FORM 201.19-EG3 (803)

YORK®

eco²

Better ecology,
Better economy.

Air Cooled Screw Liquid Chillers
(STYLE G)

28971AR

R-407C Optimized

260 kW – 1200 kW
50 Hz

THE HARTFORD STEAM BOILER INSPECTION AND INSURANCE CO. 1866 ISO 9000 REGISTRATION

Metric Conversions

EPA Energy Star BUILDINGS ALLY

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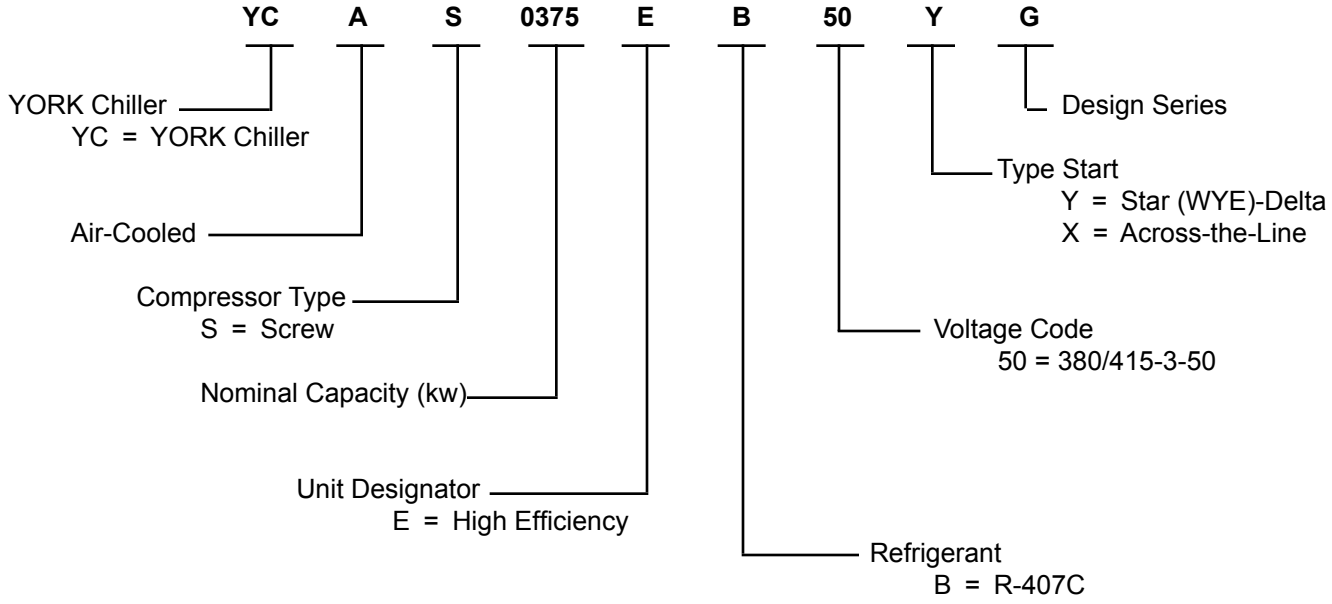
NOMENCLATURE

The Model Number denotes the following characteristics of the unit:



Introduction

YORK eco² Air Cooled Screw Liquid Chillers R- 407C Optimized

*The **YORK** **eco²** technology takes the YCAS Air Cooled Screw Chillers yet another step beyond the competition. Using unique (patent pending) heat transfer design, the **eco²** chillers exploit the special "glide" characteristic of HFC refrigerant R-407C, resulting in excellent performance from a machine using a zero ozone depletion refrigerant. These Air Cooled Screw Compressor machines are the state-of-the-art in air cooled chillers, providing chilled fluids for all air conditioning applications. Completely self-contained and designed for outdoor installation, they employ low noise, energy efficient, serviceable, semi-hermetic screw compressors designed and manufactured specifically for this new product line. These compressors, with reliable twin-screw technology, are ideally matched to evaporators and condensers optimally configured for superior heat transfer and unit efficiency. Condenser coils are arranged to maximize air flow using full airfoil, high efficiency, low noise fans driven by low energy motors. The screw compressors, high efficiency evaporator, enhanced heat transfer condensers, and weather tight power and microprocessor control centers are mounted on a bolted, fully galvanized and powder painted, all steel base, for unsurpassed reliability and performance.*

Specifications

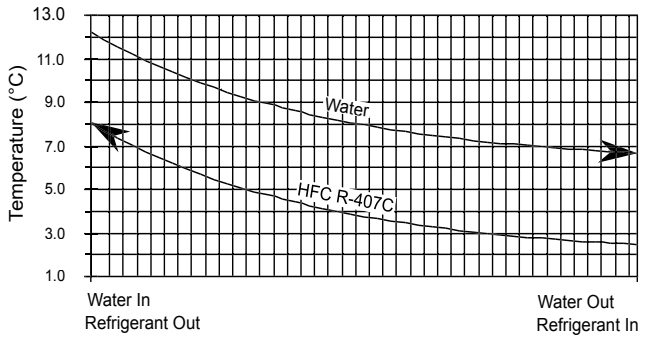
These **YORK** air cooled chillers are shipped as a complete factory package. Each unit is completely assembled with all interconnecting refrigerant piping and internal wiring, ready for field installation, including:

HFC REFRIGERANT R-407C:

- R-407C has outstanding properties which make it the superior HFC refrigerant for air cooled chillers.
- R-407C is an HFC (hydrofluorocarbon). HFCs have zero ODP (ozone depletion potential) because they contain no chlorine to damage the ozone layer.
- R-407C achieves low total global warming impact in **YORK**'s **eco²** air cooled chillers. Direct effect GWP (Global Warming Potential) assumes refrigerant is allowed to leak into the atmosphere. Refrigerants suitable for air cooled chillers have similar GWPs, and the slight differences are not significant when evaluating TEWI (Total Equivalent Warming Impact). Instead, the CO_2 and rejection heat from utilities generating electricity to run the machines account for 98% to 99% of TEWI over the typical life of a chiller. Therefore, the critical issue is energy efficiency. The **YORK eco²** air cooled chillers have excellent energy efficiency.
- R-407C is safe and chemically stable. R-407C is listed in ASHRAE Standard-34 *Number Designation and Safety Classification for Refrigerants* as an "A-1" refrigerant; lowest toxicity, non-flammable.
- R-407C is similar to R-22. Though there are many refrigerants, HFC R-407C retains many of the fine properties of HCFC R-22, the venerable 'work-horse' refrigerant of air-cooled DX chillers for decades, but with no chlorine. In fact, the pressures, temperatures, and heat transfer characteristics of R-407C are so similar to R-22, it has been applied for years as a 'drop-in' alternative in machines originally designed for R-22.
- R-407C has "Glide," which benefits performance. Glide describes the property of a refrigerant boiling across a temperature range at a given pressure (it is *zeotropic*), rather than at a single temperature (*azeotropic*). R-407C is a blend of three constituents (23% R-32, 25% R-125, and 52% R-134a) and is zeotropic. At typical water chiller evaporator pressures, R-407C has about 4.4°C (8°F) of glide. While placing a refrigerant with glide into a machine designed for an azeotropic refrigerant (no glide, like R-22) typically diminishes chiller performance, the **YORK eco²** machine exploits glide to achieve exceptional energy efficiency.
- R-407C is a good "DX" refrigerant, well suited to air cooled chillers. DX, or Direct Expansion (refrigerant evaporated in the tubes, and water flowing over the tubes inside the shell), and Flooded (refrigerant boiling in a 'pool' in the shell, and water inside the tubes) are terms used to describe typical chiller evaporator heat exchangers. While flooded designs are easily employed on indoor equipment, DX is preferred on air-cooled equipment for better refrigerant and oil management across the broad range of ambient conditions, resulting in greater application flexibility and system reliability.

EVAPORATOR:

- **YORK**'s special **eco²** 'Counter-Flow' heat exchanger design takes advantage of the "Glide" characteristic intrinsic to HFC R-407C. It employs technologically advanced (patent pending) high efficiency tube assemblies which make possible a single refrigerant pass, DX type cooler that is *better* than a flooded cooler; delivering refrigerant suction gas *warmer* than the leaving chilled water at full load.
- Independent circuits provided for each compressor.
- Design working pressure of the shell waterside is 10.3 Bar (150 PSIG), and 23.8 Bar (350 PSIG) for the refrigerant side. Constructed and tested in accordance with applicable sections of ASME Pressure Vessel Code, Section VIII, Division (1). Water side exempt per paragraph U-1, (c), (6).



LD04906

- Water baffles fabricated from galvanized steel to resist corrosion. Removable heads allow access to internally-enhanced, seamless, copper tubes. Water vent and drain connections included.
- Cooler equipped with thermostat controlled heater for protection to -29°C (-20°F) ambient, and insulated with 19mm (3/4") flexible, closed-cell foam (k = 0.25).

SEMI-HERMETIC YORK SCREW COMPRESSORS:

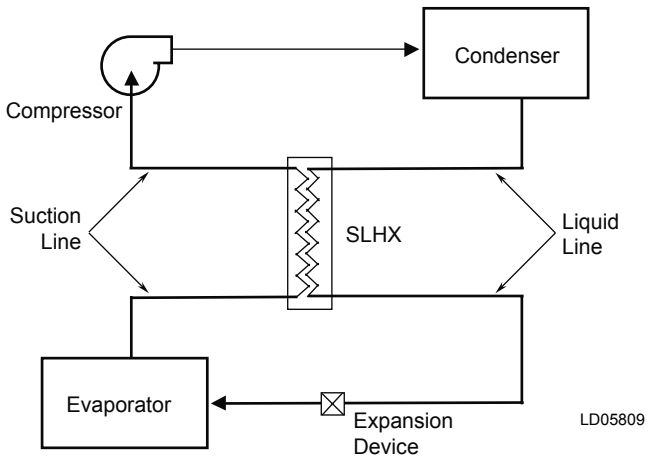
- Continuous function, microprocessor controlled, 3-way proportional Capacity Control Valve provides

regulated output pressure independent of valve input pressure for a stable, smooth, and precise match of compressor capacity to cooling load to 10% of chiller capacity.

- Automatic spring return of capacity control valve to minimum load position ensures compressor starting at minimum motor load. Internal discharge check to prevent rotor backspin upon shut-down.
- Acoustically tuned, internal discharge gas muffler eliminates objectionable noise at the source, while optimizing flow for maximum performance.
- Reliable suction gas cooled, high efficiency, accessible hermetic motor with APT2000 type magnet wire and redundant overload protection using both thermistor and current overload protection.
- Suction gas screen and serviceable, 0.5 micron full flow oil filter within the compressor housing.
- Cast iron compressor housing precisely machined for optimal clearances and superb efficiency. Entire compressor, from suction to discharge has a Design Working Pressure of 31 Bar (450 PSIG).
- 350W compressor body cartridge heater.

REFRIGERANT CIRCUIT:

- Each refrigerant circuit of **YORK**'s **eco²** design utilizes a Suction Line Heat Exchanger (SLHX), a refrigerant to refrigerant, compact, shell and tube type heat exchanger to maximize chiller capacity and efficiency by subcooling liquid refrigerant delivered to the expansion valve and superheating suction gas delivered to the compressor. Design Working Pressure of 450 psig (31 bar) and either U.L./cU.L. listed or constructed in accordance with applicable pressure vessel safety Code (such as TÜV).
- Independent refrigerant circuits per compressor, each using copper refrigerant pipe formed on computer controlled bending machines. This eliminates over 60% of system piping brazed joints as compared to designs that use fittings, resulting in a highly reliable and leak resistant system.
- Liquid line components include: manual shut-off valve with charging port, high adsorption removable core filter-drier, solenoid valve, sight glass with moisture-indicator, and reliable thermostatic expansion valves.
- Discharge line provided with manual compressor shutoff service valve (suction line shutoff valve optional). Suction line equipped with closed-cell insulation.
- Oil separators with Design Working Pressure of 31 Bar (450 PSIG) and U.L. listing are high efficiency, augmented gas impingement type to maximize oil extraction without fragile media to break down.
- Oil cooling provided by dedicated air cooled finned tube type heat exchanger located in the condenser section of the machine.



eco² R-407C OPTIMIZED CYCLE

CONDENSER SECTION:

- Condenser Fans with low noise, full airfoil cross section for maximum efficiency, statically and dynamically balanced vibration free operation, and positioned in extended, formed steel orifices for low sound and maximum efficiency.
- Condenser fan motors are high efficiency, direct drive, 6-pole, 3-phase, Class-"F," current overload protected, totally enclosed (TEAO) type with double sealed, permanently lubricated, ball bearings.
- Fin and tube condenser coils of seamless, internally enhanced, high condensing coefficient, corrosion resistant copper tubes arranged in staggered rows.
- Fins are mechanically bonded to corrosion resistant aluminum alloy fins with full height fin collars. Design working pressure is 31 Bar (450 PSIG).

COMPLETE FACTORY PACKAGE:

- Each compressor is installed on its own independent refrigerant circuit, which is factory pressure tested, evacuated, then fully charged with refrigerant and oil.
- After assembly, an operational test is performed with water flowing through the cooler to ensure each circuit operates correctly.
- Cabinet and base frame are constructed of formed heavy gauge, galvanized steel.
- All external structural parts are covered with architecturally neutral "Desert Sand" (Munsell #10YR6-2) baked-on enamel powder paint. This provides a finish

Specifications *(Continued)*

which, when subjected to ASTM B117, 500 hour, 5% salt spray conditions, shows breakdown of less than 3 mm (1/8") either side of a scribed line (equivalent to ASTM D1654 rating of "6").

- Design is in accordance with applicable sections of ASME Pressure Vessel Code, NFPA 70 (National Electrical Code), U.L. and cU.L. Standards , and ASHRAE/ANSI-15 Safety Code for Mechanical Refrigeration.
- All exposed power wiring routed through liquid-tight, non-metallic conduit.

MICROPROCESSOR CONTROLS:

- Controls housed in a powder painted steel enclosure, equivalent to NEMA 3R/12 (IP55) powder painted steel cabinet with hinged, latched, and gasket sealed, door equipped with lockable, external emergency stop switch.
- Liquid crystal 40 character display with text provided on two lines and light emitting diode back-lighting for outdoor viewing.
- Color coded, 32 button, sealed keypad with sections for Display, Entry, Setpoints, Clock, Print, Program and Unit On/Off.
- Standard controls include: brine chilling or thermal storage, automatic pump down, run signal contacts, demand load limit from external building automation system input, remote reset liquid temperature reset input, unit alarm contacts, evaporator pump control, automatic reset after power failure, automatic system optimization to match operating conditions, software stored in non-volatile memory (EPROM) to eliminate chiller failure due to AC power failure. Programmed setpoints retained in lithium battery backed RTC memory for a minimum 5 years.
- ***DISPLAY –*** In Metric (°C and Bar) or English (°F and PSIG) units, and for each circuit:
  - Return and leaving chilled liquid, and abient temperature.
  - Day, date and time. Daily start/stop times. Holiday and Manual Override status.
  - Compressor operating hours and starts. Automatic or manual lead/lag. Lead compressor identification.
  - Run permissive status. No cooling load condition. Compressor run status.
  - Anti-recycle timer and anti-coincident start timer status per compressor.
  - System suction (and suction superheat), discharge, and oil pressures and temperatures.
    - Percent full load compressor motor current per phase and average per phase. Compressor capacity control valve input steps.
    - Cutout status and setpoints for: supply fluid temperature, low suction pressure, high discharge pressure and temperature, high oil temperature, low and high ambient, phase rotation safety, and low leaving liquid temperature.
    - Unloading limit setpoints for high discharge pressure and compressor motor current.
    - Liquid pull-down rate sensitivity (0.5°C to 5°C [0.3°F to 3°F] minute in 0.1° increments).
    - Status of: evaporator heater, condenser fans, load and unload timers, chilled water pump.
    - "Out of range" message.
    - Up to 6 fault shut down conditions.
    - Standard Display Language is English, with *Options* for: French and Spanish.
- ***ENTRY –*** Enter set point changes, cancel inputs, advance day, change AM/PM.
- ***SETPOINTS –*** Chilled liquid temperature, chilled liquid range, remote reset temperature range.
- ***CLOCK –*** Time, daily or holiday start/stop schedule, manual override for servicing.
- ***PRINT –*** Operating data or system fault shutdown history for last six faults, and software version. Printouts through an RS-232 port via a separate printer (by others).
- ***PROGRAM –***
  - Low leaving liquid temperature cutout, 300 to 600 second anti-recycle timer, lag compressor start time delay, average motor current unload point, liquid temperature setpoint reset signal from YORK **ISN** or building automation system (by others) via:
    - ❖ Pulse width modulated (PWM) input for up to 22°C (40°F) total reset as standard.
    - ❖ *Optional* Building Automation System interface input card for up to 40°F (22°C) reset using a: 4 to 20 milliamp, 0 to 10 VDC input, or discrete (dry contact) reset input. [**NOTE:** The Standard MicroPanel can be directly connected to a YORK ISN Building Automation System via the standard on-board RS485 communication port. This Option also provides open system compatibility with other communications networks (BACNET™ & LONTALK™) via interface through standard 485 or 232 port and an external ***YorkTalk Translator***.]
  - Additional functions (password protected) for programming by a qualified service technician:

- ❖ Cut-outs for low and high ambient, low suction pressure, high discharge pressure, high oil temperature.
- ❖ Refrigerant type.
- ❖ High discharge pressure unload setpoint.
- ❖ Fan control discharge pressure set point.
- ❖ Fan ON/OFF pressure differential.
- ❖ Compressor motor current percent limit.

- The Standard unit controls permit operation down to -18°C (0°F) outdoor ambient temperature.

POWER PANEL:

- Power panel housed in NEMA 3R/12 (IP55) rain/dust tight, powder painted steel cabinets with hinged, latched, and gasket sealed outer doors equipped with wind struts for safer servicing. Two motor control center cabinets are provided, with independent doors and separated by a steel panel.
- Current transformers sense each phase, as an input to the microprocessor, to protect compressor motors from damage due to: low input current, high input current, unbalanced current, single phasing, phase reversal, and compressor locked rotor.
- Control Current Terminal Strip provides power input terminals to field provided power input (models 0295 - 0605). Control circuit transformer provides 115V60/1∅ power to the unit control system for models 0685 - 1215. Includes factory primary wiring from Circuit #2 Motor Control Center via lockable disconnect on panel door separate from the motor control centers, and secondary wiring supply to the 24V, fused Microprocessor panel transformer.
- Individual fan motor contactors and external overloads per condenser fan motor.
- Exposed compressor and fan motor power wiring routed through liquid tight conduit.

Accessories and Options

- **CONTROL CIRCUIT TERMINAL STRIP – (Models 0685 - 1215)** – Provides power input terminals for field provided power input in lieu of factory mounted control circuit transformer. 115V, 1∅ Control Circuit Power Terminal Strip located in the Microprocessor Panel to accept a field provided control power circuit with appropriate branch circuit protection in accordance with applicable Local and National codes. Provides unit control circuit power, including supply to the 24V, fused Microprocessor panel transformer.
- **CONTROL CIRCUIT TRANSFORMER (Models 0295 - 0605) -** Control circuit transformer provides 115V60/1∅ power to the unit control system.
- **COMPRESSOR POWER CONNECTIONS –** See Electrical Data on pages 40 through 47 for specific voltage and options availability. Separate external branch circuit protection and disconnecting means must be supplied by others in accordance with applicable Local and National codes. (Factory Mounted)

  ① **Multiple Point Supply –** *Standard* field power wiring connection on all models is Multiple Point Power Connection to factory provided Terminal Blocks. Two field supplied electrical power circuits with appropriate branch circuit protection provide power to each of two motor control center cabinets, located adjacent to each other at one end of the chiller. Each cabinet contains starter elements for one or two compressors and their associated fan motor starters.

  Optional to the Terminal Blocks for field power connection are Non-Fused Disconnects with external lockable handles, or (on two-compressor machines only) Circuit Breakers with external lockable handles. Also ***optional*** (on 3 and 4-compressor machines equipped with multiple point power supply) are individual system circuit breakers per each compressor with external lockable handles.

  ② **Single Point Supply – *Optional*** to the Multiple Point power connection configurations are Single Point Supply arrangements. A wide variety of these single point ***Options*** are offered to satisfy most any customer connection requirement:

  - **Single Point with Individual System Breakers –** These options consist of field connection to either a unit mounted Terminal Block, or a Non-Fused Disconnect Switch with external, lockable handle (in compliance with Article 440-14 of N.E.C., to isolate unit power supply for service). Factory wiring is provided from the Terminal Block or Disconnect Switch to factory supplied Individual System Circuit Breakers with external, lockable handles in each of the two compressor motor control centers.
  - **Single Point Supply –** Also optional (on two-compressor machines only) are Single Point Supply configurations for field connection of a single electrical circuit to: Terminal Block, Non-Fused Disconnect Switch with lockable external handle (in compliance with Article 440 of N.E.C., to isolate unit power supply for service), or Circuit Breaker with lockable external handle. Factory wiring is provided from the Terminal Block, Disconnect Switch, or Breaker directly to the starter components in each of the two compressor motor control centers.
- **STAR (WYE)-DELTA COMPRESSOR MOTOR STARTER –** Provides smooth starting and approximately 65% reduced inrush current compared to across the line type start. Two-compressor units equipped with any of the single-point power connection options and Star-Delta starters must also be equipped with Individual System Circuit Breakers option. Three- and four-compressor units with Star-Delta starters must also include Individual System Circuit Breakers option. (Factory Mounted) See Electrical Data (pages 40 to 47) for availability and coordination with individual system short circuit protection.
- **CONDENSER COIL PROTECTION –** Standard condenser coil construction materials include aluminum fins, copper tubes, and galvanized steel supports for generally good corrosion resistance. However, these materials are not adequate for all environments. The system designer can take steps to inhibit coil corrosion in harsh applications and enhance equipment life by choosing from these options based on project design parameters and related environmental factors. For additional application recommendations refer to Form 150.12-ES1. (Factory Mounted)
  - **PRE-COATED CONDENSER COILS** – The air-cooled condenser coils are constructed of black epoxy-coated aluminum fins. This can provide corrosion resistance comparable to copper-fin coils in typical seashore locations. Either these or the post-coated coils (below), are recommended for units being installed at the seashore or where salt spray may hit the unit.
  - **POST-COATED CONDENSER COILS** – The unit is built with dipped-cured coated condenser coils. This is another choice for seashore and other corrosive applications (with the exception of strong alkalies, oxidizers and wet bromine, chlorine and fluorine in concentrations greater than 100 ppm).
  - **COPPER FIN CONDENSER COILS** – The unit constructed with condenser coils which have copper fins. (This is not recommended for units in areas where they may be exposed to acid rain.)

- **SERVICE ISOLATION VALVE:** Service suction isolation valve added to unit per system (Factory Mounted)
- **DX COOLER OPTIONS:**
  - **21 bar (300 PSIG) Waterside Design Working Pressure –** The DX Cooler Waterside is designed and constructed for 21 Bar (300 PSIG) working pressure. (Factory Mounted)
  - **1-1/2" Insulation –** Double thickness insulation provided for enhanced efficiency.
  - **Optional Pressure Safety Code Construction –** Chiller construction in accordance with Pressure Safety Codes of many countries are available. Cooler, oil separators, relief valves, safeties, or other operating devices designed or selected as required by the indicated Country. Common configurations include: ***USA (ASME, ASHRAE-15), Germany (TÜV), France (CODAP), and Italy (ISPESL).*** Some available only on 50 Hz units. Consult with your YORK representative to ensure compliance with job requirements (Factory mounted).
  - **Flange Accessory –** Consists of raised face flanges to convert grooved water nozzles to flanged cooler connections. Includes companion flanges. (Field mounted).
  - **Flanges (Vicaulic Type)** - Consists of (2) Flange adapter for grooved end pipe (standard 150 psi [10.5 bar] cooler). (Not available on optional DX cooler 300 PSIG DWP waterside.) (Field-mounted.)
  - **Flow Switch Accessory –** Vapor-proof SPDT, NEMA 4X switch, 10.3 Bar (150 PSIG) DWP, -29°C to 121°C (-20°F to 250°F), with 1" NPT (IPS) connection for upright mounting in horizontal pipe. (This flow switch or equivalent must be furnished with each unit). (Field mounted)
- **BUY AMERICAN ACT COMPLIANCE** - In keeping with the "Buy America Act", products will be comprised of 50% U.S. content and manufactured (final assembly) in the U.S.A.
- **CONTAINERIZATION SHIPPING KIT -** Additional factory fitted components for added unit strength. For container shipping on Models 0295 - 0605 only (Factory Installed).
- **VIBRATION ISOLATION:**
  - **Neoprene Isolation –** Recommended for normal installations. Provides very good performance in most applications for the least cost. (Field mounted)
  - **1" Spring Isolators –** Level adjustable, spring and cage type isolators for mounting under the unit base rails. 1" nominal deflection may vary slightly by application. (Field mounted)
  - **2" Seismic Spring Isolators –** Restrained Spring-Flex Mountings incorporate a rugged welded steel housing with vertical and horizontal limit stops. Housings designed to withstand a minimum 1.0g accelerated force in all directions to 2". Level adjustable, deflection may vary slightly by application. (Field mounted)
- **ALTERNATIVE CHILLED FLUID APPLICATIONS:** *Standard* water chilling application range is 4°C to 13° (40°F to 55°) Leaving Chilled Water Temperature. To protect against nuisance safety trips below 4°C (40°F) and reduce the possibility of cooler damage due to freezing during chiller operation, the unit Microprocessor automatically unloads the compressors at abnormally low suction temperature (pressure) conditions, prior to a safety shut down.
  - **Process Brine Option –** Process or other applications requiring chilled fluid below 4°C (40°F) risk water freezing in the evaporator, typically overcome by using antifreeze. For these applications, the chiller the system incorporates brine (ethylene or propylene glycol solution), and the system design Leaving Chilled Fluid Temperature must be provided on the order form to ensure proper factory configuration. Liquid injection included with this option.
  - **Thermal Storage Option –** Thermal Storage requires special capabilities from a chiller, including the ability to 'charge' an ice storage tank, then possibly automatically reset for operation at elevated Leaving Chilled Fluid Temperatures as required by automatic building controls. The Thermal Storage Option provides Ice Storage duty Leaving Chilled Fluid setpoints from -4°C to -10°C minimum (25°F to 15°F) minimum during charge cycle, with a Reset range of 22.2°C (40°F) supply fluid temperature. Liquid injection included with this option.
- **UNIT ENCLOSURES –**
  - **Wire Panel Enclosure (Full Unit) –** UV stabilized black polyvinylchloride coated, heavy gauge, welded wire mesh guards mounted on the exterior of the unit. Protects condenser coil faces and prevents unauthorized access to refrigerant components (compressors, pipes, cooler, etc.), yet provides free air flow. This can cut installation cost by eliminating the need for separate, expensive fencing. (Factory mounted)
  - **Louvered Panel Enclosure (Full Unit) –** Heavy gauge louver panels, galvanized and painted just as the main unit cabinet, provide liberal free air flow area. Cover coils and around the bottom of

Accessories and Options *(Continued)*

the unit to protect condenser coils, visually screen mechanical elements, and prevent unauthorized access to refrigerant components. (Factory mounted)

- **Louvered Panels (Condenser Coil Only) –** Louvered panels are mounted over the exterior condenser coil faces on the sides of the unit to visually screen and protect coils. (Factory mounted.)
- **Louvered (Condensers)/Wire (Mechanicals)** – Louvered panels mounted over the exterior condenser coil faces, and heavy gauge welded wire mesh guards mounted around the bottom of the unit. Visually screens and protects coils, and prevents unauthorized access to refrigerant components. (Factory mounted.)

- **HIGH STATIC FANS:** Fans and motors suitable for High External Static conditions to 100Pa (0.4 inches) of water. Since these require higher power motors and therefore slightly reduce chiller efficiency, select only if the installation conditions will impose additional air flow resistance resulting from such things as field installed: ducts, filters, sound enclosures, or similar obstructions to airflow. Contact the factory for performance or electrical implications.

- **SOUND REDUCTION OPTIONS:** Standard unit includes a acoustically tuned, internal discharge gas muffler to eliminate objectionable compressor noise. For additional sound reduction, one or both options may be employed by the system designer as normally generated machine noise is considered in the overall project design. See Form 201.18-ES1 for additional information.

  - **Low Speed Fans** – With this option, the basic chiller is equipped with 8-pole condenser fan motors in lieu of the standard 6-pole motors, plus special fans matched to these optional slower motors to retain appropriate airflow. The net result is reduced fan generated noise with no adverse effect on the chiller capacity or efficiency performance.
  - **Compressor Sound Blanket** - Black, high-strength, rip-resistant, two-piece acoustic compressor sound blanket, offering 1dBa overall "A" weighted unit sound power reduction when fitted with the Low Noise fan option and the Condenser Perimeter Panel Enclosure. Material is both UV and mildew protected, waterproof and fire resistant (meeting California fire marshal flame specification) (Factory Fit Option)

- **Compressor Perimeter Panel Enclosures** – Compressor acoustically treated to attenuate noise. NOTE:May ship separately from unit (Field Mounted).

- **REMOTE CONTROL PANEL AND WALL ADAPTER:** See Form 201.18-SG2 for more information. (Only one of the following options can be offered on a unit at one time: BAS, Remote Control Panel, or Multi-Unit Sequence Control). (Factory Mounted)

- **MULTI-UNIT SEQUENCE CONTROL:** A separate sequencing control center is provided to handle sequencing control of up to 8 chillers in parallel based on mixed liquid temperature (interconnecting wiring by others). See Form 150.00-SG2 for more information. (Only one of the following options can be offered on a unit at a time: BAS, Remote Control Panel, or Multi-Unit Sequence Control). (Factory Mounted)

- **BUILDING AUTOMATION SYSTEM (BAS) INTERFACE –** Provides means to reset the leaving chilled liquid temperature or percent full load amps (current limiting) from the BAS (Factory Mounted):

  - Printed circuit board to accept 4 to 20 milliamp, 0 to 10VDC, or dry contact closure input from the BAS.
  - A YORK **ISN** Building Automation System can provide a Pulse Width Modulated (PWM) signal direct to the standard control panel via the standard on-board RS485 port.

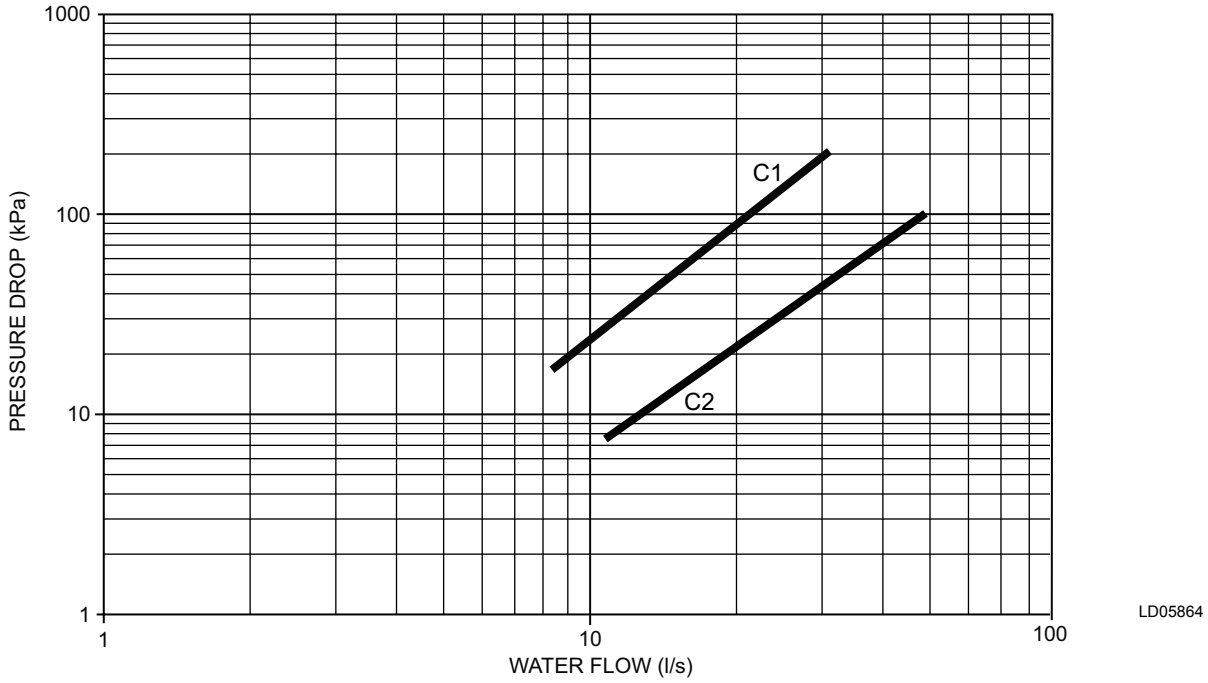
Temperatures and Flows

MODEL NUMBER YCAS	LEAVING WATER TEMPERATURE (°C)		COOLER FLOW (L/S)[3]		AIR ON CONDENSER (°C)	
	MIN.[1]	MAX.[2]	MIN.	MAX.	MIN.	MAX
0295	5.0	13.0	6.9	25.4	-17.7	50
0335	5.0	13.0	7.7	25.4	-17.7	50
0375	5.0	13.0	8.6	25.4	-17.7	50
0425	5.0	13.0	9.5	37.9	-17.7	50
0475	5.0	13.0	10.6	42.3	-17.7	50
0515	5.0	13.0	11.7	46.9	-17.7	50
0555	5.0	13.0	12.4	48.5	-17.7	50
0575	5.0	13.0	13.1	48.5	-17.7	50
0605	5.0	13.0	13.6	48.5	-17.7	50
0685	5.0	13.0	18.5	67.6	-17.7	50
0775	5.0	13.0	21.0	76.0	-17.7	50
0835	5.0	13.0	21.0	76.0	-17.7	50
0905	5.0	13.0	21.0	76.0	-17.7	50
0965	5.0	13.0	21.0	76.0	-17.7	50
1065	5.0	13.0	27.2	101.0	-17.7	50
1135	5.0	13.0	27.2	101.0	-17.7	50
1215	5.0	13.0	27.2	101.0	-17.7	50

NOTES:

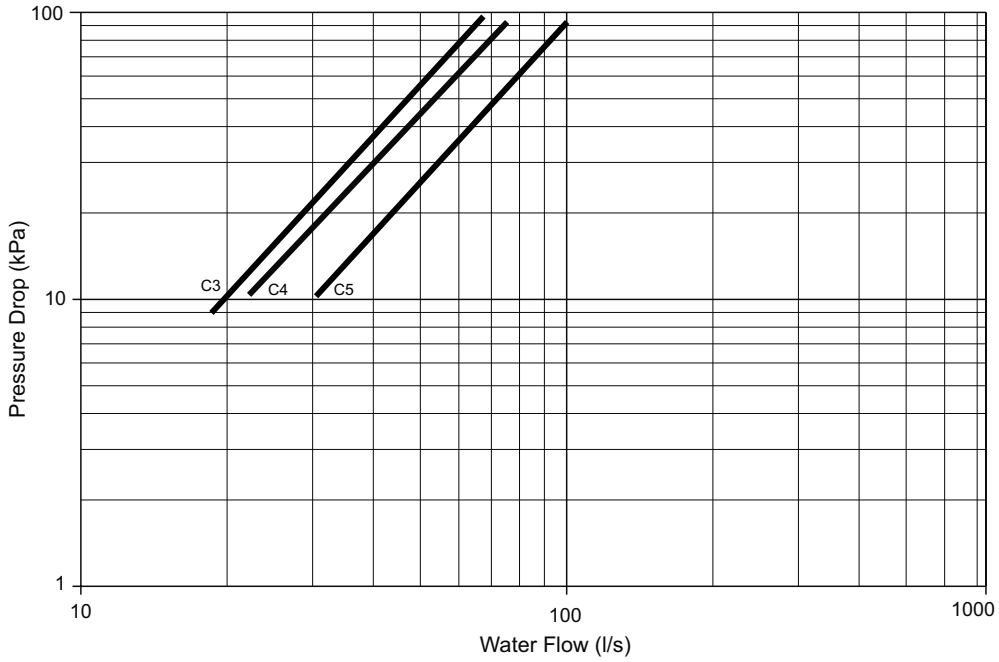
1. For leaving brine temperature below 5 °C, contact your nearest YORK office for application requirements.
2. For leaving water temperature higher than 13°C, contact the nearest YORK office for application guidelines.
3. The evaporator is protected against freeze-up to -28.8°C with an electrical heater as standard.

Cooler Water Pressure Drop *(SI Units)*



2 CIRCUIT CHILLERS

MODEL NUMBER YCAS	COOLER
0295, 0335, 0375	C1
0425, 0475, 0515, 0555, 0575, 0605	C2



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3 AND 4 CIRCUIT CHILLERS

MODEL NUMBER YCAS	COOLER
0685	C3
0775, 0835, 0905, 0965	C4
1065, 1135, 1215	C5

Ratings – R-407C Optimized

LCWT (°C)	AIR TEMPERATURE – CONDENSER (°C)																	
	25			30			35			40			45			50		
	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	

MODEL YCAS0295EB

5.0	274.1	60.4	3.9	260.4	67.9	3.4	244.2	76.6	2.8	228.6	86.4	2.4	213.7	97.4	2.0	200.4	109.4	1.7
6.0	283.0	60.1	4.1	268.6	67.6	3.5	252.2	76.2	3.0	236.3	86.0	2.5	221.2	96.9	2.1	207.5	108.7	1.8
7.0	291.8	60.0	4.2	276.7	67.3	3.6	260.4	75.9	3.1	244.1	85.7	2.6	228.7	96.4	2.2	214.8	108.1	1.8
8.0	301.0	59.7	4.4	284.9	67.1	3.7	268.6	75.7	3.2	252.1	85.3	2.7	236.4	96.0	2.2	222.1	107.6	1.9
9.0	310.0	59.5	4.5	293.1	66.9	3.8	276.8	75.5	3.3	260.1	85.1	2.8	244.1	95.7	2.3	229.5	107.2	2.0
10.0	318.9	59.3	4.6	301.2	66.7	4.0	285.2	75.3	3.4	268.1	84.9	2.8	251.9	95.4	2.4	237.0	106.8	2.0
11.0	327.8	59.1	4.8	309.2	66.6	4.1	293.6	75.2	3.5	276.3	84.7	2.9	259.8	95.2	2.5	242.5	105.8	2.1
12.0	336.8	58.9	4.9	317.1	66.5	4.2	302.1	75.1	3.6	284.5	84.7	3.0	267.8	95.2	2.6	245.0	103.7	2.2
13.0	345.8	58.7	5.1	326.1	66.4	4.3	310.6	75.1	3.7	292.8	84.7	3.1	275.7	95.2	2.6	249.5	102.2	2.2

MODEL YCAS0335EB

5.0	327.3	77.6	3.8	308.7	87.4	3.2	289.4	98.7	2.7	270.7	111.4	2.2	253.4	125.4	1.9	211.6	125.9	1.6
6.0	337.5	77.7	3.9	318.3	87.5	3.3	298.7	98.8	2.8	279.8	111.3	2.3	262.1	125.3	1.9	216.6	124.4	1.6
7.0	347.7	77.8	4.0	328.0	87.6	3.4	308.2	98.8	2.9	288.9	111.3	2.4	271.0	125.2	2.0	221.7	123.0	1.7
8.0	358.0	77.9	4.1	337.7	87.7	3.5	317.8	98.9	2.9	298.2	111.4	2.5	279.9	125.1	2.1	226.6	121.7	1.7
9.0	368.3	78.0	4.2	347.5	87.8	3.6	327.4	99.0	3.0	309.9	111.5	2.6	289.0	125.1	2.2	232.3	120.6	1.8
10.0	397.5	77.7	4.6	357.4	87.9	3.7	337.3	99.1	3.1	317.0	111.5	2.6	298.1	125.1	2.2	237.3	119.4	1.8
11.0	388.9	78.1	4.4	367.3	88.0	3.8	347.1	99.2	3.2	326.5	111.7	2.7	307.4	125.2	2.3	241.4	118.0	1.9
12.0	399.2	78.2	4.6	377.2	88.2	3.9	357.1	99.4	3.3	336.2	111.8	2.8	316.8	125.4	2.4	243.9	116.1	1.9
13.0	409.6	78.2	4.7	387.7	88.3	4.0	367.0	99.5	3.4	346.0	112.0	2.9	326.2	125.6	2.4	246.9	114.5	2.0

MODEL YCAS0375EB

5.0	388.5	94.9	3.7	364.6	107.1	3.1	341.6	121.0	2.6	319.5	136.4	2.2	299.3	153.6	1.8	227.2	142.3	1.5
6.0	400.2	95.4	3.8	375.9	107.6	3.2	352.5	121.4	2.7	330.1	136.7	2.3	309.4	153.9	1.9	230.1	140.0	1.5
7.0	411.9	95.8	3.9	387.3	108.1	3.3	363.5	121.8	2.8	340.8	137.1	2.3	319.9	154.0	2.0	233.9	138.1	1.6
8.0	423.6	96.2	4.0	398.9	108.5	3.4	376.6	122.5	2.9	351.6	137.5	2.4	330.3	154.3	2.0	235.7	135.7	1.6
9.0	435.5	96.6	4.1	410.6	108.8	3.5	386.0	122.6	2.9	362.5	137.9	2.5	340.9	154.6	2.1	239.7	134.0	1.7
10.0	447.4	96.9	4.2	422.4	109.2	3.6	397.6	122.9	3.0	373.6	138.2	2.5	351.6	154.9	2.1	242.3	132.1	1.7
11.0	459.4	97.2	4.3	434.4	109.6	3.7	409.0	123.3	3.1	384.8	138.6	2.6	362.5	155.3	2.2	245.1	130.2	1.8
12.0	471.4	97.5	4.4	446.5	109.9	3.7	420.7	123.7	3.2	396.1	139.0	2.7	373.4	155.6	2.3	247.7	128.5	1.8
13.0	483.5	97.8	4.5	458.6	110.3	3.8	432.5	124.1	3.2	407.7	139.3	2.7	384.5	156.0	2.3	250.2	126.8	1.8

NOTES:

1. KWo = Unit kW Cooling Capacity Output
2. KW*i* = Compressor kW Input
3. COP = Coefficient of Performance (includes condenser fan power)
4. LCWT = Leaving Chilled Water Temperature
5. Ratings based on 0.168 l/s cooler water per ton.

LCWT (°C)	AIR TEMPERATURE – CONDENSER (°C)																	
	25			30			35			40			45			50		
	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	

MODEL YCAS0425EB

5.0	424.7	87.2	4.3	399.2	98.4	3.6	373.3	111.2	3.0	348.6	125.5	2.5	325.6	141.4	2.1	305.0	158.8	1.8
6.0	436.9	87.4	4.4	411.8	98.6	3.7	385.3	111.3	3.1	360.2	125.5	2.6	336.7	141.4	2.2	315.7	158.7	1.8
7.0	449.9	87.5	4.5	424.5	98.7	3.8	397.4	111.5	3.2	371.9	125.7	2.7	348.0	141.4	2.3	326.5	158.6	1.9
8.0	463.3	87.7	4.6	437.1	98.9	3.9	409.8	111.6	3.3	383.9	125.7	2.8	359.4	141.4	2.3	337.5	158.5	2.0
9.0	476.7	87.8	4.8	450.1	99.0	4.0	422.3	111.6	3.4	399.9	125.8	2.9	371.0	141.4	2.4	346.4	157.5	2.0
10.0	490.4	87.9	4.9	463.1	99.1	4.2	435.0	111.7	3.5	408.1	125.8	3.0	382.8	141.4	2.5	349.4	154.3	2.1
11.0	504.5	87.8	5.0	476.0	99.1	4.3	447.7	111.8	3.6	420.4	125.9	3.0	394.6	141.4	2.6	355.1	152.2	2.2
12.0	518.5	87.8	5.2	489.0	99.2	4.4	460.6	111.9	3.7	432.8	126.0	3.1	406.6	141.5	2.6	361.0	150.0	2.2
13.0	532.5	87.8	5.3	501.9	99.2	4.5	473.6	112.0	3.8	445.3	126.1	3.2	418.8	141.6	2.7	365.3	147.6	2.3

MODEL YCAS0475EB

5.0	478.0	103.6	4.1	448.5	116.9	3.5	419.5	131.8	2.9	392.0	148.6	2.4	366.5	167.3	2.0	318.1	174.1	1.7
6.0	492.0	104.0	4.2	462.4	117.2	3.6	432.9	132.2	3.0	404.8	148.9	2.5	378.8	167.5	2.1	325.7	172.5	1.8
7.0	506.5	104.3	4.3	476.4	117.5	3.7	446.3	132.5	3.1	417.8	149.2	2.6	391.4	167.6	2.2	333.4	170.9	1.8
8.0	521.2	104.6	4.5	490.5	117.9	3.8	460.0	132.8	3.2	430.9	149.4	2.7	404.0	167.8	2.2	341.0	169.4	1.9
9.0	536.1	104.9	4.6	504.9	118.1	3.9	473.8	133.1	3.3	444.2	149.7	2.7	416.9	168.0	2.3	347.4	167.5	1.9
10.0	551.1	105.1	4.7	551.2	118.5	4.2	487.8	133.3	3.3	457.7	150.0	2.8	429.8	168.2	2.4	351.0	164.6	2.0
11.0	598.2	105.4	5.1	533.7	118.7	4.1	501.8	133.6	3.4	471.3	150.3	2.9	443.0	168.4	2.5	355.7	162.2	2.0
12.0	581.1	105.6	4.9	548.3	118.9	4.2	516.0	133.9	3.5	485.1	150.5	3.0	456.2	168.7	2.5	360.5	159.9	2.1
13.0	596.3	105.8	5.0	562.8	119.1	4.3	530.3	134.2	3.6	499.0	150.8	3.1	469.6	169.0	2.6	364.4	157.5	2.1

MODEL YCAS0515EB

5.0	531.6	120.1	4.0	498.1	135.3	3.4	466.0	152.5	2.8	435.6	171.8	2.4	407.6	193.2	2.0	331.0	189.3	1.6
6.0	547.4	120.7	4.1	513.3	135.9	3.5	480.7	153.1	2.9	449.7	172.2	2.4	421.1	193.6	2.0	335.6	186.2	1.7
7.0	563.4	121.1	4.2	528.7	136.4	3.6	499.0	153.8	3.0	463.9	172.7	2.5	435.0	193.8	2.1	340.1	183.2	1.7
8.0	579.5	121.6	4.3	544.2	136.9	3.6	510.4	154.0	3.1	478.3	173.2	2.6	448.9	194.2	2.2	344.4	180.4	1.8
9.0	595.7	122.0	4.4	559.9	137.4	3.7	525.6	154.5	3.2	492.8	173.7	2.7	462.9	194.6	2.2	348.5	177.6	1.8
10.0	611.9	122.5	4.5	575.7	137.8	3.8	540.8	155.0	3.2	507.5	174.2	2.7	477.1	195.0	2.3	352.5	174.9	1.9
11.0	627.6	123.0	4.6	591.7	138.3	3.9	556.2	155.5	3.3	522.3	174.7	2.8	491.5	195.5	2.4	356.3	172.3	1.9
12.0	643.9	123.4	4.7	607.9	138.7	4.0	571.7	156.0	3.4	537.6	175.0	2.9	506.0	195.9	2.4	360.0	169.8	2.0
13.0	660.2	123.8	4.8	624.2	139.1	4.1	587.3	156.5	3.5	552.8	175.5	2.9	520.7	196.4	2.5	363.5	167.4	2.0

NOTES:

1. KWo = Unit kW Cooling Capacity Output
2. KW*i* = Compressor kW Input
3. COP = Coefficient of Performance (includes condenser fan power)
4. LCWT = Leaving Chilled Water Temperature
5. Ratings based on 0.168 l/s cooler water per ton.

Ratings – R-407C Optimized (Continued)

LCWT (°C)	AIR TEMPERATURE – CONDENSER (°C)																	
	25			30			35			40			45			50		
	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	

MODEL YCAS0555EB

5.0	565.5	136.1	3.8	529.7	153.4	3.2	495.6	172.8	2.7	463.4	194.5	2.2	418.3	209.6	1.9	326.3	199.4	1.5
6.0	582.1	136.8	3.9	545.7	154.1	3.3	511.1	173.5	2.8	478.2	195.2	2.3	431.5	209.8	1.9	330.7	196.3	1.6
7.0	598.7	137.6	4.0	561.8	154.9	3.4	526.6	174.2	2.8	493.3	195.8	2.4	445.1	209.9	2.0	334.9	193.4	1.6
8.0	615.6	138.3	4.1	578.3	155.5	3.4	542.4	174.9	2.9	508.4	196.5	2.4	458.7	210.1	2.1	339.0	190.5	1.7
9.0	632.7	138.9	4.2	594.8	156.1	3.5	558.4	175.5	3.0	523.8	197.1	2.5	472.4	210.3	2.1	343.0	187.8	1.7
10.0	649.8	139.5	4.3	611.5	156.8	3.6	574.4	176.2	3.0	539.3	197.8	2.6	486.3	210.5	2.2	346.8	185.1	1.8
11.0	666.7	140.2	4.4	628.1	157.5	3.7	590.7	176.9	3.1	554.9	198.5	2.6	500.3	210.7	2.2	350.4	182.5	1.8
12.0	684.0	140.8	4.5	645.0	158.2	3.8	607.0	177.6	3.2	570.9	199.1	2.7	514.3	211.0	2.3	353.9	180.0	1.8
13.0	701.5	141.3	4.6	662.1	158.8	3.9	623.5	178.3	3.3	586.9	199.8	2.8	528.2	211.1	2.4	357.3	177.7	1.9

MODEL YCAS0575EB

5.0	599.5	152.1	3.6	561.4	171.4	3.1	525.3	193.0	2.6	491.3	217.3	2.1	428.9	226.0	1.8	321.5	209.4	1.5
6.0	616.7	153.1	3.7	578.5	172.3	3.1	541.5	193.9	2.6	506.9	218.2	2.2	442.0	226.0	1.9	325.7	206.4	1.5
7.0	634.0	154.1	3.8	595.0	173.4	3.2	557.9	194.8	2.7	522.7	218.9	2.3	455.2	226.0	1.9	329.8	203.5	1.5
8.0	651.8	155.0	3.9	612.5	174.0	3.3	574.5	195.7	2.8	538.7	219.8	2.3	468.5	226.0	2.0	333.7	200.7	1.6
9.0	669.8	155.8	4.0	629.9	174.9	3.4	591.2	196.6	2.8	554.8	220.6	2.4	481.9	226.0	2.0	337.4	197.9	1.6
10.0	687.8	156.6	4.1	647.3	175.7	3.4	608.2	197.4	2.9	571.1	221.4	2.4	495.4	226.0	2.1	341.1	195.3	1.6
11.0	705.9	157.5	4.2	664.5	176.9	3.5	625.3	198.3	3.0	587.6	222.3	2.5	509.0	226.0	2.1	344.5	192.7	1.7
12.0	724.3	158.2	4.2	682.2	177.7	3.6	642.5	199.2	3.0	604.3	223.2	2.6	522.6	226.0	2.2	347.9	190.3	1.7
13.0	743.0	158.9	4.3	700.1	178.6	3.7	659.8	200.1	3.1	621.1	224.1	2.6	535.6	225.7	2.3	351.1	187.9	1.8

MODEL YCAS0605EB

5.0	624.7	140.9	4.0	586.1	158.5	3.4	548.9	178.6	2.8	513.1	201.2	2.4	479.4	226.0	2.0	397.5	226.0	1.6
6.0	643.3	141.5	4.1	603.7	159.3	3.5	566.1	179.1	2.9	529.7	201.7	2.4	494.6	226.0	2.1	411.1	226.0	1.7
7.0	662.1	142.0	4.2	621.8	159.8	3.5	587.3	179.9	3.0	546.5	202.2	2.5	509.7	226.0	2.1	424.6	226.0	1.8
8.0	681.0	142.6	4.3	640.0	160.4	3.6	601.1	180.2	3.1	563.5	202.6	2.6	525.2	226.0	2.2	438.4	226.0	1.8
9.0	700.0	143.1	4.4	658.5	160.9	3.7	618.5	180.9	3.2	580.7	203.0	2.7	540.7	226.0	2.2	450.6	225.1	1.9
10.0	719.0	143.5	4.5	677.1	161.4	3.8	636.4	181.5	3.2	598.1	203.5	2.7	556.3	226.0	2.3	456.3	221.5	1.9
11.0	738.1	143.9	4.6	695.9	161.9	3.9	654.5	182.0	3.3	615.2	204.3	2.8	572.0	226.0	2.4	461.3	217.9	2.0
12.0	757.2	144.3	4.7	714.9	162.4	4.0	672.8	182.5	3.4	632.9	204.8	2.9	587.6	226.0	2.4	466.2	214.4	2.0
13.0	776.3	144.7	4.8	734.0	162.8	4.1	691.2	183.0	3.5	650.8	205.4	2.9	603.4	226.0	2.5	470.8	211.1	2.1

NOTES:

1. KWo = Unit kW Cooling Capacity Output
2. KW*i* = Compressor kW Input
3. COP = Coefficient of Performance (includes condenser fan power)
4. LCWT = Leaving Chilled Water Temperature
5. Ratings based on 0.168 l/s cooler water per ton.

LCWT (°C)	AIR TEMPERATURE – CONDENSER (°C)																	
	25			30			35			40			45			50		
	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	

MODEL YCAS0685EB

5.0	729.9	171.8	3.9	683.3	193.6	3.3	638.9	218.1	2.7	597.2	245.5	2.3	542.9	266.9	1.9	402.9	244.4	1.6
6.0	751.1	172.8	4.0	704.0	194.5	3.4	658.9	219.0	2.8	616.4	246.3	2.4	560.4	267.1	2.0	408.0	240.8	1.6
7.0	772.8	173.6	4.1	724.8	195.4	3.4	679.1	219.8	2.9	635.8	247.1	2.4	578.2	267.4	2.0	412.9	237.2	1.6
8.0	794.7	174.4	4.2	746.2	196.1	3.5	699.6	220.6	3.0	655.4	247.9	2.5	596.1	267.7	2.1	418.9	234.1	1.7
9.0	816.6	175.1	4.3	767.6	196.9	3.6	720.2	221.4	3.0	675.3	248.7	2.6	614.1	268.0	2.2	423.5	230.8	1.7
10.0	838.6	175.8	4.4	789.2	197.7	3.7	741.0	222.3	3.1	695.4	249.6	2.6	632.4	268.4	2.2	428.2	227.6	1.8
11.0	860.7	176.5	4.5	810.7	198.6	3.8	762.1	223.1	3.2	715.9	250.3	2.7	650.8	268.7	2.3	432.6	224.6	1.8
12.0	883.0	177.2	4.6	832.6	199.4	3.9	783.3	223.9	3.3	736.4	251.1	2.8	666.6	267.9	2.4	436.9	221.7	1.8
13.0	905.4	177.8	4.7	854.7	200.1	4.0	804.6	224.8	3.4	757.2	252.0	2.8	676.2	264.6	2.4	441.1	218.9	1.9

MODEL YCAS0775EB

5.0	826.1	180.4	4.2	773.8	203.2	3.5	724.0	229.0	2.9	676.6	257.8	2.5	633.1	289.9	2.1	512.3	283.2	1.7
6.0	850.6	181.1	4.3	797.4	204.0	3.6	746.7	229.7	3.0	698.4	258.5	2.5	654.1	290.5	2.1	519.4	278.6	1.8
7.0	875.4	181.9	4.4	821.3	204.7	3.7	769.6	230.5	3.1	720.5	259.2	2.6	675.6	290.9	2.2	526.2	274.2	1.8
8.0	900.4	182.6	4.5	845.4	205.5	3.8	792.6	231.4	3.2	742.7	260.0	2.7	697.1	291.4	2.3	532.8	269.9	1.9
9.0	925.5	183.2	4.6	869.8	206.2	3.9	816.4	231.8	3.3	765.4	260.6	2.7	718.9	292.0	2.3	539.1	265.7	1.9
10.0	950.5	183.8	4.7	894.4	206.9	4.0	840.0	232.6	3.3	788.1	261.4	2.8	740.9	292.7	2.4	545.2	261.7	1.9
11.0	975.0	184.7	4.8	919.2	207.5	4.1	863.8	233.4	3.4	810.9	262.3	2.9	763.2	293.3	2.5	551.1	257.9	2.0
12.0	1000.2	185.2	4.9	944.3	208.1	4.2	887.8	234.2	3.5	834.9	262.7	3.0	785.8	294.0	2.5	556.7	254.1	2.0
13.0	978.9	184.6	4.8	969.5	208.8	4.3	912.0	235.0	3.6	858.5	263.4	3.0	808.5	294.7	2.6	562.1	250.5	2.1

MODEL YCAS0835EB

5.0	875.3	196.9	4.1	819.3	221.8	3.4	766.1	249.7	2.9	715.9	281.0	2.4	653.0	306.5	2.0	510.0	291.5	1.6
6.0	900.8	198.0	4.2	843.9	222.8	3.5	789.9	250.7	2.9	738.8	281.9	2.5	674.1	306.7	2.1	516.8	287.0	1.7
7.0	926.7	198.9	4.3	869.1	223.7	3.6	814.0	251.6	3.0	761.9	282.8	2.5	695.3	307.1	2.1	523.3	282.7	1.7
8.0	952.9	199.8	4.4	894.3	224.6	3.7	838.3	252.5	3.1	785.2	283.7	2.6	716.8	307.5	2.2	529.6	278.4	1.8
9.0	979.1	200.6	4.5	919.8	225.5	3.8	862.9	253.4	3.2	808.8	284.6	2.7	738.4	307.9	2.3	535.7	274.4	1.8
10.0	1004.9	201.6	4.6	945.2	226.5	3.9	887.6	254.4	3.3	832.9	285.4	2.7	760.3	308.3	2.3	541.5	270.4	1.9
11.0	1031.3	202.4	4.7	971.2	227.3	4.0	912.5	255.3	3.3	857.1	286.3	2.8	782.3	308.7	2.4	547.1	266.6	1.9
12.0	1058.0	203.1	4.8	997.3	228.2	4.0	937.7	256.3	3.4	881.5	287.3	2.9	804.5	309.2	2.5	552.5	263.0	2.0
13.0	1084.7	203.9	4.9	1023.6	229.1	4.1	962.8	257.4	3.5	906.1	288.3	3.0	823.5	308.3	2.5	557.6	259.5	2.0

NOTES:

1. KWo = Unit kW Cooling Capacity Output
2. KW*i* = Compressor kW Input
3. COP = Coefficient of Performance (includes condenser fan power)
4. LCWT = Leaving Chilled Water Temperature
5. Ratings based on 0.168 l/s cooler water per ton.

Ratings – R-407C Optimized (Continued)

MODEL YCAS0905EB

LCWT (°C)	AIR TEMPERATURE – CONDENSER (°C)																	
	25			30			35			40			45			50		
	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP
5.0	947.0	229.3	3.8	891.8	258.6	3.2	828.9	290.5	2.7	775.0	326.8	2.2	674.8	339.0	1.9	500.0	311.7	1.5
6.0	973.7	230.9	3.9	913.8	259.8	3.3	854.3	291.9	2.8	799.5	328.0	2.3	695.3	339.0	1.9	506.3	307.3	1.6
7.0	1001.4	232.2	4.0	939.7	260.8	3.4	880.0	293.2	2.8	824.2	329.3	2.4	715.9	339.0	2.0	512.5	303.0	1.6
8.0	1029.3	233.5	4.1	966.6	262.1	3.4	906.0	294.5	2.9	849.2	330.5	2.4	736.7	339.0	2.1	518.4	298.8	1.6
9.0	1057.4	234.8	4.2	993.7	263.3	3.5	932.3	295.8	3.0	874.5	331.8	2.5	757.7	339.0	2.1	524.1	294.8	1.7
10.0	1085.6	236.0	4.3	1020.3	265.0	3.6	958.8	297.1	3.0	900.1	333.1	2.6	778.7	339.0	2.2	529.5	290.9	1.7
11.0	1114.2	237.2	4.4	1047.9	266.3	3.7	985.6	298.5	3.1	925.9	334.4	2.6	799.9	339.0	2.2	534.8	287.1	1.8
12.0	1143.3	238.2	4.5	1075.8	267.6	3.8	1012.6	299.8	3.2	952.0	335.8	2.7	821.1	339.0	2.3	539.9	283.5	1.8
13.0	1172.3	239.4	4.5	1103.8	268.9	3.8	1038.9	301.6	3.2	978.3	337.1	2.8	831.9	334.6	2.4	544.7	280.0	1.8

MODEL YCAS0965EB

5.0	997.5	208.6	4.3	934.6	234.9	3.6	875.1	264.3	3.0	817.6	297.7	2.5	763.0	334.2	2.1	641.4	339.0	1.8
6.0	1027.0	209.4	4.4	963.3	235.6	3.7	902.6	264.9	3.1	844.0	298.3	2.6	787.8	334.2	2.2	663.5	339.0	1.8
7.0	1056.8	210.0	4.5	992.2	236.3	3.8	930.3	265.6	3.2	870.9	298.8	2.7	812.7	334.2	2.3	686.0	339.0	1.9
8.0	1086.7	210.7	4.6	1021.3	237.0	3.9	957.8	266.6	3.3	898.1	299.3	2.8	837.5	334.2	2.3	708.6	339.0	2.0
9.0	1116.5	211.3	4.7	1050.8	237.6	4.0	986.2	267.2	3.4	925.3	300.0	2.9	862.7	334.3	2.4	724.2	335.8	2.0
10.0	1146.8	211.8	4.8	1080.6	238.2	4.1	1014.8	267.9	3.5	952.8	300.7	2.9	887.7	334.4	2.5	737.8	332.2	2.1
11.0	1177.6	212.3	5.0	1110.6	238.8	4.2	1043.7	268.5	3.6	980.4	301.5	3.0	913.2	334.6	2.5	751.2	328.6	2.1
12.0	1208.4	212.7	5.1	1140.8	239.4	4.3	1072.8	269.1	3.7	1008.7	302.0	3.1	939.5	334.7	2.6	764.5	325.2	2.2
13.0	1239.3	213.2	5.2	1171.2	239.9	4.4	1102.3	269.8	3.7	1036.9	302.8	3.2	964.8	334.8	2.7	776.9	322.0	2.2

MODEL YCAS1065EB

5.0	1115.9	240.9	4.2	1044.7	271.4	3.5	976.9	305.7	3.0	912.7	344.0	2.5	853.8	386.9	2.1	686.0	375.7	1.7
6.0	1148.9	242.0	4.3	1076.4	272.4	3.6	1007.9	306.7	3.0	942.0	345.0	2.6	882.3	387.3	2.1	695.4	369.6	1.8
7.0	1182.3	242.9	4.4	1108.5	273.4	3.7	1038.5	307.6	3.1	971.6	345.9	2.6	910.9	388.1	2.2	704.4	363.8	1.8
8.0	1215.9	243.8	4.5	1141.0	274.4	3.8	1069.6	308.6	3.2	1001.6	346.9	2.7	939.8	388.9	2.3	713.1	358.1	1.9
9.0	1249.7	244.7	4.6	1173.7	275.3	3.9	1101.2	309.5	3.3	1031.9	347.9	2.8	969.1	389.7	2.3	721.4	352.6	1.9
10.0	1283.0	245.6	4.7	1206.8	276.2	4.0	1132.9	310.5	3.4	1062.9	348.7	2.8	998.7	390.5	2.4	729.4	347.4	2.0
11.0	1316.2	246.6	4.8	1240.3	277.0	4.1	1164.8	311.6	3.5	1094.0	349.6	2.9	1028.6	391.4	2.5	737.1	342.3	2.0
12.0	1350.1	247.3	5.0	1273.9	277.9	4.2	1197.0	312.7	3.5	1125.3	350.6	3.0	1058.8	392.4	2.5	744.5	337.3	2.1
13.0	1384.0	248.1	5.1	1307.7	278.8	4.3	1229.7	313.7	3.6	1157.0	351.7	3.1	1089.3	393.4	2.6	751.6	332.6	2.1

NOTES:

1. KWo = Unit kW Cooling Capacity Output
2. KW*i* = Compressor kW Input
3. COP = Coefficient of Performance (includes condenser fan power)
4. LCWT = Leaving Chilled Water Temperature
5. Ratings based on 0.168 l/s cooler water per ton.

MODEL YCAS1135EB

LCWT (°C)	AIR TEMPERATURE – CONDENSER (°C)																	
	25			30			35			40			45			50		
	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP	KWo	KW*i*	COP
5.0	1187.3	273.2	4.0	1111.3	307.7	3.3	1039.3	346.4	2.8	971.4	389.8	2.3	875.6	419.4	2.0	676.0	395.9	1.6
6.0	1221.5	274.8	4.1	1144.6	309.2	3.4	1071.5	347.8	2.9	1002.3	391.1	2.4	903.5	419.7	2.0	684.9	389.9	1.7
7.0	1256.5	276.2	4.2	1178.7	310.4	3.5	1104.1	349.2	3.0	1033.6	392.4	2.5	931.5	420.0	2.1	693.5	384.1	1.7
8.0	1291.9	277.5	4.3	1212.8	311.8	3.6	1136.9	350.6	3.0	1065.2	393.7	2.5	959.8	420.4	2.2	701.8	378.4	1.7
9.0	1327.5	278.7	4.4	1247.3	313.1	3.7	1170.2	351.9	3.1	1097.2	395.1	2.6	988.4	420.8	2.2	709.8	373.0	1.8
10.0	1362.9	280.0	4.5	1281.5	314.7	3.8	1203.7	353.2	3.2	1129.7	396.3	2.7	1017.2	421.3	2.3	717.5	367.8	1.8
11.0	1398.5	281.3	4.6	1316.6	315.9	3.9	1237.4	354.7	3.3	1162.4	397.6	2.8	1046.2	421.7	2.3	724.8	362.7	1.9
12.0	1434.8	282.4	4.7	1351.9	317.2	4.0	1271.6	356.1	3.3	1195.4	399.0	2.8	1075.5	422.2	2.4	731.9	357.8	1.9
13.0	1471.1	283.5	4.8	1387.5	318.5	4.0	1305.7	357.6	3.4	1228.8	400.5	2.9	1098.9	420.1	2.5	738.7	353.2	2.0

MODEL YCAS1215EB

5.0	1258.8	305.4	3.8	1178.0	344.1	3.2	1101.8	387.2	2.7	1030.3	435.5	2.2	897.4	452.0	1.9	666.0	416.1	1.5
6.0	1294.2	307.7	3.9	1212.9	346.1	3.3	1135.6	389.0	2.7	1062.8	437.2	2.3	924.6	452.0	1.9	674.5	410.1	1.6
7.0	1331.0	309.4	4.0	1249.0	347.5	3.4	1169.8	390.7	2.8	1095.7	438.9	2.4	952.1	452.0	2.0	682.7	404.4	1.6
8.0	1368.1	311.2	4.1	1284.8	349.2	3.4	1204.4	392.5	2.9	1129.0	440.6	2.4	979.8	452.0	2.1	690.6	398.8	1.6
9.0	1405.5	312.8	4.2	1321.0	350.9	3.5	1239.3	394.2	3.0	1162.6	442.2	2.5	1007.7	452.0	2.1	698.2	393.4	1.7
10.0	1443.0	314.5	4.3	1356.4	353.2	3.6	1274.6	396.0	3.0	1196.6	443.9	2.6	1035.7	452.0	2.2	705.5	388.2	1.7
11.0	1481.0	316.1	4.3	1393.1	354.9	3.7	1310.3	397.7	3.1	1230.8	445.7	2.6	1063.8	452.0	2.2	712.6	383.2	1.8
12.0	1519.7	317.5	4.4	1430.1	356.6	3.8	1346.2	399.5	3.2	1265.7	447.5	2.7	1092.1	452.0	2.3	719.3	378.3	1.8
13.0	1558.3	319.0	4.5	1467.4	358.3	3.8	1381.2	401.9	3.2	1300.7	449.3	2.7	1108.3	446.8	2.4	725.8	373.7	1.8

NOTES:

1. KWo = Unit kW Cooling Capacity Output
2. KW*i* = Compressor kW Input
3. COP = Coefficient of Performance (includes condenser fan power)
4. LCWT = Leaving Chilled Water Temperature
5. Ratings based on 0.168 l/s cooler water per ton.

Physical Data – *R-407C Optimized*

Refrigerant R-407C Optimized	MODEL NUMBER YCAS								
	0295EB	0335EB	0375EB	0425EB	0475EB	0515EB	0555EB	0575EB	0605EB
General Unit Data									
Unit Capacity at 7°C water & 35°C ambient, kW	260	308	364	397	446	495	527	558	584
Number of Independent Refrigerant Circuits	2	2	2	2	2	2	2	2	2
Refrigerant Charge, R-407C, Ckt.-1 / Ckt.-2, kg	55/55	55/65	65/65	79/79	79/85	85/85	85/88	88/88	94/94
Oil Charge, Ckt.-1 / Ckt.-2, liters	19/19	19/19	19/19	19/19	19/19	19/19	19/19	19/19	19/19
Shipping Weight:									
Aluminum Fin Coils, kg	4,240	4,433	4,565	5,620	5,704	5,779	5,805	5,834	6,253
Copper Fin Coils, kg	4,648	4,841	4,974	6,182	6,276	6,351	6,376	6,406	6,944
Operating Weight:									
Aluminum Fin Coils, kg	4,349	4,551	4,674	5,943	6,015	6,092	6,115	6,145	6,563
Copper Fin Coils, kg	4,757	4,960	5,083	6,505	6,587	6,664	6,687	6,716	7,255
Compressors, DXS Semihermetic Twin Screw									
Quantity per Chiller	2	2	2	2	2	2	2	2	2
Nominal kW Size, Ckt.-1 / Ckt.-2	145 / 145	145 / 190	190 / 190	190 / 190	190 / 250	250 / 250	250 / 280	280 / 280	280 / 280
Condensers, High Efficiency Fin / Tube with Integral Subcooler									
Total Chiller Coil Face Area, m^2	17.84	17.84	17.84	23.78	23.78	23.78	23.78	23.78	29.73
Number of Rows	3	3	3	3	3	3	3	3	3
Fins per meter	512	512	512	512	512	512	512	512	512
Condenser Fans									
Number, Ckt.-1 / Ckt.-2	3 / 3	3 / 3	3 / 3	4 / 4	4 / 4	4 / 4	4 / 4	4 / 4	5 / 5
Standard Fans									
Fan Motor, HP / kW	2 / 1.6	2 / 1.6	2 / 1.6	2 / 1.6	2 / 1.6	2 / 1.6	2 / 1.6	2 / 1.6	2 / 1.6
Fan & Motor Speed, revs./sec.	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
Fan Diameter, mm	900	900	900	900	900	900	900	900	900
Fan Tip Speed, m/sec.	45	45	45	45	45	45	45	45	45
Total Chiller Airflow, l/sec.	37,660	37,660	37,660	50,213	50,213	50,213	50,213	50,213	62,767
Low Noise Fans									
Fan Motor, HP / kW	2 / 1.7	2 / 1.7	2 / 1.7	2 / 1.7	2 / 1.7	2 / 1.7	2 / 1.7	2 / 1.7	2 / 1.7
Fan & Motor Speed, revs./sec.	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
Fan Diameter, mm	900	900	900	900	900	900	900	900	900
Fan Tip Speed, m/sec.	33.75	33.75	33.75	33.75	33.75	33.75	33.75	33.75	33.75
Total Chiller Airflow, l/sec.	36,811	36,811	36,811	49,081	49,081	49,081	49,081	49,081	61,351
High External Static Fans									
Fan Motor, HP / kW	5 / 3.8	5 / 3.8	5 / 3.8	5 / 3.8	5 / 3.8	5 / 3.8	5 / 3.8	5 / 3.8	5 / 3.8
Fan & Motor Speed, revs./sec.	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
Fan Diameter, mm	900	900	900	900	900	900	900	900	900
Fan Tip Speed, m/sec.	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
Total Chiller Airflow, l/sec. (at 100 Pa external static)	37,660	37,660	37,660	50,213	50,213	50,213	50,213	50,213	62,767
Evaporator, Direct Expansion									
Water Volume, liters	143	143	143	309	309	309	309	309	309
Maximum[1] Water Side Pressure, Bar	10	10	10	10	10	10	10	10	10
Maximum Refrigerant Side Pressure, Bar	24	24	24	24	24	24	24	24	24
Minimum Chilled Water Flow Rate, l/s	6.94	7.70	8.58	9.53	10.60	11.67	12.37	13.06	13.63
Maximum Chilled Water Flow Rate, l/s	25.42	25.42	25.42	37.85	42.27	46.87	48.45	48.45	48.45
Water Connections, inches	6	6	6	8	8	8	8	8	8

NOTE:

1. Optional 21 Bar Waterside available.

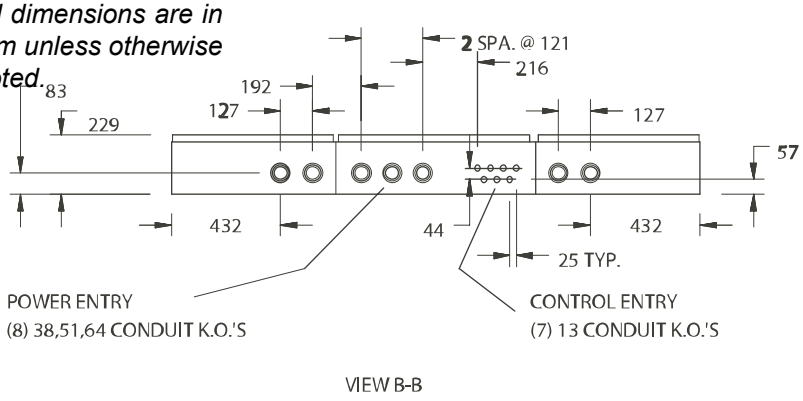
Refrigerant R-407C Optimized	MODEL NUMBER YCAS							
	0685EB	0775EB	0835EB	0905EB	0965EB	1065EB	1135EB	1215EB
General Unit Data								
Unit Capacity at 7°C water & 35°C ambient, kW	692	782	829	898	923	1056	1125	1194
Number of Independent Refrigerant Circuits	3	3	3	3	3	4	4	4
Refrigerant Charge, R-407C, Ckt.-1/Ckt.-2/Ckt.-3/Ckt.-4, kg	78/78/91	88/88/88	91/88/88	91/91/91	99/99/99	88/88/88/88	91/91/88/88	91/91/91/91
Oil Charge, Ckt.-1/Ckt.-2/Ckt.-3/Ckt.-4, liters	15/15/15	15/15/15	15/15/15	15/15/15	15/15/15	15/15/15/15	15/15/15/15	15/15/15/15
Shipping Weight:								
Aluminum Fin Coils, kg	8,363	9,142	9,231	9,310	10,061	11,922	11,994	12,045
Copper Fin Coils, kg	9,056	9,998	10,087	10,167	11,161	13,109	13,171	13,242
Operating Weight:								
Aluminum Fin Coils, kg	9,081	9,817	9,906	9,986	10,737	12,877	12,950	13,000
Copper Fin Coils, kg	9,774	10,673	10,762	10,842	11,836	14,064	14,127	14,197
Compressors, DXS Semihermetic Twin Screw								
Quantity per Chiller	3	3	3	3	3	4	4	4
Nominal Size, Ckt.-1 / Ckt.-2/Ckt.-3/Ckt.-4	190/190/280	250/250/250	280/250/250	280/280/280	280/280/280	250/250/ 250/250	280/280/ 250/250	280/280/ 280/280
Condensers, High Efficiency Fin / Tube with Integral Subcooler								
Total Chiller Coil Face Area, m^2	29.73	35.67	35.67	35.67	47.56	47.56	47.56	47.56
Number of Rows	3	3	3	3	3	3	3	3
Fins per meter	512	512	512	512	512	512	512	512
Condenser Fans								
Number, Ckt.-1/Ckt.-2/Ckt.-3/Ckt.-4	3/3/4	4/4/4	4/4/4	4/4/4	5/5/6	4/4/4/4	4/4/4/4	4/4/4/4
Standard Fans								
Fan Motor, HP / kW	3/2.6	3/2.6	3/2.6	3/2.6	3/2.6	3/2.6	3/2.6	3/2.6
Fan & Motor Speed, revs./sec.	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
Fan Diameter, mm	900	900	900	900	900	900	900	900
Fan Tip Speed, m/sec.	45	45	45	45	45	45	45	45
Total Chiller Airflow, l/sec.	72,688	87,226	87,226	87,226	116,300	116,300	116,300	116,300
Low Noise Fans								
Fan Motor, HP / kW	3/2.4	3/2.4	3/2.4	3/2.4	3/2.4	3/2.4	3/2.4	3/2.4
Fan & Motor Speed, revs./sec.	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
Fan Diameter, mm	900	900	900	900	900	900	900	900
Fan Tip Speed, m/sec.	33.75	33.75	33.75	33.75	33.75	33.75	33.75	33.75
Total Chiller Airflow, l/sec.	71,234	85,481	85,481	85,481	113,974	113,974	113,974	113,974
High External Static Fans								
Fan Motor, HP / kW	5 / 3.8	5 / 3.8	5 / 3.8	5 / 3.8	5 / 3.8	5 / 3.8	5 / 3.8	5 / 3.8
Fan & Motor Speed, revs./sec.	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
Fan Diameter, mm	900	900	900	900	900	900	900	900
Fan Tip Speed, m/sec.	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
Total Chiller Airflow, l/sec. (at 100 Pa external static)	72,688	87,226	87,226	87,226	116,300	116,300	116,300	116,300
Evaporator, Direct Expansion								
Water Volume, liters	762	914	914	914	914	1013	1013	1013
Maximum[1] Water Side Pressure, Bar	10	10	10	10	10	10	10	10
Maximum Refrigerant Side Pressure, Bar	24	24	24	24	24	24	24	24
Minimum Chilled Water Flow Rate, l/s	18.50	21.00	21.00	21.00	21.00	27.20	27.20	27.20
Maximum Chilled Water Flow Rate, l/s	67.64	76.03	76.03	76.03	76.03	101.00	101.00	101.00
Water Connections, inches	10	10	10	10	10	10	10	10

NOTE:

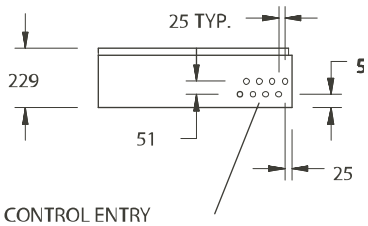
1. Optional 21 Bar Waterside available.

Dimensions – YCAS0295EB - YCAS0375EB

All dimensions are in mm unless otherwise noted.

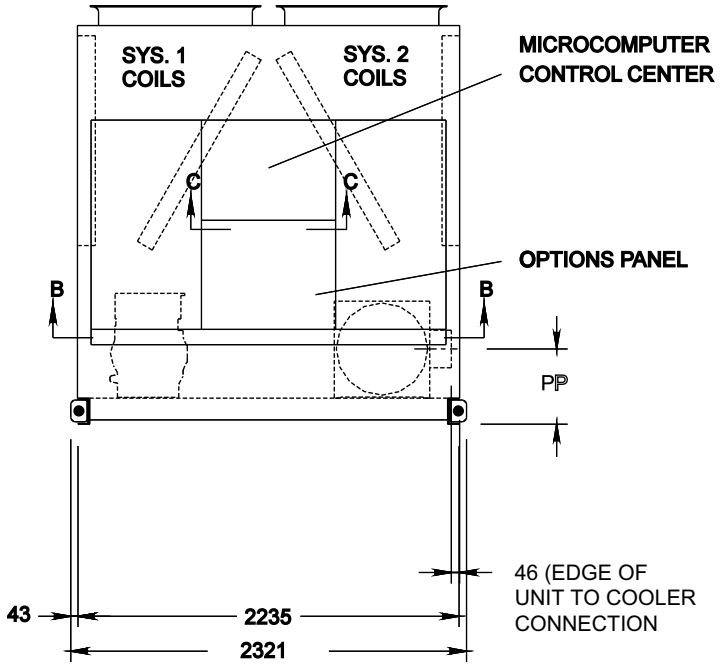


VIEW B-B



VIEW C-C

LD04697

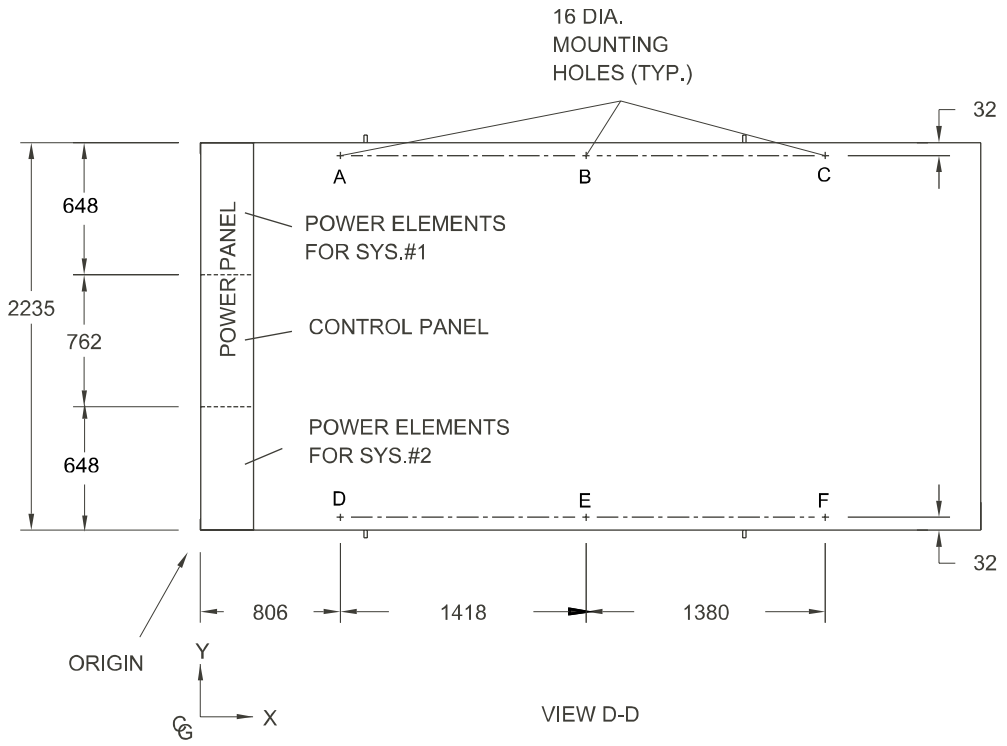


VIEW A-A

LD04698

NOTES:

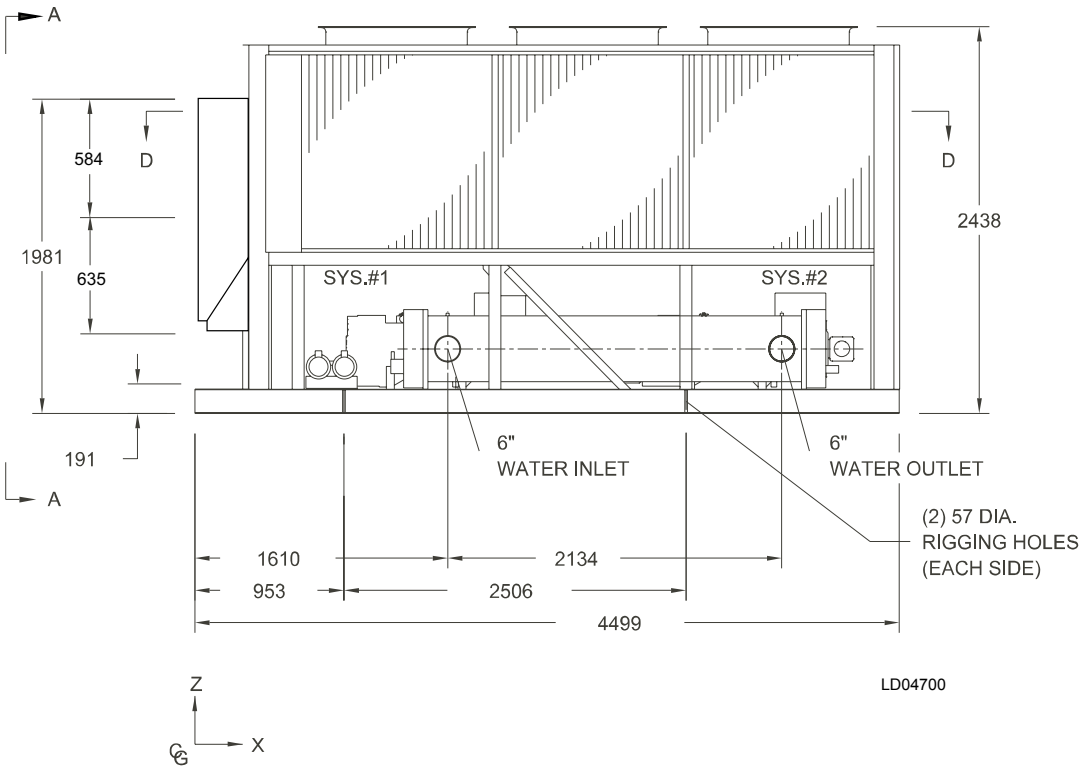
1. Placement on a level surface free of obstructions (including snow, for winter operation) or air recirculation ensures rated performance, reliable operation and ease of maintenance. Site restrictions may compromise minimum clearances indicated below, resulting in unpredictable air flow patterns and possible diminished performance. YORK's unit controls will optimize operation without nuisance high pressure safety cutout; however, the system designer must consider potential performance degradation. Access to the unit control center assumes the unit is no higher than on spring isolators. Recommended minimum clearances: Side to wall - 2m; rear to wall - 2m; control panel end to wall - 1.2m; top - no obstructions allowed; distance between adjacent units - 3m. No more than one adjacent wall may be higher than the unit.



LD04699

CENTER OF GRAVITY (Alum.)			
YCAS	X	Y	Z
0295	1945	1144	987
0335	1974	1145	975
0375	1964	1153	969

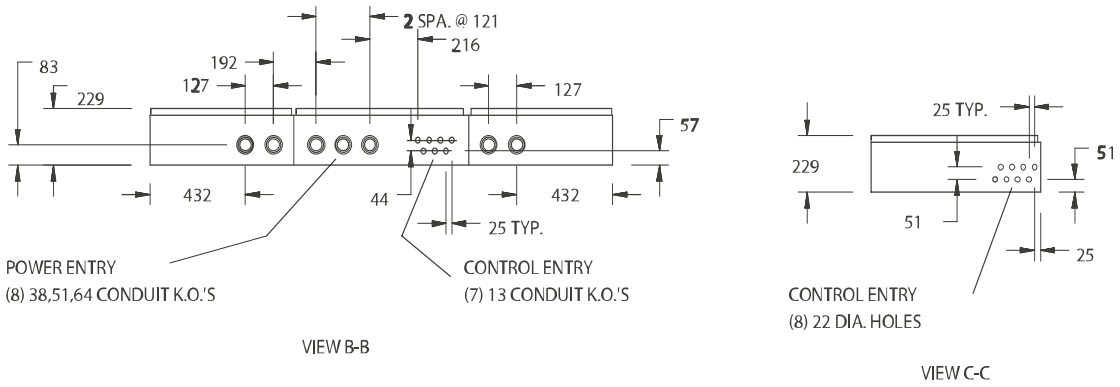
CENTER OF GRAVITY (Copper)			
YCAS	X	Y	Z
0295	1955	1142	1042
0335	1981	1143	1029
0375	1971	1150	1022



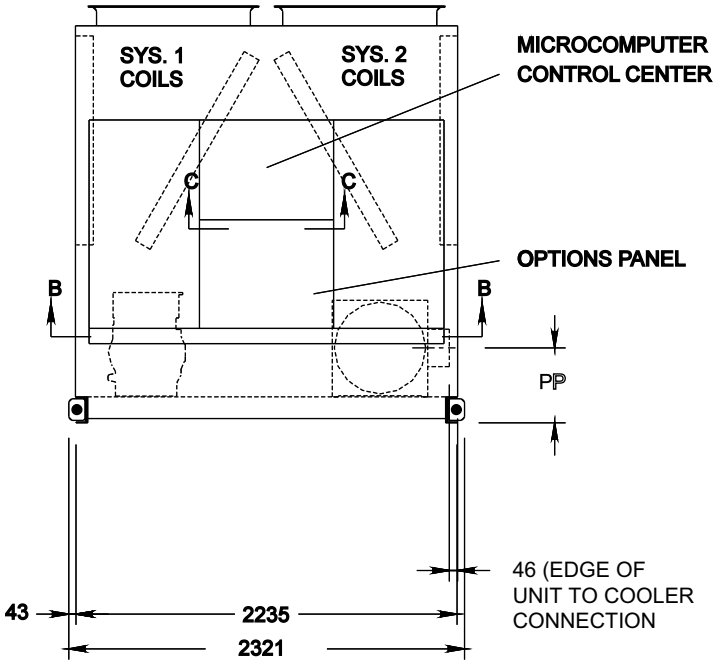
LD04700

Dimensions – YCAS0425EB -YCAS0575EB

All dimensions are in mm unless otherwise noted.



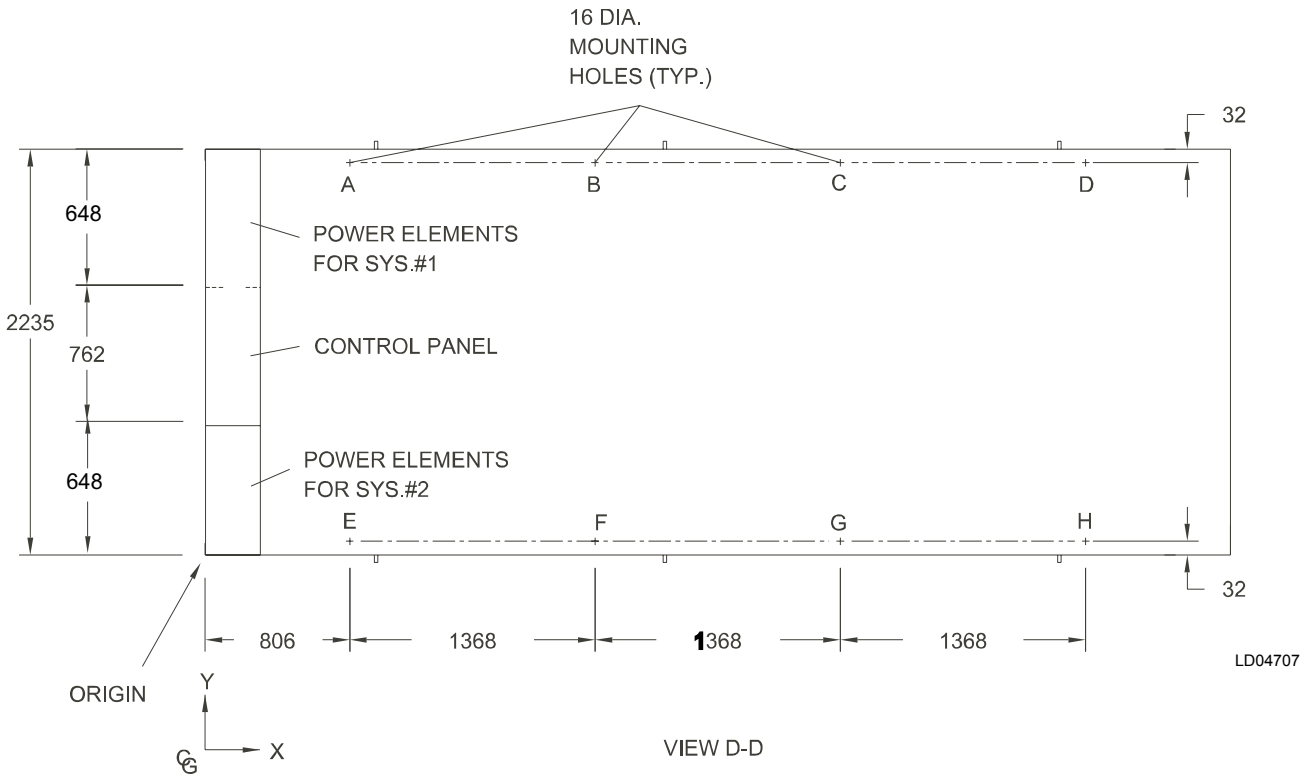
LD04705



LD04706

NOTES:

1. Placement on a level surface free of obstructions (including snow, for winter operation) or air recirculation ensures rated performance, reliable operation and ease of maintenance. Site restrictions may compromise minimum clearances indicated below, resulting in unpredictable air flow patterns and possible diminished performance. YORK's unit controls will optimize operation without nuisance high pressure safety cutout; however, the system designer must consider potential performance degradation. Access to the unit control center assumes the unit is no higher than on spring isolators. Recommended minimum clearances: Side to wall - 2m; rear to wall - 2m; control panel end to wall - 1.2m; top - no obstructions allowed; distance between adjacent units - 3m. No more than one adjacent wall may be higher than the unit.



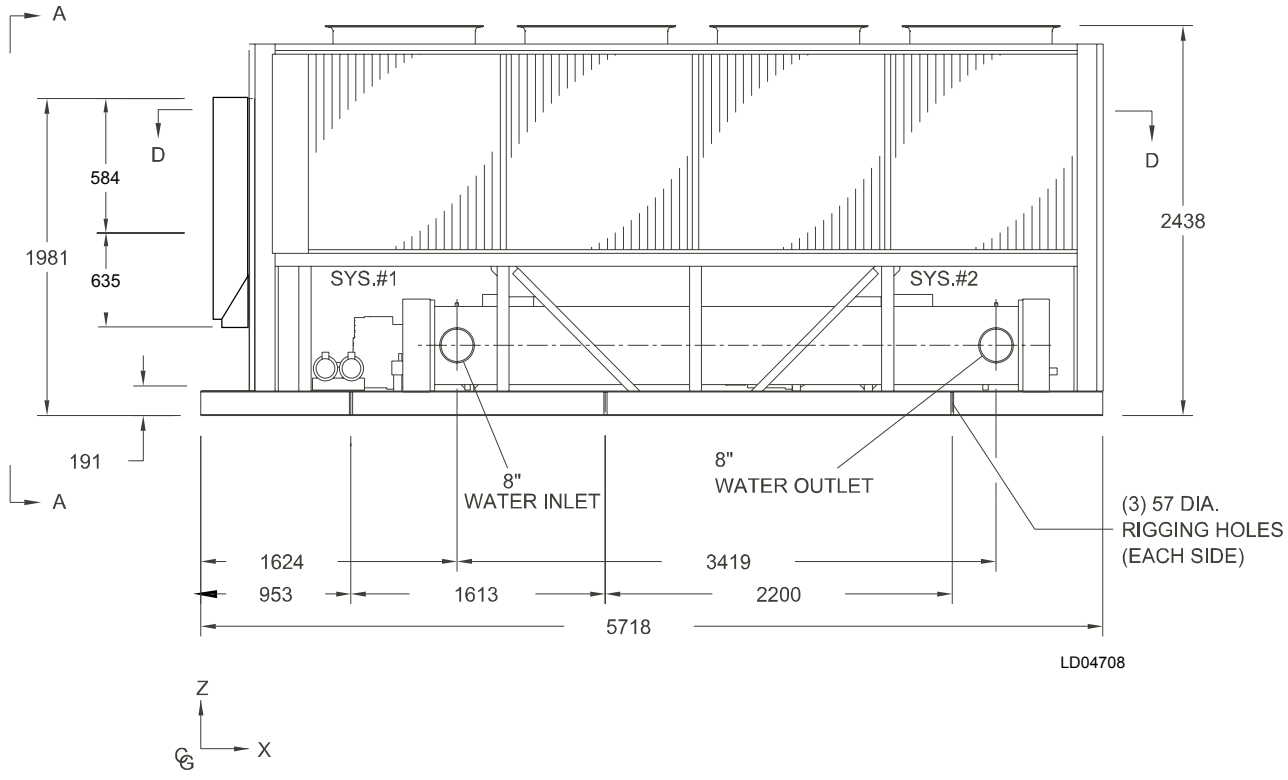
VIEW D-D

CENTER OF GRAVITY (Alum.)

YCAS	X	Y	Z
0425	2694	1090	937
0475	2704	1088	930
0515	2700	1091	929
0555	2703	1094	926
0575	2698	1097	923

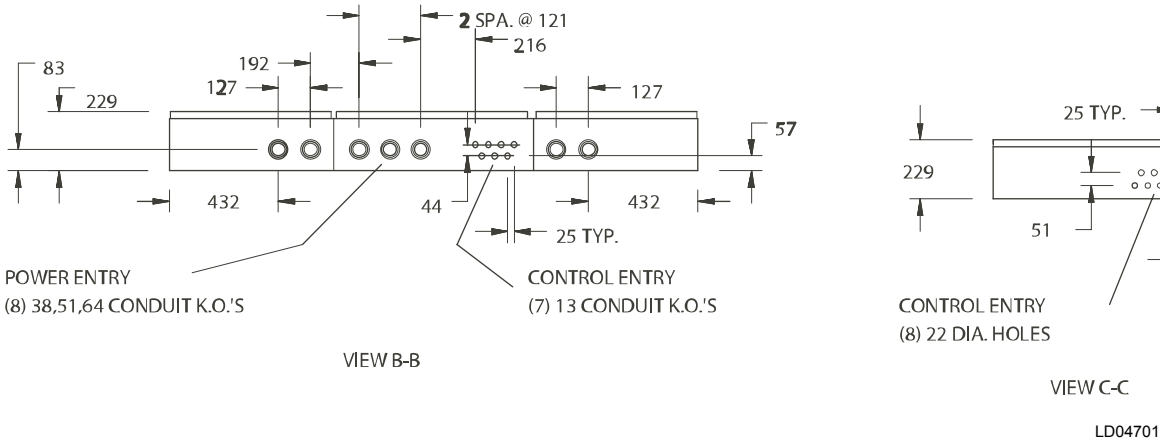
CENTER OF GRAVITY (Copper)

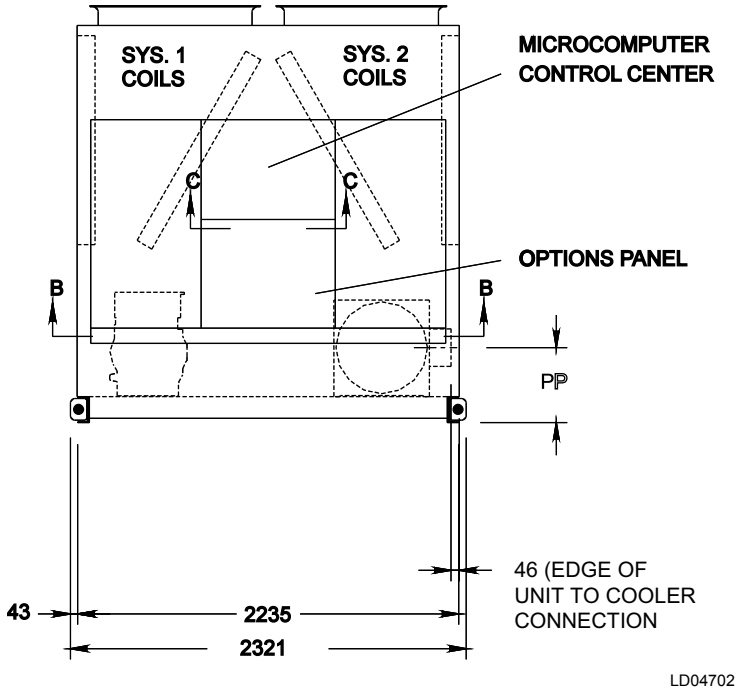
YCAS	X	Y	Z
0425	2732	1092	974
0475	2740	1090	967
0515	2736	1093	965
0555	2739	1096	963
0575	2739	1098	960



Dimensions – YCAS0605EB

All dimensions are in mm unless otherwise noted.

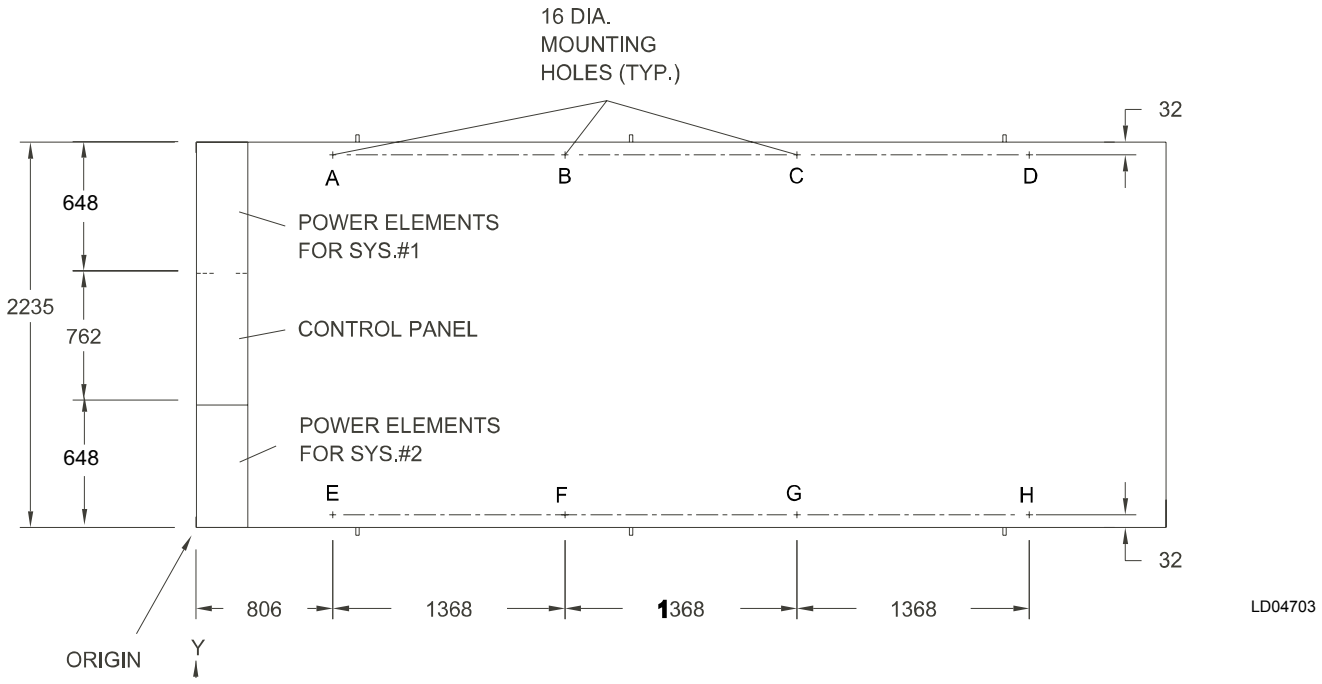




VIEW A-A

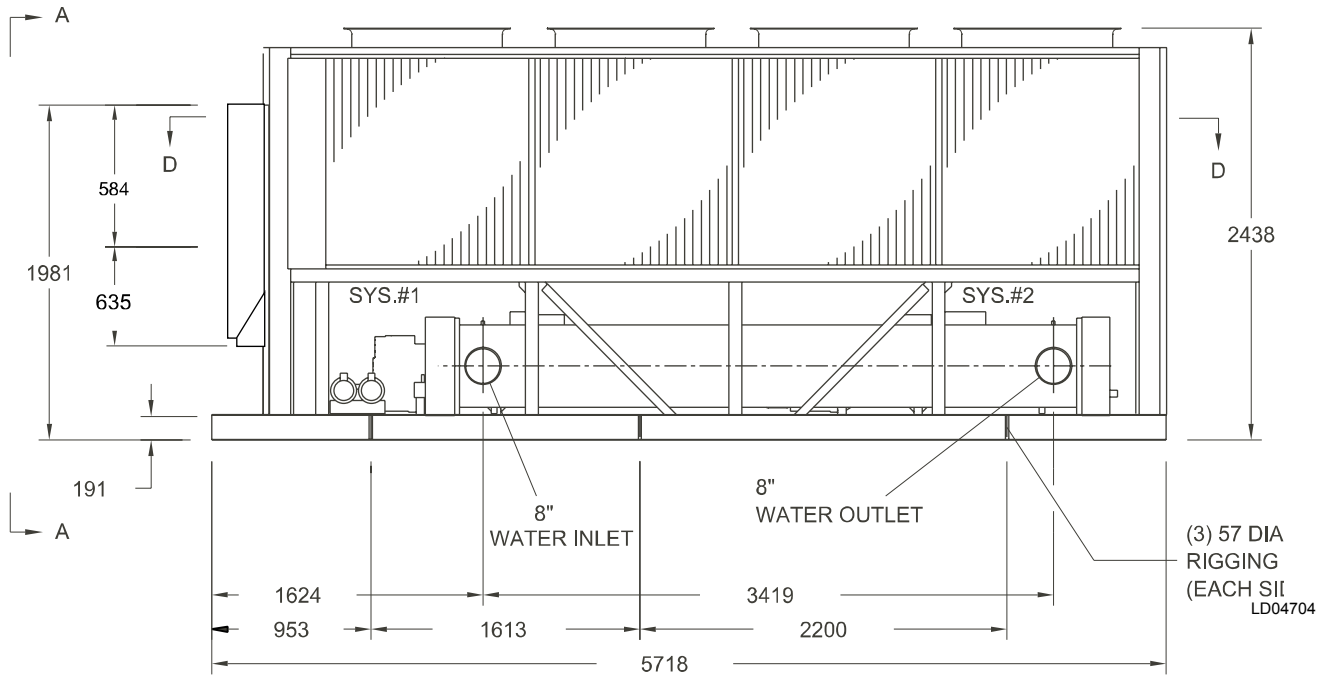
NOTES:

1. Placement on a level surface free of obstructions (including snow, for winter operation) or air recirculation ensures rated performance, reliable operation and ease of maintenance. Site restrictions may compromise minimum clearances indicated below, resulting in unpredictable air flow patterns and possible diminished performance. YORK's unit controls will optimize operation without nuisance high pressure safety cutout; however, the system designer must consider potential performance degradation. Access to the unit control center assumes the unit is no higher than on spring isolators. Recommended minimum clearances: Side to wall - 2m; rear to wall - 2m; control panel end to wall - 1.2m; top - no obstructions allowed; distance between adjacent units - 3m. No more than one adjacent wall may be higher than the unit..



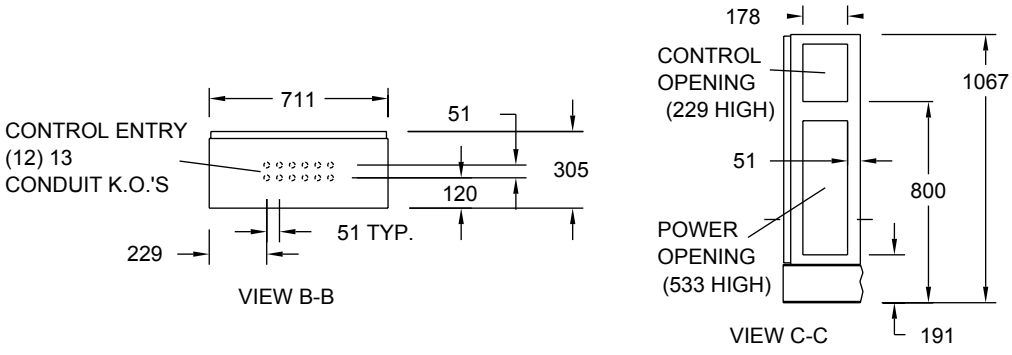
CENTER OF GRAVITY (Alum.)			
YCAS	X	Y	Z
0605	3370	1101	973

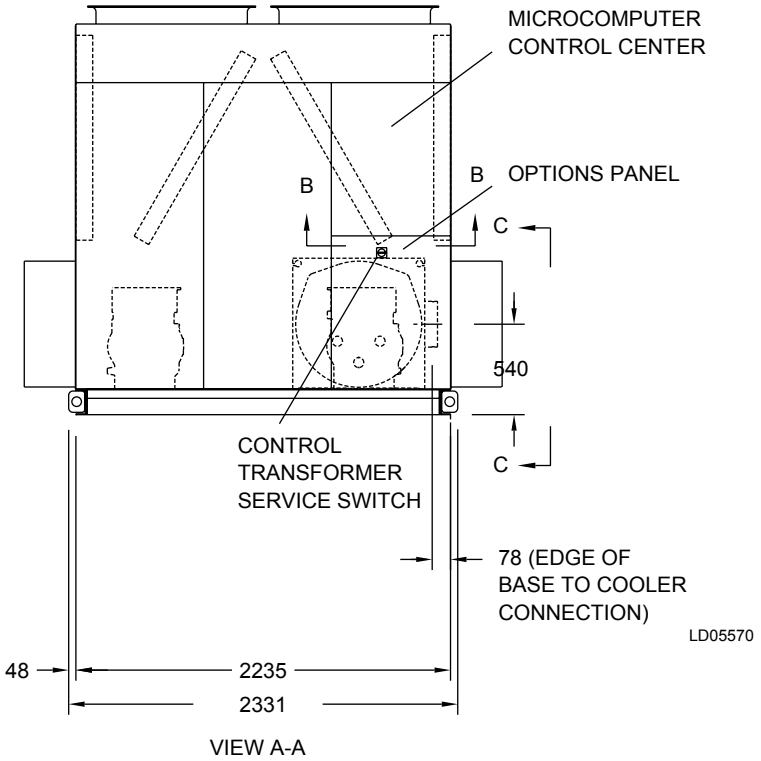
CENTER OF GRAVITY (Copper)			
YCAS	X	Y	Z
0605	3402	1102	1010



Dimensions – YCAS0685EB

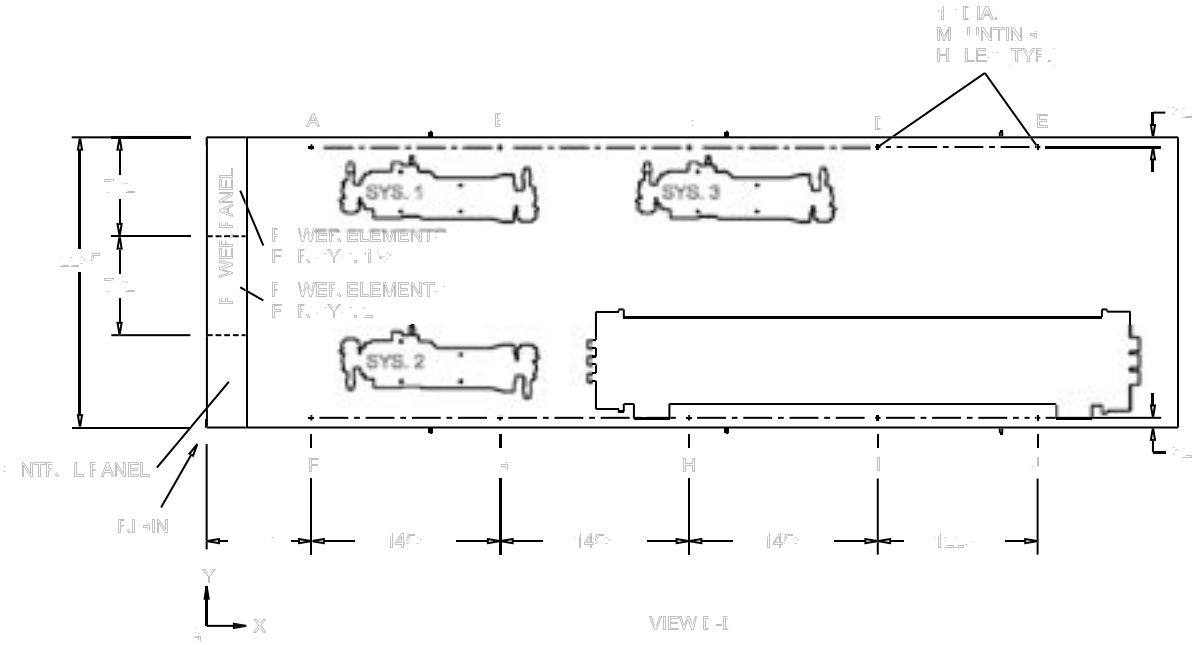
All dimensions are in mm unless otherwise noted.





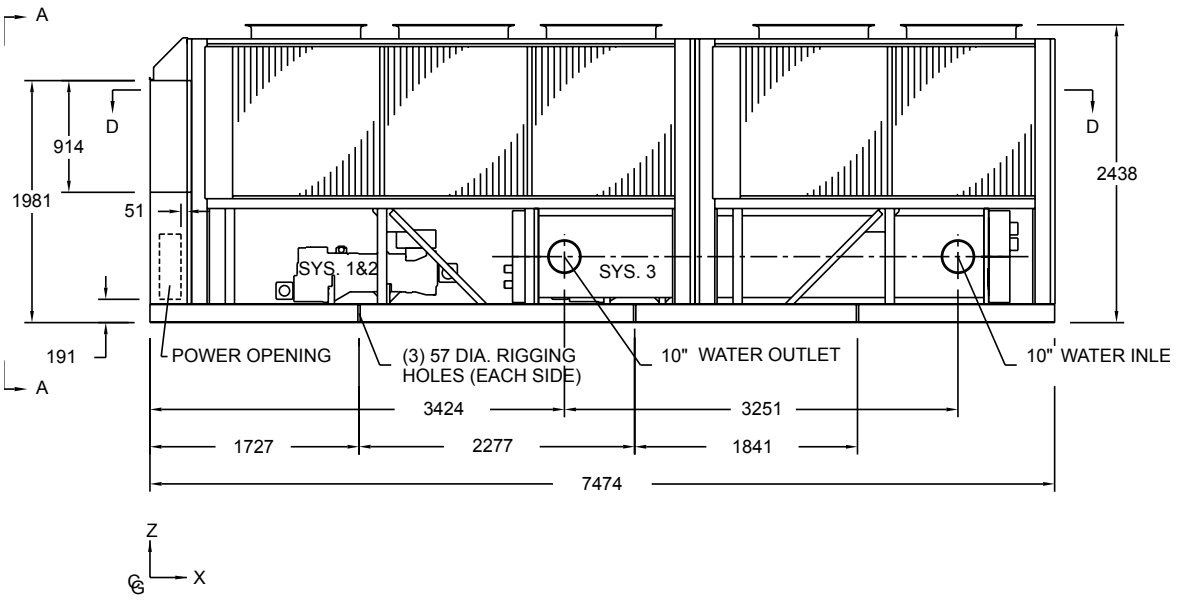
NOTES:

1. Placement on a level surface free of obstructions (including snow, for winter operation) or air recirculation ensures rated performance, reliable operation and ease of maintenance. Site restrictions may compromise minimum clearances indicated below, resulting in unpredictable air flow patterns and possible diminished performance. YORK's unit controls will optimize operation without nuisance high pressure safety cutout; however, the system designer must consider potential performance degradation. Access to the unit control center assumes the unit is no higher than on spring isolators. Recommended minimum clearances: Side to wall - 2m; rear to wall - 2m; control panel end to wall - 1.2m; top - no obstructions allowed; distance between adjacent units - 3m. No more than one adjacent wall may be higher than the unit.



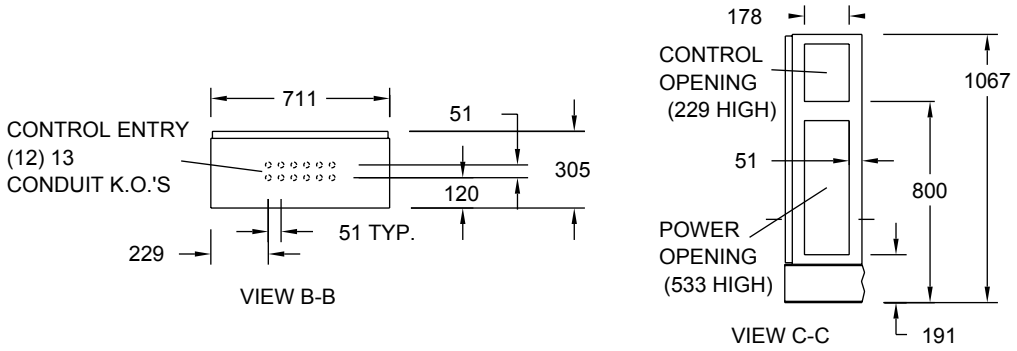
CENTER OF GRAVITY (Alum.)			
YCAS	X	Y	Z
0685	3689	999	901

CENTER OF GRAVITY (Copper)			
YCAS	X	Y	Z
0685	3711	1008	954

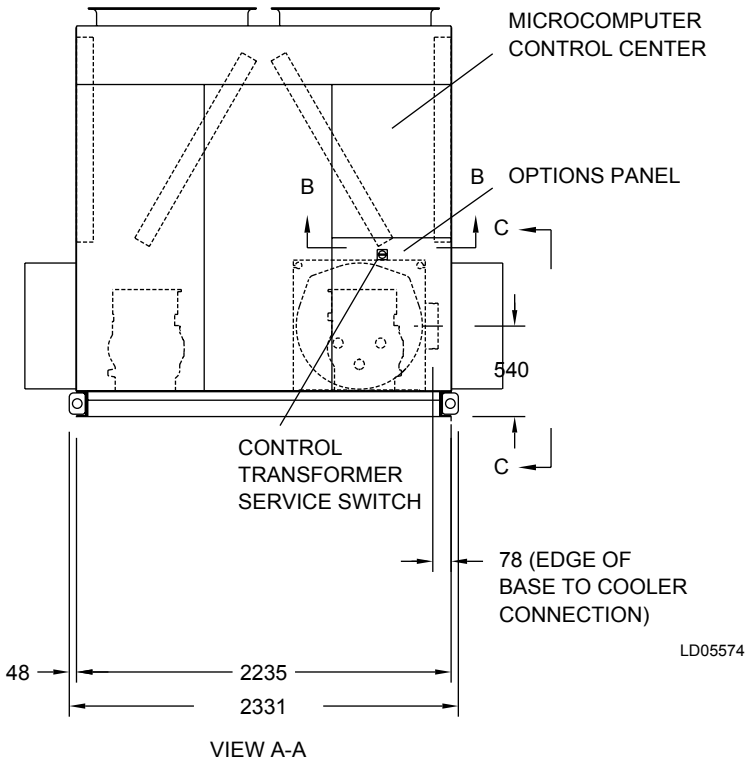


Dimensions – YCAS0775EB - YCAS0905EB

All dimensions are in mm unless otherwise noted.



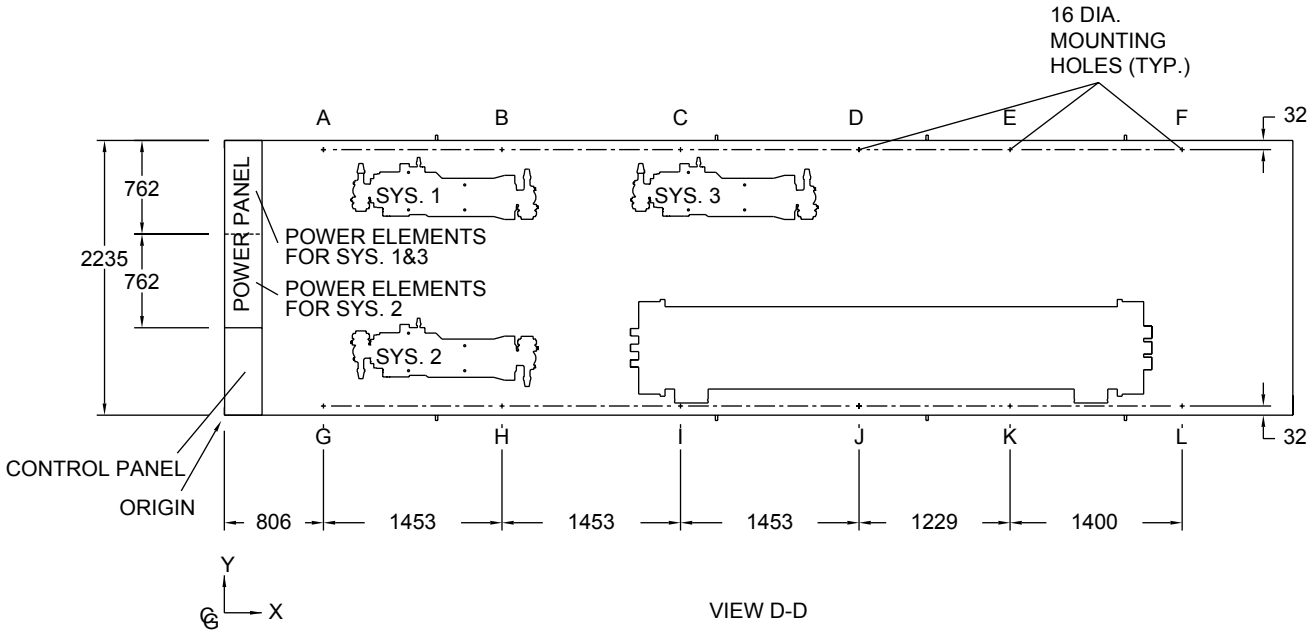
LD05573



LD05574

NOTES:

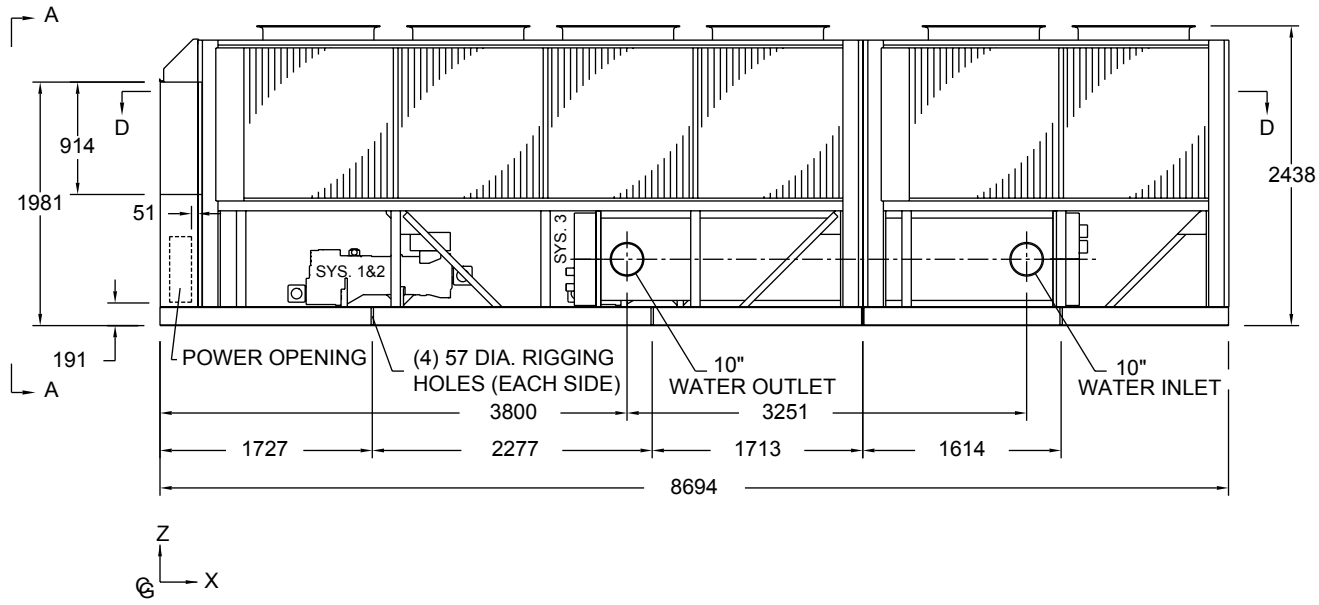
1. Placement on a level surface free of obstructions (including snow, for winter operation) or air recirculation ensures rated performance, reliable operation and ease of maintenance. Site restrictions may compromise minimum clearances indicated below, resulting in unpredictable air flow patterns and possible diminished performance. YORK's unit controls will optimize operation without nuisance high pressure safety cutout; however, the system designer must consider potential performance degradation. Access to the unit control center assumes the unit is no higher than on spring isolators. Recommended minimum clearances: Side to wall - 2m; rear to wall - 2m; control panel end to wall - 1.2m; top - no obstructions allowed; distance between adjacent units - 3m. No more than one adjacent wall may be higher than the unit.



LD05576

CENTER OF GRAVITY (Alum.)			
YCAS	X	Y	Z
0775	4221	1024	886
0835	4215	1026	886
0905	4209	1027	886

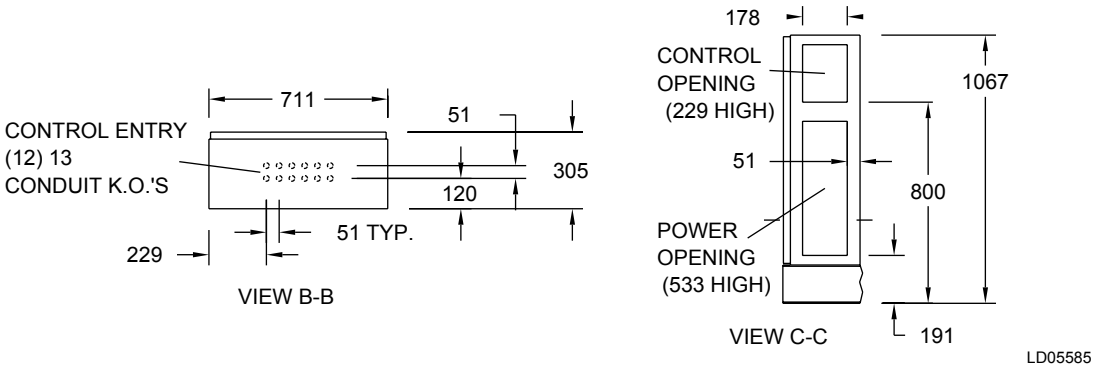
CENTER OF GRAVITY (Copper)			
YCAS	X	Y	Z
0775	4246	1031	947
0835	4240	1034	946
0905	4234	1034	943

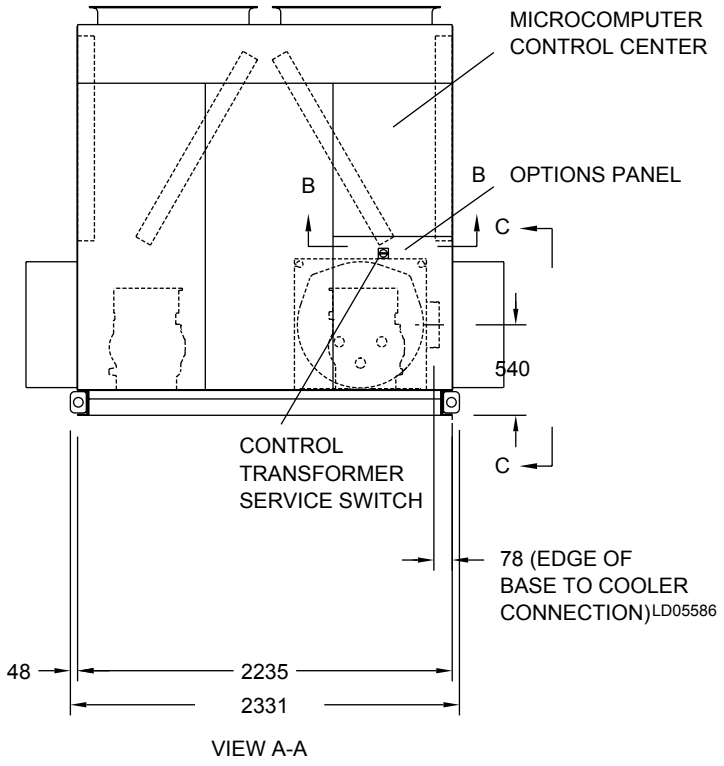


LD05575

Dimensions – YCAS0965EB

All dimensions are in mm unless otherwise noted.





NOTES:

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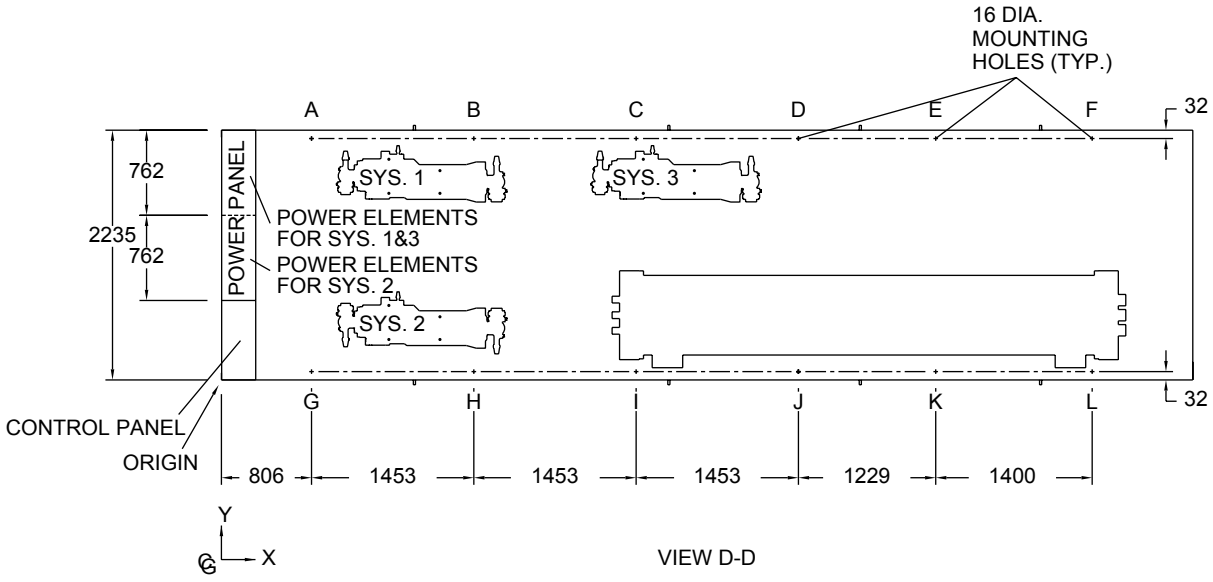
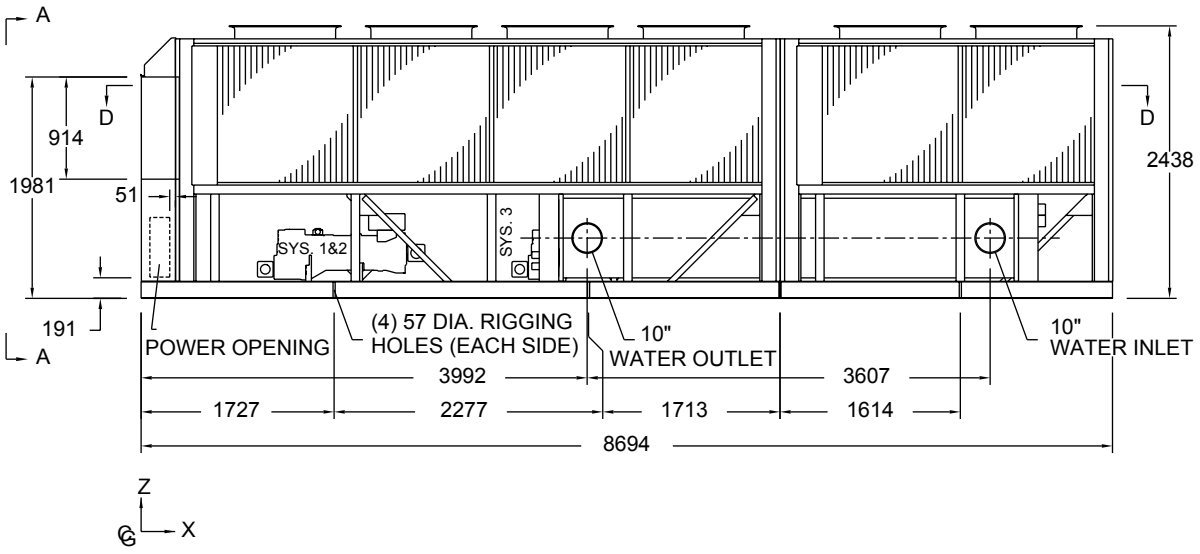


LD05587

CENTER OF GRAVITY (Alum.)			
YCAS	X	Y	Z
0965	4854	1042	996

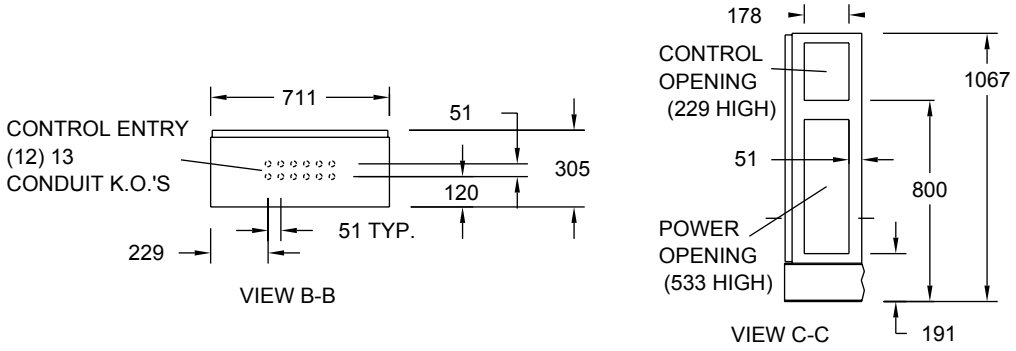
CENTER OF GRAVITY (Copper)			
YCAS	X	Y	Z
0965	4938	1049	1056

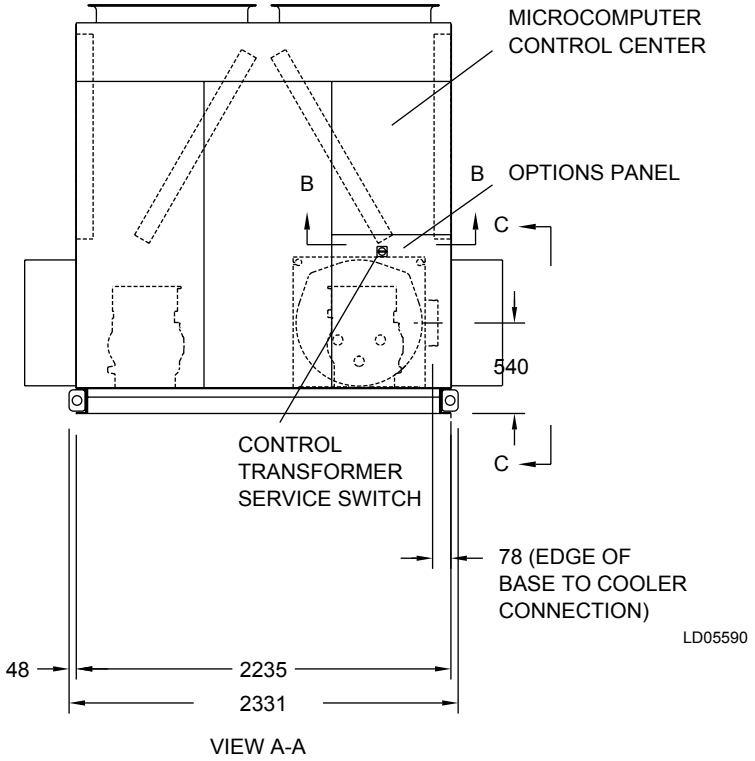


LD05588

Dimensions – YCAS1065EB - YCAS1215EB

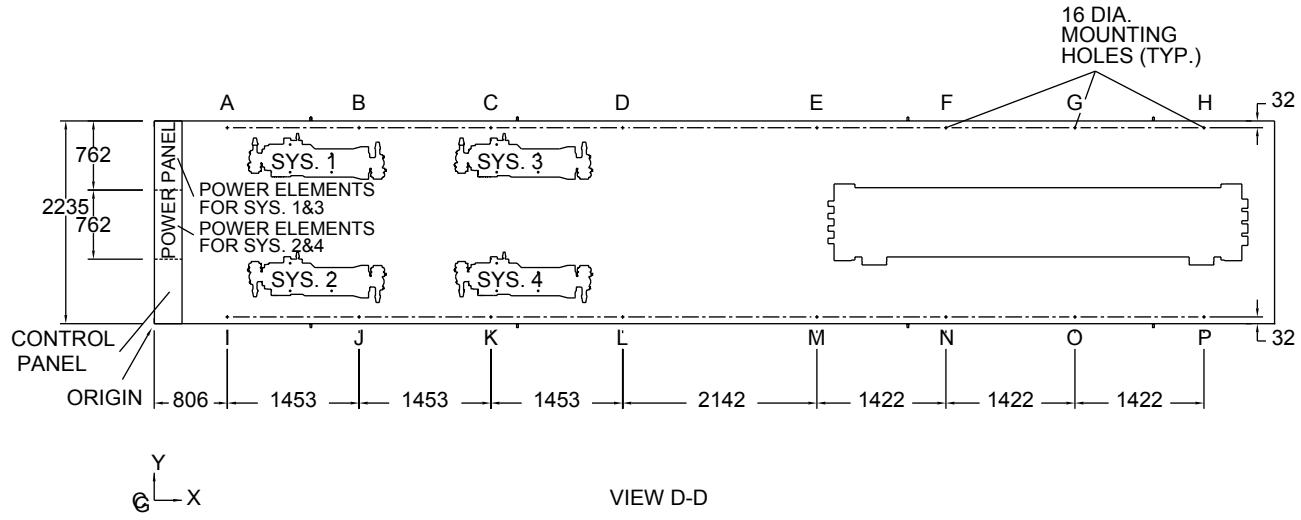
All dimensions are in mm unless otherwise noted.





NOTES:

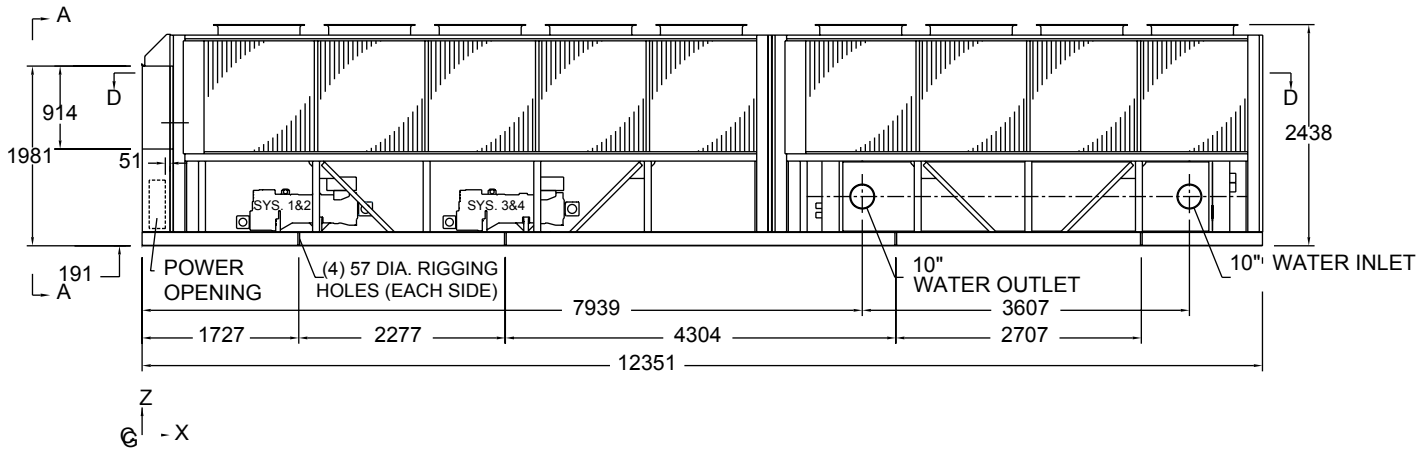
1. Placement on a level surface free of obstructions (including snow, for winter operation) or air recirculation ensures rated performance, reliable operation and ease of maintenance. Site restrictions may compromise minimum clearances indicated below, resulting in unpredictable air flow patterns and possible diminished performance. YORK's unit controls will optimize operation without nuisance high pressure safety cutout; however, the system designer must consider potential performance degradation. Access to the unit control center assumes the unit is no higher than on spring isolators. Recommended minimum clearances: Side to wall - 2m; rear to wall - 2m; control panel end to wall - 1.2m; top - no obstructions allowed; distance between adjacent units - 3m. No more than one adjacent wall may be higher than the unit.



LD05591

CENTER OF GRAVITY (Alum.)			
YCAS	X	Y	Z
1065	5654	1119	896
1135	5637	1128	957
1215	5632	1128	954

CENTER OF GRAVITY (Copper)			
YCAS	X	Y	Z
1065	5646	1119	956
1135	5631	1127	1012
1215	5627	1127	1010



LD05592

Operating Weights – *Aluminum Fin Condenser Coils*

ALUMINUM FINS WEIGHT DISTRIBUTION (kgs.) BY MODEL

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
YCAS0295	954	742	530	910	708	506	—	—	—	—	—	—	—	—	—	—	4,349
YCAS0335	975	777	579	929	740	552	—	—	—	—	—	—	—	—	—	—	4,551
YCAS0375	1,017	803	590	955	755	554	—	—	—	—	—	—	—	—	—	—	4,674
YCAS0425	828	758	689	619	870	797	723	650	—	—	—	—	—	—	—	—	5,933
YCAS0475	831	765	699	632	877	807	737	667	—	—	—	—	—	—	—	—	6,015
YCAS0515	847	778	709	639	889	816	743	671	—	—	—	—	—	—	—	—	6,092
YCAS0555	850	782	714	645	888	816	745	674	—	—	—	—	—	—	—	—	6,115
YCAS0575	860	789	718	647	893	820	746	672	—	—	—	—	—	—	—	—	6,145
YCAS0605	798	805	811	818	823	830	836	843	—	—	—	—	—	—	—	—	6,563
YCAS0685	878	1,013	957	492	716	878	1,248	1,043	733	1,124	—	—	—	—	—	—	9,081
YCAS0775	885	778	1,024	617	536	657	885	778	1,168	718	699	1,071	—	—	—	—	9,817
YCAS0835	898	797	1,028	623	542	662	892	787	1,173	725	705	1,076	—	—	—	—	9,906
YCAS0905	902	802	1,046	630	544	664	902	802	1,178	729	708	1,078	—	—	—	—	9,986
YCAS0965	865	767	1,012	605	578	551	357	276	840	730	1,124	711	819	869	357	276	10,737
YCAS1065	877	809	824	570	1,080	624	559	1,155	855	772	694	640	1,148	554	559	1,155	12,877
YCAS1135	889	828	826	572	1,080	625	561	1,156	866	789	695	642	1,150	555	561	1,156	12,950
YCAS1215	888	828	845	579	1,081	625	560	1,157	865	788	712	650	1,150	555	560	1,157	13,000

ALUMINUM FINS, SEISMIC ISOLATOR SELECTIONS – VMC MODEL # AWMR-X-XXX – (See Table 2, page 43)

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
YCAS0295	1-553	1-552	1-532	1-553	1-551	1-531	—	—	—	—	—	—	—	—	—	—
YCAS0335	1-553	1-552	1-532	1-553	1-551	1-531	—	—	—	—	—	—	—	—	—	—
YCAS0375	1-553	1-552	1-532	1-553	1-551	1-531	—	—	—	—	—	—	—	—	—	—
YCAS0425	1-552	1-552	1-551	1-532	1-553	1-552	1-551	1-532	—	—	—	—	—	—	—	—
YCAS0475	1-552	1-552	1-551	1-532	1-553	1-552	1-551	1-532	—	—	—	—	—	—	—	—
YCAS0515	1-552	1-552	1-551	1-532	1-553	1-552	1-551	1-532	—	—	—	—	—	—	—	—
YCAS0555	1-552	1-552	1-551	1-532	1-553	1-552	1-551	1-532	—	—	—	—	—	—	—	—
YCAS0575	1-552	1-552	1-551	1-532	1-553	1-552	1-551	1-532	—	—	—	—	—	—	—	—
YCAS0605	1-552	1-552	1-552	1-552	1-552	1-552	1-552	1-552	—	—	—	—	—	—	—	—
YCAS0685	1-553	2-530	2-530	1-530	1-551	1-553	2-532	2-530	1-551	2-531	—	—	—	—	—	—
YCAS0775	1-553	1-552	2-531	1-532	1-531	1-532	1-553	1-552	2-532	1-551	1-551	2-531	—	—	—	—
YCAS0835	1-553	1-552	2-531	1-532	1-531	1-532	1-553	1-552	2-532	1-551	1-551	2-531	—	—	—	—
YCAS0905	1-553	1-552	2-531	1-532	1-531	1-532	1-553	1-552	2-532	1-551	1-551	2-531	—	—	—	—
YCAS0965	1-553	1-552	2-530	2-521	2-520	1-531	1-530	1-520	1-552	1-551	2-531	2-53	2-53	2-53	1-530	1-520
YCAS1065	1-553	1-552	1-552	1-531	2-531	1-532	1-531	2-531	1-553	1-552	1-551	1-532	2-531	1-531	1-531	2-520
YCAS1135	1-553	1-552	1-552	1-531	2-531	1-532	1-531	2-531	1-553	1-552	1-551	1-532	2-531	1-531	1-531	2-520
YCAS1215	1-553	1-552	1-552	1-531	2-531	1-532	1-531	2-531	1-553	1-552	1-551	1-532	2-531	1-531	1-531	2-520

ALUMINUM FINS, 1" ISOLATOR SELECTIONS – VMC TYPE CP-2-XX – (See Table 3, page 43)

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
YCAS0295	2-31	2-28	2-27	2-31	2-28	2-27	—	—	—	—	—	—	—	—	—	—
YCAS0335	2-31	2-28	2-27	2-31	2-28	2-27	—	—	—	—	—	—	—	—	—	—
YCAS0375	2-31	2-28	2-27	2-31	2-28	2-27	—	—	—	—	—	—	—	—	—	—
YCAS0425	2-31	2-28	2-28	2-27	2-31	2-28	2-28	2-27	—	—	—	—	—	—	—	—
YCAS0475	2-31	2-28	2-28	2-27	2-31	2-28	2-28	2-27	—	—	—	—	—	—	—	—
YCAS0515	2-31	2-28	2-28	2-27	2-31	2-28	2-28	2-27	—	—	—	—	—	—	—	—
YCAS0555	2-31	2-28	2-28	2-27	2-31	2-28	2-28	2-27	—	—	—	—	—	—	—	—
YCAS0575	2-31	2-28	2-28	2-27	2-31	2-31	2-28	2-27	—	—	—	—	—	—	—	—
YCAS0605	2-28	2-28	2-28	2-31	2-31	2-31	2-31	2-31	—	—	—	—	—	—	—	—
YCAS0685	2-31	2-32	2-31	2-26	2-28	2-31	2-35	2-32	2-28	2-32	—	—	—	—	—	—
YCAS0775	2-31	2-28	2-32	2-27	2-26	2-27	2-31	2-28	2-32	2-28	2-28	2-32	—	—	—	—
YCAS0835	2-31	2-28	2-32	2-27	2-26	2-27	2-31	2-28	2-32	2-28	2-28	2-32	—	—	—	—
YCAS0905	2-31	2-28	2-32	2-27	2-26	2-27	2-31	2-28	2-32	2-28	2-28	2-32	—	—	—	—
YCAS0965	2-31	2-28	2-32	2-27	2-27	2-26	2-25	2-25	2-31	2-28	2-32	2-28	2-31	2-31	2-25	2-25
YCAS1065	2-31	2-28	2-31	2-27	2-32	2-27	2-27	2-32	2-31	2-28	2-28	2-27	2-32	2-27	2-27	2-32
YCAS1135	2-31	2-31	2-31	2-27	2-32	2-27	2-27	2-32	2-31	2-28	2-28	2-27	2-32	2-27	2-27	2-32
YCAS1215	2-31	2-31	2-31	2-27	2-32	2-27	2-27	2-32	2-31	2-28	2-28	2-27	2-32	2-27	2-27	2-32

* CP-4-XX

ALUMINUM FINS, NEOPRENE MOUNT SELECTIONS – VMC TYPE RD-4 – (See Table 1, page 42)

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
YCAS0295	-4 Red	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Blk	—	—	—	—	—	—	—	—	—	—
YCAS0335	-4 Red	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Blk	—	—	—	—	—	—	—	—	—	—
YCAS0375	-4 Red	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Blk	—	—	—	—	—	—	—	—	—	—
YCAS0425	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Red	-4 Blk	—	—	—	—	—	—	—	—
YCAS0475	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Red	-4 Blk	—	—	—	—	—	—	—	—
YCAS0515	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Red	-4 Blk	—	—	—	—	—	—	—	—
YCAS0555	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Red	-4 Blk	—	—	—	—	—	—	—	—
YCAS0575	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Red	-4 Blk	—	—	—	—	—	—	—	—
YCAS0605	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0685	-4 Red	-4 Red	-4 Red	-3 Gray	-4 Red	-4 Red	-4 Grn	-4 Grn	-4 Red	-4 Grn	—	—	—	—	—	—
YCAS0775	-4 Red	-4 Red	-4 Grn	-4 Blk	-4 Blk	-4 Blk	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	—	—	—	—
YCAS0835	-4 Red	-4 Red	-4 Grn	-4 Blk	-4 Blk	-4 Blk	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	—	—	—	—
YCAS0905	-4 Red	-4 Red	-4 Grn	-4 Blk	-4 Blk	-4 Blk	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	—	—	—	—
YCAS0965	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Blk	-4 Blk	-3 Gray	-3 Grn	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Red	-3 Gray	-3 Grn
YCAS1065	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Grn	-4 Blk	-4 Blk	-4 Grn	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Grn	-4 Blk	-4 Blk	-4 Grn
YCAS1135	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Grn	-4 Blk	-4 Blk	-4 Grn	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Grn	-4 Blk	-4 Blk	-4 Grn
YCAS1215	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Grn	-4 Blk	-4 Blk	-4 Grn	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Grn	-4 Blk	-4 Blk	-4 Grn

*VMC Type RD-3

Operating Weights – *Copper Fin (Or Aluminum Fin with Optional Silencer Kit) Condenser Coils*

COPPER FIN (OR ALUMINUM FIN WITH OPTIONAL SILENCER KIT) WEIGHT DISTRIBUTION (kgs.) BY MODEL

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
YCAS0295	1,032	810	587	989	776	563	—	—	—	—	—	—	—	—	—	—	4,757
YCAS0335	1,054	845	636	1,008	808	608	—	—	—	—	—	—	—	—	—	—	4,960
YCAS0375	1,096	871	647	1,034	823	611	—	—	—	—	—	—	—	—	—	—	5,083
YCAS0425	884	824	765	706	924	862	800	738	—	—	—	—	—	—	—	—	6,505
YCAS0475	887	831	775	719	932	873	814	755	—	—	—	—	—	—	—	—	6,587
YCAS0515	903	844	785	727	943	882	821	759	—	—	—	—	—	—	—	—	6,664
YCAS0555	906	848	791	733	942	882	822	762	—	—	—	—	—	—	—	—	6,687
YCAS0575	915	855	795	734	948	885	823	761	—	—	—	—	—	—	—	—	6,716
YCAS0605	864	885	905	925	888	909	929	951	—	—	—	—	—	—	—	—	7,255
YCAS0685	930	1,092	1,025	552	805	930	1,327	1,110	801	1,203	—	—	—	—	—	—	9,774
YCAS0775	938	861	1,098	691	606	730	938	861	1,234	801	777	1,137	—	—	—	—	10,673
YCAS0835	952	880	1,103	696	611	735	946	870	1,239	806	783	1,141	—	—	—	—	10,762
YCAS0905	956	885	1,121	704	613	737	956	885	1,245	811	786	1,144	—	—	—	—	10,842
YCAS0965	917	848	1,084	693	651	609	435	324	893	810	1,188	807	899	920	435	324	11,836
YCAS1065	930	892	899	630	1,148	697	641	1,233	951	855	761	709	1,225	620	641	1,233	14,064
YCAS1135	942	911	900	632	1,149	698	642	1,234	952	872	762	710	1,227	621	642	1,234	14,127
YCAS1215	941	910	920	639	1,149	698	641	1,235	973	871	778	719	1,227	621	641	1,235	14,197

COPPER FINS (OR ALUMINUM FIN WITH OPTIONAL SILENCER KIT), SEISMIC ISOLATOR SELECTIONS – VMC MODEL # AWMR-X-XX – (See Table 2, page 43)

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
YCAS0295	2-531	1-553	1-532	1-553	1-552	1-532	—	—	—	—	—	—	—	—	—	—
YCAS0335	2-531	1-553	1-532	1-553	1-552	1-532	—	—	—	—	—	—	—	—	—	—
YCAS0375	2-531	1-553	1-532	2-530	1-552	1-532	—	—	—	—	—	—	—	—	—	—
YCAS0425	1-553	1-552	1-552	1-552	1-553	1-553	1-552	1-552	—	—	—	—	—	—	—	—
YCAS0475	1-553	1-552	1-552	1-552	1-553	1-553	1-552	1-552	—	—	—	—	—	—	—	—
YCAS0515	1-553	1-552	1-552	1-552	1-553	1-553	1-552	1-552	—	—	—	—	—	—	—	—
YCAS0555	1-553	1-552	1-552	1-552	1-553	1-553	1-552	1-552	—	—	—	—	—	—	—	—
YCAS0575	1-553	1-552	1-552	1-552	1-553	1-553	1-552	1-552	—	—	—	—	—	—	—	—
YCAS0605	1-553	1-553	1-553	1-553	1-553	1-553	1-553	1-553	—	—	—	—	—	—	—	—
YCAS0685	1-553	2-531	2-530	1-531	1-552	1-553	2-532	2-531	1-552	2-532	—	—	—	—	—	—
YCAS0775	1-553	1-553	2-531	1-551	1-532	1-552	1-553	1-553	2-532	1-552	1-552	2-532	—	—	—	—
YCAS0835	1-553	1-553	2-531	1-551	1-532	1-552	1-553	1-553	2-532	1-552	1-552	2-532	—	—	—	—
YCAS0905	1-553	1-553	2-531	1-551	1-532	1-552	1-553	1-553	2-532	1-552	1-552	2-532	—	—	—	—
YCAS0965	1-553	1-552	2-531	2-521	2-521	1-532	1-530	1-521	1-553	1-552	2-532	1-553	2-53	1-553	1-530	1-530
YCAS1065	1-553	1-553	2-530	1-532	2-531	1-551	1-532	2-532	1-553	1-552	1-552	1-551	2-532	1-532	1-532	2-532
YCAS1135	1-553	1-553	2-530	1-532	2-531	1-551	1-532	2-532	1-553	1-553	1-552	1-551	2-532	1-532	1-532	2-532
YCAS1215	1-553	1-553	2-530	1-532	2-531	1-551	1-532	2-532	1-553	1-553	1-552	1-551	2-532	1-532	1-532	2-532

COPPER FINS (OR ALUMINUM FIN WITH OPTIONAL SILENCER KIT), 1" ISOLATOR SELECTIONS – VMC TYPE CP-2-XX – (See Table 3, page 43)

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
YCAS0295	2-32	2-31	2-27	2-32	2-31	2-27	—	—	—	—	—	—	—	—	—	—
YCAS0335	2-32	2-31	2-27	2-32	2-31	2-27	—	—	—	—	—	—	—	—	—	—
YCAS0375	2-32	2-31	2-27	2-32	2-31	2-27	—	—	—	—	—	—	—	—	—	—
YCAS0425	2-31	2-31	2-28	2-28	2-31	2-31	2-31	2-28	—	—	—	—	—	—	—	—
YCAS0475	2-31	2-31	2-28	2-28	2-31	2-31	2-31	2-28	—	—	—	—	—	—	—	—
YCAS0515	2-31	2-31	2-28	2-28	2-31	2-31	2-31	2-28	—	—	—	—	—	—	—	—
YCAS0555	2-31	2-31	2-28	2-28	2-31	2-31	2-31	2-28	—	—	—	—	—	—	—	—
YCAS0575	2-31	2-31	2-28	2-28	2-31	2-31	2-31	2-28	—	—	—	—	—	—	—	—
YCAS0605	2-31	2-31	2-31	2-31	2-31	2-31	2-31	2-31	—	—	—	—	—	—	—	—
YCAS0685	2-31	2-32	2-32	2-27	2-31	2-31	2-35	2-32	2-28	2-35	—	—	—	—	—	—
YCAS0775	2-31	2-31	2-32	2-28	2-27	2-28	2-31	2-31	2-35	2-28	2-28	2-32	—	—	—	—
YCAS0835	2-31	2-31	2-32	2-28	2-27	2-28	2-31	2-31	2-35	2-28	2-28	2-32	—	—	—	—
YCAS0905	2-31	2-31	2-32	2-28	2-27	2-28	2-31	2-31	2-35	2-28	2-28	2-32	—	—	—	—
YCAS0965	2-31	2-31	2-32	2-27	2-27	2-27	2-26	2-25	2-31	2-28	2-32	2-28	2-31	2-31	2-26	2-25
YCAS1065	2-31	2-31	2-31	2-27	2-32	2-28	2-27	2-35	2-31	2-31	2-28	2-28	2-35	2-27	2-27	2-35
YCAS1135	2-31	2-31	2-31	2-27	2-32	2-28	2-27	2-35	2-31	2-31	2-28	2-28	2-35	2-27	2-27	2-35
YCAS1215	2-31	2-31	2-31	2-27	2-32	2-28	2-27	2-35	2-31	2-31	2-28	2-28	2-35	2-27	2-27	2-35

COPPER FINS (OR ALUMINUM FIN WITH OPTIONAL SILENCER KIT), NEOPRENE MOUNT SELECTIONS – VMC TYPE RD-X – (See Table 1, page 42)

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
YCAS0295	-4 Grn	-4 Red	-4 Blk	-4 Grn	-4 Red	-4 Blk	—	—	—	—	—	—	—	—	—	—
YCAS0335	-4 Grn	-4 Red	-4 Blk	-4 Grn	-4 Red	-4 Blk	—	—	—	—	—	—	—	—	—	—
YCAS0375	-4 Grn	-4 Red	-4 Blk	-4 Grn	-4 Red	-4 Blk	—	—	—	—	—	—	—	—	—	—
YCAS0425	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0475	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0515	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0555	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0575	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0605	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0685	-4 Red	-4 Grn	-4 Grn	-4 Blk	-4 Red	-4 Red	-4 Grn	-4 Grn	-4 Red	-4 Grn	—	—	—	—	—	—
YCAS0775	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	—	—	—	—
YCAS0835	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	—	—	—	—
YCAS0905	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	—	—	—	—
YCAS0965	-4 Red	-4 Red	-4 Grn	-4 Blk	-4 Blk	-4 Blk	-3 Gray	-3 Grn	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Red	-3 Gray	-3 Grn
YCAS1065	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Grn	-4 Red	-4 Blk	-4 Grn	-4 Red	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Blk	-4 Blk	-4 Grn
YCAS1135	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Grn	-4 Red	-4 Blk	-4 Grn	-4 Red	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Blk	-4 Blk	-4 Grn
YCAS1215	-4 Red	-4 Red	-4 Red	-4 Blk	-4 Grn	-4 Red	-4 Blk	-4 Grn	-4 Red	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Blk	-4 Blk	-4 Grn

Operating Weights – Copper Fin with Optional Silencer Kit

COPPER FIN WITH OPTIONAL SILENCER KIT WEIGHT DISTRIBUTION (kgs.) BY MODEL

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
YCAS0295	1,115	896	677	1,073	862	651	—	—	—	—	—	—	—	—	—	—	5,274
YCAS0335	1,137	931	726	1,092	894	697	—	—	—	—	—	—	—	—	—	—	5,477
YCAS0375	1,178	958	737	1,119	909	699	—	—	—	—	—	—	—	—	—	—	5,600
YCAS0425	915	889	864	838	953	926	899	873	—	—	—	—	—	—	—	—	7,158
YCAS0475	919	896	874	851	961	937	913	889	—	—	—	—	—	—	—	—	7,240
YCAS0515	934	909	884	858	973	946	919	893	—	—	—	—	—	—	—	—	7,317
YCAS0555	938	913	889	865	972	946	921	896	—	—	—	—	—	—	—	—	7,340
YCAS0575	947	920	893	866	977	949	922	894	—	—	—	—	—	—	—	—	7,370
YCAS0605	952	980	1,007	1,034	976	1,004	1,032	1,060	—	—	—	—	—	—	—	—	8,044
YCAS0685	998	1,160	1,093	620	927	1,021	1,373	1,178	881	1,314	—	—	—	—	—	—	10,564
YCAS0775	1,007	929	1,159	766	686	841	1,007	929	1,289	882	870	1,235	—	—	—	—	11,599
YCAS0835	1,020	948	1,164	771	598	939	1,014	938	1,293	888	876	1,239	—	—	—	—	11,688
YCAS0905	1,024	953	1,182	779	694	847	1,024	953	1,300	893	878	1,241	—	—	—	—	11,768
YCAS0965	985	916	1,145	767	726	670	503	447	961	878	1,243	889	980	975	503	447	13,034
YCAS1065	998	960	960	705	1,222	758	709	1,355	976	923	816	791	1,307	674	709	1,355	15,218
YCAS1135	1,010	979	961	707	1,224	759	710	1,356	987	940	816	792	1,308	675	710	1,356	15,291
YCAS1215	1,009	978	981	714	1,224	759	709	1,357	986	939	832	801	1,309	675	709	1,357	15,340

COPPER FINS WITH OPTIONAL SILENCER KIT, SEISMIC ISOLATOR SELECTIONS – VMC MODEL # AWMR-X-XX – (See Table 2, page 43)

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
YCAS0295	2-531	1-553	1-551	2-531	1-553	1-551	—	—	—	—	—	—	—	—	—	—
YCAS0335	2-531	1-553	1-551	2-531	1-553	1-551	—	—	—	—	—	—	—	—	—	—
YCAS0375	2-531	1-553	1-551	2-531	1-553	1-551	—	—	—	—	—	—	—	—	—	—
YCAS0425	1-553	1-553	1-553	1-552	1-553	1-553	1-553	1-553	—	—	—	—	—	—	—	—
YCAS0475	1-553	1-553	1-553	1-552	1-553	1-553	1-553	1-553	—	—	—	—	—	—	—	—
YCAS0515	1-553	1-553	1-553	1-552	1-553	1-553	1-553	1-553	—	—	—	—	—	—	—	—
YCAS0555	1-553	1-553	1-553	1-553	1-553	1-553	1-553	1-553	—	—	—	—	—	—	—	—
YCAS0575	1-553	1-553	1-553	1-553	1-553	1-553	1-553	1-553	—	—	—	—	—	—	—	—
YCAS0605	1-553	1-553	1-553	2-530	2-530	2-530	2-531	2-530	—	—	—	—	—	—	—	—
YCAS0685	1-553	2-531	2-531	1-532	1-553	2-530	2-532	2-532	1-553	2-532	—	—	—	—	—	—
YCAS0775	2-530	1-553	2-532	1-552	1-551	1-552	2-530	1-553	2-532	1-553	1-553	2-532	—	—	—	—
YCAS0835	2-530	1-553	2-532	1-552	1-551	1-552	2-530	1-553	2-532	1-553	1-553	2-532	—	—	—	—
YCAS0905	2-530	1-553	2-532	1-552	1-551	1-552	2-530	1-553	2-532	1-553	1-553	2-532	—	—	—	—
YCAS0965	1-553	1-553	2-531	2-53	2-53	1-532	1-530	1-530	1-553	1-553	2-532	2-53	2-530	2-530	1-530	1-530
YCAS1065	2-530	1-553	1-553	1-551	2-532	1-551	1-551	2-532	1-553	1-553	2-53	1-552	2-532	1-532	1-551	2-532
YCAS1135	2-530	1-553	1-553	1-551	2-532	1-551	1-551	2-532	1-553	1-553	2-53	1-552	2-532	1-532	1-551	2-532
YCAS1215	2-530	1-553	1-553	1-551	2-532	1-551	1-551	2-532	1-553	1-553	2-53	1-552	2-532	1-532	1-551	2-532

COPPER FINS WITH OPTIONAL SILENCER KIT, 1" ISOLATOR SELECTIONS – VMC TYPE CP-2-XX – (See Table 3, page 43)

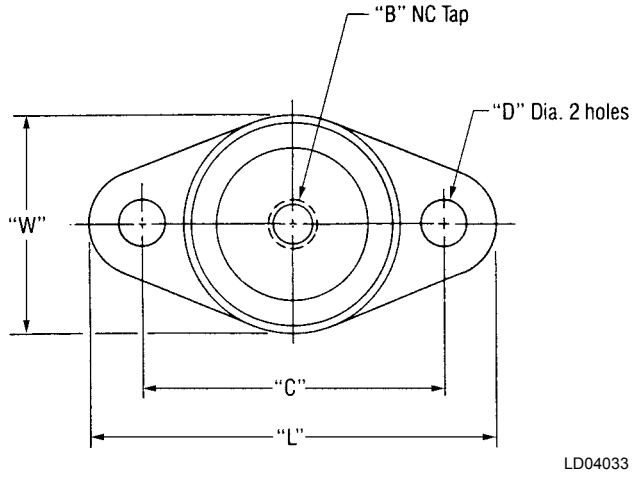
MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
YCAS0295	2-32	2-31	2-28	2-32	2-31	2-28	—	—	—	—	—	—	—	—	—	—
YCAS0335	2-32	2-31	2-28	2-32	2-31	2-28	—	—	—	—	—	—	—	—	—	—
YCAS0375	2-32	2-31	2-28	2-32	2-31	2-28	—	—	—	—	—	—	—	—	—	—
YCAS0425	2-31	2-31	2-31	2-31	2-31	2-31	2-31	2-31	—	—	—	—	—	—	—	—
YCAS0475	2-31	2-31	2-31	2-31	2-31	2-31	2-31	2-31	—	—	—	—	—	—	—	—
YCAS0515	2-31	2-31	2-31	2-31	2-31	2-31	2-31	2-31	—	—	—	—	—	—	—	—
YCAS0555	2-31	2-31	2-31	2-31	2-31	2-31	2-31	2-31	—	—	—	—	—	—	—	—
YCAS0575	2-31	2-31	2-31	2-31	2-31	2-31	2-31	2-31	—	—	—	—	—	—	—	—
YCAS0605	2-31	2-31	2-32	2-32	2-31	2-32	2-32	2-32	—	—	—	—	—	—	—	—
YCAS0685	2-31	2-32	2-32	2-27	2-31	2-32	2-35	2-32	2-31	2-35	—	—	—	—	—	—
YCAS0775	2-32	2-31	2-32	2-28	2-28	2-31	2-32	2-31	2-35	2-31	2-31	2-35	—	—	—	—
YCAS0835	2-32	2-31	2-32	2-28	2-28	2-31	2-32	2-31	2-35	2-31	2-31	2-35	—	—	—	—
YCAS0905	2-32	2-31	2-32	2-28	2-28	2-31	2-32	2-31	2-35	2-31	2-31	2-35	—	—	—	—
YCAS0965	2-31	2-31	2-32	2-28	2-28	2-27	2-26	2-26	2-31	2-31	2-35	2-31	2-31	2-31	2-26	2-26
YCAS1065	2-32	2-31	2-31	2-28	2-35	2-28	2-28	2-35	2-31	2-31	2-31	2-28	2-35	2-27	2-28	2-35
YCAS1135	2-32	2-31	2-31	2-28	2-35	2-28	2-28	2-35	2-31	2-31	2-31	2-28	2-35	2-27	2-28	2-35
YCAS1215	2-32	2-31	2-31	2-28	2-35	2-28	2-28	2-35	2-31	2-31	2-31	2-28	2-35	2-27	2-28	2-35

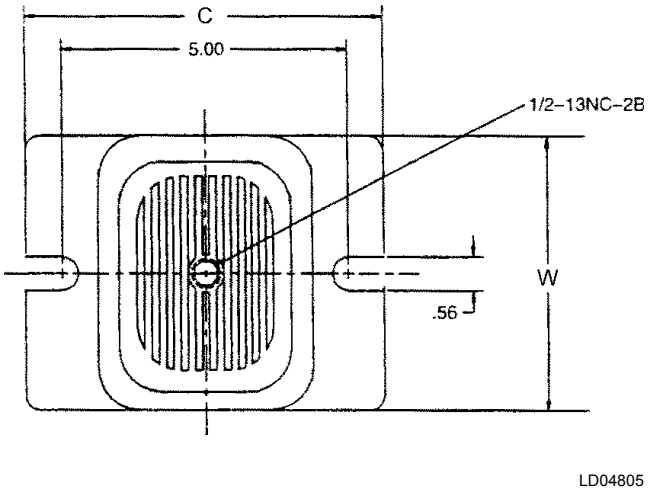
COPPER FINS WITH OPTIONAL SILENCER KIT, NEOPRENE MOUNT SELECTIONS – VMC TYPE RD-X – (See Table 1, page 42)

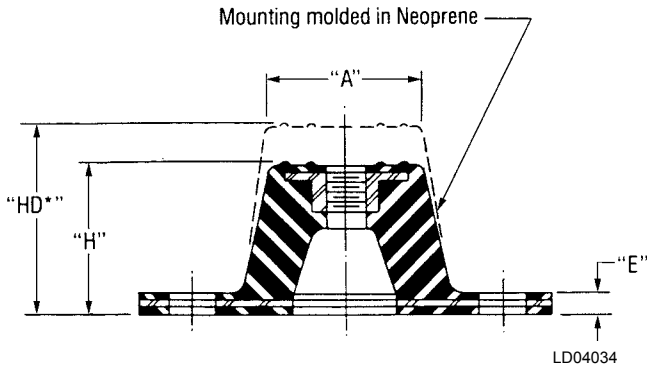
MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
YCAS0295	-4 Grn	-4 Red	-4 Blk	-4 Grn	-4 Red	-4 Blk	—	—	—	—	—	—	—	—	—	—
YCAS0335	-4 Grn	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Blk	—	—	—	—	—	—	—	—	—	—
YCAS0375	-4 Grn	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	—	—	—	—	—	—	—	—	—	—
YCAS0425	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0475	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0515	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0555	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0575	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	—	—	—	—	—	—	—	—
YCAS0605	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Grn	—	—	—	—	—	—	—	—
YCAS0685	-4 Red	-4 Grn	-4 Grn	-4 Blk	-4 Red	-4 Red	-4 Grn	-4 Grn	-4 Red	-4 Grn	—	—	—	—	—	—
YCAS0775	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	—	—	—	—
YCAS0835	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Blk	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	—	—	—	—
YCAS0905	-4 Grn	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	—	—	—	—
YCAS0965	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Blk	-4 Blk	-3 Gray	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Red	-4 Blk	-3 Gray
YCAS1065	-4 Red	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Blk	-4 Red	-4 Gray
YCAS1135	-4 Red	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Red	-4 Red	-4 Gray	-4 Blk	-4 Red	-4 Grn
YCAS1215	-4 Red	-4 Red	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Grn	-4 Red	-4 Red	-4 Red	-4 Red	-4 Gray	-4 Blk	-4 Red	-4 Grn

Isolator Details

NEOPRENE ISOLATOR DETAILS







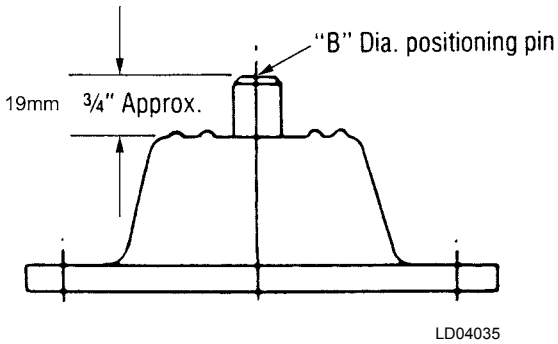
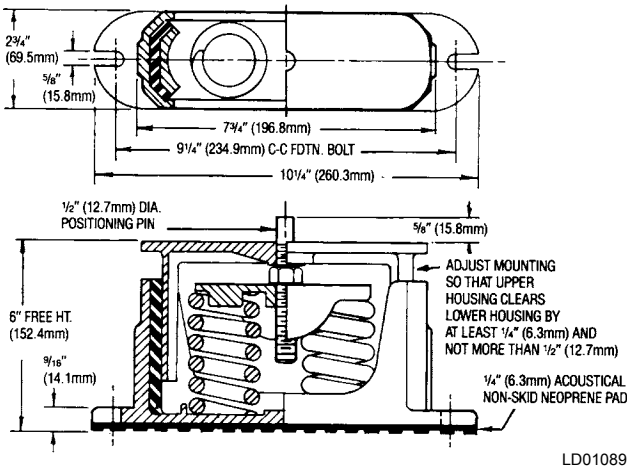


TABLE 1 – DIMENSIONS (mm)

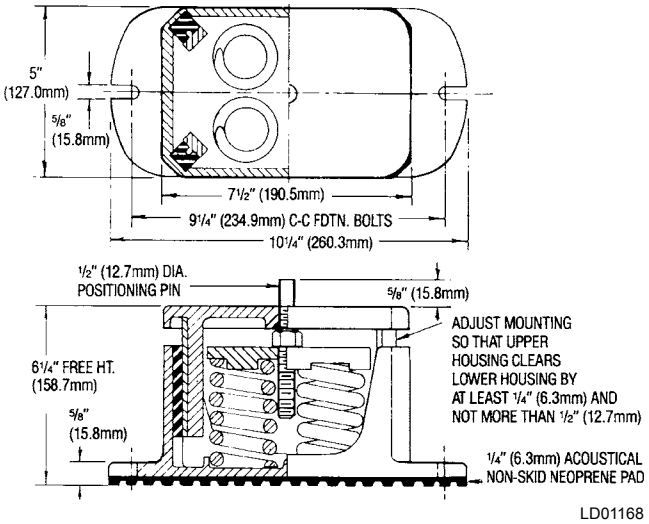
TYPE	L	W	H	* HD	A	B	C	D	E
R-3 or RD-3	139.7	85.8	44.4	73.2	63.5	12.7	104.8	14.4	6.3
R-4 or RD-4	158.7	117.6	41.4	69.8	76.2	12.7	127.0	14.4	9.6

* HD Dimension applies to double deflection Type RD mountings only.

1" ISOLATOR DETAILS



CP-2-XX



CP-4-XX

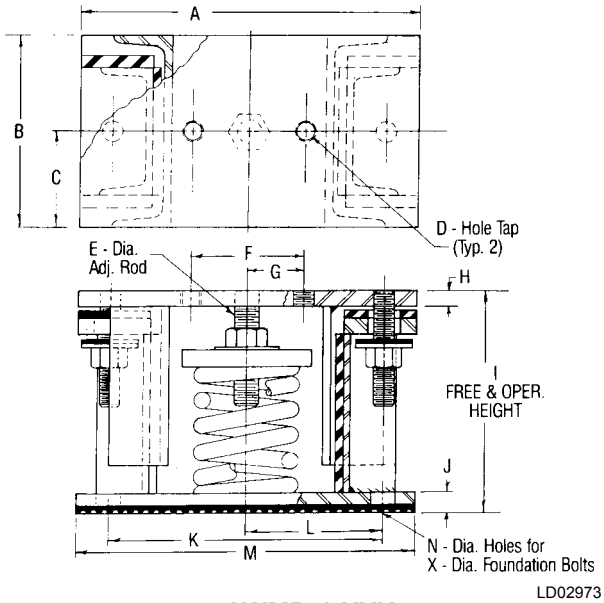
TABLE 2 – SEISMIC ISOLATORS

TYPE & SIZE	MAX LOAD		DEFL.	
	kg	lbs.	mm	in
AWMR-1-530	453.6	1150	51	2
AWMR-1-531	521.6	1276	51	2
AWMR-1-532	680.4	1500	51	2
AWMR-1-551	760.2	1676	51	2
AWMR-1-552	861.8	1900	51	2
AWMR-1-553	997.9	2200	51	2
AWMR-1-531	1157.6	2552	51	2

TABLE 3 – 1" SPRING ISOLATORS

TYPE & SIZE	MAX LOAD		DEFL.		SPRING COLOR
	lbs.	kg	in.	mm	
CP-2-26	408.2	1200	30.7	1.22	Red
CP-2-27	680.4	1500	26.9	1.06	Orange
CP-2-28	816.4	1800	25.9	1.02	Green
CP-2-31	997.9	2200	21.0	0.83	Gray
CP-2-32	1179.3	2600	18.7	0.74	White
CP-2-35	1360.8	3000	17.7	0.70	Gold
CP-4-28	1632.9	3600	25.9	1.02	Green

SEISMIC ISOLATOR DETAILS



AWMR-1-XXX

TABLE 4 – DIMENSIONS

	A	B	C	D	E	F	G	H	I	J	K	L	M	N/X
AWMR-1 50-553	267	152	76	16 11NC	19	89	44	13	229	16	216	108	267	19 16

Electrical Data

MULTIPLE POINT POWER SUPPLY CONNECTION – 2 COMPRESSOR UNITS (SEE FIG. 1)

(Each of Two Field Provided Power Supply Circuits individually protected with Branch Circuit Protection.
Field Connections to Factory provided Terminal Block (Std), Disconnects (Opt), or Individual System Circuit Breakers* (Opt)
in each of the two Motor Control Centers.)

Model YCAS	Volts	ELECTRICAL SYSTEM #1 FIELD SUPPLIED WIRING												
		MRA[1] (MCA)	Min. NF Disc. Sw.[2, 9]	Overcurrent Protection[13]		Factory Provided (Lugs) Wire Range[7]			Compressor			Fans[11, 12]		
				Min.[3, 5]	Max.[4, 6]	*Standard Terminal Block	*Optional NF. Disc Switch	Optional Circuit Breaker	RLA	Y-LRA	X-LRA	Qty.	FLA (Ea.)	LRA (Ea.)
0295EB	380	114	150	150	175	# 2 - 4/0	# 4 - 300	# 4 - 300	79	183	552	3	4.8	23.0
0335EB	380	159	150	200	250	# 2 - 4/0	# 4 - 300	# 6 - 250	115	217	690	3	4.8	23.0
0375EB	380	159	150	200	250	# 2 - 300	# 4 - 300	# 6 - 250	115	217	690	3	4.8	23.0
0425EB	380	152	150	200	250	# 2 - 300	# 6 - 250	# 6 - 250	106	217	690	4	4.8	23.0
0475EB	380	205	200	250	350	2/0 - 500	# 6 - 300	(2) 3/0 - 250	148	267	857	4	4.8	23.0
0515EB	380	205	200	250	350	# 2 - 300	# 6 - 300	# 6 - 350	148	267	857	4	4.8	23.0
0555EB	380	255	250	350	400	2/0 - 500	# 6 - 350	(2) 3/0 - 250	188	267	857	4	4.8	23.0
0575EB	380	255	250	350	400	2/0 - 500	# 6 - 350	(2) 3/0 - 250	188	267	857	4	4.8	23.0
0605EB	380	241	250	300	400	2/0 - 500	# 6 - 350	(2) 3/0 - 250	173	267	857	5	4.8	23.0

* "Optional" Circuit Breakers are REQUIRED for units with CE mark.

See page 47 for Electrical Data Notes.

MULTIPLE POINT POWER SUPPLY CONNECTION – 3 & 4 COMPRESSOR UNITS (SEE FIG. 5 OR FIG. 6)

(Two Field Provided Power Supply Circuits to the Chiller. Field Connections to Factory provided Terminal Block (Std)
or Disconnects (Opt) in the Options Panel. Factory Wired Terminal Blocks or Individual System Circuit Breakers* (opt[10]) in each of the two Motor Control Centers.)

Model YCAS	Volts	ELECTRICAL SYSTEM #1 FIELD SUPPLIED WIRING														
		Field Provided Power Supply				Factory Provided (Lugs) Wire Range[7]		Compressor #1			Compressor #3			Fan[11, 12] Data		
		MRA[1] (MCA)	Min NF Disc SW[2,9]	Over-current Protection[13]		* Standard Terminal block	Optional NF Disc. Switch	RLA	Y-Δ LRA	X-LRA	RLA	Y-Δ LRA	X-LRA	Qty	FLA (ea)	LRA (ea)
				Min.[3, 5]	Max.[4, 6]											
0685EB	380	367	400	400	500	(2) # 2 - 4/0	(2) 3/0 - 250	99	219	692	162	267	857	7	5.7	25
0775EB	380	367	400	400	450	(2) # 2 - 4/0	(2) 3/0 - 250	128	267	857	128	267	857	8	5.7	25
0835EB	380	410	400	450	500	(2) 1/0 - 300	(2) 250 - 500	163	267	857	128	267	857	8	5.7	25
0905EB	380	452	600	500	500	(2) 1/0 - 300	(2) 250 - 500	163	267	857	163	267	857	8	5.7	25
0965EB	380	442	600	450	500	(2) 1/0 - 300	(2) 250 - 500	155	267	857	148	267	857	11	5.7	25
1065EB	380	367	400	400	450	(2) # 2 - 4/0	(2) 3/0 - 250	128	267	857	128	267	857	8	5.7	25
1135EB	380	409	400	450	500	(2) 1/0 - 300	(2) 250 - 500	162	267	857	128	267	857	8	5.7	25
1215EB	380	452	600	500	500	(2) 1/0 - 300	(2) 250 - 500	162	267	857	162	267	857	8	5.7	25

* "Optional" Circuit Breakers are REQUIRED for units with CE mark.

See page 47 for Electrical Data Notes.

Model YCAS	Volts	ELECTRICAL SYSTEM #2 FIELD SUPPLIED WIRING												
		MRA[1] (MCA)	Min. NF Disc. Sw.[2, 9]	Overcurrent Protection[13]		Factory Provided (Lugs) Wire Range[7]			Compressor			Fans[11, 12]		
				Min.[3, 5]	Max.[4, 6]	*Standard Terminal Block	*Optional NF. Disc Switch	Optional Circuit Breaker	RLA	Y-LRA	X-LRA	Qty.	FLA (Ea.)	LRA (Ea.)
0295EB	380	114	150	150	175	# 2 - 4/0	# 4 - 300	# 4 - 300	79	183	552	3	4.8	23.0
0335EB	380	114	150	150	175	# 2 - 4/0	# 4 - 300	# 4 - 300	79	183	552	3	4.8	23.0
0375EB	380	159	150	200	250	# 2 - 300	# 4 - 300	# 6 - 350	115	217	690	3	4.8	23.0
0425EB	380	152	150	200	250	# 2 - 300	# 6 - 350	# 6 - 350	106	217	690	4	4.8	23.0
0475EB	380	152	150	200	250	# 1 - 500	# 6 - 350	(2) 3/0 - 250	106	217	690	4	4.8	23.0
0515EB	380	205	200	250	350	# 2 - 300	# 6 - 350	# 6 - 350	148	267	857	4	4.8	23.0
0555EB	380	205	200	250	350	# 1 - 500	# 6 - 350	(2) 3/0 - 250	148	267	857	4	4.8	23.0
0575EB	380	255	250	350	400	# 1 - 500	# 6 - 350	(2) 3/0 - 250	188	267	857	4	4.8	23.0
0605EB	380	241	250	300	400	# 1 - 500	# 6 - 350	(2) 3/0 - 250	173	267	857	5	4.8	23.0

Model YCAS	Volts	ELECTRICAL SYSTEM #2 FIELD SUPPLIED WIRING														
		Field Provided Power Supply				Factory Provided (Lugs) Wire Range[7]		Compressor #1			Compressor #3			Fan[11, 12] Data		
		MRA[1] (MCA)	Min NF Disc SW[2,9]	Over-current Protection[13]		Standard Terminal block	Optional NF Disc. Switch	RLA	Y-Δ LRA	X-LRA	RLA	Y-Δ LRA	X-LRA	Qty	FLA (ea)	LRA (ea)
				Min.[3, 5]	Max.[4, 6]											
0685EB	380	141	150	175	225	(1) # 2 - 4/0	(1) # 2 - 4/0	99	219	629	—	—	—	3	5.7	25
0775EB	380	184	200	225	300	(1) # 2 - 4/0	(1) #4 - 300	128	267	857	—	—	—	4	5.7	25
0835EB	380	184	200	225	300	(1) # 2 - 4/0	(1) #4 - 300	128	267	857	—	—	—	4	5.7	25
0905EB	380	226	250	300	350	(1) 1/0 - 300	(1) #4 - 300	163	267	857	—	—	—	4	5.7	25
0965EB	380	223	250	300	350	(1) 1/0 - 300	(1) #4 - 300	155	267	857	—	—	—	5	5.7	25
1065EB	380	367	400	400	450	(2) # 2 - 4/0	(2) 3/0 - 250	128	267	857	128	267	857	8	5.7	25
1135EB	380	409	400	450	500	(2) 1/0 - 300	(2) 250 - 500	162	267	857	128	267	857	8	5.7	25
1215EB	380	452	600	500	500	(2) 1/0 - 300	(2) 250 - 500	162	267	857	162	267	857	8	5.7	25

Electrical Data *(Continued)*

OPTIONAL SINGLE POINT POWER SUPPLY
WITH INDIVIDUAL SYSTEM CIRCUIT BREAKERS – 2 COMPRESSOR UNITS (SEE FIG. 2)

One Field Provided Power Supply Circuit to the chiller. Field connections to Power Terminal Block or Non-Fused Disconnect in 'Option Panel'. Internal Branch Circuit Protection (Breakers) per Motor Control Center[10].

CHILLER MODEL YCAS	FIELD-SUPPLIED WIRING					
	FIELD PROVIDED POWER SUPPLY				FACTORY PROVIDED (LUGS) WIRE RANGE [7]	
	MRA[1]	MIN NF DISC SW [2,9]	OVER-CURRENT PROTECTION		STANDARD TERMINAL BLOCK	OPTIONAL NF DISC. SWITCH
			MIN.[3, 5]	MAX.[4, 6]		
0295EB	227	250	250	250	2/0 - 500	# 6 - 350
0335EB	272	400	300	350	2/0 - 500	(2) 3/0-250
0375EB	317	400	350	400	(2) # 2 - 300	(2) 3/0-250
0425EB	304	400	350	350	(2) # 2 - 300	(2) 3/0-250
0475EB	356	400	400	450	(2) # 1 - 500	(3) 2/0-400
0515EB	409	400	450	500	(2) # 2 - 300	(2) 3/0-250
0555EB	459	600	500	600	(2) # 1 - 500	(3) 2/0-400
0575EB	509	600	600	600	(2) # 1 - 500	(3) 2/0-400
0605EB	481	600	500	600	(2) # 1 - 500	(3) 2/0-400

See page 47 for Electrical Data footnotes.

OPTIONAL SINGLE POINT POWER SUPPLY CONNECTION
WITH INDIVIDUAL SYSTEM CIRCUIT BREAKERS – 3 AND 4 COMPRESSOR UNITS (SEE FIG. 7)

One Field Provided Power Supply Circuit to the chiller. Field connections to Factory Provided Terminal Block (standard) or Non-Fused Disconnect (option) in the Options Panel. Individual System Circuit Breakers in each Motor Control Center.

CHILLER MODEL YCAS	FIELD-SUPPLIED WIRING					
	FIELD PROVIDED POWER SUPPLY				FACTORY PROVIDED (LUGS) WIRE RANGE [7]	
	MRA[1]	MIN NF DISC SW [2,9]	OVER-CURRENT PROTECTION		STANDARD TERMINAL BLOCK	OPTIONAL NF DISC. SWITCH
			MIN.[3, 5]	MAX.[4, 6]		
0685EB	482	600	600	600	(2) 2/0 - 500	(2) 250 - 500
0775EB	517	600	600	600	(2) 2/0 - 500	(2) 250 - 500
0835EB	560	600	700	700	(2) 2/0 - 500	(2) 250 - 500
0905EB	637	800	700	700	(3) 1/0 - 300	(3) 2/0 - 400
0965EB	625	800	800	800	(3) 1/0 - 300	(3) 2/0 - 400
1065EB	669	800	700	700	(3) 2/0 - 500	(3) 2/0 - 400
1135EB	745	800	800	800	(3) 2/0 - 500	(4) 4/0 - 500
1215EB	822	1000	1000	1000	(3) 2/0 - 500	(4) 4/0 - 500

See page 47 for Electrical Data footnotes.

CHILLER MODEL YCAS	ELECTRICAL SYSTEM #1							ELECTRICAL SYSTEM #2				
	COMPRESSOR DATA				FAN DATA[11, 12]			COMPRESSOR DATA			FAN DATA[11,12]	
	RLA	Y-LRA	X-LRA	QTY	FLA (EA)	LRA (EA)	RLA	Y-LRA	X-LRA	QTY	FLA (EA)	LRA (EA)
0295EB	79.0	183.0	552.0	3	4.8	23.0	79.0	183.0	552.0	3	4.8	23.0
0335EB	115.0	217.0	690.0	3	4.8	23.0	79.0	183.0	552.0	3	4.8	23.0
0375EB	115.0	217.0	690.0	3	4.8	23.0	115.0	217.0	690.0	3	4.8	23.0
0425EB	106.0	217.0	690.0	4	4.8	23.0	106.0	217.0	690.0	4	4.8	23.0
0475EB	148.0	267.0	857.0	4	4.8	23.0	106.0	217.0	690.0	4	4.8	23.0
0515EB	148.0	267.0	857.0	4	4.8	23.0	148.0	267.0	857.0	4	4.8	23.0
0555EB	188.0	267.0	857.0	4	4.8	23.0	148.0	267.0	857.0	4	4.8	23.0
0575EB	188.0	267.0	857.0	4	4.8	23.0	188.0	267.0	857.0	4	4.8	23.0
0605EB	173.0	267.0	857.0	5	4.8	23.0	173.0	267.0	857.0	5	4.8	23.0

ELECTRICAL SYSTEM #1									ELECTRICAL SYSTEM #2								
Compressor #1 Data			Compressor #3 Data			Fan Data[11, 12]			Compressor #2 Data			Compressor #4 Data			Fan Data[11, 12]		
RLA	Y-Δ LRA	X-LRA	RLA	Y-Δ LRA	X-LRA	Qty	FLA (ea)	LRA (ea)	RLA	Y-Δ LRA	X-LRA	RLA	Y-Δ LRA	X-LRA	Qty	FLA (ea)	LRA
99	219	692	162	267	857	7	5.7	25	(ea)								
128	267	857	128	267	857	8	5.7	25	99	219	629	—	—	—	3	5.7	25
163	267	857	128	267	857	8	5.7	25	128	267	857	—	—	—	4	5.7	25
163	267	857	163	267	857	8	5.7	25	128	267	857	—	—	—	4	5.7	25
155	267	857	148	267	857	11	5.7	25	163	267	857	—	—	—	4	5.7	25
128	267	857	128	267	857	8	5.7	25	155	267	857	—	—	—	5	5.7	25
162	267	857	128	267	857	8	5.7	25	128	267	857	128	267	857	8	5.7	25
162	267	857	162	267	857	8	5.7	25	162	267	857	128	267	857	8	5.7	25

Electrical Data (Continued)

OPTIONAL SINGLE POINT POWER SUPPLY CONNECTION – 2 COMPRESSOR UNITS (SEE FIG. 3)

One Field Provided Power Supply Circuit to the chiller. Field Connection to Power Terminal Block or Disconnect Switch in the 'Option Panel'.
No Internal System Circuit Breaker Protection per Motor Control Center[10].

CHILLER MODEL YCAS	FIELD-SUPPLIED WIRING					
	FIELD PROVIDED POWER SUPPLY				FACTORY PROVIDED (LUGS) WIRE RANGE [7]	
	MCA[1]	MIN NF DISC SW [2, 9]	OVER-CURRENT PROTECTION[13] MIN.[3, 5]	OVER-CURRENT PROTECTION[13] MAX.[4, 6]	STANDARD TERMINAL BLOCK	OPTIONAL NF DISC. SWITCH
0295EB	227	250	250	250	2/0-500	# 6 - 350
0335EB	272	400	300	350	2/0-500	(2) 3/0-250
0375EB	317	400	350	400	(2) # 2 - 300	(2) 3/0-250
0425EB	304	400	350	350	(2) # 2 - 300	(2) 3/0-250
0475EB	356	400	400	450	(2) # 1 - 500	(3) 2/0-400
0515EB	409	400	450	500	(2) # 2 - 300	(2) 3/0-250
0555EB	459	600	500	600	(2) # 1 - 500	(3) 2/0-400
0575EB	509	600	600	600	(2) # 1 - 500	(3) 2/0-400
0605EB	481	600	500	600	(2) # 1 - 500	(3) 2/0-400

Option *NOT* available for units with CE mark.

See page 47 for Electrical Data footnotes.

OPTIONAL SINGLE POINT POWER SUPPLY CONNECTION TO FACTORY CIRCUIT BREAKER – 2 COMPRESSOR UNITS (SEE FIG. 4)

One Field Provided Power Supply Circuit to the chiller. Field connection to Circuit Breaker in "Option Panel".
No internal System Circuit Breaker Protection per Motor Control Center**[10].**

CHILLER MODEL YCAS	FIELD SUPPLIED WIRING			SYSTEM #1					SYSTEM #2				
	MRA[1]	FACTORY SUPPLIED BREAKER		COMPRESSOR		FANS [11, 12]			COMPRESSOR		FANS [11, 12]		
		RATING[5,6]	WIRE RANGE[7] (LUGS)	RLA	X-LRA	QTY	FLA (EA)	FLA (EA)	RLA	X-LRA	QTY	FLA (EA)	LRA (EA)
0295EB	227	250	# 6 - 350	79.0	552.0	3	4.8	23.0	79	552.0	3	4.8	23.0
0335EB	272	400	(2) 3/0-250	115.0	690.0	3	4.8	23.0	79	552.0	3	4.8	23.0
0375EB	317	450	(2) 3/0-250	115.0	690.0	3	4.8	23.0	115	690.0	3	4.8	23.0
0425EB	304	500	(2) 3/0-250	106.0	690.0	4	4.8	23.0	106	690.0	4	4.8	23.0
0475EB	356	600	(3) 2/0-400	148.0	857.0	4	4.8	23.0	106	690.0	4	4.8	23.0
0515EB	409	500	(2) 3/0-250	148.0	857.0	4	4.8	23.0	148	857.0	4	4.8	23.0
0555EB	459	600	(3) 2/0-400	188.0	857.0	4	4.8	23.0	148	857.0	4	4.8	23.0
0575EB	509	700	(3) 2/0-400	188.0	857.0	4	4.8	23.0	188	857.0	4	4.8	23.0
0605EB	481	600	(3) 2/0-400	173.0	857.0	5	4.8	23.0	173	857.0	5	4.8	23.0

Option *NOT* available for units with CE mark.

See page 47 for Electrical Data footnotes.

CHILLER MODEL YCAS	SYSTEM #1					SYSTEM #2				
	COMPRESSOR DATA		FAN DATA[11, 12]			COMPRESSOR DATA		FAN DATA[11,12]		
	RLA	X-LRA	QTY	FLA (EA.)	LRA (EA)	RLA	X-LRA	QTY	FLA (EA)	LRA (EA)
0295EB	79	552	3	4.8	23.0	79	552	3	4.8	23.0
0335EB	115	690	3	4.8	23.0	79	552	3	4.8	23.0
0375EB	115	690	3	4.8	23.0	115	690	3	4.8	23.0
0425EB	106	690	4	4.8	23.0	106	690	4	4.8	23.0
0475EB	148	857	4	4.8	23.0	106	690	4	4.8	23.0
0515EB	148	857	4	4.8	23.0	148	857	4	4.8	23.0
0555EB	188	857	4	4.8	23.0	148	857	4	4.8	23.0
0575EB	188	857	4	4.8	23.0	188	857	4	4.8	23.0
0605EB	173	857	5	4.8	23.0	173	857	5	4.8	23.0

Electrical Data *(Continued)*

CONTROL POWER SUPPLY (UNITS WITHOUT STANDARD CONTROL CIRCUIT TRANSFORMERS)

NO. OF COMPRESSORS	CONTROL POWER SUPPLY	MCA (MAX LOAD CURRENT)	MAX DUAL ELEMENT FUSE SIZE	NON-FUSED DISCONNECT SWITCH SIZE
2	115V-1Ø	20A	20A	30A
3 or 4 (Non-CE 50/60Hz)	115V-1Ø	30A	30A	30A

CONTROL POWER SUPPLY (UNITS WITH STANDARD CONTROL CIRCUIT TRANSFORMERS)

NO. OF COMPRESSORS	CONTROL POWER SUPPLY	MCA (MAX LOAD CURRENT)	RECOMMENDED DUAL ELEMENT FUSE SIZE	NON-FUSED DISCONNECT SWITCH SIZE
2	400V - 50Hz	6.3A	15A	——
3 or 4	400V - 50Hz	9.4A	15A	——

LEGEND

ACR-LINE	ACROSS THE LINE START
CB	CIRCUIT BREAKER
DE FU	DUAL ELEMENT FUSE
DISC SW	DISCONNECT SWITCH
FACT MOUNT CB	FACTORY-MOUNTED CIRCUIT BREAKER
FACT MOUNT FUSE	FACTORY-MOUNTED FUSES
FLA	FULL LOAD AMPS
HZ	HERTZ
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MIN NF	MINIMUM NON-FUSED
RLA	RUNNING LOAD AMPS
S.P. WIRE	SINGLE-POINT WIRING
UNIT MTD SERV SW	UNIT-MOUNTED SERVICE (NON-FUSED DISCONNECT SWITCH)
WYE-DELTA	WYE-DELTA START
XLRA	ACROSS-THE-LINE INRUSH LOCKED ROTOR AMPS
YLRA	WYE-DELTA INRUSH LOCKED ROTOR AMPS

Electrical Notes

NOTES (pages 40 - 46)

1. MRA is Maximum Running Amps, the maximum continuous current at any operating point in the rating range. Also referred to as MCA, or Minimum Circuit Ampacity to be provided by the installer. If a Factory Mounted Control Transformer is provided, add 3 amps to the system #1 MCA values in the YCAS Tables.
2. The recommended disconnect switch is based on a minimum of 115% of the summation rated load amps of all the loads included in the circuit, per N.E.C. 440 - 12A1.
3. Minimum recommended fuse size is based on 150% of the largest motor RLA plus 100% of the remaining RLAs. Minimum fuse rating = (1.5 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
4. Maximum dual element fuse size is based on 225% maximum plus 100% of the rated load amps for all other loads included in the circuit, per N.E.C. 440-22. Maximum fuse rating = (2.25 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
5. Minimum recommended circuit breaker is 150% maximum plus 100% of rated load amps included in the circuit. Minimum circuit breaker rating = (1.5 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
6. Maximum circuit breaker is based on 225% maximum plus 100% of the rated load amps for all loads included in the circuit, per circuit, per U.L. **1995** Fig. 36.2. Maximum circuit breaker rating = (2.25 x largest compressor RLA) + other compressor RLAs + (# fans x each fan motor FLA).
7. The Incoming Wire Range is the minimum and maximum wire size that can be accommodated by unit wiring lugs. The (1), (2), or (3) indicate the number of termination points or lugs which are available per phase. Actual wire size and number of wires per phase must be determined based on ampacity and job requirements using N.E.C. wire sizing information. The above recommendations are based on the National Electrical Code and using **copper connectors** only. Field wiring must also comply with local codes.
8. A ground lug is provided for each compressor system to accommodate field grounding conductor per N.E.C. Article 250-54. A control circuit grounding lug is also supplied.
9. The field supplied disconnect is a “Disconnecting Means” as defined in N.E.C. 100.B, and is intended for isolating the unit from the available power supply to perform maintenance and troubleshooting. This disconnect is not intended to be a Load Break Device.
10. Two-compressor machines with single-point power connection, and equipped with Star-Delta compressor motor start must also include Factory provided circuit breakers in each motor control center.
11. Consult factory for Electrical Data on units equipped with “High Static Fan” option. 50Hz High Static Fans are 3.5kW each.
12. FLA for each “Low Noise Fan” motor: 380v/50Hz = 4.1A.

Power Connection Options

STYLE "G" 2 COMPRESSOR POWER WIRING CONNECTIONS

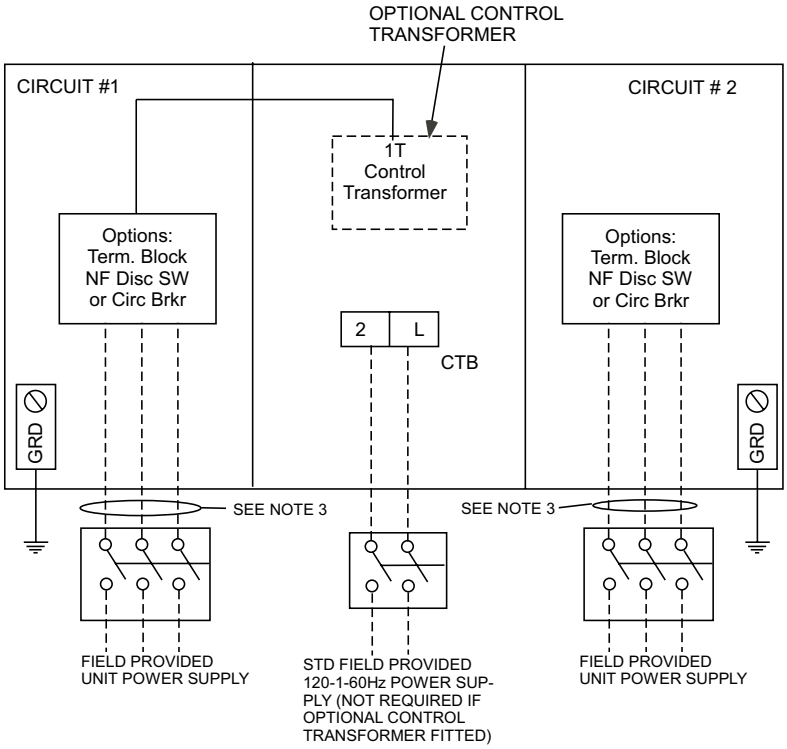


FIG. 1 – MULTIPLE POINT POWER SUPPLY CONNECTION – STANDARD UNIT

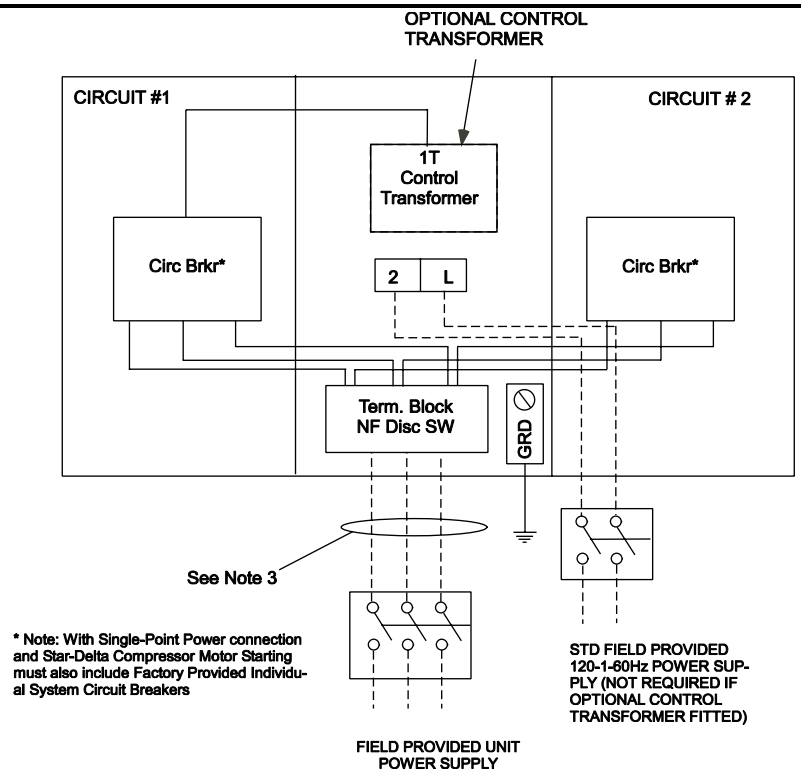


FIG. 2 – OPTIONAL SINGLE POINT POWER SUPPLY CONNECTION WITH INDIVIDUAL SYSTEM CIRCUIT BREAKERS

STYLE "G" 2 COMPRESSOR POWER WIRING CONNECTIONS

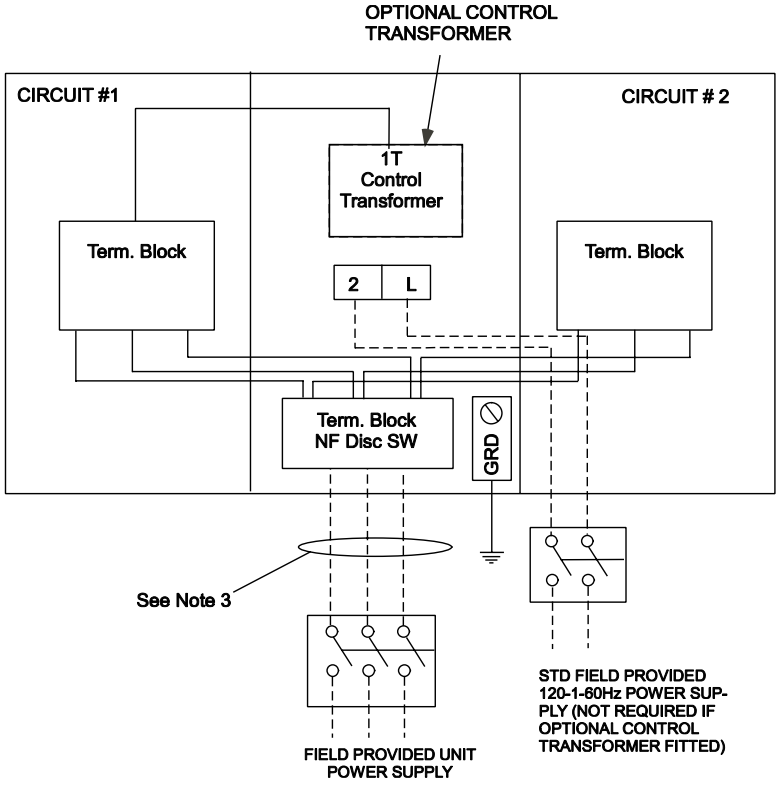


FIG. 3 – OPTIONAL SINGLE POINT POWER SUPPLY CONNECTION WITH FIELD SUPPLIED CIRCUIT PROTECTION

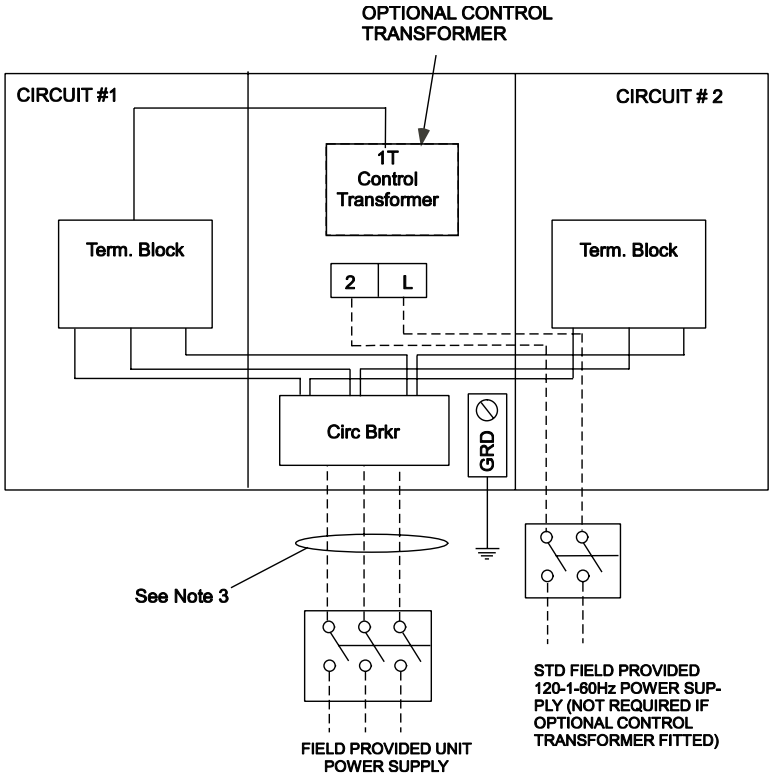


FIG. 4 – OPTIONAL SINGLE POINT POWER SUPPLY CONNECTION TO FACTORY CIRCUIT BREAKER

STYLE "G" 3 AND 4 COMPRESSOR POWER WIRING CONNECTIONS

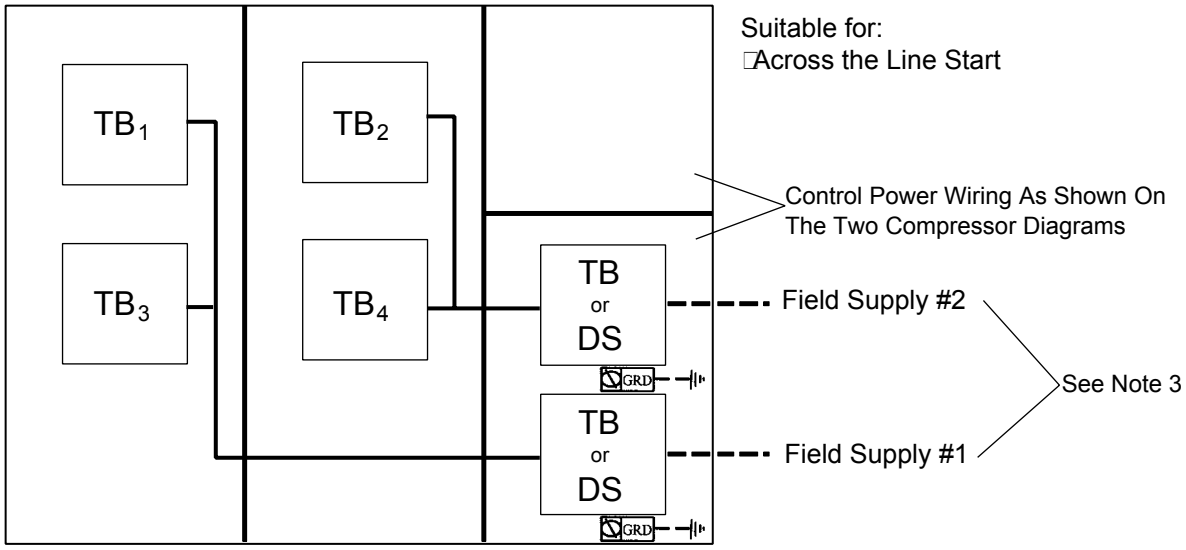


FIG. 5 – MULTIPLE POINT POWER SUPPLY CONNECTION

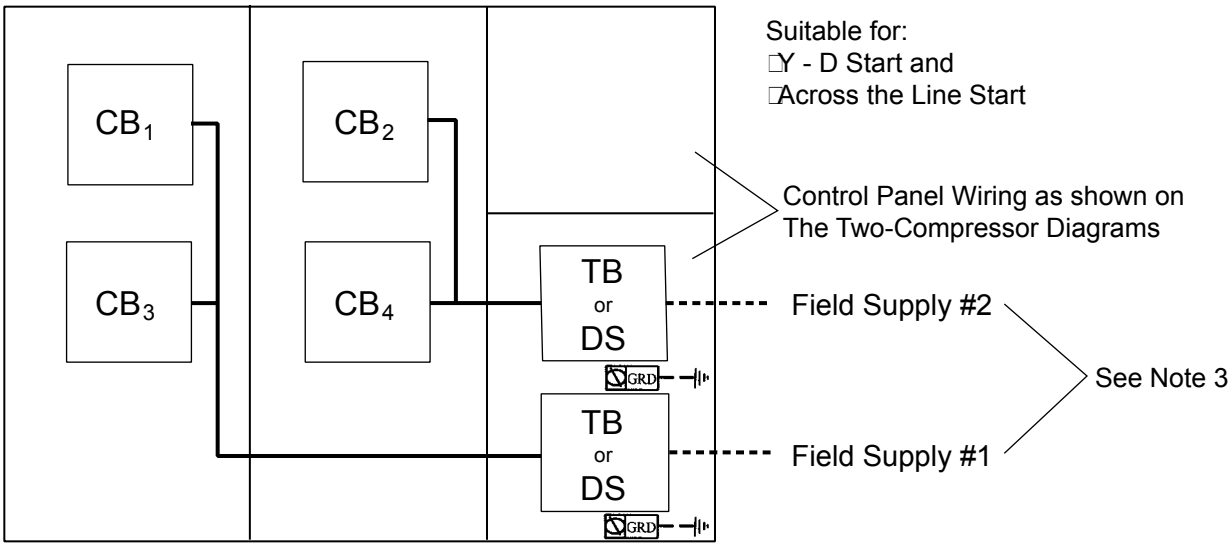
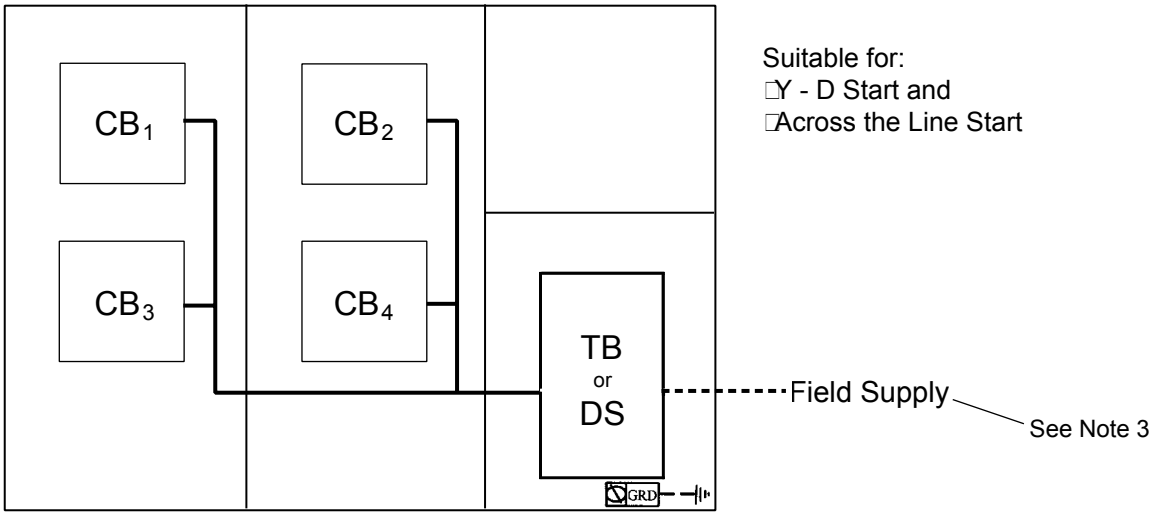


FIG. 6 – MULTIPLE POINT POWER SUPPLY CONNECTION WITH INDIVIDUAL SYSTEM CIRCUIT BREAKERS

STYLE "G" 3 AND 4 COMPRESSOR POWER WIRING CONNECTIONS



See below for notes.

FIG. 7 – OPTIONAL SINGLE-POINT POWER SUPPLY CONNECTION WITH INDIVIDUAL SYSTEM CIRCUIT BREAKERS

NOTES:

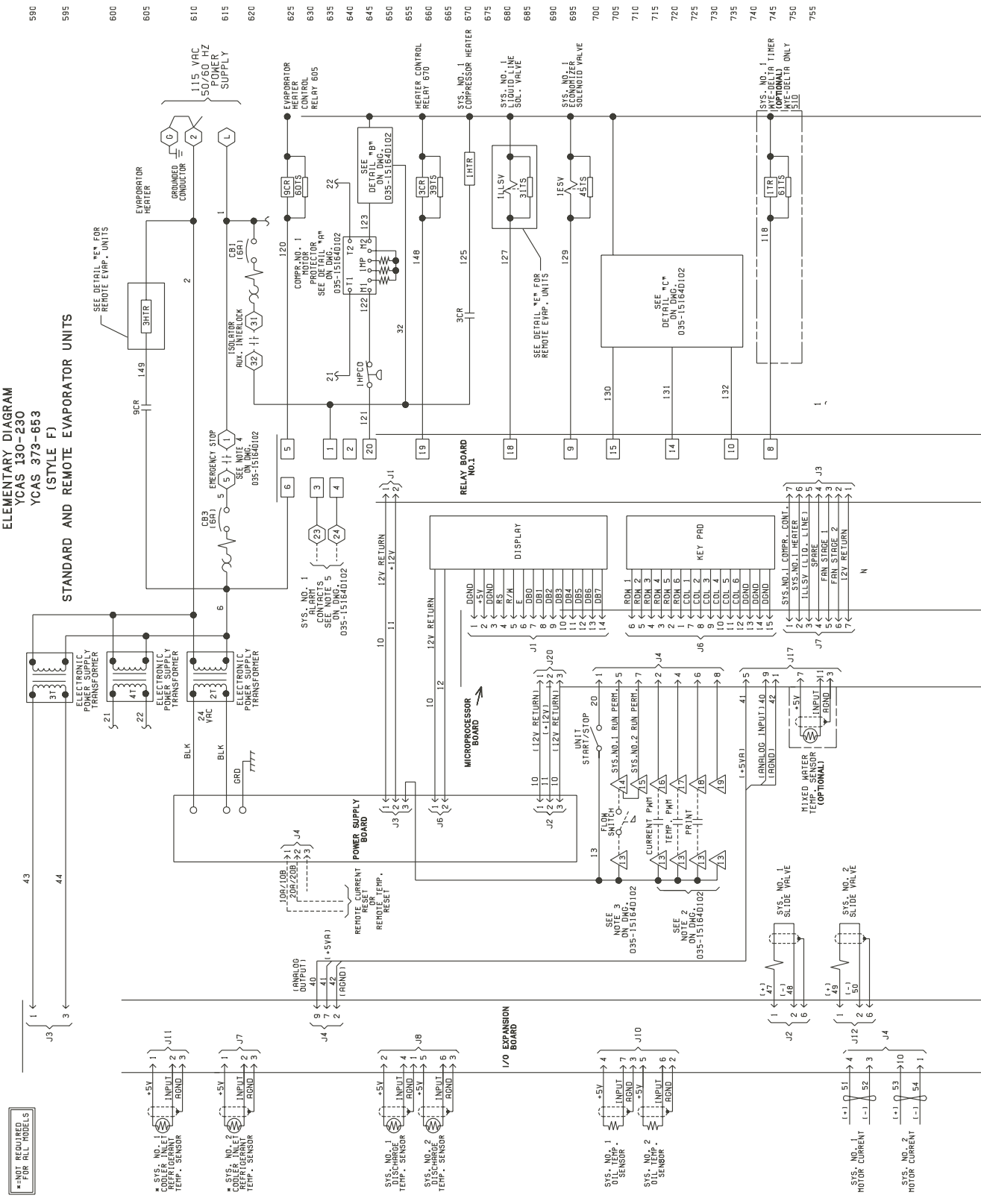
1. – – – – – – – Dashed Line indicates Field Provided Wiring.
2. The above recommendations are based on the National Electrical Code and using copper conductors only. Field wiring must also comply with local codes.

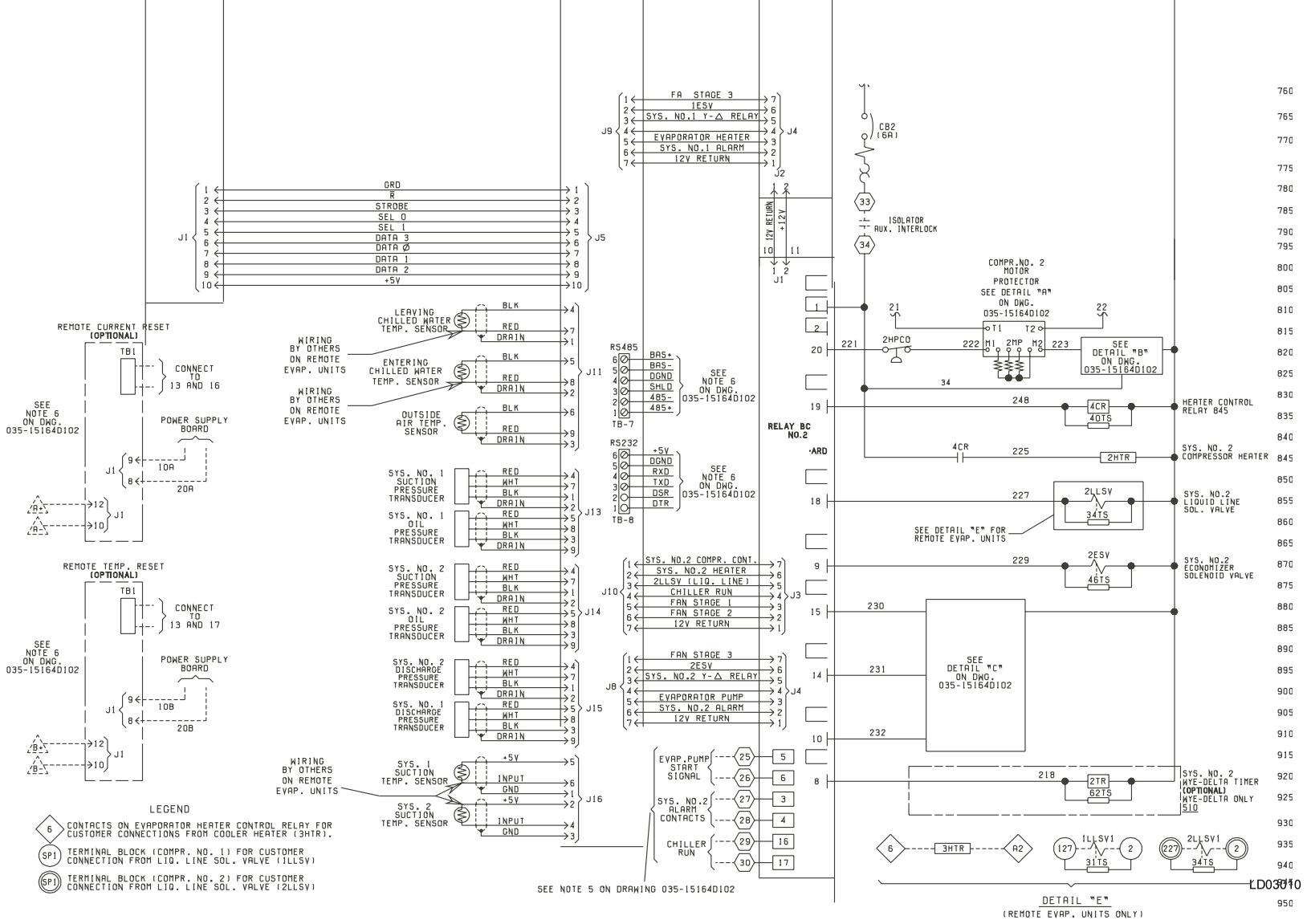
LEGEND REFERS TO TYPICAL CONTROL WIRING DIAGRAM ON PAGES 52 & 53.

LEGEND

T S	Transient Voltage Suppression
⬡	Terminal Block for Customer Connections
△	Terminal Block for Customer Low Voltage (Class 2) Connections. See Note 2
▭	Terminal Block for YORK Connections Only
———	Wiring and Components by YORK
—|||—	Optional Equipment
— —	Wiring and/or Components by Others

Typical Control Wiring





NOTES:

1. Field wiring to be in accordance with the current edition of the National Electrical Code as well as all other applicable codes and specifications.
2. Contacts must be suitable for switching 24VDC, (gold contacts recommended). Wiring shall not be run in the same conduit with any line voltage wiring.
3. To cycle unit on and off automatically with contact shown, install a cycling device in series with the flow switch (flsw). See note 2 for contact rating and wiring specifications.
4. To stop unit (emergency stop) with contacts other than those shown, install the stop contact between terminals 5 and 1. If a stop device is not installed, a jumper must be connected between terminals 5 and 1. Device must have a minimum contact rating of 100VA at 115 volts ac.
5. Alarm contacts are for annunciating alarm/unit malfunction. Contacts are rated at 115V, 100VA, resistive load only, and must be suppressed at load by user.
6. See Installation, Operation and Maintenance manual when optional equipment is used.

LEGEND

T S	Transient Voltage Suppression
⬡	Terminal Block for Customer Connections
△	Terminal Block for Customer Low Voltage (Class 2) Connections. See Note 2
▭	Terminal Block for YORK Connections Only
———	Wiring and Components by YORK
⊣⊢⊣⊢	Optional Equipment
— —	Wiring and/or Components by Others

Application Data

APPLICATION DATA:

The YORK YCAS air cooled chillers are designed for outdoor installation. When selecting a site for installation, be guided by the following requirements:

1. Installation sites may be either on a roof or ground level. (See FOUNDATION)
2. Select a place having an adequate supply of fresh air for the condensers. Recommended clearances for all units are shown on the DRAWINGS pages.
3. Avoid locations near windows or structures where normal operating sounds may be objectionable.
4. The standard condenser fans are not recommended for use with ductwork, filters, or other resistance in the condenser air stream.
5. When it is desirable to surround the unit, it is recommended that the screening be able to pass the required chiller CFM without exceeding 0.1" external static pressure.
6. Condenser damage from corrosive environments can be inhibited by providing either copper fins, or cured phenolic or epoxy coating on the condenser coils. The cured phenolic or epoxy coated coils are recommended for units installed near seashore, or where salt spay may hit the unit, or where acid rain is prevalent (copper fin coils are not recommended where they may be exposed to acid rain).
7. On installations where winter operation is intended and snow accumulations expected, additional elevation must be provided to ensure normal condenser air flow.

FOUNDATION

The unit should be mounted on a flat, level foundation, ground or roof, capable of supporting the entire operating weight of the equipment as given in the PHYSICAL DATA tables.

Roof Locations – Adequate structural strength to safely support the entire weight of the unit and service personnel must be provided. Care must be taken not to damage the roof during installation. If the roof is “bonded,” consult building contractor or architect for special installation requirements. Roof installations should incorporate the use of isolators to minimize transmission of vibration into the the building structure. Additional support should be provided to the roof at the isolator locations.

Ground Locations – Units must be installed on a substantial base that will not settle and cause strain on the refrigerant lines, which could result in leaks. A one-piece concrete slab, with footers extending below the frost line is recommended. The slab should not be connected to the main building foundation to avoid noise and vibration transmission.

Mounting holes (16mm or 0.625" diameter) are provided in the base rails for bolting the unit to its foundation (See DIMENSIONS)

For ground installations, take precautions to prevent tampering by, or injury to, unauthorized persons. Fasteners on access panels will prevent casual tampering, however further safety precautions, such as unit enclosure options, a fence, or locking devices on the panels may be advisable. Check local authorities for safety regulations.

CHILLED LIQUID PIPING

The chilled liquid piping system should be laid out so the circulating pump discharges into the cooler. The inlet and outlet cooler liquid connections are given in DIMENSIONS. Hand stop valves are recommended in all lines to facilitate servicing. Drain and vent connections should be provided to permit complete drainage of the cooler and system piping.

A strainer (40 mesh) is recommended for use on the INLET line to the cooler, and must be in place upon initial operation of the water pumps. Anti-vibration couplings should be considered to inhibit noise and vibration transmission into the occupied space. Pressure gauge connections are recommended for installation in the inlet and outlet water lines. Gauges are not provided with the units and are by others.

Chilled liquid lines exposed to the weather should be wrapped with a supplemental heater cable and insulated, or glycol should be added to the chilled liquid to protect against freezing if low ambient periods are expected.

A flow switch (available as an accessory) must be installed in the leaving water piping of the cooler and must not be used to start and stop the unit.

Guide Specifications

PART 1 — GENERAL

1.01 SCOPE

A. The requirements of the General Conditions, Supplementary Conditions, Division 1, and Drawings apply to all Work herein.

B. Provide Microprocessor controlled, twin-screw compressor, air-cooled, liquid chillers of the scheduled capacities as shown and indicated on the Drawings, including but not limited to:

1. Chiller package
2. Charge of refrigerant and oil
3. Electrical power and control connections
4. Chilled water connections

1.02 QUALITY ASSURANCE

A. Products shall be Designed, Tested, Rated and Certified in accordance with, and installed in compliance with applicable sections of the following Standards and Codes:

1. ANSI/ASHRAE Standard 15 – *Safety Code for Mechanical Refrigeration*
2. ANSI/NFPA Standard 70 – *National Electrical Code* (N.E.C.).
3. *ASME Boiler and Pressure Vessel Code, Section VIII, Division 1*.
4. Conform to Underwriters Laboratories (U.L.) for construction of chillers and provide U.L./cU.L. List ing label.
5. Manufactured in facility registered to ISO 9002.

B. Factory Test: Chiller shall be pressure-tested, evacuated and fully charged with refrigerant and oil, and shall be factory operational run tested with water flowing through the vessel.

C. Warranty: Manufacturer shall Warrant all equipment and material of its manufacture against defects in workmanship and material for a period of one year from date of initial start-up or eighteen (18) months from date of shipment, whichever occurs first.

1.03 DELIVERY AND HANDLING

A. Unit shall be delivered to job site fully assembled, and charged with refrigerant and oil by the Manufacturer.

B. Unit shall be stored and handled per Manufacturer's instructions.

PART 2 — PRODUCTS

2.01 CHILLER MATERIALS AND COMPONENTS

A. General: Install and commission, as shown on the schedules and plans, factory assembled, charged, and tested air cooled screw compressor chiller(s) as specified herein. Chiller shall be designed, selected, and constructed using a refrigerant with Flammability rating of "1," as defined by ANSI/ASHRAE STANDARD-34 *Number Designation and Safety Classification of Refrigerants*. Chiller shall include, but is not limited to: a complete system with not less than two independent refrigerant circuits, semihermetic twin screw compressors, direct expansion type evaporator, air-cooled condenser, refrigerant, lubrication system, interconnecting wiring, safety and operating controls including capacity controller, control center, motor starting components, and special features as specified herein or required for safe, automatic operation.

B. Cabinet: External structural members shall be constructed of heavy gauge, galvanized steel coated with baked on powder paint which, when subject to ASTM B117, 500 hour, 5% salt spray test, yields minimum ASTM 1654 rating of "6".

2.02 COMPRESSORS AND MOTORS

A. Compressors: Shall be direct drive, semihermetic, rotary twin-screw type, including: internal muffler, temperature actuated 'off-cycle' heater, rain-tight terminal box, internal discharge check, discharge and suction shut-off service valves, and precision machined cast iron housing. Design working pressure of entire compressor, suction to discharge, shall be 31 Bar (450 PSIG). Compressor shall be U.L. listed.

B. Motors: Refrigerant suction gas cooled two-pole accessible hermetic compressor motor, full suction gas flow through 0.006" maximum mesh screen, with inherent internal thermal overload protection and external current overload on all three phases. Motor stator shall employ APT2000 type magnet wire.

C. Lubrication: External oil separators with no moving or fragile parts, 450 PSIG design working pressure, and U.L. listing. Refrigerant system differential pressure shall provide oil flow through service replaceable, 0.5 micron, full flow, cartridge type oil filter internal to compressor. Filter bypass, less restrictive media, or oil pump not acceptable.

D. Capacity Control: Compressors shall start at minimum load position. Capacity control range from 100% to 10% of chiller full load using continuous function slide valves, and without hot gas bypass. Step unloading unacceptable. Provide Microprocessor controlled, output pressure regulating capacity control valve to command compressor capacity independent of control valve input pressure and balance compressor capacity with cooling load.

2.03 REFRIGERANT CIRCUIT COMPONENTS

Each independent refrigerant circuit shall include: liquid line shutoff valve with charging port, low side pressure relief device, removable core filter-drier, solenoid valve, sight glass with moisture indicator, expansion valves, and flexible, closed-cell foam insulated suction line.

2.04 HEAT EXCHANGERS

A. Evaporator:

1. Direct expansion type with refrigerant inside high efficiency copper tubes, chilled liquid forced over the tubes by galvanized steel baffles. Independent refrigerant circuits per compressor.
2. Constructed, tested, and stamped in accordance with applicable sections of ASME pressure vessel code for minimum 24 Bar (350 PSIG) refrigerant side design working pressure and 10 Bar (150 PSIG) water side design working pressure.
3. Shell covered with 19 mm (3/4"), flexible, closed-cell insulation, thermal conductivity of 0.26k ([BTU/HR-Ft^2-°F]/in.) maximum. Water nozzles with grooves for mechanical couplings, and insulated by Contractor after pipe installation.
4. Provide vent and drain fittings, and thermostatically controlled heaters to protect to -29°C (-20°F) ambient in off-cycle.

B. Air Cooled Condenser:

1. Coils: Internally enhanced, seamless copper tubes, mechanically expanded into aluminum alloy fins with full height collars. Subcooling coil an integral part of condenser. Design working pressure shall be 31 Bar (450 PSIG).
2. Fans: Shall be dynamically and statically balanced, direct drive, corrosion resistant glass fiber reinforced composite blades molded into low noise, full airfoil cross section, providing vertical air discharge from extended orifices for efficiency and low sound. Each fan in its own compartment to prevent cross flow during fan cycling. Guards of heavy gauge, PVC (polyvinyl chloride) coated or galvanized steel.
3. Fan Motors: High efficiency, direct drive, 6 pole, 3- phase, insulation class “F,” current protected, Totally Enclosed Air-Over (TEAO), rigid mounted, with double sealed, permanently lubricated, ball bearings.

C. Provide Auxiliary Heat Exchangers to increase overall unit efficiency: U.L./cU.L. Listed 31 Bar (450 PSIG) design working pressure.

2.05 CONTROLS

A. General: Automatic start, stop, operating, and protection sequences across the range of scheduled conditions and transients.

B. Control Circuit Transformer: Factory mounted with primary fused disconnect having lockable, external handle, and 115V/1Ø secondary for Models 0295 - 0605.

C. Microprocessor Enclosure: Rain and dust tight NEMA 3R/12 (IP55) powder painted steel cabinet with hinged, latched, and gasket sealed door.

D. Microprocessor Control Center:

1. Automatic control of compressor start/stop and load/unload, anti-coincidence and anti-recycle timers, automatic pump-down at start-up and shut-down, condenser fans, evaporator pump, evaporator heater, unit alarm contacts, run signal contacts, and chiller operation from -18°C to 52°C (0°F to 125°F) ambient. Automatic reset to normal chiller operation after power failure.
2. Setpoint Reset:
   a. Pulse Width Modulated (PWM) input to reset current unload setpoint downward via signal from external Energy Management System (EMS), maximum allowable reset programmable from microprocessor keypad.
   b. PWM input to reset the chilled liquid setpoint upward via signal from remote EMS, maximum allowable reset programmable from microprocessor keypad.
3. Software stored in non-volatile memory, with programmed setpoints retained in lithium battery backed real time clock (RTC) memory for minimum 5 years.
4. Forty character liquid crystal display, descriptions in English (or Spanish or French), numeric data in English (or Metric) units. Sealed keypad with sections for Setpoints, Display, Entry, Print, Program, Clock, and Unit On/Off Switch.
5. Programmable Setpoints (within Manufacturer limits): display language; discharge pressure unload and cutout; low suction pressure cutout; low and high ambient cutouts; leaving chilled liquid temperature: setpoint, control range, and cutout; high motor current unload; anti-recycle time; lag compressor start; local or remote control; units of measure; compressor lead/lag; power failure restart (auto or manual), and maximum EMS-PWM reset temperature range.
6. Display Data: Chiller liquid return and leaving temperatures, ambient, lead compressor identification and lead/lag delay, clock and schedule, (variable) out of range, remote input indication, chilled liquid reset setpoint, leaving liquid pull-down rate setpoint, leaving liquid error (deviation from setpoint), and

history data for last six shutdown faults. Compressor suction, discharge, and oil pressures and temperatures, suction and discharge superheats, percent of full-load motor current, operating hours, starts, and anti-recycle timer status. Status Messages for manual over-ride, unit switch off, compressor run, run permissive, remote controlled shut down, no cooling load, daily/holiday shut down, anti-recycle/anti-coincident timer, high pressure low suction temperature limit.

7. System Safeties: Shall cause individual compressor systems to perform auto-reset shut down; manual reset required after the third trip in 90 minutes. Includes: high discharge pressure or temperature, low suction pressure, high / low motor current, high pressure switch, high / low differential oil pressure, high oil temperature, and motor protector. Compressor motor protector shall protect against damage due to: low or high input current, phase reversal (reverse rotation), current unbalance, phase loss, thermal overload of windings, and low voltage.
8. Unit Safeties: Shall be automatic reset and cause compressors to shut down if: high or low ambient, low leaving chilled liquid temperature, undervolt age, and flow switch operation. Contractor shall provide flow switch and wiring per chiller manu facturer requirements.
9. Alarm Contacts: High or low ambient, low leaving chilled liquid temperature, low voltage, low battery, and (per compressor circuit): high discharge pressure or temperature, low suction pressure, low or high motor current, low or high differential oil pressure, and high oil temperature.

E. Manufacturer shall provide any controls not listed above, necessary for automatic chiller operation. Mechanical Contractor shall provide field control wiring necessary to interface sensors to the chiller control system.

2.06 POWER CONNECTION AND DISTRIBUTION

A. POWER PANELS:

1. NEMA 3R/12 (IP55) rain/dust tight, powder painted steel cabinets with hinged, latched, and gasket sealed outer doors equipped with wind struts for safer servicing. Provide main power connection(s), compressor and fan motor start contactors, current overloads, and factory wiring.
2. Field power supply wiring connections shall be to a single power center on the chiller, shall be 3-phase of scheduled voltage, and shall connect to terminal blocks per each of the two motor control panels. Separate disconnecting means and/or external branch circuit protection (by Contractor) required per applicable local or national codes.
3. Provide two electrically separate, adjacent motor control center cabinets, with independent doors and separated by a steel panel, for compressor and fan motor power distribution components.

B. Exposed compressor and fan motor power wiring shall be routed through liquid tight conduit.

2.07 ACCESSORIES AND OPTIONS

Some accessories and options supercede standard product features. Your YORK representative will be pleased to provide assistance.

A. Microprocessor controlled, Factory installed Wye-Delta compressor motor starters for reduced compressor in-rush start current. Machines equipped with single-point power connection and with Star-Delta compressor motor start shall also include Factory provided circuit breakers in each motor control center.

B. Power Supply Connections:

1. Two Compressor Machines –
   a. Multiple Point with compressor Individual System Circuit Breakers or Non-Fused Disconnect Switches: Two Field provided branch circuits shall connect to individual system Circuit Breakers or Non-Fused Disconnects per compressor on each of the two motor control centers, with lockable external handles on doors in compliance with Article 440-14 of the N.E.C.
   b. Single-Point Terminal Block or Non-fused Disconnect Switch: Field provided branch circuit shall connect to single-point Terminal Block or Non-Fused Disconnect with lockable external handle in compliance with N.E.C. Article 440-14, with Factory provided interconnecting wiring to (optional Individual System Circuit Breakers, and) compressor motor start components in each of two motor control center cabinets.
   c. Single-Point Circuit Breaker: Field provided branch circuit shall connect to Single-Point Circuit Breaker with Lockable External Handle (in compliance with Article 440-14 of N.E.C.). Factory provided interconnecting wiring to compressor motor start components in each of two motor control center cabinets.
2. Three and Four Compressor Machines –
   a. Multiple Point power connection to Terminal Blocks or Non-Fused Disconnect Switches:

Two Field provided branch circuits shall connect to Factory provided Terminal Blocks or Non-Fused Disconnect Switches, with Lockable External Handle in compliance with Article 440-14 of N.E.C. with Factory furnished interconnecting wiring to (optional Individual System Circuit Breakers with lockable external handles, and) compressor motor start components in each of the two motor control center cabinets.

b. Single-Point Terminal Block or Non-fused Disconnect Switch: Field provided branch circuit shall connect to single point Terminal Block or Non-Fused Disconnect with lockable external handle in compliance with N.E.C. Article 440-14, with Factory provided interconnecting wiring to Individual System Circuit Breakers and compressor motor start components in each of two motor control center cabinets.

C. Control Power Terminal Strip: Provided in Microprocessor panel for field supplied 115V-1Ø control circuit power for Models 0685 - 1215.

D. Condenser Coil Environmental Protection:

1. PRE-COATED FIN CONDENSER COILS – The air-cooled condenser coils are constructed of black epoxy-coated aluminum fins. This can provide corrosion resistance comparable to copper-fin coils in typical seashore locations. Either these or the post-coated coils (below), are recommended for units being installed at the seashore or where salt spray may hit the unit.
2. COPPER FIN: Provide copper fins in lieu of aluminum.
3. POST-COATED EPOXY DIPPED CONDENSER COILS – The unit is built with dipped-cured condenser coils. This is another choice for seashore and other corrosive applications (with the exception of strong alkalies, oxidizers and wet bromine, chlorine and fluorine in concentrations greater than 100 ppm).

E. Protective Chiller Panels (Factory Mounted):

1. Louvered Panels (condenser coils only): Painted steel as per remainder of unit cabinet, over external condenser coil faces.
2. Wire Panels (full unit): Heavy gauge, welded wire-mesh, PVC coated to resist corrosion, to protect condenser coils from incidental damage and restrict unauthorized access to internal components.
3. Louvered Panels (full unit): Painted steel as per remainder of unit cabinet, to protect condenser coils from incidental damage, visually screen internal components, and prevent unauthorized access to internal components.
4. Louvered/Wire Panels: Louvered steel panels on external condenser coil faces, painted as per remainder of unit cabinet. Heavy gauge, welded wire-mesh, PVC coated to resist corrosion, around base of machine to restrict unauthorized access.

F. Evaporator options:

1. Provide 1-1/2" cooler insulation in lieu of standard 3/4".
2. Provide DX Cooler with 300 PSIG waterside design working pressure in lieu of standard 150 PSIG
3. Provide Raised Face Flanges for cooler nozzles:
   a. 10 bar (150 PSIG), welded flanges (field kit, mate supplied).
   b. 21 bar (300 PSIG), welded flanges (factory installed, no mate supplied).
   c. 10 bar (150 PSIG), Victaulic™ Flanges (field kit, no mate supplied).

G. Flow Switch (Field Mounted): Vapor proof SPDT, NEMA 4X switch (___10 Bar or ___21 Bar), -20°F to 250°F.

H. High External Static Pressure Fans and Motors: Factory installed fans and motors for up to 100Pa (0.4 inches) of water external static pressure at nominal condenser air flow.

I. Microprocessor Membrane Keypad Graphics on in lieu of Standard English:

1. French language.
2. Spanish language.

J. Thermal Storage: Leaving chilled liquid setpoint range for charge cycle to -6.7°C (20°F) (optional to as low as -9.4°C (15°F) minimum), automatic setpoint reset of up to 22°C (40°F).

K. Low Temperature Process Brine: Leaving chilled liquid setpoint range -6.7°C (20°F) to 13°C (55°F); optional to -9.4°C (15°F).

L. Building Automation System (EMS) Reset Interface: Chiller to accept 4 to 20mA, 0 to 10 VDC, or discrete contact closure input to reset the leaving chilled liquid temperature, or percent full load amps (current limit).

M. Remote Control Panel (Field Mounted): Auxiliary panel for remote user interface for functions normally made at the unit control center

N. Multi-Unit Sequence Control (Field Mounted): Separate Sequencing control center provided to permit control of up to eight chillers in parallel based on

mixed liquid temperature.

O. Sound Reduction (Factory Mounted):
   1. Low speed, reduced noise fans
   2. Acoustic silencer kit
   3. Compressor Sound Blankets

P. Vibration Isolation (Field Mounted):
   1. Neoprene Isolators.
   2. 1 Inch Deflection Spring Isolators: Level adjustable, spring and cage type isolators for mounting under the unit base rails.
   3. 2 Inch Deflection Seismic Isolators: Level adjustable, restrained mounts in rugged welded steel housing with vertical and horizontal limit stops. Housings shall be designed to withstand a minimum 1.0g accelerated force in all directions to 2".

PART 3 — EXECUTION

3.01 INSTALLATION

A. General: Rig and Install in full accordance with Manufacturer's requirements, Project drawings, and Contract documents.

B. Location: Locate chiller as indicated on drawings, including cleaning and service maintenance clearance per Manufacturer instructions. Adjust and level chiller on support structure.

C. Components: Installing Contractor shall provide and install all auxiliary devices and accessories for fully operational chiller.

D. Electrical: Coordinate electrical requirements and connections for all power feeds with Electrical Contractor (Division 16).

E. Controls: Coordinate all control requirements and connections with Controls Contractor.

F. Finish: Installing Contractor shall paint damaged and abraded factory finish with touch-up paint matching factory finish.

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