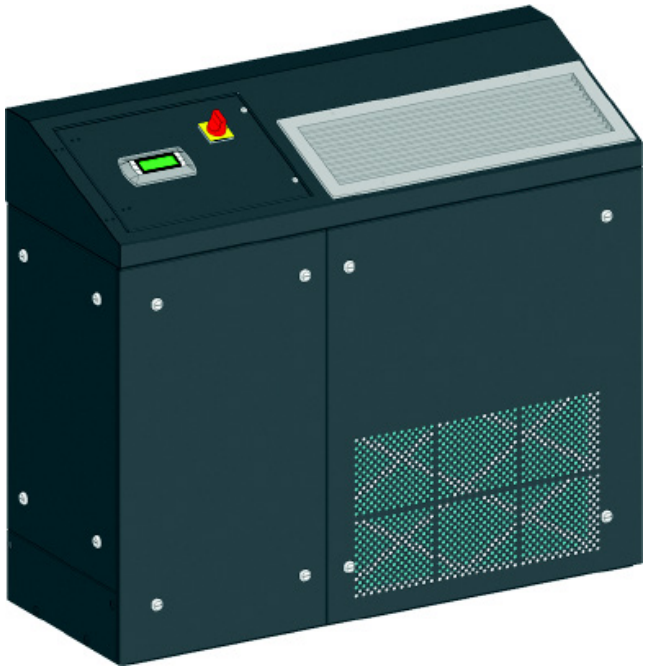
AboveAir TECHNOLOGIES

Engineering Manual

FC™ Floor Console

Mission Critical

Floor Console Mounted A/C's
(Single Circuit DX & CW)



Features & Benefits

- 4 to 18 kW (1-5 Tons) Capacities
- Precision Applications
  - Small Computer Rooms
  - Network Closets
  - IDF / MDF / AV Rooms
  - Equipment Control Rooms
- Space-Saving Console Mounted
- DX Air, Water & Glycol Cooled Plus Chilled Water Systems
- Total Temp & Humidity Control
  - Free-Energy Hot Gas Reheat or Electric Reheat/Heat
  - Steam Humidifier
- Microprocessor Controls & More

From 4 to 18 kW

Small Data Rooms

AboveAir™ floor-console mounted precision a/c's (FC1-L40.2)

AboveAir™ FC-Console™ vertical floor mounted precision air conditioners are the reliable environmental control solution to your precision cooling needs. Available in a wide variety of cooling methods and cabinet configurations including a full range of options, **AboveAir™** Air Conditioners are a step above!

- ☑ 100% Front-Access cabinet design
  (Saves Up To 18 Ft² of Valuable Floor Space)
- ☑ Total Temperature & Humidity Control
- ☑ Up-Flow & Down-Flow air patterns
- ☑ Variety of cooling methods
- ☑ Self-contained & split systems
- ☑ Flexible options and accessories
- ☑ R410a Refrigerant
- ☑ Energy efficient operation

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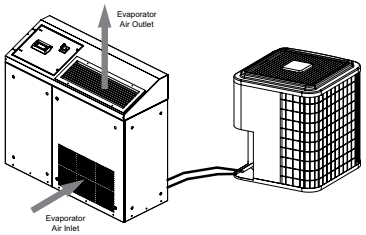
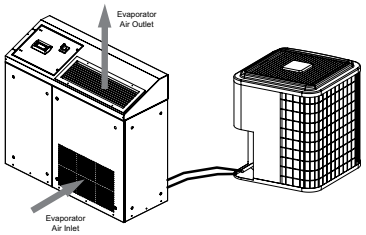
DX - Air Cooled

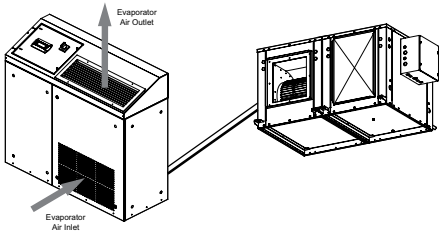
FCH & XPU-( )
DX - Air Cooled Split with Propeller Fan, Outdoor Remote Condensing Unit



FCE & XP1-( )
DX - Air Cooled Split with Propeller Fan, Outdoor Remote Condenser

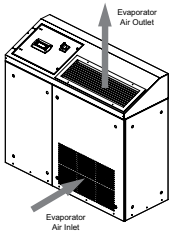


FCH/E & CCU/CCX & XCU/XCX -( )
DX - Air Cooled Split with Centrifugal Blower, indoor Remote Condensing Unit & Condensers



DX - Water/Glycol Cooled

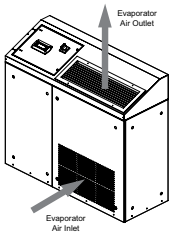
FCW & FCG-( )
DX - Water/Glycol Cooled Self-Contained



*** Split Water/Glycol also Available!**
(FCH & CWU/CGU)

Chilled Water Systems

FCC-( )
Chilled Water Air Handling Units



AboveAir™ FC-Console™ precision A/C's are designed to meet your unique application dependent requirements. Select from a wide range of options and configurations:tions:

Up-Flow Air Pattern

4-18kW (1-5T)
Single Circuit &
Chilled Water Air
Handlers

Down-Flow Air Pattern

Variety of Standard & Optional Features

Standard & Optional Features:

- MC-2000, Advanced Microprocessor Controls
- Electrode Steam Canister Humidifier
- Dehumidification Mode with Electric or Hot Gas Reheat
- Scroll Compressor (Fixed or 2-Speed)
- Low Sound Direct-Drive Centrifugal Blowers
- High Efficiency Air Filtration
- Low Ambient Head Pressure Control
- 2 & 3-way 150 psig to 400 psig Water/Glycol Cooled Regulating Valves
- Hot Gas Bypass
- Low Entering Condenser Water/Glycol Kit
- EC (electronically commutated) Motors

Accessories:

- Condensate Pumps
- Main Power Electrical Disconnects
- Firestats
- Smoke Detectors
- Remote Water-Leak Detectors
- Compressor Sound Jackets
- Mounting Vibration Isolators
- Glycol Pump Packages & Drycoolers
- ... and more!

ETL LISTED
CONFORMS TO
UL STD 1995
3091370
CERTIFIED TO
CAN/CSA STD C22.2 No. 236

Model Nomenclature

FC Floor-Console Unit Evaporators

FC	E	-	011	S	-	4	-	00	ER	H	-	ED	-	UF	A	-	1	0
a	b	-	c	d	-	e	-	f	g	h	-	i	-	j	k	-	l	m

a: **FC** - *MissionCritical Floor-Console*

b:
- **A** - DX, Air Cooled - Packaged Self-Contained
- **C** - Chilled Water Air Handling Unit
- **E** - DX, Split Evaporator (Compressor with Evaporator)
- **G** - DX, Glycol Cooled - Packaged Self-Contained
- **H** - DX, Split Air Handling Unit
- **W** - DX, Water Cooled - Packaged Self-Contained

c: **004** = 4.0kW (1.0T); **005** = 5kW (1.5T); **007** = 7kW (2.0T); **009** = 9kW (2.5T); **011** = 11kW (3.0T); **012** = 12kW (3.5T); **014** = 14kW (4.0T); **018** = 18kW (5.0T)

d:
- **S** - Single Circuit DX System
- **X** - Chilled Water System

e:
- **1** - 208-230V / 1 Ph / 60 Hz
- **3** - 208-230V / 3 Ph / 60 Hz
- **4** - 460-480V / 3 Ph / 60 Hz
- **5** - 575V / 3 Ph / 60 Hz
- **7** - 277V / 1 Ph / 60 Hz
- **8** - 460-480V / 1 Ph / 60 Hz

f:
- **00** - No Hot Gas Reheat
- **HG** - Hot Gas Reheat (2-POS, On/Off)

g:
- **00** - No Unit Mtd Electric Heat
- **EO** - Electric Heat Only, No Reheat
- **ER** - Electric Reheat/Heat

h:
- **0** - No Humidifier
- **H** - Electrode Canister Steam Humidifier

i:
- **AD** - Direct-Drive DWDI FC Blower w/ PSC Motor
- **ED** - Direct-Drive DWDI FC Blower w/ ECM Motor

j:
- **UF** - Up-Flow Air Pattern w/ Free-Front Return & Top Integral Adjustable Supply Grille
- **DF** - Down-Flow Air Pattern w/ Top Return & Bottom Supply into Raised Floor

k: **C** - Cabinet Size ... A = 4-11kW (1-3T) & B = 12-18 kW (3.5-5T)

l:
- **0** - No Compressor (*Compressor located in remote condensing section)*
- **1** - Fixed Speed Scroll Compressor w/ Hot Gas Bypass
- **3** - 2-Speed Scroll Compressor Option
- **A** - Chilled Water Valve - 2-Way, 300 psi (ON/OFF, 2-POS)
- **B** - Chilled Water Valve - 3-Way, 300 psi (ON/OFF, 2-POS)
- **C** - Chilled Water Valve - 2-Way, 300 psi (MOD, 0-10 VDC)
- **D** - Chilled Water Valve - 3-Way, 300 psi (MOD, 0-10 VDC)
- **E** - Chilled Water Valve by Others

m:
- **0** - Not Applicable / No Head Pressure Control
- **1** - Low Amb ECM Variable Speed Fan Head Pressure ControL
- **A** - Low Amb Fan Cycling Head Pressure Control
- **B** - Low Amb Variable Speed Fan Head Pressure Control
- **C** - Low Amb Flooded Head Pressure Control
- **D** - Water/Glycol Regulating Valve - 2-Way, 150 psig
- **E** - Water/Glycol Regulating Valve - 2-Way, 350 psig
- **F** - Water/Glycol Regulating Valve - 3-Way, 150 psig
- **G** - Water/Glycol Regulating Valve - 3-Way, 350 psig

Split, DX - Remote Condensers & Condensing Units

XP1	-	011	S	-	4	-	AA	-	VF	1	-	0	B
a	-	b	c	-	d	-	e	-	f	g	-	h	i

a:
- **C/XCU** - DX, Split Indoor Ceiling Mtd Remote Air Cooled Centrifugal Blower Condensing Unit (Compr w/ CCU Cond Unit)
- **C/XCX** - DX, Split Indoor Ceiling Mtd Remote Air Cooled Centrifugal Blower Condenser (Compr Located w/ FCE Evap)
- **CGU** - DX, Split Indoor Ceiling or Floor Mtd Remote Glycol Cooled Condensing Unit (Compr w/ CGU Cond Unit)
- **CWU** - DX, Split Indoor Ceiling or Floor Mtd Remote Water Cooled Condensing Unit (Compr w/ CWU Cond Unit)
- **XP1** - DX, Split Outdoor Mtd Remote Air Cooled Propeller Fan Condenser (Compr Located w/ FCE Evap)
- **XPU** - DX, Split Outdoor Mtd Remote Air Cooled Propeller Fan Condensing Unit (Compr w/ XPU Cond Unit)

b: **004** = 4.0kW (1.0T); **005** = 5kW (1.5T); **007** = 7kW (2.0T); **009** = 9kW (2.5T); **011** = 11kW (3.0T); **012** = 12kW (3.5T); **014** = 14kW (4.0T); **018** = 18kW (5.0T)

c: **S** - Single Circuit DX System

d:
- **1** - 208-230V / 1 Ph / 60 Hz
- **3** - 208-230V / 3 Ph / 60 Hz
- **4** - 460-480V / 3 Ph / 60 Hz
- **5** - 575V / 3 Ph / 60 Hz
- **7** - 277V / 1 Ph / 60 Hz
- **8** - 460-480V / 1 Ph / 60 Hz

e:
- **00** - N/A
- **AA** - Axial Fan w/ Std Motor
- **AB** - DWDI FC BD Blower w/ ODP Motor
- **AD** - Direct-Drive DWDI FC Blower w/ PSC Motor
- **EA** - Axial Fan w/ ECM
- **EC** - EC DD Backward-Inclined Impeller
- **ED** - Direct-Drive DWDI FC Blower w/ ECM Motor

f:
- **00** - Not Applicable
- **LD** - Ducted, 90 Degree / Right-Angle, In-Front / Out Left-Side
- **MI** - Ducted, Mirror-Image Same-Face Condenser Air Pattern
- **RD** - Ducted, 90 Degree / Right-Angle, In-Rear / Out Right-Side
- **SF** - Ducted, Same Face Condenser Air Pattern
- **ST** - Ducted, Straight-Thru Condenser Air Pattern
- **VF** - Free Airflow, Vertical Discharge Air Pattern

g:
- **0** - Not Applicable
- **1** - Slab or Wrap Around Type Condenser/Condensing Unit
- **S** - SpotCool Condenser Section (4-11kW, 1-3T Units)
- **A** - HK-A Condenser Section (4-11kW, 1-3T Units)
- **B** - HK-B Condenser Section (9-18kW, 3.5-5T Units)

h:
- **0** - No Compressor (*Compressor located in evaporator section)*
- **1** - Fixed Speed Scroll Compressor w/ Hot Gas Bypass
- **2** - Fixed Speed Scroll Compressor w/ Quench Hot Gas Bypass
- **3** - 2-Speed Scroll Compressor Option

i:
- **0** - Not Applicable / No Head Pressure Control
- **1** - Low Amb ECM Variable Speed Fan Head Pressure ControL
- **A** - Low Amb Fan Cycling Head Pressure Control
- **B** - Low Amb Variable Speed Fan Head Pressure Control
- **C** - Low Amb Flooded Head Pressure Control
- **D** - Water/Glycol Regulating Valve - 2-Way, 150 psig
- **E** - Water/Glycol Regulating Valve - 2-Way, 350 psig
- **F** - Water/Glycol Regulating Valve - 3-Way, 150 psig
- **G** - Water/Glycol Regulating Valve - 3-Way, 350 psig

General

Summary

These specifications describe the requirements for a vertical floor mounted packaged (or split) precision air conditioner. The system shall be designed to control space temperature and humidity.

The air conditioning manufacturer shall design and furnish all equipment in the quantities and configurations shown on the project plans and specifications.

The system shall be provided by AboveAir Technologies in Frederick, Maryland, USA. The system shall be listed by Intertek (ETL Semko), Inc. to conform with UL Std 1995 and be certified to CAN/CSA Std C22.2 No. 236 (Control No. 3091370). The system shall be NYC MEA229-06-E and Chicago Code Approved. The system model number shall be _____.

Design Requirements

The system shall be an AboveAir Technologies FC-Console™ brand factory assembled and tested. The system shall be designed for indoor installation.

The system shall have a total cooling capacity of _____ BTU/H, and a sensible cooling capacity of _____ BTU/H, based on an entering air condition of _____ °F DB, and _____ °F WB, _____ % RH.

The evaporator section shall be designed for _____ Volt, _____ Phase, _____ Hertz main power supply. The remote condensing unit section (if applicable) shall be designed for _____ Volt, _____ Phase, _____ Hertz main power supply.

Submittals

Submittals shall be provided after manufacturer's receipt of a written purchase order and shall include: Detailed Performance and Electrical Data; Guide Specifications; and Dimensional Drawings.

Quality Assurance

The system shall be factory run tested prior to shipment. Testing shall include, but shall not be limited to: "HiPot" Test (2 times rated voltage plus 1000 volts, per UL 1995 testing requirements). The system shall be designed and manufactured according to world class quality standards.

Products

Standard Features

Cabinet

The cabinet chassis and access panels shall be powder-coat painted heavy gauge galvanneal steel for decor matching and corrosion resistance. Cabinet access panels shall rest in recessed pockets designed for minimum air leakage. The cabinet and access panels shall be lined with 2 lb/ft^2 high density sound and thermal insulation and sealed with self-extinguishing gasketing conforming to NFPA 90A and 90B.

Component Access

The unit shall be serviceable through front access panels with quick-release quarter-turn fasteners.

Electrical System

General:
The electrical system shall conform to National Electric Code (NEC) requirements according to UL 1995. The control circuit shall be a 24 VAC low voltage circuit.

The electrical system shall include, but not be limited to the following factory installed items: main power distribution block; grounding lug; 24 VAC control transformer; terminal connections; and motor controllers with start protection and circuit breakers for blower motors, compressors and each electric heater stage (if applicable).

Packaged Systems: (single point power)
Self-Contained systems shall be designed for single point main power connection.

Split DX Systems: (separate power)
Split systems shall require separate main power supplies to the evaporator and condensing unit sections. The evaporator and condensing unit sections shall be electrically interlocked by a field wired 24 volt control signal.

Overflow Safety Float Switch:
The system shall be provided with a factory installed float type condensate overflow safety switch. The circuit shall be designed to shut down all system water producing operations in the event of an overflow condition.

Main Power, Disconnect
(FC_ Evap Section)

The indoor evaporator section shall be provided with a factory installed main power non-fused disconnect. The disconnect shall be NEMA rated for indoor or outdoor installation as required.

Air Distribution

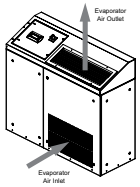
Evap Blower/Motor

The evaporator blower assembly shall be designed for ____ CFM @ ____ inches external static pressure (e.s.p.)

The blower shall be the direct-driven centrifugal type, double width double inlet (DWDI), and statically and dynamically balanced to a minimum vibration level.

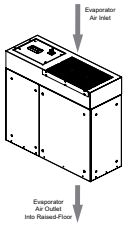
Variety of Air Patterns

Up-Flow Air Pattern



The evaporator shall be designed for free front-unit return air inlet and free-top air discharge thru adjustable grille. Air inlet and outlet connections shall include factory provided turned-out duct flanges for each of field duct connection.

Down-Flow Air Pattern



The system shall be configured for down-flow evaporator air pattern with top free or ducted return and bottom discharge into raised floor. *(Refer to Floor Stand Options.)*

Air Filtration

The filter(s) shall be 2 inch thick pleated and Merv-_ efficiency rated (based on ASHRAE 52.2). The filter(s) shall be serviceable through a side access panel without shutting down the system.

Direct Expansion Systems

DX - Evaporator Coil

The DX evaporator coil shall be constructed of copper tubes and aluminum fins. The system shall be designed for a draw-through air pattern for maximum heat transfer. Coil end-plates shall be hot dipped galvanized. The evaporator coil shall be mounted in an insulated stainless steel condensate drain pan.

Scroll Compressors

Each compressor shall be the high efficiency, low sound Scroll type mounted on vibration isolators and located in a separate compartment out of the evaporator air stream to facilitate servicing while equipment is operating. Each compressor shall be complete with reversible positive oil pump, charging and service ports, internal spring isolation, and discharge gas vibration eliminator.

*(**Note:** 2-Speed Scroll Compressors are optionally available from 5-18kW (1.5-5T)!)*

DX - Refrigeration Circuit

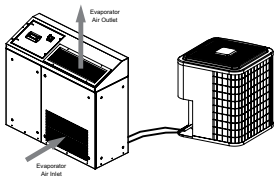
Each refrigeration circuit shall be pre-piped with type "L" refrigerant copper tubing. The refrigeration system shall include but not be limited to: expansion valve with external equalizer and rapid bleed-through capacity. Features shall include filter dryer, sight glass, pressure fittings and high pressure/low pressure safety cutouts.

Cooling Configurations

DX - Air Cooled Systems

DX - Air Cooled Split

(Split Evap & Outdoor Remote Condenser) *FCE-( ) & XP1-( )*

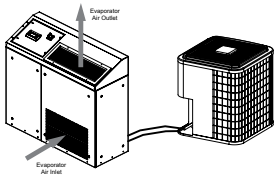


The system shall be a split configuration with compact depth indoor vertical floor console mounted dx evaporator precision air conditioner with outdoor dx air cooled propeller fan remote condenser. The compressor shall be located in the indoor evaporator section. The condenser shall be sized for full heat of rejection at 95°F ambient and be capable of operation to ___ °F low ambient air temperature.

The system shall be refrigerant charged and run tested at the factory prior to shipment. The evaporator and condenser sections shall ship separately with a dry-nitrogen charge ready for field refrigerant charging.

DX - Air Cooled Split

(Air Handling & Outdoor Remote Condensing Units) *VCH-( ) & XPU-( )*

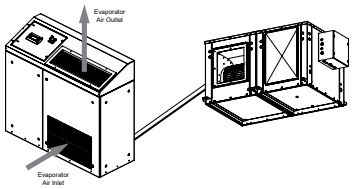


The system shall be a split configuration with compact depth indoor vertical floor console mounted precision dx air handling unit with outdoor dx air cooled propeller fan remote condensing unit. The compressor shall be located in the condensing unit. The condensing unit shall be sized for full heat of rejection at 95°F ambient and be capable of operation to ___ °F low ambient air temperature.

The system shall be refrigerant charged and run tested at the factory prior to shipment. The evaporator and condensing unit sections shall ship separately with a dry-nitrogen charge ready for field refrigerant charging.

DX - Air Cooled Split

(Air Handler & Indoor Remote Condensing Unit) *FCH-( ) & CCU*

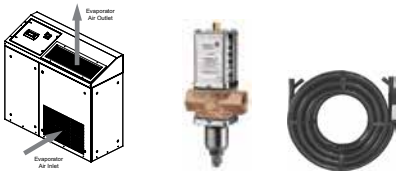


The system shall be a split configuration with compact depth indoor vertical floor console mounted precision dx air handling unit with indoor dx - air cooled centrifugal blower remote condensing unit. The compressor shall be located in the condensing unit. The condensing unit shall be sized for full heat of rejection at 95°F ambient and be capable of operation to ___ °F low ambient air temperature.

The system shall factory tested prior to shipment. The air handling and condensing unit sections shall ship separately from the factory with a dry-nitrogen holding charge for field sweat (copper) connection and refrigerant charging.

DX - Water Cooled

(Self-Contained Systems) *FCW-( )*



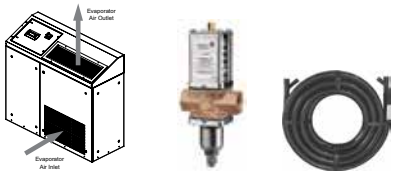
The system shall be a self-contained, compact depth indoor vertical floor console mounted dx water cooled precision air conditioner. The system shall include a water cooled tube-in-tube coaxial condenser and factory installed head pressure controlling 2-way water regulating valve rated for 150 psi w.w.p. The water cooled condenser shall be designed to provide the total required system heat of rejection at 85°F entering water temperature and 95°F leaving water temperature. Source water shall be provided by a remote water source *(by others)*.

The system shall require only single point main power supply and ship from the factory with a full operating refrigerant charge.

*(**Note:** 3-Way and High Pressure valves are optionally available)*

DX - Glycol Cooled Systems

DX - Glycol Cooled
(Self-Contained Systems) *FCG-( )*



The system shall be a self-contained, compact depth indoor vertical floor console mounted dx glycol cooled precision air conditioner. The system shall include a glycol cooled tube-in-tube coaxial condenser and factory installed head pressure controlling 2-way glycol regulating valve rated for 150 psi w.w.p. The condenser shall be designed to provide the total required system heat of rejection at 110°F entering glycol temperature and 120°F leaving glycol temperature based on 40% ethylene glycol solution. Source glycol shall be provided by a remote glycol drycooler source *(see AboveAir Technologies' FluidCool™ drycoolers)*.

The system shall require only single point main power supply and shall ship from the factory with a full operating refrigerant charge.

*(**Note:** 3-Way and High Pressure valves are optionally available)*

Glycol Pump Packages & Drycoolers
FC_-( ) / PA_-( )

Glycol condenser source shall be provided by a FluidCool™ brand remote air cooled glycol drycooler and Pump-All™ brand pump package.

The glycol drycooler shall be the outdoor mounted propeller fan type complete with factory installed aquastat fan cycling controls, motor starters with overload protection and non-fused disconnect switch.

The glycol pump package shall be a (single or dual) pump package designed for outdoor installation complete with individual pump motor starters. Dual glycol pump packages shall be provided with manual lead-lag switch and field installed flow switch for automatic switchover to backup pump upon loss of flow.

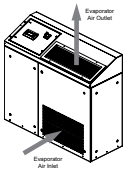
An expansion tank and air purge fitting valve shall be factory provided for field installation.

The drycooler shall provide _____ BTUH total heat rejection at a flow rate of _____ GPM with ____ °F EGT and ____ °F LGT at ____ °F ambient air temperature. Each pump shall be ____ Hp and shall be sized to provide ____ GPM @ ____ Ft. w.g. total system head. The glycol solution shall be ___ % (*ethylene* or *propylene*) by volume.

The drycooler and pump package shall be designed for _____ Volt, _____ Phase, _____ Hertz main power supply.

*(**Note:** See AboveAir Technologies' Fluid-Cool™ indoor & outdoor glycol drycooler and PumpAll™ glycol pump packages engineering manuals for more information.)*

Chilled Water Systems *FCC-( )*



The system shall be a compact 24" x 24" maximum foot-print indoor vertical floor mounted chilled water precision air conditioner.

The chilled water cooling coil shall be constructed of copper tubes and aluminum fins. Coil end-plates shall be hot dipped galvanized. The cooling coil shall be mounted in an insulated stainless steel condensate drain pan.

Chilled water flow shall be controlled by a factory installed 2-Way (2-POS, ON/OFF) control valve rated for a maximum 300 psig w.w.p.

*(**Note:** 3-way, Modulating (0-10Vdc) & Higher Pressure valves are optionally available.)*

Options

DX Air Cooled Condenser - Low Ambient Control

0°F Ambient - Fan Cycling
(CCX, XP1 & XPU Models)

Fan cycling controls shall be factory installed to the direct drive condenser fan to allow for low ambient operation to 0°F.

-20°F Ambient - Variable Spd Fan
(CCX, CCU, XP1 & XPU Models)

Variable fan speed head pressure controls (*JCI P266 or Modulating EC*) shall be factory installed to allow for low ambient operation to -20°F. Compressor cold start time delay relay and crankcase heater shall be factory installed with the -20°F low ambient control feature.

-30°F Flooded Condenser
(All Condenser/ing Models)

A flooded condenser system shall be provided to allow for low ambient condenser operation to -30°F. The flooded system shall include a factory installed liquid refrigerant receiver and modulating head pressure control valve. Compressor cold start time delay relay and crankcase heater shall be factory installed with the -30°F low ambient control feature.

DX - Water / Glycol Cooled Head Pressure Control

DX - Water/Glycol Reg. Valves
(Factory Installed!)

- **2-Way, 150 psig Reg. Valve**
- **3-Way, 150 psig Reg. Valve**
- **2-Way, 350 psig Reg. Valve**
- **3-Way, 350 psig Reg. Valve**

System head pressure shall be controlled by a factory provided __-Way water / glycol regulating valve rated for ___ psig w.w.p.

Chilled Water Control Valves

Chilled Water Control Valves

Zone Valves, 2-Postion ON/OFF:

- **2-Way, 300 psig (2-POS, ON/OFF, NC)**
- **3-Way, 300 psig (2-POS, ON/OFF, NC)**

Modulating Valves, 0-10Vdc:
(Requires MC-2000™)

- **2-Way, 300 psig (0-10Vdc, NC)**
- **3-Way, 300 psig (0-10Vdc, NC)**

A __-way chilled water system control valve shall be factory installed within the air conditioning unit. The valve shall provide precison space cooling and/or dehumidification control. The valve shall be the 24 VAC, __-Way, (2-Position ON/OFF or Moduating 0-10Vdc), normally closed type.

Hot Gas Bypass Systems

Hot Gas Bypass To Evap Inlet

Each refrigerant circuit shall be provided with a factory installed hot gas (discharge) bypass valve. The hot gas bypass valve shall be designed to supply hot gas to evaporator inlet as required to provide coil freeze-protection and capacity modulation under low load conditions

Hot Gas Bypass To Suction Line with Quench Valve

(XPU & CCU Remote Condensing Units 3rd Line Not Required!)

Each refrigerant circuit of the Split DX system shall be provided with a factory installed hot gas bypass system to include: hot gas (discharge) bypass; desuperheating quench; and hot gas & quench solenoid valves. The hot gas bypass system shall be designed to supply hot gas and liquid refrigerant to the suction line as required to provide coil freeze-protection and capacity modulation under low load conditions. All hot gas bypass components shall be factory installed and shall not require additional field refrigerant lines on split DX systems.

Suction-Line Accumulator

Each refrigerant circuit shall be provided with a factory installed Suction-Line Accumulator to prevent liquid slugging of the compressor and excessive refrigerant dilution of the compressor oil during low load conditions. The accumulator shall return refrigerant and oil to the compressor at a sufficient rate to maintain both system operating efficiency and proper oil level. The accumulators shall be wrapped with 1/2" closed-cell neoprene insulation to prevent sweating.

CONTROL OPTIONS

MC-2000™, Advanced Temp/Humid Microprocessor Controller w/ Alarms & BMS Connection

The system shall be provided with a MC-2000™ advanced microprocessor based temperature and humidity controller with alarms.

Select Features/Benefits:

- 4x20 Character Liquid Crystal Alpha-numerical Display
- User Configurable
- Run-Time Hours
- Current Unit Mode Status
- Alarm Status
- Digital & Analog Inputs / Outputs
- Temperature Anticipation
- Remote Stop / Start Contact
- Summary Alarm Contact
- Automatic or Manual (selectable) Restart After Power Loss
- Sequential Load After Restart
- Recovery Delay
- Compressor Short Cycle Timers
- Cold Start Time Delay
- Security Password Access
- Self-Diagnostics
- Service Mode

Unit Status Display

The control system shall display current unit functions and room status (if applicable):

- Current Dry Bulb Temp Set Point
- Current Relative Humidity Set Point
- System ON/OFF
- Cooling
- Heating
- Humidifying
- Dehumidifying
- Reheating
- Actual Room DB Temperature
- Actual Room Relative Humidity

Alarm Conditions:

Alarm conditions activate an audible and visual indicator plus close a summary alarm dry contact connection. The control system shall alert to the following alarm conditions (if applicable):

- High Temperature
- Low Temperature
- High Humidity
- Low Humidity
- Sensor Failure
- Summary Failure
- Loss of Air Flow
- High Head Press
- Smoke Detection
- Firestat
- Leak Detection
- Sensor Failure
- Loss of Power
- Dirty Filter

Digital & Analog Control Inputs / Outputs:

The control system shall be capable of both digital (ON/OFF) and analog (proportional integral, PI) input and output control.

Select MC-2000 Options:

☐ Multi-Unit N+1 Sequencing

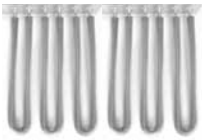
☐ BMS Communications Interface:

- ☐ BACnet over MS/TP (RS485 Serial)
- ☐ BACnet Over IP (Ethernet / EIA485)
- ☐ ModBus RS485 Serial Connection

Heat / Reheat Options

HEAT OPTIONS

Electric Reheat/Heat



An electric heating system shall be factory installed to provide:

- ☐ Electric Heat Only during heat mode
- ☐ Electric Reheat to offset sensible cooling during the dehumidification mode and to provide heating during heat mode.

Heater elements shall be the low-watt density finned-tubular type. The heater shall be complete with individual heater stage starter/contactor and overheat safeties. Systems incorporating factory installed electric heaters shall require only single point power to the main unit power distribution. The electric heat shall have a capacity of _____ BTU/H and a KW rating of ___ KW, controlled in ___ stages.

☐ SCR Fired Heat/Reheat

(0-100% Modulating 0-10Vdc)

The electric heat/reheat shall be controlled through a "zero firing" silicon control rectifier (SCR) with an extruded aluminum heat sink and solid state logic system to provide close dry bulb temperature control of the leaving conditioned air temperature. The electric heat shall have a capacity of _____ BTUH and a KW rating of ___ KW.

Hot Gas Reheat

The system shall be provided with a hot

gas reheat coil with 3-way heat reclaim control valve. The hot gas reheat coil shall provide free-energy space neutral leaving air temperature by offsetting the sensible cooling during dx dehumidification operation.

*(**Note:** When compressor is located in the remote condensing unit, the maximum allowable refrigerant run for systems with Hot Gas Rheat is 40 linear feet, including both horizontal and vertical refrigerant line components.)*

Humidification Options

Steam Humidification

An electrode steam canister type humidification system shall be factory installed within the air conditioning system. The humidifier shall be complete with disposable canister, steam distributor, fill and drain valve, air gap, automatic flush cycle, manual humidity output adjustment and field installed remote wall mounted humidistat. The humidifier shall have a maximum output capacity of _____ lbs/hr.

Accessories

Floor Stand

A ____ inch nominal high (__ in to __ in adj. range) floor stand shall be factory provided for field installation. The floor stand shall have adjustable legs with vibration isolation.

Turning Vanes

Turning vanes shall be factory provided with the floor stand to direct the discharge air either to the front or rear of the unit.

Condensate Pump
(Factory Installed)

A condensate pump shall be factory provided and installed within the indoor evaporator section. The condensate pump shall be provided with dual internal float switches: one for pump operation initiation and the other for pump reservoir overflow safety.

Main Power, Non-Fused Disconnect
(Remote Condenser/ing Section)

The remote condensing unit (or condenser) shall be factory provided with a main power non-fused disconnect for field installation. The disconnect shall be NEMA rated for indoor or outdoor installation as required.

Remote Water-Leak Detector

A remote water-leak detector shall be factory provided for field installation. The remote water-leak detector shall be wired to shut down all A/C unit water producing functions upon sensing a water leak.

*(**Note:** Cable Type Remote Water Detectoors are also optionally available.)*

Flow Switch - Condenser Water

A factory installed flow switch shall shut-down / lockout compressor operation prior to a high refrigerant pressure switch alarm upon sensing a loss or low dx condenser water/glycol flow. The flow switch alarm shall be indicated both via MC-2000 microprocessor display and auxililary dry-contact terminal connection.

Low Entering Condenser Water / Glycol Kit to 45°F EWT/EGT

A low enter condenser water/glycol kit shall be provided with liquid refrigerant receiver, compressor crankcase heater, insulated wrapped coaxial condenser and unit internal condenser water/glycol piping. The Low EWT/EGT kit shall allow for continued winter A/C operation when condenser source water/glycol drops below 65°F (down to 45°F).

Smoke Detector
(Factory Installed)

A Smoke Detector shall be factory installed in the return air stream of the unit and wired to the A/C unit electrical control panel. The Smoke Detector shall shut-down all A/C system operations upon activation.

Firestat
(Factory Installed)

A Firestat shall be factory installed in the return air stream of the unit and wired to the A/C unit electrical control panel. The Firestat shall shut-down all A/C system operations upon sensing a high return air temperature condition.

Hose Kits - Automatic

Condenser water/glycol hose kits shall be factory provided. Each kit shall include the piping specialties necessary to ensure a proper installation: a Hays 2500 Series Mesurflo Automatic Flow Control Valve, two 36" flexible hoses, ball valves on the return and supply sides with P/T Ports, high flow "Y-ball" strainers for sizes 1/2"-2" and a manual air vent on the return. Hose materials shall be the reinforced and bonded EPDM rubber type with a temperature rating of 32°F to 225°F and a working pressure of 400 psig. Minimum burst pressure shall be four (4) times the working pressure at maximum rated temperature. The hoses shall have stainless steel braid over an EPDM liner. The "Y-Ball" strainters shall have a stainless steel 20 mesh screen that is easily accessible for cleaning without disconnecting the hoses.

Mounting Vibration Isolators

Rubber/Cork Anti-Vibration Pads:

Each indoor vertical floor mounted section shall be provided with a set of quantity four (4"x4"x7/8") Rubber/Cork Anti-Vibration Pad vibration mounting isolators.

Spring Mounting Isolators:

Each indoor vertical floor mounted section shall be provided with a set of quantity four adjustable spring vibration mounting isolators with non-skid neoprene acoustical isolation pads. Isolators shall be sized for the total distributive weight of the unit with a 1" deflection.

Compressor Sound Jacket

Each compressor shall be provided with a factory installed compressor sound jacket with a snap closure system for ease of removal and reinstallation. Sound jackets shall have a noise reduction coefficient (NRC) of 0.85 per ASTM (C423) and a sound transmission class/loss (STC) of 11 per ASTM E-90.

Performance Data (*Floor Console*) - DX 4-18kW (1-5 Tons)

	Nominal Size		4kW (1.0T)	5kW (1.5T)	7kW (2.0T)	11kW (3.0T)	14kW (4.0T)	18kW (5.0T)
AIR COOLED DX	**Air Cooled Model**		**FCE & FCH-004**	**FCE & FCH-005**	**FCE & FCH-007**	**FCE & FCH-011**	**FCE & FCH-014**	**FCE & FCH-018**
	80°F DB / 67°F WB, 50% RH							
	Total	BTUH	13,900	20,000	27,800	40,700	53,700	67,700
	Sensible	BTUH	10,200	16,200	20,400	30,100	40,000	50,200
	75°F DB / 62.5°F WB, 50% RH							
	Total	BTUH	13,100	18,300	25,500	37,400	49,400	62,300
	Sensible	BTUH	10,600	15,900	20,000	29,600	39,300	49,300
	72°F DB / 60°F WB, 50% RH							
	Total	BTUH	12,500	17,400	24,400	35,800	47,100	59,600
	Sensible	BTUH	10,400	15,600	19,900	29,000	38,900	48,300
WATER COOLED DX	**Water Cooled Model**		**FCW-004**	**FCW-005**	**FCW-007**	**FCW-011**	**FCW-014**	**FCW-018**
	80°F DB / 67°F WB, 50% RH							
	Total	BTUH	14,700	20,000	29,500	43,300	56,900	71,700
	Sensible	BTUH	10,200	16,700	21,200	31,200	41,400	51,900
	75°F DB / 62.5°F WB, 50% RH							
	Total	BTUH	13,800	19,400	27,100	39,800	52,400	66,300
	Sensible	BTUH	10,400	16,400	20,800	30,700	40,700	51,300
	72°F DB / 60°F WB, 50% RH							
	Total	BTUH	13,300	18,400	25,900	38,000	50,000	63,400
	Sensible	BTUH	10,800	16,000	20,400	30,100	39,900	50,300
GLYCOL COOLED DX	**Glycol Cooled Model**		**FCG-004**	**FCG-005**	**FCG-007**	**FCG-011**	**FCG-014**	**FCG-018**
	80°F DB / 67°F WB, 50% RH							
	Total	BTUH	13,600	19,000	27,200	39,800	52,600	66,200
	Sensible	BTUH	10,400	15,800	20,100	29,700	39,500	49,500
	75°F DB / 62.5°F WB, 50% RH							
	Total	BTUH	12,500	17,400	24,900	36,600	48,200	60,800
	Sensible	BTUH	10,400	15,500	19,800	29,100	38,900	48,600
	72°F DB / 60°F WB, 50% RH							
	Total	BTUH	11,900	16,600	23,900	34,800	46,200	57,800
	Sensible	BTUH	10,100	15,200	19,700	28,600	38,600	47,700

GENERAL SHARED DATA

ALL DX MODELS	**Electric Reheat / Heat** - BTUH includes evaporator motor heat, **(Optional)**							
	Capacity @ 208V	BTUH (KW)	16,040 (4.7)	16,040 (4.7)	16,610 (4.9)	17,185 (5.0)	33,220 (9.7)	33,220 (9.7)
	Capacity @ 230V	BTUH (KW)	17,675 (5.2)	17,675 (5.2)	18,245 (5.3)	18,820 (5.5)	36,490 (10.7)	36,490 (10.7)
	Capacity @ 460V	BTUH (KW)	16,960 (5.0)	16,960 (5.0)	17,535 (5.1)	18,105 (5.3)	35,065 (10.3)	35,065 (10.3)
	Cap. @ 277/480V	BTUH (KW)	17,675 (5.2)	17,675 (5.2)	18,245 (5.3)	18,820 (5.5)	36,490 (10.7)	36,490 (10.7)
	Hot Gas Reheat - (Optional)							
	Capacity	BTUH	12,690	18,210	21,350	30,125	40,260	50,300
	Steam Canister Humidifier - (Optional)							
	Humid (FCH-_)	LBS/HR	5	5	5	5	10	10
	Humid (FCE/W/G-_)	LBS/HR	5	5	5	5	5	5
	Evaporator Blower / Motor - Direct Drive, DWDI Centrifugal							
	Airflow Rate	CFM	500	750	900	1,200	1,600	2,000
	E.S.P.	IN WG	0.3	0.3	0.3	0.3	0.3	0.3
	Blower Motor	HP	1/4	1/4	1/2	3/4	1/2 (Qty. two)	1/2 (Qty. two)
	Evaporator Coil - Aluminum Fin, Copper Tube							
	Rows	NO	3	3	3	4	4	4
	Face Area	FT^2	2.0	2.0	2.5	2.9	5.1	5.1
	Filters - 30% Dust Spot Efficient							
	Nominal Size	(NO) IN	(1) 16 x 25 x 2	(1) 16 x 25 x 2	(1) 16 x 25 x 2	(1) 16 x 25 x 2	(2) 16 x 20 x 2	(2) 16 x 20 x 2
	Compressor - Heat Pump Duty Scroll							
	Qty., Horespower	(NO) HP	(1) 1.25	(1) 1.5	(1) 2.0	(1) 3.0	(1) 4.0	(1) 5.0
	Connection Sizes - *(Note: Condensate Discharge Line Connection for Units w/ Condensate Pump Option)*							
	Condensate Line	OD IN	1/2	1/2	1/2	1/2	1/2	1/2
	Humidifier Inlet	OD IN	1/4	1/4	1/4	1/4	1/4	1/4

Performance Data (*Floor Console*) - DX 4-18kW (1-5 Tons)

Heat Rejection Data

	Nominal Size / Model Size		4kW (1.0T) 004	5kW (1.5T) 005	7kW (2.0T) 007	11kW (3.0T) 011	14kW (4.0T) 014	18kW (5.0T) 018
	DX - AIR COOLED CONDENSER DATA							
AIR COOLED DX	**Indoor, Remote Centrifugal Blower Air Cooled Condenser & Condensing Unit Data** - (CCU, CCX, XCU & XCX Models)							
	Remote Condensing Unit Model		**CCU-004**	**CCU-005**	**CCU-007**	**XCU-011**	**XCU-014**	**XCU-018**
	Remote Condenser Model		**CCX-004**	**CCX-005**	**CCX-007**	**XCX-011**	**XCX-014**	**XCX-018**
	Airflow Rate	CFM	1,000	1,200	1,400	2,000	2,500	3,250
		IN ESP	0.3	0.3	0.3	0.75	0.75	0.75
	Blower Motor	HP	1/2	1/2	3/4	3/4	1	1-1/2
	Blower Diameter	IN	10 x 8	10 x 8	10 x 8	12 x 9	15 x 10	15 x 10
	Blower Type		DD - Centrifugal	DD - Centrifugal	DD - Centrifugal	BD - Centrifugal	BD - Centrifugal	BD - Centrifugal
	Coil Face Area	FT^2	2.0	2.0	2.5	4.1	6.5	6.5
	Rows	NO	4	4	4	4	4	4
	Outdoor, Remote Propeller Fan Air Cooled Condensing Units & Condensers - (XPU & XP1 models)							
	Remote Condensing Unit Model		**XPU-004**	**XPU-005**	**XPU-007**	**XPU-011**	**XPU-014**	**XPU-018**
	Remote Condenser Model		**XP1-004**	**XP1-005**	**XP1-007**	**XP1-011**	**XP1-014**	**XP1-018**
	Airflow Rate	CFM	1,792	2,218	2,218	3,167	3,365	3,365
		IN ESP	Free Discharge	Free Discharge	Free Discharge	Free Discharge	Free Discharge	Free Discharge
	Fan Motor	(NO) HP	(1) 1/6	(1) 1/6	(1) 1/6	(1) 1/4	(1) 1/4	(1) 1/4
	Fan Type		DD - Propeller	DD - Propeller	DD - Propeller	DD - Propeller	DD - Propeller	DD - Propeller
	Coil Face Area	FT^2	8.4	8.4	9.8	17.25	19.4	15.09
	Rows	NO	1	1	1	1	1	2
	DX - WATER COOLED CONDENSER DATA							
WATER COOLED DX	**Water Cooled Condenser Data** - (FCW & CWU models)							
	Model		**FCW-004**	**FCW-005**	**FCW-007**	**FCW-011**	**FCW-014**	**FCW-018**
	Total Heat of Rej.	BTUH	21,575	24,270	32,315	47,410	71,100	88,150
	Flow @ 85°F EWT	GPM	4.3	4.9	6.5	9.5	14.2	17.6
	Water Press. Drop	FT WG	7.8	9.8	11.4	15.2	18.4	29.9
	Condenser Type	TXT	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial
	Water Reg. Valve		2-Way, 150 psig - factory installed, *(3-way & High Pressure Optional)*					
	DX - GLYCOL COOLED CONDENSER DATA							
GLYCOL COOLED DX	**Glycol Cooled Condenser Data** - Based on 40% Ethylene Glycol (FCG & CGU models)							
	Model		**FCG-004**	**FCG-005**	**FCG-007**	**FCG-011**	**FCG-014**	**FCG-018**
	Total Heat of Rej.	BTUH	21,345	24,885	31,430	46,425	69,310	85,470
	Flow @ 110°F EGT	GPM	4.7	5.5	7.0	10.3	15.3	18.9
	Glycol Press. Drop	FT WG	9.3	12.4	13.1	17.8	17.7	28.4
	Condenser Type	TXT	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial	Coaxial
	Glycol Reg. Valve		2-Way, 150 psig - factory installed, *(3-way & High Pressure Optional)*					

Connection Data

	Nominal Size / Model Size		4kW (1.0T) 004	5kW (1.5T) 005	7kW (2.0T) 007	11kW (3.0T) 011	14kW (4.0T) 014	18kW (5.0T) 018
	DX - AIR COOLED REFRIGERANT (R410a) CONNECTION DATA							
AIR COOLED	**DX Split Air Handling Units & Indoor, Centrifugal Blower Remote Air Cooled Condensing Units** - (FCH, CCU & XCU models)							
	Liquid Line	OD IN	(1) 3/8	(1) 3/8	(1) 3/8	(1) 3/8	(1) 3/8	(1) 3/8
	Suction Line	OD IN	(1) 3/4	(1) 3/4	(1) 3/4	(1) 3/4	(1) 7/8	(1) 7/8
	DX Split Evaporators & Indoor Remote Centrifugal Air Cooled Condensers - (FCE, CCX & XCX models)							
	Liquid Line	OD IN	(1) 3/8	(1) 3/8	(1) 3/8	(1) 3/8	(1) 3/8	(1) 3/8
	Hot Gas Line	OD IN	(1) 1/2	(1) 1/2	(1) 1/2	(1) 1/2	(1) 5/8	(1) 5/8
	Outdoor, Propeller Fan Remote Air Cooled Condensers & Condensing Units - (XP1 w/ Liquid & Hot Gas Lines and XPU w/ Liquid & Suction Lines)							
	Liquid Line	OD IN	(1) 3/8	(1) 3/8	(1) 3/8	(1) 3/8	(1) 3/8	(1) 3/8
	Suction or Hot Gas Line	OD IN	(1) 3/4	(1) 3/4	(1) 3/4	(1) 7/8	(1) 7/8	(1) 7/8
	DX - WATER / GLYCOL COOLED CONDENSER CONNECTION DATA							
WATER / GLYCOL COOLED	**Water Cooled Condenser Data** - (FCW, CWU, FCG & CGU models)							
	Water IN/OUT	OD IN	5/8	5/8	5/8	7/8	7/8	1-1/8

Performance Data (*Floor Console*) - Chilled Water 4-18kW (1-5 Tons)

CHILLED WATER SYSTEMS

Nominal Size		**4kW (1.0T)**	**5kW (1.5T)**	**7kW (2.0T)**	**11kW (3.0T)**	**14kW (4.0T)**	**18kW (5.0T)**
Chilled Water Unit Model		**FCC-004**	**FCC-005**	**FCC-007**	**FCC-011**	**FCC-014**	**FCC-018**
Cooling Capacity - 45°F Entering Chilled Water (0% Glycol)							
80°F DB / 67°F WB, 50% RH							
Total	BTUH	14,400	21,900	29,800	40,300	58,600	69,100
Sensible	BTUH	10,800	16,900	20,800	29,000	41,000	49,200
75°F DB / 62.5°F WB, 50% RH							
Total	BTUH	11,500	17,600	23,400	31,800	46,000	54,400
Sensible	BTUH	10,000	15,800	18,900	26,500	37,300	45,000
72°F DB / 60°F WB, 50% RH							
Total	BTUH	10,000	15,400	20,100	27,500	39,500	46,900
Sensible	BTUH	9,400	14,900	17,600	24,800	34,800	42,100
Chilled Water Coil / Valve - Aluminum Fin, Copper Tube							
Flow Rate / Coil PD	GPM/FT	3.0 / (0.5)	4.5 / (1.0)	6.0 / (3.4)	8.0 / (5.6)	12.0 / (3.4)	14.0 / (4.4)
Rows / Face Area	NO / FT^2	4 / 2.0	4 / 2.0	4 / 2.8	4 / 2.8	4 / 5.1	4 / 5.1
Standard Valve	BTUH	2-Way, 150 psig - factory installed, *(3-way & High Pressure Optional)*					
Evaporator Blower / Motor - Direct Drive, DWDI Centrifugal							
Airflow Rate	CFM	500	750	900	1,200	1,600	2,000
E.S.P.	IN WG	0.3	0.3	0.3	0.3	0.3	0.3
Blower Motor	HP	1/4	1/4	1/2	3/4	1/2 (Qty. two)	1/2 (Qty. two)
Electric Reheat / Heat - BTUH includes evaporator motor heat, **(Optional)**							
Capacity @ 208V	BTUH (KW)	16,040 (4.7)	16,040 (4.7)	16,610 (4.9)	17,185 (5.0)	33,220 (9.7)	33,220 (9.7)
Capacity @ 230V	BTUH (KW)	17,675 (5.2)	17,675 (5.2)	18,245 (5.3)	18,820 (5.5)	36,490 (10.7)	36,490 (10.7)
Capacity @ 460V	BTUH (KW)	16,960 (5.0)	16,960 (5.0)	17,535 (5.1)	18,105 (5.3)	35,065 (10.3)	35,065 (10.3)
Cap. @ 277/480V	BTUH (KW)	17,675 (5.2)	17,675 (5.2)	18,245 (5.3)	18,820 (5.5)	36,490 (10.7)	36,490 (10.7)
Steam Canister Humidifier - (Optional)							
Steam Canister	LBS/HR	5	5	5	5	10	10
Filters - 30% Dust Spot Efficient							
Nominal Size	(NO) IN	(1) 16 x 25 x 2	(1) 16 x 25 x 2	(1) 16 x 25 x 2	(1) 16 x 25 x 2	(2) 16 x 20 x 2	(2) 16 x 20 x 2
Connection Sizes - *(Note: Condensate Discharge Line Connection for Units w/ Condensate Pump Option)*							
CW In/Out	OD IN	5/8	5/8	5/8	7/8	7/8	1-1/8
Condensate Line	OD IN	1/2	1/2	1/2	1/2	1/2	1/2
Humidifier Inlet	OD IN	1/4	1/4	1/4	1/4	1/4	1/4

DX - Split Evap & Packaged Water/Glycol Cooled

MODEL	FCE, FCW & FCG-004				FCE, FCW & FCG-005				FCE, FCW & FCG-007			
Power Supply	**208/1/60**	**277/1/60**	**208/3/60**	**460/3/60**	**208/1/60**	**277/1/60**	**208/3/60**	**460/3/60**	**208/1/60**	**277/1/60**	**208/3/60**	**460/3/60**
Cooling Only *(or Cooling with Hot Gas Reheat)*												
FLA	11.2	9.1	----	----	11.8	9.7	----	----	16.8	14.1	12.3	6.9
MCA	13.5	10.9			14.2	11.6			20.0	16.8	14.4	8.2
MOP	20	15			20	15			30	25	20	15
with Electric Heat *(No Electric Reheat or Humidifier)*												
FLA	26.3	20.1	----	----	26.3	20.1	----	----	28.1	21.3	17.9	8.1
MCA	32.9	25.1			32.9	25.1			35.1	26.6	22.4	10.1
MOP	35	30			35	30			40	30	25	15
with Electric Reheat/Heat *(No Humidifier)*												
FLA	35.3	27.2	----	----	35.9	27.8	----	----	40.9	32.2	26.2	13.2
MCA	43.6	33.5			44.3	34.2			50.1	39.4	31.8	16.0
MOP	45	35			45	35			60	45	35	20
with Humidifier with or without Hot Gas Reheat *(No Electric Reheat/Heat)*												
FLA	19.4	15.3	----	----	20.0	15.9	----	----	25.0	20.3	20.5	10.6
MCA	21.7	17.1			22.4	17.8			28.2	23.0	22.6	11.9
MOP	30	20			30	25			40	30	30	15
with Electric Heat *(No Electric Reheat)* **& Humidifier**												
FLA	34.5	26.3	----	----	34.5	26.3	----	----	36.3	27.5	26.1	11.8
MCA	41.1	31.3			41.1	31.3			43.3	32.8	30.6	13.8
MOP	45	35			45	35			45	35	35	15
with Electric Reheat/Heat & Humidifier												
FLA	35.3	27.2	----	----	35.9	27.8	----	----	40.9	32.2	26.2	13.2
MCA	43.6	33.5			44.3	34.2			50.1	39.4	31.8	16.0
MOP	45	35			45	35			60	45	35	20

MODEL	FCE, FCW & FCG-011				FCE, FCW & FCG-014				FCE, FCW & FCG-018			
Power Supply	**208/1/60**	**277/1/60**	**208/3/60**	**460/3/60**	**208/1/60**	**277/1/60**	**208/3/60**	**460/3/60**	**208/1/60**	**277/1/60**	**208/3/60**	**460/3/60**
Cooling Only *(or Cooling with Hot Gas Reheat)*												
FLA	23.3	19.9	18.9	8.2	----	----	23.9	10.7	----	----	27.6	13.3
MCA	27.8	23.9	22.3	9.7			27.9	12.5			32.5	15.7
MOP	45	40	35	15			40	15			50	25
with Electric Heat *(No Electric Reheat or Humidifier)*												
FLA	29.5	22.0	19.3	8.5	----	----	23.9	10.7	----	----	27.6	13.3
MCA	36.9	27.5	24.1	10.6			27.9	12.5			32.5	15.7
MOP	45	40	35	15			40	15			50	25
with Electric Reheat/Heat *(No Humidifier)*												
FLA	47.4	38.0	32.8	14.5	----	----	37.8	17.0	----	----	41.5	19.6
MCA	57.9	46.5	39.7	17.6			45.3	20.3			49.9	23.6
MOP	60	50	45	20			50	25			60	30
with Humidifier with or without Hot Gas Reheat *(No Electric Reheat/Heat)*												
FLA	31.5	26.1	27.1	11.9	----	----	32.1	14.4	----	----	35.8	17.0
MCA	36.0	30.1	30.5	13.4			36.1	16.2			40.7	19.4
MOP	50	45	40	15			50	20			60	25
with Electric Heat *(No Electric Reheat)* **& Humidifier**												
FLA	37.7	28.2	27.5	12.2	----	----	32.1	14.4	----	----	35.8	17.0
MCA	45.1	33.7	32.3	14.3			36.1	16.2			40.7	19.4
MOP	50	45	40	15			50	20			60	25
with Electric Reheat/Heat & Humidifier												
FLA	47.4	38.0	32.8	14.5	----	----	37.8	17.0	----	----	41.5	19.6
MCA	57.9	46.5	39.7	17.6			45.3	20.3			49.9	23.6
MOP	60	50	45	20			50	25			60	30

Notes:

1) FLA = Full Load Amps; MCA = Min Circuit Amps; MOP = Max Overcurrent Protection (Max Fuse Size)
2) 277/1/60 systems may require field step-down transformer.
3) - - - - Consult local AboveAir Sales Representative for non-cataloged system power supply information.

DX Split and Chilled Water Air Handling Units

MODEL	FCH & FCC-004 & 005				FCH & FCC-007				FCH & FCC-011				FCH & FCC-014 & 018			
Power Supply	**208/1/60**	**277/1/60**	**208/3/60**	**460/3/60**	**208/1/60**	**277/1/60**	**208/3/60**	**460/3/60**	**208/1/60**	**277/1/60**	**208/3/60**	**460/3/60**	**208/1/60**	**277/1/60**	**208/3/60**	**460/3/60**
Cooling Only																
FLA	2.2	2.0	2.2	1.1	4.0	3.2	4.0	1.8	5.4	3.9	5.4	2.2	8.0	6.4	8.0	3.6
MCA	2.8	2.5	2.8	1.4	5.0	4.0	5.0	2.3	6.8	4.9	6.8	2.8	10.0	8.0	10.0	4.5
MOP	15	15	15	15	15	15	15	15	12.2	8.8	12.2	5.0	15	15	15	15
with Electric Heat or Reheat/Heat *(No Humidifier)*																
FLA	26.3	20.1	16.1	7.4	28.1	21.3	17.9	8.1	29.5	22.0	19.3	8.5	56.2	42.6	35.8	16.2
MCA	32.9	25.1	20.1	9.2	35.1	26.6	22.4	10.1	36.9	27.5	24.1	10.6	70.2	53.2	44.8	20.2
MOP	35	30	25	15	40	30	25	15	36.2	26.9	26.1	11.2	80	60	45	25
with Humidifier *(No Electric Reheat/Heat)*																
FLA	10.4	8.2	10.4	4.8	12.2	9.4	12.2	5.5	13.6	10.1	13.6	5.9	24.4	18.7	24.4	11.0
MCA	11.0	8.7	11.0	5.1	13.2	10.2	13.2	6.0	15.0	11.1	15.0	6.5	26.4	20.3	26.4	11.9
MOP	15	15	15	15	15	15	15	15	20.4	15.0	20.4	8.7	30	25	30	15
with Electric Heat or Reheat/Heat & Humidifier																
FLA	34.5	26.3	24.3	11.1	36.3	27.5	26.1	11.8	37.7	28.2	27.5	12.2	72.6	54.9	52.2	23.6
MCA	41.1	31.3	28.3	12.9	43.3	32.8	30.6	13.8	45.1	33.7	32.3	14.3	86.6	65.5	61.2	27.6
MOP	45	35	30	15	45	35	35	15	44.4	33.1	34.3	14.9	90	70	70	30

Notes:

1) FLA = Full Load Amps; MCA = Min Circuit Amps; MOP = Max Overcurrent Protection (Max Fuse Size)
2) 277/1/60 systems may require factory provided field installed step-down transformer.
3) - - - - Consult local AboveAir Sales Representative for non-cataloged system power supply information.

DX - AIR & WATER / GLYCOL COOLED, REMOTE CONDENSERS & CONDENSING UNITS

Unit Size (Nominal)	Condenser / Cond Unit Model	Main Power Supply	Type	Compressor (Fixed Speed)				Cond Fan Motor				Unit Nameplate Data		
				Qty.	RLA	LRA	Type	Qty.	HP (kW)	FLA	Type	FLA	MCA	MOP
4kW (1.0 Ton)	XP1-004S-1*	208/1/60	Outdoor Pad/Roof Mtd	- - -	- - -	- - -	- - -	1	1/6 (0.12)	1.1	PSC	1.1	1.4	15
	XP1-004S-7*	277/1/60	Outdoor Pad/Roof Mtd	- - -	- - -	- - -	- - -	1	1/6 (0.12)	0.8	PSC	0.8	1.0	15
	XPU-004S-1*	208/1/60	Outdoor Pad/Roof Mtd	1	9.0	48.0	Scroll	1	1/6 (0.12)	1.1	PSC	10.1	12.4	20
	XPU-004S-7*	277/1/60	Outdoor Pad/Roof Mtd	1	6.8	36.0	Scroll	1	1/6 (0.12)	0.8	PSC	7.6	9.3	15
	CCX-004S-1*	208/1/60	Indoor Ceiling Mtd	- - -	- - -	- - -	- - -	1	1/2 (0.37)	4.0	PSC	4.0	5.0	15
	CCX-004S-7*	277/1/60	Indoor Ceiling Mtd	- - -	- - -	- - -	- - -	1	1/2 (0.37)	2.2	PSC	2.2	2.8	15
	CCU-004S-1*	208/1/60	Indoor Ceiling Mtd	1	9.0	48.0	Scroll	1	1/2 (0.37)	4.0	PSC	13.0	15.3	20
	CCU-004S-7*	277/1/60	Indoor Ceiling Mtd	1	7.1	43.0	Scroll	1	1/2 (0.37)	2.2	PSC	9.3	11.1	15
	CWU/CGU-004S-1*	208/1/60	Indoor Ceiling Mtd	1	9.0	48.0	Scroll	- - -	- - -	- - -	- - -	9.0	11.3	20
	CWU/CGU-004S-7*	277/1/60	Indoor Ceiling Mtd	1	7.1	43.0	Scroll	- - -	- - -	- - -	- - -	7.1	8.9	15
5kW (1.5 Tons)	XP1-005S-1*	208/1/60	Outdoor Pad/Roof Mtd	- - -	- - -	- - -	- - -	1	1/6 (0.12)	1.1	PSC	1.1	1.4	15
	XP1-005S-7*	277/1/60	Outdoor Pad/Roof Mtd	- - -	- - -	- - -	- - -	1	1/6 (0.12)	0.8	PSC	0.8	1.0	15
	XPU-005S-1*	208/1/60	Outdoor Pad/Roof Mtd	1	9.0	48.0	Scroll	1	1/6 (0.12)	1.1	PSC	10.1	12.4	20
	XPU-005S-7*	277/1/60	Outdoor Pad/Roof Mtd	1	6.8	36.0	Scroll	1	1/6 (0.12)	0.8	PSC	7.6	9.3	15
	CCX-005S-1*	208/1/60	Indoor Ceiling Mtd	- - -	- - -	- - -	- - -	1	1/2 (0.37)	4.0	PSC	4.0	5.0	15
	CCX-005S-7*	277/1/60	Indoor Ceiling Mtd	- - -	- - -	- - -	- - -	1	1/2 (0.37)	2.2	PSC	2.2	2.8	15
	CCU-005S-1*	208/1/60	Indoor Ceiling Mtd	1	9.0	48.0	Scroll	1	1/2 (0.37)	4.0	PSC	13.0	15.3	20
	CCU-005S-7*	277/1/60	Indoor Ceiling Mtd	1	7.1	43.0	Scroll	1	1/2 (0.37)	2.2	PSC	9.3	11.1	15
	CWU/CGU-005S-1*	208/1/60	Indoor Ceiling Mtd	1	9.0	48.0	Scroll	- - -	- - -	- - -	- - -	9.0	11.3	20
	CWU/CGU-005S-7*	277/1/60	Indoor Ceiling Mtd	1	7.1	43.0	Scroll	- - -	- - -	- - -	- - -	7.1	8.9	15
7kW (2.0 Tons)	XP1-007S-1*	208/1/60	Outdoor Pad/Roof Mtd	- - -	- - -	- - -	- - -	1	1/6 (0.12)	1.1	PSC	1.1	1.4	15
	XP1-007S-7*	277/1/60	Outdoor Pad/Roof Mtd	- - -	- - -	- - -	- - -	1	1/6 (0.12)	0.8	PSC	0.8	1.0	15
	XP1-007S-3*	208/3/60	N/A											
	XP1-007S-8*	460/1/60	Outdoor Pad/Roof Mtd	- - -	- - -	- - -	- - -	1	1/4 (0.19)	1.0	PSC	1.0	1.3	15
	XPU-007S-1*	208/1/60	Outdoor Pad/Roof Mtd	1	10.9	62.9	Scroll	1	1/6 (0.12)	1.1	PSC	12.0	14.7	25
	XPU-007S-7*	277/1/60	Outdoor Pad/Roof Mtd	1	8.2	47.2	Scroll	1	1/6 (0.12)	0.8	PSC	9.0	11.1	15
	XPU-007S-3*	208/3/60	Outdoor Pad/Roof Mtd	1	7.7	55.4	Scroll	1	1/6 (0.12)	1.1	PSC	8.8	10.7	15
	XPU-007S-4*	460/3/60	Outdoor Pad/Roof Mtd	1	3.6	28.0	Scroll	1	1/4 (0.19)	1.0	PSC	4.6	5.5	15
	CCX-007S-1*	208/1/60	Indoor Ceiling Mtd	- - -	- - -	- - -	- - -	1	3/4 (0.56)	5.4	PSC	5.4	6.8	15
	CCX-007S-7*	277/1/60	Indoor Ceiling Mtd	- - -	- - -	- - -	- - -	1	3/4 (0.56)	3.9	PSC	3.9	4.9	15
	CCX-007S-3*	208/3/60	N/A											
	CCX-007S-8*	460/1/60	Indoor Ceiling Mtd	- - -	- - -	- - -	- - -	1	3/4 (0.56)	2.8	PSC	2.8	3.5	15
	CCU-007S-1*	208/1/60	Indoor Ceiling Mtd	1	12.8	58.3	Scroll	1	3/4 (0.56)	5.4	PSC	18.2	21.4	30
	CCU-007S-7*	277/1/60	Indoor Ceiling Mtd	1	9.6	54.0	Scroll	1	3/4 (0.56)	3.9	PSC	13.5	15.9	25
	CCU-007S-3*	208/3/60	Indoor Ceiling Mtd	1	7.7	55.4	Scroll	1	3/4 (0.56)	5.4	PSC	13.1	15.0	20
	CCU-007S-4*	460/3/60	Indoor Ceiling Mtd	1	3.6	28.0	Scroll	1	3/4 (0.56)	2.8	PSC	6.4	7.3	15
	CWU/CGU-007S-1*	208/1/60	Indoor Ceiling Mtd	1	12.8	58.3	Scroll	- - -	- - -	- - -	- - -	12.8	16.0	25
	CWU/CGU-007S-7*	277/1/60	Indoor Ceiling Mtd	1	10.9	60.0	Scroll	- - -	- - -	- - -	- - -	10.9	13.6	20
	CWU/CGU-007S-3*	208/3/60	Indoor Ceiling Mtd	1	7.7	55.4	Scroll	- - -	- - -	- - -	- - -	7.7	9.6	15
	CWU/CGU-007S-4*	460/3/60	Indoor Ceiling Mtd	1	3.6	28.0	Scroll	- - -	- - -	- - -	- - -	3.6	4.5	15
11kW (3.0 Tons)	XP1-011S-1*	208/1/60	Outdoor Pad/Roof Mtd	- - -	- - -	- - -	- - -	1	1/4 (0.19)	2.0	PSC	2.0	2.5	15
	XP1-011S-7*	277/1/60	Outdoor Pad/Roof Mtd	- - -	- - -	- - -	- - -	1	1/4 (0.19)	1.5	PSC	1.5	1.9	15
	XP1-011S-3*	208/3/60	N/A											
	XP1-011S-8*	460/1/60	Outdoor Pad/Roof Mtd	- - -	- - -	- - -	- - -	1	1/4 (0.19)	1.0	PSC	1.0	1.3	15
	XPU-011S-1*	208/1/60	Outdoor Pad/Roof Mtd	1	16.7	79.0	Scroll	1	1/4 (0.19)	2.0	PSC	18.7	22.9	35
	XPU-011S-7*	277/1/60	Outdoor Pad/Roof Mtd	1	12.5	59.3	Scroll	1	1/4 (0.19)	1.5	PSC	14.0	17.2	25
	XPU-011S-3*	208/3/60	Outdoor Pad/Roof Mtd	1	10.4	73.0	Scroll	1	1/4 (0.19)	2.0	PSC	12.4	15.0	25
	XPU-011S-4*	460/3/60	Outdoor Pad/Roof Mtd	1	5.8	38.0	Scroll	1	1/4 (0.19)	1.0	PSC	6.8	8.3	15

Notes:

1) FLA = Full Load Amps; MCA = Min Circuit Amps; MOP = Max Overcurrent Protection (Max Fuse Size)
2) 277/1/60 systems may require factory provided field installed step-down transformer.
3) - - - - Consult local AboveAir Sales Representative for non-cataloged system power supply information.

DX - AIR & WATER / GLYCOL COOLED, REMOTE CONDENSERS & CONDENSING UNITS

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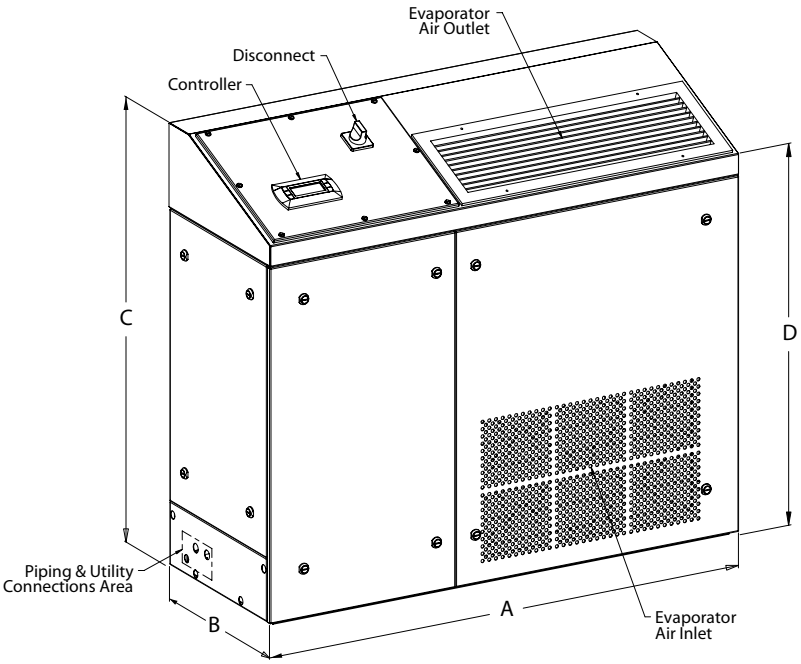
Unit Size (Nominal)	Condenser / Cond Unit Model	Main Power Supply	Type	Compressor (Fixed Speed)				Cond Fan Motor				Unit Nameplate Data		
				Qty.	RLA	LRA	Type	Qty.	HP (kW)	FLA	Type	FLA	MCA	MOP
11kW (3.0 Tons)	CCX-011S-1*	208/1/60	Indoor Ceiling Mtd	---	---	---	---	1	3/4 (0.56)	5.4	PSC	5.4	6.8	15
	CCX-011S-7*	277/1/60	Indoor Ceiling Mtd	---	---	---	---	1	3/4 (0.56)	3.9	PSC	3.9	4.9	15
	CCX-011S-3*	208/3/60	N/A											
	CCX-011S-8*	460/1/60	Indoor Ceiling Mtd	---	---	---	---	1	3/4 (0.56)	2.8	PSC	2.8	3.5	15
	CCU-011S-1*	208/1/60	Indoor Ceiling Mtd	1	16.7	79.0	Scroll	1	3/4 (0.56)	5.4	PSC	22.1	26.3	40
	CCU-011S-7*	277/1/60	Indoor Ceiling Mtd	1	13.5	72.0	Scroll	1	3/4 (0.56)	3.9	PSC	17.4	20.8	30
	CCU-011S-3*	208/3/60	Indoor Ceiling Mtd	1	10.4	73.0	Scroll	1	3/4 (0.56)	5.4	PSC	15.8	18.4	25
	CCU-011S-4*	460/3/60	Indoor Ceiling Mtd	1	5.8	38.0	Scroll	1	3/4 (0.56)	2.8	PSC	8.6	10.1	15
	CWU/CGU-011S-1*	208/1/60	Indoor Ceiling Mtd	1	16.7	79.0	Scroll	---	---	---	---	16.7	20.9	35
	CWU/CGU-011S-7*	277/1/60	Indoor Ceiling Mtd	1	13.5	72.0	Scroll	---	---	---	---	13.5	16.9	30
	CWU/CGU-011S-3*	208/3/60	Indoor Ceiling Mtd	1	10.4	73.0	Scroll	---	---	---	---	10.4	13.0	20
	CWU/CGU-011S-4*	460/3/60	Indoor Ceiling Mtd	1	5.8	38.0	Scroll	---	---	---	---	5.8	7.3	15
14kW (4.0 Tons)	XP1-014S-1*	208/1/60	Outdoor Pad/Roof Mtd	---	---	---	---	1	1/4 (0.19)	2.0	AC	2.0	2.5	15
	XP1-014S-7*	277/1/60	Outdoor Pad/Roof Mtd	---	---	---	---	1	1/4 (0.19)	1.5	AC	1.5	1.9	15
	XP1-014S-3*	208/3/60	N/A											
	XP1-014S-8*	460/1/60	Outdoor Pad/Roof Mtd	---	---	---	---	1	1/4 (0.19)	1.0	AC	1.0	1.3	15
	XPU-014S-1*	208/1/60	Outdoor Pad/Roof Mtd	1	19.9	109.0	Scroll	1	1/4 (0.19)	2.0	AC	21.9	26.9	45
	XPU-014S-7*	277/1/60	Outdoor Pad/Roof Mtd	1	14.9	81.8	Scroll	1	1/4 (0.19)	1.5	AC	16.4	20.2	35
	XPU-014S-3*	208/3/60	Outdoor Pad/Roof Mtd	1	13.1	83.1	Scroll	1	1/4 (0.19)	2.0	AC	15.1	18.4	30
	XPU-014S-4*	460/3/60	Outdoor Pad/Roof Mtd	1	6.1	41.0	Scroll	1	1/4 (0.19)	1.0	AC	7.1	8.6	15
	XCX-014S-1*	208/1/60	Indoor Ceiling Mtd	---	---	---	---	1	1-1/2 (1.12)	7.5	AC	7.5	9.4	15
	XCX-014S-7*	277/1/60	Indoor Ceiling Mtd	---	---	---	---	1	1-1/2 (1.12)	5.6	AC	5.6	7.0	15
	XCX-014S-3*	208/3/60	Indoor Ceiling Mtd	---	---	---	---	1	1-1/2 (1.12)	5.4	AC	5.4	6.8	15
	XCX-014S-4*	460/3/60	Indoor Ceiling Mtd	---	---	---	---	1	1-1/2 (1.12)	2.8	AC	2.8	3.5	15
	XCU-014S-1*	208/1/60	Indoor Ceiling Mtd	1	21.4	135.0	Scroll	1	1-1/2 (1.12)	7.5	AC	28.9	34.3	50
	XCU-014S-7*	277/1/60	Indoor Ceiling Mtd	1	18.8	118.0	Scroll	1	1-1/2 (1.12)	5.6	AC	24.4	29.1	45
	XCU-014S-3*	208/3/60	Indoor Ceiling Mtd	1	14.5	98.0	Scroll	1	1-1/2 (1.12)	5.4	AC	19.9	23.5	35
	XCU-014S-4*	460/3/60	Indoor Ceiling Mtd	1	6.3	55.0	Scroll	1	1-1/2 (1.12)	2.8	AC	9.1	10.7	15
	CWU/CGU-014S-1*	208/1/60	Indoor Ceiling Mtd	1	21.4	135.0	Scroll	---	---	---	---	21.4	26.8	45
	CWU/CGU-014S-7*	277/1/60	Indoor Ceiling Mtd	1	18.8	118.0	Scroll	---	---	---	---	18.8	23.5	40
	CWU/CGU-014S-3*	208/3/60	Indoor Ceiling Mtd	1	14.5	98.0	Scroll	---	---	---	---	14.5	18.1	30
	CWU/CGU-014S-4*	460/3/60	Indoor Ceiling Mtd	1	6.3	55.0	Scroll	---	---	---	---	6.3	7.9	15
18kW (5.0 Tons)	XP1-018S-1*	208/1/60	Outdoor Pad/Roof Mtd	---	---	---	---	1	1/4 (0.19)	2.0	AC	2.0	2.5	15
	XP1-018S-7*	277/1/60	Outdoor Pad/Roof Mtd	---	---	---	---	1	1/4 (0.19)	1.5	AC	1.5	1.9	15
	XP1-018S-3*	208/3/60	N/A											
	XP1-018S-8*	460/1/60	Outdoor Pad/Roof Mtd	---	---	---	---	1	1/4 (0.19)	1.0	AC	1.0	1.3	15
	XPU-018S-1*	208/1/60	Outdoor Pad/Roof Mtd	1	26.4	134.0	Scroll	1	1/4 (0.19)	2.0	AC	28.4	35.0	60
	XPU-018S-7*	277/1/60	Outdoor Pad/Roof Mtd	1	19.8	100.6	Scroll	1	1/4 (0.19)	1.5	AC	21.3	26.3	45
	XPU-018S-3*	208/3/60	Outdoor Pad/Roof Mtd	1	16.0	110.0	Scroll	1	1/4 (0.19)	2.0	AC	18.0	22.0	35
	XPU-018S-4*	460/3/60	Outdoor Pad/Roof Mtd	1	7.8	52.0	Scroll	1	1/4 (0.19)	1.0	AC	8.8	10.8	15
	XCX-018S-1*	208/1/60	N/A											
	XCX-018S-7*	277/1/60	N/A											
	XCX-018S-3*	208/3/60	Indoor Ceiling Mtd	---	---	---	---	1	2 (1.49)	6.9	AC	6.9	8.6	15
	XCX-018S-4*	460/3/60	Indoor Ceiling Mtd	---	---	---	---	1	2 (1.49)	3.5	AC	3.5	4.4	15
	XCU-018S-1*	208/1/60	N/A											
	XCU-018S-7*	277/1/60	N/A											
	XCU-018S-3*	208/3/60	Indoor Ceiling Mtd	1	15.6	110.0	Scroll	1	2 (1.49)	6.9	AC	22.5	26.4	40
	XCU-018S-4*	460/3/60	Indoor Ceiling Mtd	1	7.8	52.0	Scroll	1	2 (1.49)	3.5	AC	11.3	13.3	20
	CWU/CGU-018S-1*	208/1/60	Indoor Ceiling Mtd	1	26.3	134.0	Scroll	---	---	---	---	26.3	32.9	50
	CWU/CGU-018S-7*	277/1/60	Indoor Ceiling Mtd	1	19.9	128.0	Scroll	---	---	---	---	19.9	24.9	40
	CWU/CGU-018S-3*	208/3/60	Indoor Ceiling Mtd	1	15.6	110.0	Scroll	---	---	---	---	15.6	19.6	35
	CWU/CGU-018S-4*	460/3/60	Indoor Ceiling Mtd	1	7.8	52.0	Scroll	---	---	---	---	7.8	9.7	15

Floor Console: 4-18kW (1-5 Tons), Up-Flow

(FCE, FCH, FCW, FCG & FCC-004 thru 018-_-UF)

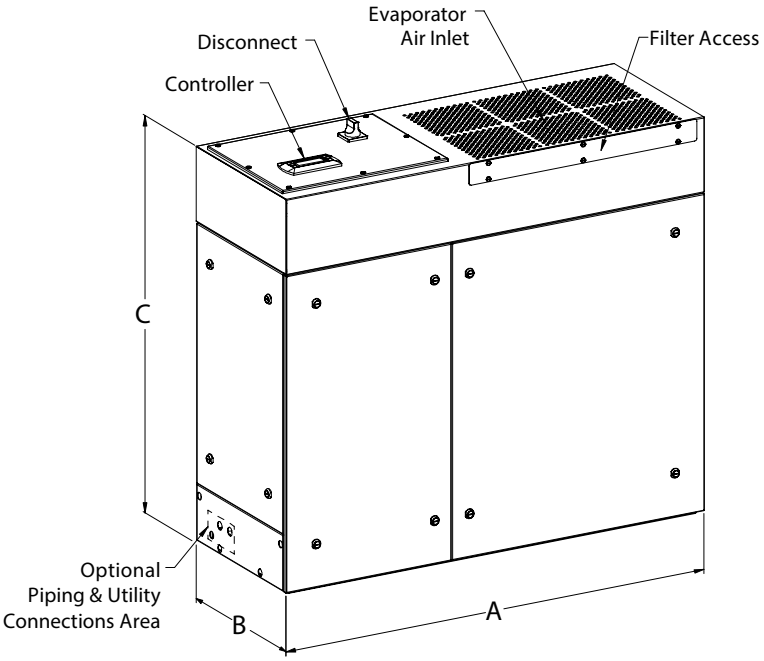


Front / Left / Top

FC_-( )-UF Model Size	Dimensions			
	A	B	C	D
004, 005, 007 & 011	48"	18"	42"	36"
014 & 018	62"	18"	48"	42"

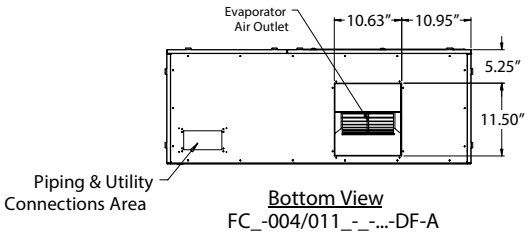
Floor Console: 4-18kW (1-5 Tons), Down-Flow

(FCE, FCH, FCW, FCG & FCC-004 thru 018-_-DF)

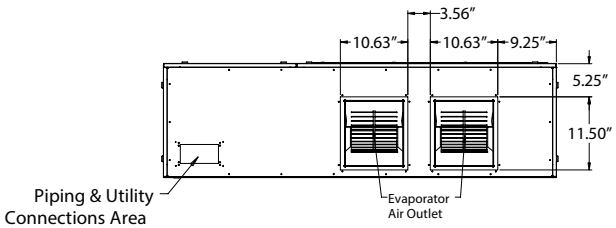


Front / Left / Top

FC_-( )-DF Model Size	Dimensions		
	A	B	C
004, 005, 007 & 011	48"	18"	42"
014 & 018	62"	18"	48"

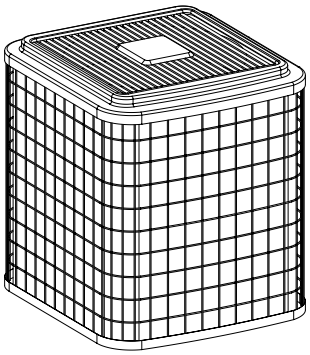


Bottom View
FC_-004/011_-_-...-DF-A

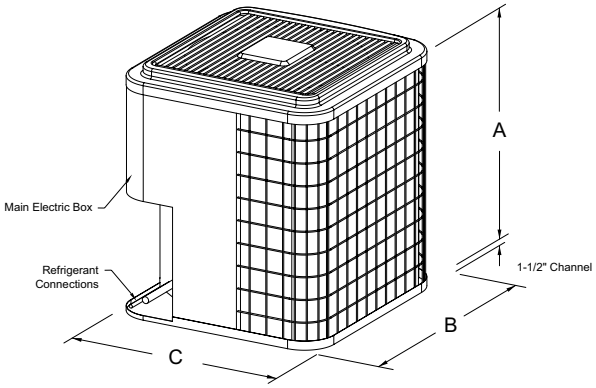


Bottom View
FC_-014/018_-_-...-DF-B

4-18kW (1-5 Tons), Outdoor, DX - Air Cooled
Propeller Fan, Remote Condensing Units & Condensers
Models: XPU & XP1-005 thru 018



FRONT / LEFT / TOP



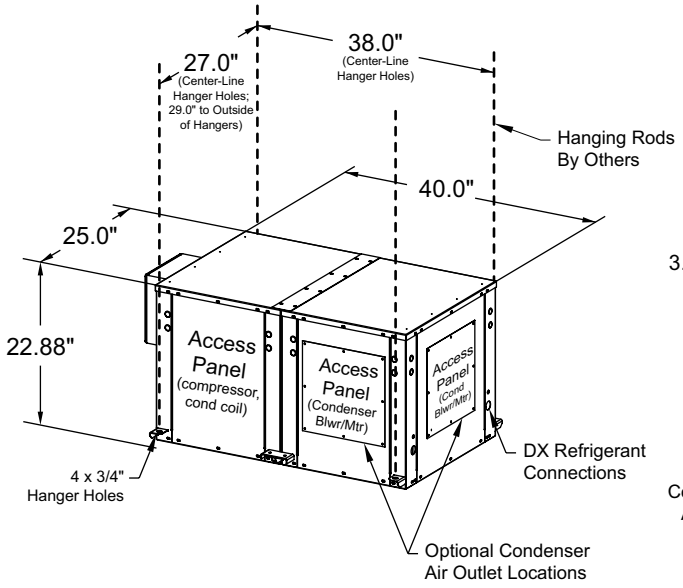
REAR / LEFT / TOP

XPU-( ) Model No.	Unit Size (Nominal)	DIMENSIONS (inches)		
		A	B	C
XPU-004	4kW (1T)	24-13/16	23-1/8	23-1/8
XPU-005	5kW (1.5T)	25	25-3/4	25-3/4
XPU-007	7kW (2T)	28-11/16	23-1/8	23-1/8
XPU-009	9kW (2.5T)	31-3/16	25-3/4	25-3/4

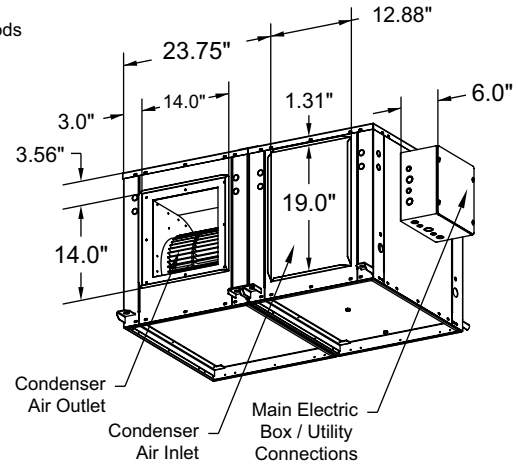
XPU-( ) Model No.	Unit Size (Nominal)	DIMENSIONS (inches)		
		A	B	C
XPU-011	11kW (3T)	32-5/16	31-3/16	31-3/16
XPU-012	12kW (3.5T)	35-3/4	31-3/16	31-3/16
XPU-014	14kW (4T)	35-3/4	31-3/16	31-3/16
XPU-018	18kW (5T)	28-15/16	31-3/16	31-3/16

4-11kW (1-3 Tons), Indoor Ceiling Mounted, Remote Centrifugal Blower
DX - Air Cooled Condensing Units & Condensers
"Same-Face (standard) or Optional Straight-Thru & "90° L" Air Patterns"
Models: CCU & CCX-005 thru 011

3-Side Access:
18"-24" on Front, Left & Right Sides!



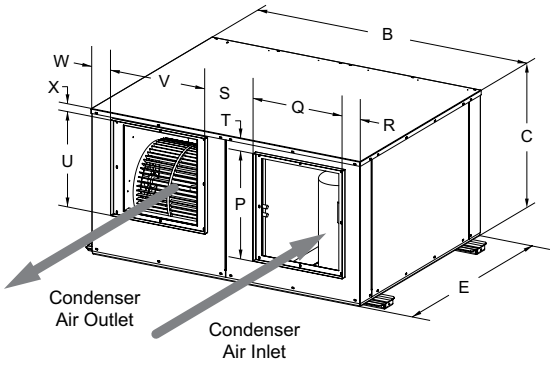
Front / Right / Top



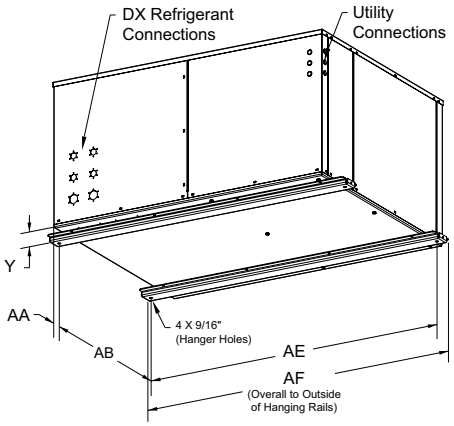
Rear / Left / Bottom

4-18kW (1-5 Tons), Indoor Ceiling Mtd, Centrifugal Blower
DX Air Cooled, Remote Condensing Units
"Same-Face (standard) or Optional Straight-Thru & "90° L" Air Patterns"

2-Side Access:
18"-24" on Left & Right Sides!



FRONT / RIGHT / TOP

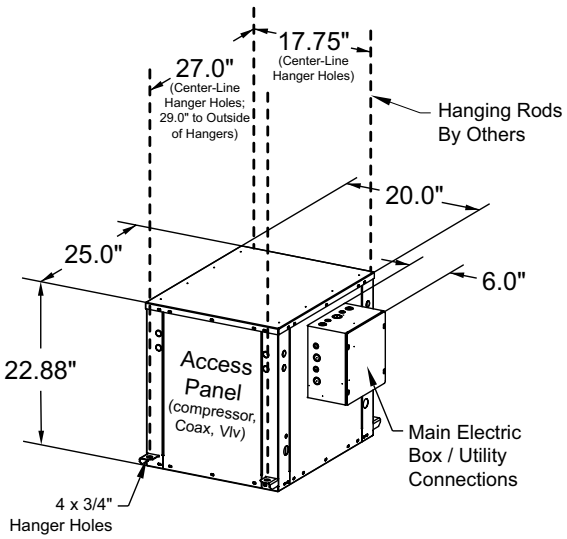


REAR / LEFT / BOTTOM

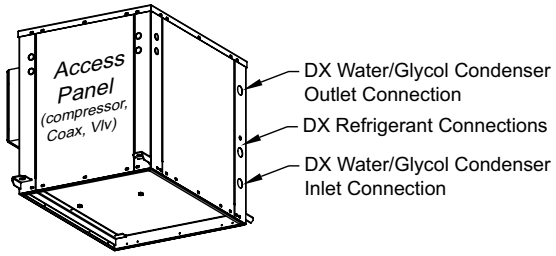
DIMENSIONS (inches)																	
XCU-( ) Model No.	B	C	E	P	Q	R	S	T	U	V	W	X	Y	AA	AB	AE	AF
004, 005, 007, 009 & 011	44	22	34	16	16	2-3/4	6-7/8	2	16	16	2-3/8	1-5/16	1	5	24	47-1/2	50
014 & 018	54	27	42	20	18	3	9-5/8	2	17-3/8	19	4-3/8	1	1	5	32	57-1/2	60

4-18kW (1-5 Tons), Indoor, DX Water/Glycol Cooled, Remote Condensing Units
Models: CWU & CGU-005 thru 018

3-Side Access:
18"-24" on Front, Left & Right Sides!



Front / Right / Top



Rear / Left / Bottom

Approximate Unit Ship Weights (lbs.)

UNIT SIZE	MODEL TYPE										
	FCH	FCE	CCU	CCX	XCU	XCX	XPU	XP1	FCW & FCG	CWU & CGU	FCC
004	345	345	195	160	325	235	110	65	445	125	345
005	345	345	215	160	345	235	115	70	445	145	345
007	355	355	215	160	355	250	120	75	455	145	355
011	355	360	230	N/A	360	340	180	120	460	150	355
014	460	470	N/A	N/A	475	340	185	130	570	185	460
018	460	470	N/A	N/A	485	350	195	140	570	190	460

Notes:

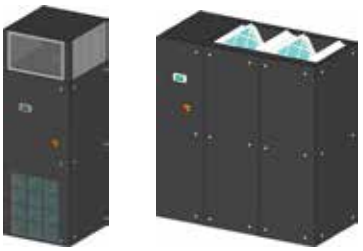
Notes:

Innovative HVAC Solutions

MissionCritical Units - Precision A/C's

SC-2x4 SpotCool Ceiling Mounted A/C's
(4-11kW, 1-3 Tons)

HK Horizontal Ducted Ceiling Mounted A/C's
(4-70kW, 1-20 Tons)



MC Vertical Floor Mtd A/C's Up-Flow & Down-Flow
(4-1080kW, 1-307 Tons)

WC Wall-Cassette and FC Floor-Console Mtd A/C's
(4-18kW, 1-5 Tons)

Outdoor-Air Units - IAQ High Percent (20%-100% OA)

HK-OA Horizontal Ceiling Mtd
(1-30 Tons)

VK-OA Vertical Floor Mtd
(1-50 Tons)

Specialty Units - A/C's & Water Source Heat Pumps

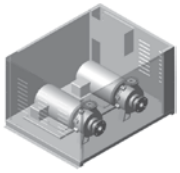
SC-2x4 SpotCool Ceiling Mtd A/C's
(4-11kW, 1-3 Tons)

HK Horizontal Packaged & Split Ceiling Mtd A/C's
(4-70kW, 1-20 Tons)

VK Vertical Packaged & Split Floor Mtd A/C's
(4-105kW, 1-30 Tons)

Remote Heat Rejection Units

Remote Air Cooled Condensers, Condensing Units & Glycol Drycoolers



Single, Dual & Triplex Glycol Pump Packages
(1/2 to 50 HP, VFD Optional)

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