Modular Data Temp Systems
Air Cooled
Water/Glycol Cooled

8, 10 and 13 ton capacities

R-407C

DATA AIRE INC.

ISO 9001 Certified

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 continual 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 second generation, DAP-II. 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 Expo 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. Finally, in 2005 we are introduced R-410A refrigerant into our product line to meet the 2010 EPA mandates. We are the only 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!

MODULAR DATA TEMP

Air Cooled
Water/Glycol Cooled

R-407C

Single Circuit Design

Compact Size for Easy Maneuverability

Product Description
Performance/Electrical Data
Dimensional Data
Guide Specifications

Table of Contents

Data Aire, Inc.
Modular Data Temp

PRECISION COOLING

Modular Data Temp Series units are precision environmental control systems that bring a standard of reliable performance to today's demanding market. Small to large data centers, telecommunication sites, or where access and/or floor space is limited, Modular Data Temp units can meet these demands. Modular Data Temp process cooling systems are available in 8, 10, and 13 nominal ton capacities with upflow or downflow air distribution in air cooled or water/glycol cooled direct expansion models. Each Modular Data Temp unit is factory run tested and put through a vigorous quality control procedure.

COMFORT

Computer rooms, telecommunication switch sites, and other environmentally controlled spaces require air which is clean and properly distributed, with precisely controlled temperature and humidity. Building or "people comfort" systems are not designed to meet these demands. Modular Data Temp systems are designed to satisfy these goals.

DESIGN

Modular Data Temp systems feature a specially designed compact tubular steel frame which minimizes the space requirement of air conditioning equipment in the controlled area. Although compact, all parts are easily accessible providing excellent serviceability. Units are finished with a furniture-grade insulated steel cabinet painted in your choice of color.

CONTROL

The heart of the Modular Data Temp system is the ***Data Alarm Processor-III (DAP-III)***, a microprocessor based controller designed for precision environmental control. The ***DAP-III*** not only controls and monitors temperature, humidity, airflow, and cleanliness, it provides component runtimes, alarm history, and automatic self-tests. All information is provided on a 2 row, 80 character, backlit liquid crystal display.

DATA AIRE DELIVERS

Engineered for high performance and reliability, each Modular Data Temp unit comes with Data Aire's commitment to excellence. This commitment began with Data Aire's first process cooling unit and has continued for more than 40 years of building the industry's finest precision control equipment. Standard ship cycle is 30 days from date of order. With the optional premium ***"quick ship"*** program, units can be expedited to ship in as little as one week. All units are built to your specific order. Call your nearest Data Aire representative for more information.

FRAME/CABINET

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

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 centrifugal, forward curved, double width, double inlet blower configuration is engineered for quiet reliable operation. The belt driven variable pitch drive provides adjustable air flow capability to match load requirements of the controlled space. The draw through design insures even air distribution across the coil, low internal cabinet losses, and static sealing of the filter section. Motors are mounted on an adjustable slide base and have internal overload protection.

FILTER SECTION

Units are provided with 4 inch deep, 30% efficient filters (based on *ASHRAE Std. 52.1-92*). The filter section is accessible from the top or side on downflow units and the right hand side on upflow units.

REHEAT

Three stage electric reheat is standard. Low-watt density finned tubular sheathed coils are constructed of stainless steel and provide ample capacity to maintain room dry bulb conditions during dehumidification. Low-watt density coils eliminate ionization associated with open air electric resistance heating.

HUMIDIFICATION

Modular Data Temp 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 capacity at an optimum water level based on the design conductivity.

REFRIGERATION CIRCUIT

The single circuit, refrigeration circuit is designed around a high efficiency hermetic scroll compressor. These durable, heavy duty, fully welded compressors have no gaskets or seals, substantially reducing the possibility of refrigerant or oil leaking into the controlled space or environment. Scroll compressors bring a combination of reliability, efficiency and improved system sound performance to the Modular Data Temp line. 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, compressor short cycle timer, and rotolock service valves.

Water/glycol cooled units include a counterflow plate-fin condenser sized to provide the required heat of rejection with minimum water/glycol flow for a low total pressure drop. Head pressure water regulating valves control the condenser water flow to maintain proper head pressure under varying load conditions.

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, powder 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. Finished to match the indoor evaporator section, the condenser includes a centrifugal, forward curved, double width, double inlet blower engineered for quiet, reliable operation. The belt driven variable pitch drive provides adjustable air flow. The motor has internal overload protection and is mounted on an adjustable slide base. Indoor condensers are provided with a factory mounted and piped receiver, complete with a head pressure control valve to maintain head pressure under varying ambient conditions down to -30° F.

Air Cooled with Outdoor Condensing Unit - When compressors are required to be out of the controlled space, Modular Data Temp units are available with a remote outdoor condensing unit. 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 corrosion resistant aluminum with vertical air discharge. The condenser fan is a variable speed type for head pressure control down to -20° F ambient temperature. Additional fan motors are controlled by ambient fan thermostats.

Water/Glycol Cooled with Remote Outdoor Fluid Cooler - Remote outdoor fluid coolers are available in a variety of sizes. Each fluid cooler includes aluminum corrosion resistant housing, aluminum finned copper tube coil, coated fan guards, surge tank, motor contactor, pump contactor and energy efficient thermally protected direct drive motors. Multiple fan motors are staged to maintain the desired condenser supply fluid temperature.

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.

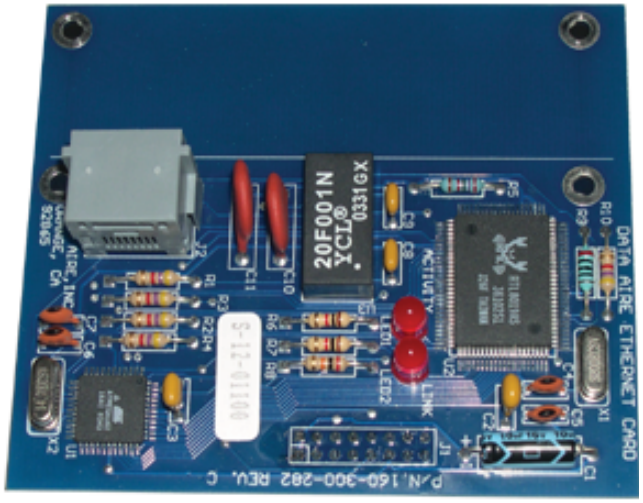
* - May require additional components and/or sensors.

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.

Building Management Interoperability

In addition to Data Aire's own site monitoring devices we realize that some installations prefer to have their entire building monitored by a building management system (BMS). With this in mind we have designed our DAP-III panel to communicate directly with any major building management system with the addition of the appropriate communications card. There are three different communication cards designed for the DAP III. Use the RS-485 2 wire card to communicate directly to Metasys N2 (Johnson Controls Metasys and Siemens Apogee), Modbus RTU and Modbus ASCII protocols. The Ethernet card for Modbus TCP, BACnet IP and SNMP. Finally the Lontalk card for communication with LonWorks BMS.



Shown above is the Ethernet card.

The DAP-III panel has to be equipped with a communications card in order to communicate with each of the site monitoring devices listed above.

Remote Temperature and Humidity Sensors - Temperature and humidity sensors may be ordered for remote wall mounting. Sensors are provided in a wall mount 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 unit mounted microprocessor will sound an alarm and display "SMOKE DETECTOR: UNIT SHUTDOWN" message. The smoke detector is mounted in the return air stream and is provided with auxiliary contacts.

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

Steam Generator Humidifier with Modulating Control - Modulating control may be added to the steam generator humidifier. Modulating control will allow the humidifier to automatically adjust steam output to match changing room conditions. Self-regulating auto flush is included.

3-Way Water Regulating Valve - A 3-way water regulating valve for head pressure control may be ordered to replace standard 2-way valve installed in unit. The 3-way valve controls the water/glycol flow rate to meet the heat rejection requirements under varying conditions. Recommended on units with dual pump applications.

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 @ 20 ft maximum or 40 GPH @ 20 feet with check valve. Pumps shipped loose are available in 115, 230, or 460 volt. If unit mounted and wired, the pump will match the unit voltage. Not available in 575 volt.

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

Floorstand - Floorstands are adjustable +/- 2 inches and may be ordered with a factory installed turning vane or with seismic construction.

60% Efficient Filter - The standard 30% efficient filter may be replaced with 60% efficient filter (based on ASHRAE Std. 52.1-1992). Filters are 4 inch deep, pleated type. (Note: Higher efficiency filters are available - consult factory regarding efficiency percentage and unit static pressures)

1" Pre-Filter - Units may be ordered with a one inch pre-filter.

Pump Package - Centrifugal pump packages are available to circulate water or water/glycol solution. Pumps are available in various horsepower and voltage. Both 3400 and 1750 rpm pumps are available as an option. Pumps ship loose or come mounted in an optional pump enclosure. It is recommended on units with dual pump applications that a 3-way water regulating valve be used in lieu of the standard 2-way valve.

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

Hot Gas Bypass - Hot gas bypass may be ordered for changing load conditions. The hot gas bypass valve 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 of 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. The hot gas bypass valve can be adjusted to "fine tune" the unit to room conditions.

Pump Enclosures - Pump enclosures are available for either single or dual pump applications*. Pump enclosures are vented and weather resistant. When ordered with pumps, the pumps are factory mounted in the enclosure ready for field piping and wiring. (* Due to the size of some pumps, a special oversized enclosure can be made available.)

Integral Pump Enclosures - Pumps may be factory mounted as an integral part of the dry cooler. A 30" extension is added to the dry cooler. Pumps are pre-piped and wired. Shut-off valves and flow switches are included. This configuration greatly reduces field installation procedures.

Extended Compressor Warranty - Extended compressor warranty is available from the manufacturer in addition to the standard warranty. The warranty is for replacement of compressors and does not include labor. Contact you local representative for period of coverage.

AIR COOLED: Performance data at STANDARD airflow

MODEL NUMBER			*DTAD/U-08*	*DTAD/U-10*	*DTAD/U-13*
CAPACITY in Btu/hr - *gross*					
80° DB/67° WB 50% RH	Total		105,800	134,000	163,800
	Sensible		84,000	100,000	119,000
75° DB/62.5° WB 50% RH	Total		98,000	124,500	152,000
	Sensible		81,000	97,000	115,500
75° DB/61° WB 45% RH	Total		95,100	121,200	147,600
	Sensible		86,800	103,400	122,800
72° DB/60° WB 50% RH	Total		93,300	118,900	145,000
	Sensible		79,300	95,100	113,300
72° DB/58.6° WB 45% RH	Total		90,900	115,900	141,100
	Sensible		84,600	101,100	120,100
BLOWER SECTION					
Airflow in CFM			3,600	4,000	4,500
Standard motor HP			2	3	3
External static pressure - inches of W.G.			0.5	0.5	0.5
Number of motors/fans			1/1	1/1	1/1
Maximum external static pressure		*Downflow*	0.8	1.5	0.6
(Standard motor)		*Upflow*	0.8	1.5	0.6
Maximum external static pressure		*Downflow*	1.5	1.5	1.5
(Next size motor)		*Upflow*	1.5	1.5	1.5
Next size motor HP			3	5	5
COMPRESSORS					
Type			Scroll	Scroll	Scroll
Quantity			1	1	1
Refrigerant type			R-407C	R-407C	R-407C
EVAPORATOR COIL					
Face are in sq. ft.			12.2	12.2	12.2
Rows of coils			3	4	5
Face velocity - FPM			295	328	369
REHEAT SECTION					
Type	Electric		Standard	Standard	Standard
Capacity	kW		15	15	15
	Btu/hr		51,225	51,225	51,225
HUMIDIFIER SECTION					
Type	Steam generator		Standard	Standard	Standard
Capacity	kW		3.2	3.2	3.2
	lbs/hr		10	10	10

AIR COOLED: Performance data at STANDARD airflow

MODEL NUMBER		*DTAD/U-08*	*DTAD/U-10*	*DTAD/U-13*
ELECTRICAL SECTION	Standard Motor			
Electrical data based on: electric reheat- **YES**, steam generator humidifier - **YES**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	77/94/110	88/108/125	100/123/150
460/3/60	FLA/MCA/MOP	37/45/50	40/50/60	46/56/70
575/3/60	FLA/MCA/MOP	28/35/40	31/38/45	38/46/60
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	51/63/80	63/76/100	75/91/125
460/3/60	FLA/MCA/MOP	25/31/40	29/35/50	34/42/60
575/3/60	FLA/MCA/MOP	19/23/30	22/26/35	28/35/50
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO,** and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	77/94/110	88/108/125	100/123/150
460/3/60	FLA/MCA/MOP	37/45/50	40/50/60	46/56/70
575/3/60	FLA/MCA/MOP	28/35/40	31/38/45	38/46/60
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	35/42/70	46/56/90	58/71/110
460/3/60	FLA/MCA/MOP	18/22/35	22/26/40	27/32/50
575/3/60	FLA/MCA/MOP	13/16/25	16/19/30	23/27/45
✠ STANDARD MOTOR				
Motor horsepower		2	3	3
208-230/3/60	FLA	6.2	9.0	9.0
460/3/60	FLA	3.1	4.4	4.4
575/3/60	FLA	2.5	3.3	3.3
COMPRESSOR				
208-230/3/60	FLA	28.8	37.2	49.4
460/3/60	FLA	14.7	17.2	22.4
575/3/60	FLA	10.8	12.4	19.2
AIR COOLED CONDENSER	*Remote mounted outdoors*			
Condenser selection at 95° F ambient		*DARC-09*	*DARC-11*	*DARC-15*
Condenser selection at 100° F ambient		*DARC-11*	*DARC-15*	*DARC-17*
Condenser selection at 105° F ambient		*DARC-15*	*DARC-17*	*DARC-21*

Note: Condensers are selected at sea level. Refer to page 30 for electrical data.

FLA - Full Load Amps
MCA - Minimum Circuit ampacity (wire sizing amps)
MOP - Maximum overcurrent protection device amp

AIR COOLED: Performance data at STANDARD airflow

MODEL NUMBER		*DTAD/U-08*	*DTAD/U-10*	*DTAD/U-13*
ELECTRICAL SECTION	Next Size Motor			
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **YES,** and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	80/97/110	94/113/125	106/129/150
460/3/60	FLA/MCA/MOP	38/46/50	43/52/60	48/58/70
575/3/60	FLA/MCA/MOP	29/36/40	33/40/45	40/48/60
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	54/65/90	68/82/110	80/97/125
460/3/60	FLA/MCA/MOP	27/32/45	31/37/50	36/44/60
575/3/60	FLA/MCA/MOP	20/24/30	24/28/35	30/37/50
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	80/97/110	94/113/125	106/129/150
460/3/60	FLA/MCA/MOP	38/46/50	43/52/60	48/58/70
575/3/60	FLA/MCA/MOP	29/36/40	33/40/45	40/48/60
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	38/45/70	52/61/90	64/76/125
460/3/60	FLA/MCA/MOP	19/23/35	24/28/45	29/35/50
575/3/60	FLA/MCA/MOP	14/17/25	18/21/30	25/29/45
◆ NEXT SIZE MOTOR				
Motor horsepower		3	5	5
208-230/3/60	FLA	9.0	14.6	14.6
460/3/60	FLA	4.4	6.6	6.6
575/3/60	FLA	3.3	5.3	5.3
FILTER SECTION	*(Pleated, 30% efficient, based on ASHRAE Std. 52.1-1992)*			
Quantity/size		2 - 20x25x4	2 - 20x25x4	2 - 20x25x4
CONNECTION SIZES				
Liquid line - O.D. copper		5/8	5/8	5/8
Hot gas line - O.D. copper		3/4	3/4	3/4
Condensate drain		3/4	3/4	3/4
Humidifier supply		1/4	1/4	1/4

(Note: Refer to Operation and Maintenance Manual for recommended pipe sizing between unit and condenser section.)

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

AIR COOLED: Performance data at OPTIONAL airflow

MODEL NUMBER			*DTAD/U-08*	*DTAD/U-10*	*DTAD/U-13*
CAPACITY in Btu/hr - *gross*					
80° DB/67° WB 50% RH	Total		108,700	138,700	168,800
	Sensible		94,000	113,200	132,700
75° DB/62.5° WB 50% RH	Total		101,000	129,300	156,800
	Sensible		90,600	109,600	128,400
75° DB/61° WB 45% RH	Total		98,100	125,200	152,400
	Sensible		96,100	117,300	137,400
72° DB/60° WB 50% RH	Total		96,300	123,700	149,700
	Sensible		88,500	107,500	125,800
72° DB/58.6° WB 45% RH	Total		93,600	119,900	145,800
	Sensible		92,600	114,400	134,000
BLOWER SECTION					
Airflow in CFM			4,400	5,000	5,500
Standard motor HP			3.0	5.0	5.0
External static pressure - inches of W.G.			0.5	0.5	0.5
Number of motors/fans			1/1	1/1	1/1
Maximum external static pressure (Standard motor)		*Downflow*	1	1.5	0.8
		Upflow	1	1.5	0.8
Maximum external static pressure (Next size motor)		*Downflow*	1.5	1.5	0.8
		Upflow	1.5	1.5	0.8
Next size motor HP			5	7.5	7.5
COMPRESSORS					
Type			Scroll	Scroll	Scroll
Quantity			1	1	1
Refrigerant type			R-407C	R-407C	R-407C
EVAPORATOR COIL					
Face area in sq. ft.			12.2	12.2	12.2
Rows of coils			3	4	5
Face velocity - FPM			361	410	451
REHEAT SECTION					
Electric			Standard	Standard	Standard
Capacity	kW		15	15	15
	Btu/hr		51,225	51,225	51,225
HUMIDIFIER SECTION					
Steam generator			Standard	Standard	Standard
Capacity	kW		3.2	3.2	3.2
	lb/hr		10	10	10

AIR COOLED: Performance data at OPTIONAL airflow

MODEL NUMBER		*DTAD/U-08*	*DTAD/U-10*	*DTAD/U-13*
ELECTRICAL SECTION	Standard motor			
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **YES**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	80/97/110	94/113/125	106/129/150
460/3/60	FLA/MCA/MOP	38/46/50	43/52/60	48/58/70
575/3/60	FLA/MCA/MOP	29/36/40	33/40/45	40/48/60
Electrical data base on: electric reheat - **NO**, steam generator humidifier - **YES**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	54/65/90	68/82/110	80/97/125
460/3/60	FLA/MCA/MOP	27/32/45	31/37/50	36/44/60
575/3/60	FLA/MCA/MOP	20/24/30	24/28/35	30/37/50
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	80/97/110	94/113/125	106/129/150
460/3/60	FLA/MCA/MOP	38/46/50	43/52/60	48/58/70
575/3/60	FLA/MCA/MOP	29/36/40	33/40/45	40/48/60
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	38/45/70	52/61/90	64/76/125
460/3/60	FLA/MCA/MOP	19/23/35	24/28/45	29/35/50
575/3/60	FLA/MCA/MOP	14/17/25	18/21/30	25/29/45
✠ STANDARD MOTOR				
Motor horsepower		3	5	5
208-230/3/60	FLA	9.0	14.6	14.6
460/3/60	FLA	4.4	6.6	6.6
575/3/60	FLA	3.3	5.3	5.3
COMPRESSOR				
208-230/3/60	FLA	28.8	37.2	49.4
460/3/60	FLA	14.7	17.2	22.4
575/3/60	FLA	10.8	12.4	19.2
AIR COOLED CONDENSER	Remote mounted outdoors			
Condenser selection at 95° F ambient		DARC-09	DARC-11	DARC-15
Condenser selection at 100° F ambient		DARC-11	DARC-15	DARC-17
Condenser selection at 105° F ambient		DARC-15	DARC-17	DARC-21

(Note: Condensers are selected at sea level. Refer to page 30 for electrical data)

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

AIR COOLED: Performance data at OPTIONAL airflow

MODEL NUMBER		*DTAD/U-08*	*DTAD/U-10*	*DTAD/U-13*
ELECTRICAL SECTION	Next size motor			
Electrical data base on: electric reheat - **YES**, steam generator - **YES**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	85/103/110	102/122/125	114/137/175
460/3/60	FLA/MCA/MOP	40/49/50	47/56/60	52/63/80
575/3/60	FLA/MCA/MOP	31/38/45	36/43/50	43/51/60
Electrical data base on: electric reheat - **NO**, steam generator humidifier - **YES**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	60/71/90	77/90/110	89/105/150
460/3/60	FLA/MCA/MOP	29/34/45	36/42/50	41/48/60
575/3/60	FLA/MCA/MOP	22/26/35	27/32/40	34/40/50
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	85/103/110	102/122/125	114/137/175
460/3/60	FLA/MCA/MOP	40/49/50	47/56/60	52/63/80
575/3/60	FLA/MCA/MOP	31/38/45	36/43/50	43/51/60
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	43/51/70	60/70/100	72/85/125
460/3/60	FLA/MCA/MOP	21/25/40	28/33/50	33/39/60
575/3/60	FLA/MCA/MOP	16/19/30	21/24/35	28/33/50
◆ NEXT SIZE MOTOR				
Motor horsepower		5	7.5	7.5
230/3/60	FLA	14.6	23.0	23.0
460/3/60	FLA	6.6	11.0	11.0
575/3/60	FLA	5.3	8.6	8.6
FILTER SECTION	*(Pleated, 30% efficient based on ASHRAE Std. 52.1-1992.)*			
Quantity/size		3 - 16x25x4	3 - 16x25x4	3 - 16x25x4
CONNECTION SIZES				
Liquid line - O.D. copper		5/8	5/8	5/8
Hot gas line - O.D. copper		3/4	3/4	3/4
Condensate drain		3/4	3/4	3/4
Humidifier supply		1/4	1/4	1/4

(Note: Refer to Operation and Maintenance Manual for recommended pipe sizing between unit and condenser section)

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

WATER COOLED: Performance at STANDARD airflow

MODEL NUMBER		*DTWD/U-08*	*DTWD/U-10*	*DTWD/U-13*
CAPACITY in Btu/hr - *gross*				
80° DB/67° WB 50% RH	Total	109,900	139,400	170,200
	Sensible	85,500	102,100	121,600
75° DB/62.5° WB 50% RH	Total	102,000	129,600	158,100
	Sensible	82,700	99,100	118,100
75° DB/61° WB 45% RH	Total	99,300	126,600	153,800
	Sensible	88,500	105,800	125,600
72° DB/60° WB 50% RH	Total	97,200	123,600	150,700
	Sensible	81,000	97,300	116,000
72° DB/58.6° WB 45% RH	Total	94,900	121,100	146,900
	Sensible	86,400	103,500	122,800

GLYCOL COOLED: Performance at STANDARD airflow

MODEL NUMBER		*DTGD/U-08*	*DTGD/U-10*	*DTGD/U-13*
CAPACITY in Btu/hr - *gross*				
80° DB/67° WB 50% RH	Total	103,100	131,300	159,600
	Sensible	82,900	99,000	117,400
75° DB/62.5° WB 50% RH	Total	95,600	122,000	148,400
	Sensible	80,100	95,900	113,900
75° DB/61° WB 45% RH	Total	92,800	119,100	144,300
	Sensible	85,800	102,600	121,400
72° DB/60° WB 50% RH	Total	91,100	116,400	141,700
	Sensible	78,400	94,100	111,800
72° DB/58.6° WB 45% RH	Total	88,600	114,000	138,000
	Sensible	83,600	100,200	118,600

BLOWER SECTION				
Airflow in CFM		3,600	4,000	4,500
Standard motor HP		2	3	3
External Static Pressure - inches of W.G.		0.5	0.5	0.5
Number of motors/fans		1/1	1/1	1/1
Maximum external static pressure (Standard motor)	*Downflow*	0.8	1.5	0.6
	Upflow	0.8	1.5	0.6
Maximum external static pressure (Next size motor)	*Downflow*	1.5	1.5	1.5
	Upflow	1.5	1.5	1.5
Next size motor - horsepower		3	5	5

WATER/GLYCOL COOLED: Performance data at STANDARD airflow

CONDENSER WATER

(Maximum design water pressure 150 psi - High pressure valves optional)

Using 65° F EWT	GPM	9.5	11.9	14.8
	Pressure drop in PSI	4.1	4.1	3.5
Using 75° F EWT	GPM	14.8	18.5	23.2
	Pressure drop in PSI	4.5	4.5	4.1
Using 85° F EWT	GPM	21	26.3	31.8
	Pressure drop in PSI	7.1	7.1	4.5
Using Fluid Cooler	GPM	28.0	35.0	43.0
	Pressure drop in PSI	9.1	10.1	8.1

COMPRESSORS

Type	Scroll	Scroll	Scroll
Quantity	1	1	1
Refrigerant	R-407C	R-407C	R-407C

EVAPORATOR COIL

Face area - sq. ft.	12.2	12.2	12.2
Rows of coils	3	4	5
Face velocity in FPM	295	328	369

REHEAT SECTION

Electric	Standard	Standard	Standard
kW	15	15	15
Capacity in Btu/hr	51,225	51,225	51,225

HUMIDIFIER SECTION

Steam generator	Standard	Standard	Standard
kW	3.2	3.2	3.2
Capacity in lb/hr	10	10	10

FILTER SECTION

(Pleated, 30% efficient based on ASHRAE Std. 52.1-1992.)

Quantity/size	2 - 20x25x4	2 - 20x25x4	2 - 20x25x4

CONNECTION SIZES

(Refer to Operation and Maintenance Manual for piping information between unit and dry cooler)

Condenser water - supply	1-5/8	1-5/8	1-5/8
Condenser water - return	1-5/8	1-5/8	1-5/8
Condensate drain	3/4	3/4	3/4
Humidifier supply	1/4	1/4	1/4

WATER/GLYCOL COOLED: Performance data at STANDARD airflow

MODEL NUMBER		*DT*D/U-08*	*DT*D/U-10*	*DT*D/U-13*
ELECTRICAL SECTION	**Standard Motor**			
Electrical data based on: electric reheat - **YES**, steam generator humidifier **YES**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	77/94/110	88/108/125	100/123/150
460/3/60	FLA/MCA/MOP	37/45/50	40/50/60	46/56/70
575/3/60	FLA/MCA/MOP	28/35/40	31/38/45	38/46/60
Electrical data base on: electric reheat - **NO**, steam generator humidifier - **YES**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	51/63/80	63/76/100	75/91/125
460/3/60	FLA/MCA/MOP	25/31/40	29/35/50	34/42/60
575/3/60	FLA/MCA/MOP	19/23/30	22/26/35	28/35/50
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **NO**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	77/94/110	88/108/125	100/123/150
460/3/60	FLA/MCA/MOP	37/45/50	40/50/60	46/56/70
575/3/60	FLA/MCA/MOP	28/35/40	31/38/45	38/46/60
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **NO**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	35/42/70	46/56/90	58/71/110
460/3/60	FLA/MCA/MOP	18/22/35	22/26/40	27/32/50
575/3/60	FLA/MCA/MOP	13/16/25	16/19/30	23/27/45
✠ STANDARD MOTOR				
Motor horsepower		2	3	3
208-230/3/60	FLA	6.2	9.0	9.0
460/3/60	FLA	3.1	4.4	4.24
575/3/60	FLA	2.5	3.3	3.3
COMPRESSOR				
208-230/3/60	FLA	28.8	37.2	49.4
460/3/60	FLA	14.7	17.2	22.4
575/3/60	FLA	10.8	12.4	19.2

* - W for water or G for glycol

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

MODEL NUMBER		*DT*D/U-08*	*DT*D/U-10*	*DT*D/U-13*
ELECTRICAL SECTION	**Next Size Motor**			
Electrical data based on: electric reheat - **YES**, steam generator humidifier - **YES**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	80/97/110	94/113/125	106/129/150
460/3/60	FLA/MCA/MOP	38/46/50	43/52/60	48/58/70
575/3/60	FLA/MCA/MOP	29/36/40	33/40/45	40/48/60
Electrical data based on: electric reheat - **NO**, steam generator humidifier - **YES,** and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	54/65/90	68/82/110	80/97/125
460/3/60	FLA/MCA/MOP	27/32/45	31/37/50	36/44/60
575/3/60	FLA/MCA/MOP	20/24/30	24/28/35	30/37/50
Electric data based on: electric rehear - **YES**, steam generator humidifier - **NO**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	80/97/110	94/113/125	106/129/150
460/3/60	FLA/MCA/MOP	38/46/50	43/52/60	48/58/70
575/3/60	FLA/MCA/MOP	29/36/40	33/40/45	40/48/60
Electrical data based on: electric reheat - **NO**, steam generator humidifier -**NO**, and NEXT SIZE MOTOR. ◆				
230/3/60	FLA/MCA/MOP	38/45/70	52/61/90	64/76/125
460/3/60	FLA/MCA/MOP	19/23/35	24/28/45	29/35/50
575/3/60	FLA/MCA/MOP	14/17/25	18/21/30	25/29/45
◆ NEXT SIZE MOTOR				
Motor horsepower		3	5	5
203-230/3/60	FLA	9.0	14.6	14.6
460/3/60	FLA	4.4	6.6	6.6
575/3/60	FLA	3.3	5.3	5.3
OUTDOOR DRY COOLER				
Dry cooler selection at 95° F ambient		DAFC-15	DAFC-21	DAFC-21
Dry cooler selection at 100° F ambient		DAFC-21	DAFC-24	DAFC-30

(Note: Dry coolers are selected at sea level. Refer to page 32 for dry cooler electrical data)

* - W for water or G for glycol

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

WATER COOLED: Performance data at OPTIONAL airflow

MODEL NUMBER		*DTWD/U-08*	*DTWD/U-10*	*DTWD/U-13*
CAPACITY in Btu/hr - *gross*				
80° DB/67° WB 50% RH	Total	113,600	144,100	176,300
	Sensible	95,700	115,300	135,600
75° DB/62.5° WB 50% RH	Total	105,500	134,100	163,500
	Sensible	92,400	111,600	131,200
75° DB/61° WB 45% RH	Total	102,000	130,400	158,600
	Sensible	98,600	119,500	140,000
72° DB/60° WB 50% RH	Total	100,700	128,100	155,800
	Sensible	90,400	109,300	128,500
72° DB/58.6° WB 45% RH	Total	97,500	124,800	151,500
	Sensible	95,600	116,600	136,600

GLYCOL COOLED: Performance data at OPTIONAL airflow

MODEL NUMBER		*DTGD/U-08*	*DTGD/U-10*	*DTGD/U-13*
CAPACITY in Btu/hr - *gross*				
80° DB/67° WB 50% RH	Total	106,600	136,000	165,500
	Sensible	93,200	112,200	131,500
75° DB/62.5° WB 50% RH	Total	98,700	126,600	153,800
	Sensible	89,700	108,500	127,200
75° DB/61° WB 45% RH	Total	95,700	122,400	148,500
	Sensible	94,500	116,100	135,700
72° DB/60° WB 50% RH	Total	94,000	120,900	146,700
	Sensible	87,600	106,200	124,600
72° DB/58.6° WB 45% RH	Total	91,500	117,400	142,000
	Sensible	90,800	113,300	132,400
BLOWER SECTION				
Airflow - CFM		4,400	5,000	5,500
Standard Motor HP		3	5	5
External Static Pressure - inches of W.G.		0.5	0.5	0.5
Number of motors/fans		1/1	1/1	1/1
Maximum external static pressure (Standard motor)	*Downflow*	1.0	1.5	0.8
	Upflow	1.0	1.5	0.8
Maximum external static pressure (Next size motor)	*Downflow*	1.5	1.5	0.8
	Upflow	1.5	1.5	0.8
Next size motor - horsepower		5	7 1/2	7 1/2

WATER/GLYCOL COOLED: Performance data at OPTIONAL airflow

MODEL NUMBER		*DTWD/U-08*	*DTWD/U-10*	*DTWD/U-13*
CONDENSER WATER	Maximum design water pressure 150 psi - High pressure valves optional			
Using 65° F EWT	GPM	9.5	11.9	14.8
	Pressure drop in PSI	4.1	4.1	3.5
Using 75° F EWT	GPM	14.8	18.5	23.2
	Pressure drop in PSI	4.5	4.5	4.1
Using 85° F EWT	GPM	21.0	26.3	31.8
	Pressure drop in PSI	7.1	7.1	4.5
Using Fluid Cooler	GPM	28.0	35.0	43.0
	Pressure drop in PSI	9.1	10.1	8.1
COMPRESSORS				
Type		Scroll	Scroll	Scroll
Quantity		1	1	1
Refrigerant type		R-407C	R-407C	R-407C
EVAPORATOR COIL				
Face area in sq. ft.		12.2	12.2	12.2
Rows of coil		3	4	5
Face velocity in FPM		361	410	451
REHEAT SECTION				
Electric		Standard	Standard	Standard
kW		15	15	15
Capacity in Btu/hr		51,225	51,225	51,225
HUMIDIFIER SECTION				
Steam generator		Standard	Standard	Standard
kW		3.2	3.2	3.2
Capacity in lb/hr		10	10	10
FILTER SECTION	*Filter efficiency based on ASHRAE Std. 52-76*			
Quantity		2	2	2
Size - Inches		20x25x4	20x25x4	20x25x4
Efficiency - percentage		30	30	30
CONNECTION SIZES	*Refer to Operation and Maintenance Manual for piping information between unit and dry cooler.*			
Condenser water - supply		1-5/8	1-5/8	1-5/8
Condenser water - return		1-5/8	1-5/8	1-5/8
Condensate drain		3/4	3/4	3/4
Humidifier supply		1/4	1/4	1/4

WATER/GLYCOL COOLED: Performance data at OPTIONAL airflow

MODEL NUMBER		*DT*D/U-08*	*DT*D/U-10*	*DT*D/U-13*
ELECTRICAL SECTION	**Standard Motor**			
Electrical data based on: electric reheat-**YES**, steam generator humidifier-**YES,** and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	80/97/110	94/113/125	106/129/150
460/3/60	FLA/MCA/MOP	38/46/50	43/52/60	48/58/70
575/3/60	FLA/MCA/MOP	29/36/40	33/40/45	40/48/60
Electrical data based on: electric reheat-**NO**, steam generator humidifier-**YES**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	54/65/90	68/82/110	80/97/125
460/3/60	FLA/MCA/MOP	27/32/45	31/37/50	36/44/60
575/3/60	FLA/MCA/MOP	20/24/30	24/28/35	30/37/50
Electrical data based on: electric reheat-**YES**, steam generator humidifier-**NO**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	80/97/110	94/113/125	106/129/150
460/3/60	FLA/MCA/MOP	38/46/50	43/52/60	48/58/70
575/3/60	FLA/MCA/MOP	29/36/40	33/40/45	40/48/60
Electrical data based on: electric reheat-**NO**, steam generator humidifier - **NO**, and STANDARD MOTOR. ✠				
208-230/3/60	FLA/MCA/MOP	38/45/70	52/61/90	64/76/125
460/3/60	FLA/MCA/MOP	19/23/35	24/28/45	29/35/50
575/3/60	FLA/MCA/MOP	14/17/25	18/21/30	25/29/45
✠ **STANDARD MOTOR**				
Motor horsepower		3	5	5
208-230/3/60	FLA	9.0	14.6	14.6
460/3/60	FLA	4.4	6.6	6.6
575/3/60	FLA	3.3	5.3	5.3
COMPRESSOR				
230/3/60	FLA	28.8	37.2	49.4
460/3/60	FLA	14.7	17.2	22.4
575/3/60	FLA	10.8	12.4	19.2

* - W for water or G for glycol

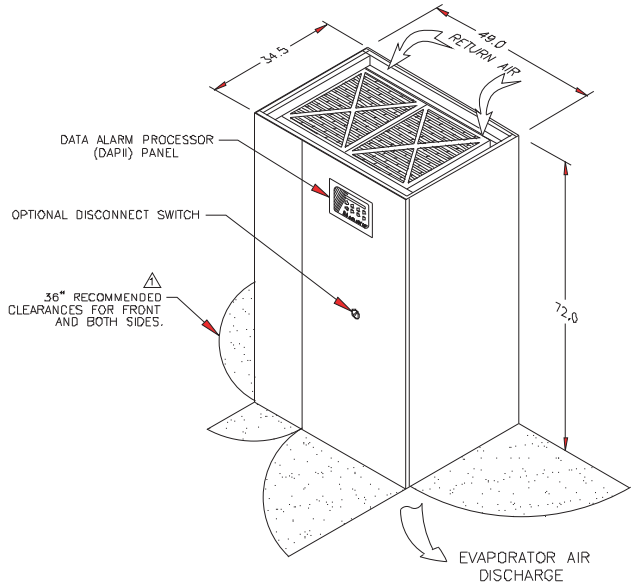
FLA - Full load amps
MCA - Minimum circuit amps (wire sizing amps)
MOP - Maximum overcurrent protection device amps

WATER/GLYCOL COOLED: Performance data at OPTIONAL airflow

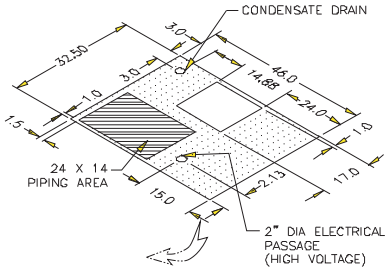
MODEL NUMBER		*DT*D/U-08*	*DT*D/U-10*	*DT*D/U-13*
ELECTRICAL SECTION	**Next Size Motor**			
Electrical data based on: electric reheat-**YES**, steam generator humidifier-**YES**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	85/103/110	102/122/125	114/137/175
460/3/60	FLA/MCA/MOP	40/49/50	47/56/60	52/63/80
575/3/60	FLA/MCA/MOP	31/38/45	36/43/50	43/51/60
Electrical data based on: electric reheat-**NO**, steam generator humidifier-**YES**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	60/71/90	77/90/110	89/105/150
460/3/60	FLA/MCA/MOP	29/34/45	36/42/50	41/48/60
575/3/60	FLA/MCA/MOP	22/26/35	27/32/40	34/40/50
Electrical data based on: electric reheat-**YES**, steam generator humidifier-**NO**, and NEXT SIZE MOTOR. ◆				
208-230/3/60	FLA/MCA/MOP	85/103/110	102/122/125	114/137/175
460/3/60	FLA/MCA/MOP	40/49/50	47/56/60	52/63/80
575/3/60	FLA/MCA/MOP	31/38/45	36/43/50	43/51/60
Electrical data based on: electric reheat-**NO**, steam generator humidifier-**NO**, and NEXT SIZE MOTOR. ◆				
230/3/60	FLA/MCA/MOP	43/51/70	60/70/100	72/85/125
460/3/60	FLA/MCA/MOP	21/25/40	28/33/50	33/39/60
575/3/60	FLA/MCA/MOP	16/19/30	21/24/35	28/33/50
◆ NEXT SIZE MOTOR				
Motor horsepower		5	7.5	7.5
230/3/60	FLA	15.0	23.0	23.0
460/3/60	FLA	6.6	11.0	11.0
575/3/60	FLA	5.3	8.6	8.6
OUTDOOR DRY COOLER	*Dry coolers are selected at sea level. Refer to page 30 for dry cooler electrical data.*			
Dry cooler selection at 95° F ambient		***DAFC-15***	***DAFC-21***	***DAFC-21***
Dry cooler selection at 100° F ambient		***DAFC-21***	***DAFC-24***	***DAFC-30***

* - W for water or G for glycol

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



DIMENSIONAL DATA

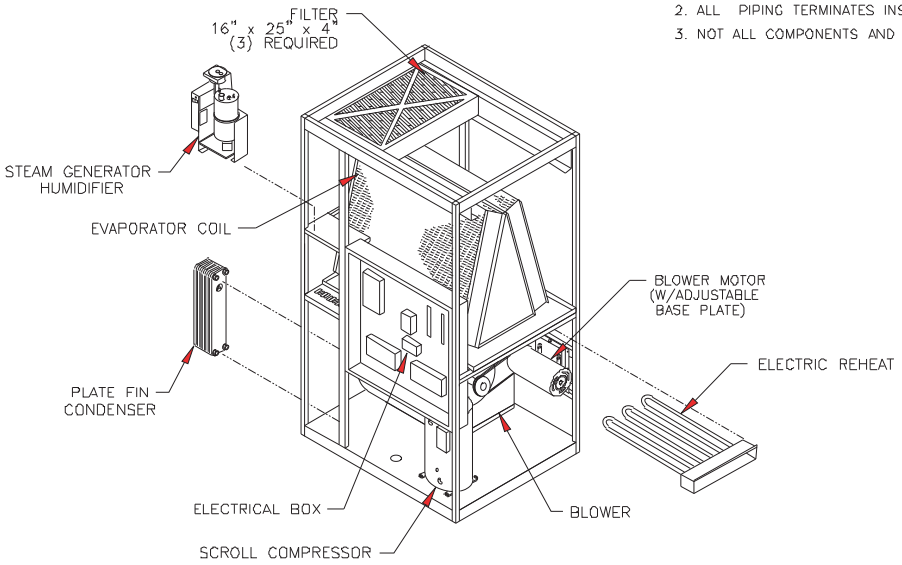


FLOOR CUTOUT DIMENSIONS

NOTES:

⚠ 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.



COMPONENT BREAKDOWN

REVISIONS			
REV	DESCRIPTION	DATE	BY
B	SEE ECO	2-1-00	E.D

NOTICE: THIS DRAWING EMBODIES A PROPRIETARY DESIGN, ORIGINATED BY DATA AIRE, INC. ALL DESIGN MANUFACTURING, REPRODUCTION (EXCEPTING WHERE THE RECIPIENT HAS BEEN GIVEN THE EXPRESS RIGHT BY WRITTEN AGREEMENT TO PRODUCE THE DRAWING), USE AND SALE RIGHTS REGARDING THE SAME ARE EXPRESSLY RESERVED. IT IS SUBMITTED UNDER CONFIDENTIAL RELATIONSHIP FOR A SPECIFIC PURPOSE, THE RECIPIENT AGREES BY ACCEPTING THIS DRAWING NOT TO SUPPLY OR DISCLOSE ANY INFORMATION REGARDING IT TO ANY UNAUTHORIZED PERSON, OR TO INCORPORATE IN OTHER PROJECTS ANY SPECIAL FEATURES PECULIAR TO THIS DESIGN. ALL PATENT RIGHTS HERETO ARE EXPRESSLY RESERVED BY DATA AIRE, INC., ANAHEIM, CALIFORNIA, U.S.A.

NEXT ASSEMBLY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED (DIMENSIONS ARE IN INCHES)
X =+/-.1
.XX =+/-.03
.XXX =+/-.010
ANGLES =+/- 1 DEG.
MACHINED TOLERANCE.
SURFACE FINISH 125 √
FILLET RADII .010-.030
SQUARENESS .005/INCH
CONCENTRICITY .010 TIR
BREAK EDGES .002-.015
DIMENSIONS AND TOLERANCES PER ANSI Y 14.5
DO NOT SCALE PRINT

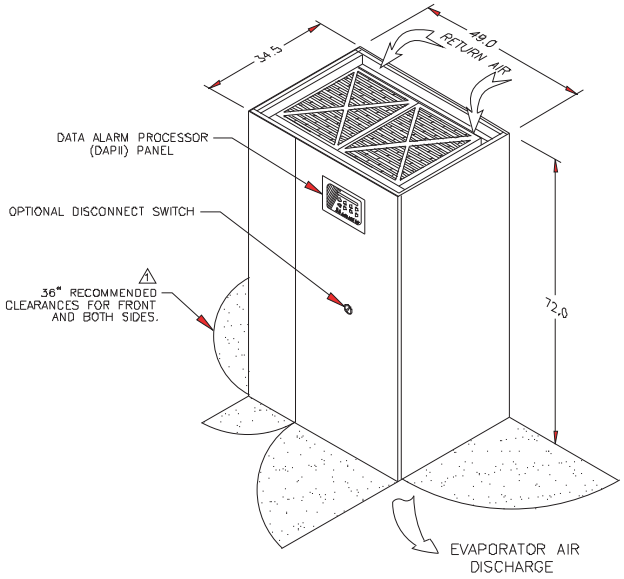
DRAWN BY:	E. DIAZ	DATE: 6-4-98
CHECKER:		
ENGINEER:		
FINISH:		

DATA AIRE INC.

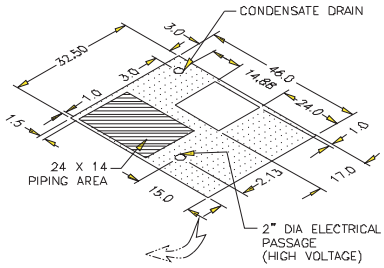
TITLE: DIMENSIONAL DATA DOWN FLOW MODULAR DATA TEMP

SIZE	DR	FILE NO.	DRAWING NO.	REV.
B	SAL	5090024B	550-900-024	B

SCALE 1/30 WT. SHEET 1 OF 1



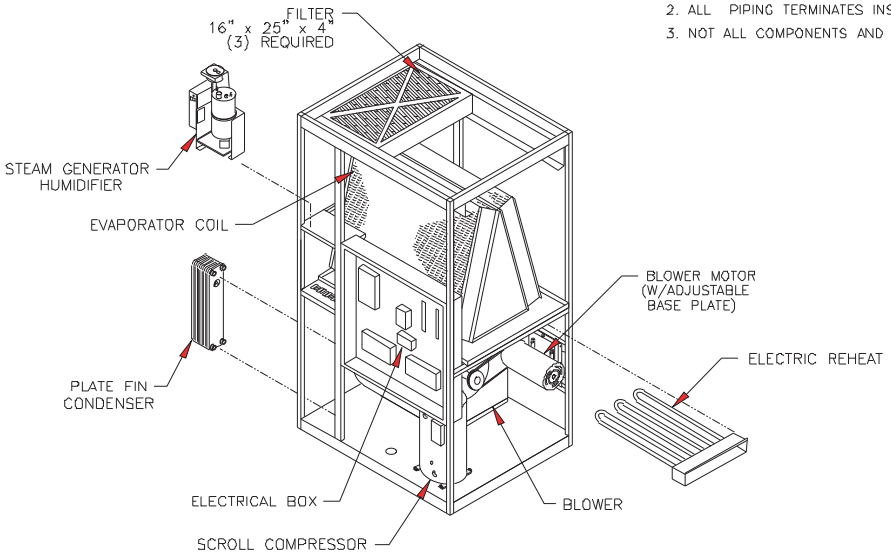
DIMENSIONAL DATA



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.



COMPONENT BREAKDOWN

REVISIONS			
REV	DESCRIPTION	DATE	BY
B	SEE ECO	2-1-00	E.D

NOTICE: THIS DRAWING EMBODIES A PROPRIETARY DESIGN, ORIGINATED BY DATA AIRE, INC. ALL DESIGN MANUFACTURING, REPRODUCTION (EXCEPTING WHERE THE RECIPIENT HAS BEEN GIVEN THE EXPRESS RIGHT BY WRITTEN AGREEMENT TO PRODUCE THE DRAWING), USE AND SALE RIGHTS REGARDING THE SAME ARE EXPRESSLY RESERVED. IT IS SUBMITTED UNDER CONFIDENTIAL RELATIONSHIP FOR A SPECIFIC PURPOSE, THE RECIPIENT AGREES BY ACCEPTING THIS DRAWING NOT TO SUPPLY OR DISCLOSE ANY INFORMATION REGARDING IT TO ANY UNAUTHORIZED PERSON, OR TO INCORPORATE IN OTHER PROJECTS ANY SPECIAL FEATURES PECULIAR TO THIS DESIGN. ALL PATENT RIGHTS HERETO ARE EXPRESSLY RESERVED BY DATA AIRE, INC., ANAHEIM, CALIFORNIA, U.S.A.

NEXT ASSEMBLY	USED ON
	APPLICATION

UNLESS OTHERWISE SPECIFIED (DIMENSIONS ARE IN INCHES)
X ±1/-1
.XX ±1/-.03
.XXX ±1/-.010
ANGLES ±1/- 1 DEG.
MACHINED TOLERANCE.
SURFACE FINISH 125 ✓
FILLET RADII .010-.030
SQUARENESS .005/INCH
CONCENTRICITY .010 TIR
BREAK EDGES .002-.016
DIMENSIONS AND TOLERANCES PER ANSI Y 14.5
DO NOT SCALE PRINT

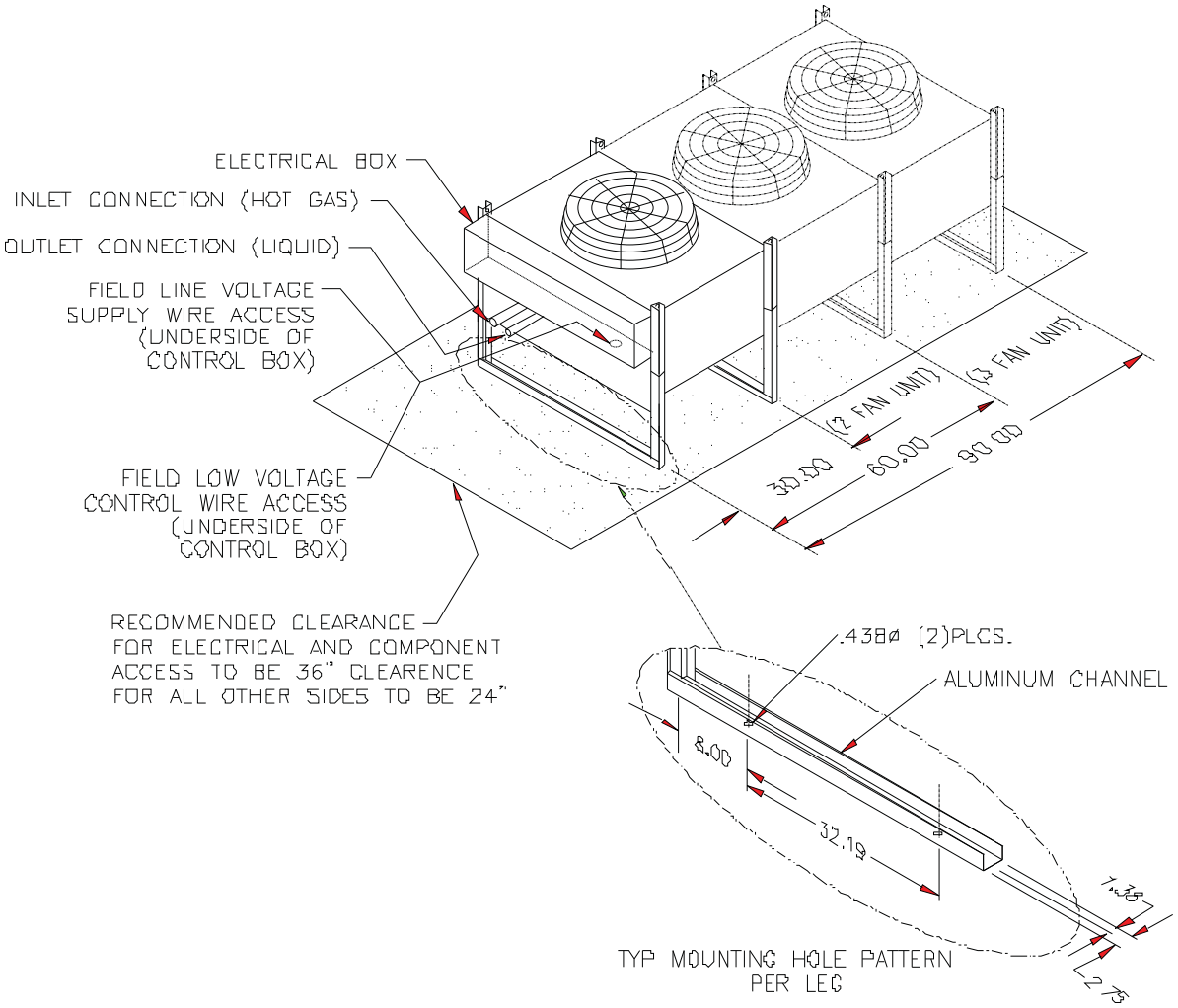
DRAWN BY: E. DIAZ	DATE: 6-4-98
CHECKER:	
ENGINEER:	
FINISH:	

DATA AIRE INC.

TITLE: DIMENSIONAL DATA DOWN FLOW MODULAR DATA TEMP

SIZE	DWR	FILE NO.	DRAWING NO.	REV.
B	SAL	5090024B	550-900-024	B

SCALE 1/30 WT. SHEET 1 OF 1



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					LOW DECIBEL CONDENSER				
H.P.	RPM	TOTAL CFM	MOTOR FLA 208/230V	460V	H.P.	RPM	TOTAL CFM	MOTOR FLA 208/230V	460V
3/4	1075	5000	4.6	2.3	1/2	850	4000	3.2	1.6
3/4	1075	4900	4.6	2.3	1/2	850	3900	3.2	1.6
3/4	1075	4800	4.6	2.3	1/2	850	3800	3.2	1.6
3/4	1075	10400	9.2	4.6	1/2	850	8300	6.4	3.2
3/4	1075	10000	9.2	4.6	1/2	850	8000	6.4	3.2
3/4	1075	9800	9.2	4.6	1/2	850	7800	6.4	3.2
3/4	1075	15000	13.8	6.9	1/2	850	12000	9.6	4.8

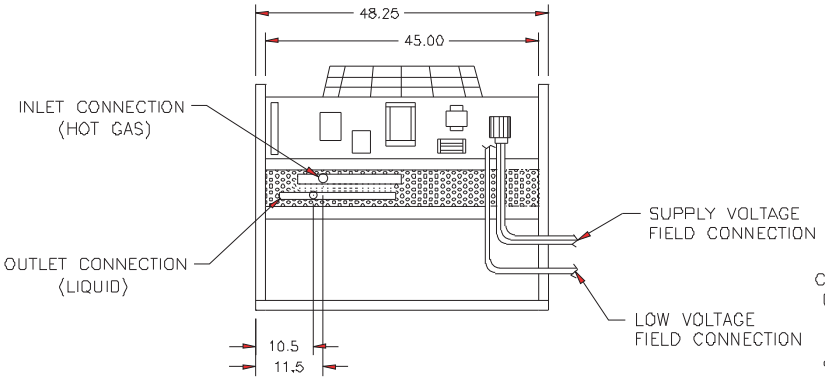
DARC 6-21 TON
SINGLE CIRCUIT CONDENSER

DATA AIRE INC.
A CONSTRUCTION SPECIALTIES INC. Company

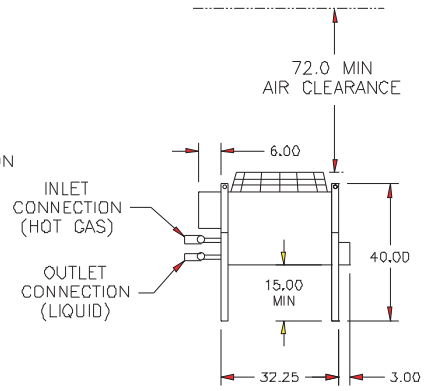
DRAWN BY	E DIAZ	SCALE	1/28
CHECKED BY		SLS	DARC 6-21 TON_B
DATE :	6-8-98	SHT.	1 OF 1
		REV	B

SINGLE CIRCUIT CONDENSER
PART OF

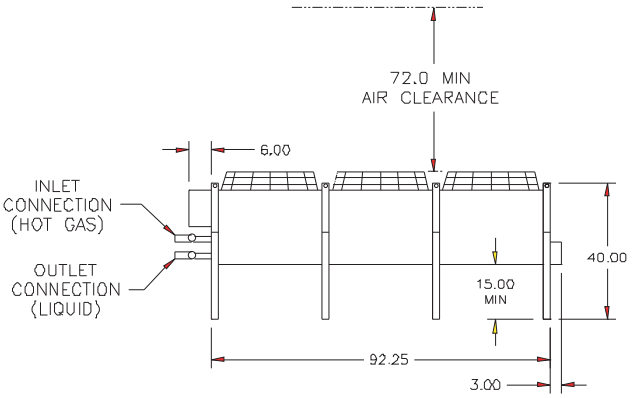
DARC 6-21 TON
PART NO



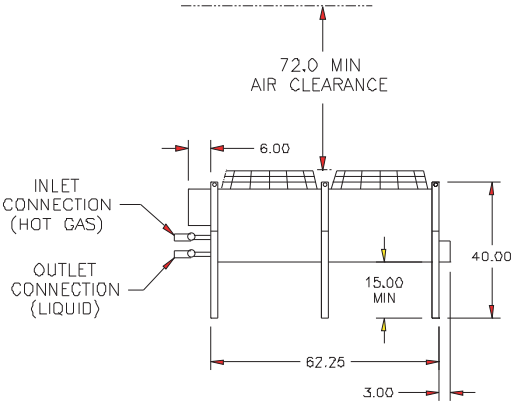
SINGLE CIRCUIT CONNECTION LOCATION



1 FAN UNIT, MODEL 6 THRU 9

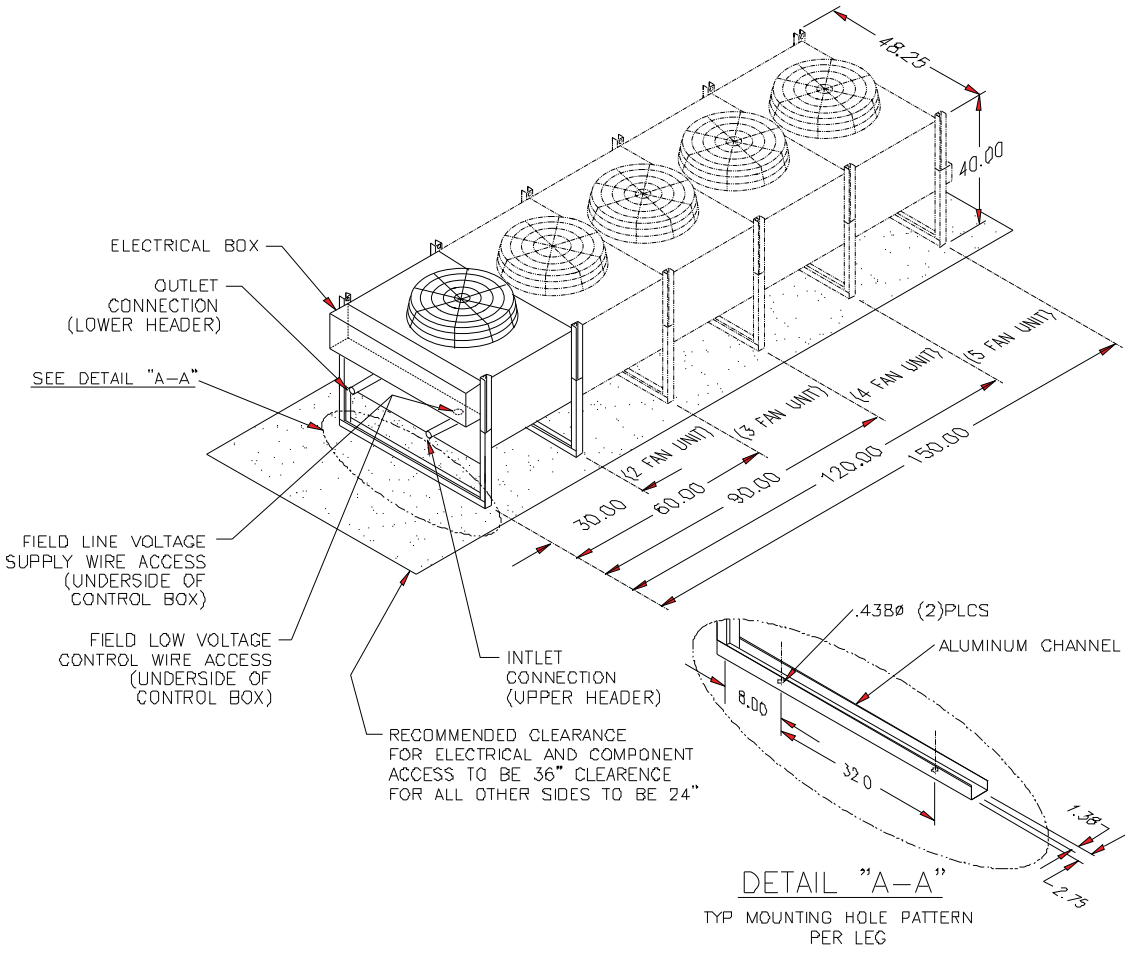


3 FAN UNIT, MODEL 21



2 FAN UNIT, MODEL 11 THRU 17

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.	



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
DAFC 37	122-1/4"	845	2-5/8	2-5/8	4
DAFC 40	122-1/4"	1100	2-5/8	2-5/8	4
DAFC 44	152-1/4"	1460	2-5/8	2-5/8	5
DAFC 50	152-1/4"	1560	2-5/8	2-5/8	5

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
3/4	1075	19500	18.4	9.2
3/4	1075	19000	18.4	9.2
3/4	1075	24500	23.0	11.5
3/4	1075	24000	23.0	11.5

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
1/2	850	15600	12.8	6.4
1/2	850	15200	12.8	6.4
1/2	850	19600	16.0	8.0
1/2	850	19200	16.0	8.0

REV	DESCRIPTION OF REVISION	DATE	BY
C	UPDATED FLA NUMBERS FOR 3/4 HP	03-10-2010	GABE

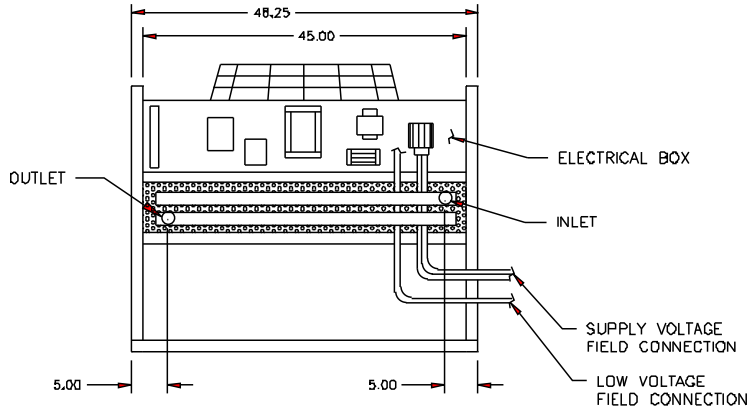
DAFC 6-50 TON
FLUID COOLERS

DATA AIRE INC.
A CONSTRUCTION SPECIALTIES INC. Company

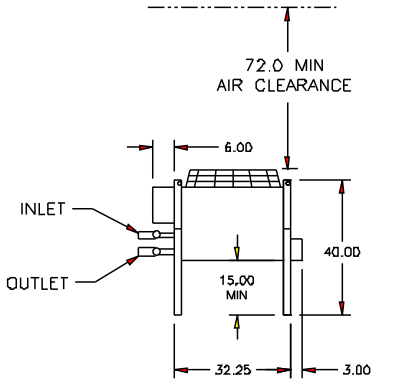
DRAWN BY : G.SALDIVAR	SCALE : 1/28
CHECKED BY :	SLS CON DAFC6_50C
DATE : 12-29-05	SHT. 1 OF1
MATERIAL –	

FLUID COOLERS
PART OF

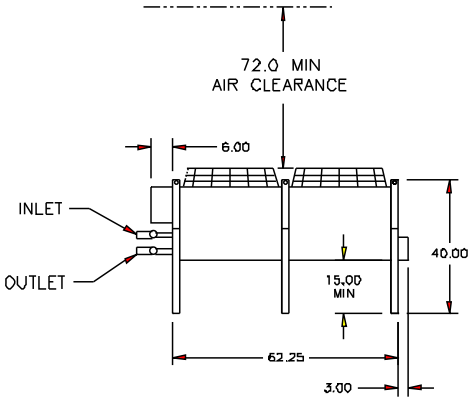
DAFC 6-50 TON
PART NO.



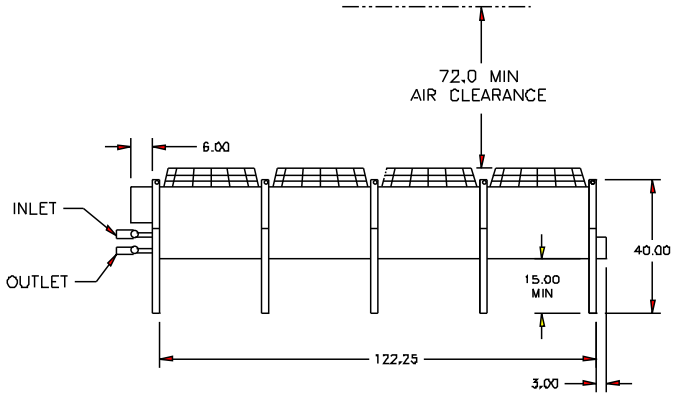
END VIEW CONNECTION LOCATION



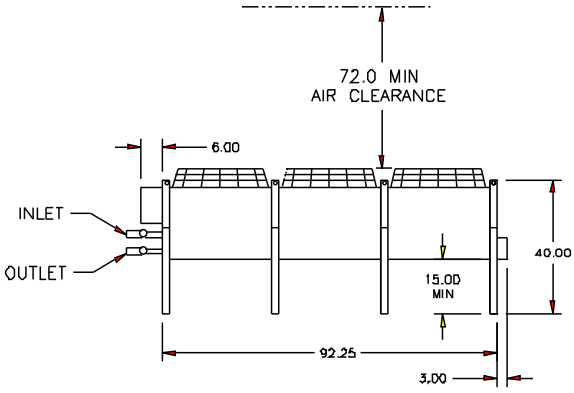
1 FAN UNIT, MODEL 6 THRU 9



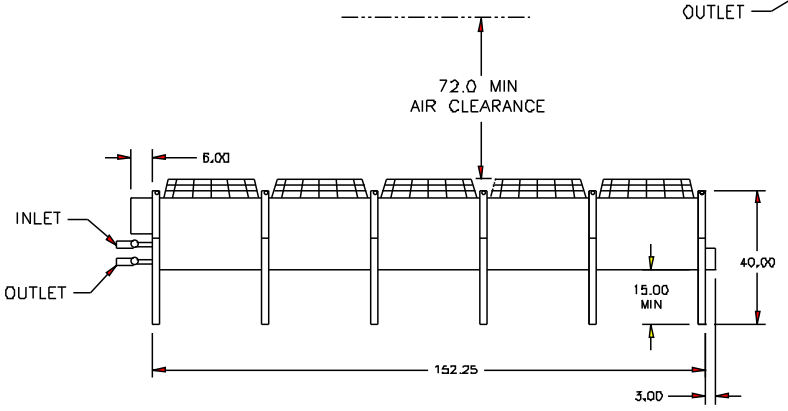
2 FAN UNIT, MODEL 11 THRU 17



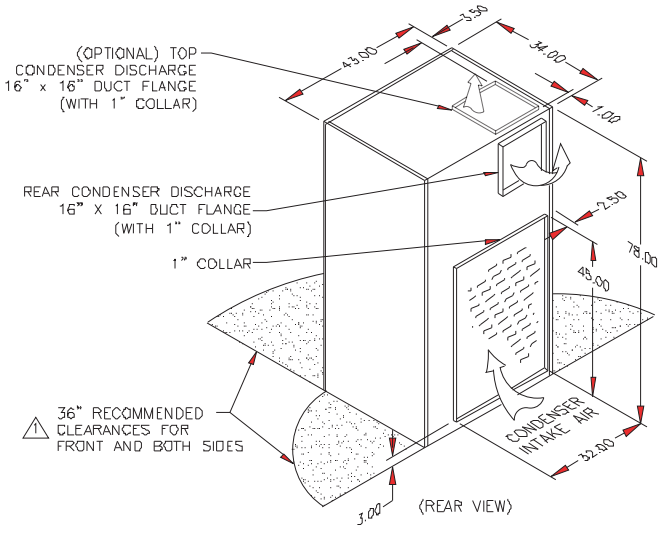
4 FAN UNIT, MODEL 30 THRU 40



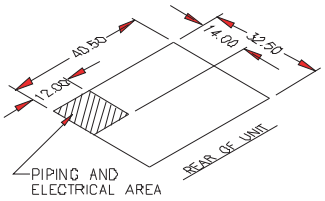
3 FAN UNIT, MODEL 21 THRU 28



5 FAN UNIT, MODEL 44 THRU 50



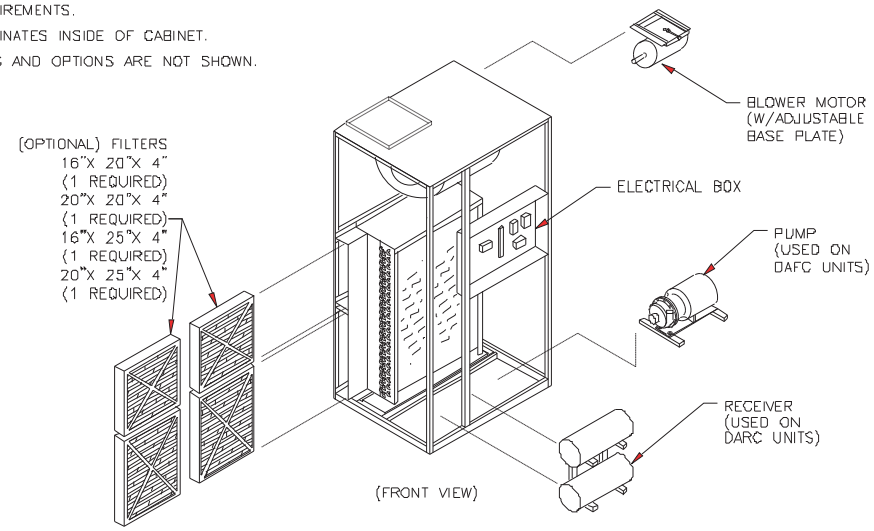
DIMENSIONAL DATA



FLOOR PLAN 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.



COMPONENT BREAKDOWN

REVISIONS			
REV	DESCRIPTION	DATE	BY
B	INCR. HEIGHT 6.00", REVISED ELECT. DATA	02-24-10	JDP

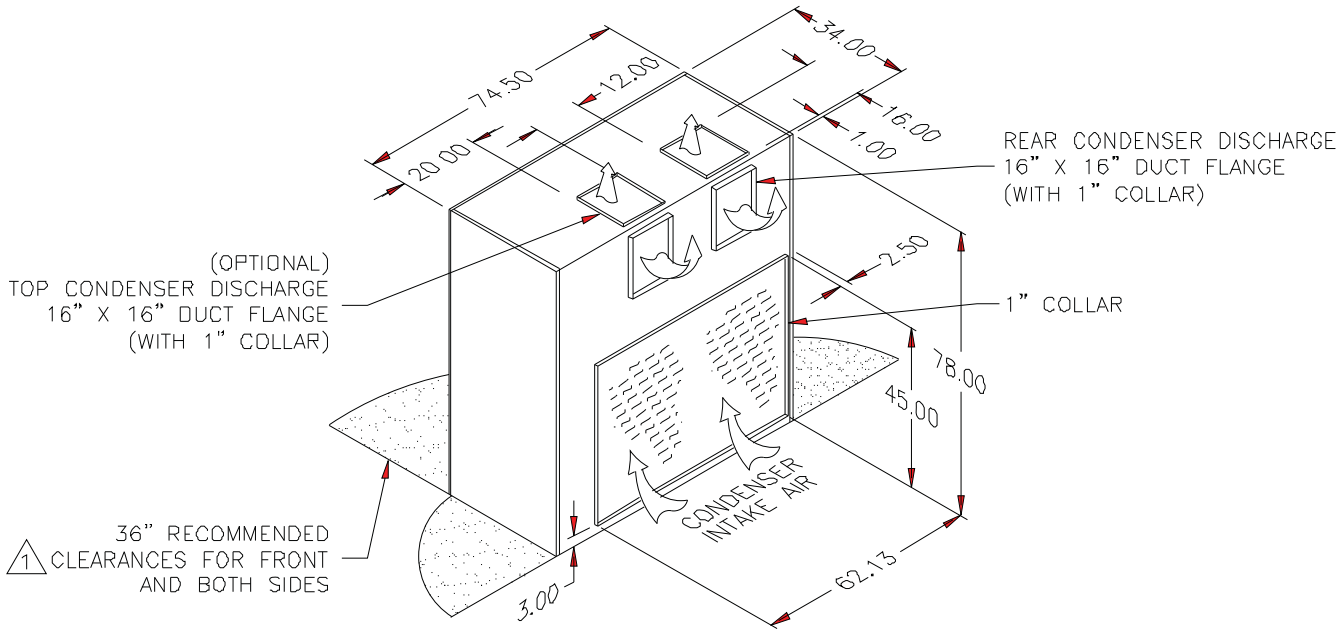
MODEL NUMBER	PIPING INLET DIA STUB	PIPING OUTLET DIA STUB	PHYSICAL DATA			ELECTRICAL DATA			
			QTY FANS	TOTAL CFM	UNIT WEIGHT	QTY MOTORS	HP	FLA 208/230V	FLA 460V
DARC 6	1 1/8	7/8	1	5000	800	1	3.0	9.0	4.4
DARC 7	1 1/8	7/8	1	4900	820	1	3.0	9.0	4.4
DARC 9	1 1/8	7/8	1	4800	840	1	3.0	9.0	4.4
DAFC 6	1 5/8	1 5/8	1	5000	800	1	3.0	9.0	4.4
DAFC 7	1 5/8	1 5/8	1	4900	820	1	3.0	9.0	4.4
DAFC 9	1 5/8	1 5/8	1	4800	840	1	3.0	9.0	4.4

DATA AIRE PIGGY BACK
HEAT EXCHANGER
6, 7, & 9 TON DARC & DAFC UNITS

DATA AIRE INC.
A CONSTRUCTION SPECIALTIES INC. Company

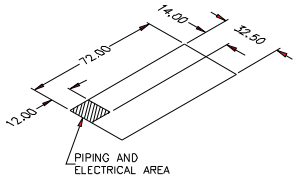
DRAWN BY : J. HERNANDEZ		SCALE: NONE	
CHECKED BY :		SH 1 OF 1	
DATE :	01-11-06	REV	B

PART OF
PB-900-001
DWG NO.

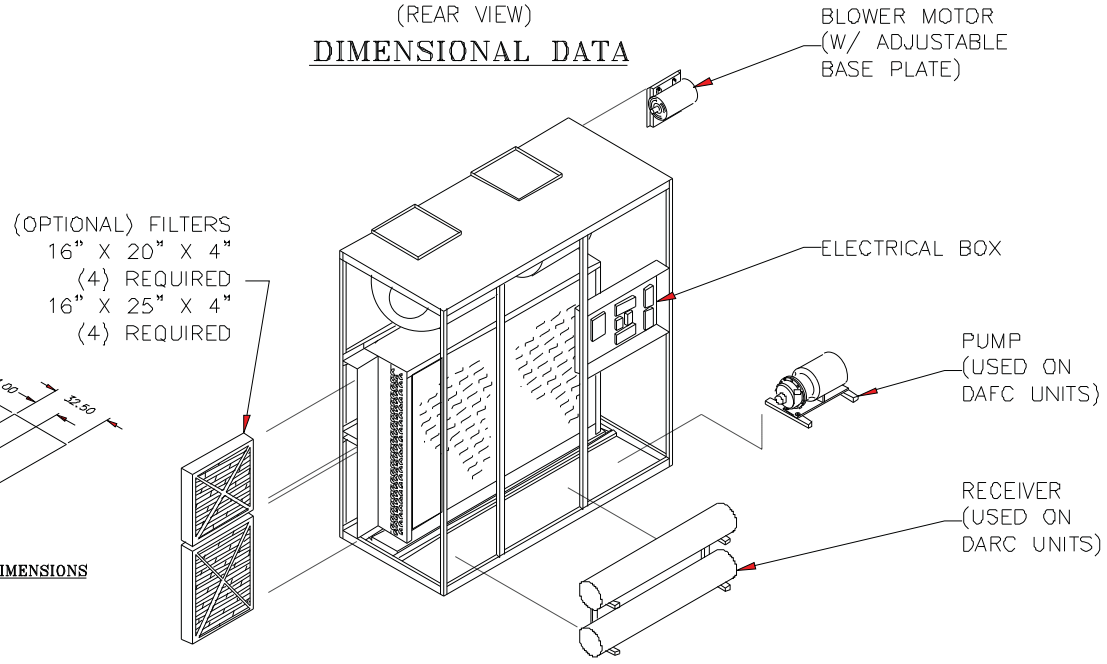


(REAR VIEW)

DIMENSIONAL DATA



FLOOR PLAN DIMENSIONS



(FRONT VIEW)

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.

MODEL NUMBER	PIPING INLET (DIA STUB)	PIPING OUTLET (DIA STUB)	PHYSICAL DATA			ELECTRICAL DATA			
			QTY FANS	TOTAL CFM	UNIT WEIGHT	QTY MOTORS	HP	FLA 208/230V	FLA 460V
DARC 11	1 1/8	7/8	2	10400	960	1	7.5	23.0	11.0
DARC 15	1 1/8	7/8	2	10000	1110	1	7.5	23.0	11.0
DARC 17	1 1/8	7/8	2	9800	1220	1	7.5	23.0	11.0
DAFC 11	2 1/8	2 1/8	2	10400	960	1	7.5	23.0	11.0
DAFC 15	2 1/8	2 1/8	2	10000	1110	1	7.5	23.0	11.0
DAFC 17	2 1/8	2 1/8	2	9800	1220	1	7.5	23.0	11.0

REVISIONS			
REV	DESCRIPTION	DATE	BY
E	INCR. HEIGHT 6.00", REVISED ELECT. DATA	03-02-10	JDP

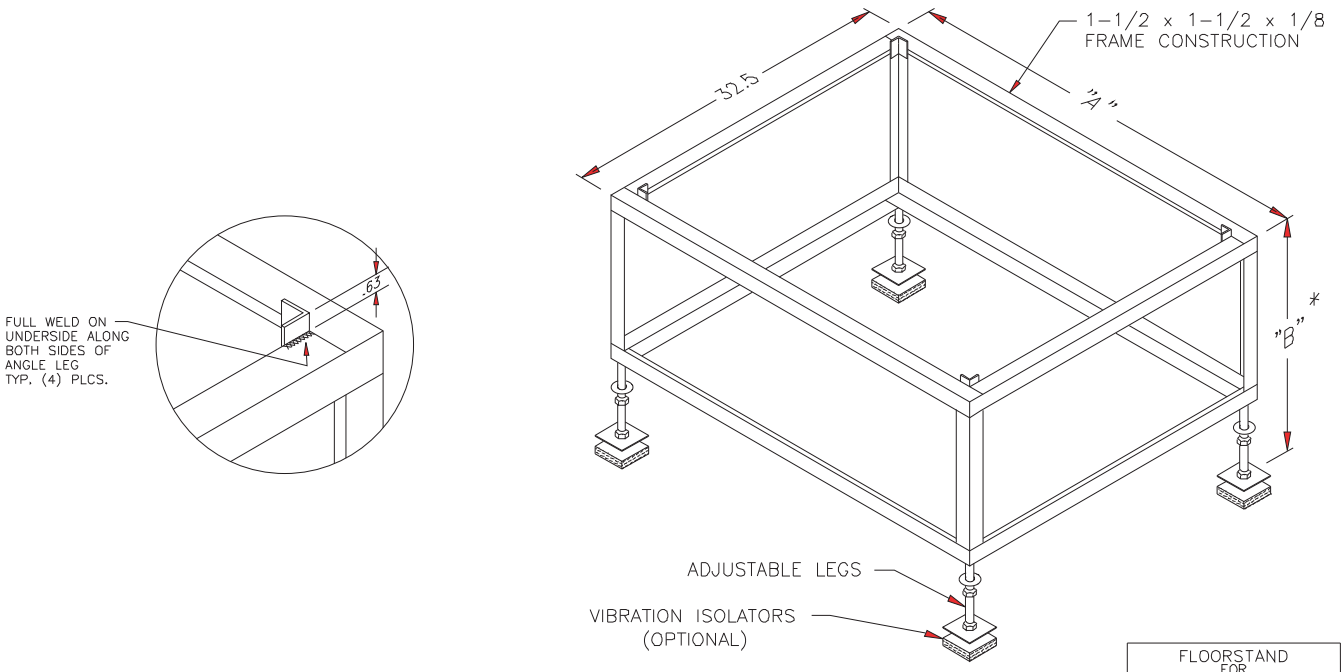
DATA AIRE PIGGY BACK
HEAT EXCHANGER
11, 15, & 17 TON DARC & DAFC UNITS

DATA AIRE INC.
A CONSTRUCTION SPECIALTIES INC. Company

DRAWN BY :	J. PIZZO	SCALE: NONE	
CHECKED BY :		SH 1 OF 1	
DATE :	07-14-98	REV	E

PART OF

PB-900-002
DWG NO.



CABINET SIZE	A	UNIT SIZE
1 DOOR UNIT	33.0	2, 3, 4, & 5 TON DT
1-1/2 DOOR UNIT	46.5	8, 10, & 13 TON MOD DT

* NOTE: DIMENSION "B" IS TOTAL HEIGHT SPECIFIED ON ORDER AND SHOULD EQUAL HEIGHT FROM BUILDING FLOOR TO RAISED FLOOR. THE STAND WILL BE BUILT 2 INCHES LESS THAN SPECIFIED AND HAVE ADJUSTABLE LEGS TO PROVIDE ±2 INCHES FROM THE SPECIFIED HEIGHT.

SPECIFIED HEIGHT MUST BE BETWEEN 12 AND 24 INCHES IN 2 INCH INCREMENTS. (12, 14, 16, 18, 20, 22, 24).

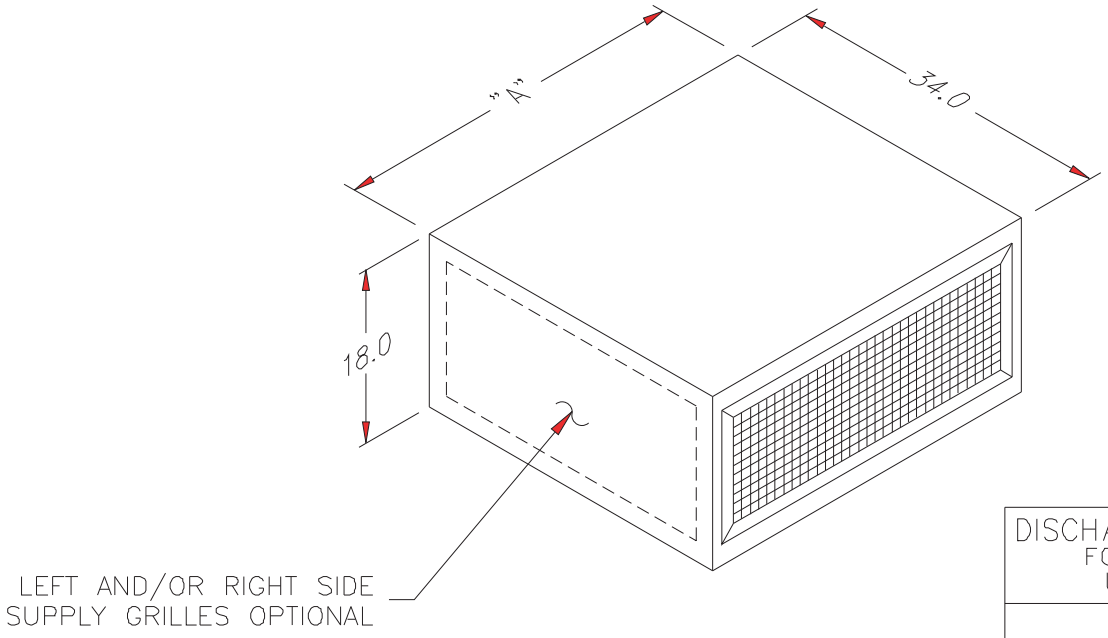
DOWNFLOW UNITS USING FLOORSTANDS OR JACKSTANDS ARE SUBJECTED TO ADDITIONAL STATIC PRESSURE LOSSES, DEPENDING ON THE AIRFLOW AND STAND HEIGHT. THE OPTIONAL TURNING VANE IS RECOMMENDED WHEN ORDERING FLOORSTANDS AS WELL AS THE NEXT SIZE LARGER MOTOR OPTION.

FLOORSTAND FOR DATA TEMP MODELS

DATA AIRE INC.
A CONSTRUCTION SPECIALTIES INC. Company

DRAWN BY : G.SALDIVAR	SCALE : 0
CHECKED BY :	GR FLRSTD12_A
DATE : 12-29-05	SHT. 1 OF1
MATERIAL: NOTED	P/S 1 = 10

DATA TEMP
PART OF
FLOORSTAND-DT
PART NO.



CAB. SIZE	"A"	UNIT SIZE	FRONT SUPPLY GRILLE SIZE	FRONT SUPPLY GRILLE QUANTITY
1 DOOR	35.0	2, 3, 4, & 5 TON DT	28 X 14	1
1-1/2 DOOR	49.0	8, 10, 13 TON MOD. DT	34 X 14	1

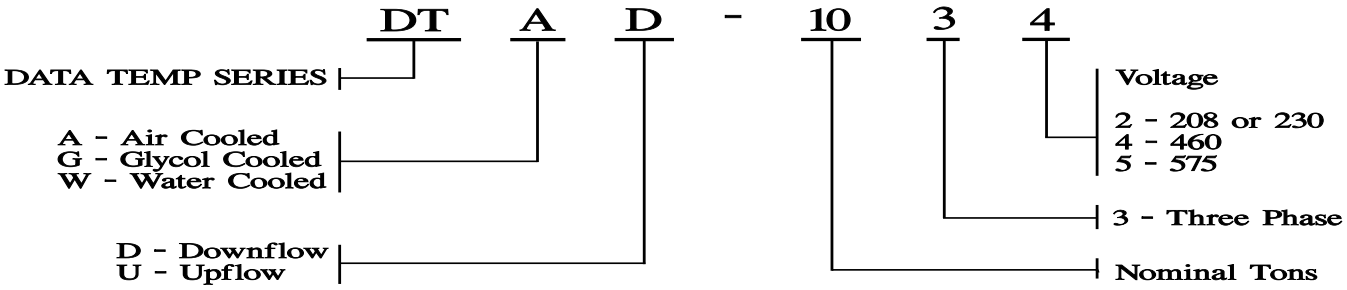
DISCHARGE AIR PLENUM FOR DATA TEMP UPFLOW UNITS

DATA AIRE INC.
A CONSTRUCTION SPECIALTIES INC. Company

DRAWN BY : J.P.	SCALE : 0
CHECKED BY :	PL PLENUM-DT
DATE : 1-29-99	SHT. 1 OF1
MATERIAL:	P/S 1 = 12

PLENUM-DT
PART NO.

Model Number Identification



MODULAR DATA TEMP SERIES

DIMENSIONAL and WEIGHT DATA - AIR COOLED

Downflow and Upflow

Model	Length	Width	Height	Operating Weight	Shipping Weight
DTAD/U-08	49.0	34.5	72.0	880 lb	1,055 lb
DTAD/U-10	49.0	34.5	72.0	890 lb	1,115 lb
DTAD/U-13	49.0	34.5	72.0	940 lb	1,215 lb

MODULAR DATA TEMP SERIES

DIMENSIONAL and WEIGHT DATA - WATER/GLYCOL COOLED

Downflow and Upflow

Model	Length	Width	Height	Operating Weight	Shipping Weight
DT*D/U-08	49.0	34.5	72.0	945 lb	1,140 lb
DT*D/U-10	49.0	34.5	72.0	965 lb	1,190 lb
DT*D/U-13	49.0	34.5	72.0	990 lb	1,265 lb

* replace with “W” for water cooled or “G” for glycol cooled

MODULAR DATA TEMP SERIES
8, 10, 13 ton DX Units
Guide Specifications

GENERAL

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 the following air pattern:

___ Down Discharge
___ Top Discharge for Duct Connection
___ Top Discharge with Plenum

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

Units shall be ETL or UL listed.

CABINET and FRAME

The frame shall be constructed of 14 gauge welded tubular steel and coated with a heavy corrosion inhibiting finish for long life. All internal fans shall be of high grade steel and shall be coated and sealed for utmost protection against corrosion. The unit shall have complete front and side access by means of high quality furniture grade steel doors with heavy duty hinges. The door shall be lined with one inch (1"), 1-1/2 pound density fiberglass insulation. Each door shall be provided with sure close latches which shall be quickly removable for easy access and a polyurethane gasket to prevent air leakage. The doors shall be painted to match or contrast with other equipment in the space. Bypass air shall be provided around the cooling coil to prevent saturated air from being distributed to equipment in the controlled space. The cooling coil shall sit in a stainless steel drain pan.

The unit shall be painted _____.
(color)

REFRIGERATION CIRCUIT

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, compressor, humidifier, reheat, filters and controls. The cooling coil shall be in an "A" frame arrangement to allow maximum coil surface in a small cabinet. The large faced area coil shall be constructed with 1/2" O.D. 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 hermetic scroll type, 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 filter drier shall be of the flare fitting type for non-torch servicing. 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.

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 aluminum and contain a 1/2" O.D. 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. Additional condenser fan motors are to be controlled by ambient thermostats. All controls including the fan speed control 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.

Air Cooled with Floor Mounted Indoor Condenser - The refrigeration system shall be split type with an indoor evaporator section and floor mounted indoor condenser. The indoor evaporator section shall include the cooling coil, compressor, humidifier, reheat, filters and controls. The cooling coil shall be in an "A" frame arrangement to allow maximum coil surface in a small cabinet. The large faced area coil shall be constructed with 1/2" O.D. copper tube with 12 fins per inch of corrugated aluminum for maximum heat transfer. Maximum face velocity shall be less that 500 feet per minute. The expansion valve shall be of the adjustable thermostatic type with external equalization. The compressor shall be hermetic scroll type, 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 filter drier shall be of the flare fitting type for non-torch servicing. The circuit shall contain high and low pressure safety switches. The high and low safety pressure switches 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 (1") thick, 1-1/2 pound density fiberglass coated with neoprene. Each door shall be provided with sure close latches which shall be quickly removable for easy access and 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 mills in any plane. 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 (2) belts and a variable pitch sheave, sized for 200% of the fan motor horsepower.

The condenser coil shall be constructed of copper tubes and corrugated aluminum fins. A receiver shall be factory mounted with head pressure control and liquid line solenoid valve.

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 an "A" frame arrangement to allow maximum coil surface in a small cabinet. The large faced area coil shall be constructed with 1/2" O.D. 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 outdoor condensing unit shall be constructed of aluminum and contain a hermetic scroll compressor 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 filter drier shall be of the flare fitting type for non-torch servicing. 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 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 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. 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 manufacturer of the indoor unit.

Water/Glycol Cooled - The cooling coil shall be in an "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. 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 type with complete overload protection

on all three power lines, internal thermostats for winding protection, crankcase heater, sight-glass, condenser with sub-cooling, and 2-way water regulating valve for head pressure control. The filter drier shall be of the flare fitting type for non-torch servicing. 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.

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. copper tube coil with corrugated aluminum fins for maximum heat transfer. The fan motors shall have cycling controls provided on fluid coolers with multiple fan motors. The fluid cooler shall include a surge tank and fill valve, pump contactor and fan cycling controls with an integral factory wired and tested control panel. The fluid cooler shall be manufactured by the manufacturer of the indoor unit.

Blower Section

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 mills in any plane.

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 1750 rpm. The drive package shall be belt driven with two (2) belts and variable pitch sheave sized for 200% of the fan motor horsepower. The blower shall be located to draw air over the coil to insure even air distribution and maximum coil performance.

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 percent efficient (based on ASHRAE Std. 52.1-1992).

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 and shall have three (3) stages. Each stage shall be 5 kW. The total kW shall be 15 to operate on a supply of ___ volts.

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 10 pounds per hour. Power consumption shall be 3.2 kW. 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.

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" when sensor is activated.

Data Aire Data Alarm Processor III (DAP™ III)

The environmental system shall be furnished with a microprocessor based Data Alarm Processor-III panel. The panel shall include unit switching functions and display normal functions, malfunctions, 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, cool 2, reheat, humidification, and dehumidification, component runtimes for fan motor, 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 unit does not need to be opened). Programmable functions shall be entered on flash memory to insure program retention should power fail. The historical data base shall be maintained by battery backup. Multiple messages 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 alarm 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.

The following automatic control functions shall be included:

- Selectable water under floor alarm action
- Sequential load activation
- Dehumidification lockout
- Automatic reheat element rotation
- Energy saver (glycol operation)*
- Hot water coil flush cycle*
- Energy saver coil flush cycle*
- Start time delay
- Humidity anticipation
- Compressor short cycle
- Automatic or manual restart
- Auxiliary chilled water operation*
- Chilled water coil flush cycle*
- DX activation on Energy Saver system*

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

- Temperature setpoint
- Current temperature
- Cooling
- Reheat
- Humidification
- Humidity setpoint
- Current humidity
- Dehumidification
- Current percentage of capacity utilized
- Current discharge temperature*
- Chilled water temperature*

The following switching and control functions shall be included:

- System On/Off switch
- Menu exit button
- Manual override for:
  - blower, cooling, reheat 1, humidification, water valve
- Menu selection buttons
- Select buttons
- Alarm silence button

The following historical data shall be available:

High temperature last 24 hours	Low temperature last 24 hours	Equipment runtimes
Average percentage of capacity	Alarm history (last ten alarms)	High humidity last 24 hours
Low humidity last 24 hours		

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	High humidity warning
Low humidity warning	Dirty filter	Humidifier failure
Under floor water detected	No air flow	Power failure restart
Temperature sensor failure	Low voltage warning	Low pressure on compressor warning
Maintenance required	Humidity sensor failure	Compressor short cycle warning
Manual override	Firestat tripped	High pressure on compressor warning
Person to contact on alarm*	Custom message*	High condensate water level*
Local alarm*	Smoke detected*	No water flow*
Discharge air sensor failure*	Fan motor overload*	

The following functions shall be programmable:

Temperature setpoint (65-85o F, 18.3-29.4o C)	Humidity setpoint (30-70% RH)	High temperature alarm limit
Temperature deadband (1-5o F/C)	Humidity deadband (1-15% RH)	Low temperature alarm limit
Manual diagnostics	Date and time	High humidity alarm limit
Reset equipment runtimes	Audio alarm mode	Low humidity alarm limit
Reheat stages	Firestat temperature alarm limit	Mode and stage response time
Temperature scale	Calibrate humidity sensor	Define password
Calibrate temperature sensor	Automatic self-test	Scheduled maintenance
Delay for optional alarms	Dehumidification mode	Humidifier
Person to contact on alarm	No airflow alarm time delay	Water valve mode
Cooling stage-to-stage deadband	Water underfloor alarm action	System start delay
Humidification desaturation cycle	Message for optional alarm*	Humidity anticipation
Energy Saver lockout time delay*	Humidifier auto flush timer*	Chilled water temperature deadband
Power problem or restart mode	Calibrate discharge air sensor*	Fan speed*
Low discharge temperature alarm limit*	Calibrate chilled water sensor*	Short cycle warning*
Chilled water temperature setpoint for Energy Saver		Remote alarm 1, 2, 3, 4 selection*

The DAP III control panel support the following network protocols for integration with a Building Management System (BMS) for Computer Room Air Conditioning system monitoring and control. The following are the supported protocols:

Modbus RTU, ASCII or TCP/IP	BACnet IP	LonWorks SNVT
Johnson Control Metasys N2	SNMP version 1	BACNet MS/TP

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

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.

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.

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

High Efficiency Filters
The environmental control unit shall include 60% efficient filters (based on ASHRAE Std. 52.1-1992). The filters shall be four inch (4") deep pleated design.

Pre-Filters
The environmental control unit shall include one inch (1") pre-filters.

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

Floorstand
Each unit shall be provided with a floor stand and vibration isolation pads. The floor stand shall be a complete welded base engineered to support the operating unit. The floor stand height shall be ___ inches, adjustable ± 2 inches.

Floorstand with Turning Vane
Each unit shall be provided with a floor stand with factory installed turning vane and vibration isolation pads, The floor stand shall be a complete welded base engineered to support the operating unit. The floor stand height shall be ___ inches, adjustable ± 2 inches.

Leveling Jackstands
Each unit shall be provided with adjustable length jackstands complete with base and locknuts capable of supporting the operating unit. Provide vibration isolation pads.

Condensate Pump
Each unit shall be provided with a unit mounted and wired condensate pump. The condensate pump shall be complete with sump, motor, and automatic control. The capacity shall be 40 GPH minimum (including check valve) @ 20 feet head pressure.

Water Regulating Valve
Water cooled units shall be provided with a 3-way head pressure actuated regulating valve. The maximum water pressure shall be ___ psi.

Glycol Pump Package
Provide a centrifugal pump to circulate water or glycol solution. The pump shall be rated for ___ GPM @ ___ feet of head and operate on ___. 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 smoke volts, ___ phase, ___ hertz. It is recommeded on units with dual pump applications that a 3-way water regulating valve be used in lieu of the standard 2-way valve.

Pump Auto-Changeover
On dual pump packages provide a pump auto-changeover control and a NEMA 4 flow switch. The pump auto-changeover control shall be factory mounted and wired 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, a message "Standby Pump On" shall be displayed on the indoor unit microprocessor. The NEMA 4 flow switch shall be field installed.

Pump Enclosure
Provide an enclosure for pump(s). The enclosure shall be vented and weather resistant. Pumps shall be factory mounted in enclosure ready for field piping and wiring.

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 four (4) years. The warranty shall be for replacement of compressors only (labor is not included).

DATA AIRE INC.

230 W. BlueRidge Avenue
Orange, CA 92865

800-347-2473
www.dataaire.com e-mail: sales@dataaire.com

A Member of the CS Group of Companies

Data Aire, Inc. reserves the right to make design changes for the purpose of product improvement, or to withdraw any design without notice.

DAMDT-R407C-052010