air -°F	70	68	70	68	70	68
Entering Water -°F	70	68	50/70	50	32	32
Fluid Flow Rate	Note 1	Note 2	Note 2	Note 2	Note 2	Note 2

Note 1 - Flow rate is set by 10°F rise in standard cooling test
Note 2 - Flow rate is specified by manufacturer

GT-G with PSC Fan Motor
Performance Certified by ARI/ASHRAE/ISO

ARI/ASHRAE/ISO 13256-1-00 for Water or Brine-to-Air Heat Pumps
English Inch-Pound Unit of Measure

Model	Air Flow (cfm)	Water Loop Heat Pump					Ground Water Heat Pump					Ground Loop Heat Pump				
		Liquid Flow (gpm)	Cooling 86°F		Heating 68°F		Liquid Flow (gpm)	Cooling 59°F		Heating 50°F		Liquid Flow (gpm)	Cooling 77°F		Heating 32°F	
			Capacity Btuh	EER Btuh/W	Capacity Btuh	COP		Capacity Btuh	EER Btuh/W	Capacity Btuh	COP		Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
015	500	3.8	14,100	16.0	16,300	5.3	1.9	15,600	23.9	12,900	4.1	3.8	14,900	18.5	11,200	3.8
018	600	4.5	17,100	14.8	20,900	5.0	2.3	19,000	22.7	16,000	4.1	4.5	18,300	16.7	13,200	3.6
024	800	6.0	24,200	14.9	30,100	4.8	3.0	26,500	21.2	23,500	4.0	6.0	26,000	17.1	19,200	3.6
030	1000	8.0	28,900	15.1	35,000	4.8	4.0	31,100	21.4	27,200	4.0	8.0	30,700	16.9	22,200	3.6
036	1150	9.0	33,800	14.9	40,400	4.6	4.5	36,000	20.7	32,900	4.0	9.0	35,800	16.4	26,700	3.4
042	1400	10.5	41,000	14.5	49,800	4.8	5.3	45,400	20.3	39,000	4.0	10.5	43,300	16.0	32,700	3.7
048	1600	12.0	45,800	14.6	54,100	4.9	6.0	49,000	19.9	43,300	4.0	12.0	48,900	16.4	36,900	3.7
060	2000	15.0	56,800	13.4	74,900	4.7	7.5	59,600	17.7	58,900	3.8	15.0	59,400	14.6	48,700	3.6
070	2300	18.0	63,700	12.4	78,300	4.5	9.0	70,000	16.8	62,900	3.8	18.0	67,100	13.4	53,400	3.6

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 air flow is rated on high speed (except GSV/H015 - med).
All ratings based upon operation at lower voltage of dual voltage rated models.

Rev.: 5/04/01B

GT-G with ICM Fan Motor Option
Performance Certified by ARI/ASHRAE/ISO

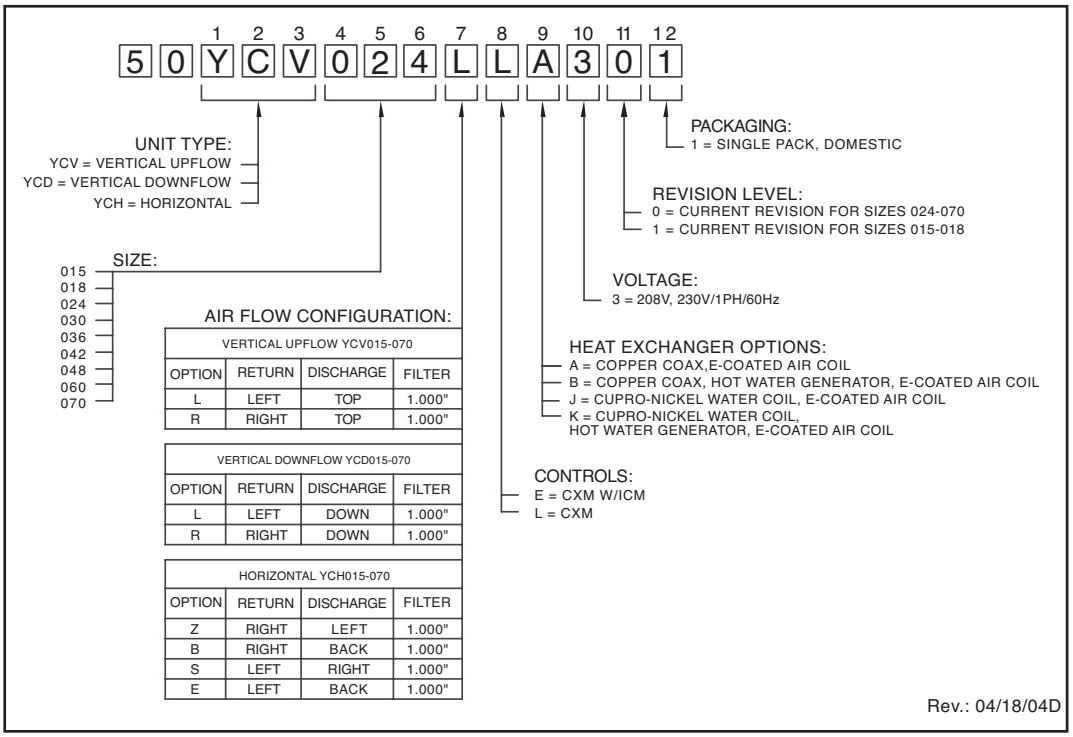
ARI/ASHRAE/ISO 13256-1-00 for Water or Brine-to-Air Heat Pumps
English Inch-Pound Unit of Measure

Model	Air Flow (cfm)	Liquid Flow (gpm)	Water Loop Heat Pump				Liquid Flow (gpm)	Ground Water Heat Pump				Liquid Flow (gpm)	Ground Loop Heat Pump			
			Cooling 86°F		Heating 68°F			Cooling 59°F		Heating 50°F			Cooling 77°F		Heating 32°F	
			Capacity Btuh	EER Btuh/W	Capacity Btuh	COP		Capacity Btuh	EER Btuh/W	Capacity Btuh	COP		Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
024	800	Not Rated					3.0	26,500	21.3	23,500	4.0	6.0	26,300	17.5	19,000	3.8
030	1000						4.0	31,100	21.5	27,200	4.1	8.0	31,000	17.5	21,900	3.7
036	1150						4.5	36,000	20.8	32,900	4.1	9.0	36,000	17.2	26,400	3.5
042	1400						5.3	45,400	20.4	39,000	4.1	10.5	43,700	16.7	32,400	3.8
048	1600						6.0	49,100	20.1	43,200	4.1	12.0	49,400	17.3	35,900	3.8
060	2000						7.5	59,600	17.8	58,800	3.9	15.0	59,800	15.6	47,500	3.7
070	2300						9.0	70,200	17.1	62,700	3.8	18.0	67,800	14.6	51,500	3.7

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 air flow is rated on high speed (except GSV/H015 - med).
All ratings based upon 208V operation.

Rev.: 5/04/01B

GT-G Model Key



Reference Calculations & Legend

Heating

$$LWT = EWT - \frac{HE}{GPM \times 500}$$

$$LAT = EAT + \frac{HC}{CFM \times 1.08}$$

Cooling

$$LWT = EWT + \frac{HR}{GPM \times 500}$$

$$LAT\ (DB) = EAT\ (DB) - \frac{SC}{CFM \times 1.08}$$

$$LC = TC - SC$$

$$S/T = \frac{SC}{TC}$$

CFM	=	airflow, cubic feet/minute	HWC	=	hot water generator (desuperheater), BTUH
EWT	=	entering water temperature	EER	=	Energy Efficiency Ratio = BTU output/Watt input
GPM	=	water flow in gallons/minute			
EAT	=	entering air temperature, Fahrenheit (dry bulb/wet bulb)	COP	=	Coefficient of Performance = BTU output/BTU input
HC	=	air heating capacity, BTUH			
TC	=	total cooling capacity, BTUH	LWT	=	leaving water temperature, °F
SC	=	sensible cooling capacity, BTUH	LAT	=	leaving air temperature, °F
KW	=	total power unit input, kilowatts	LC	=	latent cooling capacity, BTUH
HR	=	total heat of rejection, BTUH	S/T	=	sensible to total cooling ratio
HE	=	total heat of extraction, BTUH	WPD	=	water pressure drop (psi & ft. hd.)

Entering Air Correction Tables

The following performance data is based upon entering air conditions of clg-80°F DB/ 67°F WB and htg-70°F DB

Heating Corrections			
Ent Air DB °F	Htg Cap	Power	Heat of Ext
60	1.019	0.896	1.054
65	1.010	0.948	1.028
68	1.004	0.980	1.011
70	**1.000**	**1.000**	**1.000**
75	0.997	1.059	0.979
80	0.993	1.118	0.957

Cooling Corrections										
Ent Air WB °F	Total Clg Cap	Sens Clg Cap Multiplier - Entering DB °F							Power	Heat of Rej
		70	75	80	80.6	85	90	95		
60	0.881	0.943	1.067	1.192	1.240	*	*	*	0.983	0.899
65	0.940	0.797	0.952	1.106	1.125	1.261	*	*	0.991	0.949
66.2	0.976	0.693	0.868	1.043	1.063	1.217	*	*	0.997	0.980
67	**1.000**	0.624	0.812	**1.000**	1.023	1.188	1.343	1.352	**1.000**	**1.000**
70	1.012		0.697	0.820	0.835	0.944	1.067	1.257	1.002	1.010
75	1.024			0.637	0.658	0.817	0.983	1.159	1.005	1.019

Rev. 5/2/00M

* Sensible capacity equals total capacity.

ARI/ISO/ASHRAE 13256-1 uses entering air conditions of Clg- 80.6°F DB/66.2°F WB and Htg- 68°F DB/59°F WB.

Bold print indicates base performance as shown in submittal data tables.

Performance Data PSC 015

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	1.8	0.4	0.8	400	Operation not recommended						Operation not recommended					
				500												
	2.8	0.8	1.8	400												
				500												
	3.8	1.3	3.1	400	9.0	0.90	5.9	90.8	2.93	1.3						
				500	9.2	0.84	6.4	87.1	3.21	1.2						
30	1.8	0.3	0.8	400	9.9	0.92	6.7	92.9	3.15	1.5	16.1	10.7	0.55	18.0	29.3	0.5
				500	10.1	0.86	7.2	88.7	3.45	1.3	17.3	12.2	0.56	19.2	31.0	0.5
	2.8	0.8	1.8	400	10.3	0.93	7.1	93.9	3.26	1.6	16.4	10.7	0.53	18.2	31.1	0.6
				500	10.6	0.87	7.6	89.6	3.57	1.3	17.5	12.2	0.53	19.4	33.0	0.5
	3.8	1.3	3.0	400	10.5	0.93	7.4	94.4	3.31	1.6	16.5	10.7	0.52	18.3	31.7	0.6
				500	10.8	0.87	7.8	90.0	3.63	1.4	17.7	12.2	0.53	19.4	33.6	0.5
40	1.8	0.3	0.8	400	11.3	0.95	8.1	96.3	3.52	1.8	15.7	10.5	0.60	17.8	26.2	1.0
				500	11.6	0.88	8.6	91.5	3.85	1.5	16.8	12.0	0.61	18.9	27.7	0.9
	2.8	0.7	1.7	400	11.9	0.95	8.6	97.5	3.66	1.8	16.1	10.7	0.56	18.0	28.6	0.9
				500	12.2	0.89	9.1	92.6	4.00	1.6	17.2	12.2	0.57	19.1	30.3	0.8
	3.8	1.3	2.9	400	12.2	0.96	8.9	98.2	3.73	1.9	16.2	10.7	0.55	18.1	29.7	0.8
				500	12.5	0.90	9.4	93.1	4.08	1.7	17.3	12.2	0.55	19.2	31.4	0.8
50	1.8	0.3	0.8	400	12.9	0.97	9.6	99.8	3.90	2.0	15.2	10.2	0.67	17.5	22.7	1.4
				500	13.2	0.91	10.1	94.5	4.27	1.8	16.3	11.7	0.68	18.6	24.1	1.3
	2.8	0.7	1.7	400	13.6	0.98	10.2	101.4	4.07	2.1	15.6	10.5	0.62	17.7	25.3	1.2
				500	13.9	0.91	10.8	95.8	4.46	1.8	16.7	11.9	0.62	18.8	26.8	1.2
	3.8	1.2	2.8	400	13.9	0.98	10.6	102.3	4.16	2.2	15.8	10.5	0.59	17.8	26.5	1.0
				500	14.3	0.92	11.1	96.4	4.56	1.9	16.9	12.0	0.60	18.9	28.1	1.1
60	1.8	0.3	0.7	400	14.5	0.99	11.1	103.6	4.30	2.3	14.7	9.9	0.75	17.2	19.4	1.7
				500	14.9	0.92	11.7	97.5	4.71	2.0	15.7	11.3	0.76	18.3	20.6	1.6
	2.8	0.7	1.6	400	15.3	1.00	11.9	105.5	4.50	2.4	15.1	10.1	0.69	17.4	21.8	1.5
				500	15.7	0.93	12.5	99.1	4.93	2.1	16.1	11.6	0.70	18.5	23.1	1.5
	3.8	1.2	2.7	400	15.8	1.00	12.3	106.5	4.61	2.4	15.3	10.3	0.66	17.5	23.0	1.3
				500	16.1	0.94	12.9	99.9	5.05	2.2	16.3	11.7	0.67	18.6	24.4	1.4
70	1.8	0.3	0.7	400	16.2	1.01	12.7	107.4	4.71	2.6	14.0	9.6	0.85	16.9	16.4	2.0
				500	16.6	0.94	13.4	100.7	5.16	2.2	14.9	10.9	0.86	17.9	17.4	2.0
	2.8	0.7	1.5	400	17.1	1.02	13.7	109.6	4.94	2.6	14.5	9.8	0.78	17.1	18.5	1.8
				500	17.5	0.95	14.3	102.5	5.41	2.3	15.5	11.2	0.79	18.2	19.6	1.8
	3.8	1.1	2.7	400	17.6	1.02	14.1	110.8	5.06	2.7	14.7	9.9	0.75	17.2	19.6	1.6
				500	18.1	0.96	14.8	103.5	5.54	2.4	15.7	11.3	0.76	18.3	20.8	1.7
80	1.8	0.3	0.7	400	17.9	1.02	14.4	111.3	5.12	2.9	13.3	9.3	0.96	16.5	13.8	2.2
				500	18.3	0.96	15.0	103.9	5.60	2.4	14.2	10.6	0.97	17.5	14.7	2.3
	2.8	0.6	1.5	400	19.0	1.03	15.4	113.9	5.38	3.0	13.8	9.5	0.88	16.8	15.6	2.1
				500	19.4	0.97	16.1	106.0	5.89	2.5	14.7	10.8	0.89	17.8	16.5	2.2
	3.8	1.1	2.6	400	19.5	1.04	16.0	115.2	5.52	3.1	14.0	9.6	0.85	16.9	16.6	1.9
				500	20.0	0.97	16.7	107.1	6.04	2.7	15.0	10.9	0.85	17.9	17.5	2.0
90	1.8	0.3	0.7	400	19.6	1.04	16.0	115.3	5.52	3.1	12.4	9.1	1.07	16.1	11.6	2.5
				500	20.1	0.97	16.7	107.2	6.05	2.7	13.3	10.4	1.08	17.0	12.3	2.6
	2.8	0.6	1.4	400	20.8	1.05	17.2	118.2	5.81	3.3	13.0	9.2	0.99	16.4	13.1	2.4
				500	21.3	0.98	18.0	109.5	6.36	2.8	13.9	10.5	1.00	17.3	13.9	2.5
	3.8	1.1	2.5	400	21.5	1.06	17.9	119.7	5.96	3.4	13.3	9.3	0.95	16.5	13.9	2.3
				500	22.0	0.99	18.6	110.7	6.52	2.9	14.2	10.6	0.96	17.5	14.7	2.3
100	1.8	0.3	0.6	400	Operation not recommended						11.5	8.9	1.18	15.6	9.8	2.9
				500							12.3	10.2	1.19	16.4	10.3	3.0
	2.8	0.6	1.4	400							12.1	9.0	1.11	15.9	11.0	2.7
				500							13.0	10.3	1.12	16.8	11.6	2.8
	3.8	1.0	2.4	400							12.4	9.1	1.07	16.1	11.6	2.5
				500							13.3	10.4	1.08	17.0	12.3	2.6
110	1.8	0.3	0.6	400							10.6	8.9	1.30	15.0	8.2	3.2
				500							11.3	10.1	1.31	15.8	8.6	3.3
	2.8	0.6	1.3	400							11.2	8.9	1.22	15.4	9.2	3.0
				500							12.0	10.2	1.24	16.2	9.7	3.1
	3.8	1.0	2.3	400							11.5	8.9	1.19	15.6	9.7	2.8
				500							12.3	10.2	1.20	16.4	10.3	2.9

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data PSC 018

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	2.2	0.5	1.2	475	Operation not recommended						Operation not recommended					
				600												
	3.5	1.2	2.7	475												
				600												
	4.5	1.8	4.2	475	11.8	1.19	7.7	92.9	2.89	1.3						
				600	12.1	1.12	8.2	88.6	3.17	1.2						
30	2.2	0.5	1.2	475	12.9	1.22	8.7	95.2	3.10	1.5	20.7	12.9	0.80	23.4	26.0	0.5
				600	13.2	1.14	9.3	90.4	3.40	1.3	22.1	14.7	0.80	24.9	27.5	0.5
	3.5	1.1	2.6	475	13.5	1.23	9.3	96.4	3.22	1.6	20.9	12.9	0.75	23.5	27.9	0.6
				600	13.9	1.16	9.9	91.4	3.52	1.3	22.3	14.7	0.76	24.9	29.5	0.5
	4.5	1.8	4.1	475	13.8	1.24	9.6	96.9	3.26	1.6	20.9	12.9	0.74	23.5	28.3	0.6
				600	14.1	1.16	10.2	91.8	3.57	1.4	22.4	14.7	0.75	24.9	30.0	0.5
40	2.2	0.5	1.1	475	14.8	1.26	10.5	98.9	3.44	1.8	20.3	12.9	0.87	23.2	23.2	1.0
				600	15.2	1.18	11.2	93.4	3.77	1.5	21.7	14.7	0.88	24.7	24.6	0.9
	3.5	1.1	2.5	475	15.6	1.28	11.3	100.5	3.58	1.8	20.6	12.9	0.81	23.4	25.6	0.9
				600	16.0	1.20	11.9	94.7	3.92	1.6	22.1	14.7	0.81	24.8	27.1	0.8
	4.5	1.7	3.9	475	16.0	1.29	11.6	101.1	3.63	1.9	20.8	12.9	0.79	23.4	26.4	0.8
				600	16.4	1.21	12.2	95.2	3.98	1.7	22.2	14.7	0.79	24.9	27.9	0.8
50	2.2	0.5	1.1	475	16.8	1.31	12.4	102.8	3.78	2.0	19.7	12.7	0.97	23.0	20.3	1.4
				600	17.2	1.22	13.1	96.6	4.13	1.8	21.0	14.6	0.98	24.3	21.4	1.3
	3.5	1.1	2.5	475	17.8	1.33	13.3	104.7	3.93	2.1	20.2	12.8	0.89	23.2	22.7	1.2
				600	18.2	1.24	14.0	98.1	4.31	1.8	21.6	14.7	0.90	24.6	24.0	1.2
	4.5	1.7	3.8	475	18.2	1.33	13.6	105.5	4.00	2.2	20.3	12.9	0.86	23.3	23.7	1.0
				600	18.6	1.25	14.4	98.8	4.38	1.9	21.7	14.7	0.87	24.7	25.0	1.1
60	2.2	0.5	1.0	475	18.9	1.35	14.3	106.8	4.10	2.3	18.9	12.5	1.08	22.6	17.4	1.7
				600	19.3	1.26	15.0	99.9	4.49	2.0	20.2	14.3	1.09	23.9	18.4	1.6
	3.5	1.0	2.4	475	20.0	1.37	15.3	109.0	4.28	2.4	19.5	12.7	0.99	22.9	19.7	1.5
				600	20.5	1.28	16.1	101.6	4.69	2.1	20.9	14.5	1.00	24.3	20.9	1.5
	4.5	1.6	3.7	475	20.5	1.38	15.8	109.9	4.35	2.4	19.7	12.8	0.96	23.0	20.6	1.3
				600	21.0	1.29	16.6	102.4	4.77	2.2	21.1	14.6	0.97	24.4	21.8	1.4
70	2.2	0.4	1.0	475	21.0	1.39	16.2	110.8	4.43	2.6	18.0	12.2	1.21	22.2	14.9	2.0
				600	21.5	1.30	17.0	103.1	4.84	2.2	19.3	13.9	1.22	23.4	15.8	2.0
	3.5	1.0	2.3	475	22.3	1.41	17.4	113.4	4.62	2.6	18.7	12.5	1.11	22.5	16.9	1.8
				600	22.8	1.32	18.3	105.2	5.06	2.3	20.0	14.2	1.12	23.8	17.9	1.8
	4.5	1.5	3.6	475	22.8	1.42	17.9	114.4	4.70	2.7	19.0	12.6	1.07	22.6	17.7	1.6
				600	23.4	1.33	18.8	106.0	5.14	2.4	20.3	14.3	1.08	24.0	18.8	1.7
80	2.2	0.4	1.0	475	23.1	1.43	18.2	114.9	4.74	2.9	17.1	11.8	1.34	21.7	12.7	2.2
				600	23.6	1.34	19.1	106.5	5.18	2.4	18.3	13.5	1.36	22.9	13.5	2.3
	3.5	1.0	2.2	475	24.5	1.45	19.5	117.8	4.94	3.0	17.8	12.1	1.24	22.1	14.4	2.1
				600	25.1	1.36	20.5	108.8	5.41	2.5	19.1	13.8	1.25	23.3	15.3	2.2
	4.5	1.5	3.5	475	25.1	1.46	20.1	118.9	5.03	3.1	18.1	12.2	1.20	22.2	15.1	1.9
				600	25.7	1.37	21.1	109.7	5.51	2.7	19.4	14.0	1.21	23.5	16.0	2.0
90	2.2	0.4	0.9	475	25.1	1.46	20.2	119.0	5.04	3.1	16.1	11.3	1.48	21.1	10.9	2.5
				600	25.8	1.37	21.1	109.8	5.51	2.7	17.2	12.9	1.49	22.3	11.5	2.6
	3.5	0.9	2.1	475	26.7	1.49	21.6	122.1	5.26	3.3	16.8	11.7	1.37	21.5	12.3	2.4
				600	27.4	1.40	22.6	112.3	5.76	2.8	18.0	13.3	1.39	22.7	13.0	2.5
	4.5	1.4	3.3	475	27.4	1.50	22.3	123.4	5.35	3.4	17.1	11.8	1.33	21.7	12.8	2.3
				600	28.1	1.40	23.3	113.3	5.85	2.9	18.3	13.5	1.35	22.9	13.6	2.3
100	2.2	0.4	0.9	475	Operation not recommended						15.0	10.7	1.62	20.5	9.3	2.9
				600							16.1	12.2	1.63	21.6	9.8	3.0
	3.5	0.9	2.1	475							15.8	11.1	1.52	21.0	10.4	2.7
				600							16.9	12.7	1.53	22.1	11.0	2.8
	4.5	1.4	3.2	475							16.1	11.3	1.48	21.1	10.9	2.5
				600							17.2	12.9	1.49	22.3	11.6	2.6
110	2.2	0.4	0.9	475							14.0	10.1	1.75	20.0	8.0	3.2
				600							14.9	11.5	1.77	21.0	8.4	3.3
	3.5	0.9	2.0	475							14.7	10.5	1.66	20.4	8.9	3.0
				600							15.7	12.0	1.67	21.5	9.4	3.1
	4.5	1.3	3.1	475							15.0	10.7	1.62	20.6	9.3	2.8
				600							16.1	12.2	1.63	21.6	9.8	2.9

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data PSC 024

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	3.0	0.4	1.0	650	Operation not recommended						Operation not recommended					
				800												
	4.5	1.0	2.2	650												
				800												
	6.0	1.7	3.9	650	16.0	1.62	10.5	92.8	2.89	2.1						
				800	16.2	1.59	10.8	88.7	2.99	1.8						
30	3.0	0.4	0.9	650	18.9	1.69	13.2	97.0	3.29	2.4	29.4	19.3	0.92	32.6	32.1	0.9
				800	19.2	1.62	13.7	92.3	3.48	2.0	31.0	21.2	0.94	34.2	33.0	0.8
	4.5	0.9	2.1	650	19.1	1.69	13.4	97.2	3.32	2.5	30.0	19.6	0.89	33.0	33.8	1.0
				800	19.4	1.64	13.8	92.4	3.47	2.1	31.0	21.2	0.91	34.1	34.3	0.8
	6.0	1.6	3.8	650	19.3	1.69	13.5	97.5	3.35	2.6	30.6	19.9	0.86	33.5	35.6	1.0
				800	19.5	1.65	13.9	92.6	3.47	2.2	31.1	21.2	0.87	34.1	35.6	0.8
40	3.0	0.4	0.9	650	21.5	1.75	15.6	100.7	3.60	2.8	28.7	18.7	1.10	32.4	26.2	1.6
				800	21.9	1.69	16.1	95.3	3.80	2.4	30.2	20.6	1.12	34.0	26.9	1.4
	4.5	0.9	2.1	650	21.9	1.77	15.9	101.2	3.63	2.9	29.2	19.0	1.06	32.8	27.6	1.5
				800	22.2	1.70	16.3	95.6	3.81	2.5	30.2	20.6	1.08	33.9	28.0	1.4
	6.0	1.6	3.7	650	22.3	1.78	16.2	101.8	3.67	3.0	29.7	19.3	1.02	33.1	29.1	1.3
				800	22.5	1.72	16.6	96.0	3.82	2.6	30.2	20.6	1.04	33.8	29.2	1.3
50	3.0	0.4	0.9	650	24.1	1.82	17.9	104.4	3.88	3.2	27.9	18.2	1.28	32.3	21.9	2.2
				800	24.5	1.75	18.5	98.3	4.10	2.8	29.4	20.0	1.31	33.8	22.5	2.1
	4.5	0.9	2.0	650	24.7	1.85	18.4	105.2	3.92	3.3	28.4	18.4	1.23	32.5	23.1	2.0
				800	24.9	1.77	18.9	98.9	4.13	2.9	29.3	20.0	1.25	33.6	23.4	2.0
	6.0	1.6	3.6	650	25.3	1.87	18.9	106.1	3.96	3.4	28.8	18.7	1.18	32.8	24.4	1.7
				800	25.4	1.79	19.3	99.4	4.16	3.0	29.3	20.0	1.20	33.4	24.4	1.8
60	3.0	0.4	0.9	650	26.6	1.90	20.1	107.9	4.09	3.6	27.0	18.0	1.42	31.9	19.0	2.7
				800	27.1	1.82	20.9	101.4	4.38	3.2	28.4	19.6	1.46	33.4	19.5	2.7
	4.5	0.8	1.9	650	27.5	1.93	20.9	109.1	4.16	3.8	27.2	18.1	1.36	31.9	20.0	2.4
				800	27.9	1.84	21.6	102.3	4.43	3.3	28.2	19.6	1.39	32.9	20.3	2.5
	6.0	1.5	3.5	650	28.4	1.96	21.7	110.4	4.23	3.9	27.4	18.3	1.30	31.9	21.2	2.2
				800	28.7	1.87	22.3	103.2	4.49	3.4	28.0	19.7	1.32	32.5	21.2	2.3
70	3.0	0.4	0.8	650	29.0	1.98	22.3	111.3	4.29	4.1	26.1	17.8	1.57	31.5	16.7	3.2
				800	29.7	1.88	23.3	104.4	4.63	3.5	27.5	19.3	1.61	33.0	17.1	3.2
	4.5	0.8	1.9	650	30.2	2.02	23.3	113.0	4.38	4.2	26.1	17.9	1.49	31.2	17.5	2.9
				800	30.8	1.92	24.3	105.7	4.72	3.7	27.0	19.3	1.53	32.3	17.7	3.0
	6.0	1.5	3.4	650	31.4	2.06	24.4	114.7	4.47	4.3	26.1	18.0	1.41	30.9	18.4	2.7
				800	32.0	1.95	25.3	107.0	4.80	3.8	26.6	19.4	1.44	31.5	18.4	2.8
80	3.0	0.3	0.8	650	31.6	2.05	24.6	115.0	4.51	4.5	25.4	17.1	1.77	31.5	14.4	3.6
				800	32.4	1.95	25.7	107.4	4.87	3.9	26.8	18.5	1.81	32.9	14.8	3.7
	4.5	0.8	1.8	650	32.9	2.09	25.8	116.9	4.60	4.7	25.4	17.2	1.68	31.1	15.1	3.4
				800	33.6	1.99	26.8	108.9	4.96	4.0	26.3	18.6	1.72	32.2	15.3	3.5
	6.0	1.4	3.2	650	34.3	2.14	27.0	118.8	4.69	4.8	25.4	17.2	1.59	30.8	16.0	3.1
				800	34.9	2.03	28.0	110.4	5.04	4.2	25.9	18.6	1.62	31.4	15.9	3.2
90	3.0	0.3	0.8	650	34.2	2.12	26.9	118.6	4.72	5.0	24.7	16.4	1.96	31.4	12.6	4.1
				800	35.0	2.01	28.1	110.5	5.10	4.2	26.0	17.7	2.01	32.9	12.9	4.3
	4.5	0.8	1.7	650	35.6	2.17	28.2	120.8	4.81	5.2	24.7	16.4	1.86	31.1	13.3	3.9
				800	36.4	2.06	29.4	112.1	5.18	4.4	25.6	17.8	1.91	32.1	13.4	4.0
	6.0	1.4	3.1	650	37.1	2.22	29.5	122.9	4.89	5.4	24.7	16.5	1.77	30.7	14.0	3.6
				800	37.8	2.11	30.6	113.8	5.25	4.6	25.2	17.9	1.80	31.3	14.0	3.7
100	3.0	0.3	0.7	650	Operation not recommended						23.4	15.9	2.20	30.9	10.6	4.6
				800							24.6	17.2	2.26	32.3	10.9	4.8
	4.5	0.7	1.7	650							23.3	16.0	2.09	30.5	11.2	4.4
				800							24.2	17.3	2.14	31.5	11.3	4.5
	6.0	1.3	3.0	650							23.3	16.0	1.98	30.1	11.8	4.1
				800							23.8	17.3	2.02	30.7	11.8	4.2
110	3.0	0.3	0.7	650							22.0	15.4	2.44	30.3	9.0	5.1
				800							23.2	16.7	2.50	31.7	9.3	5.3
	4.5	0.7	1.6	650							22.0	15.5	2.32	29.9	9.5	4.8
				800							22.8	16.7	2.37	30.9	9.6	5.0
	6.0	1.3	2.9	650							21.9	15.5	2.20	29.4	10.0	4.6
				800							22.4	16.8	2.24	30.0	10.0	4.7

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Rev: 12/12/03 B

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All performance data is based upon the lower voltage of dual voltage rated units.

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See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data ICM 024

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	3.0	0.4	1.0	650	Operation not recommended						Operation not recommended					
				800												
	4.5	1.0	2.2	650												
				800												
	6.0	1.7	3.9	650	15.7	1.54	10.5	92.4	2.99	2.1						
				800	16.0	1.52	10.8	88.5	3.07	1.8						
30	3.0	0.4	0.9	650	18.7	1.60	13.2	96.6	3.42	2.4	29.7	19.6	0.83	32.6	35.8	0.9
				800	19.0	1.56	13.7	92.0	3.58	2.0	31.2	21.4	0.88	34.2	35.5	0.8
	4.5	0.9	2.1	650	18.8	1.60	13.4	96.8	3.44	2.5	30.3	19.9	0.80	33.0	37.8	1.0
				800	19.2	1.57	13.8	92.2	3.57	2.1	31.3	21.4	0.85	34.1	37.0	0.8
	6.0	1.6	3.8	650	19.0	1.60	13.5	97.1	3.47	2.6	30.9	20.2	0.77	33.5	40.0	1.0
				800	19.3	1.59	13.9	92.4	3.56	2.2	31.3	21.4	0.81	34.1	38.6	0.8
40	3.0	0.4	0.9	650	21.2	1.67	15.5	100.3	3.73	2.8	29.0	19.0	1.01	32.4	28.7	1.6
				800	21.6	1.62	16.1	95.1	3.91	2.4	30.4	20.8	1.06	34.0	28.6	1.4
	4.5	0.9	2.1	650	21.6	1.68	15.9	100.8	3.77	2.9	29.5	19.3	0.97	32.8	30.3	1.5
				800	21.9	1.64	16.3	95.4	3.92	2.5	30.4	20.8	1.02	33.9	29.8	1.4
	6.0	1.6	3.7	650	22.0	1.70	16.2	101.4	3.81	3.0	30.0	19.6	0.93	33.1	32.1	1.3
				800	22.2	1.66	16.6	95.7	3.93	2.6	30.4	20.8	0.98	33.8	31.2	1.3
50	3.0	0.4	0.9	650	23.8	1.74	17.9	103.9	4.02	3.2	28.2	18.4	1.19	32.3	23.7	2.2
				800	24.3	1.69	18.5	98.1	4.21	2.8	29.6	20.2	1.25	33.8	23.7	2.1
	4.5	0.9	2.0	650	24.4	1.76	18.4	104.8	4.07	3.3	28.6	18.7	1.14	32.5	25.1	2.0
				800	24.7	1.71	18.9	98.6	4.24	2.9	29.6	20.2	1.19	33.6	24.8	2.0
	6.0	1.6	3.6	650	25.0	1.79	18.9	105.7	4.11	3.4	29.1	19.0	1.09	32.8	26.6	1.7
				800	25.2	1.73	19.3	99.1	4.27	3.0	29.5	20.2	1.14	33.4	25.9	1.8
60	3.0	0.4	0.9	650	26.3	1.82	20.1	107.4	4.24	3.6	27.3	18.3	1.34	31.9	20.4	2.7
				800	26.9	1.75	20.9	101.1	4.49	3.2	28.6	19.8	1.40	33.4	20.5	2.7
	4.5	0.8	1.9	650	27.2	1.85	20.9	108.7	4.31	3.8	27.5	18.4	1.27	31.9	21.6	2.4
				800	27.7	1.78	21.6	102.0	4.55	3.3	28.4	19.8	1.33	32.9	21.4	2.5
	6.0	1.5	3.5	650	28.1	1.88	21.7	110.0	4.38	3.9	27.7	18.6	1.21	31.9	22.9	2.2
				800	28.5	1.81	22.3	102.9	4.61	3.4	28.2	19.9	1.26	32.5	22.3	2.3
70	3.0	0.4	0.8	650	28.7	1.90	22.3	110.9	4.44	4.1	26.4	18.1	1.48	31.5	17.8	3.2
				800	29.5	1.82	23.3	104.2	4.75	3.5	27.7	19.5	1.55	33.0	17.9	3.2
	4.5	0.8	1.9	650	29.9	1.93	23.3	112.6	4.53	4.2	26.4	18.2	1.41	31.2	18.8	2.9
				800	30.6	1.85	24.3	105.5	4.84	3.7	27.3	19.5	1.47	32.3	18.6	3.0
	6.0	1.5	3.4	650	31.1	1.97	24.4	114.3	4.63	4.3	26.4	18.2	1.33	30.9	19.9	2.7
				800	31.7	1.89	25.3	106.7	4.92	3.8	26.8	19.6	1.38	31.5	19.4	2.8
80	3.0	0.3	0.8	650	31.3	1.96	24.6	114.6	4.67	4.5	25.7	17.4	1.68	31.5	15.3	3.6
				800	32.1	1.88	25.7	107.2	5.00	3.9	27.0	18.7	1.75	32.9	15.4	3.7
	4.5	0.8	1.8	650	32.6	2.01	25.8	116.5	4.76	4.7	25.7	17.5	1.59	31.1	16.1	3.4
				800	33.4	1.93	26.8	108.7	5.08	4.0	26.5	18.8	1.66	32.2	16.0	3.5
	6.0	1.4	3.2	650	34.0	2.05	27.0	118.4	4.85	4.8	25.7	17.5	1.50	30.8	17.1	3.1
				800	34.7	1.97	28.0	110.1	5.16	4.2	26.1	18.8	1.56	31.4	16.7	3.2
90	3.0	0.3	0.8	650	33.9	2.03	26.9	118.2	4.88	5.0	25.0	16.7	1.88	31.4	13.3	4.1
				800	34.8	1.95	28.1	110.2	5.23	4.2	26.2	17.9	1.95	32.9	13.5	4.3
	4.5	0.8	1.7	650	35.3	2.08	28.2	120.3	4.97	5.2	25.0	16.7	1.78	31.1	14.1	3.9
				800	36.2	2.00	29.4	111.9	5.31	4.4	25.8	18.0	1.85	32.1	14.0	4.0
	6.0	1.4	3.1	650	36.8	2.14	29.5	122.5	5.05	5.4	25.0	16.8	1.68	30.7	14.9	3.6
				800	37.6	2.05	30.6	113.5	5.38	4.6	25.4	18.1	1.74	31.3	14.6	3.7
100	3.0	0.3	0.7	650	Operation not recommended						23.7	16.2	2.12	30.9	11.2	4.6
				800							24.8	17.4	2.19	32.3	11.3	4.8
	4.5	0.7	1.7	650							23.6	16.2	2.01	30.5	11.8	4.4
				800							24.4	17.5	2.08	31.5	11.7	4.5
	6.0	1.3	3.0	650							23.6	16.3	1.90	30.1	12.5	4.1
				800							24.0	17.5	1.96	30.7	12.2	4.2
110	3.0	0.3	0.7	650							22.3	15.7	2.35	30.3	9.5	5.1
				800							23.4	16.9	2.44	31.7	9.6	5.3
	4.5	0.7	1.6	650							22.3	15.8	2.23	29.9	10.0	4.8
				800							23.0	16.9	2.31	30.9	9.9	5.0
	6.0	1.3	2.9	650							22.2	15.8	2.11	29.4	10.5	4.6
				800							22.6	17.0	2.18	30.0	10.4	4.7

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.
All performance data is based upon the lower voltage of dual voltage rated units.
Operation below 40°F EWT is based on 15% antifreeze solution.
See performance correction tables for operating conditions other than those listed above.
Table does not reflect fan or pump power ISO corrections.

Performance Data PSC 030

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	3.7	0.6	1.5	800	Operation not recommended						Operation not recommended					
				1000												
	5.5	1.4	3.3	800												
				1000												
	7.5	2.7	6.2	800	18.4	1.92	11.9	91.3	2.82	2.6						
				1000	18.6	1.88	12.2	87.2	2.91	2.2						
30	3.7	0.6	1.4	800	20.6	1.97	13.9	93.8	3.06	2.9	34.5	22.6	1.09	38.2	31.6	1.1
				1000	20.7	1.92	14.1	89.1	3.15	2.5	36.0	25.2	1.04	39.5	34.4	0.9
	5.5	1.4	3.2	800	21.5	1.96	14.8	94.9	3.20	3.0	34.6	22.4	1.07	38.3	32.4	1.1
				1000	21.6	1.92	15.1	90.0	3.30	2.6	36.0	24.7	1.09	39.7	33.1	1.0
	7.5	2.6	6.0	800	22.4	1.96	15.7	95.9	3.35	3.2	34.8	22.2	1.05	38.4	33.2	1.2
				1000	22.6	1.92	16.1	90.9	3.45	2.7	36.1	24.1	1.14	40.0	31.8	1.0
40	3.7	0.6	1.4	800	24.0	2.03	17.1	97.8	3.48	3.4	33.5	22.3	1.31	37.9	25.5	1.9
				1000	24.1	1.98	17.4	92.4	3.58	3.0	34.9	25.0	1.25	39.2	27.8	1.8
	5.5	1.3	3.1	800	24.9	2.04	18.0	98.9	3.58	3.6	33.6	22.2	1.26	37.9	26.7	1.8
				1000	24.9	1.98	18.2	93.1	3.68	3.1	34.9	24.4	1.28	39.3	27.3	1.7
	7.5	2.5	5.8	800	25.8	2.06	18.8	99.9	3.68	3.7	33.7	22.1	1.20	37.8	28.0	1.6
				1000	25.7	1.99	18.9	93.8	3.78	3.2	35.0	23.9	1.31	39.5	26.8	1.6
50	3.7	0.6	1.3	800	27.5	2.08	20.4	101.8	3.87	4.0	32.4	22.1	1.53	37.7	21.2	2.7
				1000	27.6	2.03	20.7	95.6	3.99	3.4	33.8	24.7	1.47	38.8	23.1	2.6
	5.5	1.3	3.0	800	28.4	2.12	21.2	102.8	3.93	4.1	32.6	22.0	1.45	37.5	22.5	2.4
				1000	28.2	2.05	21.2	96.1	4.04	3.6	33.9	24.2	1.47	38.9	23.0	2.4
	7.5	2.4	5.6	800	29.3	2.16	21.9	103.9	3.98	4.2	32.7	21.9	1.36	37.3	24.0	2.1
				1000	28.8	2.06	21.8	96.6	4.09	3.7	33.9	23.8	1.48	39.0	23.0	2.2
60	3.7	0.6	1.3	800	31.0	2.17	23.6	105.8	4.19	4.5	31.2	21.4	1.66	36.9	18.8	3.3
				1000	31.1	2.09	24.0	98.8	4.37	3.9	32.7	23.8	1.67	38.3	19.6	3.3
	5.5	1.3	2.9	800	31.8	2.21	24.3	106.8	4.22	4.6	31.2	21.1	1.59	36.7	19.7	3.0
				1000	32.0	2.11	24.8	99.6	4.45	4.1	32.7	23.5	1.62	38.3	20.2	3.0
	7.5	2.4	5.4	800	32.7	2.25	25.0	107.9	4.25	4.8	31.2	20.8	1.52	36.4	20.6	2.7
				1000	32.9	2.13	25.6	100.4	4.52	4.2	32.8	23.1	1.58	38.2	20.7	2.8
70	3.7	0.5	1.3	800	34.4	2.25	26.8	109.9	4.48	5.0	30.0	20.7	1.79	36.2	16.8	3.9
				1000	34.6	2.14	27.3	102.0	4.73	4.4	31.5	23.0	1.87	37.9	16.9	3.9
	5.5	1.2	2.8	800	35.3	2.30	27.4	110.8	4.50	5.2	29.9	20.2	1.73	35.8	17.3	3.6
				1000	35.8	2.17	28.4	103.1	4.83	4.5	31.6	22.8	1.78	37.7	17.8	3.7
	7.5	2.3	5.3	800	36.1	2.35	28.1	111.8	4.51	5.3	29.7	19.7	1.67	35.5	17.8	3.3
				1000	37.0	2.20	29.5	104.2	4.92	4.7	31.7	22.5	1.69	37.5	18.8	3.4
80	3.7	0.5	1.2	800	37.9	2.31	30.0	113.9	4.81	5.6	29.0	20.7	2.00	35.9	14.5	4.5
				1000	38.0	2.20	30.5	105.2	5.08	4.8	30.5	23.0	2.08	37.6	14.7	4.6
	5.5	1.2	2.7	800	38.6	2.37	30.5	114.7	4.77	5.8	28.9	20.2	1.93	35.5	15.0	4.2
				1000	39.1	2.24	31.5	106.2	5.12	5.0	30.6	22.7	1.98	37.3	15.4	4.3
	7.5	2.2	5.1	800	39.3	2.44	31.0	115.5	4.73	6.0	28.7	19.7	1.87	35.1	15.4	3.9
				1000	40.2	2.28	32.4	107.2	5.17	5.2	30.6	22.5	1.89	37.1	16.3	4.0
90	3.7	0.5	1.2	800	41.4	2.37	33.3	117.9	5.12	6.2	28.0	20.7	2.20	35.5	12.7	5.1
				1000	41.5	2.25	33.8	108.4	5.41	5.2	29.4	23.0	2.30	37.3	12.8	5.3
	5.5	1.1	2.6	800	41.9	2.44	33.6	118.5	5.03	6.4	27.9	20.2	2.13	35.2	13.1	4.8
				1000	42.5	2.31	34.6	109.3	5.40	5.5	29.5	22.7	2.19	37.0	13.5	4.9
	7.5	2.1	4.9	800	42.5	2.52	33.9	119.2	4.94	6.7	27.7	19.7	2.06	34.8	13.5	4.5
				1000	43.5	2.36	35.4	110.3	5.40	5.7	29.6	22.5	2.08	36.7	14.2	4.6
100	3.7	0.5	1.1	800	Operation not recommended						26.4	19.6	2.39	34.6	11.0	5.8
				1000							27.7	21.8	2.49	36.2	11.1	6.0
	5.5	1.1	2.5	800							26.3	19.2	2.32	34.2	11.4	5.4
				1000							27.8	21.6	2.38	35.9	11.7	5.6
	7.5	2.0	4.7	800							26.2	18.7	2.24	33.8	11.7	5.1
				1000							27.9	21.3	2.26	35.6	12.3	5.2
110	3.7	0.5	1.1	800							24.8	18.6	2.58	33.6	9.6	6.4
				1000							26.0	20.6	2.69	35.2	9.7	6.7
	5.5	1.1	2.4	800							24.7	18.1	2.50	33.2	9.9	6.0
				1000							26.1	20.4	2.57	34.9	10.2	6.2
	7.5	2.0	4.5	800							24.6	17.7	2.42	32.8	10.2	5.7
				1000							26.2	20.2	2.44	34.5	10.7	5.8

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data ICM 030

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	3.7	0.6	1.5	800	Operation not recommended						Operation not recommended					
				1000												
	5.5	1.4	3.3	800												
				1000												
	7.5	2.7	6.2	800	18.3	1.88	11.9	91.2	2.86	2.6						
				1000	18.5	1.85	12.2	87.2	2.93	2.2						
30	3.7	0.6	1.4	800	20.4	1.93	13.9	93.7	3.11	2.9	34.6	22.7	1.05	38.2	32.9	1.1
				1000	20.6	1.90	14.1	89.1	3.18	2.5	36.0	25.3	1.02	39.5	35.3	0.9
	5.5	1.4	3.2	800	21.4	1.92	14.8	94.7	3.25	3.0	34.8	22.5	1.03	38.3	33.8	1.1
				1000	21.6	1.90	15.1	90.0	3.33	2.6	36.1	24.8	1.07	39.7	33.9	1.0
	7.5	2.6	6.0	800	22.3	1.92	15.7	95.8	3.40	3.2	34.9	22.4	1.01	38.4	34.7	1.2
				1000	22.5	1.89	16.1	90.9	3.48	2.7	36.2	24.2	1.11	40.0	32.6	1.0
40	3.7	0.6	1.4	800	23.9	1.98	17.1	97.7	3.53	3.4	33.6	22.4	1.27	37.9	26.4	1.9
				1000	24.1	1.95	17.4	92.3	3.61	3.0	35.0	25.0	1.23	39.2	28.4	1.8
	5.5	1.3	3.1	800	24.8	2.00	18.0	98.7	3.63	3.6	33.7	22.3	1.22	37.9	27.7	1.8
				1000	24.8	1.96	18.2	93.0	3.72	3.1	35.0	24.5	1.26	39.3	27.9	1.7
	7.5	2.5	5.8	800	25.7	2.02	18.8	99.7	3.73	3.7	33.9	22.2	1.16	37.8	29.2	1.6
				1000	25.6	1.97	18.9	93.7	3.82	3.2	35.1	24.0	1.28	39.5	27.4	1.6
50	3.7	0.6	1.3	800	27.4	2.04	20.4	101.7	3.93	4.0	32.6	22.2	1.49	37.7	21.8	2.7
				1000	27.5	2.01	20.7	95.5	4.02	3.4	33.9	24.8	1.44	38.8	23.5	2.6
	5.5	1.3	3.0	800	28.2	2.08	21.2	102.7	3.98	4.1	32.7	22.1	1.41	37.5	23.3	2.4
				1000	28.1	2.02	21.2	96.0	4.08	3.6	33.9	24.3	1.45	38.9	23.5	2.4
	7.5	2.4	5.6	800	29.1	2.11	21.9	103.7	4.04	4.2	32.8	22.0	1.32	37.3	24.9	2.1
				1000	28.7	2.04	21.7	96.6	4.13	3.7	34.0	23.8	1.45	39.0	23.4	2.2
60	3.7	0.6	1.3	800	30.8	2.13	23.6	105.7	4.25	4.5	31.4	21.5	1.62	36.9	19.4	3.3
				1000	31.0	2.06	24.0	98.7	4.41	3.9	32.7	23.9	1.64	38.3	20.0	3.3
	5.5	1.3	2.9	800	31.7	2.17	24.3	106.7	4.28	4.6	31.4	21.2	1.55	36.7	20.3	3.0
				1000	31.9	2.08	24.8	99.5	4.49	4.1	32.8	23.6	1.60	38.3	20.5	3.0
	7.5	2.4	5.4	800	32.6	2.21	25.0	107.7	4.31	4.8	31.4	21.0	1.48	36.4	21.3	2.7
				1000	32.8	2.11	25.6	100.4	4.56	4.2	32.9	23.2	1.56	38.2	21.1	2.8
70	3.7	0.5	1.3	800	34.3	2.21	26.8	109.7	4.55	5.0	30.2	20.9	1.75	36.2	17.3	3.9
				1000	34.5	2.12	27.3	101.9	4.77	4.4	31.6	23.1	1.84	37.9	17.2	3.9
	5.5	1.2	2.8	800	35.1	2.26	27.4	110.7	4.56	5.2	30.0	20.4	1.69	35.8	17.8	3.6
				1000	35.7	2.15	28.4	103.0	4.87	4.5	31.7	22.8	1.75	37.7	18.1	3.7
	7.5	2.3	5.3	800	36.0	2.31	28.1	111.7	4.57	5.3	29.9	19.9	1.63	35.5	18.3	3.3
				1000	36.9	2.18	29.4	104.1	4.97	4.7	31.8	22.6	1.67	37.5	19.1	3.4
80	3.7	0.5	1.2	800	37.8	2.27	30.0	113.7	4.88	5.6	29.2	20.9	1.96	35.9	14.9	4.5
				1000	38.0	2.17	30.5	105.1	5.12	4.8	30.6	23.1	2.06	37.6	14.9	4.6
	5.5	1.2	2.7	800	38.5	2.33	30.5	114.5	4.84	5.8	29.0	20.4	1.89	35.5	15.4	4.2
				1000	39.0	2.21	31.5	106.2	5.17	5.0	30.6	22.8	1.96	37.3	15.6	4.3
	7.5	2.2	5.1	800	39.2	2.39	31.0	115.4	4.80	6.0	28.9	19.9	1.83	35.1	15.8	3.9
				1000	40.1	2.26	32.4	107.2	5.21	5.2	30.7	22.6	1.86	37.1	16.5	4.0
90	3.7	0.5	1.2	800	41.2	2.32	33.3	117.7	5.19	6.2	28.2	20.8	2.16	35.5	13.0	5.1
				1000	41.4	2.23	33.8	108.4	5.45	5.2	29.5	23.1	2.27	37.3	13.0	5.3
	5.5	1.1	2.6	800	41.8	2.40	33.6	118.4	5.10	6.4	28.0	20.3	2.09	35.2	13.4	4.8
				1000	42.4	2.28	34.6	109.3	5.45	5.5	29.6	22.8	2.16	37.0	13.7	4.9
	7.5	2.1	4.9	800	42.4	2.48	33.9	119.1	5.01	6.7	27.9	19.8	2.02	34.8	13.8	4.5
				1000	43.4	2.34	35.4	110.2	5.44	5.7	29.7	22.6	2.06	36.7	14.4	4.6
100	3.7	0.5	1.1	800	Operation not recommended						26.6	19.8	2.35	34.6	11.3	5.8
				1000							27.8	21.9	2.47	36.2	11.3	6.0
	5.5	1.1	2.5	800							26.4	19.3	2.27	34.2	11.6	5.4
				1000							27.9	21.6	2.35	35.9	11.9	5.6
	7.5	2.0	4.7	800							26.3	18.8	2.20	33.8	12.0	5.1
				1000							28.0	21.4	2.24	35.6	12.5	5.2
110	3.7	0.5	1.1	800							25.0	18.7	2.54	33.6	9.8	6.4
				1000							26.1	20.7	2.67	35.2	9.8	6.7
	5.5	1.1	2.4	800							24.8	18.3	2.46	33.2	10.1	6.0
				1000							26.2	20.5	2.54	34.9	10.3	6.2
	7.5	2.0	4.5	800							24.7	17.8	2.38	32.8	10.4	5.7
				1000							26.3	20.2	2.42	34.5	10.9	5.8

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.
All performance data is based upon the lower voltage of dual voltage rated units.
Operation below 40°F EWT is based on 15% antifreeze solution.
See performance correction tables for operating conditions other than those listed above.
Table does not reflect fan or pump power ISO corrections.

Performance Data PSC 036

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	4.5	1.6	3.8	975	Operation not recommended						Operation not recommended					
				1200												
	7.0	3.3	7.6	975												
				1200												
	9.0	4.9	11.2	975	23.1	2.15	15.7	91.9	3.14	3.2						
				1200	22.9	2.23	15.3	87.7	3.01	2.7						
30	4.5	1.6	3.7	975	25.6	2.38	17.5	94.3	3.14	3.6	41.8	27.1	1.32	46.3	31.6	1.2
				1200	25.9	2.30	18.1	90.0	3.30	3.0	42.2	29.1	1.38	46.9	30.5	1.1
	7.0	3.2	7.3	975	26.2	2.31	18.3	94.9	3.32	3.7	41.7	27.3	1.27	46.1	32.9	1.3
				1200	26.3	2.31	18.4	90.3	3.33	3.2	42.0	29.4	1.33	46.5	31.7	1.1
	9.0	4.7	10.9	975	26.8	2.24	19.2	95.5	3.51	3.9	41.6	27.5	1.22	45.8	34.2	1.3
				1200	26.6	2.32	18.7	90.5	3.36	3.3	41.9	29.8	1.27	46.2	32.9	1.2
40	4.5	1.5	3.5	975	29.2	2.46	20.8	97.7	3.48	4.2	40.4	26.5	1.53	45.6	26.5	2.2
				1200	29.6	2.37	21.5	92.8	3.65	3.6	40.7	28.5	1.60	46.1	25.5	2.1
	7.0	3.1	7.1	975	29.8	2.42	21.6	98.3	3.61	4.4	40.4	26.7	1.47	45.4	27.5	2.1
				1200	29.9	2.39	21.8	93.1	3.67	3.7	40.6	28.8	1.54	45.9	26.4	2.0
	9.0	4.6	10.6	975	30.4	2.38	22.3	98.9	3.75	4.5	40.4	26.9	1.41	45.2	28.5	1.9
				1200	30.3	2.41	22.1	93.4	3.69	3.9	40.6	29.0	1.48	45.6	27.5	1.9
50	4.5	1.5	3.4	975	32.8	2.53	24.2	101.1	3.80	4.8	38.9	26.0	1.73	44.8	22.5	3.2
				1200	33.2	2.44	24.9	95.6	3.99	4.2	39.2	27.9	1.81	45.4	21.7	3.1
	7.0	3.0	6.9	975	33.4	2.53	24.8	101.7	3.88	5.0	39.0	26.1	1.67	44.7	23.4	2.8
				1200	33.6	2.47	25.2	95.9	3.99	4.3	39.3	28.1	1.75	45.2	22.5	2.8
	9.0	4.4	10.2	975	34.1	2.52	25.5	102.3	3.96	5.2	39.1	26.2	1.61	44.6	24.3	2.4
				1200	34.0	2.49	25.5	96.2	4.00	4.5	39.3	28.3	1.68	45.0	23.4	2.6
60	4.5	1.4	3.3	975	36.2	2.65	27.2	104.4	4.01	5.5	36.9	25.7	1.90	43.3	19.4	3.9
				1200	36.9	2.54	28.2	98.4	4.25	4.7	37.4	28.2	1.98	44.1	18.9	3.9
	7.0	2.9	6.7	975	36.9	2.65	27.9	105.1	4.08	5.6	37.3	25.9	1.84	43.6	20.3	3.6
				1200	37.5	2.57	28.7	98.9	4.28	4.9	37.8	28.2	1.91	44.3	19.8	3.6
	9.0	4.3	9.9	975	37.7	2.66	28.6	105.8	4.15	5.8	37.7	26.2	1.78	43.8	21.2	3.2
				1200	38.2	2.59	29.3	99.4	4.32	5.1	38.2	28.3	1.85	44.5	20.7	3.3
70	4.5	1.4	3.2	975	39.6	2.76	30.2	107.6	4.20	6.1	34.8	25.4	2.07	41.9	16.8	4.7
				1200	40.5	2.64	31.5	101.3	4.49	5.3	35.5	28.4	2.15	42.8	16.5	4.7
	7.0	2.8	6.5	975	40.5	2.78	31.0	108.4	4.26	6.3	35.6	25.8	2.01	42.4	17.7	4.3
				1200	41.4	2.67	32.3	101.9	4.55	5.5	36.3	28.3	2.08	43.4	17.5	4.4
	9.0	4.1	9.6	975	41.3	2.80	31.7	109.2	4.32	6.5	36.3	26.2	1.96	43.0	18.6	3.9
				1200	42.3	2.69	33.1	102.6	4.61	5.7	37.1	28.2	2.01	44.0	18.5	4.1
80	4.5	1.3	3.1	975	43.2	2.86	33.4	111.0	4.42	6.8	33.5	24.5	2.30	41.4	14.6	5.4
				1200	44.2	2.74	34.8	104.1	4.72	5.8	34.2	27.4	2.39	42.3	14.3	5.5
	7.0	2.7	6.2	975	44.0	2.88	34.2	111.8	4.47	7.0	34.3	24.9	2.23	41.9	15.4	5.0
				1200	45.0	2.76	35.6	104.7	4.78	6.1	35.0	27.3	2.31	42.9	15.2	5.1
	9.0	4.0	9.3	975	44.8	2.90	34.9	112.6	4.53	7.3	35.0	25.2	2.17	42.4	16.1	4.6
				1200	45.9	2.79	36.4	105.4	4.83	6.3	35.8	27.2	2.23	43.4	16.0	4.8
90	4.5	1.3	3.0	975	46.7	2.97	36.6	114.4	4.61	7.5	32.3	23.6	2.52	40.9	12.8	6.1
				1200	47.8	2.84	38.1	106.9	4.93	6.3	32.9	26.4	2.62	41.9	12.6	6.3
	7.0	2.6	6.0	975	47.5	2.98	37.4	115.1	4.67	7.8	33.0	24.0	2.45	41.4	13.4	5.7
				1200	48.7	2.86	38.9	107.5	4.98	6.6	33.7	26.3	2.54	42.3	13.3	5.9
	9.0	3.9	8.9	975	48.3	3.00	38.1	115.9	4.72	8.1	33.7	24.3	2.38	41.8	14.1	5.4
				1200	49.5	2.88	39.7	108.2	5.04	6.9	34.4	26.2	2.45	42.8	14.0	5.5
100	4.5	1.3	2.9	975	Operation not recommended						30.3	23.7	2.83	39.9	10.7	6.9
				1200							30.9	26.5	2.94	40.9	10.5	7.2
	7.0	2.5	5.8	975							30.9	24.1	2.75	40.3	11.2	6.5
				1200							31.6	26.4	2.85	41.3	11.1	6.7
	9.0	3.7	8.6	975							31.6	24.4	2.67	40.7	11.8	6.1
				1200							32.3	26.3	2.75	41.6	11.7	6.2
110	4.5	1.2	2.8	975							28.2	23.9	3.14	38.9	9.0	7.7
				1200							28.8	26.7	3.26	39.9	8.8	8.0
	7.0	2.4	5.6	975							28.9	24.2	3.05	39.3	9.5	7.2
				1200							29.5	26.6	3.16	40.2	9.3	7.5
	9.0	3.6	8.3	975							29.5	24.6	2.97	39.6	9.9	6.8
				1200							30.1	26.5	3.05	40.5	9.9	7.0

Performance capacities shown in thousands of Btuh.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data ICM 036

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	4.5	1.6	3.8	975	Operation not recommended						Operation not recommended					
				1200												
	7.0	3.3	7.6	975												
				1200												
	9.0	4.9	11.2	975	22.8	2.08	15.7	91.7	3.21	3.2						
				1200	22.9	2.23	15.3	87.7	3.01	2.7						
30	4.5	1.6	3.7	975	25.4	2.32	17.4	94.1	3.21	3.6	42.1	27.3	1.25	46.3	33.6	1.2
				1200	25.9	2.30	18.1	90.0	3.30	3.0	42.2	29.1	1.38	46.9	30.5	1.1
	7.0	3.2	7.3	975	26.0	2.24	18.3	94.7	3.39	3.7	42.0	27.6	1.20	46.1	34.9	1.3
				1200	26.3	2.31	18.4	90.3	3.33	3.2	42.0	29.4	1.33	46.5	31.7	1.1
	9.0	4.7	10.9	975	26.6	2.17	19.2	95.2	3.59	3.9	41.9	27.8	1.15	45.8	36.4	1.3
				1200	26.6	2.32	18.7	90.5	3.36	3.3	41.9	29.8	1.27	46.2	32.9	1.2
40	4.5	1.5	3.5	975	29.0	2.39	20.8	97.5	3.55	4.2	40.6	26.8	1.46	45.6	27.9	2.2
				1200	29.6	2.37	21.5	92.8	3.65	3.6	40.7	28.5	1.60	46.1	25.5	2.1
	7.0	3.1	7.1	975	29.6	2.35	21.6	98.1	3.69	4.4	40.6	26.9	1.40	45.4	29.0	2.1
				1200	29.9	2.39	21.8	93.1	3.67	3.7	40.6	28.8	1.54	45.9	26.4	2.0
	9.0	4.6	10.6	975	30.2	2.31	22.3	98.7	3.83	4.5	40.6	27.1	1.35	45.2	30.2	1.9
				1200	30.3	2.41	22.1	93.4	3.69	3.9	40.6	29.0	1.48	45.6	27.5	1.9
50	4.5	1.5	3.4	975	32.6	2.46	24.2	100.9	3.88	4.8	39.1	26.2	1.66	44.8	23.6	3.2
				1200	33.2	2.44	24.9	95.6	3.99	4.2	39.2	27.9	1.81	45.4	21.7	3.1
	7.0	3.0	6.9	975	33.2	2.46	24.8	101.5	3.96	5.0	39.2	26.3	1.60	44.7	24.5	2.8
				1200	33.6	2.47	25.2	95.9	3.99	4.3	39.3	28.1	1.75	45.2	22.5	2.8
	9.0	4.4	10.2	975	33.8	2.45	25.4	102.1	4.04	5.2	39.3	26.4	1.54	44.6	25.5	2.4
				1200	34.0	2.49	25.5	96.2	4.00	4.5	39.3	28.3	1.68	45.0	23.4	2.6
60	4.5	1.4	3.3	975	36.0	2.58	27.2	104.2	4.09	5.5	37.1	25.9	1.83	43.3	20.3	3.9
				1200	36.9	2.54	28.2	98.4	4.25	4.7	37.4	28.2	1.98	44.1	18.9	3.9
	7.0	2.9	6.7	975	36.7	2.58	27.9	104.9	4.16	5.6	37.5	26.2	1.77	43.6	21.2	3.6
				1200	37.5	2.57	28.7	98.9	4.28	4.9	37.8	28.2	1.91	44.3	19.8	3.6
	9.0	4.3	9.9	975	37.4	2.59	28.6	105.6	4.23	5.8	38.0	26.4	1.71	43.8	22.2	3.2
				1200	38.2	2.59	29.3	99.4	4.32	5.1	38.2	28.3	1.85	44.5	20.7	3.3
70	4.5	1.4	3.2	975	39.4	2.69	30.2	107.4	4.29	6.1	35.0	25.7	2.00	41.9	17.5	4.7
				1200	40.5	2.64	31.5	101.3	4.49	5.3	35.5	28.4	2.15	42.8	16.5	4.7
	7.0	2.8	6.5	975	40.2	2.71	31.0	108.2	4.35	6.3	35.8	26.0	1.94	42.4	18.4	4.3
				1200	41.4	2.67	32.3	101.9	4.55	5.5	36.3	28.3	2.08	43.4	17.5	4.4
	9.0	4.1	9.6	975	41.1	2.73	31.7	109.0	4.41	6.5	36.6	26.4	1.89	43.0	19.4	3.9
				1200	42.3	2.69	33.1	102.6	4.61	5.7	37.1	28.2	2.01	44.0	18.5	4.1
80	4.5	1.3	3.1	975	42.9	2.80	33.4	110.8	4.50	6.8	33.8	24.8	2.23	41.4	15.2	5.4
				1200	44.2	2.74	34.8	104.1	4.72	5.8	34.2	27.4	2.39	42.3	14.3	5.5
	7.0	2.7	6.2	975	43.8	2.81	34.2	111.6	4.56	7.0	34.5	25.1	2.16	41.9	16.0	5.0
				1200	45.0	2.76	35.6	104.7	4.78	6.1	35.0	27.3	2.31	42.9	15.2	5.1
	9.0	4.0	9.3	975	44.6	2.83	34.9	112.3	4.62	7.3	35.3	25.5	2.10	42.4	16.8	4.6
				1200	45.9	2.79	36.4	105.4	4.83	6.3	35.8	27.2	2.23	43.4	16.0	4.8
90	4.5	1.3	3.0	975	46.5	2.90	36.6	114.2	4.70	7.5	32.5	23.9	2.45	40.9	13.2	6.1
				1200	47.8	2.84	38.1	106.9	4.93	6.3	32.9	26.4	2.62	41.9	12.6	6.3
	7.0	2.6	6.0	975	47.3	2.91	37.4	114.9	4.76	7.8	33.2	24.2	2.38	41.4	13.9	5.7
				1200	48.7	2.86	38.9	107.5	4.98	6.6	33.7	26.3	2.54	42.3	13.3	5.9
	9.0	3.9	8.9	975	48.1	2.93	38.1	115.7	4.81	8.1	33.9	24.5	2.31	41.8	14.7	5.4
				1200	49.5	2.88	39.7	108.2	5.04	6.9	34.4	26.2	2.45	42.8	14.0	5.5
100	4.5	1.3	2.9	975	Operation not recommended						30.5	24.0	2.76	39.9	11.0	6.9
				1200							30.9	26.5	2.94	40.9	10.5	7.2
	7.0	2.5	5.8	975							31.2	24.3	2.68	40.3	11.6	6.5
				1200							31.6	26.4	2.85	41.3	11.1	6.7
	9.0	3.7	8.6	975							31.8	24.7	2.61	40.7	12.2	6.1
				1200							32.3	26.3	2.75	41.6	11.7	6.2
110	4.5	1.2	2.8	975							28.5	24.1	3.07	39.0	9.3	7.7
				1200							28.8	26.7	3.26	39.9	8.8	8.0
	7.0	2.4	5.6	975							29.1	24.5	2.98	39.3	9.8	7.2
				1200							29.5	26.6	3.16	40.2	9.3	7.5
	9.0	3.6	8.3	975							29.7	24.8	2.90	39.6	10.3	6.8
				1200							30.1	26.5	3.05	40.5	9.9	7.0

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data PSC 042

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	5.2	2.0	4.7	1150	Operation not recommended						Operation not recommended					
				1400												
	9.0	4.9	11.2	1150												
				1400												
	10.5	6.2	14.3	1150	26.5	2.62	17.5	91.3	2.96	3.6						
				1400	27.2	2.60	18.4	88.0	3.07	3.1						
30	5.2	2.0	4.6	1150	31.3	2.71	22.0	95.2	3.38	4.1	50.5	33.1	1.67	56.2	30.3	1.6
				1400	31.3	2.65	22.3	90.7	3.46	3.5	52.4	36.4	1.73	58.3	30.3	1.3
	9.0	4.7	10.9	1150	31.4	2.71	22.2	95.3	3.40	4.3	49.9	32.6	1.62	55.4	30.9	1.6
				1400	31.9	2.67	22.8	91.1	3.51	3.6	52.5	36.6	1.68	58.2	31.3	1.4
	10.5	6.0	13.9	1150	31.6	2.71	22.4	95.4	3.42	4.4	49.3	32.2	1.57	54.6	31.4	1.7
				1400	32.5	2.68	23.3	91.5	3.55	3.8	52.6	36.9	1.63	58.2	32.4	1.5
40	5.2	1.9	4.5	1150	35.8	2.80	26.3	98.9	3.75	4.8	48.6	32.2	1.94	55.2	25.1	2.7
				1400	35.9	2.73	26.6	93.7	3.85	4.2	50.4	35.4	2.01	57.2	25.1	2.5
	9.0	4.6	10.6	1150	36.1	2.81	26.5	99.1	3.76	5.0	48.0	31.7	1.87	54.4	25.6	2.5
				1400	36.9	2.77	27.4	94.4	3.90	4.3	50.5	35.6	1.94	57.1	26.0	2.4
	10.5	5.8	13.5	1150	36.3	2.82	26.7	99.3	3.77	5.2	47.3	31.3	1.81	53.5	26.1	2.3
				1400	37.8	2.80	28.3	95.0	3.96	4.5	50.5	35.9	1.88	57.0	26.9	2.3
50	5.2	1.9	4.3	1150	40.4	2.88	30.6	102.5	4.11	5.6	46.7	31.3	2.21	54.2	21.1	3.8
				1400	40.4	2.82	30.8	96.7	4.21	4.8	48.4	34.3	2.29	56.2	21.1	3.6
	9.0	4.4	10.2	1150	40.7	2.91	30.8	102.8	4.10	5.8	46.0	30.8	2.13	53.3	21.6	3.4
				1400	41.8	2.87	32.0	97.7	4.27	5.0	48.4	34.6	2.21	56.0	21.9	3.4
	10.5	5.6	13.0	1150	41.1	2.94	31.1	103.1	4.10	6.0	45.4	30.4	2.05	52.4	22.1	2.9
				1400	43.2	2.92	33.2	98.6	4.34	5.2	48.5	34.9	2.13	55.8	22.8	3.1
60	5.2	1.8	4.2	1150	44.5	2.98	34.3	105.8	4.37	6.3	45.3	31.0	2.44	53.6	18.6	4.6
				1400	45.0	2.90	35.1	99.7	4.55	5.5	46.9	33.3	2.52	55.5	18.6	4.6
	9.0	4.3	9.9	1150	45.2	3.02	34.9	106.4	4.38	6.5	45.4	30.4	2.36	53.4	19.3	4.2
				1400	46.4	2.94	36.3	100.7	4.61	5.7	47.0	33.7	2.42	55.2	19.4	4.2
	10.5	5.5	12.6	1150	45.9	3.06	35.4	106.9	4.40	6.7	45.5	29.9	2.27	53.2	20.0	3.8
				1400	47.8	2.99	37.6	101.6	4.68	5.9	47.0	34.1	2.31	54.9	20.3	3.9
70	5.2	1.8	4.0	1150	48.6	3.08	38.1	109.1	4.62	7.0	43.9	30.8	2.67	53.0	16.4	5.5
				1400	49.5	2.98	39.4	102.8	4.87	6.2	45.5	32.3	2.75	54.8	16.5	5.5
	9.0	4.1	9.6	1150	49.6	3.13	38.9	109.9	4.65	7.3	44.7	30.0	2.58	53.5	17.3	5.0
				1400	50.9	3.02	40.6	103.7	4.94	6.4	45.5	32.7	2.63	54.4	17.3	5.1
	10.5	5.3	12.2	1150	50.6	3.17	39.8	110.8	4.67	7.5	45.5	29.3	2.49	54.0	18.2	4.6
				1400	52.3	3.07	41.9	104.6	5.00	6.6	45.5	33.2	2.50	54.0	18.2	4.8
80	5.2	1.7	3.9	1150	53.0	3.16	42.2	112.7	4.91	7.9	41.7	29.8	2.97	51.8	14.0	6.3
				1400	54.1	3.06	43.6	105.8	5.17	6.7	43.2	31.2	3.06	53.6	14.1	6.4
	9.0	4.0	9.3	1150	54.3	3.23	43.2	113.7	4.92	8.1	42.5	29.1	2.87	52.3	14.8	5.8
				1400	55.7	3.13	45.1	106.9	5.22	7.0	43.2	31.7	2.92	53.2	14.8	6.0
	10.5	5.1	11.8	1150	55.5	3.30	44.2	114.7	4.93	8.4	43.2	28.4	2.77	52.7	15.6	5.4
				1400	57.4	3.19	46.5	108.0	5.27	7.3	43.2	32.2	2.78	52.7	15.6	5.6
90	5.2	1.6	3.8	1150	57.5	3.25	46.4	116.3	5.19	8.7	39.5	28.8	3.27	50.7	12.1	7.1
				1400	58.6	3.15	47.9	108.8	5.46	7.3	40.9	30.2	3.37	52.4	12.1	7.4
	9.0	3.9	8.9	1150	58.9	3.34	47.5	117.5	5.17	9.0	40.2	28.1	3.16	51.0	12.7	6.7
				1400	60.5	3.23	49.5	110.0	5.49	7.7	40.9	30.7	3.21	51.9	12.7	6.9
	10.5	4.9	11.4	1150	60.4	3.43	48.7	118.6	5.16	9.4	41.0	27.4	3.05	51.4	13.4	6.3
				1400	62.5	3.31	51.2	111.3	5.53	8.0	40.9	31.1	3.06	51.4	13.4	6.4
100	5.2	1.6	3.6	1150	Operation not recommended						37.5	28.2	3.65	50.0	10.3	8.0
				1400							38.9	29.6	3.76	51.7	10.3	8.3
	9.0	3.7	8.6	1150							38.2	27.6	3.53	50.3	10.8	7.5
				1400							38.9	30.0	3.59	51.1	10.8	7.8
	10.5	4.7	11.0	1150							38.9	26.9	3.41	50.6	11.4	7.1
				1400							38.9	30.5	3.42	50.6	11.4	7.2
110	5.2	1.5	3.5	1150							35.6	27.6	4.04	49.4	8.8	8.9
				1400							36.8	29.0	4.16	51.0	8.8	9.2
	9.0	3.6	8.3	1150							36.2	27.0	3.91	49.6	9.3	8.4
				1400							36.8	29.4	3.97	50.4	9.3	8.6
	10.5	4.6	10.5	1150							36.9	26.3	3.77	49.7	9.8	7.9
				1400							36.9	29.9	3.78	49.8	9.8	8.1

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data ICM 042

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	5.2	2.0	4.7	1150	Operation not recommended						Operation not recommended					
				1400												
	9.0	4.9	11.2	1150												
				1400												
	10.5	6.2	14.3	1150	26.0	2.47	17.5	90.9	3.08	3.6						
				1400	26.8	2.48	18.4	87.8	3.17	3.1						
30	5.2	2.0	4.6	1150	30.8	2.56	22.0	94.8	3.52	4.1	51.1	33.7	1.51	56.2	33.7	1.6
				1400	30.9	2.54	22.3	90.5	3.58	3.5	52.8	36.8	1.61	58.3	32.7	1.3
	9.0	4.7	10.9	1150	30.9	2.56	22.2	94.9	3.54	4.3	50.4	33.2	1.46	55.4	34.4	1.6
				1400	31.5	2.55	22.8	90.9	3.62	3.6	52.9	37.0	1.56	58.2	33.9	1.4
	10.5	6.0	13.9	1150	31.1	2.55	22.4	95.0	3.56	4.4	49.8	32.7	1.42	54.6	35.2	1.7
				1400	32.1	2.57	23.3	91.2	3.66	3.8	53.0	37.3	1.51	58.2	35.1	1.5
40	5.2	1.9	4.5	1150	35.3	2.64	26.3	98.4	3.91	4.8	49.1	32.7	1.78	55.2	27.5	2.7
				1400	35.5	2.62	26.6	93.5	3.97	4.2	50.8	35.8	1.89	57.2	26.8	2.5
	9.0	4.6	10.6	1150	35.6	2.66	26.5	98.6	3.92	5.0	48.5	32.3	1.72	54.4	28.2	2.5
				1400	36.5	2.65	27.4	94.1	4.03	4.3	50.9	36.0	1.83	57.1	27.8	2.4
	10.5	5.8	13.5	1150	35.8	2.67	26.7	98.8	3.93	5.2	47.9	31.8	1.66	53.5	28.9	2.3
				1400	37.4	2.68	28.3	94.8	4.09	4.5	50.9	36.3	1.76	57.0	28.9	2.3
50	5.2	1.9	4.3	1150	39.9	2.73	30.5	102.1	4.28	5.6	47.2	31.8	2.06	54.2	23.0	3.8
				1400	40.0	2.70	30.8	96.5	4.34	4.8	48.8	34.7	2.18	56.2	22.4	3.6
	9.0	4.4	10.2	1150	40.2	2.76	30.8	102.4	4.27	5.8	46.6	31.4	1.98	53.3	23.5	3.4
				1400	41.4	2.75	32.0	97.4	4.41	5.0	48.8	35.0	2.09	56.0	23.3	3.4
	10.5	5.6	13.0	1150	40.6	2.79	31.1	102.7	4.27	6.0	45.9	31.0	1.90	52.4	24.2	2.9
				1400	42.8	2.80	33.2	98.3	4.48	5.2	48.9	35.3	2.01	55.8	24.3	3.1
60	5.2	1.8	4.2	1150	43.9	2.83	34.3	105.4	4.56	6.3	45.8	31.5	2.29	53.6	20.0	4.6
				1400	44.6	2.78	35.1	99.5	4.69	5.5	47.3	33.7	2.41	55.5	19.7	4.6
	9.0	4.3	9.9	1150	44.6	2.87	34.9	105.9	4.57	6.5	45.9	31.0	2.20	53.4	20.8	4.2
				1400	46.0	2.83	36.3	100.4	4.76	5.7	47.3	34.1	2.30	55.2	20.6	4.2
	10.5	5.5	12.6	1150	45.3	2.90	35.4	106.5	4.57	6.7	46.0	30.4	2.12	53.2	21.7	3.8
				1400	47.4	2.88	37.6	101.3	4.83	5.9	47.4	34.5	2.20	54.9	21.6	3.9
70	5.2	1.8	4.0	1150	48.0	2.92	38.1	108.7	4.81	7.0	44.4	31.3	2.52	53.0	17.6	5.5
				1400	49.1	2.87	39.4	102.5	5.02	6.2	45.8	32.7	2.64	54.8	17.4	5.5
	9.0	4.1	9.6	1150	49.1	2.97	38.9	109.5	4.84	7.3	45.2	30.5	2.43	53.5	18.6	5.0
				1400	50.5	2.91	40.6	103.4	5.09	6.4	45.9	33.1	2.51	54.4	18.3	5.1
	10.5	5.3	12.2	1150	50.1	3.02	39.8	110.3	4.86	7.5	46.0	29.8	2.34	54.0	19.7	4.6
				1400	51.9	2.95	41.9	104.4	5.16	6.6	45.9	33.6	2.38	54.0	19.3	4.8
80	5.2	1.7	3.9	1150	52.5	3.01	42.2	112.3	5.11	7.9	42.2	30.3	2.82	51.8	15.0	6.3
				1400	53.7	2.95	43.6	105.5	5.34	6.7	43.6	31.6	2.94	53.6	14.8	6.4
	9.0	4.0	9.3	1150	53.7	3.08	43.2	113.3	5.11	8.1	43.0	29.6	2.72	52.3	15.8	5.8
				1400	55.3	3.01	45.1	106.6	5.39	7.0	43.6	32.1	2.80	53.2	15.6	6.0
	10.5	5.1	11.8	1150	55.0	3.15	44.2	114.3	5.12	8.4	43.8	28.9	2.62	52.7	16.7	5.4
				1400	57.0	3.07	46.5	107.7	5.44	7.3	43.6	32.6	2.66	52.7	16.4	5.6
90	5.2	1.6	3.8	1150	56.9	3.09	46.4	115.8	5.39	8.7	40.0	29.3	3.11	50.7	12.9	7.1
				1400	58.2	3.03	47.9	108.5	5.63	7.3	41.3	30.6	3.25	52.4	12.7	7.4
	9.0	3.9	8.9	1150	58.4	3.19	47.5	117.0	5.37	9.0	40.8	28.6	3.01	51.0	13.6	6.7
				1400	60.1	3.11	49.5	109.8	5.66	7.7	41.3	31.1	3.09	51.9	13.3	6.9
	10.5	4.9	11.4	1150	59.9	3.28	48.7	118.2	5.36	9.4	41.5	28.0	2.90	51.4	14.3	6.3
				1400	62.1	3.20	51.2	111.1	5.69	8.0	41.3	31.5	2.94	51.4	14.1	6.4
100	5.2	1.6	3.6	1150	Operation not recommended						38.1	28.7	3.50	50.0	10.9	8.0
				1400							39.2	30.0	3.65	51.7	10.8	8.3
	9.0	3.7	8.6	1150							38.8	28.1	3.38	50.3	11.5	7.5
				1400							39.3	30.4	3.47	51.1	11.3	7.8
	10.5	4.7	11.0	1150							39.4	27.4	3.26	50.6	12.1	7.1
				1400							39.3	30.9	3.30	50.6	11.9	7.2
110	5.2	1.5	3.5	1150							36.1	28.2	3.89	49.4	9.3	8.9
				1400							37.2	29.4	4.05	51.0	9.2	9.2
	9.0	3.6	8.3	1150							36.8	27.5	3.75	49.6	9.8	8.4
				1400							37.2	29.8	3.85	50.4	9.7	8.6
	10.5	4.6	10.5	1150							37.4	26.9	3.62	49.8	10.3	7.9
				1400							37.3	30.3	3.66	49.8	10.2	8.1

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data PSC 048

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	6.0	2.6	5.9	1300	Operation not recommended						Operation not recommended					
				1600												
	9.0	4.9	11.2	1300												
				1600												
	12.0	7.6	17.6	1300	30.1	3.01	19.8	91.4	2.93	4.2						
				1600	31.4	2.95	21.3	88.2	3.12	3.6						
30	6.0	2.5	5.8	1300	34.2	2.99	24.0	94.3	3.35	4.8	54.9	35.5	1.91	61.4	28.7	1.7
				1600	36.7	2.98	26.5	91.2	3.61	4.0	56.7	38.9	2.00	63.5	28.3	1.4
	9.0	4.7	10.9	1300	34.8	3.04	24.4	94.8	3.35	5.0	54.9	35.7	1.84	61.1	29.9	1.7
				1600	36.8	3.01	26.5	91.3	3.58	4.2	56.5	38.7	1.93	63.1	29.4	1.5
	12.0	7.4	17.1	1300	35.4	3.10	24.8	95.2	3.35	5.1	54.8	35.9	1.76	60.9	31.1	1.8
				1600	36.9	3.04	26.5	91.4	3.56	4.4	56.4	38.5	1.85	62.7	30.5	1.6
40	6.0	2.4	5.6	1300	37.9	3.07	27.4	97.0	3.61	5.6	53.4	34.9	2.19	60.9	24.4	3.0
				1600	40.7	3.07	30.2	93.6	3.89	4.8	55.1	38.2	2.30	63.0	24.0	2.8
	9.0	4.6	10.6	1300	39.1	3.13	28.4	97.8	3.66	5.8	53.3	35.1	2.11	60.5	25.3	2.8
				1600	41.3	3.09	30.7	93.9	3.92	5.0	54.9	38.0	2.21	62.4	24.9	2.6
	12.0	7.2	16.6	1300	40.3	3.19	29.4	98.7	3.71	6.0	53.2	35.2	2.03	60.1	26.3	2.6
				1600	41.9	3.11	31.3	94.2	3.95	5.2	54.7	37.8	2.12	61.9	25.8	2.5
50	6.0	2.3	5.4	1300	41.6	3.16	30.8	99.6	3.86	6.4	51.9	34.2	2.47	60.3	21.0	4.3
				1600	44.7	3.15	33.9	95.9	4.15	5.6	53.6	37.5	2.59	62.4	20.7	4.1
	9.0	4.4	10.2	1300	43.4	3.21	32.4	100.9	3.95	6.7	51.7	34.4	2.38	59.9	21.8	3.8
				1600	45.8	3.16	35.0	96.5	4.24	5.8	53.3	37.3	2.49	61.8	21.4	3.8
	12.0	7.0	16.1	1300	45.2	3.27	34.0	102.2	4.05	6.9	51.6	34.6	2.29	59.4	22.6	3.3
				1600	46.8	3.17	36.0	97.1	4.33	6.0	53.0	37.1	2.40	61.2	22.1	3.5
60	6.0	2.3	5.2	1300	46.9	3.26	35.8	103.4	4.21	7.3	50.1	33.6	2.71	59.4	18.5	5.3
				1600	48.7	3.24	37.6	98.2	4.40	6.3	52.7	37.2	2.83	62.4	18.6	5.2
	9.0	4.3	9.9	1300	48.5	3.31	37.2	104.5	4.29	7.5	50.1	33.6	2.62	59.1	19.2	4.8
				1600	50.3	3.25	39.2	99.1	4.53	6.6	52.4	37.0	2.73	61.7	19.2	4.8
	12.0	6.7	15.6	1300	50.1	3.36	38.6	105.7	4.37	7.7	50.1	33.6	2.52	58.8	19.9	4.3
				1600	52.0	3.27	40.8	100.1	4.66	6.8	52.0	36.9	2.62	60.9	19.8	4.5
70	6.0	2.2	5.1	1300	52.2	3.36	40.7	107.2	4.55	8.1	48.4	32.9	2.96	58.5	16.4	6.3
				1600	52.6	3.32	41.3	100.5	4.64	7.1	51.9	36.9	3.07	62.4	16.9	6.3
	9.0	4.1	9.6	1300	53.6	3.40	42.0	108.1	4.62	8.4	48.5	32.8	2.86	58.3	17.0	5.8
				1600	54.9	3.35	43.5	101.8	4.81	7.3	51.4	36.8	2.96	61.5	17.4	5.9
	12.0	6.5	15.1	1300	54.9	3.44	43.2	109.1	4.68	8.6	48.7	32.7	2.76	58.1	17.7	5.3
				1600	57.1	3.37	45.6	103.0	4.97	7.6	50.9	36.6	2.85	60.6	17.9	5.5
80	6.0	2.1	4.9	1300	56.1	3.45	44.3	110.0	4.77	9.0	46.6	32.1	3.26	57.7	14.3	7.2
				1600	56.6	3.41	45.0	102.8	4.87	7.8	50.0	36.0	3.39	61.5	14.7	7.4
	9.0	4.0	9.3	1300	57.2	3.48	45.4	110.8	4.82	9.4	46.7	32.0	3.15	57.5	14.8	6.7
				1600	58.6	3.43	47.0	103.9	5.01	8.1	49.5	35.8	3.26	60.6	15.2	6.9
	12.0	6.3	14.6	1300	58.4	3.52	46.4	111.6	4.86	9.7	46.9	31.9	3.04	57.2	15.4	6.3
				1600	60.7	3.44	48.9	105.1	5.16	8.4	49.0	35.7	3.14	59.7	15.6	6.4
90	6.0	2.0	4.7	1300	60.1	3.53	48.0	112.8	4.98	10.0	44.8	31.3	3.57	57.0	12.6	8.2
				1600	60.6	3.49	48.7	105.1	5.08	8.4	48.0	35.0	3.71	60.7	13.0	8.5
	9.0	3.9	8.9	1300	60.9	3.56	48.8	113.4	5.01	10.4	44.9	31.2	3.45	56.7	13.0	7.7
				1600	62.4	3.51	50.4	106.1	5.21	8.8	47.6	34.9	3.57	59.7	13.3	8.0
	12.0	6.1	14.0	1300	61.8	3.60	49.5	114.0	5.04	10.8	45.1	31.1	3.33	56.4	13.6	7.2
				1600	64.2	3.52	52.2	107.2	5.35	9.2	47.1	34.8	3.43	58.8	13.7	7.4
100	6.0	2.0	4.5	1300	Operation not recommended						43.1	30.9	3.99	56.7	10.8	9.3
				1600							46.3	34.6	4.14	60.4	11.2	9.6
	9.0	3.7	8.6	1300							43.3	30.8	3.85	56.4	11.2	8.7
				1600							45.8	34.5	3.99	59.4	11.5	9.0
	12.0	5.9	13.5	1300							43.4	30.7	3.72	56.1	11.7	8.2
				1600							45.4	34.4	3.84	58.4	11.8	8.4
110	6.0	1.9	4.4	1300							41.5	30.6	4.41	56.5	9.4	10.3
				1600							44.5	34.2	4.58	60.1	9.7	10.7
	9.0	3.6	8.3	1300							41.6	30.5	4.26	56.1	9.8	9.7
				1600							44.1	34.1	4.41	59.1	10.0	10.0
	12.0	5.6	13.0	1300							41.7	30.4	4.11	55.8	10.2	9.2
				1600							43.6	34.0	4.24	58.1	10.3	9.4

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data ICM 048

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	6.0	2.6	5.9	1300	Operation not recommended						Operation not recommended					
				1600												
	9.0	4.9	11.2	1300												
				1600												
	12.0	7.6	17.6	1300	29.3	2.77	19.8	90.9	3.10	4.2						
				1600	30.7	2.74	21.3	87.7	3.28	3.6						
30	6.0	2.5	5.8	1300	33.4	2.75	24.0	93.8	3.55	4.8	55.7	36.3	1.68	61.4	33.3	1.7
				1600	36.0	2.77	26.5	90.8	3.81	4.0	57.4	39.7	1.79	63.5	32.1	1.4
	9.0	4.7	10.9	1300	34.0	2.81	24.4	94.2	3.55	5.0	55.7	36.5	1.60	61.1	34.8	1.7
				1600	36.1	2.80	26.5	90.9	3.78	4.2	57.3	39.5	1.71	63.1	33.4	1.5
	12.0	7.4	17.1	1300	34.6	2.86	24.8	94.6	3.54	5.1	55.6	36.7	1.53	60.9	36.4	1.8
				1600	36.2	2.83	26.5	90.9	3.75	4.4	57.1	39.3	1.63	62.7	34.9	1.6
40	6.0	2.4	5.6	1300	37.1	2.84	27.4	96.4	3.83	5.6	54.2	35.7	1.95	60.9	27.7	3.0
				1600	40.0	2.85	30.2	93.1	4.10	4.8	55.9	38.9	2.08	63.0	26.8	2.8
	9.0	4.6	10.6	1300	38.3	2.89	28.4	97.3	3.88	5.8	54.1	35.9	1.87	60.5	28.9	2.8
				1600	40.5	2.87	30.7	93.5	4.14	5.0	55.6	38.8	1.99	62.5	27.9	2.6
	12.0	7.2	16.6	1300	39.5	2.95	29.4	98.1	3.92	6.0	54.0	36.0	1.79	60.1	30.2	2.6
				1600	41.1	2.89	31.3	93.8	4.17	5.2	55.4	38.6	1.91	61.9	29.1	2.5
50	6.0	2.3	5.4	1300	40.8	2.92	30.8	99.0	4.09	6.4	52.7	35.0	2.23	60.3	23.6	4.3
				1600	43.9	2.94	33.9	95.4	4.38	5.6	54.3	38.2	2.37	62.4	22.9	4.1
	9.0	4.4	10.2	1300	42.6	2.98	32.4	100.3	4.19	6.7	52.5	35.2	2.14	59.9	24.5	3.8
				1600	45.0	2.95	35.0	96.1	4.47	5.8	54.0	38.0	2.28	61.8	23.7	3.8
	12.0	7.0	16.1	1300	44.4	3.03	34.0	101.6	4.28	6.9	52.4	35.4	2.05	59.4	25.6	3.3
				1600	46.1	2.96	36.0	96.7	4.57	6.0	53.8	37.9	2.18	61.2	24.6	3.5
60	6.0	2.3	5.2	1300	46.1	3.02	35.7	102.8	4.47	7.3	50.9	34.4	2.48	59.4	20.6	5.3
				1600	47.9	3.02	37.6	97.7	4.64	6.3	53.5	37.9	2.62	62.4	20.4	5.2
	9.0	4.3	9.9	1300	47.7	3.07	37.2	103.9	4.55	7.5	50.9	34.4	2.38	59.1	21.4	4.8
				1600	49.6	3.04	39.2	98.7	4.78	6.6	53.1	37.8	2.51	61.7	21.1	4.8
	12.0	6.7	15.6	1300	49.3	3.12	38.6	105.1	4.63	7.7	51.0	34.4	2.29	58.8	22.3	4.3
				1600	51.2	3.06	40.8	99.6	4.91	6.8	52.7	37.6	2.41	60.9	21.9	4.5
70	6.0	2.2	5.1	1300	51.4	3.12	40.7	106.6	4.82	8.1	49.2	33.7	2.72	58.5	18.1	6.3
				1600	51.9	3.11	41.3	100.0	4.89	7.1	52.7	37.6	2.86	62.4	18.4	6.3
	9.0	4.1	9.6	1300	52.7	3.16	42.0	107.6	4.89	8.4	49.4	33.6	2.62	58.3	18.8	5.8
				1600	54.1	3.13	43.4	101.3	5.07	7.3	52.1	37.5	2.75	61.5	19.0	5.9
	12.0	6.5	15.1	1300	54.1	3.20	43.2	108.6	4.95	8.6	49.5	33.5	2.52	58.1	19.6	5.3
				1600	56.4	3.15	45.6	102.6	5.24	7.6	51.6	37.4	2.63	60.6	19.6	5.5
80	6.0	2.1	4.9	1300	55.3	3.21	44.3	109.4	5.05	9.0	47.4	32.9	3.03	57.7	15.7	7.2
				1600	55.9	3.20	45.0	102.3	5.12	7.8	50.7	36.7	3.18	61.6	16.0	7.4
	9.0	4.0	9.3	1300	56.4	3.25	45.4	110.2	5.09	9.4	47.5	32.8	2.92	57.5	16.3	6.7
				1600	57.9	3.21	46.9	103.5	5.28	8.1	50.2	36.6	3.05	60.6	16.5	6.9
	12.0	6.3	14.6	1300	57.6	3.28	46.4	111.0	5.14	9.7	47.7	32.7	2.81	57.3	17.0	6.3
				1600	59.9	3.23	48.9	104.7	5.44	8.4	49.7	36.5	2.92	59.7	17.0	6.4
90	6.0	2.0	4.7	1300	59.2	3.30	48.0	112.2	5.27	10.0	45.6	32.1	3.33	57.0	13.7	8.2
				1600	59.9	3.28	48.7	104.7	5.35	8.4	48.8	35.8	3.49	60.7	14.0	8.5
	9.0	3.9	8.9	1300	60.1	3.33	48.8	112.8	5.29	10.4	45.7	32.0	3.21	56.7	14.2	7.7
				1600	61.7	3.29	50.4	105.7	5.49	8.8	48.3	35.7	3.35	59.7	14.4	8.0
	12.0	6.1	14.0	1300	61.0	3.36	49.5	113.5	5.32	10.8	45.9	31.9	3.09	56.4	14.8	7.2
				1600	63.5	3.31	52.2	106.7	5.63	9.2	47.8	35.6	3.22	58.8	14.9	7.4
100	6.0	2.0	4.5	1300	Operation not recommended						43.9	31.7	3.75	56.7	11.7	9.3
				1600							47.0	35.4	3.93	60.4	12.0	9.6
	9.0	3.7	8.6	1300							44.1	31.6	3.62	56.4	12.2	8.7
				1600							46.5	35.3	3.78	59.4	12.3	9.0
	12.0	5.9	13.5	1300							44.2	31.5	3.48	56.1	12.7	8.2
				1600							46.1	35.2	3.62	58.4	12.7	8.4
110	6.0	1.9	4.4	1300							42.3	31.4	4.17	56.5	10.1	10.3
				1600							45.2	35.0	4.37	60.1	10.4	10.7
	9.0	3.6	8.3	1300							42.4	31.3	4.02	56.1	10.5	9.7
				1600							44.8	34.9	4.20	59.1	10.7	10.0
	12.0	5.6	13.0	1300							42.5	31.2	3.87	55.8	11.0	9.2
				1600							44.3	34.8	4.03	58.1	11.0	9.4

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data PSC 060

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	7.5	1.6	3.7	1650	Operation not recommended						Operation not recommended					
				2000												
	11.3	3.2	7.4	1650												
				2000												
	15.0	5.1	11.8	1650	41.1	4.04	27.3	93.0	2.98	5.3						
				2000	41.5	3.99	27.9	89.2	3.05	4.5						
30	7.5	1.6	3.6	1650	43.1	4.09	29.2	94.2	3.09	6.0	67.5	44.2	2.64	76.5	25.5	2.2
				2000	43.8	4.05	30.0	90.3	3.17	5.0	69.1	47.2	2.73	78.5	25.3	1.8
	11.3	3.1	7.1	1650	45.5	4.13	31.4	95.5	3.23	6.2	67.6	43.9	2.58	76.4	26.2	2.3
				2000	46.1	4.09	32.2	91.4	3.30	5.3	68.8	46.7	2.68	77.9	25.7	1.9
	15.0	4.9	11.4	1650	47.9	4.18	33.6	96.9	3.36	6.4	67.6	43.6	2.52	76.2	26.9	2.3
				2000	48.5	4.13	34.4	92.4	3.44	5.5	68.4	46.1	2.63	77.4	26.0	2.0
40	7.5	1.5	3.5	1650	50.4	4.29	35.8	98.3	3.45	7.0	65.3	43.5	3.05	75.7	21.4	3.8
				2000	51.3	4.25	36.8	93.7	3.54	6.0	66.8	46.5	3.15	77.6	21.2	3.5
	11.3	3.0	6.9	1650	53.0	4.35	38.2	99.8	3.57	7.3	65.4	43.3	2.96	75.5	22.1	3.5
				2000	53.3	4.28	38.7	94.7	3.65	6.2	66.5	46.0	3.07	77.0	21.7	3.4
	15.0	4.8	11.1	1650	55.7	4.42	40.6	101.3	3.69	7.5	65.5	43.0	2.86	75.2	22.9	3.2
				2000	55.3	4.32	40.6	95.6	3.75	6.5	66.3	45.5	2.99	76.5	22.1	3.2
50	7.5	1.5	3.4	1650	57.7	4.48	42.4	102.4	3.77	8.0	63.1	42.9	3.46	74.9	18.2	5.4
				2000	58.7	4.44	43.5	97.2	3.87	7.0	64.6	45.8	3.58	76.8	18.1	5.2
	11.3	2.9	6.7	1650	60.6	4.57	45.0	104.0	3.88	8.3	63.2	42.6	3.34	74.6	18.9	4.8
				2000	60.4	4.48	45.2	98.0	3.96	7.2	64.3	45.3	3.47	76.1	18.6	4.8
	15.0	4.6	10.7	1650	63.5	4.66	47.6	105.6	3.99	8.6	63.3	42.4	3.21	74.2	19.7	4.1
				2000	62.2	4.51	46.8	98.8	4.04	7.5	64.1	44.8	3.36	75.5	19.1	4.4
60	7.5	1.4	3.3	1650	64.9	4.68	48.9	106.4	4.06	9.1	61.6	41.9	3.78	74.6	16.3	6.6
				2000	66.1	4.64	50.3	100.6	4.17	7.9	63.1	45.4	3.90	76.4	16.2	6.5
	11.3	2.8	6.5	1650	68.1	4.79	51.7	108.2	4.16	9.4	61.9	41.7	3.61	74.2	17.1	6.0
				2000	68.5	4.67	52.6	101.7	4.30	8.2	63.2	45.0	3.74	75.9	16.9	6.1
	15.0	4.5	10.4	1650	71.3	4.90	54.5	110.0	4.26	9.7	62.1	41.4	3.45	73.9	18.0	5.4
				2000	71.0	4.71	54.9	102.9	4.42	8.5	63.2	44.6	3.58	75.4	17.7	5.6
70	7.5	1.4	3.2	1650	72.2	4.88	55.5	110.5	4.33	10.1	60.2	41.0	4.11	74.2	14.7	7.8
				2000	73.5	4.83	57.0	104.0	4.45	8.9	61.7	45.0	4.23	76.1	14.6	7.9
	11.3	2.7	6.3	1650	75.6	5.01	58.5	112.4	4.42	10.4	60.6	40.7	3.89	73.9	15.6	7.2
				2000	76.6	4.87	60.0	105.5	4.61	9.2	62.0	44.7	4.02	75.7	15.4	7.3
	15.0	4.3	10.0	1650	79.0	5.15	61.5	114.4	4.50	10.8	61.0	40.4	3.68	73.5	16.6	6.6
				2000	79.7	4.90	63.0	106.9	4.77	9.5	62.4	44.3	3.80	75.4	16.4	6.8
80	7.5	1.3	3.1	1650	79.4	5.08	62.1	114.6	4.58	11.3	57.6	40.2	4.56	73.2	12.6	9.0
				2000	80.9	5.03	63.7	107.5	4.71	9.7	59.0	44.2	4.70	75.0	12.5	9.2
	11.3	2.6	6.1	1650	82.7	5.20	64.9	116.4	4.66	11.7	58.0	40.0	4.32	72.7	13.4	8.4
				2000	83.8	5.05	66.6	108.8	4.86	10.1	59.3	43.8	4.46	74.5	13.3	8.6
	15.0	4.2	9.7	1650	86.0	5.33	67.8	118.2	4.73	12.1	58.3	39.7	4.09	72.3	14.3	7.8
				2000	86.7	5.07	69.4	110.1	5.01	10.5	59.7	43.5	4.22	74.1	14.1	8.0
90	7.5	1.3	3.0	1650	86.7	5.28	68.7	118.7	4.81	12.5	55.0	39.5	5.02	72.1	11.0	10.2
				2000	88.3	5.23	70.5	110.9	4.95	10.5	56.3	43.4	5.17	73.9	10.9	10.6
	11.3	2.5	5.9	1650	89.8	5.39	71.4	120.4	4.88	13.0	55.3	39.2	4.76	71.5	11.6	9.6
				2000	91.0	5.24	73.1	112.1	5.09	11.0	56.6	43.0	4.90	73.3	11.5	9.9
	15.0	4.1	9.4	1650	92.9	5.51	74.1	122.1	4.94	13.5	55.6	39.0	4.49	71.0	12.4	9.0
				2000	93.7	5.25	75.8	113.4	5.23	11.5	56.9	42.7	4.64	72.8	12.3	9.2
100	7.5	1.2	2.9	1650	Operation not recommended						53.3	39.1	5.56	72.3	9.6	11.5
				2000							54.6	42.9	5.72	74.1	9.5	11.9
	11.3	2.4	5.6	1650							53.7	38.8	5.27	71.6	10.2	10.8
				2000							54.9	42.6	5.43	73.5	10.1	11.2
	15.0	3.9	9.0	1650							54.0	38.5	4.98	71.0	10.8	10.2
				2000							55.3	42.2	5.14	72.8	10.7	10.4
110	7.5	1.2	2.8	1650							51.7	38.6	6.10	72.5	8.5	12.8
				2000							52.9	42.5	6.28	74.4	8.4	13.3
	11.3	2.4	5.4	1650							52.0	38.4	5.78	71.8	9.0	12.1
				2000							53.3	42.1	5.96	73.6	8.9	12.5
	15.0	3.8	8.7	1650							52.4	38.1	5.46	71.0	9.6	11.4
				2000							53.6	41.8	5.64	72.8	9.5	11.6

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data ICM 060

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	7.5	1.6	3.7	1650	Operation not recommended						Operation not recommended					
				2000												
	11.3	3.2	7.4	1650												
				2000												
	15.0	5.1	11.8	1650	40.1	3.75	27.3	92.5	3.13	5.3						
				2000	41.1	3.86	27.9	89.0	3.12	4.5						
30	7.5	1.6	3.6	1650	42.1	3.80	29.2	93.6	3.25	6.0	68.5	45.1	2.36	76.5	29.0	2.2
				2000	43.4	3.92	30.0	90.1	3.24	5.0	69.6	47.7	2.60	78.5	26.7	1.8
	11.3	3.1	7.1	1650	44.5	3.85	31.4	95.0	3.39	6.2	68.5	44.9	2.29	76.4	29.9	2.3
				2000	45.7	3.96	32.2	91.2	3.38	5.3	69.2	47.1	2.55	77.9	27.2	1.9
	15.0	4.9	11.4	1650	46.9	3.90	33.6	96.3	3.53	6.4	68.6	44.6	2.23	76.2	30.8	2.3
				2000	48.0	4.00	34.4	92.2	3.52	5.5	68.9	46.6	2.50	77.4	27.6	2.0
40	7.5	1.5	3.5	1650	49.4	4.00	35.8	97.7	3.62	7.0	66.3	44.5	2.77	75.7	24.0	3.8
				2000	50.8	4.12	36.8	93.5	3.62	6.0	67.3	47.0	3.02	77.6	22.3	3.5
	11.3	3.0	6.9	1650	52.1	4.07	38.2	99.2	3.75	7.3	66.3	44.2	2.67	75.5	24.8	3.5
				2000	52.8	4.15	38.7	94.5	3.73	6.2	67.0	46.5	2.94	77.0	22.8	3.4
	15.0	4.8	11.1	1650	54.7	4.14	40.6	100.7	3.88	7.5	66.4	44.0	2.58	75.2	25.8	3.2
				2000	54.9	4.19	40.6	95.4	3.84	6.5	66.7	45.9	2.86	76.5	23.3	3.2
50	7.5	1.5	3.4	1650	56.7	4.20	42.4	101.8	3.96	8.0	64.0	43.9	3.17	74.9	20.2	5.4
				2000	58.2	4.31	43.5	97.0	3.96	7.0	65.0	46.3	3.44	76.8	18.9	5.2
	11.3	2.9	6.7	1650	59.6	4.29	45.0	103.4	4.07	8.3	64.1	43.6	3.05	74.6	21.0	4.8
				2000	60.0	4.35	45.2	97.8	4.05	7.2	64.8	45.8	3.33	76.1	19.4	4.8
	15.0	4.6	10.7	1650	62.5	4.38	47.6	105.1	4.18	8.6	64.3	43.4	2.93	74.3	22.0	4.1
				2000	61.8	4.38	46.8	98.6	4.13	7.5	64.5	45.3	3.23	75.5	20.0	4.4
60	7.5	1.4	3.3	1650	63.9	4.40	48.9	105.9	4.26	9.1	62.6	42.9	3.50	74.6	17.9	6.6
				2000	65.6	4.51	50.2	100.4	4.27	7.9	63.6	45.9	3.77	76.4	16.8	6.5
	11.3	2.8	6.5	1650	67.1	4.51	51.7	107.7	4.36	9.4	62.9	42.6	3.33	74.2	18.9	6.0
				2000	68.1	4.54	52.6	101.5	4.39	8.2	63.6	45.4	3.61	75.9	17.6	6.1
	15.0	4.5	10.4	1650	70.3	4.62	54.5	109.4	4.46	9.7	63.1	42.4	3.16	73.9	20.0	5.4
				2000	70.5	4.58	54.9	102.6	4.52	8.5	63.7	45.0	3.45	75.4	18.5	5.6
70	7.5	1.4	3.2	1650	71.2	4.60	55.5	109.9	4.54	10.1	61.2	41.9	3.82	74.3	16.0	7.8
				2000	73.0	4.70	57.0	103.8	4.55	8.9	62.1	45.5	4.10	76.1	15.1	7.9
	11.3	2.7	6.3	1650	74.6	4.73	58.5	111.9	4.62	10.4	61.6	41.7	3.61	73.9	17.1	7.2
				2000	76.2	4.74	60.0	105.3	4.71	9.2	62.5	45.1	3.89	75.7	16.1	7.3
	15.0	4.3	10.0	1650	78.1	4.86	61.5	113.8	4.71	10.8	62.0	41.4	3.39	73.5	18.3	6.6
				2000	79.3	4.77	63.0	106.7	4.87	9.5	62.8	44.7	3.67	75.4	17.1	6.8
80	7.5	1.3	3.1	1650	78.5	4.79	62.1	114.0	4.79	11.3	58.6	41.2	4.28	73.2	13.7	9.0
				2000	80.5	4.90	63.7	107.2	4.81	9.7	59.4	44.6	4.57	75.0	13.0	9.2
	11.3	2.6	6.1	1650	81.7	4.92	64.9	115.9	4.87	11.7	58.9	40.9	4.04	72.7	14.6	8.4
				2000	83.4	4.92	66.6	108.6	4.96	10.1	59.8	44.3	4.33	74.5	13.8	8.6
	15.0	4.2	9.7	1650	85.0	5.04	67.8	117.7	4.94	12.1	59.3	40.7	3.80	72.3	15.6	7.8
				2000	86.2	4.94	69.4	109.9	5.11	10.5	60.1	43.9	4.09	74.1	14.7	8.0
90	7.5	1.3	3.0	1650	85.7	4.99	68.7	118.1	5.03	12.5	55.9	40.4	4.73	72.1	11.8	10.2
				2000	87.9	5.10	70.5	110.7	5.05	10.5	56.7	43.8	5.04	73.9	11.3	10.6
	11.3	2.5	5.9	1650	88.8	5.11	71.4	119.8	5.10	13.0	56.3	40.2	4.47	71.5	12.6	9.6
				2000	90.5	5.11	73.1	111.9	5.20	11.0	57.0	43.5	4.77	73.3	12.0	9.9
	15.0	4.1	9.4	1650	91.9	5.22	74.1	121.6	5.16	13.5	56.6	39.9	4.21	71.0	13.5	9.0
				2000	93.2	5.12	75.8	113.2	5.34	11.5	57.4	43.1	4.51	72.8	12.7	9.2
100	7.5	1.2	2.9	1650	Operation not recommended						54.3	40.0	5.27	72.3	10.3	11.5
				2000							55.1	43.4	5.59	74.1	9.8	11.9
	11.3	2.4	5.6	1650							54.6	39.8	4.98	71.6	11.0	10.8
				2000							55.4	43.0	5.30	73.5	10.4	11.2
	15.0	3.9	9.0	1650							55.0	39.5	4.69	71.0	11.7	10.2
				2000							55.7	42.7	5.01	72.8	11.1	10.4
110	7.5	1.2	2.8	1650							52.7	39.6	5.81	72.5	9.1	12.8
				2000							53.4	42.9	6.15	74.4	8.7	13.3
	11.3	2.4	5.4	1650							53.0	39.4	5.49	71.8	9.6	12.1
				2000							53.7	42.6	5.83	73.6	9.2	12.5
	15.0	3.8	8.7	1650							53.3	39.1	5.18	71.0	10.3	11.4
				2000							54.0	42.2	5.51	72.8	9.8	11.6

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data PSC 070

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	9.0	2.2	5.1	1950	Operation not recommended						Operation not recommended					
				2400												
	13.5	4.3	9.9	1950												
				2400												
	18.0	6.9	15.9	1950	44.4	4.57	28.8	91.1	2.85	6.3						
				2400	45.7	4.51	30.3	87.6	2.97	5.4						
30	9.0	2.1	4.9	1950	48.5	4.53	33.0	93.0	3.13	7.2	76.8	51.1	3.11	87.4	24.7	2.7
				2400	48.3	4.47	33.1	88.6	3.17	6.1	78.9	55.5	3.30	90.1	23.9	2.2
	13.5	4.2	9.6	1950	50.2	4.58	34.5	93.8	3.21	7.4	76.0	50.6	3.01	86.3	25.3	2.8
				2400	50.8	4.52	35.4	89.6	3.29	6.3	77.7	54.8	3.17	88.5	24.5	2.3
	18.0	6.7	15.4	1950	51.8	4.63	36.0	94.6	3.28	7.7	75.3	50.2	2.90	85.2	25.9	2.9
				2400	53.3	4.58	37.7	90.6	3.41	6.6	76.6	54.1	3.04	86.9	25.2	2.4
40	9.0	2.1	4.8	1950	56.2	4.71	40.1	96.7	3.50	8.4	74.1	49.8	3.55	86.2	20.9	4.6
				2400	56.0	4.64	40.2	91.6	3.54	7.2	76.1	54.2	3.76	89.0	20.2	4.2
	13.5	4.0	9.3	1950	57.7	4.76	41.4	97.4	3.55	8.7	73.5	49.5	3.43	85.2	21.4	4.3
				2400	58.1	4.67	42.2	92.4	3.64	7.5	75.2	53.5	3.61	87.5	20.8	4.1
	18.0	6.5	15.0	1950	59.2	4.82	42.7	98.1	3.60	9.0	72.9	49.1	3.31	84.2	22.0	3.9
				2400	60.3	4.71	44.2	93.3	3.75	7.8	74.2	52.9	3.46	86.0	21.4	3.9
50	9.0	2.0	4.6	1950	63.9	4.88	47.2	100.3	3.84	9.7	71.5	48.6	3.98	85.1	17.9	6.6
				2400	63.6	4.81	47.3	94.6	3.88	8.3	73.4	52.9	4.23	87.8	17.4	6.2
	13.5	3.9	9.0	1950	65.2	4.94	48.4	101.0	3.87	10.0	71.0	48.3	3.85	84.2	18.4	5.8
				2400	65.4	4.83	49.0	95.2	3.97	8.7	72.6	52.3	4.06	86.4	17.9	5.8
	18.0	6.3	14.5	1950	66.5	5.00	49.5	101.6	3.90	10.3	70.6	48.0	3.72	83.3	19.0	5.0
				2400	67.2	4.85	50.7	95.9	4.06	9.0	71.8	51.7	3.89	85.1	18.5	5.3
60	9.0	1.9	4.5	1950	71.3	5.10	53.9	103.8	4.10	10.9	69.1	47.6	4.36	83.9	15.8	8.0
				2400	71.3	4.98	54.3	97.5	4.20	9.5	71.3	52.1	4.62	87.1	15.4	7.8
	13.5	3.8	8.7	1950	72.6	5.14	55.1	104.5	4.14	11.3	69.3	47.8	4.22	83.7	16.4	7.2
				2400	73.2	5.02	56.0	98.2	4.27	9.8	71.3	51.9	4.43	86.4	16.1	7.3
	18.0	6.1	14.0	1950	73.9	5.18	56.2	105.1	4.18	11.6	69.5	48.0	4.08	83.4	17.0	6.4
				2400	75.0	5.07	57.7	98.9	4.34	10.2	71.2	51.6	4.25	85.7	16.8	6.7
70	9.0	1.9	4.3	1950	78.6	5.31	60.5	107.3	4.34	12.2	66.7	46.7	4.73	82.8	14.1	9.4
				2400	79.0	5.15	61.4	100.5	4.50	10.6	69.3	51.3	5.02	86.4	13.8	9.4
	13.5	3.7	8.4	1950	80.0	5.34	61.7	108.0	4.39	12.5	67.5	47.3	4.59	83.2	14.7	8.6
				2400	80.9	5.22	63.1	101.2	4.54	11.0	70.0	51.4	4.81	86.4	14.5	8.8
	18.0	5.9	13.6	1950	81.3	5.36	63.0	108.6	4.44	12.9	68.4	47.9	4.45	83.6	15.4	7.9
				2400	82.8	5.29	64.8	102.0	4.59	11.4	70.7	51.6	4.61	86.4	15.3	8.2
80	9.0	1.8	4.2	1950	86.3	5.49	67.5	111.0	4.60	13.6	63.7	45.2	5.20	81.5	12.3	10.8
				2400	86.6	5.32	68.5	103.4	4.78	11.6	66.2	49.6	5.51	85.0	12.0	11.0
	13.5	3.5	8.2	1950	86.7	5.51	67.9	111.2	4.61	14.0	64.6	45.8	5.04	81.8	12.8	10.0
				2400	87.7	5.38	69.4	103.8	4.78	12.1	66.9	49.8	5.28	84.9	12.7	10.3
	18.0	5.7	13.1	1950	87.1	5.53	68.3	111.4	4.62	14.5	65.4	46.4	4.89	82.1	13.4	9.3
				2400	88.8	5.45	70.2	104.3	4.78	12.6	67.6	50.0	5.06	84.8	13.4	9.6
90	9.0	1.7	4.0	1950	93.9	5.67	74.6	114.6	4.86	15.0	60.8	43.7	5.66	80.1	10.7	12.2
				2400	94.3	5.49	75.6	106.4	5.04	12.7	63.2	48.0	6.00	83.6	10.5	12.6
	13.5	3.4	7.9	1950	93.4	5.68	74.1	114.4	4.82	15.5	61.6	44.3	5.50	80.3	11.2	11.5
				2400	94.5	5.55	75.6	106.5	4.99	13.2	63.8	48.2	5.76	83.4	11.1	11.8
	18.0	5.5	12.7	1950	93.0	5.69	73.6	114.1	4.79	16.1	62.4	44.9	5.33	80.5	11.7	10.8
				2400	94.8	5.61	75.6	106.6	4.95	13.8	64.4	48.3	5.51	83.2	11.7	11.0
100	9.0	1.7	3.9	1950	Operation not recommended						58.1	43.1	6.30	79.6	9.2	13.7
				2400							60.4	47.4	6.68	83.2	9.1	14.3
	13.5	3.3	7.6	1950							58.9	43.7	6.11	79.8	9.6	13.0
				2400							61.0	47.6	6.40	82.9	9.5	13.4
	18.0	5.3	12.2	1950							59.7	44.3	5.93	79.9	10.1	12.2
				2400							61.6	47.7	6.13	82.6	10.1	12.4
110	9.0	1.6	3.7	1950							55.5	42.6	6.93	79.2	8.0	15.3
				2400							57.7	46.8	7.35	82.8	7.9	15.9
	13.5	3.2	7.3	1950							56.2	43.2	6.73	79.2	8.4	14.4
				2400							58.3	46.9	7.05	82.3	8.3	14.9
	18.0	5.1	11.7	1950							57.0	43.8	6.52	79.2	8.7	13.6
				2400							58.9	47.1	6.75	81.9	8.7	13.9

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Performance Data ICM 070

Performance capacities shown in thousands of Btuh.

EWT °F	GPM	WPD		CFM	HEATING - EAT 70°F						COOLING - EAT 80/67 °F					
		PSI	FT		HC	KW	HE	LAT	COP	HWC	TC	SC	KW	HR	EER	HWC
20	9.0	2.2	5.1	1950	Operation not recommended						Operation not recommended					
				2300												
	13.5	4.3	9.9	1950												
				2300												
	18.0	6.9	15.9	1950	43.3	4.23	28.8	90.5	3.00	6.3						
				2300	45.0	4.30	30.3	88.1	3.07	5.4						
30	9.0	2.1	4.9	1950	47.4	4.19	33.0	92.5	3.31	7.2	77.9	52.2	2.77	87.4	28.1	2.7
				2300	47.6	4.25	33.1	89.2	3.28	6.1	79.6	56.3	3.09	90.1	25.8	2.2
	13.5	4.2	9.6	1950	49.0	4.24	34.5	93.3	3.38	7.4	77.2	51.8	2.67	86.3	28.9	2.8
				2300	50.1	4.31	35.4	90.2	3.41	6.3	78.5	55.5	2.96	88.5	26.5	2.3
	18.0	6.7	15.4	1950	50.6	4.29	36.0	94.0	3.46	7.7	76.4	51.4	2.56	85.2	29.8	2.9
				2300	52.6	4.36	37.7	91.2	3.53	6.6	77.3	54.8	2.82	86.9	27.4	2.4
40	9.0	2.1	4.8	1950	55.0	4.37	40.1	96.1	3.69	8.4	75.3	51.0	3.21	86.2	23.5	4.6
				2300	55.2	4.42	40.2	92.2	3.66	7.2	76.9	54.9	3.55	89.0	21.7	4.2
	13.5	4.0	9.3	1950	56.5	4.42	41.4	96.8	3.75	8.7	74.7	50.6	3.09	85.2	24.2	4.3
				2300	57.4	4.46	42.2	93.1	3.77	7.5	75.9	54.3	3.40	87.5	22.3	4.1
	18.0	6.5	15.0	1950	58.0	4.48	42.7	97.5	3.80	9.0	74.1	50.3	2.97	84.2	24.9	3.9
				2300	59.5	4.50	44.2	94.0	3.88	7.8	74.9	53.6	3.25	86.0	23.1	3.9
50	9.0	2.0	4.6	1950	62.7	4.54	47.2	99.8	4.05	9.7	72.6	49.8	3.64	85.1	19.9	6.6
				2300	62.9	4.59	47.2	95.3	4.02	8.3	74.1	53.6	4.01	87.8	18.5	6.2
	13.5	3.9	9.0	1950	64.1	4.60	48.4	100.4	4.08	10.0	72.2	49.5	3.51	84.2	20.6	5.8
				2300	64.7	4.61	49.0	96.0	4.11	8.7	73.3	53.0	3.84	86.4	19.1	5.8
	18.0	6.3	14.5	1950	65.4	4.66	49.5	101.0	4.11	10.3	71.7	49.2	3.38	83.3	21.2	5.0
				2300	66.5	4.64	50.7	96.8	4.20	9.0	72.5	52.4	3.68	85.1	19.7	5.3
60	9.0	1.9	4.5	1950	70.1	4.76	53.9	103.3	4.32	10.9	70.2	48.8	4.02	83.9	17.5	8.0
				2300	70.6	4.76	54.3	98.4	4.34	9.5	72.1	52.8	4.41	87.1	16.4	7.8
	13.5	3.8	8.7	1950	71.4	4.80	55.1	103.9	4.36	11.3	70.4	49.0	3.88	83.7	18.2	7.2
				2300	72.4	4.81	56.0	99.2	4.42	9.8	72.0	52.6	4.22	86.4	17.1	7.3
	18.0	6.1	14.0	1950	72.7	4.84	56.2	104.5	4.40	11.6	70.7	49.1	3.74	83.4	18.9	6.4
				2300	74.3	4.85	57.7	99.9	4.48	10.2	72.0	52.4	4.03	85.7	17.8	6.7
70	9.0	1.9	4.3	1950	77.5	4.97	60.5	106.8	4.56	12.2	67.8	47.8	4.39	82.8	15.4	9.4
				2300	78.2	4.93	61.4	101.5	4.65	10.6	70.0	52.0	4.80	86.4	14.6	9.4
	13.5	3.7	8.4	1950	78.8	5.00	61.7	107.4	4.62	12.5	68.7	48.5	4.25	83.2	16.2	8.6
				2300	80.2	5.00	63.1	102.3	4.70	11.0	70.7	52.2	4.60	86.4	15.4	8.8
	18.0	5.9	13.6	1950	80.1	5.02	63.0	108.0	4.68	12.9	69.6	49.1	4.11	83.6	16.9	7.9
				2300	82.1	5.07	64.8	103.0	4.74	11.4	71.4	52.3	4.39	86.4	16.3	8.2
80	9.0	1.8	4.2	1950	85.1	5.15	67.5	110.4	4.84	13.6	64.9	46.3	4.86	81.5	13.4	10.8
				2300	85.9	5.10	68.5	104.6	4.94	11.6	67.0	50.4	5.29	85.0	12.6	11.0
	13.5	3.5	8.2	1950	85.5	5.17	67.9	110.6	4.85	14.0	65.7	47.0	4.70	81.8	14.0	10.0
				2300	87.0	5.17	69.3	105.0	4.93	12.1	67.6	50.5	5.07	84.9	13.3	10.3
	18.0	5.7	13.1	1950	86.0	5.19	68.3	110.8	4.86	14.5	66.5	47.6	4.55	82.1	14.6	9.3
				2300	88.1	5.23	70.2	105.4	4.93	12.6	68.3	50.7	4.85	84.8	14.1	9.6
90	9.0	1.7	4.0	1950	92.7	5.33	74.6	114.0	5.10	15.0	61.9	44.9	5.32	80.1	11.6	12.2
				2300	93.6	5.27	75.6	107.7	5.20	12.7	63.9	48.7	5.79	83.6	11.0	12.6
	13.5	3.4	7.9	1950	92.3	5.34	74.1	113.8	5.07	15.5	62.7	45.5	5.16	80.3	12.2	11.5
				2300	93.8	5.33	75.6	107.8	5.15	13.2	64.5	48.9	5.54	83.4	11.6	11.8
	18.0	5.5	12.7	1950	91.8	5.35	73.6	113.6	5.03	16.1	63.5	46.1	4.99	80.5	12.7	10.8
				2300	94.0	5.40	75.6	107.8	5.11	13.8	65.2	49.1	5.30	83.3	12.3	11.0
100	9.0	1.7	3.9	1950	Operation not recommended						59.3	44.3	5.96	79.6	10.0	13.7
				2300							61.2	48.1	6.46	83.2	9.5	14.3
	13.5	3.3	7.6	1950							60.1	44.9	5.77	79.8	10.4	13.0
				2300							61.8	48.3	6.19	82.9	10.0	13.4
	18.0	5.3	12.2	1950							60.8	45.5	5.59	79.9	10.9	12.2
				2300							62.4	48.4	5.92	82.6	10.5	12.4
110	9.0	1.6	3.7	1950							56.7	43.7	6.59	79.2	8.6	15.3
				2300							58.4	47.5	7.14	82.8	8.2	15.9
	13.5	3.2	7.3	1950							57.4	44.3	6.39	79.2	9.0	14.4
				2300							59.0	47.7	6.84	82.3	8.6	14.9
	18.0	5.1	11.7	1950							58.1	44.9	6.18	79.2	9.4	13.6
				2300							59.6	47.8	6.54	81.9	9.1	13.9

Interpolation is permissable, extrapolation is not.

Rev: 12/12/03 B

All entering air conditions are 80°F DB and 67°F WB in cooling and 70°F DB in heating.

All performance data is based upon the lower voltage of dual voltage rated units.

Operation below 40°F EWT is based on 15% antifreeze solution.

See performance correction tables for operating conditions other than those listed above.

Table does not reflect fan or pump power ISO corrections.

Physical Data

Model	015	018	024	030	036	042	048	060	070
Compressor (1 each)	Rotary		Scroll						
Factory Charge R22 - (oz.)	44	44	48	48	60	74	74	102	104
PSC Fan Motor & Blower									
Fan Motor Type/Speeds	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3	PSC/3
Fan Motor (hp)	1/6	1/6	1/5	1/3	1/2	1/2	3/4	3/4	1
Blower Wheel Size (Dia x W)	9 x 7	9 x 7	9 x 7	9 x 7	9 x 7	10 x 10	10 x 10	11 x 10	11 x 10
ICM Fan Motor & Blower									
Fan Motor Type	ICM	ICM	ICM	ICM	ICM	ICM	ICM	ICM	ICM
Fan Motor (hp)	1/2	1/2	1/2	1/2	1/2	1/2	1	1	1
Blower Wheel Size (Dia x W)	9 x 7	9 x 7	9 x 7	9 x 7	9 x 7	11 x 10	11 x 10	11 x 10	11 x 10
Water Connection Size									
Swivel - Distributor Class	1"	1"	1"	1"	1"	1"	1"	1"	1"
FPT - All Other	3/4"	3/4"	3/4"	3/4"	3/4"	1"	1"	1"	1"
HWG Water Connection Size									
Swivel - Distributor Class	1"	1"	1"	1"	1"	1"	1"	1"	1"
FPT - All Other	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Vertical									
Air Coil Dimensions (H x W)	20 x 20		24 x 20		28 x 20	28 x 25		32 x 25	36 x 25
Air Coil Total Face Area (ft2)	2.8		3.3		3.9	4.9		5.6	6.3
Air Coil Tube Size (in.)	3/8					3/8			
Air Coil Fin Spacing (fpi)	12					10			
Air Coil Number of rows	3					4			
Filter Standard - 1" Throwaway	20 x 24		24 x 24		2 -14 x 24	2-14 x 30		2-10 x 30 1-12 x 30	3-12 x 30
Filter Optional Electrostatic - 1"	AES2024		AES2424		AES2824	AES2830		AES3230	AES3630
Weight - Operating (lbs.)	174	184	250	252	266	323	327	416	443
Weight - Packaged (lbs.)	184	194	260	262	276	333	337	426	453
Horizontal									
Air Coil Dimensions (H x W)	18 x 22		18 x 27		18 x 31	20 x 35		20 x 40	20 x 45
Air Coil Total Face Area (ft2)	2.8		3.4		3.9	4.9		5.6	6.3
Air Coil Tube Size (in.)	3/8					3/8			
Air Coil Fin Spacing (fpi)	12					10			
Air Coil Number of rows	3					4			
Filter Standard - 1" Throwaway	18 x 24		2 - 18 x 18		2 - 18 x 18	2-12 x 20 1-20 x 25		1-18 x 20 1-24 x 20	2 x 24 x 20
Filter Optional Electrostatic - 1"	AES1824		AES1836		AES1836	AES2037		AES2042	AES2048
Weight - Operating (lbs.)	179	189	250	252	266	323	327	416	443
Weight - Packaged (lbs.)	189	199	260	262	276	333	337	426	453

All units have grommet compressor mounting, TXV expansion devices, 20 ga sheet metal, and 1/2" & 3/4" & 3/4" electrical knockouts.

Rev.: 6/08/04D

PSC Blower Performance Data

Model	Fan Spd	Airflow (cfm) at External Static Pressure (in. wg)														
		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
	H	780	770	760	760	750	740	720	700	660	640	610	-	-	-	-
015	**M**	740	720	710	700	690	670	660	640	620	600	-	-	-	-	-
	L	630	610	610	600	590	580	570	550	530	510	-	-	-	-	-
	H	780	770	760	760	750	740	720	700	660	640	610	-	-	-	-
018	**M**	740	720	710	700	690	670	660	640	620	600	-	-	-	-	-
	L	630	610	610	600	590	580	570	550	530	510	-	-	-	-	-
	H	1070	1040	1010	980	950	930	900	870	840	800	710	-	-	-	-
024	**M**	900	890	870	850	830	810	780	760	730	700	-	-	-	-	-
	L	800	780	760	740	730	710	680	660	630	610	-	-	-	-	-
	H	1170	1150	1130	1100	1080	1060	1030	1010	980	960	840	-	-	-	-
030	**M**	1090	1060	1040	1010	980	940	920	890	860	830	-	-	-	-	-
	L	940	920	910	890	870	850	830	800	780	750	-		-	-	-
	H	1360	1330	1290	1260	1230	1200	1160	1130	1090	1060	960	860	-	-	-
036	**M**	1220	1190	1170	1140	1110	1080	1050	1020	980	940	-	-	-	-	-
	L	1070	1060	1050	1040	1020	1000	980	950	930	900	-	-	-	-	-
	H	-	-	1780	1700	1620	1610	1580	1540	1490	1430	1340	1210	-	-	-
042	**M**	1550	1520	1500	1480	1450	1430	1400	1370	1330	1290	-	-	-	-	-
	L	1220	1210	1190	1180	1170	1160	1130	1100	1060	1030	-	-	-	-	-
	H	-	-	1890	1850	1810	1770	1720	1660	1630	1600	1450	1320	1200	-	-
048	**M**	1740	1700	1660	1620	1580	1530	1500	1470	1420	1380	-	-	-	-	-
	L	1360	1340	1310	1300	1270	1250	1220	1190	1150	1110	-	-	-	-	-
	H	-	-	-	-	2220	2200	2170	2140	2110	2080	2020	1940	1840	1710	1641
060	**M**	2140	2110	2090	2070	2040	2020	2000	1980	1950	1920	1870	1869	-	-	-
	L	1910	1890	1880	1860	1840	1820	1800	1790	1760	1730	-	-	-	-	-
	H	-	-	-	-	2500	2480	2440	2400	2370	2350	2280	2200	2060	1920	1779
070	**M**	2460	2430	2400	2380	2350	2330	2300	2280	2250	2220	2160	2080	-	-	-
	L	2130	2120	2110	2090	2070	2050	2030	2000	1980	1940	-	-	-	-	-

Includes allowance for wet coil and clean factory-installed filter.
Factory settings are indicated in bold print.
(-) operation not recommended.

Rev.: 6/08/04D

ICM Blower Performance Data

ICM2 Model	Max ESP (in wg)	Fan Motor (hp)	HP CFM Setting	Normal Mode Htg & Normal Clg			Dehumid Mode Dehumid Clg			Aux CFM Setting	Aux Emerg Mode
				Stg 2	Stg 1	Fan	Stg 2	Stg 1	Fan		
			4	540	440	270	420	340	270	4	540
015	**0.5**	**1/2**	**3**	**500**	**410**	**250**	**390**	**320**	**250**	**3**	**500**
			2	460	380	230	360	300	230	2	460
			1	430	350	210	340	270	210	1	430
			4	650	530	320	510	410	320	4	650
018	**0.5**	**1/2**	**3**	**600**	**490**	**300**	**470**	**380**	**300**	**3**	**600**
			2	560	460	280	440	360	280	2	560
			1	510	420	260	400	330	260	1	510
			4	860	710	430	670	550	430	4	860
024	**0.5**	**1/2**	**3**	**800**	**660**	**400**	**620**	**510**	**400**	**3**	**800**
			2	740	610	370	580	480	370	2	740
			1	680	560	340	530	440	340	1	680
			4	1080	880	540	840	690	540	4	1080
030	**0.5**	**1/2**	**3**	**1000**	**820**	**500**	**780**	**640**	**500**	**3**	**1000**
			2	930	760	460	730	590	460	2	930
			1	850	700	430	660	550	430	1	850
			4	1290	1060	650	1010	830	650	4	1290
036	**0.5**	**1/2**	**3**	**1200**	**980**	**600**	**940**	**760**	**600**	**3**	**1200**
			2	1110	910	560	870	710	560	2	1110
			1	1020	840	510	800	660	510	1	1020
			4	1510	1230	750	1180	960	750	4	1510
042	**0.5**	**1/2**	**3**	**1400**	**1150**	**700**	**1090**	**900**	**700**	**3**	**1400**
			2	1300	1060	650	1010	830	650	2	1300
			1	1190	980	600	930	760	600	1	1190
			4	1720	1410	860	1340	1100	860	4	1720
048	**0.75**	**1**	**3**	**1600**	**1310**	**800**	**1250**	**1020**	**800**	**3**	**1600**
			2	1480	1210	740	1150	940	740	2	1480
			1	1360	1120	680	1060	870	680	1	1360
			4	2150	1760	1080	1680	1370	1080	4	2150
060	**0.75**	**1**	**3**	**2000**	**1640**	**1000**	**1560**	**1280**	**1000**	**3**	**2000**
			2	1850	1520	930	1440	1190	930	2	1850
			1	1700	1390	850	1330	1080	850	1	1700
			4	2580	2120	1290	2010	1650	1290	4	2580
070	**0.75**	**1**	**3**	**2400**	**1970**	**1200**	**1870**	**1540**	**1200**	**3**	**2400**
			2	2220	1820	1110	1730	1420	1110	2	2220
			1	2040	1670	1020	1590	1300	1020	1	2040

Rev: 2/26/01M

Bold/shaded figures indicate factory settings.

During Auxiliary operation the CFM will run at the higher of the HP or AUX settings.

Airflow is controlled within ± 5% up to Max ESP shown with wet coil and 1" throwaway filter.

Do not select Dehumidification mode if HP CFM is on setting 1.

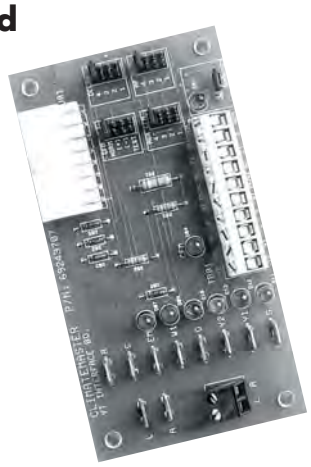
GT-G ICM Option Control Features

Air Flow Selection

Air flow selection is accomplished via 3 jumper switches on the ICM2 control board. Actual airflow is indicated by the CFM LED with each 100 CFM being represented by one flash of the LED. Refer to the GT-G ICM airflow table for detailed information on air flow choices. Air flow is automatically maintained (±5%) by the ICM2 motor regardless of external static pressure up to its maximum output capacity.

ICM2 Control Board

- Airflow selection
- Dehumidification mode
- CFM LED
- Thermostat diagnostic LEDs



ICM2 Control Board Field Selection Jumpers

Dehumidification Jumper - This jumper allows the selection of dehumidification mode which reduces airflow in cooling by 25% to increase the moisture removal capacity of the unit. This mode should not be selected if the 'HP CFM' is on setting 1.

Fan Speed Selection Jumper 'HP CFM' - This jumper provides a 'rough' selection of airflow. 4 is the highest airflow and 1 is the lowest airflow setting.

Fan Speed Selection Jumper 'CFM ADJ' - This jumper provides a 'fine' selection of airflow for the unit. CFM ADJ + increases airflow, CFM ADJ - decreases airflow and CFM Normal is the factory position.

Fan Speed Selection Jumper 'AUX CFM' - This jumper provides airflow selection during auxiliary heating. The auxiliary heat airflow will be the higher of the 'HP CFM' or 'AUX CFM' settings. 4 is the highest airflow and 1 is the lowest airflow setting.

Fan Delay Selection Jumper 'DELAY' - This jumper is for factory use and the factory setting is 4.

Note: To achieve full benefit of the ICM blower a 3Heat / 2Cool thermostat should be employed. The first two stages of thermostats call for fan speed changes.

PSC Electrical Data

Model	Compressor			Fan Motor	HWG Pump	External Pump	Total Unit	Min Circ	Max Fuse/	Supply Wire	
	MCC	RLA	LRA	FLA	FLA	FLA	FLA	Amp	HACR	Min AWG	Max Ft
015	7.7	4.8	26	1.0	0.4	4.0	10.2	11.4	15	12	100
018	11.0	7.1	38	1.0	0.4	4.0	12.5	14.2	20	12	80
024	16.0	10.3	56	1.0	0.4	4.0	15.6	18.1	25	10	110
030	19.0	12.2	67	1.4	0.4	4.0	17.9	21.0	30	10	90
036	21.0	13.5	73	1.8	0.4	4.0	19.6	23.0	35	10	80
042	25.8	16.5	95	2.0	0.4	4.0	22.9	27.0	40	8	110
048	28.6	18.3	109	3.0	0.4	4.0	25.7	30.3	45	6	160
060	39.0	25.0	169	3.4	0.4	4.0	32.7	39.0	60	6	120
070	45.0	28.8	169	4.3	0.4	4.0	37.5	44.7	70	6	110

Rev.: 2/26/01M

All with 208-230/60/1 rated voltage.
Wire size based on 60°C copper conductor.
All fuses are class RK-5.
Voltage min/max of 197/254.
HACR circuit breaker in USA only.
Wire length based on one way measurement with 2% voltage drop.

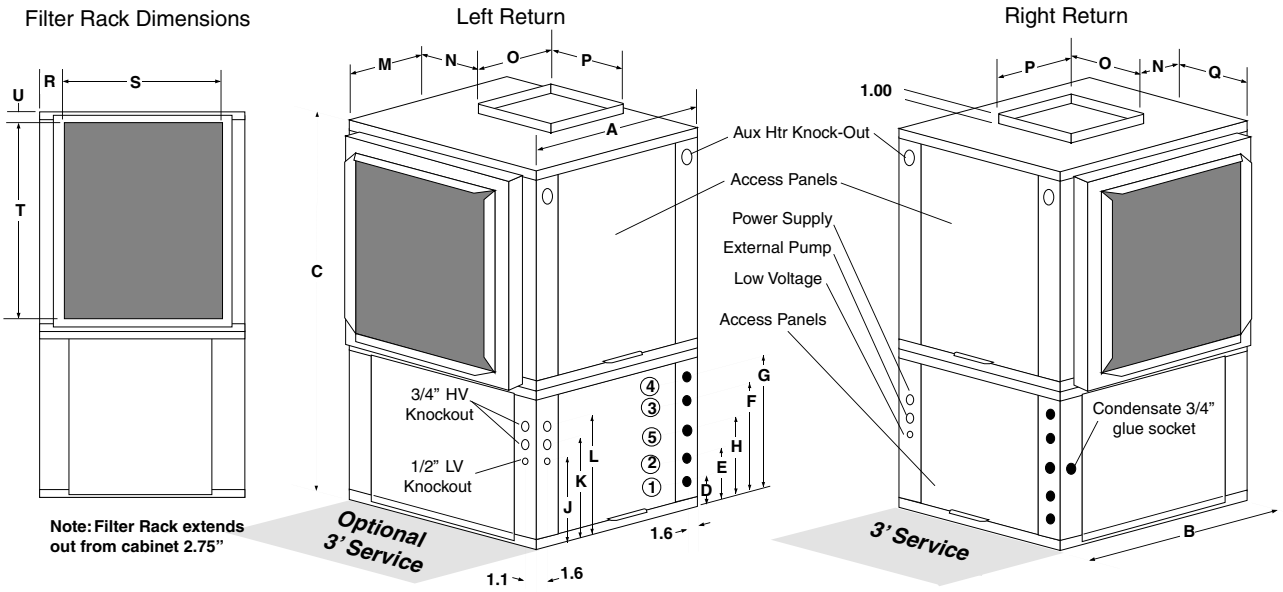
ICM Electrical Data

Model	Compressor				HWG Pump	Ext Loop	Fan Motor	Total Unit	Min Circ	Max Fuse/	Supply Wire	
	MCC	RLA	LRA	Qty	FLA	FLA	FLA	FLA	Amp	HACR	Min AWG	Max Ft
015	7.7	4.8	26.0	1	0.4	4.0	5.0	14.2	15.4	20	12	70
018	11.0	7.1	38.0	1	0.4	4.0	5.0	16.5	18.2	25	12	60
024	16.0	10.3	56.0	1	0.4	4.0	5.0	19.6	22.2	30	10	90
030	19.0	12.2	67.0	1	0.4	4.0	5.0	21.5	24.6	35	8	120
036	21.0	13.5	73.0	1	0.4	4.0	5.0	22.8	26.2	35	8	110
042	25.8	16.5	95.0	1	0.4	4.0	5.0	25.9	30.0	45	6	160
048	28.6	18.3	109.0	1	0.4	4.0	7.4	30.1	34.7	50	6	140
060	39.0	25.0	169.0	1	0.4	4.0	7.4	36.7	43.0	60	6	110
070	45.0	28.8	169.0	1	0.4	4.0	7.4	40.6	47.8	70	6	100

Rev.: 2/26/01M

Rated Voltage of 208/230/60/1.
Wire size based on 60°C or 90°C (6 awg) copper conductor.
Wire length based on one way measurement with 2% voltage drop.
Min/Max Voltage of 197/254.
All fuses Class RK-5.
HACR circuit breaker in USA only.

Upflow Dimensional Data

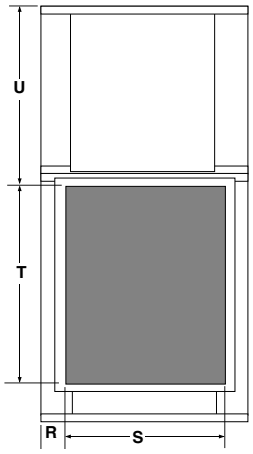


Upflow Model		Overall Cabinet			Water Connections*					Elect Knockouts			Discharge Connection					Return Connection			
					1	2	3	4	5												
		A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U
		Width	Depth	Height	In	Out	HWG In	HWG Out	Cond-ensate	Low Voltage	Ext Pump	Power Supply			Supply Width	Supply Depth			Return Depth	Return Height	
015-018	in.	22.4	25.6	40.4	2.4	5.4	13.9	16.9	9.8	6.0	9.5	12.0	7.2	5.8	14.0	14.0	4.3	1.8	22.3	18.2	1.6
	cm.	56.8	65.1	102.6	6.1	13.7	35.3	42.9	24.9	15.2	24.1	30.5	18.3	14.7	35.6	35.6	10.9	4.6	56.6	46.2	4.1
024-030	in.	22.4	25.6	44.4	2.4	5.4	13.9	16.9	9.8	6.0	9.5	12.0	7.2	5.8	14.0	14.0	4.3	1.8	22.3	22.2	1.6
	cm.	56.8	65.1	112.8	6.1	13.7	35.3	42.9	24.9	15.2	24.1	30.5	18.3	14.7	35.6	35.6	10.9	4.6	56.6	56.4	4.1
036	in.	22.4	25.6	48.4	2.4	5.4	13.9	16.9	9.8	6.0	9.5	12.0	7.2	5.8	14.0	14.0	4.3	1.8	22.3	26.2	1.6
	cm.	56.8	65.1	122.9	6.1	13.7	35.3	42.9	24.9	15.2	24.1	30.5	18.3	14.7	35.6	35.6	10.9	4.6	56.6	66.5	4.1
042-048	in.	25.4	30.6	50.4	2.4	5.4	15.9	18.9	10.8	8.0	11.5	14.0	6.2	6.3	18.0	18.0	5.1	1.5	27.8	26.2	1.5
	cm.	64.5	77.8	128.0	6.1	13.7	40.4	48.0	27.4	20.3	29.2	35.6	15.7	16.0	45.7	45.7	13.0	3.8	70.6	66.5	3.8
060	in.	25.4	30.6	54.4	2.4	5.4	15.9	18.9	10.8	8.0	11.5	14.0	6.2	6.3	18.0	18.0	5.1	1.5	27.8	30.2	1.5
	cm.	64.5	77.8	138.2	6.1	13.7	40.4	48.0	27.4	20.3	29.2	35.6	15.7	16.0	45.7	45.7	13.0	3.8	70.6	76.7	3.8
070	in.	25.4	30.6	58.4	2.4	5.4	15.9	18.9	10.8	8.0	11.5	14.0	6.2	6.3	18.0	18.0	5.1	1.5	27.8	34.2	1.5
	cm.	64.5	77.8	148.3	6.1	13.7	40.4	48.0	27.4	20.3	29.2	35.6	15.7	16.0	45.7	45.7	13.0	3.8	70.6	86.9	3.8

* Water Connections for 'Distributor cabinet' code are 1" swivel for both water and HWG circuit.
See Physical Data Table for water connection sizes
Condensate is 3/4" PVC female glue socket and is switchable from side to front

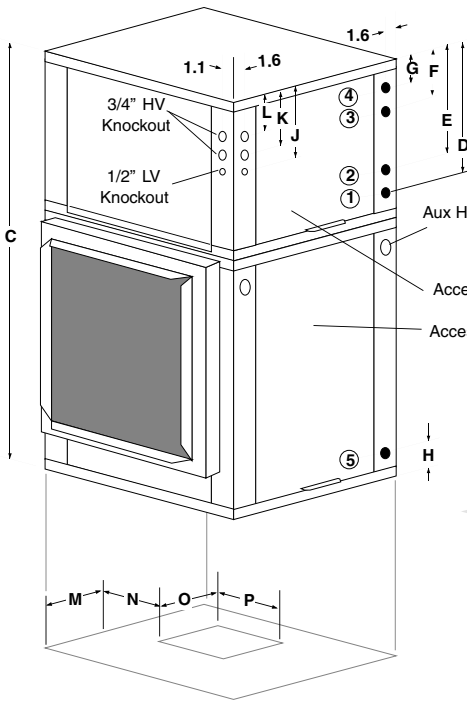
Downflow Dimensional Data

Filter Rack Dimensions



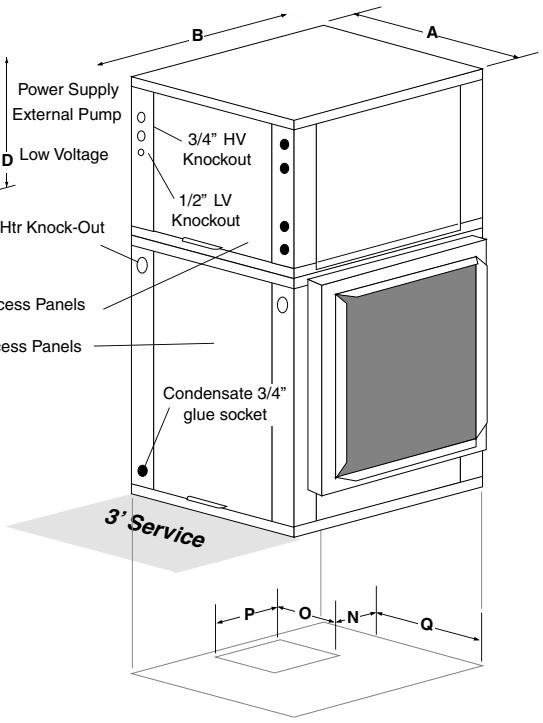
Note: Filter Rack extends out from cabinet 2.75"

Left Return



Discharge Dimensions

Right Return

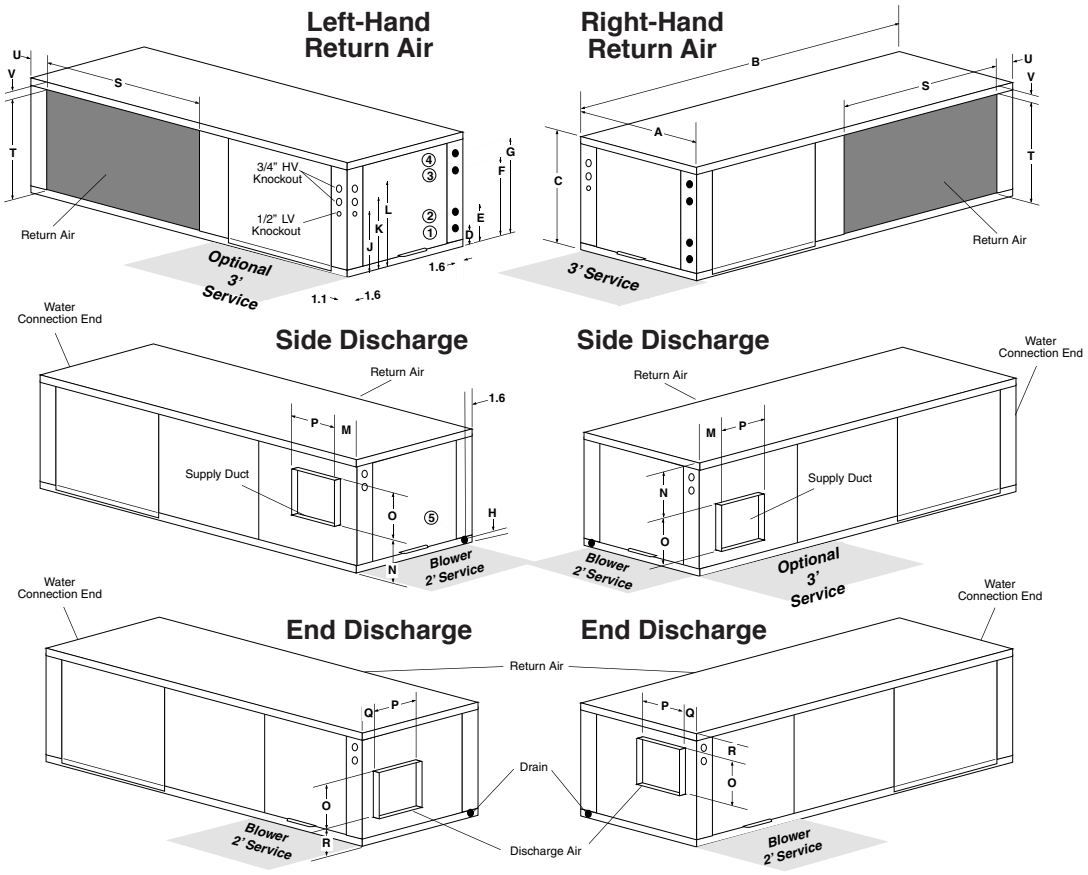


Discharge Dimensions

Downflow Model		Overall Cabinet			Water Connections*					Elect Knockouts			Discharge Connection					Return Connection			
					1	2	3	4	5												
		A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U
		Width	Depth	Height	In	Out	HWG In	HWG Out	Cond-ensate	Low Voltage	Ext Pump	Power Supply			Supply Width	Supply Depth			Return Depth	Return Height	
015-018	in.	22.4	25.6	44.4	16.9	13.9	5.4	2.4	3.5	13.0	9.5	7.0	6.1	8.2	10.4	9.3	11.0	1.8	22.3	18.2	21.1
	cm.	56.8	65.1	112.8	42.9	35.3	13.7	6.1	8.9	33.0	24.1	17.8	15.4	20.8	26.4	23.5	27.9	4.6	56.6	46.2	53.6
024-030	in.	22.4	25.6	48.4	16.9	13.9	5.4	2.4	3.5	13.0	9.5	7.0	6.1	8.2	10.4	9.3	11.0	1.8	22.3	22.2	21.1
	cm.	56.8	65.1	122.9	42.9	35.3	13.7	6.1	8.9	33.0	24.1	17.8	15.4	20.8	26.4	23.5	27.9	4.6	56.6	56.4	53.6
036	in.	22.4	25.6	52.4	16.9	13.9	5.4	2.4	3.5	13.0	9.5	7.0	6.1	8.2	10.4	9.3	11.0	1.8	22.3	26.2	21.1
	cm.	56.8	65.1	133.1	42.9	35.3	13.7	6.1	8.9	33.0	24.1	17.8	15.4	20.8	26.4	23.5	27.9	4.6	56.6	66.5	53.6
042-048	in.	25.4	30.6	54.4	18.9	15.9	5.4	2.4	3.5	13.0	9.5	7.0	7.2	8.7	13.6	13.3	10.8	1.5	27.8	26.2	23.0
	cm.	64.5	77.8	138.2	48.0	40.4	13.7	6.1	8.9	33.0	24.1	17.8	18.3	22.1	34.4	33.7	27.5	3.8	70.6	66.5	58.4
060	in.	25.4	30.6	58.4	18.9	15.9	5.4	2.4	3.5	13.0	9.5	7.0	7.2	8.7	13.6	13.3	10.8	1.5	27.8	30.2	23.0
	cm.	64.5	77.8	148.3	48.0	40.4	13.7	6.1	8.9	33.0	24.1	17.8	18.3	22.1	34.4	33.7	27.5	3.8	70.6	76.7	58.4
070	in.	25.4	30.6	62.4	18.9	15.9	5.4	2.4	3.5	13.0	9.5	7.0	7.2	8.7	13.6	13.3	10.8	1.5	27.8	34.2	23.0
	cm.	64.5	77.8	158.5	48.0	40.4	13.7	6.1	8.9	33.0	24.1	17.8	18.3	22.1	34.4	33.7	27.5	3.8	70.6	86.9	58.4

* Water Connections for 'Distributor cabinet' code are 1" swivel for both water and HWG circuit.
See Physical Data Table for water connection sizes
Condensate is 3/4" PVC female glue socket and is switchable from side to front

Horizontal Dimensional Data

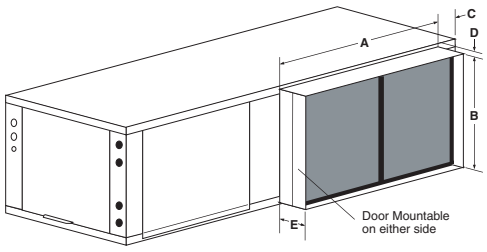


Horizontal Model	Overall Cabinet			Water Connections*					Electrical Knockouts			Discharge Connection						Return Connection			
				1	2	3	4	5													
	A Width	B Depth	C Height	D In	E Out	F HWG In	G HWG Out	H Cond-ensate	J Low Voltage	K Ext Pump	L Power Supply	M	N	O Supply Height	P Supply Depth	Q	R	S Return Depth	T Return Height	U	V
015-018	22.4	53.0	19.3	2.4	5.4	13.9	16.9	0.5	6.0	9.5	12.0	4.3	1.8	10.4	9.3	4.3	1.8	22.1	17.0	2.5	1.0
024-030	22.4	63.0	19.3	2.4	5.4	13.9	16.9	0.5	6.0	9.5	12.0	4.3	1.8	10.4	9.3	4.3	1.8	28.1	17.0	6.5	1.0
036	22.4	63.0	19.3	2.4	5.4	13.9	16.9	0.5	6.0	9.5	12.0	4.3	1.8	10.4	9.3	4.3	1.8	31.1	17.0	3.5	1.0
042-048	25.4	72.0	21.3	2.4	5.4	15.9	18.9	0.5	8.0	11.5	14.0	5.0	1.9	13.6	13.3	5.0	1.9	36.1	19.0	2.5	1.0
060	25.4	77.0	21.3	2.4	5.4	15.9	18.9	0.5	8.0	11.5	14.0	5.0	1.9	13.6	13.3	5.0	1.9	41.1	19.0	2.5	1.0
070	25.4	82.0	21.3	2.4	5.4	15.9	18.9	0.5	8.0	11.5	14.0	5.0	1.9	13.6	13.3	5.0	1.9	46.1	19.0	2.5	1.0

* Water Connections for residential units (distributor class) code are swivel for both water and HWG circuit.
See Physical Data Table for water connection sizes.
Condensate is 1/2" copper sweat with kit for PVC 3/4" female glue as alternate.

Rev.: 2/26/01M

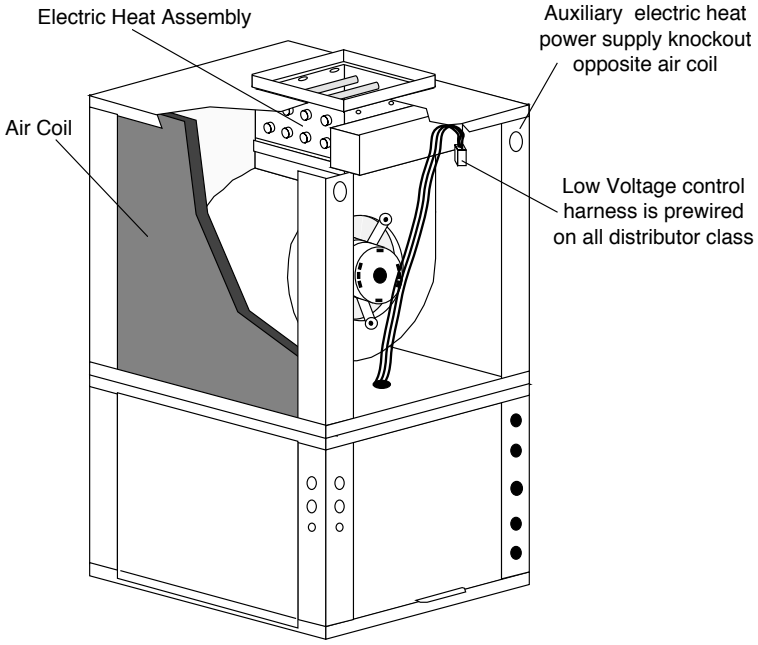
Optional Horizontal Filter Rack / Duct Collar



Note: Filter Rack is field assembled for either 1" or 2" wide filter.

Horizontal Model		A Width	B Height	C	D	E	Deluxe Filter Rack Model
015-018	in.	24.2	18.2	1.2	0.5	4.5	ADCH1824
	cm.	61.5	46.2	3.0	1.3	11.4	
024-036	in.	36.2	18.2	1.2	0.5	4.5	ADCH1836
	cm.	91.9	46.2	3.0	1.3	11.4	
042-048	in.	37.2	20.2	1.8	0.5	4.5	ADCH2037
	cm.	94.5	51.3	4.6	1.3	11.4	
060	in.	42.2	20.2	1.8	0.5	4.5	ADCH2042
	cm.	107.2	51.3	4.6	1.3	11.4	
070	in.	47.2	20.2	1.8	0.5	4.5	ADCH2048
	cm.	119.9	51.3	4.6	1.3	11.4	

Auxiliary Heat Typical Application



Auxiliary Heat Ratings

Auxiliary Electric Heat Model	Model Compatibility (shaded)									kW Rating (kW)		Btuh Rating (Btuh)		Minimum CFM Required
	015	018	024	030	036	042	048	060	070	240V	208V	240V	208V	
AGM5A	●	●	●	●	●					4.8	3.6	16300	12300	500
AGM8A			●	●	●					7.6	5.7	25900	19400	650
AGM10A			●	●	●					9.6	7.2	32700	24600	650
AGM12A				●	●					11.4	8.6	38900	29200	750
AGL10A						●	●	●	●	9.6	7.2	32700	24600	1300
AGL15A						●	●	●	●	14.4	10.8	49100	36900	1350
AGL20A						●	●	●	●	19.2	14.4	65500	49200	1350

Rev.: 6/08/04D

"●" denotes compatibility

Note: Horizontal units rated for zero clearance and 1" clearance for electric heat and the first three feet of duct
Vertical units rated for zero clearance for both unit and duct.

Auxiliary Heat Electrical Data

Electric Heat Model	Supply Circuit	Heater Amps		Min Circ Ampacity		Max Fuse		Supply Wire	
		240V	208V	240V	208V	240V	208V	Min AWG	Max Ft
AGM5A	Single	20.0	17.3	25.0	21.6	25	25	10	70
AGM8A	Single	31.7	27.5	39.6	34.4	40	35	8	70
AGM10A	Single	40.0	34.7	50.0	43.4	50	45	6	90
AGM12A	Single	47.5	41.2	59.4	51.5	60	60	6*	70
	Dual - L1/L2	31.7	27.5	39.6	34.4	40	35	8	70
	Dual - L3/L4	15.8	13.7	19.8	17.1	20	20	12	50
AGL10A	Single	40.0	34.7	50.0	43.4	50	45	6	80
AGL15A	Single	60.0	52.0	75.0	65.0	80	70	6*	50
	Dual - L1/L2	40.0	34.7	50.0	43.4	50	45	6	80
	Dual - L3/L4	20.0	17.3	25.0	21.6	25	25	10	70
AGL20A	Single	80.0	69.3	100.0	86.6	100	90	2	100
	Dual - L1/L2	40.0	34.7	50.0	43.4	50	45	6	80
	Dual - L3/L4	40.0	34.7	50.0	43.4	50	45	6	80

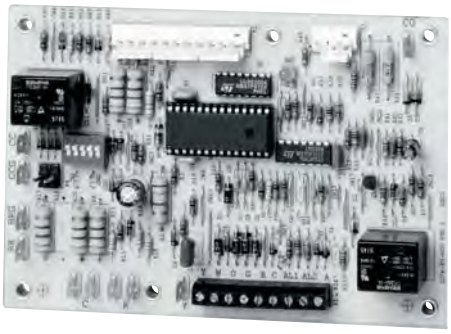
Rev.: 2/28/01M

All heaters rated single phase 208-240V 60 Hz.
Wire size based on 60°C (*90°C) copper conductor.
All models 12kW or larger feature internal fusing.
Wire length based on one way measurement with 2% voltage drop.
All fuses UL Class K General Purpose.

GT-G CXM Control Features

Features

- Anti-short Cycle Protection
- High And Low Pressure Cutouts
- Water Coil Freeze Protection
- Air Coil Freeze Protection
- Random Start
- Unit Performance Sentinel
- Over/Under Voltage Protection
- Diagnostic LED
- Reset Lockout at Unit or Disconnect
- Intelligent Reset
- Condensate Overflow Sensor
- Test Mode
- Electric Heat Outputs
- Accessory Water Valve Connection
- Optional Lonworks Control



Field Selectable Inputs

Test Mode - Test Mode allows the service personnel to check the operation of the control in a timely manner. By **momentarily** shorting the test terminals, the CXM control enters a 20 minute Test Mode period in which all time delays are sped up 15 times. Upon entering Test Mode, the Status LED will flash a code representing the last fault. For Diagnostic ease at the thermostat, the alarm relay will also cycle during test mode. The Alarm relay will cycle on and off, similar to the status LED, to indicate a code representing the last fault, at the thermostat. Test mode can be exited by shorting the test terminals for 3 seconds.

Retry Mode - If the control is attempting a retry of a fault, the status LED will slow flash (slow flash=one flash every 2 seconds) to indicate the control is in process of retrying.

Note: In the following field configuration options, jumper wires should be clipped ONLY when power is removed from the CXM control.

Water Coil Freeze Protection Limit Setting - Jumper 2 (JW2-F12 Low Temp) provides field selection of temperature limit setting for FP1 to be 30°F or 10°F. Not Clipped=30°F. Clipped=10°F.

Air Coil Freeze Protection Limit Setting - Jumper 3 (JW3-FP2 Low Temp) provides field selection of temperature limit setting for FP2 to be 30°F or 10°F. Not Clipped=30°F. Clipped=10°F.

Alarm Relay Setting - Jumper 1 (JW1-AL2 Dry) provides field selection of Alarm Relay terminal AL2 to be jumpered to 24Vac or to be dry (no connection). Not Clipped=AL2 connected to R. Clipped=AL2 dry contacts (no connection).

DIP Switches

Unit Performance Sentinel Disable - Dip Switch 1 provides field selection to disable The UPS Feature On = Enabled. Off = Disabled.

Stage 2 - Dip Switch 2 provides selection of whether compressor has an on delay. If set to stage 2, the compressor will have a 3 second delay before energizing. Also, if set for stage 2, the alarm relay will NOT cycle during test mode. On = Stage 1. Off = Stage 2.

Safety Features

The following safety features are provided to protect the compressor, heat exchangers, wiring, and other components from damage caused by operation outside of design conditions.

Anti-Short Cycle Protection- The control features a 5-minute anti-short cycle protection for the compressor. **Note: The 5 minute anti-short cycle also occurs at power up.**

Random Start - The control features a random start upon power up from 5-80 seconds.

Fault Retry - In Fault Retry mode, the Status LED begins slow flashing to signal that the control is trying to recover from a fault input. The CXM control will stage off the outputs and then “try again” to satisfy the thermostat "Y" input call. Once the thermostat input calls are satisfied, the control will continue on as if no fault occurred. If 3 consecutive faults occur without satisfying the thermostat "Y" input call, then the control will go to Lockout mode. The last fault causing the lockout will be stored in memory and can be viewed by going into test mode.

Lockout - In Lockout mode, the Status LED will begin fast flashing. The compressor relay is turned off immediately. Lockout mode can be soft reset via the thermostat “Y” input or can be hard reset via the disconnect. The last fault causing the lockout will be stored in memory and can be viewed by going into test mode.

Lockout with Emergency Heat - While in Lockout mode, if W becomes active, then Emergency Heat mode will occur.

High Pressure Switch - When the High Pressure Switch opens due to high refrigerant pressures, the Compressor relay is de-energized immediately since the High Pressure Switch is in series with the compressor contactor coil. The High Pressure Fault recognition is immediate as well. High Pressure Lockout Code = 2.
Example: 2 quick flashes, 10 sec pause, 2 quick flashes, 10 sec. pause, etc.

Low Pressure Switch - The Low Pressure Switch must be open and remain open for 30 continuous seconds during "on" cycle to be recognized as a Low Pressure fault. If the low pressure switch is open for 30 seconds prior to compressor power up it will be considered a low pressure (loss of charge) fault. The Low Pressure Switch input is bypassed for the initial 60 seconds of a compressor run cycle.
Low Pressure Lockout Code = 3.

Water Coil Freeze Protection (FP1) - The FP1 thermistor temperature must be below the selected freeze protection limit setting for 30 continuous seconds during a compressor run cycle to be recognized as a FP1 fault. The FP1 input is bypassed for the initial 60 seconds of a compressor run cycle.
FP1 Lockout Code = 4.

CXM Control Features Cont....

Air Coil Freeze Protection (FP2) - The FP2 thermistor temperature must be below the selected freeze protection limit setting for 30 continuous seconds during a compressor run cycle to be recognized as a FP2 fault. The FP2 input is bypassed for the initial 60 seconds of a compressor run cycle.
FP2 Lockout Code = 5.

Condensate Overflow - The Condensate Overflow sensor must sense overflow levels for 30 continuous seconds to be recognized as a CO fault. Condensate Overflow will be monitored at all times.
CO Lockout Code = 6.

Over/Under Voltage Shutdown - An Over/Under Voltage condition exists when the control voltage is outside the range of 19Vac to 30Vac. Over/Under Voltage Shutdown is self-resetting in that if the voltage comes back within range of 19Vac to 30Vac for at least 0.5 seconds, then normal operation is restored. This is not considered a fault or lockout. If the CXM is in over/under voltage shutdown for 15 minutes, the alarm relay will close. Over/Under Voltage Shutdown Code = 7.

Unit Performance Sentinel-UPS (patent pending) - The UPS feature warns when the heat pump is operating inefficiently. A UPS condition exists when:

a) in heating mode with compressor energized, if FP2 is greater than 125°F for 30 continuous seconds,

or

b) in cooling mode with compressor energized, if FP1 is greater than 125°F for 30 continuous seconds, OR FP2 is less than 40°F for 30 continuous seconds.

If a UPS condition occurs, the control will immediately go to UPS warning. The status LED will remain on as if the control is on Normal mode (see "LED and Alarm Relay Operation Table"). Outputs of the control, excluding LED and Alarm Relay, will NOT be affected by UPS. The UPS condition cannot occur during a compressor off cycle. During UPS warning, the alarm relay will cycle on and off. The cycle rate will be On for 5 seconds, Off for 25 seconds, On for 5 seconds, Off for 25 seconds, etc. Unit Performance Sentinel Warning Code = 8.

Diagnostic Features
The Status LED on the CXM control advises the serviceman of the current status of the CXM control. The status LED can display either the current CXM mode or the last fault memory if in test mode. See Table 1 for a complete listing of codes.

Unit Operation Description

PowerUp - The unit will not operate until all the inputs and safety controls are checked for normal conditions. **Note: The compressor will have a 5-minute anti-short -cycle delay at power-up.**

Standby - In Standby mode, Y and W inputs are not active. Inputs O and G may be active. Compressor will be off.

Cooling - To enter Cooling mode, Y and O become active. The first time after power-up that there is a call for compressor, the compressor will follow a 5 to 80 second random start delay. There will also be a 5-minute compressor anti-short cycle protection time as well. After the random start delay, the compressor relay is energized. On all subsequent compressor calls, the random start delay is omitted.

Heating Stage 1 - To enter Heating Stage 1 mode, Y becomes active. The first time after power-up that there is a call for compressor, the compressor will follow a 5 to 80 second random start delay. There will also be a 5-minute compressor anti-short cycle protection time as well. After the random start delay, the compressor relay is energized. On all subsequent compressor calls, the random start delay is omitted.

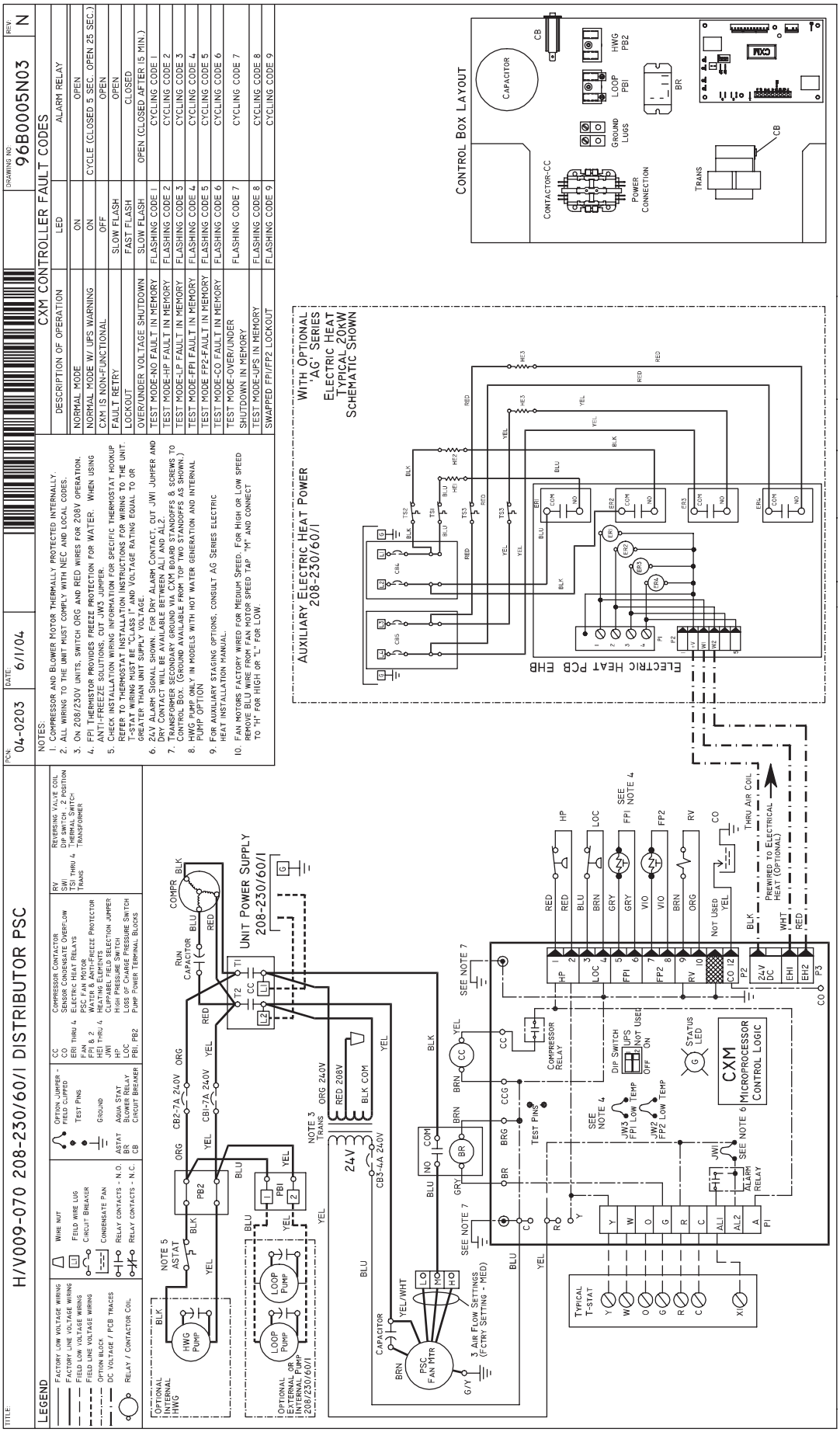
Heating Stage 2 - To enter Heating Stage 2 mode, W becomes active (Y already active). The Compressor relay remains on. EH1 is turned on immediately. With continuing Heating Stage 2 demand, EH2 will turn on after 10 minutes. The EH2 will not turn on in heating (or will turn off if already on) if loop temperature is above approximately 50°F (FP1 >45°F).

Emergency Heat - In Emergency Heat mode, W becomes active while Y is not active. EH1 is turned on immediately. With continuing Emergency Heat demand, EH2 will turn on after 5 minutes. The FP1 and FP2 temperatures do not effect emergency heat operation.

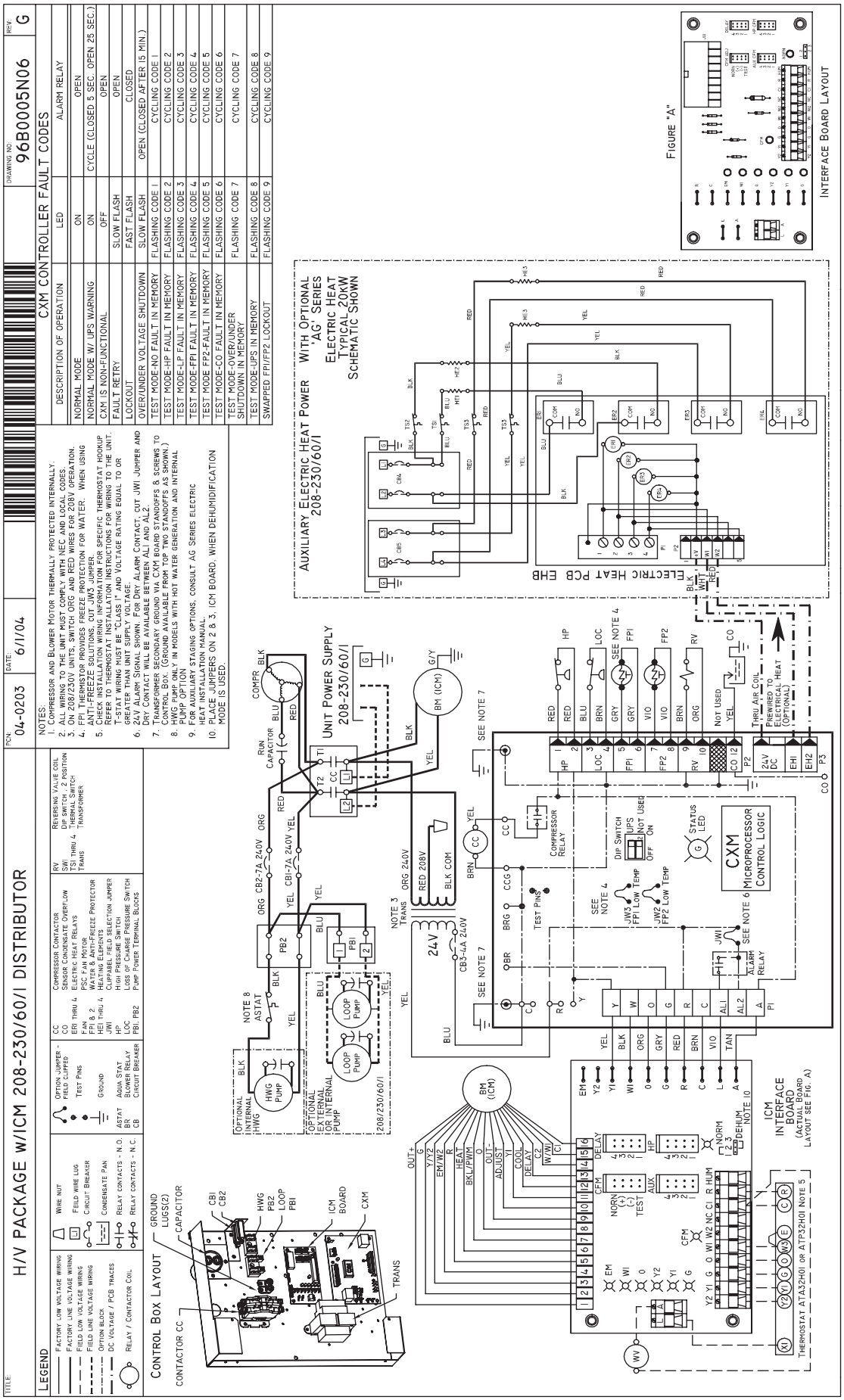
Table 1 - Status LED Description

Description of Operation	LED	Alarm Relay
Normal Mode	On	Open
Normal Mode with UPS Warning	On	Cycle (closed 5 sec., Open 25 sec.)
CXM is non-functional	Off	Open
Fault Retry	Slow Flash	Open
Lockout	Fast Flash	Closed
Over/Under Voltage Shutdown	Slow Flash	Open (Closed after 15 minutes)
Test Mode - No fault in memory	Flashing Code 1	Cycling Code 1
Test Mode - HP Fault in memory	Flashing Code 2	Cycling Code 2
Test Mode - LP Fault in memory	Flashing Code 3	Cycling Code 3
Test Mode - FP1 Fault in memory	Flashing Code 4	Cycling Code 4
Test Mode - FP2 Fault in memory	Flashing Code 5	Cycling Code 5
Test Mode - CO Fault in memory	Flashing Code 6	Cycling Code 6
Test Mode - Over/Under shutdown in memory	Flashing Code 7	Cycling Code 7
Test Mode - UPS in memory	Flashing Code 8	Cycling Code 8

Electrical Wiring Diagram - GT-G with PSC



Electrical Wiring Diagram - GT-G with ICM



Engineering Guide Specifications

General
The water source heating/cooling units shall be either reverse cycle suspended type with horizontal air inlet and discharge or floor mounted type with horizontal air inlet and vertical upflow/downflow air discharge. Units shall be ARI/ISO/ASHRAE 13256-1 (ground-source closed loop) performance certified and listed by a nationally recognized safety-testing laboratory or agency such as Canadian Standards Association (CSA-US). Each unit shall be pallet mounted and shipped in clear shrink wrap for visual shipping damage inspection.

The units shall be warranted by the manufacturer against defects in materials and workmanship for a period of five years on all parts, and ten years on the compressor and refrigerant circuit parts with a service labor allowance during the first 30 days. An optional extended warranty is available for the GT-G Series units, which adds a labor allowance and trip charge. The water source units shall be designed to operate with entering fluid temperature between 20°F and 120°F.

Casing and Cabinet
The cabinet shall be fabricated from heavy gauge galvanized steel. The interior shall be insulated with 1/2" thick, multi-density, coated glass fiber with edges sealed or tucked under flanges to prevent the introduction of glass fibers into the air stream. One or two blower compartment access panels shall be provided and shall be removable with supply and return ductwork in place. The internal component layout shall provide for major service with the unit in-place for restricted access installations. A duct collar shall be provided on the supply air opening. Standard or semi-standard size 1" filters shall be provided with each unit. Vertical units shall have a return air filter rack/duct collar, horizontal units shall have a filter bracket. The units shall have an 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. The compressor shall have a dual level vibration isolation system. The compressor will be mounted on computer selected vibration isolation springs to a large, heavy gauge compressor mounting tray, which is then isolated from the cabinet base with rubber grommets for maximized vibration attenuation. Vertical units shall be supplied with left or right air inlet and top or bottom vertical air discharge. Horizontal units shall be supplied with left or right air inlet and field switchable side or end air discharge.

The hanger kit (field-installed horizontal units only) 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" threaded rods.

Refrigerant Circuit
All units shall contain a sealed refrigerant circuit including a hermetic motor-compressor, bi-directional thermostatic expansion valve, finned tube E-Coated air-to-refrigerant heat exchanger, reversing valve, coaxial tube water-to-refrigerant heat exchanger, optional hot water generator coil, and service ports.

Compressors shall be high efficiency rotary or scroll-type designed for heat pump duty and mounted on vibration isolators. Compressor motors shall be single or three phase with internal or integral overload protection. The finned tube coil shall be sized for low face velocity and constructed of lanced aluminum fins bonded to rifled copper tubes in a staggered pattern 3 or 4 rows deep. The entire coil shall be E-Coated for added protection against corrosion.

The coaxial water-to-refrigerant heat exchanger shall be designed for close approach temperatures and shall be constructed of a convoluted copper (optional cupro nickel) inner tube and a steel outer tube, and capable of 450 psi water and 450 psi refrigerant working pressures. The thermal expansion valve shall provide proper superheat over the entire liquid temperature range with minimal "hunting". The valve shall operate bi-directionally without the use of check valves.

The optional hot water generator shall include an internally mounted wet-rotor circulating pump with integral thermal limiting circuit.

The water-to-refrigerant heat exchanger, optional hot water generator coil and refrigerant suction lines shall be insulated to prevent condensation at low liquid temperatures.

Fan Motor & Assembly
The fan shall be a direct drive centrifugal type with a dynamically balanced wheel. The wheel and housing shall be designed for quiet, low outlet velocity operation. The fan housing shall be of galvanized steel construction and shall be removable from the unit without disconnecting the supply air ductwork for servicing of the fan motor. The fan motor shall be of 3-speed permanently split capacitor (PSC) type. The fan motor shall be high efficiency and provide high static capability, and shall include three on-motor selectable air flow options. An optional variable speed electronically communicated (ICM) fan motor is available with permanently lubricated ball bearing construction, and it has no less than four operational speeds online. The fan motor shall be isolated from the housing by rubber grommets. The motor shall be permanently lubricated and have thermal overload protection.

Electrical
CXM Control - A microprocessor-based compressor controller (CXM) shall be provided to monitor and control unit operation. The control shall provide compressor and electric heater sequencing, high and low pressure monitoring, field selectable water and air coil freeze protection sensing, condensate overflow sensing, over/under voltage monitoring, and unit performance sentinel (UPS). The control shall also provide for water valve connection, a test mode, short cycle protection, random start-up, as well as fault LED, fault memory, and intelligent fault retry.

The control shall employ quick attach harness assemblies for low voltage connections to the control board to aid in troubleshooting or replacement. An integral terminal block with screw terminals shall be provided on the control for all field low voltage connections. A circuit breaker protected 75VA transformer (50VA for commercial units) shall be employed. Line voltage box lugs shall be provided for unit wiring. Units shall have knockouts for entrance of low and line voltage wiring. The fan motor and control box shall be harness plug-connected for easy removal.

Specifications Cont....

Piping
Supply and return water connections (and optional HWG connections) shall be of gasketed brass swivel union type and provide a working pressure rating to 450 psi. (Copper threaded fittings are mechanically fastened to the cabinet, eliminated the need to use a back-up wrench when making field piping connections for commercial units only.) The threaded copper adaptors shall be low-temperature soldered to prevent misshaping or weakening of the fitting, eliminating potential start-up piping leaks. All water piping shall be insulated to prevent condensation at low liquid temperatures.

The condensate connection shall be field switchable on horizontal units between 3/4" PVC socket or 1/2" copper sweat. Vertical units utilize a 3/4" PVC socket and are internally trapped and can be field routed to the front or side of the cabinet.

Units shall provide the following water source options:

- Optional internally mounted source pump for use in primary/secondary pumping systems. (commercial only)
- Optional internally mounted, low pressure drop, pilot-operated brass water shut-off valve for use in variable speed pumping systems. (commercial only)

Accessories

Internal Auxiliary Heater - A field-installed blower-mounted electric heater shall provide supplemental and/or emergency heating capability when used with 2 stage heating thermostats and available in 5, 8, 10, 12,15, and 20kW combinations. Elements are external on the horizontal units.

Flow Controller Pumping Module - An accessory flow controller pumping module shall be provided with 1" fpt connections for filling, flushing, and operation of closed loop systems.

Thermostat (field-installed) - A multi-stage auto-changeover electronic digital thermostat shall be provided. The thermostat shall offer one cooling and two heating stages with precise temperature control. An OFF-HEAT-AUTO-COOL-EMERG system switch, OFF-AUTO fan switch, and indicating LED's shall be provided. The thermostat shall read out in °F or °C and be calibratable. An optional remote sensor for indoor or outdoor use shall be available.

Hose Connection Kit - An accessory hose kit shall provide 250psi 1" rubber hose with brass fittings equipped with service pressure temperature ports for connection between flow controller and the unit.

Deluxe Filter Rack/Duct Collar (horizontal only) - An accessory deluxe filter rack/duct collar shall be provided that allows duct connection to the return air of a GT-G horizontal unit. The filter rack shall provide a 1" throwaway filter but be field adjustable to accept 2" wide filter media.

Electrostatic Filter (field-installed) - A 1" permanent, cleanable, 90% efficient electrostatic filter shall be provided in lieu of the standard throwaway type.

Options

Hot Water Generator
An optional internal heat reclaiming desuperheater of vented double-wall copper construction suitable for potable water shall be provided. An internally-mounted, low-wattage wet rotor circulator, and high limit shut-off switch shall be provided.

Cupro-Nickel Water to Refrigerant Heat Exchanger
An optional Cupro-Nickel heat exchanger shall be provided for those applications requiring improved corrosion resistance.

Variable Speed ICM Fan Motor
An optional soft-starting, high efficiency, variable speed fan motor shall be provided with four fan speeds online to improve efficiency and comfort.

Internal Source Pump
An optional internal source pump is provided for those primary/secondary pumping applications requiring an internal pump in each unit. (commercial only)

Internal Solenoid Water Valve
An optional internal 24V low pressure drop water valve for use in commercial variable speed pumping systems.

Warranty Information

Carrier GT-G Series residential warranty reflects the reliability built in to every unit and includes five years on all parts, and ten years on the compressor and refrigerant circuit parts with a service labor allowance during the first 30 days. An optional extended warranty is available for the GT-G Series units, which adds a labor allowance and trip charge. See extended warranty certificate for details.

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Locally Available Through:

As an ENERGY STAR® Partner Carrier has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.