gForce
by Data Aire

gForce GT

R-410A

Single Circuit

Air Cooled, Water/Glycol Cooled

7 to 46 kW

Environmentally responsible.
Economically efficient.
Precision air cooling of the future.

DATA AIRE INC.

… the pioneer and builder of the most complete line of precision cooling equipment

Back in the late 1960's and early 70's with the advancement of the computer and computer rooms, precision environmental control equipment with high sensible cooling ratios became a necessity. Data Aire, a division of Supreme Aire, worked with leading computer facility engineers to develop one of the first down discharge air conditioning units for raised floor application.

Today, as one of the most experienced manufacturers of precision cooling equipment, Data Aire offers a wide range of precision cooling units with an array of options to meet the specific needs of owners and their projects.

Product innovation, to meet the needs of our customers and the industry, has always been a guiding principle at Data Aire. This is demonstrated by our continuous product improvements. In the mid 1980's we were the first to include the steam generator humidifier as standard equipment, eliminating standing water and high maintenance infrared lights. In 1989 Data Aire developed the first solid-state control panel and monitor used in precision cooling and holds the original patent. The Data Alarm Processor (DAP) is well into its third generation, DAP-III. Then in the early to mid 1990's Data Aire was the first to make scroll compressors standard, introducing them in smaller sizes then gradually across the entire product line. Today these type of compressors are recognized worldwide as the most efficient and reliable compressors available. In 2003 we were awarded an AHR Honorable Mention Innovation Award for our Intelli-DART - a site monitoring device that allows the owner to use the fax, telephone and/or e-mail to monitor their controlled spaces and provides for Internet access to both monitor and modify settings for each individual unit. In 2005 we introduced R-410A refrigerant into our product line to meet the 2010 EPA mandates. We weare the first manufacturer of precision cooling equipment to make such an offering. Many of our earlier innovations are today's industry standards among modern manufacturers, and we expect our more recent changes to become industry standards as well.

Data Aire produces solutions. We have offered environmental solutions to meet specific needs in the smallest of places and in areas of thousands of square feet. We are prepared to assist you, your in-house engineering department, consulting engineer, or construction department in defining the proper solutions and bringing them to a predefined outcome. Our moderate size, housed in a single facility, allows us to accommodate your special needs quickly and efficiently.

Data Aire is committed to being the supplier of choice for precision cooling with the flexibility, reliability, and expertise required to meet our customer's needs. One of our actions to this commitment is being an ISO 9001 certified company. To be successful, it is essential to be creative and use our resources to their fullest capabilities. Data Aire's mission is to provide the reliable choice of products and services to our customers

Data Aire is a member of the C/S Group of Companies specializing in unique architectural products. The C/S Group of Companies, a private corporation, has been in business since 1949.

Data Aire Delivers!

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gForce - GT

by Data Aire

MISSION CRITICAL COOLING

gForce by Data Aire provides the most advanced features in mission critical cooling equipment available on the market today. These units are the most efficient and economical while complying with strict environmental requirements.

Incorporating backward curved plenum fans with electronically commutated (EC) motors these units supply radially dispersed cooling air at lower speeds allowing for more uniform static pressure across the room. These fans, with integral DC motors, run at lower temperatures providing more net cooling from the computer room air conditioning (CRAC) unit. DC motors are more energy efficient, providing an on-going savings year after year. gForce efficiency is also increased by the use of rifled tubing in the cooling coils to promote the greatest amount of heat transfer. gForce single circuit DX units are available in 7 through 46 kW with either upflow or downflow air distribution in air cooled or water/glycol cooled models. Each unit is factory run tested and put through a vigorous quality control procedure

IMPROVED PERFORMANCE and REDUCED MAINTENANCE

Backward curved fans discharge air radially allowing for uniform static pressure across the raised floor. Traditional forward curved fans blow air in a high velocity stream with high velocity pressure and minimal initial static pressure, prohibiting optimal airflow through the raised floor close to the CRAC. One of the key features of backward curved fans, commonly referred to as plug fans, is that the motor and fan are integrated into a single unit. Unlike forward curved fans that have a separate motor, pulley, belt and in some cases a shaft, plug fan blades are directly connected to the motor. This eliminates the need for monthly maintenance, belt replacement and all belt dust.

In the unlikely event of a fan failure, the entire fan unit is removed. Removal is easy with the unfastening the screws and disconnection of the electrical service. The replacement fan is set in place, electrical connections are made and then the fan is bolted in place.

INCREASED THERMODYNAMIC EFFICIENTIES

gForce's design incorporates rifled tubing cooling coils. Rifle tubing is similar to borings in a gun barrel which forces the bullet to rotate. In a cooling coil the riflings force the refrigerant gas and liquid to rotate as it passes through the coil. This action forces the heavier matter, the liquid and coldest refrigerant, to the outside of the tube where the heat transfer occurs. As a result the coldest refrigerant is in contact with warmest surface resulting in better heat transfer.

IMPROVED AIRFLOW DESIGN

gForce is the greatest internal capacity of an unit manufactured by Data Aire. The increased capacity of the gForce internal cabinet allows for less restrictive airflow. When additional options are added to smaller cabinets, the static pressure within the unit increases, making airflow more difficult. This is not an issue with the gForce, as the advanced design of the bigger interior and the product's quality construction ensures the highest level of efficiency in a precision air system

ENVIRONMENTALLY RESPONSIBLE

Data Aire offers the gForce line in either R-407C or R-410A refrigerants. Either of these refrigerants comply with the requirements of the Montreal Protocol which called for the phase out of refrigerants that deplete the ozone layer. R-407C is a blend of three refrigerants and has characteristics similar to R-22. R-410A is a blend of two refrigerants and has a higher volumetric cooling capacity but operates at higher pressures than either R-22 or R-407C. The choice of the environmentally friendly refrigerant is yours.

ENERGY EFFICIENT COILS

gForce energy efficient coils are another unique feature engineered by Data Aire. These coils feature rifle tubing, a creative element that significantly adds to energy efficiency. Very similar to the borings on a rifle that spin the bullet as it exts the barrel, the refrigerant in a gForce unit spins as it travels through the coil. This spinning forces the liquid, and coldest refrigerant to the outside surface of the coil, resulting in a higher heat transfer and therefore higher efficiency.

DATA AIRE DELIVERS

Standard lead time for a standard unit is 30 days from date of order. With an optional premium "quick ship" units can be expedited to ship in as little as one week. All units are built to your specific order and specification. Not only does Data Aire deliver standard products in short lead times they are willing to modify designs to meet your specific requirements. Call your nearest Data Aire representative for more.

FRAME AND CABINET

The heliarc welded tubular steel frame provides for maximum strength and ease of access. Side and front panels can be easily opened and removed with quarter-turn fasteners allowing full access to all unit components. All panels include one inch thick, 1-1/2 pound density insulation for protection and sound attenuation.

COIL SECTION

Designed for draw through application, the computer selected coil offers greater efficiency in the cooling and dehumidification process. Air bypass is provided to prevent saturated air from being introduced into the controlled space. The coil section is provided with a stainless steel drain pan.

FAN SECTION

The gForce GT unit comes equipped with a backward curved plenum fan with EC motor. The integrated motor and fan package provides the most efficient operation and are basically maintenance free. While using standard AC power the plenum fan or plug fan converts AC current to DC to power

ELECTRIC REHEAT

Low-watt density finned tubular sheathed coils provide ample capacity to maintain room dry bulb conditions during a call for dehumidification. Low-watt density coils eliminate ionization associated with open air electric resistance heating. Three stages of reheat are standard.

HUMIDIFICATION

gForce GT units include an electric steam generator humidifier with a “quick change” disposable cylinder and an auto-flush cycle. The steam generator humidifier with its patented control system optimizes cylinder life and energy efficiency by concentrating incoming water to a predetermined conductivity much higher than that of the entering water. The control system continuously monitors the conductivity in the cylinder through its electronics which allows water to be flushed as often as is necessary to maintain the capacity at this design conductivity. The high design conductivity results in a minimum flushing of heated water, thereby saving energy. The humidifier is designed to allow units at any voltage to produce full rated steam output at an optimum water level based on the design conductivity.

COMPRESSORIZED SYSTEMS

The single stage refrigeration circuit includes a hermetic scroll type compressor. These durable, heavy duty, fully welded compressors have no gaskets or seals, eliminating the possibility of refrigerant or oil leaking into the controlled space or environment. Scroll compressors also bring a combination of reliability, efficiency, and improved system sound performance. The refrigeration circuit includes built-in compressor overload protection, crankcase heater, filter drier, sight-glass, adjustable expansion valve with external equalizer, low pressure override timer (air cooled units), manual reset high pressure control, and compressor short cycle timer.

Water/glycol cooled units include a counterflow plate-fin condenser sized to provide the required capacity for heat rejection with minimum water/glycol flow and low total pressure drop. Head pressure regulating valves control the condensing temperature and maintain required capacity at various water/glycol flow rates and temperatures.

Air Cooled with Remote Outdoor Condenser - A wide range of outdoor condensers are available. Condensers are manufactured by Data Aire and sized to meet the heat rejection and ambient conditions as required. The industrial duty design includes aluminum corrosion resistant housing, aluminum finned copper tube coils, coated fan guards, energy efficient thermally protected direct drive motors, and variable fan speed control on lead fan motor for proper control down to -20° F. Additional fan motors are controlled with ambient thermostats.

Air Cooled with Indoor Condenser - A wide range of floor mounted indoor condensers with horizontal intake and discharge are available for applications where an outdoor condenser cannot be used. Units include a forward curved, double width, double inlet blower engineered for quiet, reliable operation. The belt driven variable pitch drive provides adjustable air flow. Indoor condensers are provided with a factory mounted and piped receiver. The receiver has a head pressure control valve to maintain flooded condenser control.

Air Cooled with Outdoor Condensing Unit - gForce GT units are also available with remote outdoor condensing units. The condensing unit includes a hermetic scroll compressor with built-in overload protection, crankcase heater, filter drier, sight-glass, and condenser coil. The coil is constructed with copper tubes and aluminum fins. The housing is aluminum with vertical air discharge. The condenser fan is a variable speed type for head pressure control down to -20° F.

Water/Glycol Cooled with Remote Outdoor Dry Cooler - Remote outdoor dry coolers are available in a variety of sizes. Each dry cooler includes aluminum corrosion resistant housing, aluminum finned copper tube coil, coated fan guards, surge tank, pump contactor, and energy efficient thermally protected direct drive motors. Fan cycling is controlled by water sensing thermostats on dry coolers with more than one fan.

DATA ALARM PROCESSOR-III

The Data Alarm Processor-III (DAP™ III) offers the definitive answer for precision environmental control. The DAP-III control system not only controls and monitors temperature, humidity, airflow and cleanliness, it provides component run times, alarm history and an automatic self-test of the microprocessor on system start-up. All messages are presented in a clear vernacular format and sequentially displayed on a backlit, liquid crystal display (LCD).

OPERATION – Highly reliable, flat, sealed switches with tactile feedback allow unit on/off operation, menu selection for programming, operational information, diagnostics, and historical data. Multilevel password prevents unauthorized access. Alarm conditions are enunciated by an audible alarm. The alarm silence button will quiet the audible alarm but the display will continue to indicate the alarm condition until the problem is corrected.

STANDARD FEATURES

- Two row, eight character, backlit LCD screen
- Programmed settings saved in flash memory
- Smooth keyboard type buttons
- Real time clock with back-up battery
- Forward and backward menu access
- Data base of unit and room conditions
- Factory calibrated humidity sensor
- Factory calibrated temperature sensor
- Power “ON” status contact
- Stand alone panel
- Microprocessor based
- Automatic self-test diagnostics
- USB port for software upgrades
- All settings from face of panel
- Multi-level password access
- Battery backup for historical data
- Menus factory programmed

OPERATIONAL FEATURES

- Automatic or manual restart
- Automatic reheat element rotation
- Adjustable mode and stage response time
- Chilled water energy saver coil flush cycle
- Compressor short cycle control on DX units
- Start time delay
- Automatic compressor rotation
- Hot water coil flush cycle
- Humidity anticipation
- Sequential load activation
- Dehumidification mode lockout

OPTIONAL FEATURES

- Energy saver (glycol) or auxiliary chilled water operation
- Periodical DX activation on Energy Saver system
- Supplemental compressor in Energy Saver mode
- Chilled water temperature sensor
- Four analog inputs (4-20 mA or 0-10 VDC signal)
- Two analog outputs (0-10 VDC signal)
- Underfloor water detection cable
- Fan speed control for optional plug fan or VFD
- Humidifier auto-flush cycle
- Three additional remote alarms
- Discharge air temperature sensor
- Modulating humidifier control
- RS-485 Multi-drop network card
- Ethernet network card
- LONTALK network card

DIAGNOSTIC and SERVICE FEATURES

- Alarms displayed in order of occurrence
- Programmable delays for optional alarms
- Programmable remote alarm contact
- Four programmable optional alarm inputs
- Manual diagnostic program
- Adjustable alarm limits
- Select alarms optional disabled
- Selectable audio alarm tone
- Manual override for blower, cool 1/2, reheat 1, humidification and water valve

PROTECTIVE and SAFETY FEATURES

- Metal shell enclosure with sealed front control panel
- Opto-coupler signal inputs
- Heavy ground planes and power foils
- Switching power supply
- Watch dog timer
- Protected 24VAC power input
- Isolation transformer
- Fuses on all control boards

CONDITIONS and DATA DISPLAYED

- Current percent of capacity utilized
- Current temperature
- Current humidity
- Current discharge air temperature*
- Current chilled water temperature*
- Temperature setpoint
- Humidity setpoint
- Unit or network identification number*
- Zone number*

FUNCTIONS DISPLAYED

- Cooling stages
- Reheat stages
- Chilled water flow percentage
- Energy Saver*
- Dehumidification
- Humidification

ALARMS

- High temperature warning
- High humidity warning
- High pressure/internal overload compressor 1
- High pressure/internal overload compressor 2
- Under floor water detection
- Firestat tripped, unit shutdown
- Custom message (programmed by factory)*
- Chilled water temperature sensor problem*
- Low voltage warning
- Compressor short-cycle
- Humidity sensor problem
- Local alarm*
- Check humidifier cylinder*
- No water flow*
- Standby pump on*
- Low temperature warning
- Low humidity warning
- Low pressure compressor 1
- Low pressure compressor 2
- No air flow
- Dirty filter alarm
- Humidity failure
- Manual override
- Power failure restart
- Temperature sensor problem
- Maintenance required
- Discharge air sensor problem*
- Fan motor overload*
- Smoke detector, unit shutdown*
- Person to contact on alarm*

HISTORICAL DATA

- Equipment run times
- High and low temperature in last 24 hours
- Average percent of capacity last hour
- Alarm history for last ten alarms
- High and low humidity in last 24 hours

PROGRAMMABLE SETTINGS and SELECTIONS

The user friendly Menus and Select buttons used with the 10 menu groups permit step-by-step programming of many functions. The DAP III Operation Manual provides a complete and detailed guide to the settings and selections. Refer to it for specific ranges and settings.

* - May require additional components and/or sensors.

Energy Saver Coil - The Data Aire *Energy Saver Coil* is built into the system to provide total required capacity. Whenever the incoming water/glycol temperature is below 45° F/7.2° C, *Energy Saver* cooling is available. *Energy Saver* mode operates in the following range: Return air setpoint plus deadband plus two degrees. The *Energy Saver* will operate providing there is a need for cooling. The valve will open at setpoint plus deadband. The valve will modulate as long as the space is between setpoint plus deadband plus 2 degrees. If the temperature falls below the deadband minus setpoint, the valve will close and the space is considered satisfied. While still in *Energy Saver* with the valve modulating, if the temperature goes beyond setpoint plus deadband plus 2 degrees the *Energy Saver* valve will close and DX cooling will begin.

The *Energy Saver Coil* includes a 3-way pressure control valve on condenser water circuit, and a 3-way valve on the Energy Saver coil. Common piping for coil and condenser is provided.

Energy Saver/Compressor Supplement - Units with the *Energy Saver Coil* can be provided with compressor supplement if the *Energy Saver* is not sufficient as a stand alone system. When the incoming water/glycol temperature is below the setpoint of the water changeover thermostat, the *Energy Saver* mode is enabled (even if there is no call for cooling). Upon a call for cooling (setpoint plus deadband), the valve will open proportionally - 10% for each 0.1° above setpoint plus deadband. The compressor will come on at setpoint plus deadband plus 1.0° (the valve is 100% open at this point). The compressor will go off at setpoint plus deadband plus 0.7°. The valve will close proportionally - 10% for each 0.1° below setpoint plus deadband. An air discharge sensor is factory installed.

Auxiliary Chilled Water Coil - Where an existing chilled water loop is available, units can be fitted with an auxiliary chilled water coil. Units will operate using the chilled water for cooling. Upon a loss of water flow or an increase in room temperature the system will bring on compressor (DX) cooling. Separate piping is provided for the chilled water coil and refrigeration connections.

Auxiliary Chilled Water Coil/Compressor Supplement - The *Auxiliary Chilled Water Coil* can be provided with compressor supplement for extended savings by allowing the compressor to supplement operation as needed when the chilled water is not sufficient on a stand alone basis. An discharge air sensor is factory installed. (See *Energy Saver/Compressor Supplement* for details).

Remote Temperature and Humidity Sensors - Temperature and humidity sensors may be ordered for remote wall mounting in lieu of the standard return air sensors. Sensors are provided in a wall mounted plastic case for remote sensing of temperature and humidity. 25 feet of shielded cable is provided for field wiring.

Smoke Detector - A unit mounted smoke detector will shut down the unit if smoke is sensed. The microprocessor will sound an alarm and display a "SMOKE DETECTED" message. The smoke detector is mounted in the return air stream and is provided with auxiliary contacts.

Next Size Larger Motor - Should your installation require additional airflow or increased static pressure you can order a larger motor to meet these requirements.

Hot Water Reheat - Where hot water is available, a unit installed reheat coil can use hot water reheat. The coil is designed for 150 psi maximum water pressure and includes a 2-way valve (a 3-way valve is optional).

Hot Gas Reheat - Unit hot gas discharge is used for reheat and maximum system efficiency.
(***Note:*** Units with *Hot Gas Bypass* option are not available with hot gas reheat).

Steam Reheat - When your building already has steam lines this option may be a more beneficial way of providing reheat to your unit. When selected the unit comes with a steam coil and 2-way valve, replacing the standard electric reheat.

Compressor Rotalock Valves - These valves facilitate servicing and permit the changing of compressor without the complete loss of refrigerant.

Unit Mounted Disconnect - A unit mounted nonautomatic disconnect switch is installed in the high voltage electrical section. The operating mechanism allows access to the high voltage electrical components when switched to the "OFF" position. The operating mechanism (handle) protrudes through the decorative door.

Hot Gas Bypass - Hot gas bypass may be ordered for changing load conditions. The hot gas bypass is installed between the compressor discharge line and the leaving side of the expansion valve through a side outlet distributor. The system with

the evaporator under full load will maintain pressure on the leaving side of the hot gas bypass valve to keep the valve port closed. Should the load on the evaporator decrease to the point where the coil is below the desired setting, the pressure on the discharge of the hot gas bypass will put pressure on the diaphragm overcoming the spring pressure on the seat and allowing some hot gas to mix with the normal liquid discharge of the expansion valve raising the evaporator pressure. This reduces the cooling capacity of the unit to match the load.

3-Way Water Regulating Valve - 3-way water regulating valve for pressure control may be ordered to replace standard 2-way valve installed in water/glycol unit. 3-way valves provide control of condensing temperature maintaining constant system capacity and condenser water flow.

Condensate Pump - Condensate pumps may be ordered as factory installed or for field installation. Condensate pumps are complete with sump, motor, and automatic control. The pumps are rated for 130 GPH at 20 foot maximum or 40 GPH at 20 feet with check valve. Pumps shipped loose are available in 115, 230, or 460 volt.

Upflow Plenum - Upflow plenums are fully insulated with front discharge air grille. Side grilles for both or one side are available. Standard plenums are 18 inches high and are painted to match the unit color.

Floorstand - Floorstands are adjustable -1/+3 inches and are available with a factory installed turning vane or with seismic construction.

Seismic Bases - When required you can order 12" to 24" seismic bases for your unit.

Vibration Isolation Pads - Ribbed neoprene cork filled pads installed between either the evaporator or condenser unit and the floor. These pads minimize the vibrations created with the operation of the unit resulting in quieter operation

Compressor Sound Jackets - Should you have a concern about the noise generated by the compressor one way to minimize the noise is by using this option. Jackets are shipped loose and must be installed in the field.

Extended Compressor Warranties - Data Aire offers either a two year or a four year extended compressor warranty in addition to the standard three parts parts warranty. These extended warranties cover parts only - not labor.

Site Monitoring Devices

DARA-4 - Data Aire Relay Auto Changeover controller allows for unit rotation and backup capabilities while interfacing via a summary alarm with BMS systems. This economical controller manages up to four Data Aire units.

AIR COOLED: Performance data at STANDARD AIRFLOW with remote air cooled condenser

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		GTAD/U007	GTAD/U011	GTAD/U014	GTAD/U018	GTAD/U028	GTAD/U035	GTAD/U046
CAPACITY in kW/hr - *gross*								
80° DB/67° WB	Total	26,700	39,700	53,900	62,500	N/A	N/A	N/A
50% RH	Sensible	20,100	29,700	40,900	49,600	N/A	N/A	N/A
75° DB/62.5° WB	Total	24,600	36,900	49,700	58,200	N/A	N/A	N/A
50% RH	Sensible	19,300	28,700	39,200	47,800	N/A	N/A	N/A
75° DB/61° WB	Total	24,000	35,800	48,500	56,600	N/A	N/A	N/A
45% RH	Sensible	20,700	30,600	42,100	51,200	N/A	N/A	N/A
72° DB/60° WB	Total	23,400	35,300	47,200	55,700	N/A	N/A	N/A
50% RH	Sensible	18,800	28,100	38,300	46,800	N/A	N/A	N/A
72° DB/58.6° WB	Total	22,700	34,300	46,300	54,400	N/A	N/A	N/A
45% RH	Sensible	19,900	29,700	40,800	49,800	N/A	N/A	N/A
FAN SECTION								
Airflow - CFM		800	1,200	1,600	2,000	-	-	-
Number of fans		1	1	1	1	-	-	-
Standard fax - diameter (mm)		450	450	450	450	-	-	-
Fan motor - kW/HP		1/1.4	1/1.4	1/1.4	1/1.4	-	-	-
External static pressure (E.S.P.) - inches of W.G.		0.5	0.5	0.5	0.5	-	-	-
Maximum E.S.P.		1.5	1.5	1.5	1.3	-	-	-
Next size fan - diameter (mm)		N/A	N/A	N/A	500	-	-	-
Fan motor - kW/HP		-	-	-	2.8/3.7	-	-	-
Minimum E.S.P.			-	-	-	1.5		
COMPRESSORS								
Type		Scroll	Scroll	Scroll	Scroll	-	-	-
Quantity		1	1	1	1	-	-	-
Refrigerant		R-410A	R-410A	R-410A	R-410A	-	-	-
EVAPORATOR COIL								
Face area - sq ft		4.2	4.2	6.25	6.25	-	-	-
Rows of coils		3	3	4	4	-	-	-
Face velocity - fpm		190	286	256	320	-	-	-
REHEAT SECTION								
Electric		Standard	Standard	Standard	Standard	-	-	-
kW		6	6	12	12	-	-	-
Capacity - Btu/hr		20,490	20,490	40,980	40,980	-	-	-
HUMIDIFIER SECTION								
Steam generator		Standard	Standard	Standard	Standard	-	-	-
kW		3.4	3.4	3.4	3.4	-	-	-
Capacity - lb/hr		10	10	10	10	-	-	-

AIR COOLED: Performance data at STANDARD airflow with remote air cooled condenser

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
FILTER SECTION								
Quantity		2	2	2	2	-	-	-
Size - inches	*Downflow*	16x20x4	16x20x4	16x20x4	16x20x4	-	-	-
		20x20x4	20x20x4	20x20x4	20x20x4	-	-	-
	Upflow	16x25x4	16x25x4	16x25x4	16x25x4	-	-	-
		20x25x4	20x25x4	20x25x4	20x25x4	-	-	-
Efficiency - percent		30	30	30	30	-	-	-
(Note: Filter efficiency based on ASHRAE Std. 52.1-1992.)								
CONNECTION SIZES								
Liquid line - O.D. Copper		1/2	1/2	1/2	1/2	-	-	-
Hot gas line - O.D. Copper		1/2	1/2	1/2	1/2	-	-	-
Condensate drain		3/4	3/4	3/4	3/4	-	-	-
Humidifier supply		1/4	1/4	1/4	1/4	-	-	-
(Note: Refer to Operation and Maintenance manual for recommended pipe sizing between indoor/outdoor sections.)								
ELECTRICAL SECTION		**Standard Fan**						
Electrical data based on STANDARD unit, electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier -**YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	37/46/50	40/49/60	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	19/23/30	19/23/30	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	14/16/25	16/20/30	21/25/40	24/29/45	-	-	-
460/3/60	FLA/MCA/MOP	6.1/7.2/15	7.7/9.2/15	11/14/20	11/14/20	-	-	-

STANDARD FAN	*FLA - Full load amps*	
Diameter (mm)/kW/HP	450/1.0/1.4	500/2.8/3.7
208-230/3/60	3.1	8.2
460/3/60	1.6	3.7

FLA - Full load amps MCA - Minimum circuit amps (wire sizing amps) MOP - Maximum overcurrent protection device amps

AIR COOLED: Performance data at STANDARD airflow with remote air cooled condenser

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
ELECTRICAL SECTION	**Next Size Fan**							
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	62/76/80	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	28/35/40	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	45/54/70	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	21/25/30	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	62/76/80	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	28/35/40	-	-	-
Electrical data based on: electric reheat -**NO**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	29/34/50	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	13/16/25	-	-	-
COMPRESSOR	*FLA - Full load amps*							
HP		2	3	4	5	-	-	-
208-230/3/60		10.4	13.1	17.6	20.5	-	-	-
460/3/60		4.5	6.1	9.6	9.6	-	-	-
NEXT LARGER FAN	*FLA - Full load amps*							
Diameter (mm)/kW/HP		500/2.8/3.7						
208-230/3/60		8.2						
460/3/60		3.7						
CONDENSER	*Remote air cooled outdoor*							
Condenser selection at 95° F ambient		DARC-03	DARC-03	DARC-05	DARC-05	-	-	-
Condenser selection at 100° F ambient		DARC-03	DARC-03	DARC-05	DARC-06	-	-	-
Condenser selection at 105° F ambient		DARC-03	DARC-05	DARC-06	DARC-07	-	-	-

(Note: Condensers are not available in 575 volts. Condensers are selected at sea level. *Refer to page 63* *for electrical data.)*

FLA - Full load amps MCA - Minimum circuit amps (wire sizing amps)MOP - Maximum overcurrent protection device amps

AIR COOLED: Performance data at OPTIONAL airflow with remote air cooled condenser

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
CAPACITY in Btu/hr - *gross*								
80° DB/67° WB	Total	27,900	41,300	55,800	64,800	N/A	N/A	N/A
50% RH	Sensible	22,800	33,500	46,300	56,800	N/A	N/A	N/A
75° DB/62.5° WB	Total	25,700	38,300	51,700	60,400	N/A	N/A	N/A
50% RH	Sensible	21,800	32,200	44,500	54,400	N/A	N/A	N/A
75° DB/61° WB	Total	24,900	37,200	50,400	58,200	N/A	N/A	N/A
45% RH	Sensible	23,400	34,600	47,900	58,200	N/A	N/A	N/A
72° DB/60° WB	Total	24,400	36,600	49,300	57,700	N/A	N/A	N/A
50% RH	Sensible	21,200	31,500	43,400	53,000	N/A	N/A	N/A
72° DB/58.6° WB	Total	23,700	35,600	48,100	56,000	N/A	N/A	N/A
45% RH	Sensible	22,600	33,500	46,200	55,700	N/A	N/A	N/A
FAN SECTION								
Airflow - CFM		1,000	1,500	2,000	2,500	-	-	-
Number of fans		1	1	1	1	-	-	-
Standard fax - diameter (mm)		450	450	450	450	-	-	-
Fan motor - kW/HP								
External static pressure (E.S.P.) - inches of W.G.		1/1.4	1/1.4	1/1.4	1/1.4	-	-	-
Maximum E.S.P.		1.5	1.5	1.3	0.7	-	-	-
Next size fan - diameter (mm)		N/A	N/A	500	500	-	-	-
Fan motor - kW/HP		-	-	2.8/3.7	2.8/3.7	-	-	-
Maximum E.S.P.		-	-	1.5	1.5	-	-	-
COMPRESSORS								
Type		Scroll	Scroll	Scroll	Scroll	-	-	-
Quantity		1	1	1	1	-	-	-
Refrigerant		R-410A	R-410A	R-410A	R-410A	-	-	-
EVAPORATOR COIL								
Face area - sq ft		4.2	4.2	6.25	6.25	-	-	-
Rows of coils		3	3	4	4	-	-	-
Face velocity - fpm		238	357	320	400	-	-	-
REHEAT SECTION								
Electric		Standard	Standard	Standard	Standard	-	-	-
kW		6	6	12	12	-	-	-
Capacity - Btu/hr		20,490	20,490	40,980	40,980	-	-	-
HUMIDIFIER SECTION								
Stream generator		Standard	Standard	Standard	Standard	-	-	-
kW		3.4	3.4	3.4	3.4	-	-	-
Capacity - lb/hr		10	10	10	10	-	-	-

AIR COOLED: Performance Data at OPTIONAL airflow with remote air cooled condenser

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
FILTER SECTION								
Quantity		2	2	2	2	-	-	-
Size - inches	*Downflow*	16x20x4	16x25x4	16x25x4	16x25x4	-	-	-
		20x20x4	20x20x4	20x20x4	20x20x4	-	-	-
	Upflow	16x25x4	16x25x4	16x25x4	16x25x4	-	-	-
		20x25x4	20x25x4	20x25x4	20x25x4	-	-	-
Efficiency - percentage		30	30	30	30	-	-	-
(Note: Filter efficiency based on ASHRAE Std. 52.1-1992.)								
CONNECTION SIZES								
Liquid line - O.D. Copper		1/2	1/2	1/2	1/2	-	-	-
Hot gas line - O.D. Copper		1/2	1/2	1/2	1/2	-	-	-
Condensate drain		3/4	3/4	3/4	3/4	-	-	-
Humidifier supply		1/4	1/4	1/4	1/4	-	-	-
(Note: Refer to Operation and Maintenance Manual for recommended pipe sizing between indoor/outdoor sections.)								
ELECTRICAL SECTION	**Standard Fan**							
Electrical data based on STANDARD unit: electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	37/46/50	40/49/60	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	19/23/30	19/23/30	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier -**NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO** and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	14/16/25	16/20/30	21/25/40	23/29/45	-	-	-
460/3/60	FLA/MCA/MOP	6.1/7.2/15	7.7/9.2/15	11/14/20	11/14/20	-	-	-

STANDARD FAN	*FLA - Full load amps*
Diameter (mm)/kW/HP	450/1.0/1.4
208-230/3/60	3.1
460/3/60	1.6

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

AIR COOLED: Performance data at OPTIONAL airflow with remote air cooled condenser

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
ELECTRICAL SECTION		**Next Size Fan**						
Electrical data based on: electric reheat -**YES**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	59/72/80	62/76/80	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	28/35/40	28/35/40	N/A	N/A	N/A
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	42/51/60	45/54/70	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	21/25/30	21/25/30	N/A	N/A	N/A
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	59/72/80	62/76/80	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	28/35/40	28/35/40	N/A	N/A	N/A
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	26/30/45	29/34/50	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	13/16/25	13/16/25	N/A	N/A	N/A
COMPRESSOR		*FLA - Full load amps*						
HP		2	3	4	5	-	-	-
208-230/3/60		10.4	13.1	17.6	20.5	-	-	-
460/3/60		4.5	6.1	9.6	9.6	-	-	-
NEXT SIZE FAN		*FLA - full load amps*						
Diameter (mm)/kW/HP		500/2.8/3.7						
208-230/3/60		8.2						
460/3/60		3.7						
CONDENSER		*FLA - full load amps*						
Condenser selection at 95° F ambient		*DARC-03*	*DARC-03*	*DARC-05*	DARC-05	-	-	-
Condenser selection at 100° F ambient		*DARC-03*	*DARC-03*	*DARC-05*	*DARC-06*	-	-	-
Condenser selection at 105° F ambient		*DARC-03*	*DARC-05*	*DARC-06*	*DARC-07*	-	-	-

(Note: Condensers are not available in 575 volts. Condensers are selected at sea level. Refer to page 63 for electrical data.)

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

AIR COOLED: Performance data at STANDARD airflow with remote outdoor condensing unit

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
CAPACITY in Btu/hr - *gross*								
80° DB/67° WB	Total	26,700	39,700	53,900	62,500	110,100	132,600	163,500
50% RH	Sensible	20,100	29,700	40,900	49,600	85,500	102,200	122,100
75° DB/62.5° WB	Total	24,600	36,900	49,700	58,200	102,000	122,700	152,000
50% RH	Sensible	19,300	28,700	39,200	47,800	82,300	98,300	117,900
75° DB/61° WB	Total	24,000	35,800	48,500	56,600	99,500	119,400	146,700
45% RH	Sensible	20,700	30,600	42,100	51,200	88,200	105,200	125,400
72° DB/60° WB	Total	23,400	35,300	47,200	55,700	97,100	116,700	145,000
50% RH	Sensible	18,800	28,100	38,300	46,800	80,300	95,900	115,400
72° DB/58.6° WB	Total	22,700	34,300	46,300	54,400	94,400	113,900	141,800
45% RH	Sensible	19,900	29,700	40,800	49,800	85,200	101,900	122,400
FAN SECTION								
Airflow - CFM		800	1,200	1,600	2,000	3,600	4,000	4,500
Number of fans		1	1	1	1	1	1	1
Standard fax - diameter (mm)		450	450	450	450	500	500	500
Fan motor - kW/HP								
External static pressure (E.S.P.) - inches of W.G.		1/1.4	1/1.4	1/1.4	1/1.4	2.8/3.7	2.8/3.7	2.8/3.7
Maximum E.S.P.		1.5	1.5	1.5	1.3	1.5	1.5	0.9
Next size fan - diameter (mm)		N/A	N/A	500	500	N/A	N/A	560
Fan motor - kW/HP		-	-	2.8/3.7	2.8/3.7	-	-	3.0/4.0
Maximum E.S.P.		-	-	1.5	1.5	-	-	1.5
COMPRESSOR	*in Condensing Unit*							
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Quantity			1	1	1	1	1	1
Refrigerant		R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
EVAPORATOR COIL								
Face area - sq ft		4.2	4.2	4.2	4.2	12.2	12.2	12.2
Rows of coils		3	3	4	4	3	3	3
Face velocity - fpm		190	286	256	320	361	361	361
REHEAT SECTION								
Electric		Standard	Standard	Standard	Standard	Standard	Standard	Standard
kW		6	6	12	12	15	15	15
Capacity - Btu/hr		20,490	20,490	40,980	40,980	51,225	51,225	51,225
HUMIDIFIER SECTION								
Steam generator		Standard	Standard	Standard	Standard	Standard	Standard	Standard
kW		3.4	3.4	3.4	3.4	3.4	3.4	3.4
Capacity - lb/hr		10	10	10	10	10	10	10

AIR COOLED: Performance data at STANDARD airflow with remote outdoor condensing unit

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
FILTER SECTION								
Quantity Size - inches	*Downflow*	1-16x20x4	1-16x20x4	1-16x20x4	2-16x20x4	2-16x25x4	2-16x25x4	2-16x25x4
		1-20x20x4	1-20x20x4	1-20x20x4	2-20x20x4	2-20x25x4	2-20x25x4	2-20x25x4
	Upflow	1-16x25x4	1-16x25x4	1-16x25x4	2-16x25x4	1-20x25x4	1-20x25x4	1-20x25x4
		1-20x25x4	1-20x25x4	1-20x25x4	2-20x25x4	2-16x25x4	2-16x25x4	2-16x25x4
Efficiency - percent		30	30	30	30	30	30	30
(Note: Filter efficiency based on ASHRAE Std. 52.1-1992.)								
CONNECTION SIZES								
Liquid line - O.D. Copper		1/2	1/2	1/2	1/2	5/8	5/8	5/8
Suction line - O.D. Copper		3/4	3/4	3/4	3/4	3/4	3/4	3/4
Condensate drain		3/4	3/4	3/4	3/4	3/4	3/4	3/4
Humidifier supply		1/4	1/4	1/4	1/4	1/4	1/4	1/4
(Note: Refer to Operation and Maintenance manual for recommended pipe sizing between indoor section and condensing unit.)								
ELECTRICAL SECTION		**Standard Fan**						
Electrical data based on STANDARD unit: electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	20/25/30	20/25/30	36/46/50	36/46/50	50/62/70	50/62/70	50/62/70
460/3/60	FLA/MCA/MOP	9/11/15	9/11/15	17/21/25	17/21/25	23/28/30	23/28/30	23/28/30
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	19/24/25	19/24/25	19/24/25	19/24/25	25/31/35	25/31/35	25/31/35
460/3/60	FLA/MCA/MOP	9/11/15	9/11/15	9/11/15	9/11/15	11/14/15	11/14/15	11/14/15
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	20/25/30	20/25/30	36/46/50	36/46/50	50/62/70	50/62/70	50/62/70
460/3/60	FLA/MCA/MOP	9/11/15	9/11/15	17/21/25	17/21/25	23/28/30	23/28/30	23/28/30
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	3.1/3.9/15	3.1/3.9/15	3.1/3.9/15	3.1/3.9/15	8.2/10.3/15	8.2/10.3/15	8.2/10.3/15
460/3/60	FLA/MCA/MOP	1.6/2.0/15	1.6/2.0/15	1.6/2.0/15	1.6/2.0/15	3.7/4.6/15	3.7/4.6/15	3.7/4.6/15

STANDARD FAN	*FLA - Full load amps*	
Diameter (mm)/kW/HP	450/1.0/1.4	500/2.8/3.7
208-230/3/60	3.1	8.2
460/3/60	1.6	3.7

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

AIR COOLED: Performance data at STANDARD airflow with remote outdoor condensing unit

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
ELECTRICAL SECTION				**Next Size Fan**				
Electrical data based on: electric reheat- **YES**, steam generator humidifier **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	42/52/60	N/A	N/A	51/63/70
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	19/24/25	N/A	N/A	23/29/30
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	25/31/35	N/A	N/A	25/31/35
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	11/14/15	N/A	N/A	12/15/20
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	42/52/60	N/A	N/A	51/63/70
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	19/24/25	N/A	N/A	23/29/30
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	8.2/10/15	N/A	N/A	8.8/11/15
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	3.7/4.6/15	N/A	N/A	4.3/5.4/15
COMPRESSOR	*FLA - Full load amps*							
208-230/3/60		10.4	13.1	17.6	20.5	30.1	33.3	51.3
460/3/60		4.5	6.1	9.6	9.6	16.7	17.9	23.1

* * * The following section has no reference to column heading * * *

NEXT LARGER FAN	*FLA - Full load amps*	
Diameter/kW/HP	500/2.8/3.7	560/3.0/4.0
208-230/3/60	8.2	8.8
460/3/60	3.7	6.7

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

AIR COOLED: Performance data at STANDARD airflow with remote outdoor condensing unit

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
CONDENSING UNIT								
Condensing unit at 95° F ambient		***DRCU-03***	***DRCU-03***	***DRCU-05***	***DRCU-05***	***DRCU-09***	***DRCU-11***	***DRCU-15***
208-230/3/60	FLA/MCA/MOP	15/18/30	18/21/35	22/27/45	25/30/60	35/42/80	43/51/90	61/73/150
460/3/60	FLA/MCA/MOP	6.8/7.9/15	8.4/9.9/20	12/14/25	12/14/25	19/23/45	23/27/50	28/34/60
Condensing unit at 100° F ambient		***DRCU-03***	***DRCU-03***	***DRCU-05***	***DRCU-06***	***DRCU-11***	***DRCU-15***	***DRCU-17***
208-230/3/60	FLA/MCA/MOP	15/18/30	18/21/35	22/27/45	25/30/60	39/47/80	43/51/90	61/73/150
460/3/60	FLA/MCA/MOP	6.8/7.9/15	8.4/9.9/20	12/14/25	12/14/25	21/26/45	23/27/50	28/34/60
Condensing unit at 105° F ambient		***DRCU-03***	***DRCU-05***	***DRCU-06***	***DRCU-07***	***DRCU-15***	***DRCU-17***	***DRCU-21***
208-230/3/60	FLA/MCA/MOP	15/18/30	18/21/35	22/27/45	25/30/60	39/47/80	43/51/90	65/78/150
460/3/60	FLA/MCA/MOP	6.8/7.9/15	8.4/9.9/20	12/14/25	12/14/25	21/26/45	23/27/50	30/36/90

Notes: Condensing units are not available in 575 volts.

Condensing units are selected at sea level.

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

AIR COOLED: Performance data at OPTIONAL airflow with remote outdoor condensing unit

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
CAPACITY in Btu/hr - *gross*								
80° DB/67° WB	Total	27,900	41,300	55,800	64,800	112,600	136,700	170,000
50% RH	Sensible	22,800	33,500	46,300	56,800	95,200	115,800	137,100
75° DB/62.5° WB	Total	25,700	38,300	51,700	60,400	104,900	126,900	158,200
50% RH	Sensible	21,800	32,200	44,500	54,400	91,500	111,100	132,000
75° DB/61° WB	Total	24,900	37,200	50,400	58,200	102,400	122,900	153,200
45% RH	Sensible	23,400	34,600	47,900	58,200	98,600	119,300	141,300
72° DB/60° WB	Total	24,400	36,600	49,300	57,700	100,300	121,000	151,200
50% RH	Sensible	21,200	31,500	43,400	53,000	89,300	108,300	128,900
72° DB/58.6° WB	Total	23,700	35,600	48,100	56,000	98,100	118,100	146,500
45% RH	Sensible	22,600	33,500	46,200	55,700	95,400	115,600	136,800
FAN SECTION								
Airflow - CFM		1,000	1,500	2,000	2,500	4,400	5,000	5,500
Number of fans		1	1	1	1	1	1	1
Standard fax - diameter (mm)		450	450	450	450	500	560	560
Fan motor - kW/HP								
External static pressure (E.S.P.) - inches of W.G.		1/1.4	1/1.4	1/1.4	1/1.4	2.8/3.7	3.0/4.0	5.0/6.7
Maximum E.S.P.		1.5	1.5	1.3	0.7	1.1	1.0	1.5
Next size fan - diameter (mm)		N/A	N/A	500	500	560	560	-
Fan motor - kW/HP		-	-	2.8/3.7	2.8/3.7	3.0/4.0	5.0/6.7	-
Maximum E.S.P.		-	-	1.5	1.5	1.5	1.5	-
COMPRESSOR				*in Condensing Unit*				
Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Quantity		1	1	1	1	1	1	1
Refrigerant		R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
EVAPORATOR COIL								
Face area - sq ft		4.2	4.2	6.25	6.25	12.2	12.2	12.2
Rows of coils		3	3	4	4	3	3	3
Face velocity - fpm		238	357	320	400	295	295	295
REHEAT SECTION								
Electric		Standard	Standard	Standard	Standard	Standard	Standard	Standard
kW		6	6	12	12	15	15	15
Capacity - Btu/hr		20,490	20,490	40,980	40,980	51,225	51,225	51,225
HUMIDIFIER SECTION								
Steam generator		Standard	Standard	Standard	Standard	Standard	Standard	Standard
kW		3.4	3.4	3.4	3.4	3.4	3.4	3.4
Capacity - lb/hr		10	10	10	10	10	10	10

AIR COOLED: Performance data at OPTIONAL airflow with remote outdoor condensing unit

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
FILTER SECTION								
Quantity Size - inches	*Downflow*	1-16x20x4	1-16x20x4	1-16x20x4	2-16x20x4	2-16x25x4	2-16x25x4	2-16x25x4
		1-20x20x4	1-20x20x4	1-20x20x4	2-20x20x4	2-20x25x4	2-20x25x4	2-20x25x4
	Upflow	1-16x25x4	1-16x25x4	1-16x25x4	2-16x25x4	1-20x25x4	1-20x25x4	1-20x25x4
		1-20x25x4	1-20x25x4	1-20x25x4	2-20x25x4	2-16x25x4	2-16x25x4	2-16x25x4
Efficiency - percent		30	30	30	30	30	30	30
(Note: Filter efficiency based on ASHRAE Std. 52.1-1992.)								
CONNECTION SIZES								
Liquid line - O.D. Copper		1/2	1/2	1/2	1/2	5/8	5/8	5/8
Suction line - O.D. Copper		3/4	3/4	3/4	3/4	3/4	3/4	3/4
Condensate drain		3/4	3/4	3/4	3/4	3/4	3/4	3/4
Humidifier supply		1/4	1/4	1/4	1/4	1/4	1/4	1/4
(Note: Refer to Operation and Maintenance manual for recommended pipe sizing between indoor section and condensing unit.)								
ELECTRICAL	**Standard Fan**							
Electrical data based on STANDARD unit: electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	20/25/30	20/25/30	36/46/50	36/46/50	50/62/70	51/63/70	N/A
460/3/60	FLA/MCA/MOP	9.1/11/15	9.1/11/15	17/21/25	17/21/25	23/28/30	23/29/30	26/32/35
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	19/24/25	19/24/25	19/24/25	19/24/25	25/31/35	25/31/35	N/A
460/3/60	FLA/MCA/MOP	9.0/11/15	9.0/11/15	9.0/11/15	9.0/11/15	11/14/15	12/15/20	14/18/20
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	20/25/30	20/25/30	36/46/50	36/46/50	50/62/70	50/62/70	N/A
460/3/60	FLA/MCA/MOP	9.1/11/15	9.1/11/15	17/21/25	17/21/25	23/28/30	23/29/30	26/32/35
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	3.1/3.9/15	3.1/3.9/15	3.1/3.9/15	3.1/3.9/15	8.2/10/15	8.8/11/15	N/A
460/3/60	FLA/MCA/MOP	1.6/2.0/15	1.6/2.0/15	1.6/2.0/15	1.6/2.0/15	3.7/4.6/15	4.3/5.4/15	6.7/8.4/15

EVAPORATOR FAN MOTOR	*FLA - Full load amps*			
Diameter (mm)/ kW/HP	450/1.0/1.4	500/2.8/3.7	560/3.0/4.0	560/5.0/6.7
208-230/3/60	3.1	8.2	8.8	N/A
460/3/60	1.6	3.7	4.3	6.7

FLA - Full load amps

MCA - Minimum circuit amps (wire sizing amps)

MOP - Maximum overcurrent protection device amps

AIR COOLED: Performance Data at OPTIONAL airflow with remote outdoor condensing unit

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
ELECTRICAL	**Next Size Motor**							
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **YES**, and NEXT LARGER FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	42/52/60	42/52/60	51/32/70	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	19/24/25	19/24/25	23/29/30	26/32/35	N/A
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and NEXT LARGER FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	25/31/35	25/31/35	25/31/35	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	11/14/15	11/14/15	12/15/20	14/18/20	N/A
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and NEXT LARGER FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	42/52/60	42/52/60	51/63/70	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	19/24/25	19/24/25	23/29/30	26/32/35	N/A
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and NEXT LARGER FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	8.2/10/15	8.2/10/15	8.8/11/15	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	3.7/4.6/15	3.7/4.6/15	4.3/5.4/15	6.7/8.4/15	N/A
COMPRESSOR	*FLA - Full load amps*							
208-230/3/60		10.4	13.1	17.6	20.5	30.1	33.3	51.3
460/3/60		4.5	6.1	9.6	9.6	16.7	17.9	23.1

* * * The following section has no reference to column heading * * *

NEXT LARGER FAN	*FLA - Full load amps*		
Diameter/kW/HP	500/2.8/3.7	560/3.0/4.0	560/5.0/6.7
208-230/3/60	8.2	8.8	N/A
460/3/60	3.7	4.3	6.7

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

AIR COOLED: Performance data at OPTIONAL airflow with remote outdoor condensing unit

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTAD/U007*	*GTAD/U011*	*GTAD/U014*	*GTAD/U018*	*GTAD/U028*	*GTAD/U035*	*GTAD/U046*
CONDENSING UNIT								
Condensing unit at 95° F ambient		***DRCU-03***	***DRCU-03***	***DRCU-05***	***DRCU-05***	***DRCU-09***	***DRCU-11***	***DRCU-15***
208-230/3/60	FLA/MCA/MOP	15/18/30	18/21/35	22/27/45	25/30/60	35/42/80	43/51/90	61/73/150
460/3/60	FLA/MCA/MOP	6.8/7.9/15	8.4/9.9/20	12/14/25	12/14/25	19/23/45	23/27/50	28/34/60
Condensing unit at 100° F ambient		***DRCU-03***	***DRCU-03***	***DRCU-05***	***DRCU-06***	***DRCU-11***	***DRCU-15***	***DRCU-17***
208-230/3/60	FLA/MCA/MOP	15/18/30	18/21/35	22/27/45	25/30/60	39/47/80	43/51/90	61/73/150
460/3/60	FLA/MCA/MOP	6.8/7.9/15	8.4/9.9/20	12/14/25	12/14/25	21/26/45	23/27/50	28/34/60
Condensing unit at 105° F ambient		***DRCU-03***	***DRCU--05***	***DRCU-06***	***DRCU-07***	***DRCU-15***	***DRCU-17***	***DRCU-21***
208-230/3/60	FLA/MCA/MOP	15/18/30	18/21/35	22/27/45	25/30/60	39/47/80	43/51/90	65/78/150
460/3/60	FLA/MCA/MOP	6.8/7.9/15	8.4/9.9/20	12/14/25	12/14/25	21/26/45	23/27/50	30/36/90

Notes: Condensing units are not available in 575 volts.

Condensing units are selected at sea level.

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

WATER COOLED: Performance data at STANDARD airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTWD/U007*	*GTWD/U011*	*GTWD/U014*	*GTWD/U018*	*GTWD/U028*	*GTWD/U035*	*GTWD/U046*
CAPACITY in Btu/hr - *gross*								
80° DB/67° WB	Total	30,000	44,700	60,300	70,200	N/A	N/A	N/A
50% RH	Sensible	21,400	31,700	43,400	52,600	N/A	N/A	N/A
75° DB/62.5° WB	Total	27,700	41,300	55,700	65,200	N/A	N/A	N/A
50% RH	Sensible	20,700	30,600	41,900	50,800	N/A	N/A	N/A
75° DB/61° WB	Total	26,800	40,000	53,800	63,300	N/A	N/A	N/A
45% RH	Sensible	21,900	32,500	44,400	54,200	N/A	N/A	N/A
72° DB/60° WB	Total	26,400	39,300	53,000	62,300	N/A	N/A	N/A
50% RH	Sensible	20,200	29,900	41,000	49,700	N/A	N/A	N/A
72° DB/58.6° WB	Total	26,100	38,400	51,500	60,900	N/A	N/A	N/A
45% RH	Sensible	21,500	31,600	43,200	52,800	N/A	N/A	N/A
FAN SECTION								
Airflow - CFM		800	1,200	1,600	2,000	-	-	-
Number of fans		1	1	1	1	-	-	-
Standard fax - diameter (mm)		450	450	450	450	-	-	-
Fan motor - kW/HP		1/1.4	1/1.4	1/1.4	1/1.4	-	-	-
External static pressure (E.S.P.) - inches of W.G.		0.5	0.5	0.5	0.5	-	-	-
Maximum E.S.P.		1.5	1.5	1.5	1.3	-	-	-
Next size fan - diameter (mm)		N/A	N/A	N/A	500	-	-	-
Fan motor - kW/HP		-	-	-	2.8/3.7	-	-	-
Minimum E.S.P.		-	-	-	1.5	-	-	-
COMPRESSORS								
Type		Scroll	Scroll	Scroll	Scroll	-	-	-
Quantity		1	1	1	1	-	-	-
Refrigerant type		R-410A	R-410A	R-410A	R-410A	-	-	-
EVAPORATOR COIL								
Face area - sq ft		4.2	4.2	6.25	6.25	-	-	-
Rows of coils		3	3	4	4	-	-	-
Face velocity - fpm		190	286	256	320	-	-	-
REHEAT SECTION								
Electric		Standard	Standard	Standard	Standard	-	-	-
kW		6	6	12	12	-	-	-
Capacity - Btu/hr		20,490	20,490	40,980	40,980	-	-	-
HUMIDIFIER SECTION								
Steam generator		Standard	Standard	Standard	Standard	-	-	-
kW		3.4	3.4	3.4	3.4	-	-	-
Capacity - lb/hr		10	10	10	10	-	-	-

WATER COOLED: Performance data at STANDARD airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTWD/U007*	*GTWD/U011*	*GTWD/U014*	*GTWD/U018*	*GTWD/U028*	*GTWD/U035*	*GTWD/U046*
FILTER SECTION								
Quantity		2	2	2	2	-	-	-
Size - inches	*Downflow*	16x20x4	16x25x4	16x25x4	16x25x4	-	-	-
		20x20x4	20x20x4	20x20x4	20x20x4	-	-	-
	Upflow	16x25x4	16x25x4	16x25x4	16x25x4	-	-	-
		20x25x4	20x25x4	20x25x4	20x25x4	-	-	-
Efficiency - percentage		30	30	30	30	-	-	-
(Note: Filter efficiency based on ASHRAE Std. 52.1-1992.)								
CONNECTION SIZES								
Condenser water supply - O.D. Copper		3/4	3/4	1 1/8	1 1/8	-	-	-
Condenser water return - O.D. Copper		3/4	3/4	1 1/8	1 1/8	-	-	-
Condensate drain		3/4	3/4	3/4	3/4	-	-	-
Humidifier supply		1/4	1/4	1/4	1/4	-	-	-
(Note: Refer to Operation and Maintenance Manual for piping information between indoor unit and water source.)								
ELECTRICAL SECTION		**Standard Fan**						
Electrical data based on STANDARD unit, electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier -**YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	37/46/50	40/49/60	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	19/23/30	19/23/30	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	14/16/25	16/20/30	21/25/40	24/29/45	-	-	-
460/3/60	FLA/MCA/MOP	6.1/7.2/15	7.7/9.2/15	11/14/20	11/14/20	-	-	-

STANDARD FAN	*FLA - Full load amps*
Diameter (mm)/kW/HP	450/1.0/1.4
208-230/3/60	3.1
460/3/60	1.6

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

WATER COOLED: Performance data at STANDARD airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTWD/U007*	*GTWD/U011*	*GTWD/U014*	*GTWD/U018*	*GTWD/U028*	*GTWD/U035*	*GTWD/U046*
ELECTRICAL SECTION	**Next Size Fan**							
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	62/76/80	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	28/35/40	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	45/54/70	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	21/25/30	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	62/76/80	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	28/35/40	-	-	-
Electrical data based on: electric reheat -**NO**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	29/34/50	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	13/16/25	-	-	-
COMPRESSOR	*FLA - Full load amps*							
208-230/3/60		10.4	13.1	17.6	20.5	-	-	-
460/3/60		4.5	6.1	9.6	9.6	-	-	-

* * * The following section has no reference to column heading * * *

NEXT LARGER FAN	*FLA - Full load amps*
Diameter/kW/HP	500/2.8/3.7
208-230/3/60	8.2
460/3/60	3.7

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

WATER COOLED: Performance data at STANDARD airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTWD/U007*	*GTWD/U011*	*GTWD/U014*	*GTWD/U018*	*GTWD/U028*	*GTWD/U035*	*GTWD/U046*
CONDENSER WATER								
	Requirements at maximum design water pressure of 150 psi (high pressure optional).							
65° F entering fluid temperature	GPM	2.6	3.9	5.2	6.5	-	-	-
	PD in PSI	0.9	1.9	0.9	1.2	-	-	-
75° F entering fluid temperature	GPM	4.2	6.2	8.3	10.4	-	-	-
	PD in PSI	1.6	5.8	1.5	2.5	-	-	-
85° F entering fluid temperature	GPM	6.0	9.0	12.0	15.0	-	-	-
	PD in PSI	3.2	7.5	3.5	5.0	-	-	-
With fluid cooler	GPM	7.0	10.5	14	17.5	-	-	-
	PD in PSI	4.0	8.2	4.4	6.5	-	-	-
PUMP SELECTION	**At design flow**							
Horsepower		3/4	3/4	1	1	-	-	-
Pump electrical data								
208-230/1/60	FLA	4.8	4.8	5.8	.8	-	-	-
208-230/3/60	FLA	2.6	2.6	3.2	3.2	-	-	-
460/3/60	FLA	1.3	1.3	1.6	1.6	-	-	-

FLA - Full Load Amps

WATER COOLED: Performance data at OPTIONAL airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTWD/U007*	*GTWD/U011*	*GTWD/U014*	*GTWD/U018*	*GTWD/U028*	*GTWD/U035*	*GTWD/U046*
CAPACITY in Btu/hr - *gross*								
80° DB/67° WB	Total	31,400	46,300	62,800	73,100	N/A	N/A	N/A
50% RH	Sensible	24,200	35,500	49,100	59,700	N/A	N/A	N/A
75° DB/62.5° WB	Total	29,000	43,200	58,400	67,800	N/A	N/A	N/A
50% RH	Sensible	23,200	34,300	47,300	57,400	N/A	N/A	N/A
75° DB/61° WB	Total	28,200	41,700	56,500	65,700	N/A	N/A	N/A
45% RH	Sensible	24,900	36,500	50,500	61,500	N/A	N/A	N/A
72° DB/60° WB	Total	27,600	41,300	55,800	64,600	N/A	N/A	N/A
50% RH	Sensible	22,600	33,500	46,200	56,000	N/A	N/A	N/A
72° DB/58.6° WB	Total	27,000	39,800	54,000	63,300	N/A	N/A	N/A
45% RH	Sensible	24,100	35,400	48,900	59,800	N/A	N/A	N/A
FAN SECTION								
Airflow - CFM		1,000	1,500	2,000	2,500	-	-	-
Number of fans		1	1	1	1	-	-	-
Standard fax - diameter (mm)		450	450	450	450	-	-	-
Fan motor - kW/HP								
External static pressure (E.S.P.) - inches of W.G.		1/1.4	1/1.4	1/1.4	1/1.4	-	-	-
Maximum E.S.P.		1.5	1.5	1.3	0.7	-	-	-
Next size fan - diameter (mm)		N/A	N/A	500	500	-	-	-
Fan motor - kW/HP		-	-	2.8/3.7	2.8/3.7	-	-	-
Maximum E.S.P.		-	-	1.5	1.5	-	-	-
COMPRESSORS								
Type		Scroll	Scroll	Scroll	Scroll	-	-	-
Quantity		1	1	1	1	-	-	-
Refrigerant type		R-410A	R-410A	R-410A	R-410A	-	-	-
EVAPORATOR COIL								
Face area - sq ft	.	4.2	4.2	6.25	6.25	-	-	-
Rows of coils		3	3	4	4	-	-	-
Face velocity FPM		238	357	320	400	-	-	-
REHEAT SECTION								
Electric		Standard	Standard	Standard	Standard	-	-	-
kW		6	6	12	12	-	-	-
Capacity - Btu/hr		20,490	20,490	40,980	40,980	-	-	-
HUMIDIFIER SECTION								
Steam generator		Standard	Standard	Standard	Standard	-	-	-
kW		3.4	3.4	3.4	3.4	-	-	-
Capacity - lb/hr		10	10	10	10	-	-	-

WATER COOLED: Performance data at OPTIONAL airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTWD/U007*	*GTWD/U011*	*GTWD/U014*	*GTWD/U018*	*GTWD/U028*	*GTWD/U035*	*GTWD/U046*
FILTER SECTION								
Quantity		2	2	2	2	-	-	-
Size - inches	*Downflow*	16x20x4	16x25x4	16x25x4	16x25x4	-	-	-
		20x20x4	20x20x4	20x20x4	20x20x4	-	-	-
	Upflow	16x25x4	16x25x4	16x25x4	16x25x4	-	-	-
		20x25x4	20x25x4	20x25x4	20x25x4	-	-	-
Efficiency - percentage		30	30	30	30	-	-	-
(Note: Filter efficiency based on ASHRAE Std. 52.1-1992.)								
CONNECTION SIZES								
Condenser water supply - O.D. Copper		3/4	3/4	1 1/8	1 1/8	-	-	-
Condenser water return - O.D. Copper		3/4	3/4	1 1/8	1 1/8	-	-	-
Condensate drain		3/4	3/4	3/4	3/4	-	-	-
Humidifier supply		1/4	1/4	1/4	1/4	-	-	-
(Note: Refer to Operation and Maintenance Manual for piping information between indoor unit and water source.)								
ELECTRICAL SECTION	**Standard Fan**							
Electrical data based on STANDARD unit: electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	37/46/50	40/49/60	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	19/23/30	19/23/30	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier -**NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO** and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	14/16/25	16/20/30	21/25/40	23/29/45	-	-	-
460/3/60	FLA/MCA/MOP	6.1/7.2/15	7.7/9.2/15	11/14/20	11/14/20	-	-	-

STANDARD FAN	*FLA - Full load amps*
Diameter (mm)/kW/HP	500/2.8/3.7
208-230/3/60	8.2
460/3/60	3.7

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amp

WATER COOLED: Performance data at OPTIONAL airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTWD/U007*	*GTWD/U011*	*GTWD/U014*	*GTWD/U018*	*GTWD/U028*	*GTWD/U035*	*GTWD/U046*
ELECTRICAL SECTION		**Next Size Fan**						
Electrical data based on: electric reheat -**YES**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	59/72/80	62/76/80	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	28/35/40	28/35/40	N/A	N/A	N/A
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	42/51/60	45/54/70	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	21/25/30	21/25/30	N/A	N/A	N/A
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	59/72/80	62/76/80	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	28/35/40	28/35/40	N/A	N/A	N/A
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	26/30/45	29/34/50	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	13/16/25	13/16/25	N/A	N/A	N/A
COMPRESSOR		*FLA - Full load amps*						
208-230/3/60		10.4	13.1	17.6	20.5	-	-	-
460/3/60		4.5	6.1	9.6	9.6	-	-	-

* * * The following section has no reference to column heading * * *

NEXT LARGER FAN	*FLA - Full load amps*
Diameter/kW/HP	500/2.8/3.7
208-230/3/60	8.2
460/3/60	3.7

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

WATER COOLED: Performance data at OPTIONAL airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTWD/U007*	*GTWD/U011*	*GTWD/U014*	*GTWD/U018*	*GTWD/U028*	*GTWD/U035*	*GTWD/U046*
CONDENSER WATER								
Requirements at maximum design water pressure of 150 psi (high pressure optional).								
65° F entering fluid temperature	GPM	2.6	3.9	5.2	6.5	-	-	-
	PD in PSI	0.9	1.9	0.9	1.2	-	-	-
75° F entering fluid temperature	GPM	4.2	6.2	8.3	10.4	-	-	-
	PD in PSI	1.6	5.8	1.5	2.5	-	-	-
85° F entering fluid temperature	GPM	6.0	9.0	12.0	15.0	-	-	-
	PD in PSI	3.2	7.5	3.5	5.0	-	-	-
With fluid cooler	GPM	7.0	10.5	14.0	17.5	-	-	-
	PD in PSI	4.0	8.2	4.4	6.5	-	-	-
PUMP SELECTION		**At design flow**						
Horsepower		3/4	3/4	1	1	-	-	-
PUMP ELECTRICAL DATA								
208-230/1/60	FLA	4.8	4.8	5.8	5.8	-	-	-
208-230/3/60	FLA	2.6	2.6	3.2	3.2	-	-	-
460/3/60	FLA	1.3	1.3	1.6	1.6	-	-	-

(Note: Pump selection is based on total available head pressure of 80 feet of water.)

FLA - Full Load Amps

GLYCOL COOLED: Performance data at STANDARD airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTGD/U007*	*GTGD/U011*	*GTGD/U014*	*GTGD/U018*	*GTGD/U028*	*GTGD/U035*	*GTGD/U046*
CAPACITY in Btu/hr - *gross*								
80° DB/67° WB	Total	25,800	38,500	52,100	61,200	N/A	N/A	N/A
50% RH	Sensible	19,700	29,200	40,200	49,100	N/A	N/A	N/A
75° DB/62.5° WB	Total	23,800	35,700	48,100	56,400	N/A	N/A	N/A
50% RH	Sensible	19,000	28,200	38,600	47,100	N/A	N/A	N/A
75° DB/61° WB	Total	23,100	34,600	46,600	54,800	N/A	N/A	N/A
45% RH	Sensible	20,300	30,100	41,200	50,400	N/A	N/A	N/A
72° DB/60° WB	Total	22,700	34,000	45,700	53,500	N/A	N/A	N/A
50% RH	Sensible	18,500	27,500	37,600	45,900	N/A	N/A	N/A
72° DB/58.6° WB	Total	22,100	33,100	44,500	52,100	N/A	N/A	N/A
45% RH	Sensible	19,600	29,200	39,900	48,800	N/A	N/A	N/A
FAN SECTION								
Airflow - CFM		800	1,200	1,600	2,000	-	-	-
Number of fans		1	1	1	1	-	-	-
Standard fax - diameter (mm)		450	450	450	450	-	-	-
Fan motor - kW/HP		1/1.4	1/1.4	1/1.4	1/1.4	-	-	-
External static pressure (E.S.P.) - inches of W.G.		0.5	0.5	0.5	0.5	-	-	-
Maximum E.S.P.		1.5	1.5	1.5	1.3	-	-	-
Next size fan - diameter (mm)		N/A	N/A	N/A	500	-	-	-
Fan motor - kW/HP		-	-	-	2.8/3.7	-	-	-
Minimum E.S.P.		-	-	-	1.5	-	-	-
COMPRESSORS								
Type		Scroll	Scroll	Scroll	Scroll	-	-	-
Quantity		1	1	1	1	-	-	-
Refrigerant type		R-410A	R-410A	R-410A	R-410A	-	-	-
EVAPORATOR COIL								
Face area - sq ft		4.2	4.2	6.25	6.25	-	-	-
Rows of coils		3	3	4	4	-	-	-
Face velocity - fpm		190	286	256	320	-	-	-
REHEAT SECTION								
Electric		Standard	Standard	Standard	Standard	-	-	-
kW		6	6	12	12	-	-	-
Capacity - Btu/hr		20,490	20,490	40,980	40,980	-	-	-
HUMIDIFIER SECTION								
Steam generator		Standard	Standard	Standard	Standard	-	-	-
kW		3.4	3.4	3.4	3.4	-	-	-
Capacity - lb/hr		10	10	10	10	-	-	-

GLYCOL COOLED: Performance data at STANDARD airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTGD/U007*	*GTGD/U011*	*GTGD/U014*	*GTGD/U018*	*GTGD/U028*	*GTGD/U035*	*GTGD/U046*
FILTER SECTION								
Quantity		2	2	2	2	-	-	-
Size - inches	*Downflow*	16x20x4	16x25x4	16x25x4	16x25x4	-	-	-
		20x20x4	20x20x4	20x20x4	20x20x4	-	-	-
	Upflow	16x25x4	16x25x4	16x25x4	16x25x4	-	-	-
		20x25x4	20x25x4	20x25x4	20x25x4	-	-	-
Efficiency - percentage		30	30	30	30	-	-	-
(Note: Filter efficiency based on ASHRAE Std. 52.1-1992.)								
CONNECTION SIZES								
Condenser water supply - O.D. Copper		3/4	3/4	1 1/8	1 1/8	-	-	-
Condenser water return - O.D. Copper		3/4	3/4	1 1/8	1 1/8	-	-	-
Condensate drain		3/4	3/4	3/4	3/4	-	-	-
Humidifier supply		1/4	1/4	1/4	1/4	-	-	-
(Note: Refer to Operation and Maintenance Manual for piping information between indoor unit and dry cooler.)								
ELECTRICAL SECTION		**Standard Fan**						
Electrical data based on STANDARD unit, electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier -**YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	37/46/50	40/49/60	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	19/23/30	19/23/30	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	14/16/25	16/20/30	21/25/40	24/29/45	-	-	-
460/3/60	FLA/MCA/MOP	6.1/7.2/15	7.7/9.2/15	11/14/20	11/14/20	-	-	-

STANDARD FAN	*FLA - Full load amps*	
Diameter (mm)/kW/HP	450/1.0/1.4	500/2.8/3.7
208-230/3/60	3.1	8.2
460/3/60	1.6	3.7

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

GLYCOL COOLED: Performance data at STANDARD airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTGD/U007*	*GTGD/U011*	*GTGD/U014*	*GTGD/U018*	*GTGD/U028*	*GTGD/U035*	*GTGD/U046*
ELECTRICAL SECTION	**Next Size Fan**							
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	62/76/80	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	28/35/40	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	45/54/70	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	21/25/30	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	62/76/80	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	28/35/40	-	-	-
Electrical data based on: electric reheat -**NO**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	N/A	29/34/50	-	-	-
460/3/60	FLA/MCA/MOP	N/A	N/A	N/A	13/16/25	-	-	-
COMPRESSOR	*FLA - Full load amps*							
208-230/3/60		10.4	13.1	17.6	20.5	-	-	-
460/3/60		4.5	6.1	9.6	9.6	-	-	-

* * * The following section has no reference to column heading * * *

NEXT LARGER FAN	*FLA - Full load amps*
Diameter/kW/HP	500/2.8/3.7
208-230/3/60	8.2
460/3/60	3.7

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

GLYCOL COOLED: Performance data at STANDARD airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER			*GTGD/U007*	*GTGD/U011*	*GTGD/U014*	*GTGD/U018*	*GTGD/U028*	*GTGD/U035*	*GTGD/U046*
FLUID COOLER SELECTIONS									
Fluid cooler at 95° F ambient			**DAFC-06**	**DAFC-06**	**DAFC-06**	**DAFC-07**	**-**	**-**	**-**
208-230/1/60	FLA/MCA/MOP		4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	-	-	-
208-230/3/60	FLA/MCA/MOP		4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	-	-	-
460/3/60	FLA/MCA/MOP		2.3/2.9/15	2.3/2.9/15	2.3/2.9/15	2.3/2.9/15	-	-	-
Fluid cooler at 100° F ambient			**DAFC-06**	**DAFC-06**	**DAFC-09**	**DAFC-15**	**-**	**-**	**-**
208-230/1/60	FLA/MCA/MOP		4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	9.2/10.4/15	-	-	-
208-230/3/60	FLA/MCA/MOP		4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	9.2/10.4/15	-	-	-
460/3/60	FLA/MCA/MOP		2.3/2.9/15	2.3/2.9/15	2.3/2.9/15	4.6/5.2/15	-	-	-
CONDENSER WATER									
Requirements at maximum design water pressure of 150 psi (high pressure optional).									
65° F entering fluid temperature		GPM	2.6	3.9	5.2	6.5	-	-	-
		PD in PSI	0.9	1.9	0.9	1.2	-	-	-
75° F entering fluid temperature		GPM	4.2	6.2	8.3	10.4	-	-	-
		PD in PSI	1.6	5.8	1.5	2.5	-	-	-
85° F entering fluid temperature		GPM	6.0	9.0	12.0	15.0	-	-	-
		PD in PSI	3.2	7.5	3.5	5.0	-	-	-
With fluid cooler		GPM	7.0	10.5	14.0	17.5	-	-	-
		PD in PSI	4.0	8.2	4.4	6.5	-	-	-
PUMP SELECTION			**At design flow**						
Horsepower			3/4	3/4	1	1	-	-	-
PUMP ELECTRICAL DATA									
208-230/1/60	FLA		4.8	4.8	5.8	5.8	-	-	-
208-230/3/60	FLA		2.6	2.6	3.2	3.2	-	-	-
460/3/60	FLA		1.3	1.3	1.6	1.6	-	-	-

Notes: Fluid coolers are not available in 575 volts.
Fluid coolers are selected at sea level.
Pump selection is based on total available head pressure of 80 feet of water.

FLA - Full load amps

GLYCOL COOLED: Performance data at OPTIONAL airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTGD/U007*	*GTGD/U011*	*GTGD/U014*	*GTGD/U018*	*GTGD/U028*	*GTGD/U035*	*GTGD/U046*
CAPACITY in Btu/hr - *gross*								
80° DB/67° WB	Total	27,000	40,100	54,000	62,800	N/A	N/A	N/A
50% RH	Sensible	22,500	33,100	45,600	55,800	N/A	N/A	N/A
75° DB/62.5° WB	Total	24,900	37,000	50,100	58,300	N/A	N/A	N/A
50% RH	Sensible	21,500	31,700	43,800	53,500	N/A	N/A	N/A
75° DB/61° WB	Total	24,000	36,000	48,500	56,500	N/A	N/A	N/A
45% RH	Sensible	23,100	34,100	47,000	56,500	N/A	N/A	N/A
72° DB/60° WB	Total	23,600	35,200	47,700	55,600	N/A	N/A	N/A
50% RH	Sensible	20,900	30,900	42,700	52,100	N/A	N/A	N/A
72° DB/58.6° WB	Total	22,900	34,500	46,300	54,600	N/A	N/A	N/A
45% RH	Sensible	22,300	33,000	45,500	54,300	N/A	N/A	N/A
FAN SECTION								
Airflow - CFM		1,000	1,500	2,000	2,500	-	-	-
Number of fans		1	1	1	1	-	-	-
Standard fax - diameter (mm)		450	450	450	450	-	-	-
Fan motor - kW/HP								
External static pressure (E.S.P.) - inches of W.G.		1/1.4	1/1.4	1/1.4	1/1.4	-	-	-
Maximum E.S.P.		1.5	1.5	1.3	0.7	-	-	-
Next size fan - diameter (mm)		N/A	N/A	500	500	-	-	-
Fan motor - kW/HP		-	-	2.8/3.7	2.8/3.7	-	-	-
Maximum E.S.P.			-	1.5	1.5	-	-	-
COMPRESSORS								
Type		Scroll	Scroll	Scroll	Scroll	-	-	-
Quantity		1	1	1	1	-	-	-
Refrigerant type		R-410A	R-410A	R-410A	R-410A	-	-	-
EVAPORATOR COIL								
Face area - sq ft		4.2	4.2	6.25	6.25	-	-	-
Rows of coils		3	3	4	4	-	-	-
Face velocity - fpm		238	357	320	400	-	-	-
REHEAT SECTION								
Electric		Standard	Standard	Standard	Standard	-	-	-
kW		6	6	12	12	-	-	-
Capacity - Btu/hr		20,490	20,490	40,980	40,980	-	-	-
HUMIDIFIER SECTION								
Steam generator		Standard	Standard	Standard	Standard	-	-	-
kW		3.4	3.4	3.4	3.4	-	-	-
Capacity - lb/hr		10	10	10	10	-	-	-

GLYCOL COOLED: Performance data at OPTIONAL airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTGD/U007*	*GTGD/U011*	*GTGD/U014*	*GTGD/U018*	*GTGD/U028*	*GTGD/U035*	*GTGD/U046*
FILTER SECTION								
Quantity		2	2	2	2	-	-	-
Size - inches	*Downflow*	16x20x4	16x25x4	16x25x4	16x25x4	-	-	-
		20x20x4	20x20x4	20x20x4	20x20x4	-	-	-
	Upflow	16x25x4	16x25x4	16x25x4	16x25x4	-	-	-
		20x25x4	20x25x4	20x25x4	20x25x4	-	-	-
Efficiency - percentage		30	30	30	30	-	-	-
(Note: Filter efficiency based on ASHRAE Std. 52.1-1992.)								
CONNECTION SIZES								
Condenser water supply - O.D. Copper		3/4	3/4	1 1/8	1 1/8	-	-	-
Condenser water return - O.D. Copper		3/4	3/4	1 1/8	1 1/8	-	-	-
Condensate drain		3/4	3/4	3/4	3/4	-	-	-
Humidifier supply		1/4	1/4	1/4	1/4	-	-	-
(Note: Refer to Operation and Maintenance Manual for piping information between indoor unit and dry cooler.)								
ELECTRICAL SECTION	**Standard Fan**							
Electrical data based on STANDARD unit: electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	37/46/50	40/49/60	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	19/23/30	19/23/30	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier -**NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO** and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	14/16/25	16/20/30	21/25/40	23/29/45	-	-	-
460/3/60	FLA/MCA/MOP	6.1/7.2/15	7.7/9.2/15	11/14/20	11/14/20	-	-	-

STANDARD FAN	*FLA - Full load amps*	
Diameter (mm)/kW/HP	450/1.0/1.4	500/2.8/3.7
208-230/3/60	3.1	8.2
460/3/60	1.6	3.7

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

GLYCOL COOLED: Performance data at OPTIONAL airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER		*GTGD/U007*	*GTGD/U011*	*GTGD/U014*	*GTGD/U018*	*GTGD/U028*	*GTGD/U035*	*GTGD/U046*
ELECTRICAL SECTION		**Next Size Fan**						
Electrical data based on: electric reheat -**YES**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	59/72/80	62/76/80	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	28/35/40	28/35/40	N/A	N/A	N/A
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	42/51/60	45/54/70	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	21/25/30	21/25/30	N/A	N/A	N/A
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	59/72/80	62/76/80	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	28/35/40	28/35/40	N/A	N/A	N/A
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and NEXT SIZE FAN.								
208-230/3/60	FLA/MCA/MOP	N/A	N/A	26/30/45	29/34/50	N/A	N/A	N/A
460/3/60	FLA/MCA/MOP	N/A	N/A	13/16/25	13/16/25	N/A	N/A	N/A
COMPRESSOR		*FLA - Full load amps*						
208-230/3/60		10.4	13.1	17.6	20.5	-	-	-
460/3/60		4.5	6.1	9.6	9.6	-	-	-

* * * The following section has no reference to column heading * * *

NEXT LARGER FAN	*FLA - Full load amps*
Diameter/kW/HP	500/2.8/3.7
208-230/3/60	8.2
460/3/60	3.7

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection service amps

GLYCOL COOLED: Performance data at OPTIONAL airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

MODEL NUMBER			*GTGD/U007*	*GTGD/U011*	*GTGD/U014*	*GTGD/U018*	*GTGD/U028*	*GTGD/U035*	*GTGD/U046*
FLUID COOLER SELECTIONS									
Fluid cooler at 95° F ambient			**DAFC-06**	**DAFC-06**	**DAFC-06**	**DAFC-07**	-	-	-
208-230/1/60	FLA/MCA/MOP		4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	-	-	-
208-230/3/60	FLA/MCA/MOP		4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	-	-	-
460/3/60	FLA/MCA/MOP		2.3/2.9/15	2.3/2.9/15	2.3/2.9/15	2.3/2.9/15	-	-	-
Fluid cooler at 100° F ambient			**DAFC-06**	**DAFC-06**	**DAFC-09**	**DAFC-15**	**-**	**-**	**-**
208-230/1/60	FLA/MCA/MOP		4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	9.2/10.4/15	-	-	-
208-230/3/60	FLA/MCA/MOP		4.6/5.8/15	4.6/5.8/15	4.6/5.8/15	9.2/10.4/15	-	-	-
460/3/60	FLA/MCA/MOP		2.3/2.9/15	2.3/2.9/15	2.3/2.9/15	4.6/5.2/15	-	-	-
CONDENSER WATER									
Requirements at maximum design water pressure of 150 psi (high pressure optional).									
65° F entering fluid temperature		GPM	2.6	3.9	5.2	6.5	-	-	-
		PD in PSI	0.9	1.9	0.9	1.2	-	-	-
75° F entering fluid temperature		GPM	4.2	6.2	8.3	10.4	-	-	-
		PD in PSI	1.6	5.8	1.5	2.5	-	-	-
85° F entering fluid temperature		GPM	6.0	9.0	12.0	15.0	-	-	-
		PD in PSI	3.2	7.5	3.5	5.0	-	-	-
With fluid cooler		GPM	7.0	10.5	14.0	17.5	-	-	-
		PD in PSI	4.0	8.2	4.4	6.5	-	-	-
PUMP SELECTION			**At design flow**						
Horsepower			3/4	3/4	1	1	-	-	-
PUMP ELECTRICAL DATA									
208-230/1/60		FLA	4.8	4.8	5.8	5.8	-	-	-
208-230/3/60		FLA	2.6	2.6	3.2	3.2	-	-	-
460/3/60		FLA	1.3	1.3	1.6	1.6	-	-	-

Notes: Fluid Coolers are not available in 575 volts.
Fluid Coolers are selected at sea level.
Pump selection is based on total available head pressure of 80 feet of water.

AUXILIARY CHILLED WATER: Performance data at STANDARD airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

Based on 45° F entering fluid temperature - 0% glycol.

MODEL NUMBER		*GT*D/U007*	*GT*D/U011*	*GT*D/U014*	*GT*D/U018*	*GT*D/U028*	*GT*D/U035*	*GT*D/U046*
CAPACITY in Btu/hr - *gross*								
75° F DB/62.5° F WB	Total	28,000	39,500	54,400	65,300	N/A	N/A	N/A
50% RH	Sensible	21,700	31,200	42,400	51,600	N/A	N/A	N/A
72° F DB/62.5° F WB	Total	23,800	33,600	46,200	55,500	N/A	N/A	N/A
50% RH	Sensible	19,900	28,700	38,900	47,400	N/A	N/A	N/A
Rows of coils		4	4	4	4	-	-	-
GPM		7.0	10.5	14.0	17.5	-	-	-
Pressure drop in PSI		1.8	3.6	6.5	9.7	-	-	-
FAN SECTION								
Airflow - CFM		800	1,200	1,600	2,000	-	-	-
Number of fans		1	1	1	1	-	-	-
Standard fax - diameter (mm)		450	450	450	450	-	-	-
Fan motor - kW/HP		1/1.4	1/1.4	1/1.4	1/1.4	-	-	-
External static pressure (E.S.P.) - inches of W.G.		0.5	0.5	0.5	0.5	-	-	-
Maximum E.S.P.		1.5	1.5	1.5	1.1	-	-	-
Next size fan - diameter (mm)		N/A	N/A	N/A	500	-	-	-
Fan motor - kW/HP		-	-	-	2.8/3.7	-	-	-
Minimum E.S.P.		-	-	-	1.5	-	-	-
ELECTRICAL SECTION		**Standard Fan**						
Electrical data based on STANDARD unit: electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	37/46/50	40/49/60	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/25	19/23/40	19/23/40	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	14/16/25	16/20/30	21/25/40	24/29/45	-	-	-
460/3/60	FLA/MCA/MOP	6.1/7.2/15	7.7/9.2/15	11/14/20	11/14/20	-	-	-

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

AUXILIARY CHILLED WATER: Performance data at OPTIONAL airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

Based on 45° F entering fluid temperature - 0% glycol.

MODEL NUMBER		*GT*D/U007*	*GT*D/U011*	*GT*D/U014*	*GT*D/U018*	*GT*D/U028*	*GT*D/U035*	*GT*D/U046*
CAPACITY in Btu/hr - *gross*								
75° F DB/62.5° F WB	Total	31,900	44,700	61,800	73,900	N/A	N/A	N/A
50% RH	Sensible	25,600	36,700	50,000	47,400	N/A	N/A	N/A
72° F DB/62.5° F WB	Total	27,300	38,300	52,800	63,400	N/A	N/A	N/A
50% RH	Sensible	23,700	28,700	46,100	56,000	N/A	N/A	N/A
Rows of coils		4	4	4	4	-	-	-
GPM		7.0	10.5	14.0	17.5	-	-	-
Pressure drop in PSI		1.8	3.6	6.5	9.7	-	-	-
FAN SECTION								
Airflow - CFM		1,000	1,500	2,000	2,500	-	-	-
Number of fans		1	1	1	1	-	-	-
Standard fax - diameter (mm)		450	450	450	500	-	-	-
Fan motor - kW/HP								
External static pressure (E.S.P.) - inches of W.G.		1/1.4	1/1.4	1/1.4	2.8/3.7	-	-	-
Maximum E.S.P.		1.5	1.5	1.0	1.5	-	-	-
Next size fan - diameter (mm)		N/A	N/A	500	N/A	-	-	-
Fan motor - kW/HP		-	-	2.8/3.7	-	-	-	-
Maximum E.S.P.		-	-	1.0	-	-	-	-
ELECTRICAL SECTION	**Standard Fan**							
Electrical data based on STANDARD unit: electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	62/76/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	28/35/40	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	37/46/50	45/54/70	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/25	19/23/40	21/25/40	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	62/76/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	28/35/40	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	14/16/25	16/20/30	21/25/40	29/34/50	-	-	-
460/3/60	FLA/MCA/MOP	6.1/7.2/15	7.7/9.2/15	11/14/20	13/16/25	-	-	-

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

ENERGY SAVER: Performance data at STANDARD airflow

R-410A

gForce GT also available in R-407C. Data in a separate brochure.

Based on 45° F entering fluid temperature with 40% glycol solution - capacity in Btu/hr.

MODEL NUMBER		*GT*D/U007*	*GT*D/U011*	*GT*D/U014*	*GT*D/U018*	*GT*D/U028*	*GT*D/U035*	*GT*D/U046*
CAPACITY in Btu/hr- *gross*								
75° F DB/62.5° F WB	Total	23,300	31,700	46,800	56,300	N/A	N/A	N/A
50% RH	Sensible	19,600	27,600	39,000	47,500	N/A	N/A	N/A
72° F DB/62.5° F WB	Total	20,200	27,500	40,400	48,600	N/A	N/A	N/A
50% RH	Sensible	18,200	25,700	36,100	44,000	N/A	N/A	N/A
Rows of coils		4	4	4	4	-	-	-
GPM		7.0	10.5	14.0	17.5	-	-	-
Pressure drop - PSI		4.6	10.1	9.2	14.6	-	-	-
FAN SECTION								
Airflow - CFM		800	1,200	1,600	2,000	-	-	-
Number of fans		1	1	1	1	-	-	-
Standard fax - diameter (mm)		450	450	450	450	-	-	-
Fan motor - kW/HP		1/1.4	1/1.4	1/1.4	1/1.4	-	-	-
External static pressure (E.S.P.) - inches of W.G.		0.5	0.5	0.5	0.5	-	-	-
Maximum E.S.P.		1.5	1.5	1.5	1.0	-	-	
Next size fan - diameter (mm)		N/A	N/A	N/A	500	-	-	-
Fan motor - kW/HP		-	-	-	2.8/3.7	-	-	-
Minimum E.S.P.		-	-	-	1.5	-	-	-
ELECTRICAL SECTION		**Standard Fan**						
Electrical data based on STANDARD unit: electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	37/46/50	40/49/60	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/25	19/23/40	19/23/40	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	57/70/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	26/32/35	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	14/16/25	16/20/30	21/25/40	24/29/45	-	-	-
460/3/60	FLA/MCA/MOP	6.1/7.2/15	7.7/9.2/15	11/14/20	11/14/20	-	-	-

FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

ENERGY SAVER: Performance data at OPTIONAL airflow

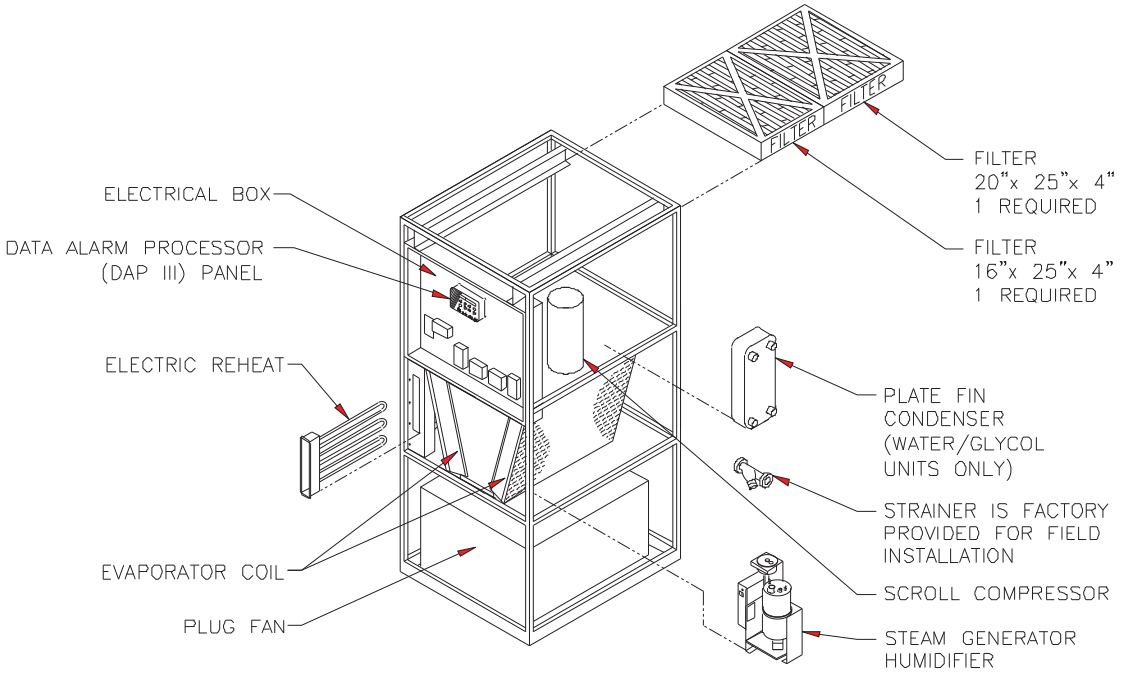
R-410A

gForce GT also available in R-407C. Data in a separate brochure.

Based on 45° F entering fluid temperature with 40% glycol solution - capacity in Btu/hr.

MODEL NUMBER		*GT*D/U007*	*GT*D/U011*	*GT*D/U014*	*GT*D/U018*	*GT*D/U028*	*GT*D/U035*	*GT*D/U046*
CAPACITY in Btu/hr - *gross*								
75° F DB/62.5° F WB	Total	26,000	35,200	52,300	62,800	N/A	N/A	N/A
50% RH	Sensible	22,900	32,200	45,700	55,500	N/A	N/A	N/A
72° F DB/62.5° F WB	Total	22,700	30,900	45,500	54,700	N/A	N/A	N/A
50% RH	Sensible	21,300	29,800	42,400	51,500	N/A	N/A	N/A
Rows of coils		4	4	4	4	-	-	-
GPM		7.0	10.5	14.0	17.5	-	-	-
Pressure drop - PSI		4.6	10.1	9.2	14.6	-	-	-
FAN SECTION								
Airflow - CFM		1,000	1,500	2,000	2,500	-	-	-
Number of fans		1	1	1	1	-	-	-
Standard fax - diameter (mm)		450	450	450	500	-	-	-
Fan motor - kW/HP								
External static pressure (E.S.P.) - inches of W.G.		1/1.4	1/1.4	1/1.4	2.8/3.7	-	-	-
Maximum E.S.P.		1.5	1.5	1.0	1.5	-	-	-
Next size fan - diameter (mm)		N/A	N/A	500	500	-	-	-
Fan motor - kW/HP		-	-	2.8/3.7	2.8/3.7	-	-	-
Maximum E.S.P.		-	-	1.5	1.5	-	-	-
ELECTRICAL SECTION	**Standard Fan**							
Electrical data based on STANDARD unit: electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	62/76/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	28/35/40	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	37/46/50	45/54/70	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/25	19/23/40	21/25/40	-	-	-
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	30/37/40	33/40/45	54/67/70	62/76/80	-	-	-
460/3/60	FLA/MCA/MOP	14/17/20	15/19/20	26/32/35	28/35/40	-	-	-
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD FAN.								
208-230/3/60	FLA/MCA/MOP	14/16/25	16/20/30	21/25/40	29/34/50	-	-	-
460/3/60	FLA/MCA/MOP	6.1/7.2/15	7.7/9.2/15	11/14/20	13/16/25	-	-	-

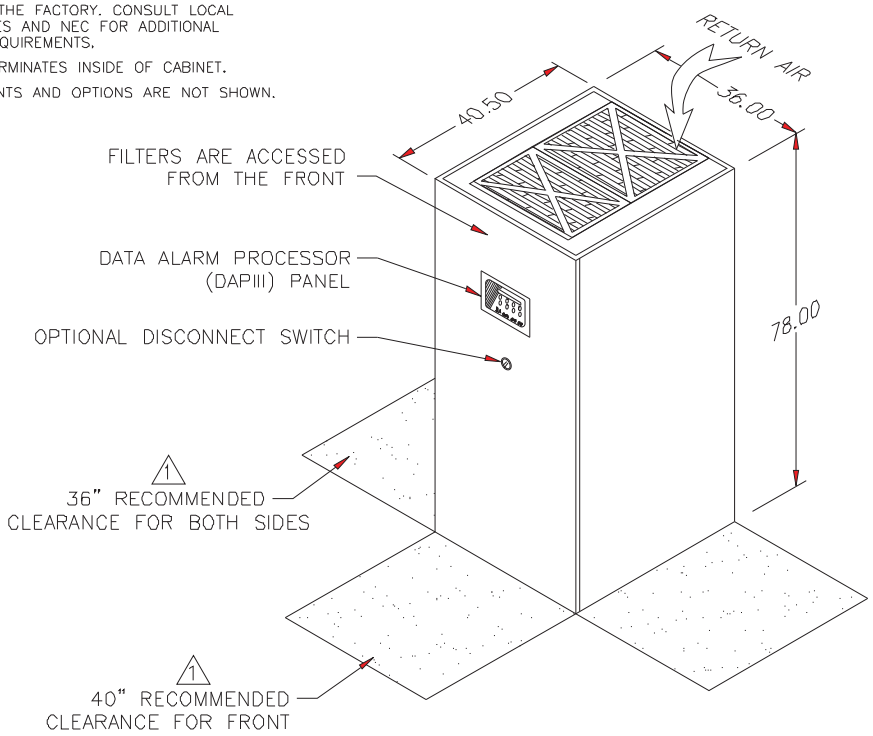
FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps



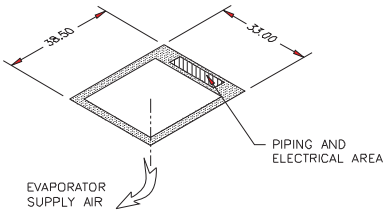
COMPONENT BREAKDOWN

NOTES:

1. DIMENSIONS NOTED ARE THE MINIMUM CLEARANCES REQUIRED BY THE FACTORY. CONSULT LOCAL BUILDING CODES AND NEC FOR ADDITIONAL CLEARANCE REQUIREMENTS.
2. ALL PIPING TERMINATES INSIDE OF CABINET.
3. ALL COMPONENTS AND OPTIONS ARE NOT SHOWN.

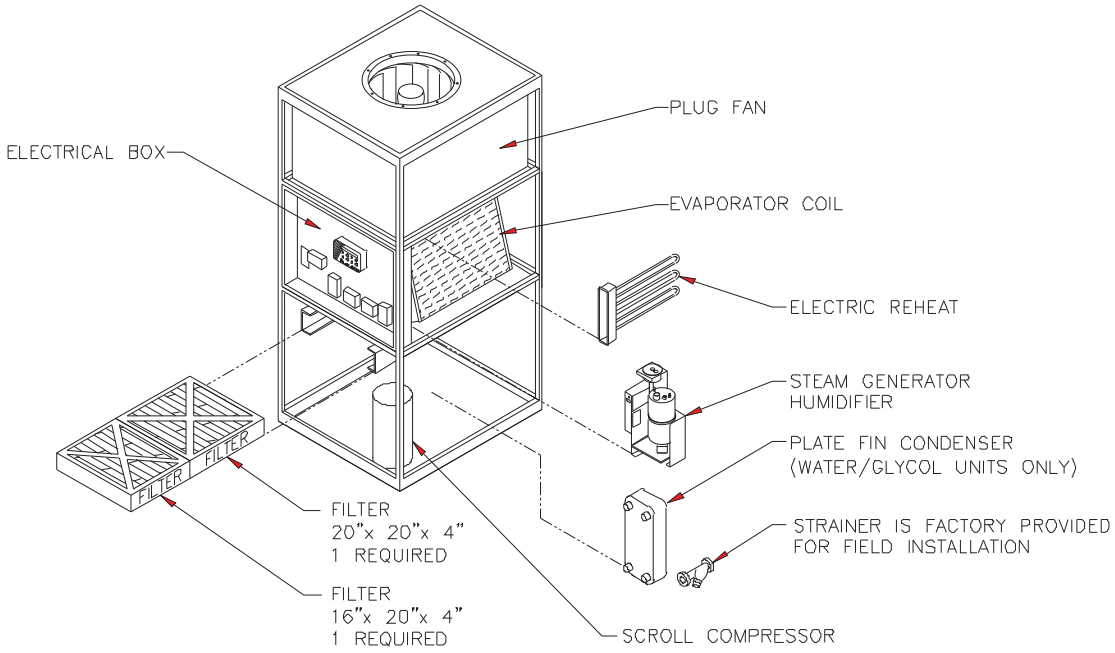


DIMENSIONAL DATA

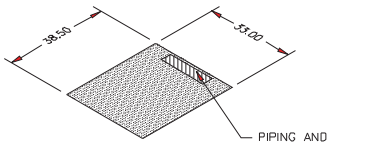


FLOOR CUTOUT DIMENSIONS

gForce 7, 11, 14 & 18 KW DX DOWNFLOW WITH V-TYPE COIL			
DATA AIRE INC. A CONSTRUCTION SPECIALTIES INC. Company			
DRAWN BY :	GABE	SCALE: NONE	
CHECKED BY :		SH 1 OF 1	
DATE :	02-22-10	REV	-
PART OF			
555-900-503 DWG NO.			



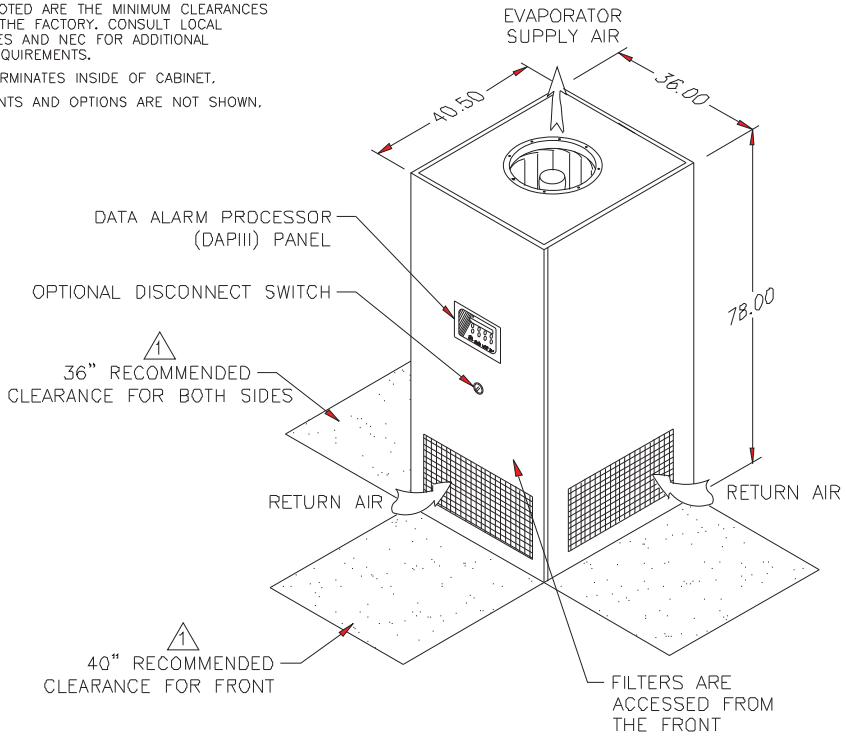
COMPONENT BREAKDOWN



FRAME DIMENSIONS

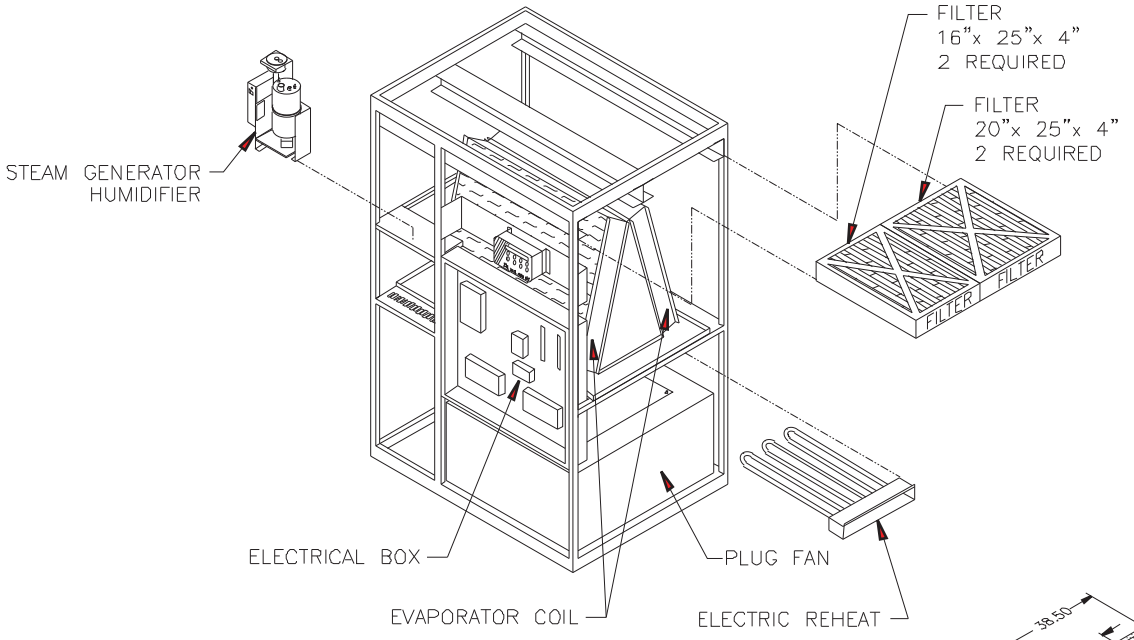
NOTES:

1. DIMENSIONS NOTED ARE THE MINIMUM CLEARANCES REQUIRED BY THE FACTORY. CONSULT LOCAL BUILDING CODES AND NEC FOR ADDITIONAL CLEARANCE REQUIREMENTS.
2. ALL PIPING TERMINATES INSIDE OF CABINET.
3. ALL COMPONENTS AND OPTIONS ARE NOT SHOWN.

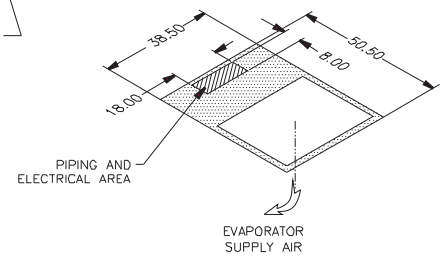


DIMENSIONAL DATA

gForce 7, 11, 14 & 18 KW DX UPFLOW WITH A-TYPE COIL	
DATA AIRE INC. A CONSTRUCTION SPECIALTIES INC. Company	
DRAWN BY : GABE	SCALE: NONE
CHECKED BY :	SH 1 OF 1
DATE : 02-22-10	REV –
PART OF	
555-900-504 DWG NO.	



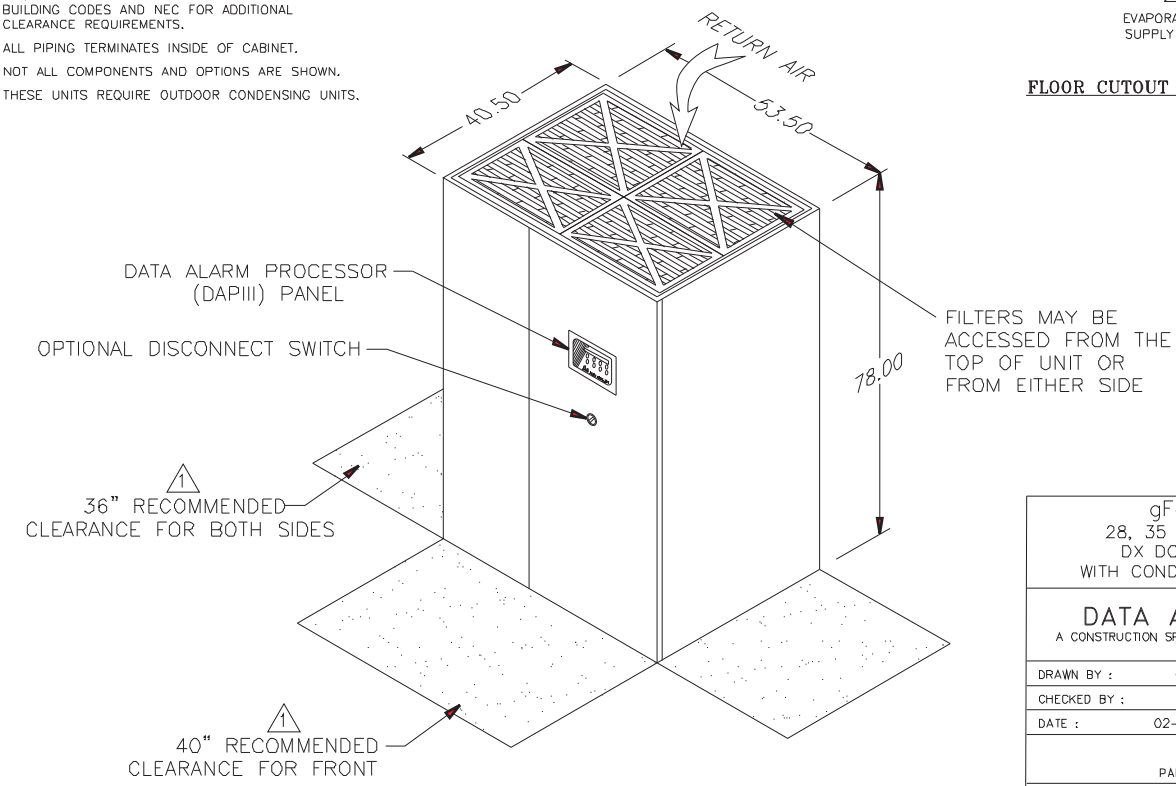
COMPONENT BREAKDOWN



FLOOR CUTOUT DIMENSIONS

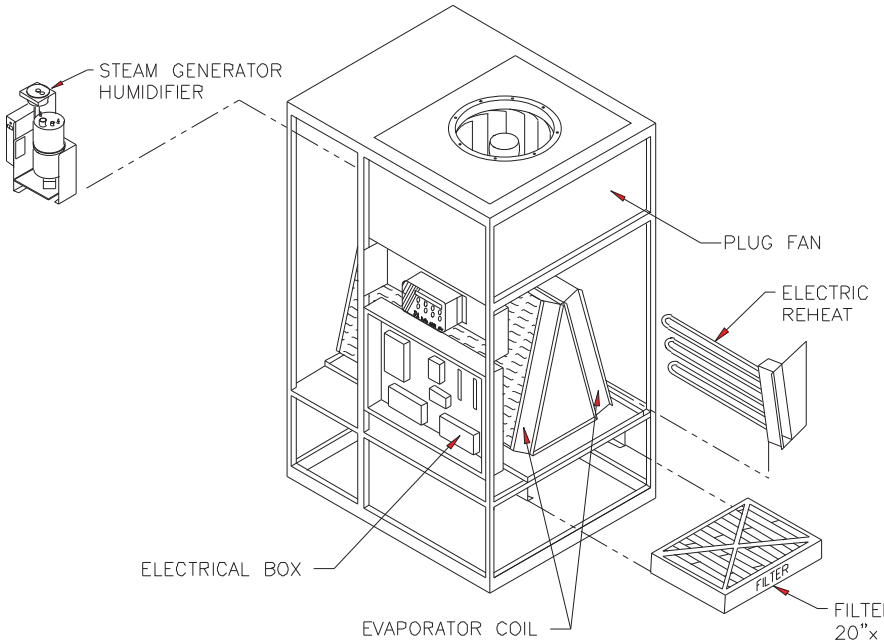
NOTES:

1. DIMENSIONS NOTED ARE THE MINIMUM CLEARANCES REQUIRED BY THE FACTORY. CONSULT LOCAL BUILDING CODES AND NEC FOR ADDITIONAL CLEARANCE REQUIREMENTS.
2. ALL PIPING TERMINATES INSIDE OF CABINET.
3. NOT ALL COMPONENTS AND OPTIONS ARE SHOWN.
4. THESE UNITS REQUIRE OUTDOOR CONDENSING UNITS.



DIMENSIONAL DATA

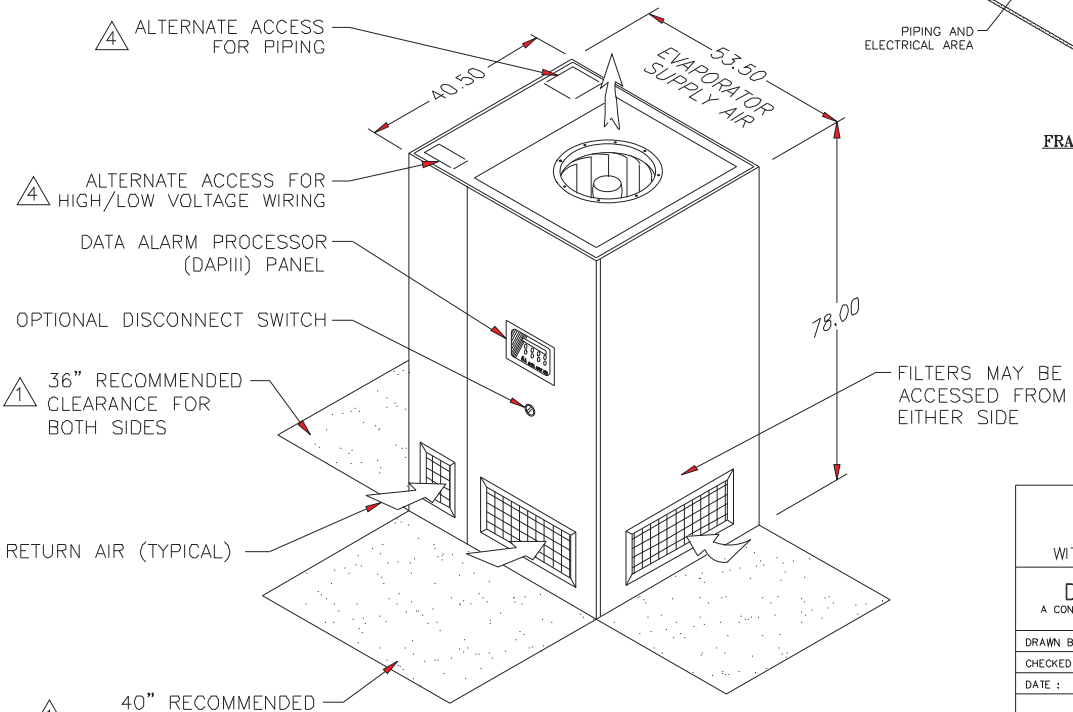
gForce 28, 35 & 46 KW DX DOWNFLOW WITH CONDENSING UNIT			
DATA AIRE INC. A CONSTRUCTION SPECIALTIES INC. Company			
DRAWN BY :	GABE	SCALE: NONE	
CHECKED BY :		SH 1 OF 1	
DATE :	02-19-10	REV	-
PART OF 555-900-505 DWG NO.			



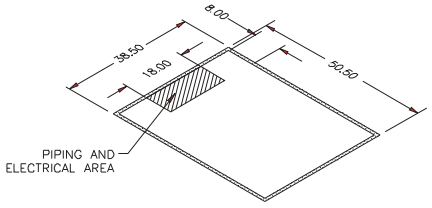
COMPONENT BREAKDOWN

NOTES:

1. DIMENSIONS NOTED ARE THE MINIMUM CLEARANCES REQUIRED BY THE FACTORY. CONSULT LOCAL BUILDING CODES AND NEC FOR ADDITIONAL CLEARANCE REQUIREMENTS.
2. ALL PIPING TERMINATES INSIDE OF CABINET.
3. ALL COMPONENTS AND OPTIONS ARE NOT SHOWN.
4. OPENINGS ARE NOT PROVIDED FOR ALTERNATE ACCESS LOCATIONS.
5. THESE UNITS REQUIRE OUTDOOR CONDENSING UNITS.

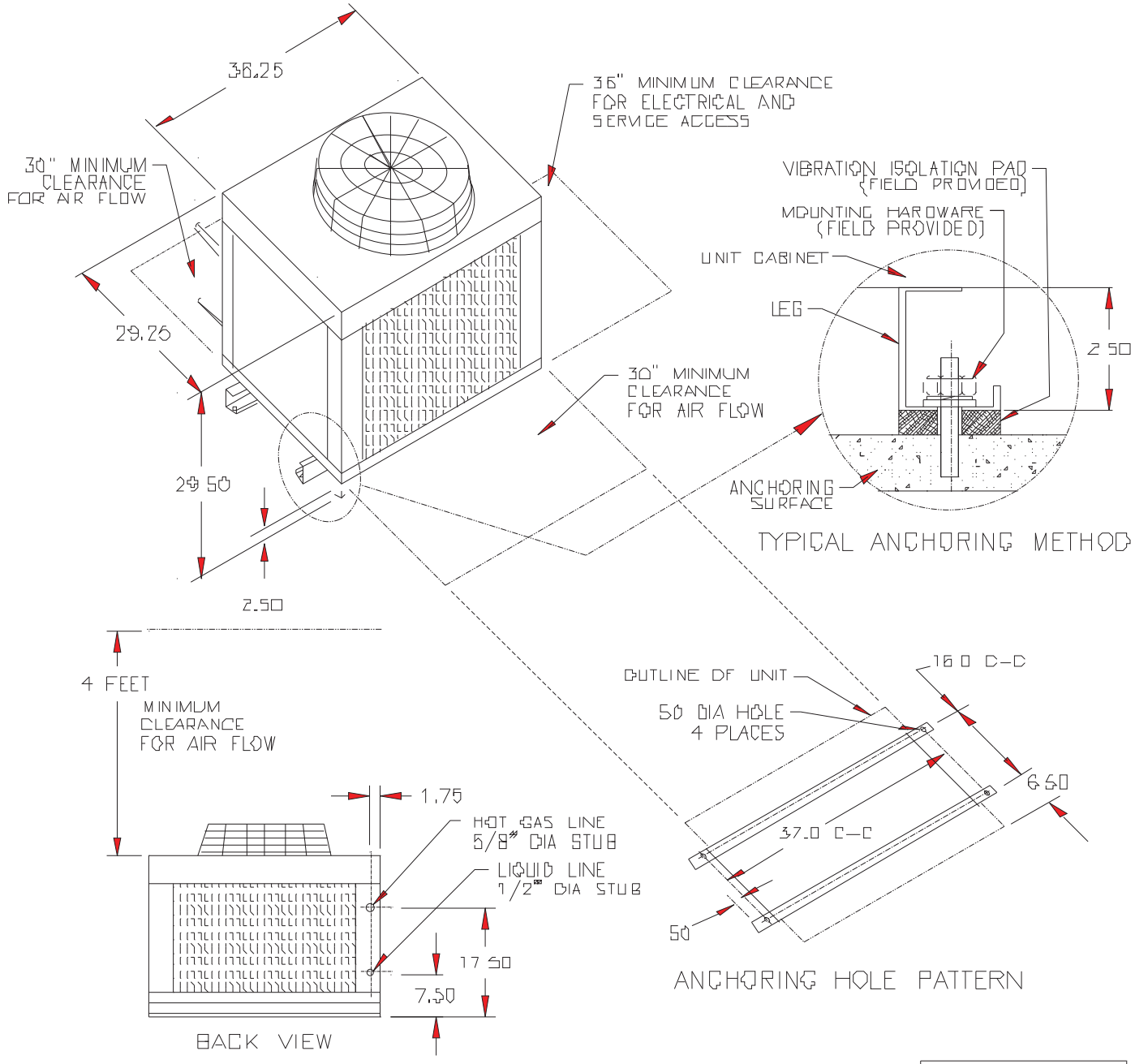


DIMENSIONAL DATA



FRAME DIMENSIONS

gForce 28, 35 & 46 KW DX UPFLOW WITH CONDENSING UNIT	
DATA AIRE INC. A CONSTRUCTION SPECIALTIES INC. Company	
DRAWN BY : GABE	SCALE: NONE
CHECKED BY :	SH 1 OF 1
DATE : 02-22-10	REV –
PART OF	
555-900-506 DWG NO.	



PHYSICAL DATA

MODEL NUMBER	FANS		UNIT
	QTY	TOTAL CFM	NET WT #
DARC 3	1	5000	180
DARC 5	1	4800	180

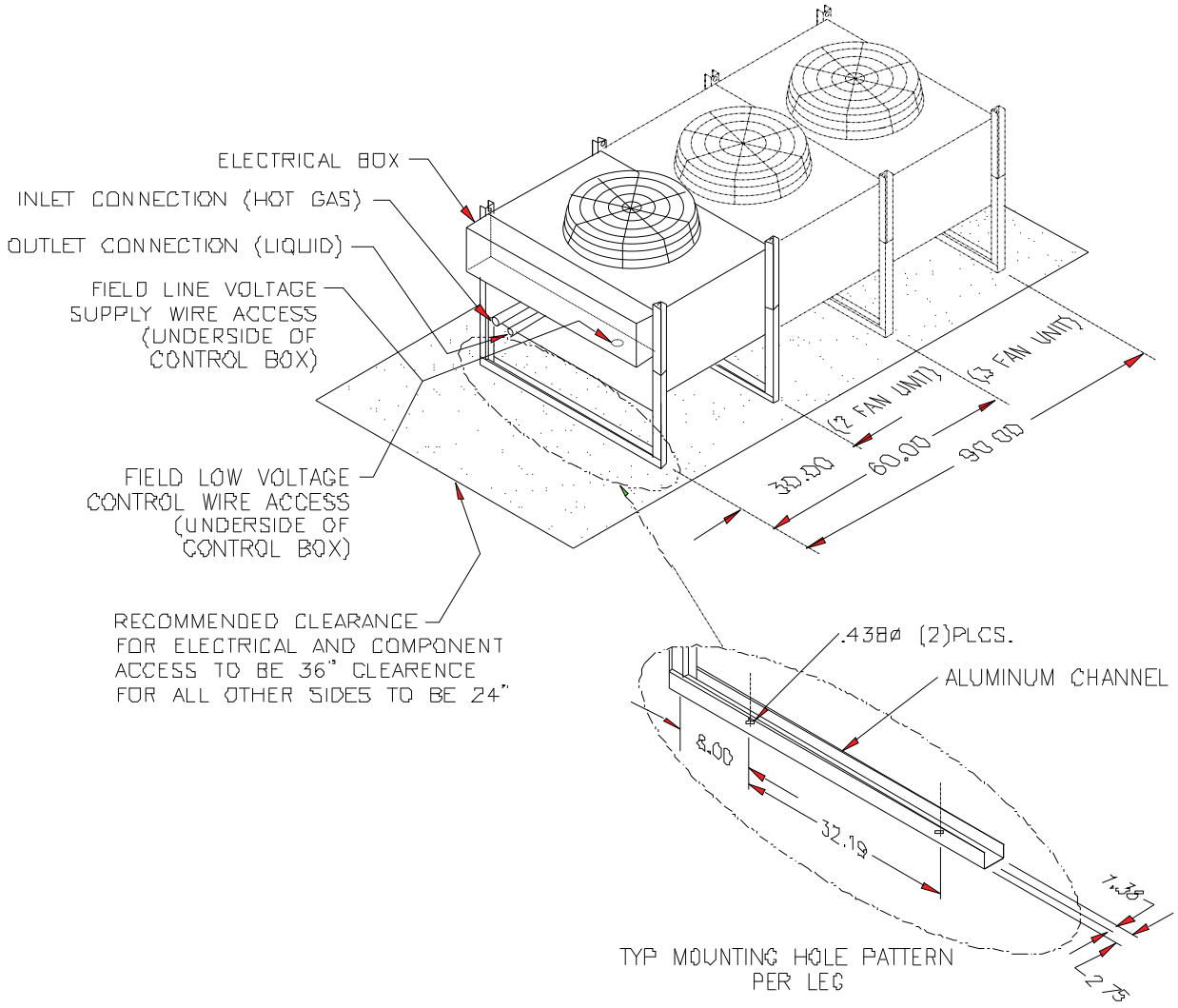
ELECTRICAL DATA

MODEL NUMBER	QTY MOTORS	H P	RPM	MOTOR FLA	
				208/230V	460V
DARC 3	1	3/4	1075	4.8	2.3
DARC 5	1	3/4	1075	4.6	2.3

DARC CONDENSER 3 & 5 TON		
DATA AIRE INC. A CONSTRUCTION SPECIALTIES INC. Company		
DRAWN BY E.DIAZ	SCALE	1/24
CHECKED BY :	DARC	DARC3_5
DATE 11-18-96	SHT	1 OF 1
	REV	A
DIMENSIONAL DATA PART OF		
DARC 3 & 5 TON PART NO.		

REVISIONS

REV	DESCRIPTION	DATE	BY
A	UPDATED STANDARD FLA NUMBERS	03-03-16	DABE



MODEL NUMBER	LENGTH	UNIT NET WT.#	PIPE CONNECTION SIZES (COPPER STUB,OD) HOT GAS	LIQUID	QTY MOTORS
DARC 06	32-1/4"	220	1-1/8	7/8	1
DARC 07	32-1/4"	250	1-1/8	7/8	1
DARC 09	32-1/4"	270	1-1/8	7/8	1
DARC 11	62-1/4"	300	1-1/8	7/8	2
DARC 15	62-1/4"	310	1-1/8	7/8	2
DARC 17	62-1/4"	320	1-3/8	7/8	2
DARC 21	92-1/4"	450	1-1/8	7/8	3

STANDARD CONDENSER H P	RPM	TOTAL CFM	MOTOR FLA 208/230V	460V
3/4	1075	5000	4.6	2.3
3/4	1075	4900	4.6	2.3
3/4	1075	4800	4.6	2.3
3/4	1075	10400	9.2	4.6
3/4	1075	10000	9.2	4.6
3/4	1075	9800	9.2	4.6
3/4	1075	15000	13.8	6.9

LOW DECIBEL CONDENSER H.P.	RPM	TOTAL CFM	MOTOR FLA 208/230V	460V
1/2	850	4000	3.2	1.6
1/2	850	3900	3.2	1.6
1/2	850	3800	3.2	1.6
1/2	850	8300	6.4	3.2
1/2	850	8000	6.4	3.2
1/2	850	7800	6.4	3.2
1/2	850	12000	9.6	4.8

REVISIONS

REV	DESCRIPTION	DATE	BY
B	UPDATED STANDARD FLA NUMBERS	03-03-10	GABE

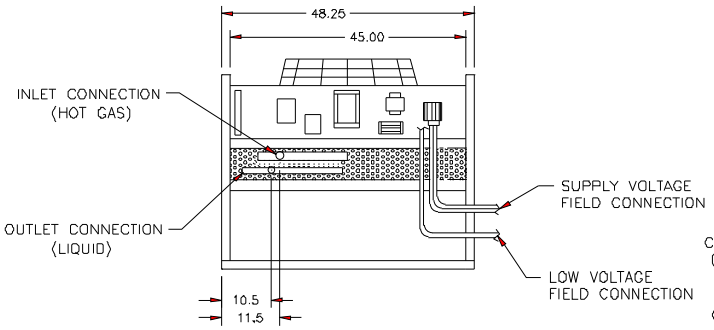
DARC 6-21 TON
SINGLE CIRCUIT CONDENSER

DATA AIRE INC.
A CONSTRUCTION SPECIALTIES INC. Company

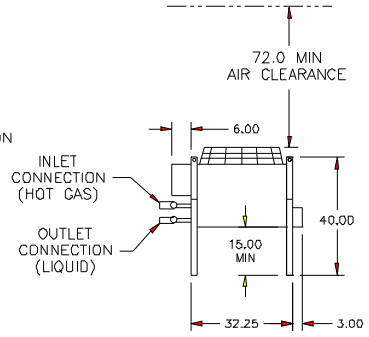
DRAWN BY	E DIAZ	SCALE	1/28
CHECKED BY		SLS	DARC 6-21 TON.IP
DATE :	6-8-98	SHT.	1 OF 1
		REV	B

SINGLE CIRCUIT CONDENSER
PART OF

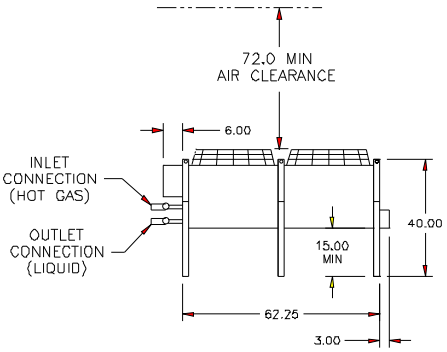
DARC 6-21 TON
PART NO



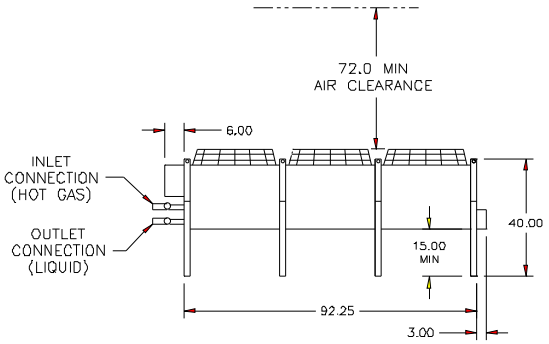
SINGLE CIRCUIT CONNECTION LOCATION



1 FAN UNIT, MODEL 6 THRU 9

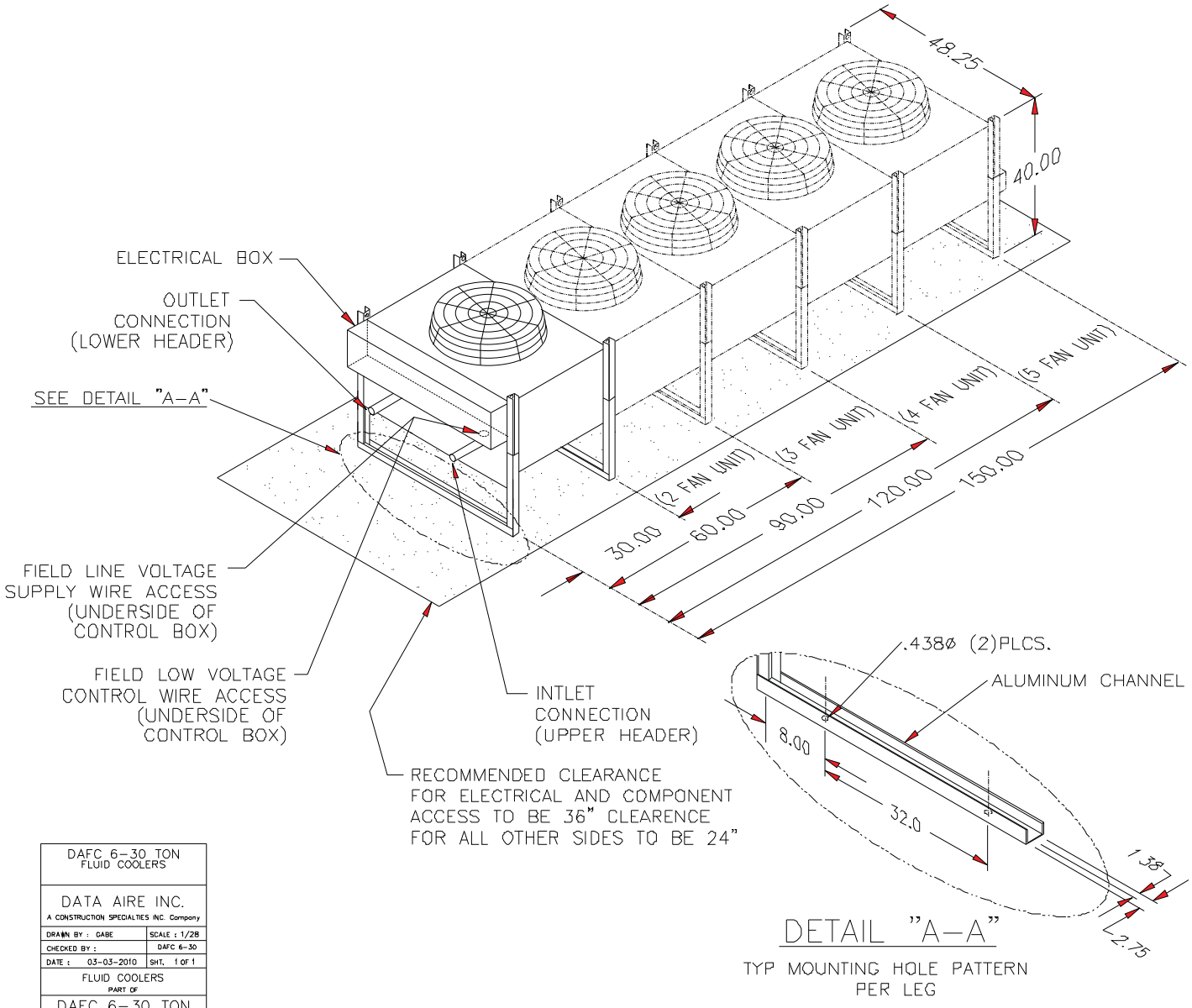


2 FAN UNIT, MODEL 11 THRU 17



3 FAN UNIT, MODEL 21

DARC 6-21 TON SINGLE CIRCUIT CONDENSERS	
DATA AIRE INC.	
DRAWN BY : E. DIAZ	SCALE : 1/20
CHECKED BY :	SLS CON DAR6_21P2
DATE : 6-8-98	SHT. 1 OF 1
MATERIAL: –	
SINGLE CIRCUIT CONDENSERS PART OF	
DARC 6-21 TON PART NO.	



DETAIL "A-A"

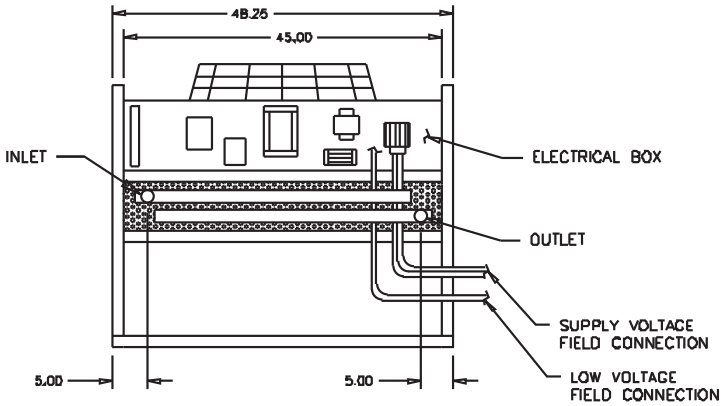
TYP MOUNTING HOLE PATTERN PER LEG

DAFC 6-30 TON FLUID COOLERS	
DATA AIRE INC. A CONSTRUCTION SPECIALTIES INC. Company	
DRAWN BY : GABE	SCALE : 1/28
CHECKED BY :	DAFC 6-30
DATE : 03-03-2010	SHT. 1 OF 1
FLUID COOLERS PART OF	
DAFC 6-30 TON PART NO.	

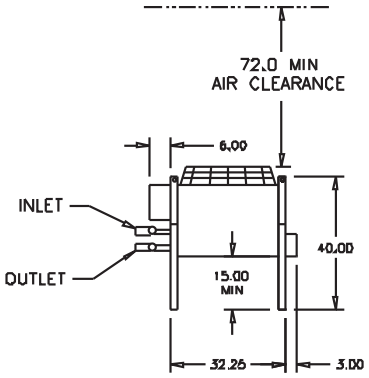
MODEL NUMBER	LENGTH	UNIT NET WT.#	PIPE CONNECTION SIZES (COPPER STUB.OD) INLET	OUTLET	QTY. MOTORS
DAFC 06	32-1/4"	260	1-5/8	1-5/8	1
DAFC 07	32-1/4"	285	1-5/8	1-5/8	1
DAFC 09	32-1/4"	310	1-5/8	1-5/8	1
DAFC 11	62-1/4"	260	2-1/8	2-1/8	2
DAFC 15	62-1/4"	370	2-1/8	2-1/8	2
DAFC 17	62-1/4"	400	2-5/8	2-5/8	2
DAFC 21	92-1/4"	560	2-1/8	2-1/8	3
DAFC 24	92-1/4"	645	2-5/8	2-5/8	3
DAFC 28	92-1/4"	665	2-5/8	2-5/8	3
DAFC 30	122-1/4"	745	2-1/8	2-1/8	4

STANDARD FLUID COOLER				
H.P.	RPM	TOTAL CFM	MOTOR FLA 208/230V	460V
3/4	1075	5000	4.6	2.3
3/4	1075	4900	4.6	2.3
3/4	1075	4800	4.6	2.3
3/4	1075	10400	9.2	4.6
3/4	1075	10000	9.2	4.6
3/4	1075	9800	9.2	4.6
3/4	1075	15000	13.8	6.9
3/4	1075	14750	13.8	6.9
3/4	1075	14500	13.8	6.9
3/4	1075	20000	18.4	9.2

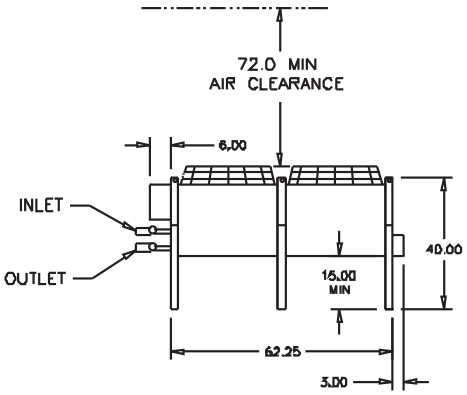
LOW DECIBEL FLUID COOLER				
H.P.	RPM	TOTAL CFM	MOTOR FLA 208/230V	460V
1/2	850	4000	3.2	1.6
1/2	850	3900	3.2	1 6
1/2	850	3800	3.2	1.6
1/2	850	8300	6.4	3.2
1/2	850	8000	6.4	3.2
1/2	850	7800	6.4	3.2
1/2	850	12000	9.6	4.8
1/2	850	11800	9.6	4.8
1/2	850	11600	9.6	4.8
1/2	850	16000	12.8	6.4



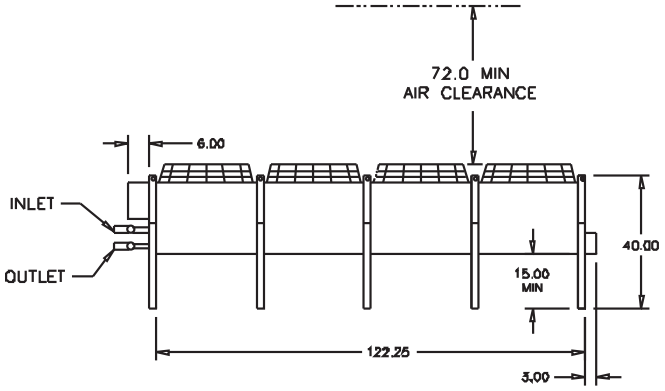
END VIEW CONNECTION LOCATION



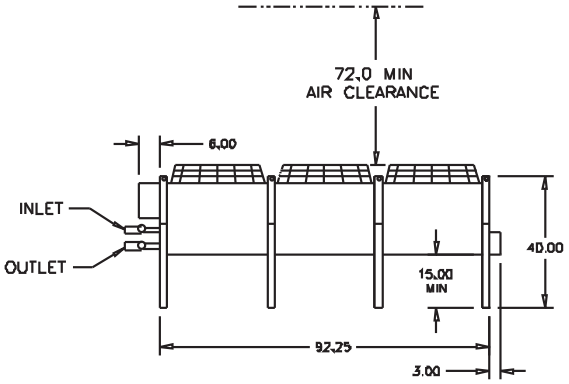
1 FAN UNIT, MODEL 6 THRU 9



2 FAN UNIT, MODEL 11 THRU 17



4 FAN UNIT, MODEL 30 THRU 40



3 FAN UNIT, MODEL 21 THRU 28

Standard Condenser Electrical Data

Model	208/1/60 FLA/MCA/MOP	208/3/60 FLA/MCA/MOP	460/3/60 FLA/MCA/MOP
DARC 03	4.6/5.8/15	4.6/5.8/15	2.3/2.9/15
DARC 05	4.6/5.8/15	4.6/5.8/15	2.3/2.9/15
DARC & DAFC 06	4.6/5.8/15	4.6/5.8/15	2.3/2.9/15
DARC & DAFC 07	4.6/5.8/15	4.6/5.8/15	2.3/2.9/15
DARC & DAFC 09	4.6/5.8/15	4.6/5.8/15	2.3/2.9/15
DARC & DAFC11	9.2/10.4/15	9.2/10.4/15	4.6/5.2/15
DARC & DAFC 15	9.2/10.4/15	9.2/10.4/15	4.6/5.2/15
DARC & DAFC 17	9.2/10.4/15	9.2/10.4/15	4.6/5.2/15
DARC & DAFC 21	13.8/15/20	13.8/15/20	6.9/7.5/15
DARC & DAFC 24	13.8/15/20	13.8/15/20	6.9/7.5/15
DARC & DAFC 28	13.8/15/20	13.8/15/20	6.9/7.5/15
DARC & DAFC 30	18.4/19.6/25	18.4/19.6/25	9.2/9.8/15
DARC 37	18.4/19.6/25	18.4/19.6/25	9.2/9.8/15

FLA - Full load amps
MCA - Minimum circuit amps
MOP - Maximum overcurrent protection device amps

Computer Room Air Conditioning Units
(Floor Mounted, Direct Expansion, 7 to 46 kW)

1.01 GENERAL

A. The environmental control units shall be provided with a high sensible cooling system, factory assembled, piped, wired, and run tested prior to shipment and designed for either upflow or downflow air delivery as detailed on the project plans and schedule.

B. The system shall be designed for draw through air arrangement to insure even air distribution to the entire face of the coil.

C. Units shall be ETL or UL listed.

1.02 CABINET and FRAME

A. The frame shall be constructed of 14 gauge welded tubular steel and coated with a heavy corrosion inhibiting finish for long life. The unit shall have complete front and side access by means of steel doors with heavy-duty hinges. All doors shall be easily removable via lift-off hinges for easier service access. Doors shall be manufactured of minimum 18-gauge steel for superior sound attenuation and shall be lined with one-inch thick, 1-1/2-pound density, fiberglass insulation. Each door shall be provided with sure close latches and a polyurethane gasket to prevent air leakage.

B. The unit shall be painted the color selected from the manufacturer's standard color chart.

1.03 REFRIGERATION CIRCUIT

A. Air Cooled with Remote Outdoor Condenser - The refrigeration system shall be split type with an indoor evaporator section and remote outdoor condenser.

The indoor evaporator section shall include the cooling coil, compressors, humidifier, reheat, filters, and controls. The cooling coil shall be in a cross circuited or interlaced "A" frame arrangement to allow maximum coil surface in a small cabinet. The large faced coil area shall be constructed with 1/2" O.D. rifled copper tube with 12 fins per inch of corrugated aluminum for maximum heat transfer. Maximum face velocity shall be less than 500 feet per minute. The expansion valve shall be of the adjustable thermostatic type with external equalization. The compressor shall be of the hermetic scroll with complete overload protection on all three power lines, internal thermostat for winding protection, crankcase heater, sight-glass, and low pressure override timer for positive starting at low temperatures. The circuit shall contain high and low pressure safety switches. The high and low pressure safety switches shall be installed with Shraeder type fittings with valve core.

The doors shall be painted to match or contrast with other room equipment.

Each system shall include a low profile, slow speed, direct drive propeller fan type air cooled condenser. The air discharge shall be vertical to minimize the effects of wind blowing through the coil at low ambient temperatures. The condenser shall be constructed of stainless steel. The condenser shall contain a 1/2" O.D. rifled copper tube coil with corrugated aluminum fins for maximum heat transfer. The condenser shall have fan speed control with transducers to modulate the speed of the first condenser fan motor and provide positive start-up and operation at ambient temperatures to -20° F. Condensers with more than one fan shall utilize a pressure control on the second fan. Condensers with additional condenser fan motors are to be controlled by ambient thermostats. All controls including the fan speed controller shall be factory mounted in the air cooled condenser in an integral factory wired and tested control panel. The air cooled condenser shall be manufactured by the manufacturer of the indoor unit.

B. Air Cooled with Floor Mounted Indoor Condenser - The refrigeration system shall be split type with an indoor evaporator section and floor mounted indoor condenser section.

The indoor evaporator section shall include the cooling coil, compressors, humidifier, reheat, filters, and controls. The cooling

coil shall be in a cross circuited or interlaced "A" frame arrangement to allow maximum coil surface in a small cabinet. The large faced coil area shall be constructed with 1/2" O.D. rifled copper tube with 12 fins per inch of corrugated aluminum for maximum heat transfer. Maximum face velocity shall be less than 500 feet per minute. The expansion valve shall be of the adjustable thermostatic type with external equalization. The compressor shall be of the hermetic scroll with complete overload protection on all three power lines, internal thermostat for winding protection, crankcase heater, sight-glass, and low pressure override timer for positive starting at low temperatures. The circuit shall contain high and low pressure safety switches. The high and low pressure safety switch shall be installed with Shraeder type fittings with valve core.

Each system shall include a floor mounted, indoor air cooled condenser section. The condenser frame shall be constructed of 14 gauge welded tubular steel and be coated with a heavy corrosion inhibiting finish for long life. The unit shall have complete front and side access by means of high quality furniture grade steel doors with heavy-duty hinges. The doors shall be lined with one inch thick, 1-1/2 pound density fiberglass coated with neoprene. Each door shall be provided with sure close latches, which shall be easily removable via lift-off hinges for easy access and service. Each door shall be provided with a polyurethane gasket to prevent air leakage.

The doors shall be painted to match or contrast with other room equipment.

The blower section shall be belt driven centrifugal type, double width, double inlet and shall be statically and dynamically balanced at the factory as a complete assembly to a maximum vibration level of two mils in any plane. The blower wheel shall be a minimum of 15 inches in diameter. The blower wheel shall be supported on a heavy steel shaft having self-aligning ball bearings with a minimum life span of 100,000 hours. The blower wheel shall be driven by a motor mounted on an adjustable slide base. The drive motor shall be 1750 rpm. The drive package shall be belt driven with two belts and a variable pitch sheave, sized for 200% of the fan motor horsepower.

The condenser coil shall be constructed of rifled copper tubes and corrugated aluminum fins. The condenser coil shall be equally circuited for the compressor. A receiver shall be factory mounted with head pressure control and solenoid valve for each circuit.

C. Air Cooled with Remote Outdoor Condensing Unit - The refrigeration system shall be split type with an indoor evaporator section and remote outdoor condensing unit.

The indoor evaporator section shall include the cooling coil, humidifier, reheat, filters, and controls. The cooling coil shall be in a cross-circuited or interlaced "A" frame arrangement to allow maximum coil surface in a small cabinet. The large faced coil area shall be constructed with 1/2" O.D. rifled copper tube with 12 fins per inch of corrugated aluminum for maximum heat transfer. Maximum face velocity shall be less than 500 feet per minute. The expansion valve shall be of the adjustable thermostatic type with external equalization. The filter-drier shall be installed prior to the expansion valve.

The doors shall be painted to match or contrast with other room equipment.

The outdoor condensing unit shall be constructed of aluminum and contain hermetic scroll compressors with complete overload protection on all three power lines, internal thermostats for winding protection, crankcase heater, sight-glass, and low pressure override timer for positive starting at low temperatures. The circuits shall contain high and low pressure safety switches. The high and low-pressure safety switches shall be installed with Shraeder type fittings with valve core.

The condensing unit shall include a low profile, slow speed, direct drive propeller fan air cooled condenser section. The air discharge shall be vertical to minimize the effects of wind blowing through the coil at low ambient temperatures. The condenser coil shall be constructed with rifled copper tube and aluminum fin. The condensing unit shall have fan speed control with transducers to modulate the speed of the first condenser fan motor and provide positive start-up and operation at ambient temperatures to -20°F. Condensers with more than one fan shall utilize a pressure control on the second fan. Additional condenser fan motors shall be controlled by ambient thermostats. All controls including the fan speed control shall be factory mounted in an integral factory wired and tested control panel. The condensing unit shall be manufactured by the same manufacturer of the indoor unit.

D. Water/Glycol Cooled - The cooling coil shall be in a cross-circuited or interlaced "A" frame arrangement to allow maximum coil surface in a small cabinet. The large face area coil shall be constructed of 1/2" O.D. rifled copper tube with 12 fins per inch of corrugated aluminum for maximum heat transfer. Maximum face velocity shall be less than 500 feet per minute. The expansion valves shall be of the adjustable thermostatic type with external equalization. The compressors shall be of the hermetic scroll

type with complete overload protection on all three power lines, internal thermostats for winding protection, crankcase heater, sight-glass, condensers with sub-cooling and 2-way water regulating valve for head pressure control. The circuits shall contain high and low pressure safety switches. The high and low-pressure safety switches shall be installed with Shraeder type fittings with valve core.

The doors shall be painted to match or contrast with other room equipment.

Each system shall include a low profile, slow speed, direct drive propeller fan type air cooled fluid cooler. Air discharge shall be vertical to prevent wind from blowing through the coil at low ambient temperatures. The fluid cooler shall be constructed of aluminum and contain a 1/2" O.D. rifled copper tube coil with corrugated aluminum fins for maximum heat transfer. The fan motors shall have cycling control provided on fluid coolers with multiple fan motors. The fluid cooler shall include surge tank and fill valve, pump contactor, and fan cycling controls with integral factory wired and tested control panel. The fluid cooler shall be manufactured by the same manufacturer as the indoor unit.

1.04 DIRECT DRIVE PLENUM FAN SECTION

A. The supply air fan shall be single width, single inlet plenum fan with backward inclined aluminum blades. Fan wheel shall be directly connected to its motor for greater efficiency. Fan/motor assembly shall be statically and dynamically balanced for quiet, vibration-free operation and shall have a minimum L10 life of 60,000 hours. Fan shall be maintenance free throughout its operating life.

B. The fan motor shall be electronically commutated (EC) synchronous DC motor and shall meet the NEMA Premium standard. The EC motor shall have soft start capability and shall be controlled via the keypad on the unit mounted controller or by a 4 to 20 mili-amp control signal sent directly to the analog input on the motor. The fan shall be mounted within the unit and fully enclosed in an integral plenum to allow efficient operation on raised floors with 12 or more inches of clearance under the floor.

C. Belt drive fans with variable frequency drives are not considered equal or acceptable.

1.05 FILTER CHAMBER

The filter chamber shall be an integral part of the system, designed within the frame and cabinet. The filters shall be four inch (4") deep pleated design, rated not less than 30% efficient (based on ASHRAE Std. 52-76).

1.06 ELECTRIC REHEAT

The reheat shall be of the finned enclosed, sheath type, fabricated of stainless steel core sheath with plated fins to withstand moist conditions. The reheat shall be installed on the air discharge side of the cooling coil. The total kW shall be ___ to operate on a supply of ____ volts.

1.07 HUMIDIFIER

The unit shall be provided with steam generator type humidifier. The steam generating humidifier shall be of the self-contained disposable cylinder type with electronic controls. The capacity shall be adjustable from 10 to 30 pounds per hour. Power consumption at 10 pounds per hour shall be 3.4 kW or less. The humidifier shall discharge pure steam with no material dust carry-over and have a self-regulating automatic flush cycle. Cylinders shall be disposable not requiring cleaning or maintenance. The humidifier fill level, water conductivity and flush rate shall automatically adapt, both in frequency and duration, to variations in the incoming water.

1.08 WATER SENSOR

Units shall be provided with one (1) water sensor. The solid state water sensor shall be mounted under the unit to sense the presence of water. The sensor shall be connected to the microprocessor panel and activate an audible alarm. The water detector shall become an integral part of the microprocessor panel and shall display "WATER DETECTED IN UNDER FLOOR AREA" message when the sensor is activated.

1.09 CONTROL PANEL

A. The environmental control system shall be furnished with a microprocessor based Data Alarm Processor-III (DAP-III) panel. The panel shall include unit switching functions and display normal functions and service diagnostics on a 2 row, 80 character backlit liquid crystal display (LCD) in a clear vernacular format. The panel shall allow recall and display of the high and low temperature for the last 24 hours, high and low humidity for the last 24 hours, current percent of capacity and average percent of capacity for the last hour of operation for cool 1, reheat, humidification, dehumidification, component runtimes for fan motor(s), reheat, humidification and dehumidification. Programming shall have multilevel password access to prevent unauthorized access. Programming shall be accomplished entirely from the front of the unit without the need to access, set or program switches inside the unit (front door of the unit does not need to be opened). Programmable functions shall be entered on flash memory to ensure program retention should power fail. The historical database shall be maintained by battery backup. Multiple messages shall be displayed by automatically scrolling from each message to the next. Alarm conditions shall be displayed by automatically scrolling from each message to the next. Alarm conditions, in addition to being displayed, shall enunciate an audible alarm. A summary relay shall be available for remote alarms. Additional test or service terminal shall not be required for any functions. The control shall include temperature anticipation, moisture level humidity control and automatic flush cycles.

An alarm condition shall continue to be displayed until the malfunction is corrected. Multiple alarms shall be displayed sequentially in order of occurrence and only those alarms, which have not been acknowledged, shall continue to sound an audible alarm. The Data alarm Processor-III panel shall perform an automatic self-test on system start-up. A user accessible diagnostic program shall aid in system component trouble shooting by displaying on the unit LCD screen the name of the controlled item, output relay number, terminal plug and pin number for each controlled item.

B. The following automatic control functions shall be included:

Selectable Control Type	Compressor Short Cycle
Selectable Water Under Floor Alarm Action	Automatic Reheat Element Rotation
Start Time Delay	Automatic or Manual Restart
Temperature Anticipation	Humidity Anticipation
Dehumidification Lockout	Sequential Load Activation
Energy Saver (Glycol Operation)*	Energy Saver Coil Flush Cycle*
Auxiliary Chilled Water Operation*	Chilled Water Coil Flush Cycle*
Hot Water Coil Flush Cycle*	

C. The following conditions, data and normal functions shall be monitored and displayed:

Temperature Setpoint	Humidity Setpoint
Current Temperature	Current Humidity
Cooling 1	Dehumidification
Reheat 1, 2, 3	Humidification
Current Percent of Capacity Utilized	Current Discharge Temperature*

D. The following switching and control functions shall be included:

System On/Off Switch	Menu Selection Buttons
Menu Exit Button	Select Buttons
Alarm Silence Button	Program Set Button
Manual Override for:	
Cool 1, Heat 1, Humidification	

E. The following alarm functions shall be monitored and displayed when they occur in addition to enunciating an audible alarm:

High Temperature Warning
Low Temperature Warning
Low Pressure Compressor
Under Floor Water Detection
Power Failure Restart
Firestat Tripped
Low Voltage Warning
Maintenance Required
Temperature Sensor Error
Discharge Sensor Error*
Custom Message*
High Condensate Water Level*
Standby Pump On*
High Humidity Warning
Low Humidity Warning
High Pressure Compressor
Dirty Filter
Manual Override
Humidifier Problem
Compressor Short Cycle
Local Alarm
umidity Sensor Error
No Water Flow*
Smoke Detector*
Fan Motor Overload*
Person to Contact on Alarm*

F. The following historical data shall be available:

High Temperature Last 24 Hours
High Humidity Last 24 Hours
Alarm History (Last 10 Alarms)
Low Temperature Last 24 Hours
Low Humidity Last 24 Hours
Average Percent of Capacity
Equipment Runtimes for:
Blower, Compressor, Reheat, Dehumidification, Energy Saver*, Humidifier, Condenser and Chilled Water

G. The following functions shall be programmable:

Temperature Setpoint
High Temperature Alarm Limit
Humidity Setpoint
High Humidity Alarm Limit
Mode and Stage Response Time
Reset Equipment Runtimes
Automatic Self-Test Acknowledgment
Humidity Anticipation
Dehumidification Mode
Power Problem or Restart Mode
Message for Optional Alarm 1, 2, 3, 4*
Compressor Supplements to Energy Saver*
Person to contact on Alarm
Humidifier Autoflush Timer*
Scheduled Normal Maintenance
Calibrate Temperature Sensor
Compressor
Humidifier
Water Valve Voltage Range
Network Protocol
Calibrate Discharge Air Sensor*
Temperature Deadband
Low Temperature Alarm Limit
Humidity Deadband
Low Humidity Alarm Limit
Compressor Lead/Lag Sequence
Audio Alarm Mode
Manual Diagnosis
Compressor Short Cycle Alarm
Low Discharge Temperature Alarm Limit*
System Start Delay
Delay for Optional Alarm 1, 2, 3, 4
Remote Alarm 1, 2, 3, 4 Selection
Define Password
Firestat Temperature Aarm Limit
Temperature Scale
Calibrate Humidity
Reheat
Water Valve Mode
Reverse Acting Water Valve
Analog Module Sensor Setup*
Calibrate Chilled Water Temperature Sensor*

* Some of the programmable selections, displays or alarms may require additional components or sensors

H. In addition, the DAP-III control panel shall support the following network protocols for integration with a Building Management System (BMS) for Computer Room Air Conditioning (CRAC) system monitoring and control.

The following protocols shall be supported:

Modbus RTU, TCP/IP or ASCHII
BACnet IP or MS/TP
Johnson Metasys (N2)
SNMP V1 or V2
LonTalk SNVT

I. Building Management System Interface: Unit(s) shall be furnished with an interface card to communicate directly with the Building Automation System (BAS) through a RS-485, Ethernet or LonTalk port. All alarms, set points, and operating parameters that are accessible from the unit mounted control panel shall also be made available through the BAS.

1.10 OPTIONS

A. Energy Saver Coil - The environmental control units shall be provided with an Energy Saver coil. The Energy Saver coil shall be an integral part of the unit and will be capable of providing the total cooling capacity. Whenever the incoming water/glycol temperature is below the setpoint of the water changeover thermostat, Energy Saver cooling shall be available.

The Energy Saver shall operate in the following range: Return air setpoint plus deadband plus 2 degrees.

The Energy Saver shall operate providing there is a need for cooling. The valve shall open at setpoint plus deadband. The valve shall modulate as long as the space is between setpoint plus deadband plus 2 degrees. If the temperature falls below the deadband minus setpoint, the valve shall close and the space shall be considered satisfied. While still in Energy Saver with the valve modulating, if the temperature goes beyond setpoint plus deadband plus 2 degrees, the Energy Saver valve shall close and mechanical (DX) cooling shall begin.

The Energy Saver coil shall include 3-way pressure control valves on the condenser circuits and 3-way valve on the economy coil. Common piping for the energy coil and condensers shall be provided.

B. Energy Saver/Compressor Supplement - Units with Energy Saver shall be provided with compressor supplement if the Energy Saver is not sufficient as a stand-alone system. When the incoming water/glycol temperature is below the setpoint of the water changeover thermostat, the Energy Saver shall be enabled (even if there is no call for cooling). Upon a call for cooling (setpoint plus deadband), the valve shall open proportionally - 10% for each 0.1° above setpoint plus deadband. The compressor shall come on at setpoint plus deadband plus 1.3° (the valve shall be 100% open at this point). The compressor shall go off at setpoint plus 1.3°. The valve shall close proportionally - 10% for each 0.1° below setpoint. An air discharge sensor shall be factory mounted.

C. Auxiliary Chilled Water Coil - Units shall be provided with an Auxiliary Chilled Water coil. The existing chilled water loop shall be utilized with the Auxiliary Chilled Water coil. Units shall operate using the chilled water for cooling. Upon a loss of water flow or an increase in room temperature the system shall bring on compressor (DX) cooling. Separate piping shall be provided for the chilled water coil and refrigeration connections.

D. Remote Temperature and Humidity Sensors -Units shall be provided with remote temperature and humidity sensors. Sensors shall be provided in a plastic case for remote mounting. 25 feet of shielded cable shall be provided for field wiring.

E. Disconnect - The environmental control unit shall include a non-automatic disconnect switch mounted in the high voltage section of the electrical panel. The operating mechanism shall prevent access to the high voltage electrical components until switched to the “OFF” position. The operating mechanism shall protrude through the decorative door.

F. Smoke Detector - The environmental control unit shall be provided with a smoke detector. The smoke detector shall be mounted with the sensing element in the return air stream. When the smoke detector is activated, it shall immediately shut down the unit.

G. Condensate Pump - Units shall be provided with condensate pumps. Pumps shall be factory mounted/wired or shipped loose

for field installation and shall include sump, motor, and automatic control. The pumps shall be rated for 130 GPH @ 20 foot maximum head (40 GPH @ 20 feet with check valve).

H. Tandem Scroll Compressors - Provide units with tandem hermetic scroll compressors with two-step modulation for stage control. Each circuit shall contain two scroll compressors. Modulation shall allow one or both compressors (per circuit) to run depending upon the load of the system, resulting in part-load efficiency equal to full load efficiency.

I. Hot Gas Bypass -Units shall be provided with hot gas bypass. The hot gas bypass valve shall be installed between the compressor discharge line and the leaving side of the expansion valve through a side outlet distributor. The system with the evaporator under full load shall maintain pressure on the leaving side of the hot gas bypass valve to keep the valve port closed. Should the load on the evaporator decrease to the point where the coil is below the desired setting, the pressure on the discharge of the hot gas bypass shall put pressure on the diaphragm overcoming the spring pressure of the seat allowing some hot gas to mix with the normal liquid discharge of the expansion valve raising the evaporator pressure.

J. 3-Way Water Regulating Valves - Units shall be provided with a 3-way head pressure actuated regulating valve. The maximum water pressure shall be ___ psi.

K. High Efficiency Filters - The environmental control unit shall include filters with ___ MERV rating.. The filters shall be four-inch (4") deep pleated design.

L. Pre-Filters - The environmental control unit shall have one-inch (1") pre-filters in addition to the unit filters.

M. Upflow Plenum - Units with top (upflow) discharge shall be provided with plenum. The plenum shall have a front discharge air grille and be fully insulated with one inch (1") thick, 11/2-pound density fiberglass insulation coated with neoprene. The plenum height shall be 18 inches and shall be painted to match the unit color.

N. Floorstand - Units shall be provided with floorstands and vibration isolation pads. The floorstand shall be a complete welded base engineered to support the operating unit. The floorstand height shall be ___ inches and adjustable ± 2 inches.

O. Pump Package - A centrifugal pump shall be provided to circulate water or glycol solution. The pump shall be rated for ____ GPM @ ___ feet of head and shall operate on ___ volts.

P. Pump Auto-Changeover - Dual pump packages shall be provided with a pump auto-changeover control and NEMA 4 flow switch. The pump auto-changeover control shall be factory wired and mounted in the dry cooler control box. The pump auto-changeover control shall provide automatic pump changeover in the event of a pump failure. Upon pump changeover, an audible alarm shall sound at the indoor unit and a message ("STANDBY PUMP ON") shall be displayed on the indoor unit microprocessor. The NEMA 4 flow switch shall be field installed.

Q. Pump Enclosure - A pump enclosure shall be provided for the centrifugal pumps(s). The enclosure shall be vented and weather resistant. Pumps shall be factory mounted in enclosure ready for field piping and wiring.

R. Automatic Lead/Lag Panel - Unit shall be furnished with an automatic lead/lag control panel. Panel shall be capable of controlling a minimum of four units. Upon occurrence of an alarm on one of the primary units the panel shall automatically shut down the primary unit and start standby unit(s) as required. In addition the panel shall rotate the primary and standby units after a user programmable number of hours to insure reliable operation and equalize run hours on all units

S. Zone Master Teamwork Operation - Each unit shall be furnished with capability to function as the zone master and control the operating mode of up to 32 units located in the same zone. Capabilities shall include:

- Unit lead/lag and standby rotation with an 8 hrs to seven days schedule
- Unit auto changeover by selectable standby or off (critical) alarms
- Standby unit activation by average zone temperature
- Zone functions inhibit preventing units from conflicting operation
- Secondary operating schedule for an economical control solution
- Programmable unit's status control (On/Off/Standby)

- Master unit fail safe mode allows slave units to revert their self control mode

T. No Water Flow Alarm - Unit shall be furnished with a NEMA 1 flow switch for field mounting into the chilled water piping to the unit. Upon a loss of water flow the unit control panel shall indicate "No Water Flow" and alarm shall sound.

U. Cable Type Water Detection Sensor - Units shall be provided with cable type water detection system designed to detect the presence of water anywhere along the cable. Cable shall be mounted on the floor under the unit. Sufficient length of cable shall be supplied to completely surround the perimeter of the unit so that water coming from anywhere within the unit will not escape detection. The water detector shall become an integral part of the microprocessor panel and shall display "WATER DETECTED IN UNDER FLOOR AREA" message and activate an audible alarm when the sensor is activated.

V. Discharge Plenum - Up flow units shall be equipped with an 18" tall discharge plenum with factory installed double deflection front discharge grille. Plenum shall be constructed of minimum 18 gauge steel, lined with 1" 1.5 pound per cubic foot insulation and painted to match the cabinet of the computer room air conditioning unit.

a. Discharge Plenum Side Discharge Grilles: Provide discharge grilles on ___ right side and ___ left side.

b. Extended Return Air Plenum: Down flow units shall be equipped with a four-sided inlet plenum on the return to extend the return air opening of the unit. Plenums shall be of sufficient height to penetrate the lay-in ceiling. If lay-in ceiling is not used plenum height shall sufficient to extend the return air opening to within 10" of the deck above or 6 feet whichever is shorter.

Plenum shall not be insulated, constructed of minimum 18 gauge steel and painted to match the color of the unit on which it is mounted

W. Hot Water Reheat - Reheat will be provided by hot water coil with 1/2" copper tubes and aluminum fins rated for a maximum working pressure of 300 PSI. Reheat circuit shall include a factory mounted 2-way hot water valve for temperature control. Coil, control valve and controls as required for a functioning system shall be factory mounted.

X. Steam Reheat - Reheat will be provided by steam coil with 1/2" copper tubes and aluminum fins rated for a maximum working pressure of 300 PSI. Reheat circuit shall include a factory mounted 2-way steam valve rated at 20 psi close off pressure for temperature control. Coil, control valve and controls as required for a functioning system shall be factory mounted. Steam strainer and trap are required and shall be furnished and piped by the installing contractor.

1.11 WARRANTY

A. All parts in the unit shall be warranted to be free from defects in material or workmanship for Eighteen (18) months, from date of shipment. Parts that fail during this period shall be repaired or a new part supplied by the manufacturer at no cost to the owner.

B. Manufacturer's warranty shall be for parts only. Labor is not included.

C. (Optional) Extended Compressor Warranty – In addition to the manufacturer's standard compressor warranty, the compressors shall be provided with an extended warranty for a period of Forty-Two (42) months or a total of Five (5) years. The warranty shall be for the replacement of compressors only (labor is not included).

www.DataAire.com
800-347-2473

sales@DataAire.com
230 W. BlueRidge Avenue
Orange, California 92865

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