AquaForce® 30XV140-500 Variable Speed Air-Cooled Liquid Chillers with Greenspeed® Intelligence

Installation Instructions

CONTENTS

SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform basic maintenance functions of cleaning coils and filters and replacing filters. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for unbrazing operations. Have fire extinguisher available for all brazing operations.

⚠ WARNING

Electrical shock can cause personal injury and death. Shut off all power to this equipment during installation and service. There may be more than one disconnect switch. Tag all disconnect locations to alert others not to restore power until work is completed.

⚠ WARNING

Electrical shock can cause personal injury and death. After unit power is disconnected, wait at least 20 minutes for the VFD (variable frequency drive) capacitors to discharge before opening drive.

⚠ WARNING

DO NOT VENT refrigerant relief valves within a building. Outlet from relief valves must be vented in accordance with the latest edition of ANSI/ASHRAE (American National Standards Institute/American Society of Heating, Refrigerating and Air-Conditioning Engineers) 15 (Safety Code for Mechanical Refrigeration). The accumulation of refrigerant in an enclosed space can displace oxygen and cause asphyxiation. Provide adequate ventilation in enclosed or low overhead areas. Inhalation of high concentrations of vapor is harmful and may cause heart irregularities, unconsciousness or death. Misuse can be fatal. Vapor is heavier than air and reduces the amount of oxygen available for breathing. Product causes eye and skin irritation. Decomposition products are hazardous.

⚠ WARNING

DO NOT USE TORCH to remove any component. System contains oil and refrigerant under pressure.

To remove a component, wear protective gloves and goggles and proceed as follows:

a. Shut off electrical power to unit.

b. Recover refrigerant to relieve all pressure from system using both high-pressure and low pressure ports.

c. Traces of vapor should be displaced with nitrogen and the work area should be well ventilated. Refrigerant in contact with an open flame produces toxic gases.

d. Cut component connection tubing with tubing cutter and remove component from unit. Use a pan to catch any oil that may come out of the lines and as a gage for how much oil to add to the system.

e. Carefully unsweat remaining tubing stubs when necessary. Oil can ignite when exposed to torch flame.

Failure to follow these procedures may result in personal injury or death.

⚠ CAUTION

Standard Tier units (units with S in the 10th position of the model number) without condenser fan VFDs (units with "-", "1", "3", or "5" in the 13th position of the model number) must have the condenser fan(s) rotation verified to ensure proper phasing. Correct rotation is counter-clockwise (reference arrow on fan cap). Swap any two incoming power leads to correct condenser fan rotation before starting chiller. Operating the unit without testing the condenser fan(s) for proper phasing could result in equipment damage.

⚠ CAUTION

DO NOT re-use compressor oil or any oil that has been exposed to the atmosphere. Dispose of oil per local codes and regulations. DO NOT leave refrigerant system open to air any longer than the actual time required to service the equipment. Seal circuits being serviced and charge with dry nitrogen to prevent oil contamination when timely repairs cannot be completed. Failure to follow these procedures may result in damage to equipment.

⚠ CAUTION

This unit uses a microprocessor control system. Do not short or jumper between terminations on circuit boards or modules; control or board failure may result.

Be aware of electrostatic discharge (static electricity) when handling or making contact with circuit boards or module connections. Always touch a chassis (grounded) part to dissipate body electrostatic charge before working inside control center.

Use extreme care when handling tools near boards and when connecting or disconnecting terminal plugs. Circuit boards can easily be damaged. Always hold boards by the edges and avoid touching components and connections.

This equipment uses, and can radiate, radio frequency energy. If not installed and used in accordance with the instruction manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to International Standard in North America EN 61000-2/3 which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

Always store and transport replacement or defective boards in anti-static shipping bag.

⚠ CAUTION

To prevent potential damage to heat exchanger tubes, always run fluid through heat exchanger when adding or removing refrigerant charge. Use appropriate antifreeze solutions in evaporator fluid loop to prevent the freezing of heat exchanger or interconnecting piping when the equipment is exposed to temperatures below 32°F (0°C). Proof of flow switch is factory installed on all models. Do NOT remove power from this chiller during winter shut down periods without taking precaution to remove all water from heat exchanger. Failure to properly protect the system from freezing may constitute abuse and may void warranty.

IMPORTANT: (Unit sizes 30XV140-325) If the compressor VFD enclosure is removed for service, it must be reinstalled to protect the drive from water intrusion. Failure to reinstall the compressor VFD enclosure may constitute abuse and may void warranty.

INTRODUCTION

These instructions cover installation of 30XV140-500 air-cooled liquid chillers with Greenspeed® intelligence and electronic controls, and units with factory-installed options (FIOPs). See Fig. 1.

INSTALLATION

Storage — If the unit is to be stored for a period of time before installation or start-up, be sure to protect the machine from construction dirt. Keep protective shipping covers in place until the machine is ready for installation. Follow these storage guidelines:

- Store the unit in a clean and dry location.
- Avoid contamination.
- Maintain storage temperature of –13 to 149°F (–25 to 65°C).
- Before applying power, perform complete physical inspection. Check for carbon deposits inside drive, burned or damaged components, and blown fuses.
- The unit can be stored for 3 years maximum without power. If the unit is stored for long periods of time without use, special procedures must be performed to ensure the safe and efficient operation of the VFD capacitor banks. If the unit has been stored for more than 3 years without power applied to the drives, contact Carrier Service to obtain information and instructions for reforming the capacitor banks.
- Perform a static test before applying power.
- Ensure a proper operating environment before applying power: clean and dry; 5 to 100% humidity, non-condensing; maximum temperature 126°F (52°C). If the temperature is below 14°F (–10°C), the drive must be started with 50% load for 10 minutes.
- When removing from storage, apply power for 3 to 4 hours to exercise capacitors.

Step 1 — Inspect Shipment — Inspect unit for damage upon arrival. If damage is found, immediately file a claim with the shipping company, and contact your local Carrier representative.

Step 2 — Place, Mount, and Rig the Unit — When considering a location for the unit, be sure to consult NEC (National Electrical Code, U.S.A.) and/or local code requirements. Allow sufficient space for airflow, wiring, piping, and service. See Fig. 2-22.

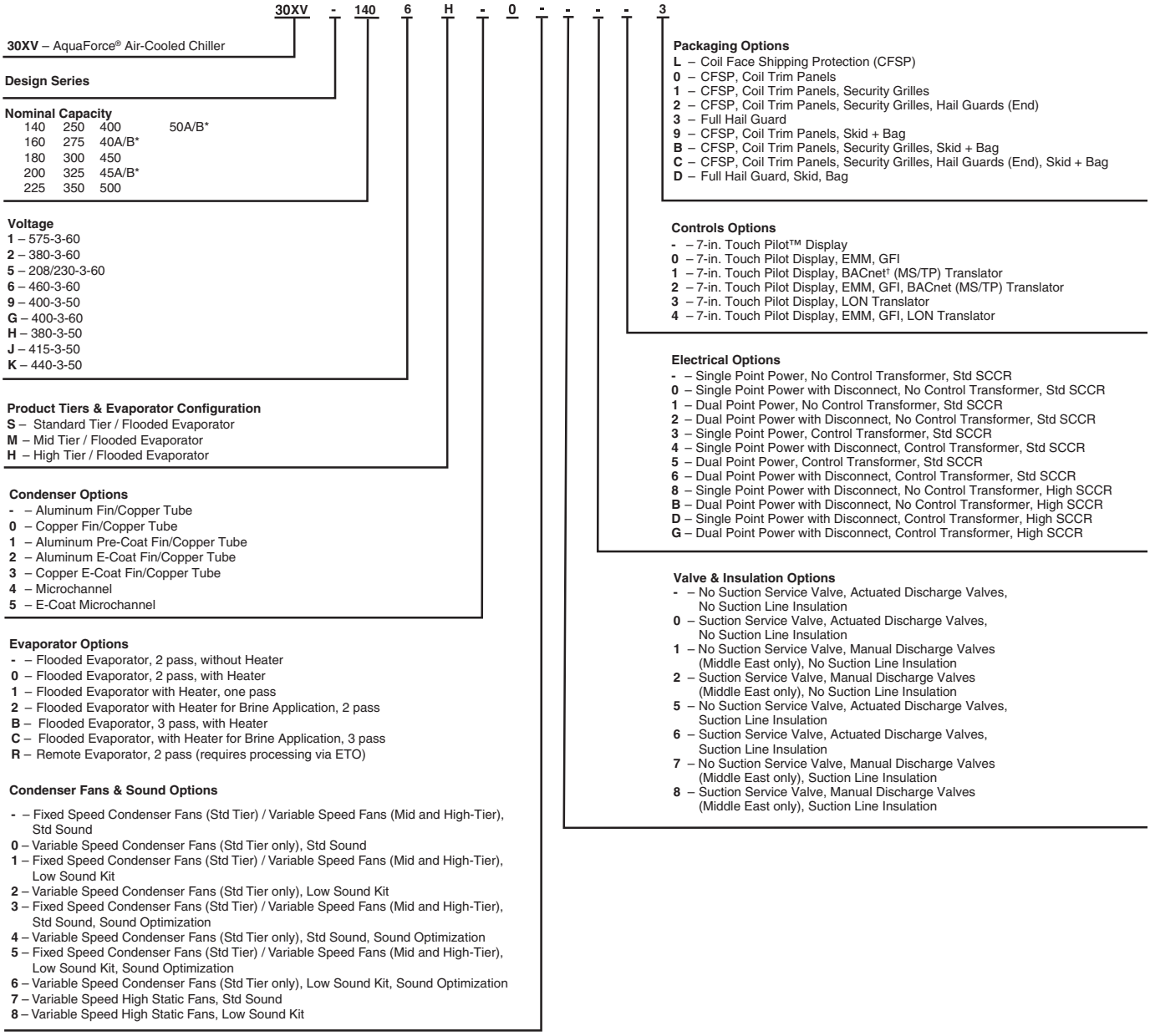
NOTE: To facilitate refrigerant vent piping, all units have fusible plugs with 1/4 in. SAE (Society of Automotive Engineers) flares and pressure reliefs with 3/4 in. NPT and 3/8 in. SAE flare fittings (if required by local codes).

PLACING UNIT — Locate the unit so that the condenser airflow is unrestricted both above and on the sides of the unit. Airflow and service clearances are 6 ft (1.8 m) around the unit. Acceptable clearance on the sides or ends without control boxes or VFDs can be reduced to 3 ft (1 m) without sacrificing performance as long as the remaining three sides are unrestricted. Acceptable clearance on the side with a control box or VFD can be reduced to 4 ft (1.3 m) due to NEC regulations, without sacrificing performance as long as the remaining three sides are unrestricted. Provide ample room for servicing and removing the evaporator. See Fig. 2-20 for required clearances. Local codes for clearances take precedence over the manufacturer's recommendations when local codes call for greater clearances.

If multiple units are installed at the same site, a minimum separation of 10 ft (3 m) between the sides of the machines is required to maintain proper airflow and minimize the chances of condenser air recirculation.

MOUNTING UNIT — The unit may be mounted on a level pad directly on the base rails, on a raised mounting rail around the unit, or on vibration isolation springs. For all units, ensure placement area is strong enough to support unit operating weight. See Table 1. Mounting holes are provided for securing the unit to the pad, mounting rail or vibration isolation springs. Bolt the unit securely to pad or rails. If vibration isolators (field-supplied) are required for a particular installation, refer to unit weight distribution in Fig. 23 to aid in the proper selection of isolators. Once installed, the unit must be level to within 1/8-in. per ft (1 cm per meter) along the long axis of the unit. This is required for oil return to the compressor(s). For more details about physical data, see Tables 2 and 3.

NOTE: For units that are point loaded, such as those using rubber and shear isolators, the base rail must be supported with a 24 x 4 in. (610 x 102 mm) plate at each mounting location, or base rail deflection may result. Fasten the unit to the plates using the mounting holes.

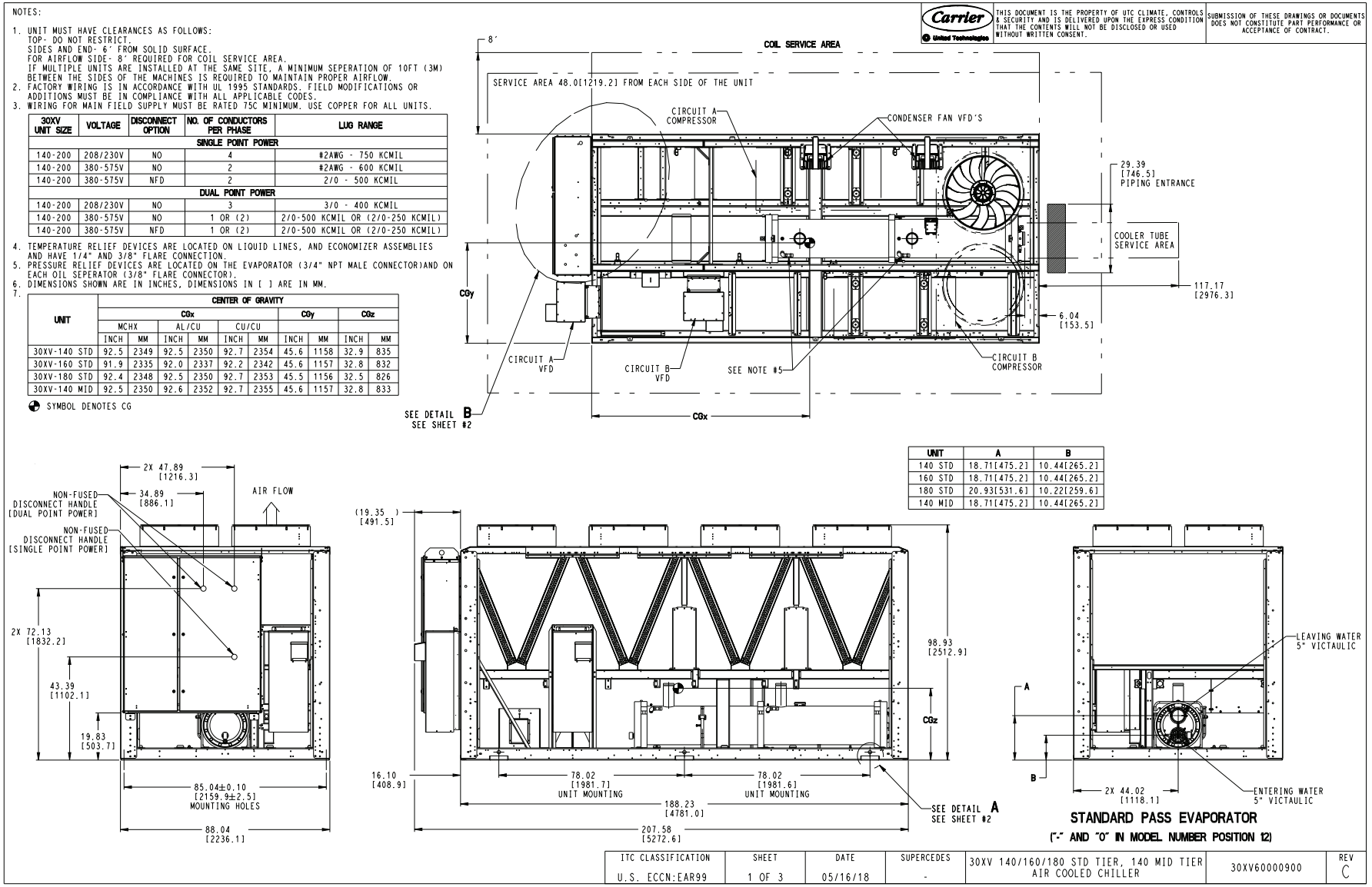


LEGEND

CFSP — Coil Face Shipping Protection
EMM — Energy Management Module
GFI — Ground Fault Interrupter
LON — Local Operating Network
SCCR — Short Circuit Current Rating

*40A, 45A, and 50A are split units that are shipped in two pieces (40A and 40B, 45A and 45B, 50A and 50B). When they arrive at the jobsite, they are combined to form the equivalent of 400, 450, or 500 size units.
†BACnet is a registered trademark of ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers).

Fig. 1 — AquaForce® Chiller with GreenSpeed® Intelligence Model Number Designation

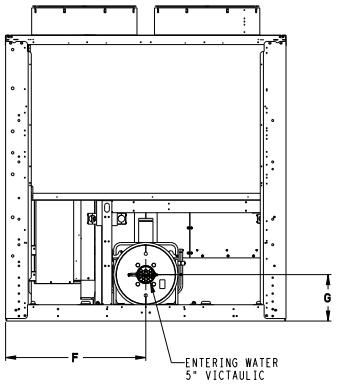


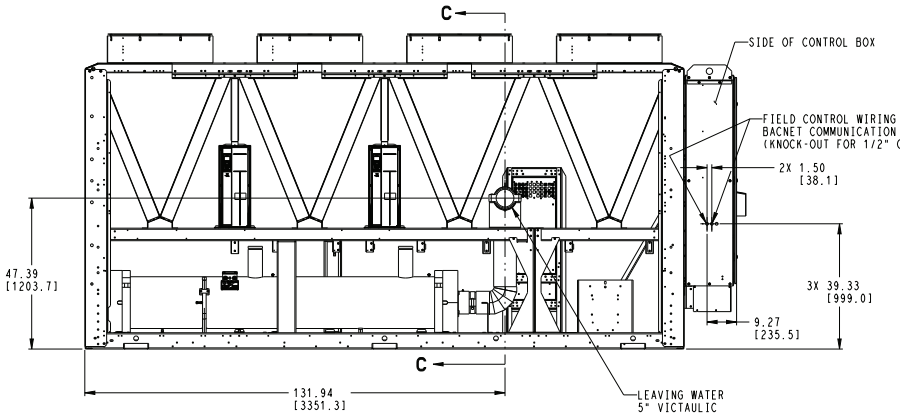
30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
140-200	208/230V	NO	4	#2AWG - 750 KCMIL
140-200	380-575V	NO	2	#2AWG - 600 KCMIL
140-200	380-575V	NFD	2	2/0 - 500 KCMIL
DUAL POINT POWER				
140-200	208/230V	NO	3	3/0 - 400 KCMIL
140-200	380-575V	NO	1 OR (2)	2/0-500 KCMIL OR (2/0-250 KCMIL)
140-200	380-575V	NFD	1 OR (2)	2/0-500 KCMIL OR (2/0-250 KCMIL)

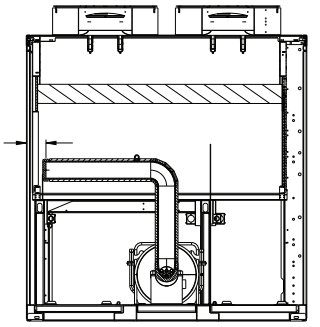
UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-140 STD	92.5	2349	92.5	2350	92.7	2354	45.6	1158	32.9	835
30XV-160 STD	91.9	2335	92.0	2337	92.2	2342	45.6	1157	32.8	832
30XV-180 STD	92.4	2348	92.5	2350	92.7	2353	45.5	1156	32.5	826
30XV-140 MID	92.5	2350	92.6	2352	92.7	2355	45.6	1157	32.8	833

UNIT	A	B
140 STD	18.71[475.2]	10.44[265.2]
160 STD	18.71[475.2]	10.44[265.2]
180 STD	20.93[531.6]	10.22[259.6]
140 MID	18.71[475.2]	10.44[265.2]

Fig. 2 — 30XV 140,160,180 Std Tier; 140 Mid Tier Air-Cooled Chiller





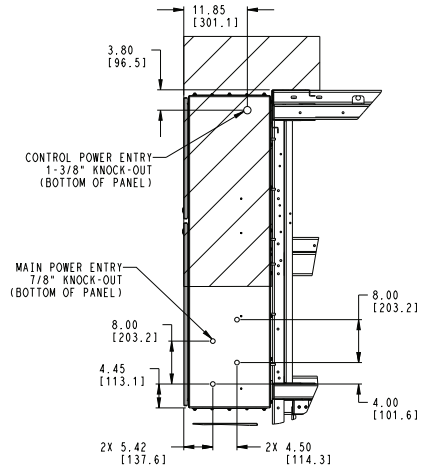


SECTION **C-C**

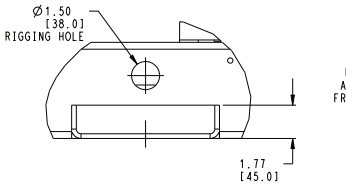
MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)

UNIT	F	G
140 STD	44.02[1118.1]	14.58[370.3]
160 STD	44.02[1118.1]	14.58[370.3]
180 STD	44.02[1118.1]	15.58[395.7]
140 MID	44.02[1118.1]	14.58[370.3]

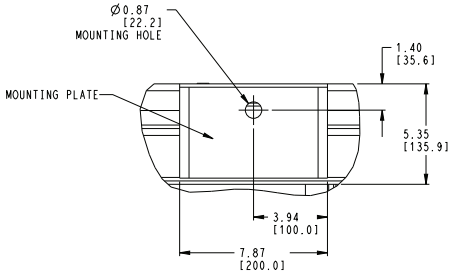
PREFERRED MAIN POWER SUPPLY CONDUIT ROUTING.
GENERIC LOCATION - DO NOT PLACE CONDUIT IN FRONT OF CONTROL PANEL.
ACCESS FOR SERVICE IS REQUIRED.



DETAIL **B**
FROM SHEET #1
(TOP VIEW- KNOCK OUTS ON BOTTOM OF CONTROL BOX)

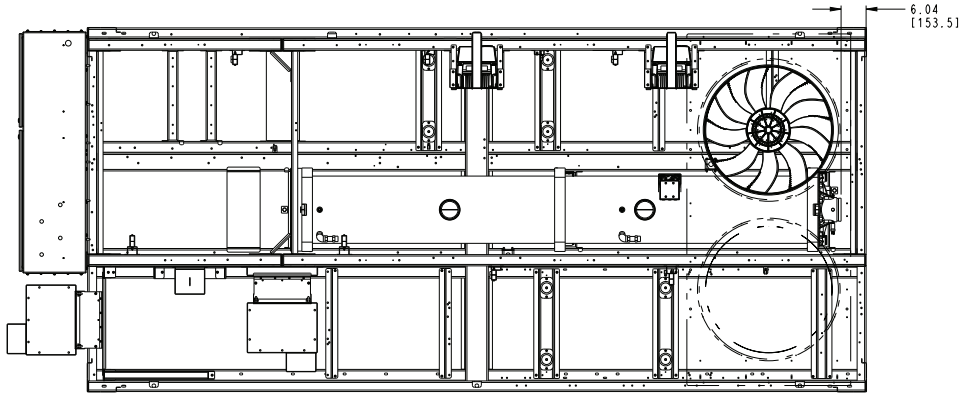


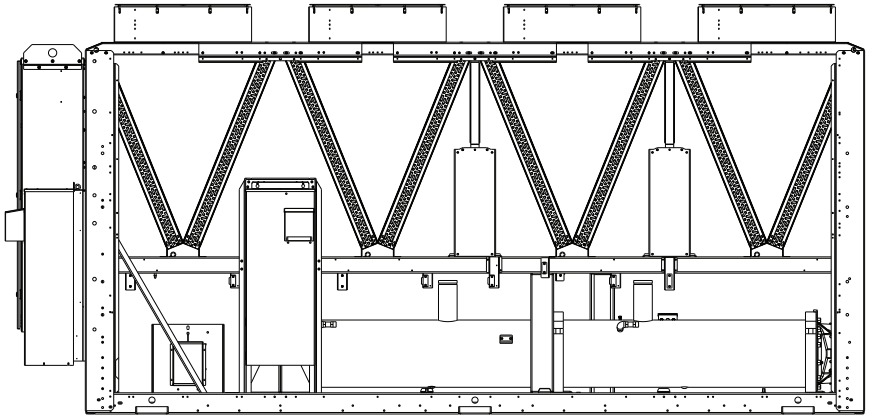
DETAIL **A**
AT (6) PLCS
FROM SHEET #1

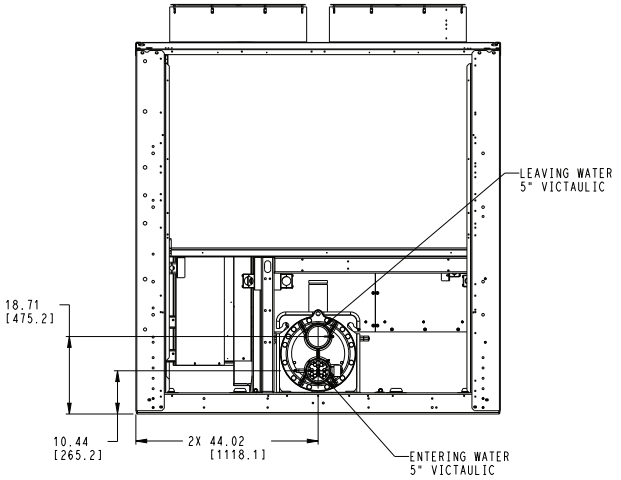


ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/16/18	-	30XV 140/160/180 STD TIER, 140 MID TIER AIR COOLED CHILLER	30XV60000900	C

Fig. 2 — 30XV 140,160,180 Std Tier; 140 Mid Tier Air-Cooled Chiller (cont)







BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

BRINE COOLER OPTION

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/16/18	-	30XV 140/160/180 STD TIER, 140 MID TIER AIR COOLED CHILLER	30XV60000900	C

Fig. 2 — 30XV 140,160,180 Std Tier; 140 Mid Tier Air-Cooled Chiller (cont)

NOTES:

1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPERATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER AIRFLOW.
2. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
3. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

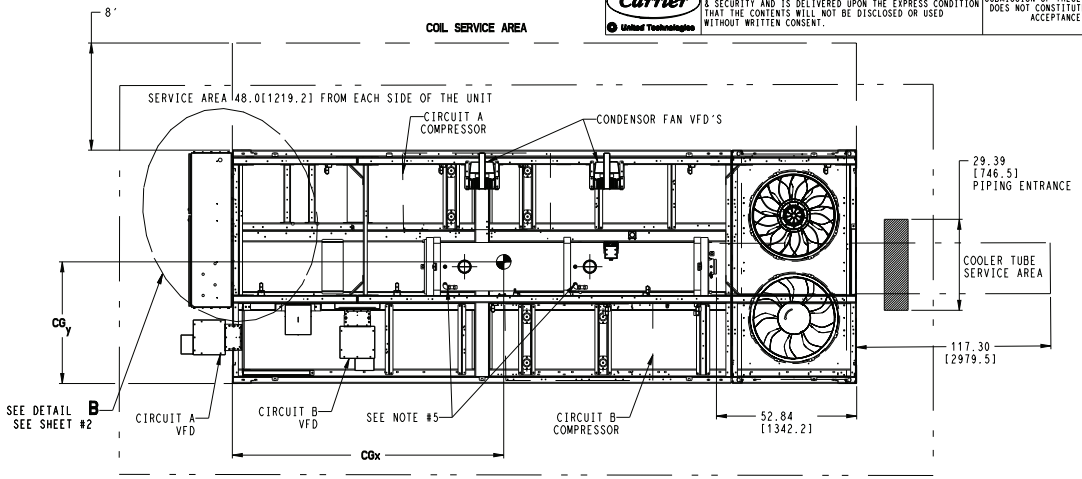
30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
140-200	208/230V	NO	4	#2AWG - 750 KCMIL
140-200	380-575V	NO	2	#2AWG - 600 KCMIL
140-200	380-575V	NFD	2	2/0 - 500 KCMIL
DUAL POINT POWER				
140-200	208/230V	NO	3	3/0 - 400 KCMIL
140-200	380-575V	NO	1 OR (2)	2/0-500 KCMIL OR (2/0-250 KCMIL)
140-200	380-575V	NFD	1 OR (2)	2/0-500 KCMIL OR (2/0-250 KCMIL)

4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.

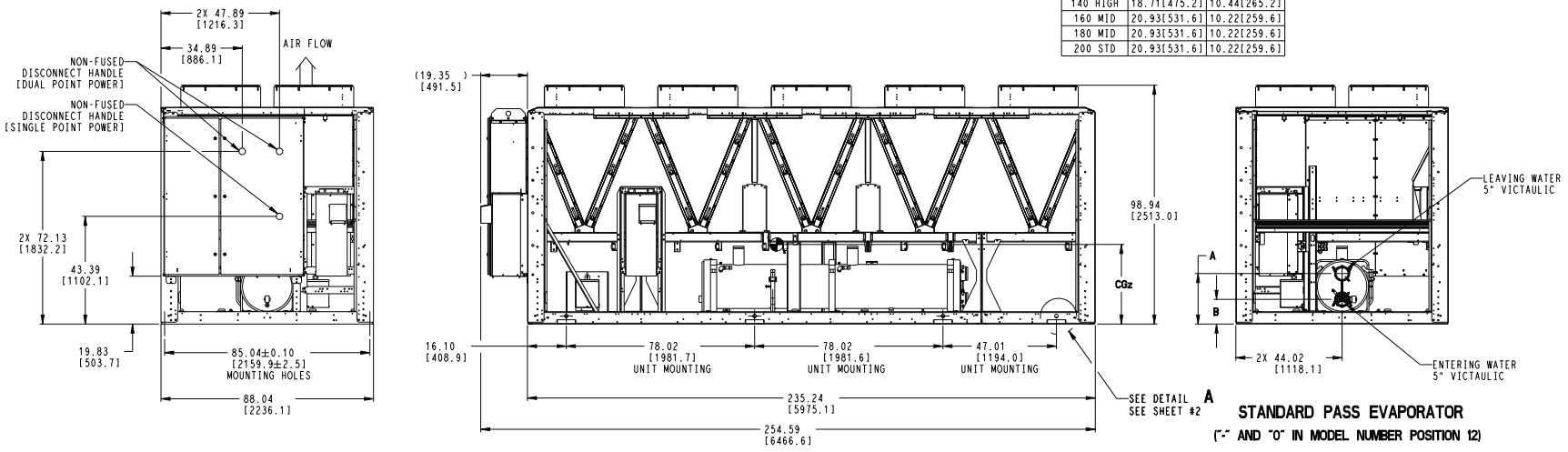
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR)AND ON EACH OIL SEPERATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MM.
7.

UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-140 HIGH	103.0	2616	103.8	2636	105.2	2673	45.7	1162	34.2	868
30XV-160 MID	102.4	2602	103.3	2623	104.7	2660	45.7	1161	33.9	861
30XV-180 MID	103.4	2627	104.2	2647	105.6	2682	45.7	1161	33.8	859
30XV-200 STD	102.7	2609	103.6	2630	105.0	2667	45.7	1161	33.8	859

SYMBOL DENOTES CG



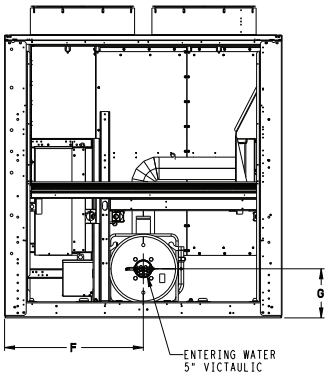
UNIT	A	B
140 HIGH	18.71[475.2]	10.44[265.2]
160 MID	20.93[531.6]	10.22[259.6]
180 MID	20.93[531.6]	10.22[259.6]
200 STD	20.93[531.6]	10.22[259.6]



STANDARD PASS EVAPORATOR
("-" AND "0" IN MODEL NUMBER POSITION 12)

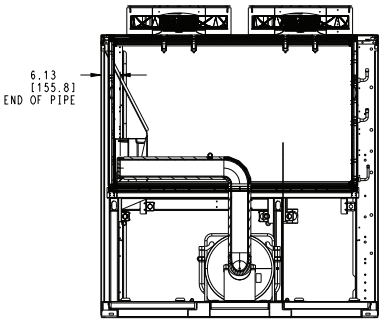
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	1 OF 3	05/16/18	-	30XV 140 HIGH TIER, 160/180 MID TIER, 200 STD TIER AIR COOLED CHILLER	30XV60001000	C

Fig. 3 — 30XV 140 High Tier; 160,180 Mid Tier; 200 Std Tier Air-Cooled Chiller

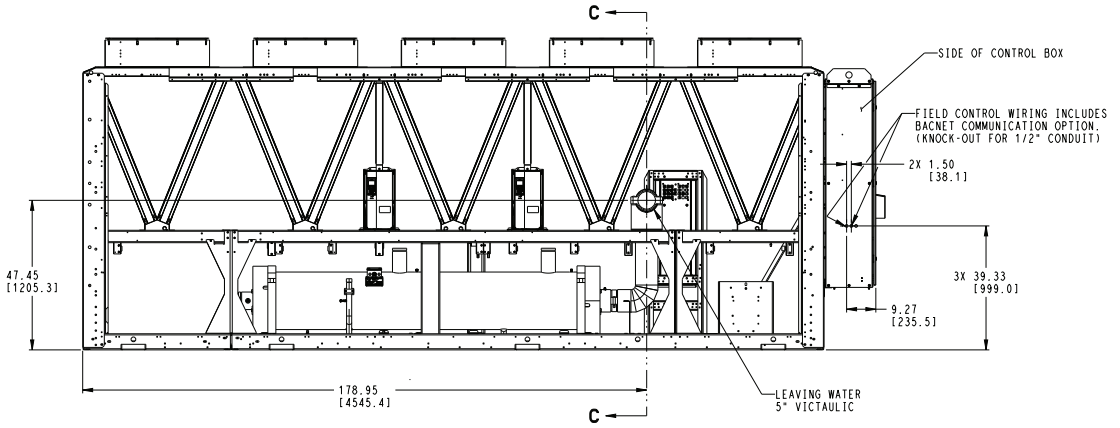


MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)

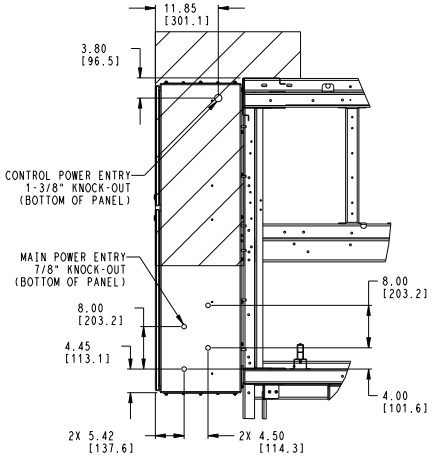
UNIT	F	G
140 HIGH	44.02[1118.1]	14.58[370.3]
160 MID	44.02[1118.1]	15.58[395.7]
180 MID	44.02[1118.1]	15.58[395.7]
200 STD	44.02[1118.1]	15.58[395.7]



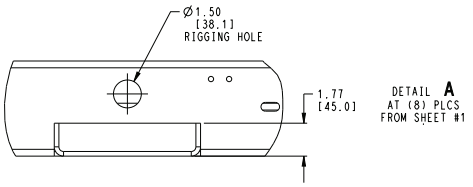
SECTION **C-C**



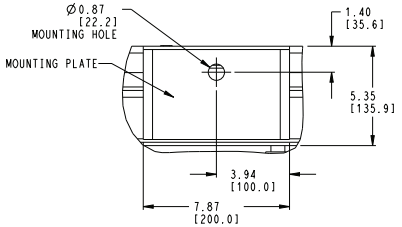
PREFERRED MAIN POWER SUPPLY CONDUIT ROUTING.
GENERIC LOCATION-DO NOT PLACE CONDUIT IN FRONT OF CONTROL PANEL.
ACCESS FOR SERVICE IS REQUIRED.



DETAIL **B**
FROM SHEET #1
(TOP VIEW- KNOCK OUTS ON BOTTOM OF CONTROL BOX)

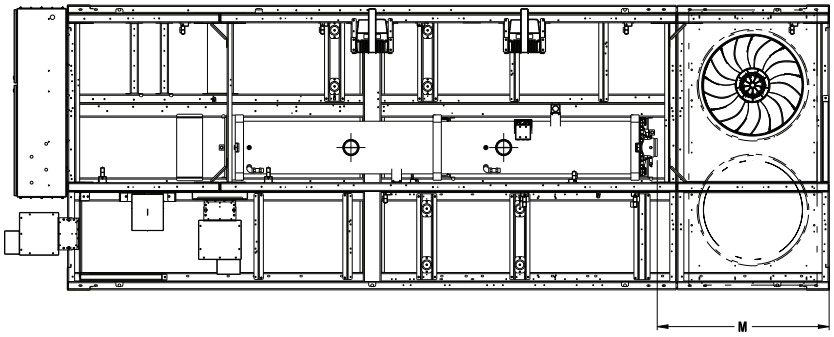


DETAIL **A**
AT (8) PLCS
FROM SHEET #1

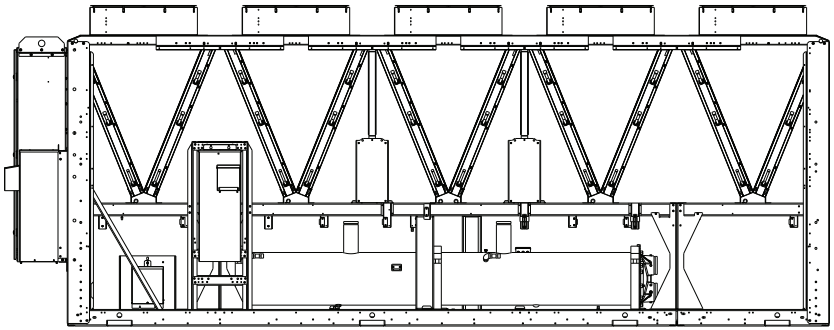


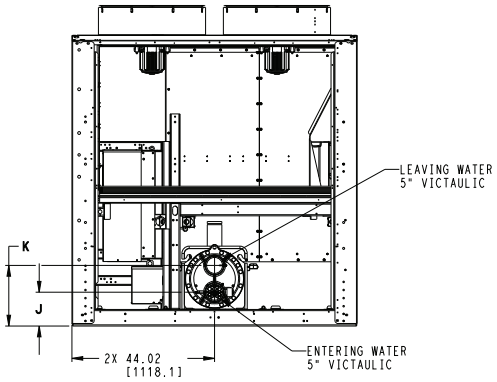
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/16/18	-	30XV 140 HIGH TIER, 160/180 MID TIER, 200 STD TIER AIR COOLED CHILLER	30XV60001000	C

Fig. 3 — 30XV 140 High Tier; 160,180 Mid Tier; 200 Std Tier Air-Cooled Chiller (cont)



UNIT	K	J	M
140 HIGH	18.71[475.2]	10.44[265.2]	53.05[1347.5]
160 MID	18.71[475.2]	10.44[265.2]	53.05[1347.5]
180 MID	18.71[475.2]	10.44[265.2]	53.05[1347.5]
200 STD	20.90[530.9]	10.19[258.9]	49.90[1267.5]





BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

BRINE COOLER OPTION

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	30XV 140 HIGH TIER, 160/180 MID TIER, 200 STD TIER AIR COOLED CHILLER	30XV60001000	REV
U.S. ECCN:EAR99	3 OF 3	05/16/18	-			C

Fig. 3 — 30XV 140 High Tier; 160,180 Mid Tier; 200 Std Tier Air-Cooled Chiller (cont)

NOTES:

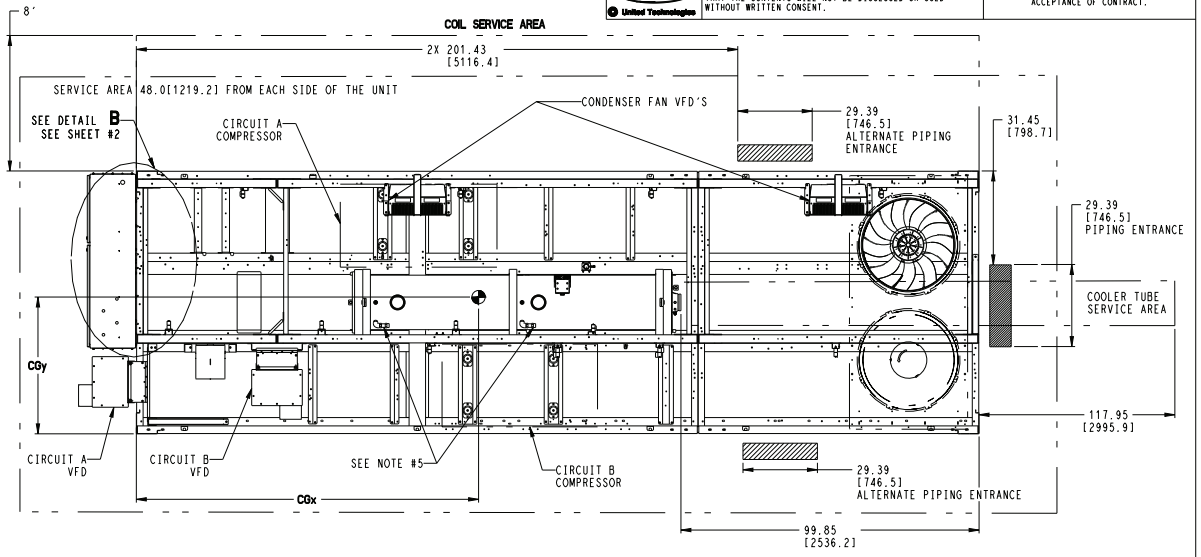
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPERATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER AIRFLOW.
2. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
3. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
140-200	208/230V	NO	4	#2AWG - 750 KCMIL
140-200	380-575V	NO	2	#2AWG - 600 KCMIL
140-200	380-575V	NFD	2	2/0 - 500 KCMIL
DUAL POINT POWER				
140-200	208/230V	NO	3	3/0 - 400 KCMIL
140-200	380-575V	NO	1 OR (2)	2/0-500 KCMIL OR (2/0-250 KCMIL)
140-200	380-575V	NFD	1 OR (2)	2/0-500 KCMIL OR (2/0-250 KCMIL)

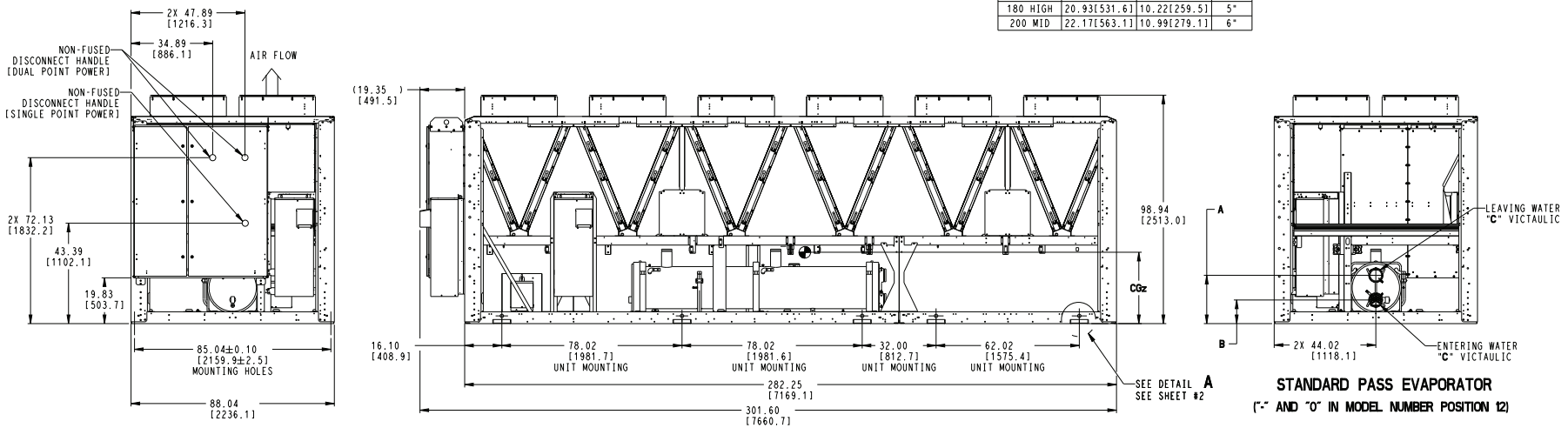
4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR)AND ON EACH OIL SEPERATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MM.
7.

UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-160 HIGH	115.2	2927	116.8	2968	119.6	3037	45.8	1163	35.1	890
30XV-180 HIGH	115.4	2932	117.1	2973	119.8	3042	45.8	1163	35.0	888
30XV-200 MID	115.4	2932	117.0	2972	119.7	3040	45.8	1162	34.7	882

SYMBOL DENOTES CG



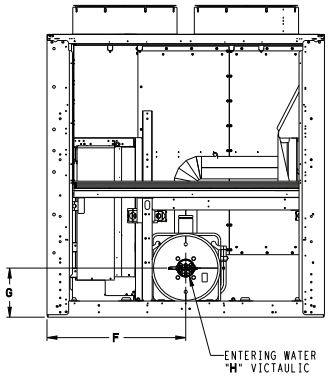
UNIT	A	B	C
160 HIGH	20.93[531.6]	10.22[259.5]	5"
180 HIGH	20.93[531.6]	10.22[259.5]	5"
200 MID	22.17[563.1]	10.99[279.1]	6"



STANDARD PASS EVAPORATOR
("-" AND "0" IN MODEL NUMBER POSITION 12)

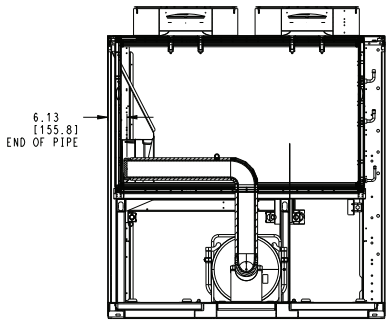
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	30XV 160/180 HIGH TIER, 200 MID TIER AIR COOLED CHILLER		REV
U.S. ECCN:EAR99	1 OF 3	05/16/18	-		30XV60001100	C

Fig. 4 — 30XV 160,180 High Tier; 200 Mid Tier Air-Cooled Chiller

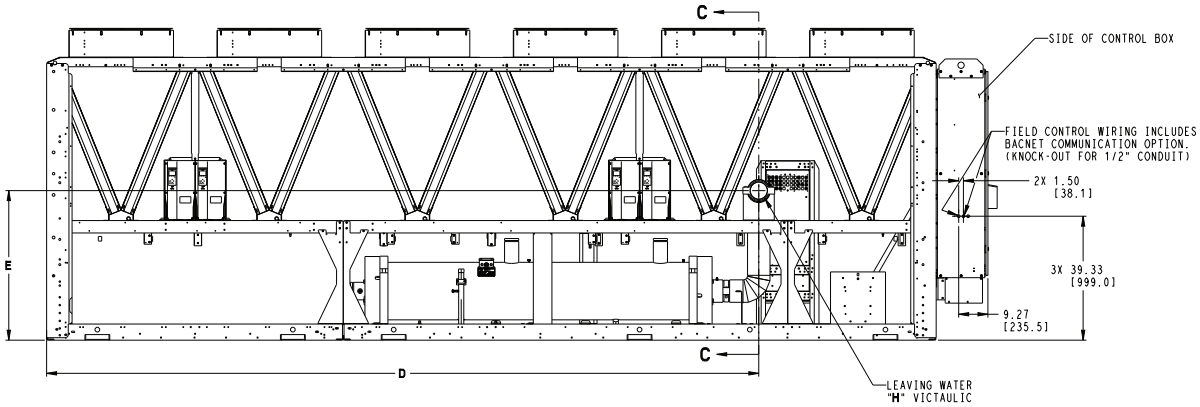


MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)

UNIT	F	G	H
160 HIGH	44.02[1118.1]	15.57[395.4]	5"
180 HIGH	44.02[1118.1]	15.57[395.4]	5"
200 MID	44.02[1118.1]	17.56[446.0]	8"

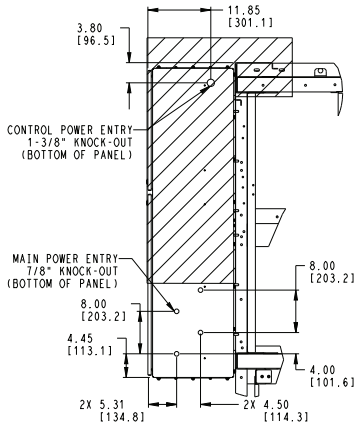


SECTION **C-C**

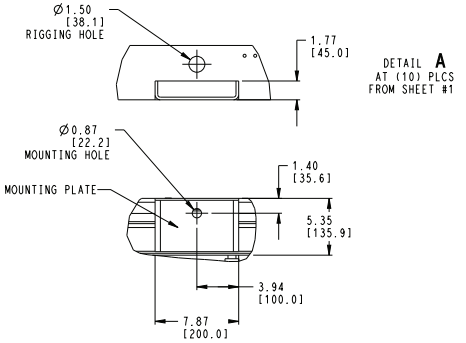


PREFERRED MAIN POWER SUPPLY CONDUIT ROUTING.
GENERIC LOCATION - DO NOT PLACE CONDUIT IN FRONT OF CONTROL PANEL.
ACCESS FOR SERVICE IS REQUIRED.

UNIT	D	E
160 HIGH	225.96[5739.3]	47.45[1205.2]
180 HIGH	225.96[5739.3]	47.45[1205.2]
200 MID	225.96[5739.3]	45.31[1150.9]



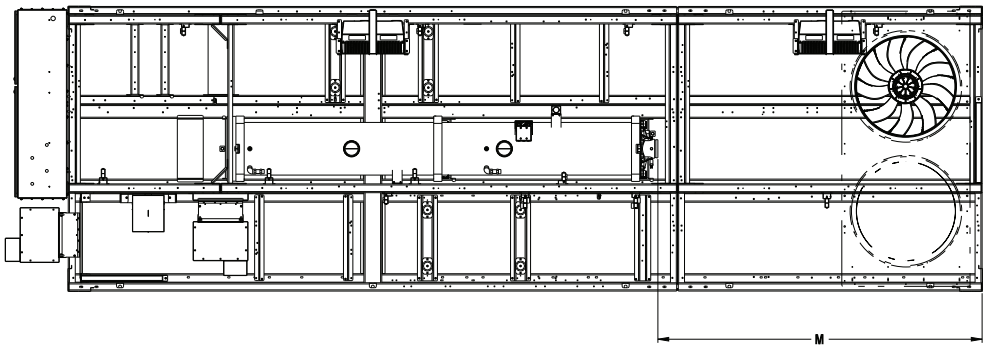
DETAIL **B**
FROM SHEET #1
(TOP VIEW- KNOCK OUTS ON BOTTOM OF CONTROL BOX)



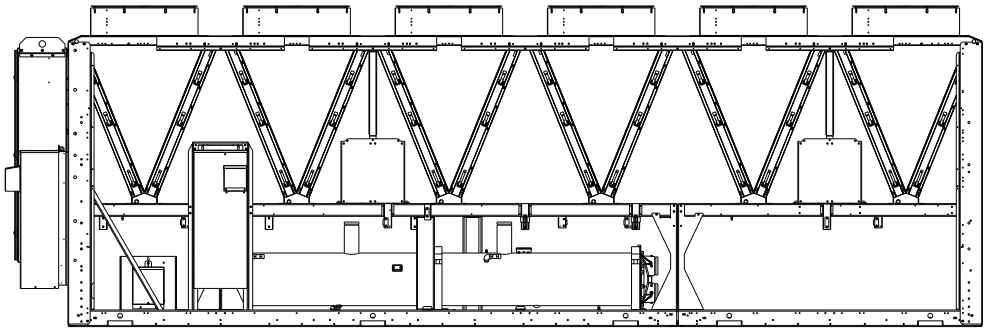
DETAIL **A**
AT (10) PLCS
FROM SHEET #1

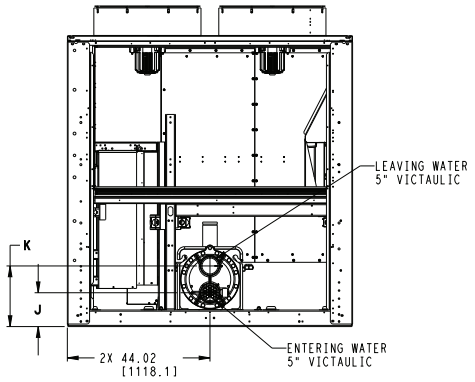
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	30XV 160/180 HIGH TIER, 200 MID TIER AIR COOLED CHILLER		REV
U.S. ECCN:EAR99	2 OF 3	05/16/18	-		30XV60001100	C

Fig. 4 — 30XV 160,180 High Tier; 200 Mid Tier Air-Cooled Chiller (cont)



UNIT	K	J	M
160 HIGH	18.71[475.3]	10.44[265.3]	100.06[2541.6]
180 HIGH	18.71[475.3]	10.44[265.3]	100.06[2541.6]
200 MID	20.90[530.9]	10.19[258.9]	96.91[2461.5]





BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

BRINE COOLER OPTION

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	30XV 160/180 HIGH TIER, 200 MID TIER AIR COOLED CHILLER	30XV60001100	REV
U.S. ECCN:EAR99	3 OF 3	05/16/18	-			C

Fig. 4 — 30XV 160,180 High Tier; 200 Mid Tier Air-Cooled Chiller (cont)

NOTES:

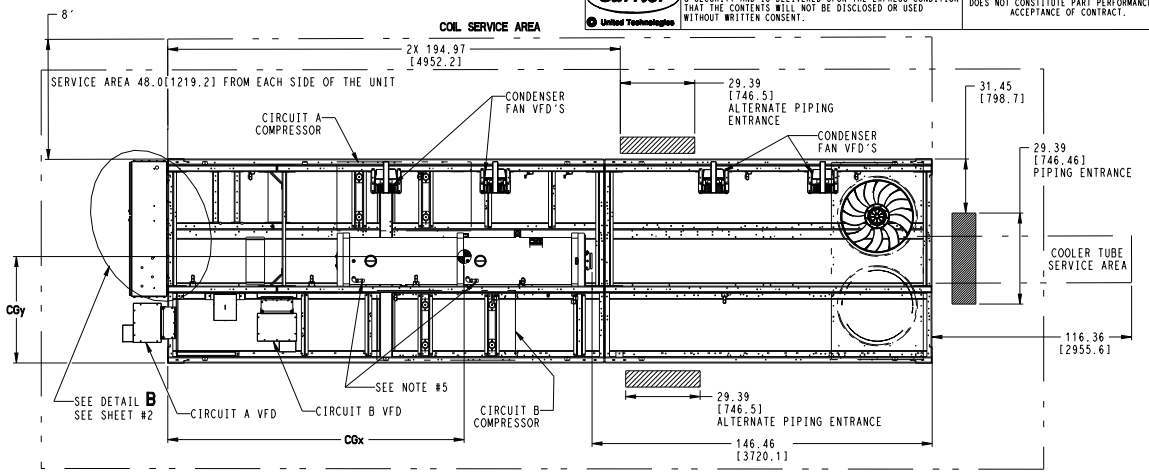
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6′ FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8′ REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPERATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER AIRFLOW.
2. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
3. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

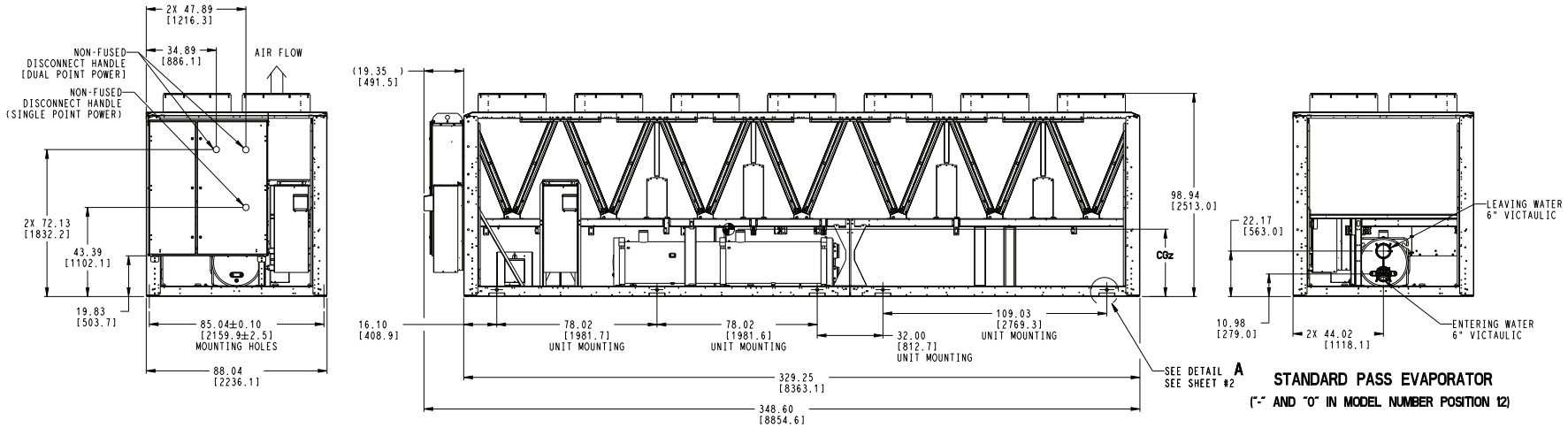
30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
140-200	208/230V	NO	4	#2AWG - 750 KCMIL
140-200	380-575V	NO	2	#2AWG - 600 KCMIL
140-200	380-575V	NFD	2	2/0 - 500 KCMIL
DUAL POINT POWER				
140-200	208/230V	NO	3	3/0 - 400 KCMIL
140-200	380-575V	NO	1 OR (2)	2/0-500 KCMIL OR (2/0-250 KCMIL)
140-200	380-575V	NFD	1 OR (2)	2/0-500 KCMIL OR (2/0-250 KCMIL)

4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR)AND ON EACH OIL SEPERATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MM.
7.

UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-200 HIGH	128.6	3267	131.1	3330	135.1	3431	45.9	1165	35.8	910

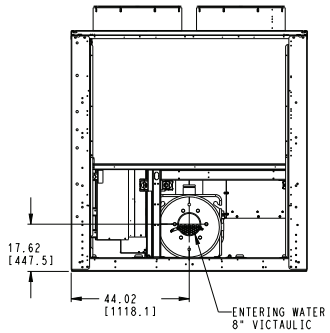
SYMBOL DENOTES CG



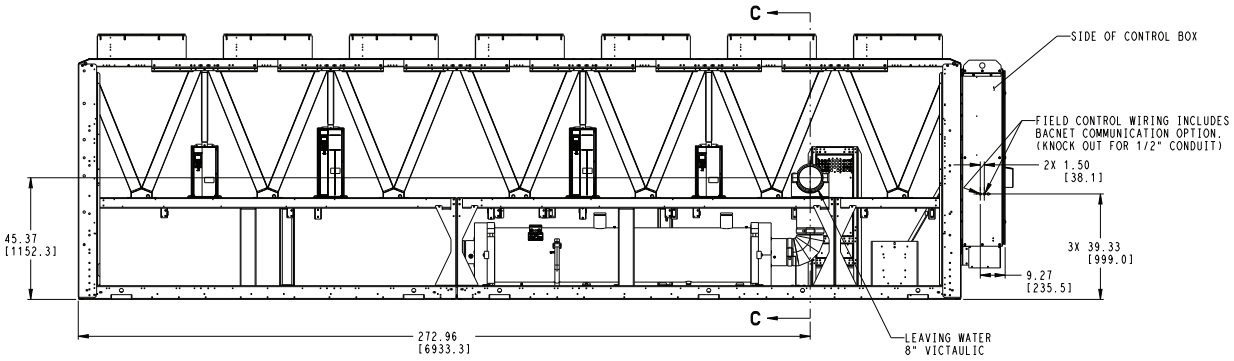


ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	1 OF 3	05/16/18	-	30XV 200 HIGH TIER AIR COOLED CHILLER	30XV60001200	C

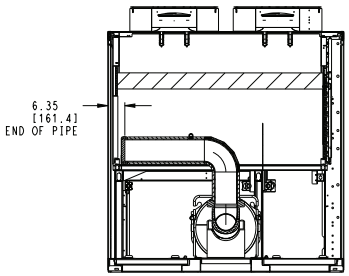
Fig. 5 — 30XV 200 High Tier Air-Cooled Chiller



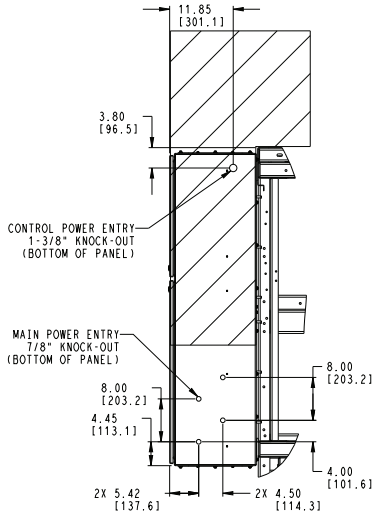
MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)



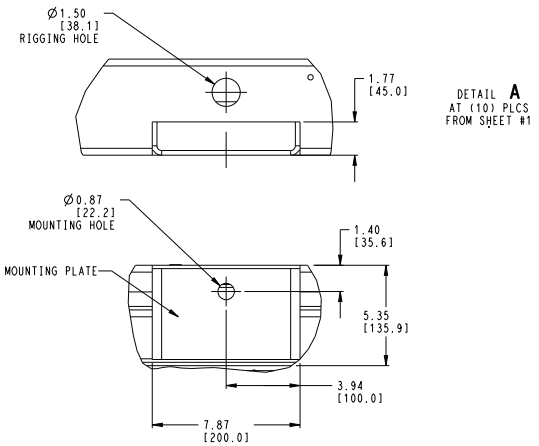
PREFERRED MAIN POWER SUPPLY CONDUIT ROUTING.
GENERIC LOCATION-DO NOT PLACE CONDUIT IN FRONT OF CONTROL PANEL.
ACCESS FOR SERVICE IS REQUIRED.



SECTION **C-C**



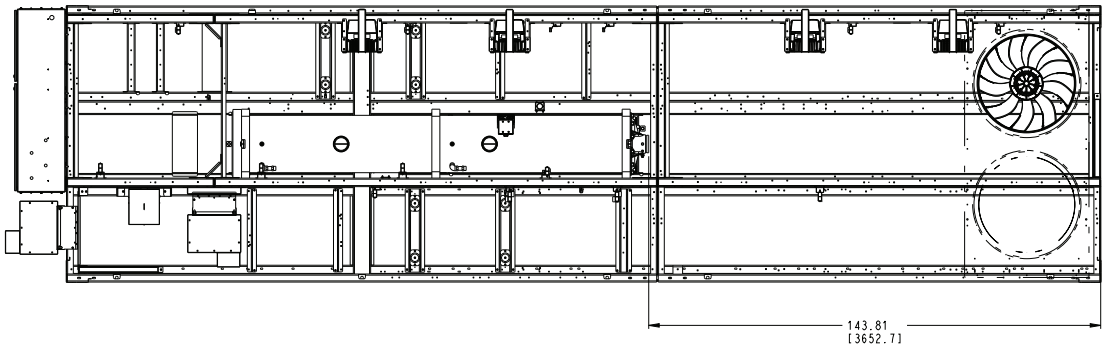
DETAIL **B**
FROM SHEET #1
(TOP VIEW- KNOCK OUTS ON BOTTOM OF CONTROL BOX)

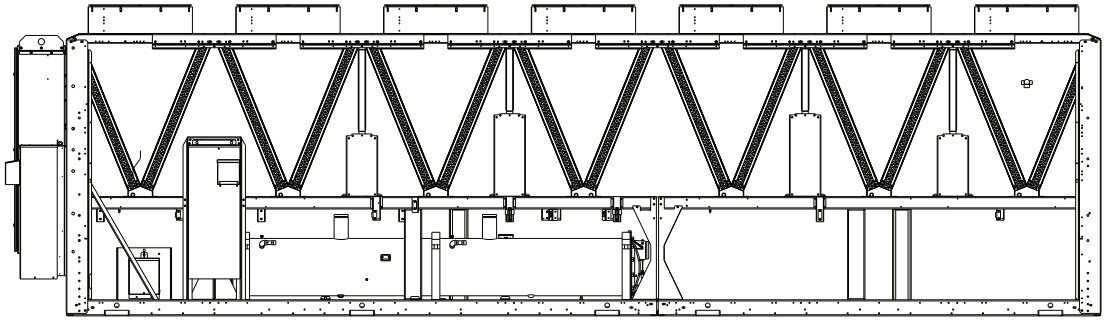


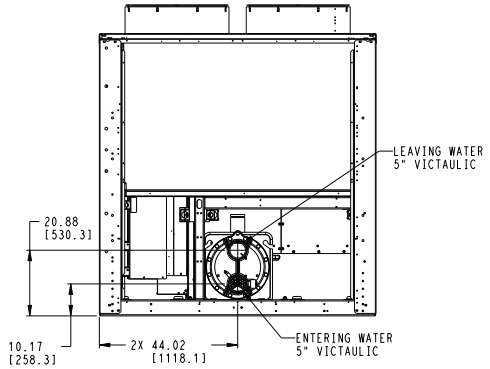
DETAIL **A**
AT (10) PLCS
FROM SHEET #1

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/16/18	-	30XV 200 HIGH TIER AIR COOLED CHILLER	30XV60001200	C

Fig. 5 — 30XV 200 High Tier Air-Cooled Chiller (cont)







BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

BRINE COOLER OPTION

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/16/18	-	30XV 200 HIGH TIER AIR COOLED CHILLER	30XV60001200	C

Fig. 5 — 30XV 200 High Tier Air-Cooled Chiller (cont)

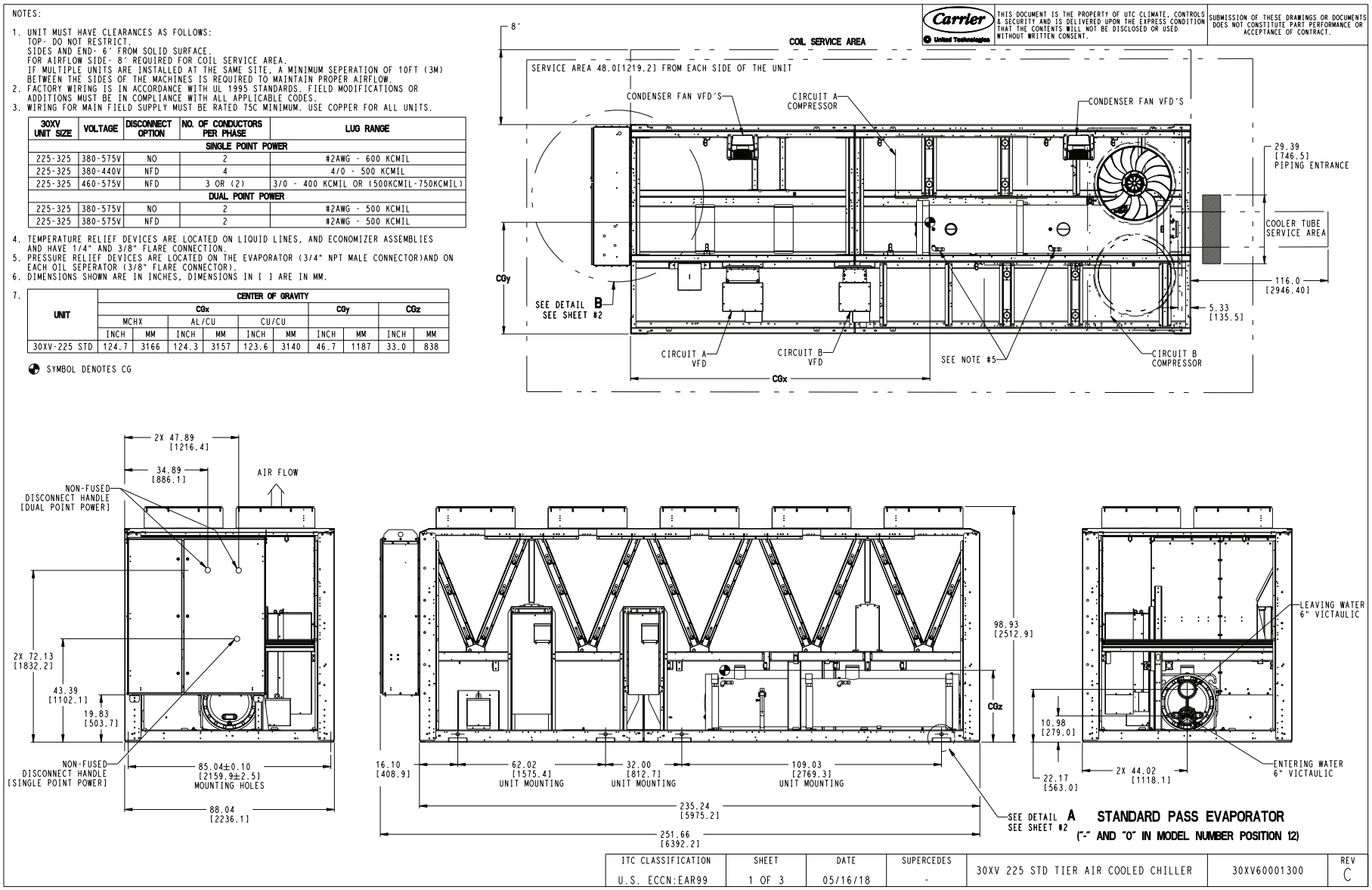
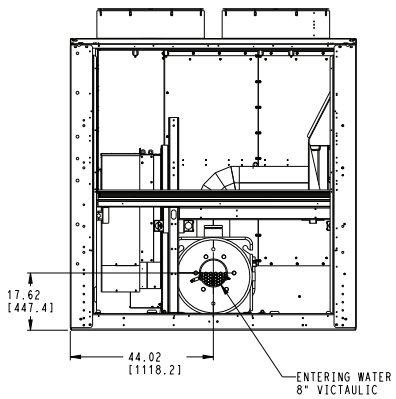
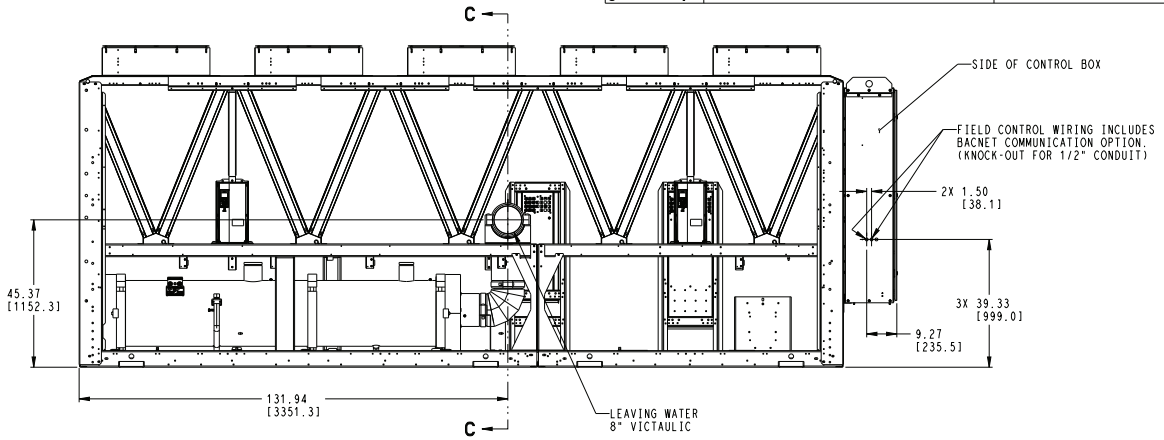


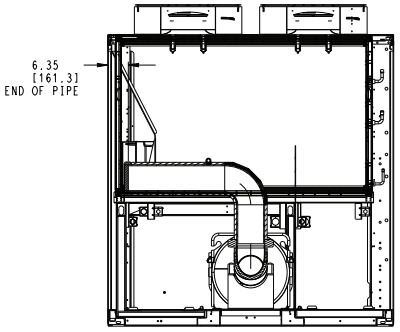
Fig. 6 — 30XV 225 Std Tier Air-Cooled Chiller



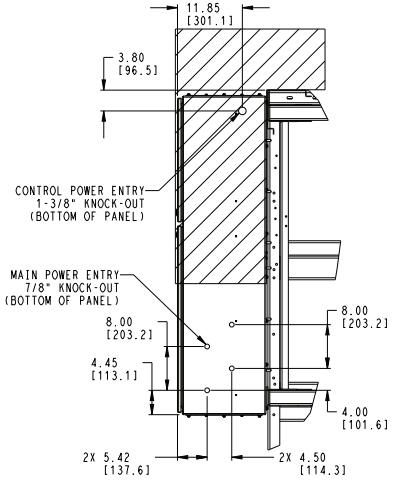
MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)



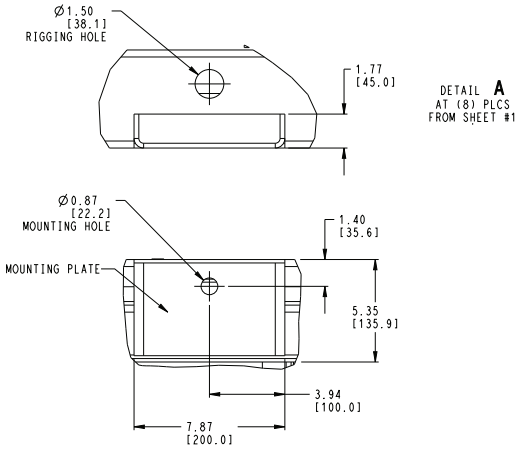
PREFERRED MAIN POWER SUPPLY CONDUIT ROUTING.
GENERIC LOCATION - DO NOT PLACE CONDUIT IN FRONT OF CONTROL PANEL.
ACCESS FOR SERVICE IS REQUIRED.



SECTION **C-C**



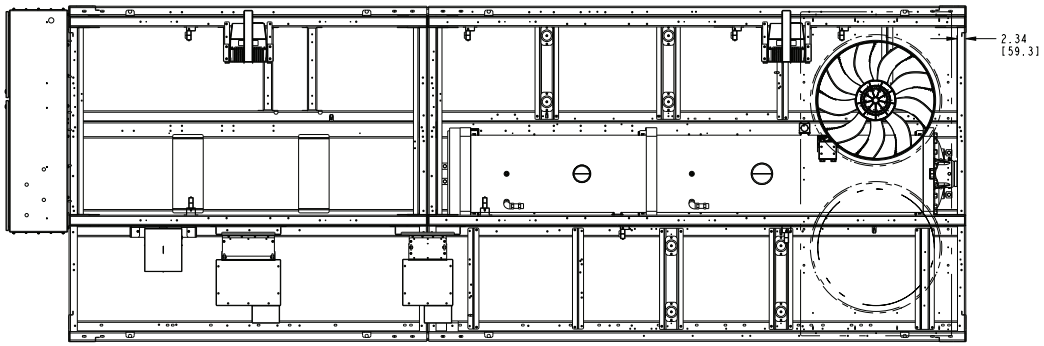
DETAIL **B**
FROM SHEET #1
(TOP VIEW- KNOCK OUTS ON BOTTOM
OF CONTROL BOX)

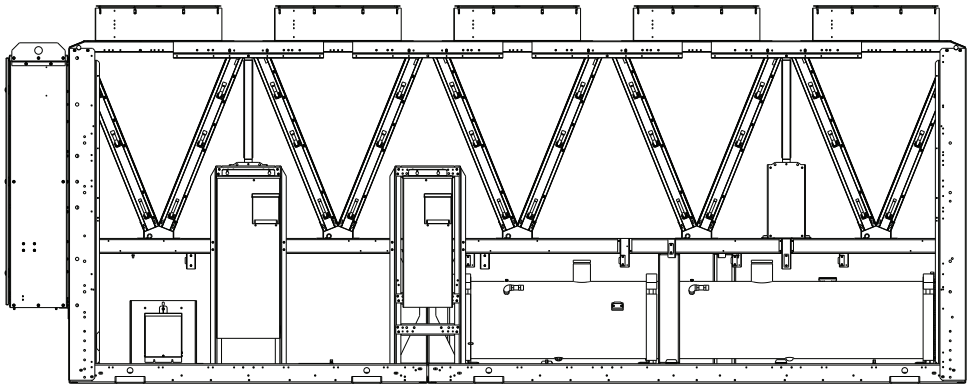


DETAIL **A**
AT (8) PLCS
FROM SHEET #1

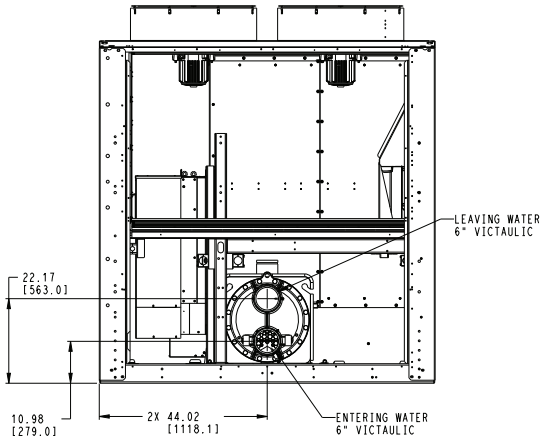
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/16/18	-	30XV 225 STD TIER AIR COOLED CHILLER	30XV60001300	C

Fig. 6 — 30XV 225 Std Tier Air-Cooled Chiller (cont)





BRINE COOLER OPTION



BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/16/18	-	30XV 225 STD TIER AIR COOLED CHILLER	30XV60001300	C

Fig. 6 — 30XV 225 Std Tier Air-Cooled Chiller (cont)

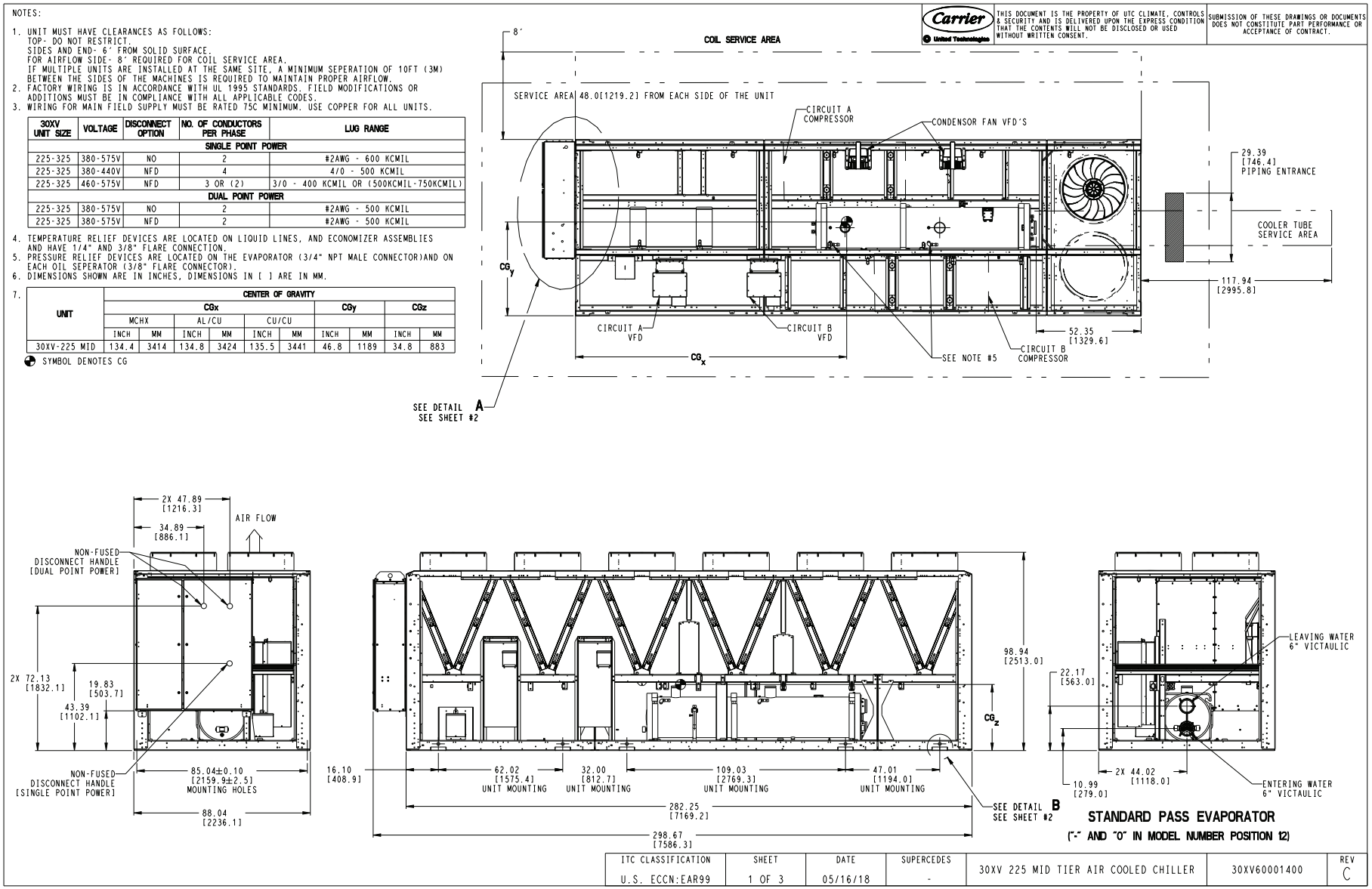
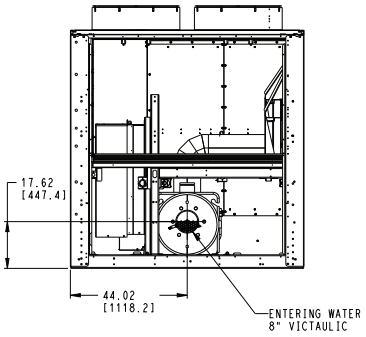
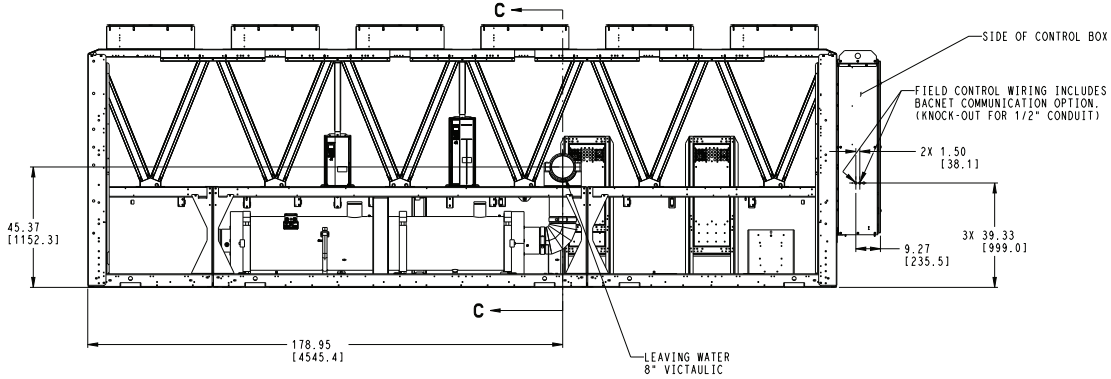


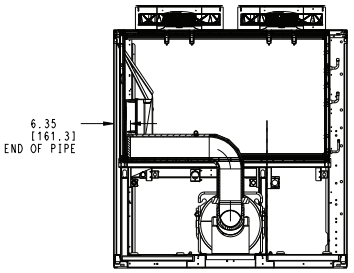
Fig. 7 — 30XV 225 Mid Tier Air-Cooled Chiller



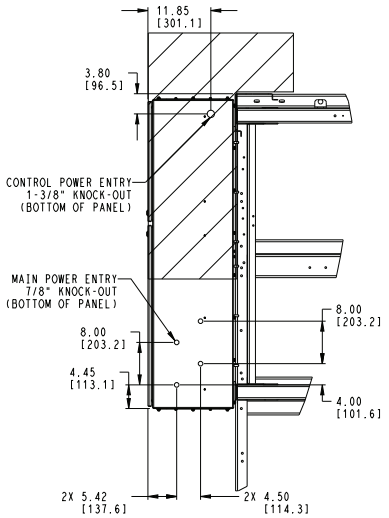
MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)



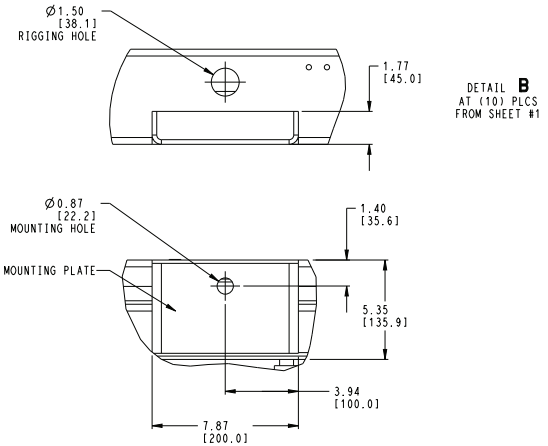
PREFERRED MAIN POWER SUPPLY CONDUIT ROUTING.
GENERIC LOCATION - DO NOT PLACE CONDUIT IN FRONT OF CONTROL PANEL.
ACCESS FOR SERVICE IS REQUIRED.



SECTION **C-C**



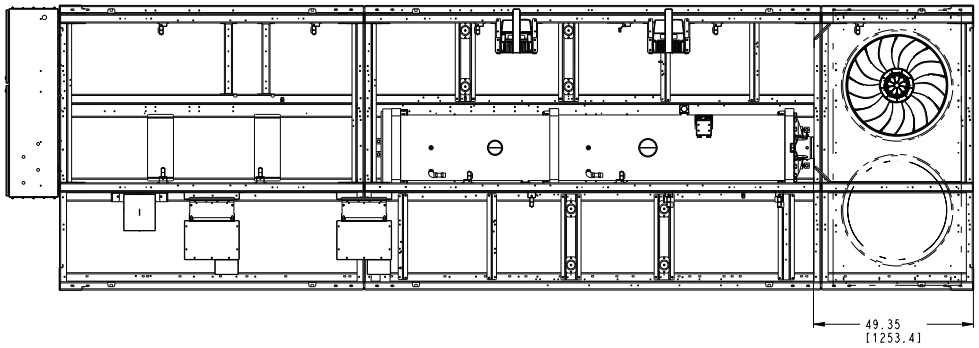
DETAIL **A**
FROM SHEET #1
(TOP VIEW- KNOCK OUTS ON BOTTOM OF CONTROL BOX)

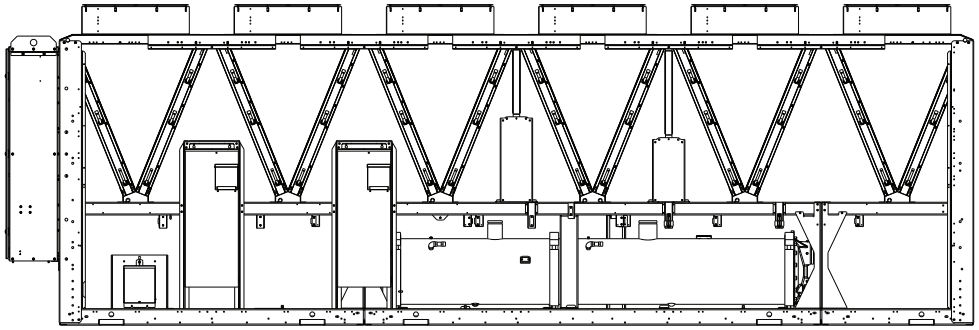


DETAIL **B**
AT (10) PLCS
FROM SHEET #1

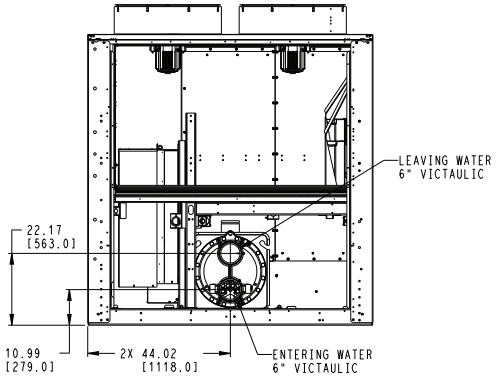
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/16/18	-	30XV 225 MID TIER AIR COOLED CHILLER	30XV60001400	C

Fig. 7 — 30XV 225 Mid Tier Air-Cooled Chiller (cont)





BRINE COOLER OPTION



BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/16/18	-	30XV 225 MID TIER AIR COOLED CHILLER	30XV60001400	C

Fig. 7 — 30XV 225 Mid Tier Air-Cooled Chiller (cont)

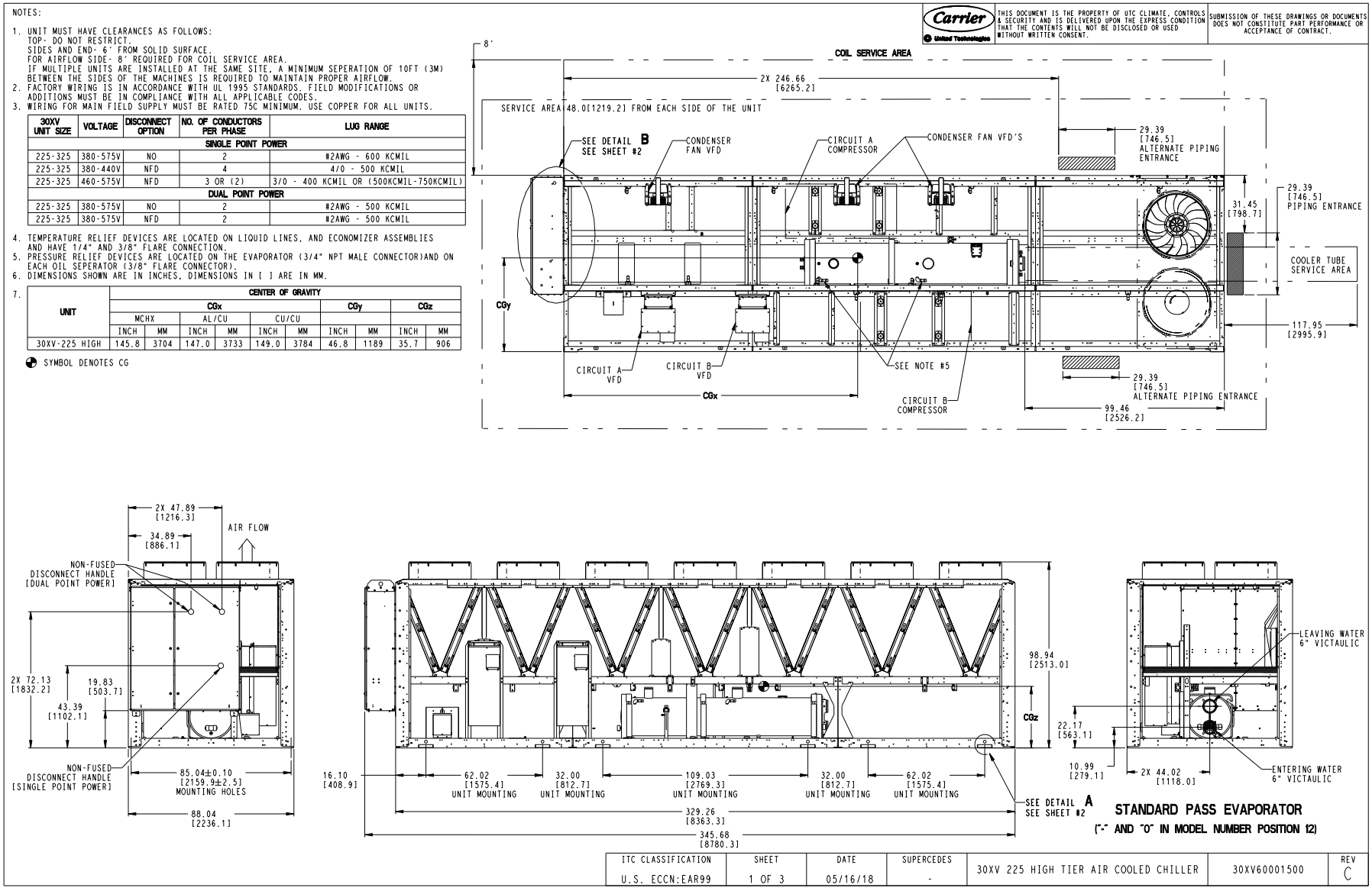
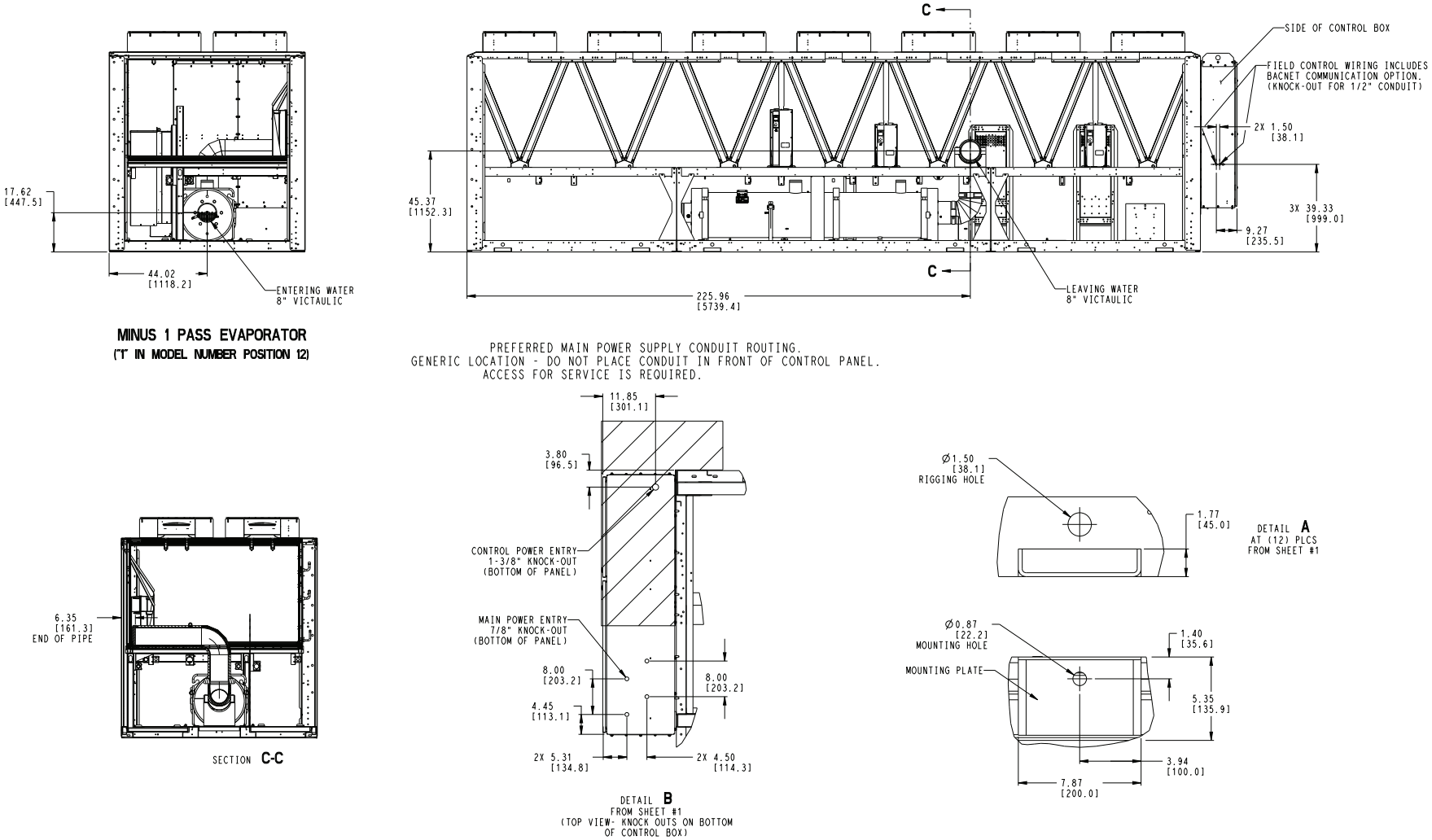
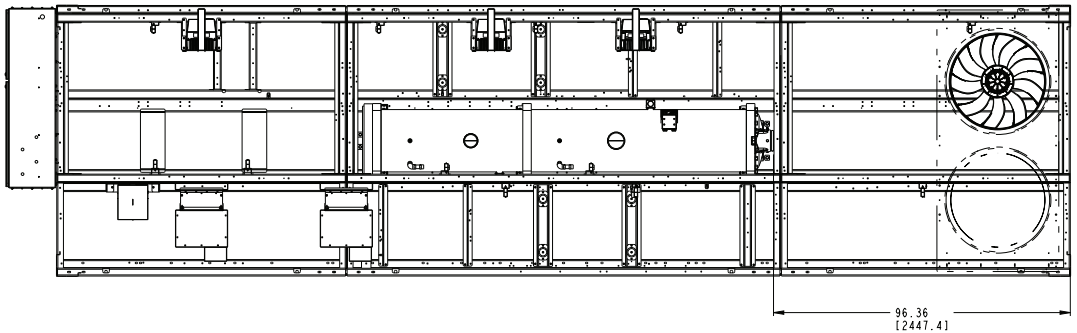


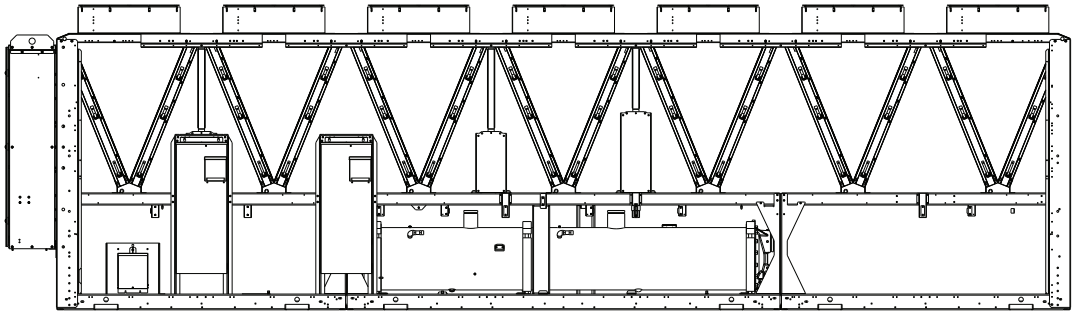
Fig. 8 — 30XV 225 High Tier Air-Cooled Chiller



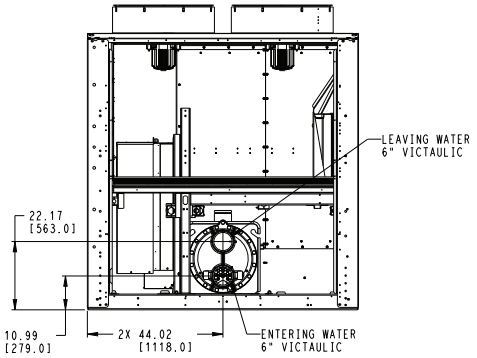
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/16/18	-	30XV 225 HIGH TIER AIR COOLED CHILLER	30XV60001500	C

Fig. 8 — 30XV 225 High Tier Air-Cooled Chiller (cont)





BRINE COOLER OPTION



BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/16/18	-	30XV 225 HIGH TIER AIR COOLED CHILLER	30XV60001500	C

Fig. 8 — 30XV 225 High Tier Air-Cooled Chiller (cont)

NOTES:

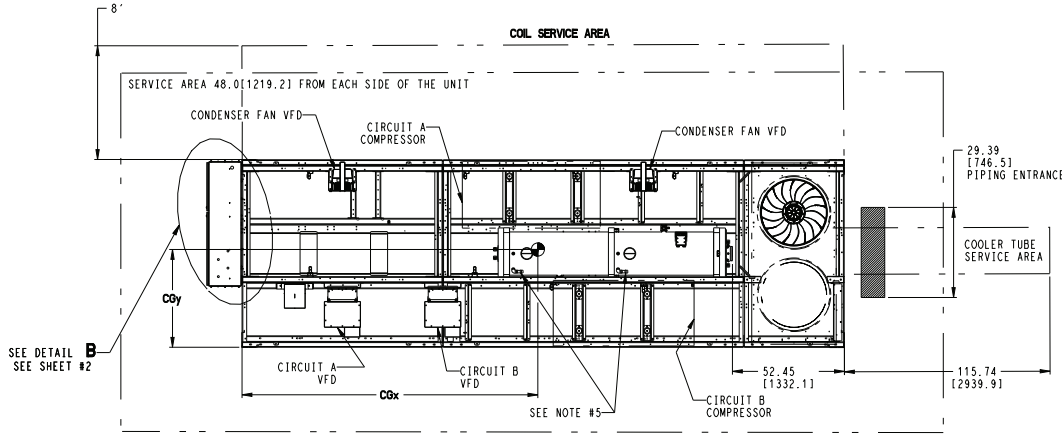
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPERATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER AIRFLOW.
2. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
3. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

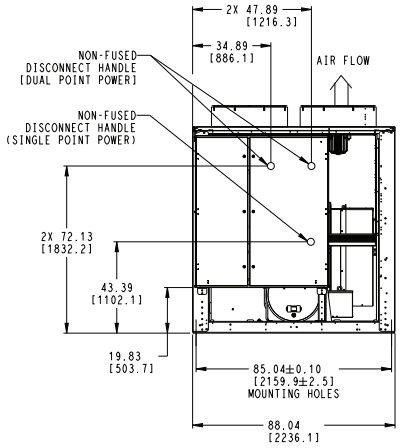
30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
225-325	380-575V	NO	2	#2AWG - 600 KCMIL
225-325	380-440V	NFD	4	4/0 - 500 KCMIL
225-325	460-575V	NFD	3 OR (2)	3/0 - 400 KCMIL OR (500KCMIL-750KCMIL)
DUAL POINT POWER				
225-325	380-575V	NO	2	#2AWG - 500 KCMIL
225-325	380-575V	NFD	2	#2AWG - 500 KCMIL

4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR)AND ON EACH OIL SEPERATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MM.
7.

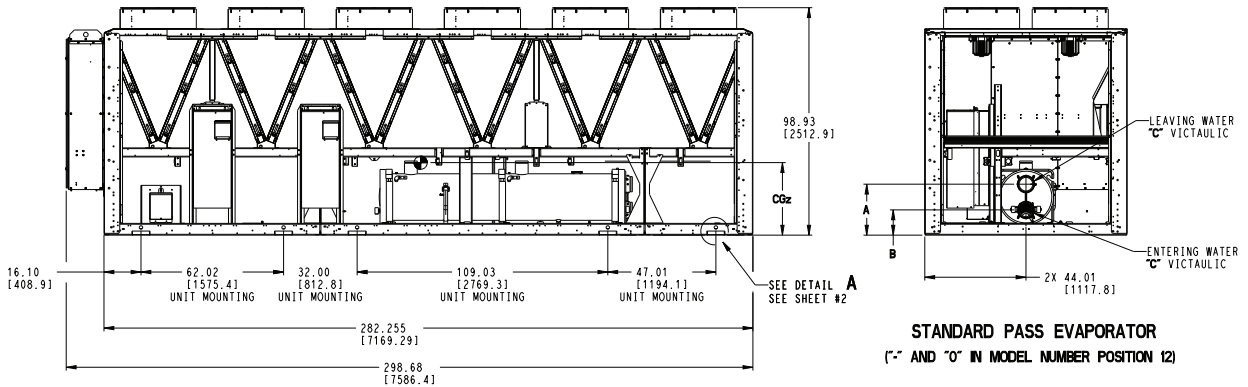
UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-250 STD	137.7	3497	137.9	3502	138.2	3510	45.4	1152	34.2	869
30XV-275 STD	138.7	3522	139.2	3535	139.0	3531	45.4	1154	34.0	864

SYMBOL DENOTES CG





UNIT	A	B	C
250 STD	22.17[563.1]	10.99[279.1]	6"
275 STD	23.28[591.3]	11.87[301.5]	8"



STANDARD PASS EVAPORATOR
("-" AND "0" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	30XV 250/275 STD TIER AIR COOLED CHILLER	30XV60001600	REV
U.S. ECCN:EAR99	1 OF 3	05/16/18	-			C

Fig. 9 — 30XV 250,275 Std Tier Air-Cooled Chiller

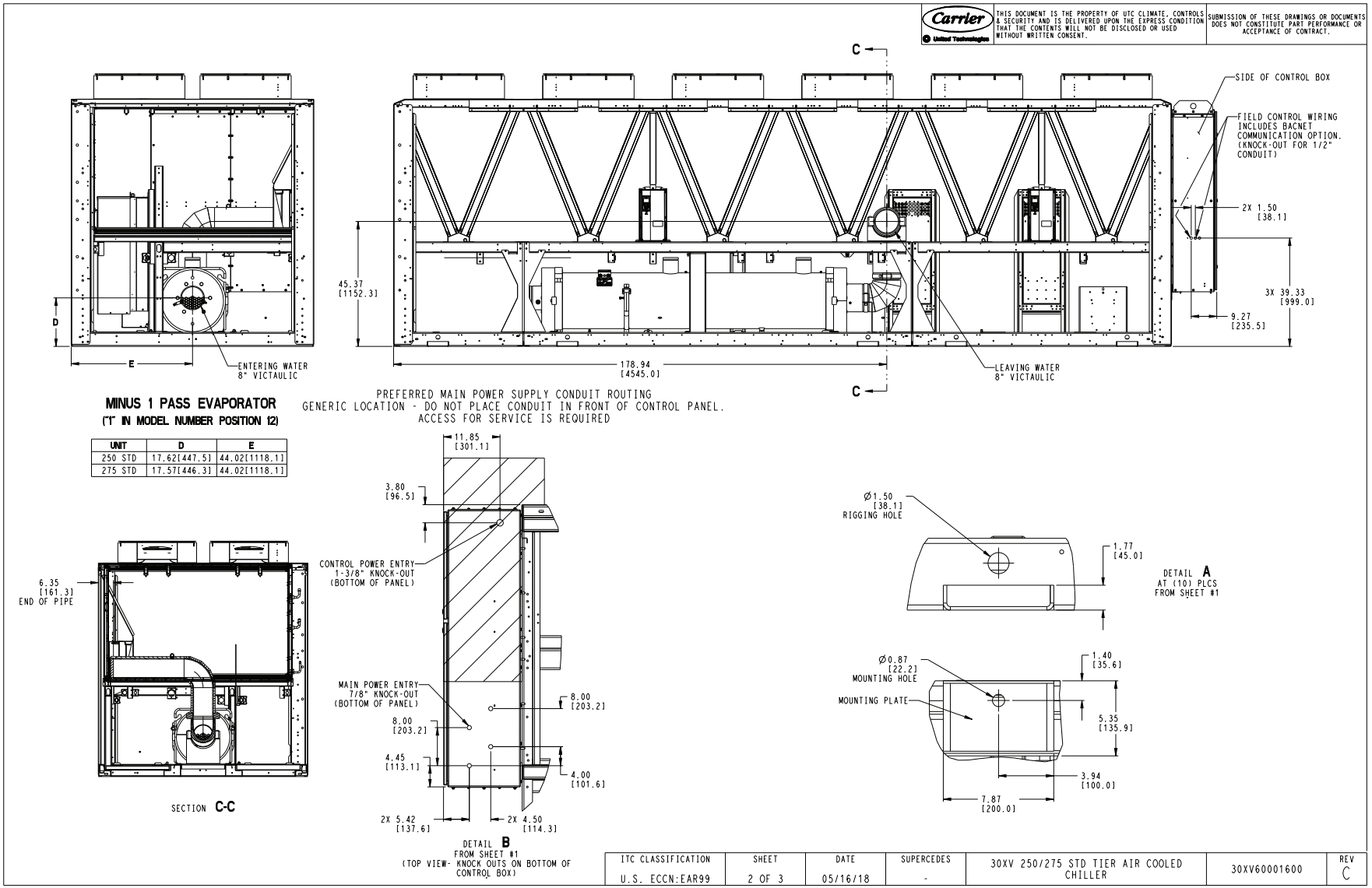
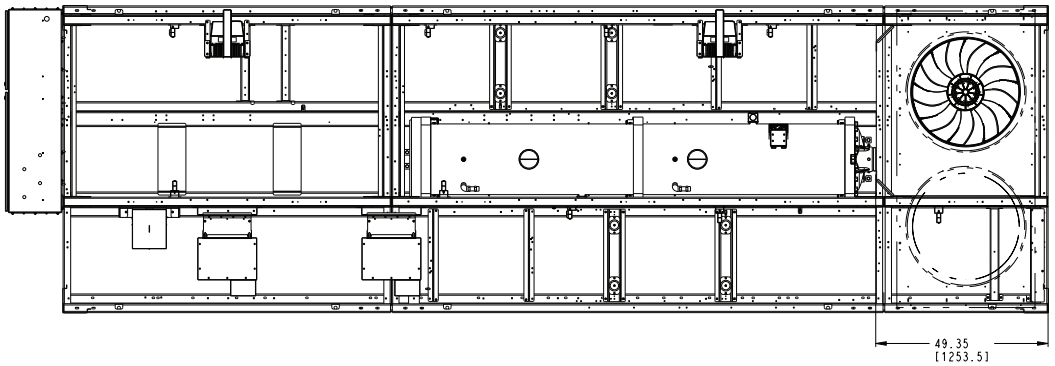
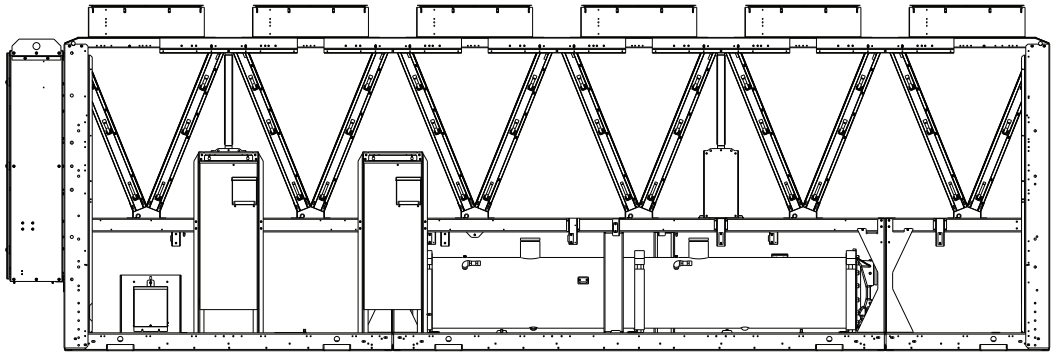
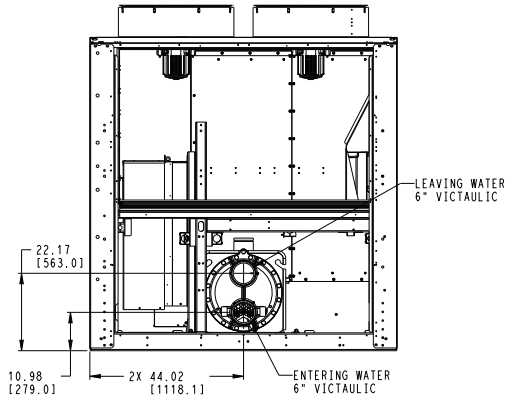


Fig. 9 — 30XV 250,275 Std Tier Air-Cooled Chiller (cont)





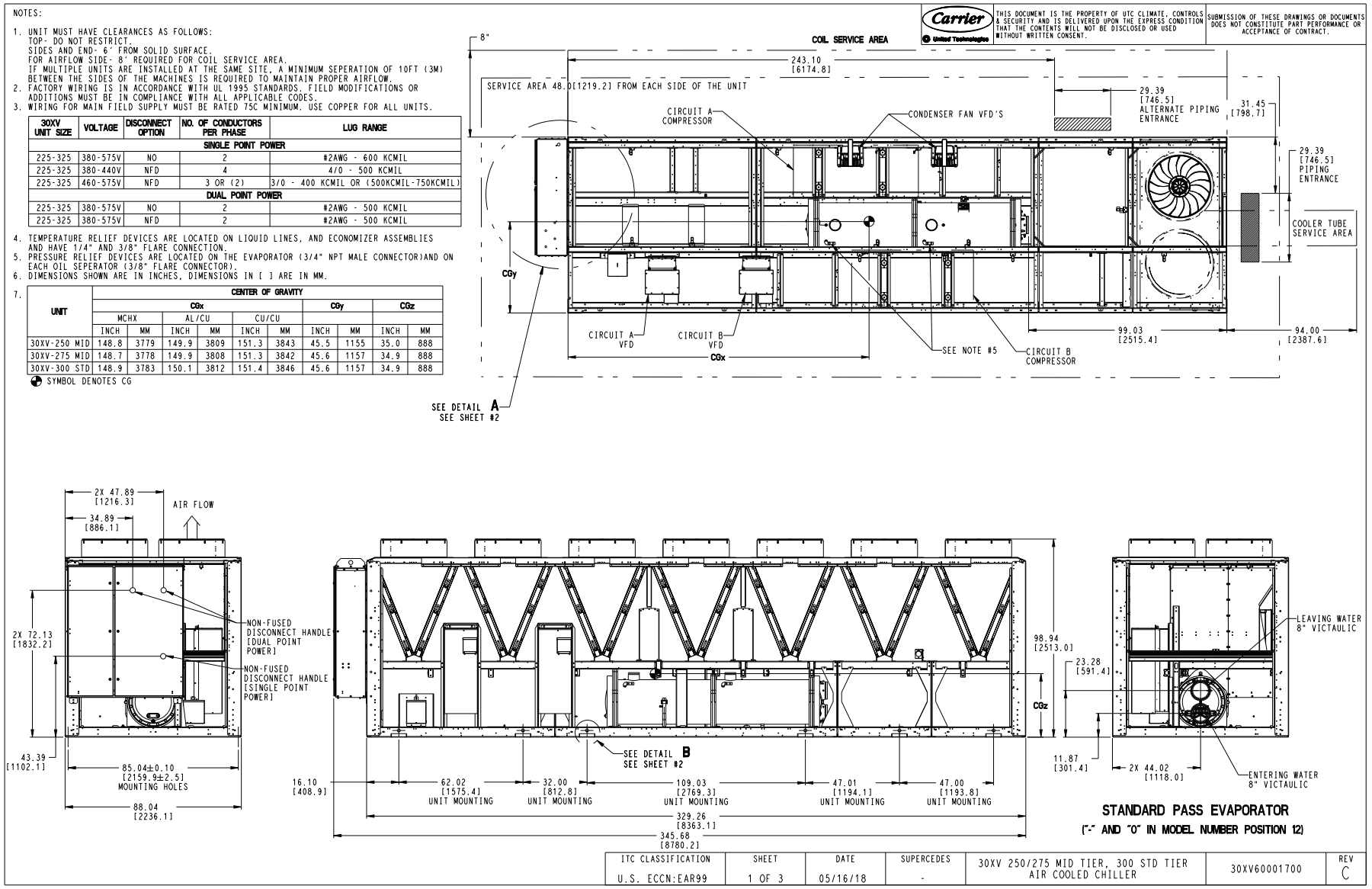
BRINE COOLER OPTION



BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/16/18	-	30XV 250/275 STD TIER AIR COOLED CHILLER	30XV60001600	C

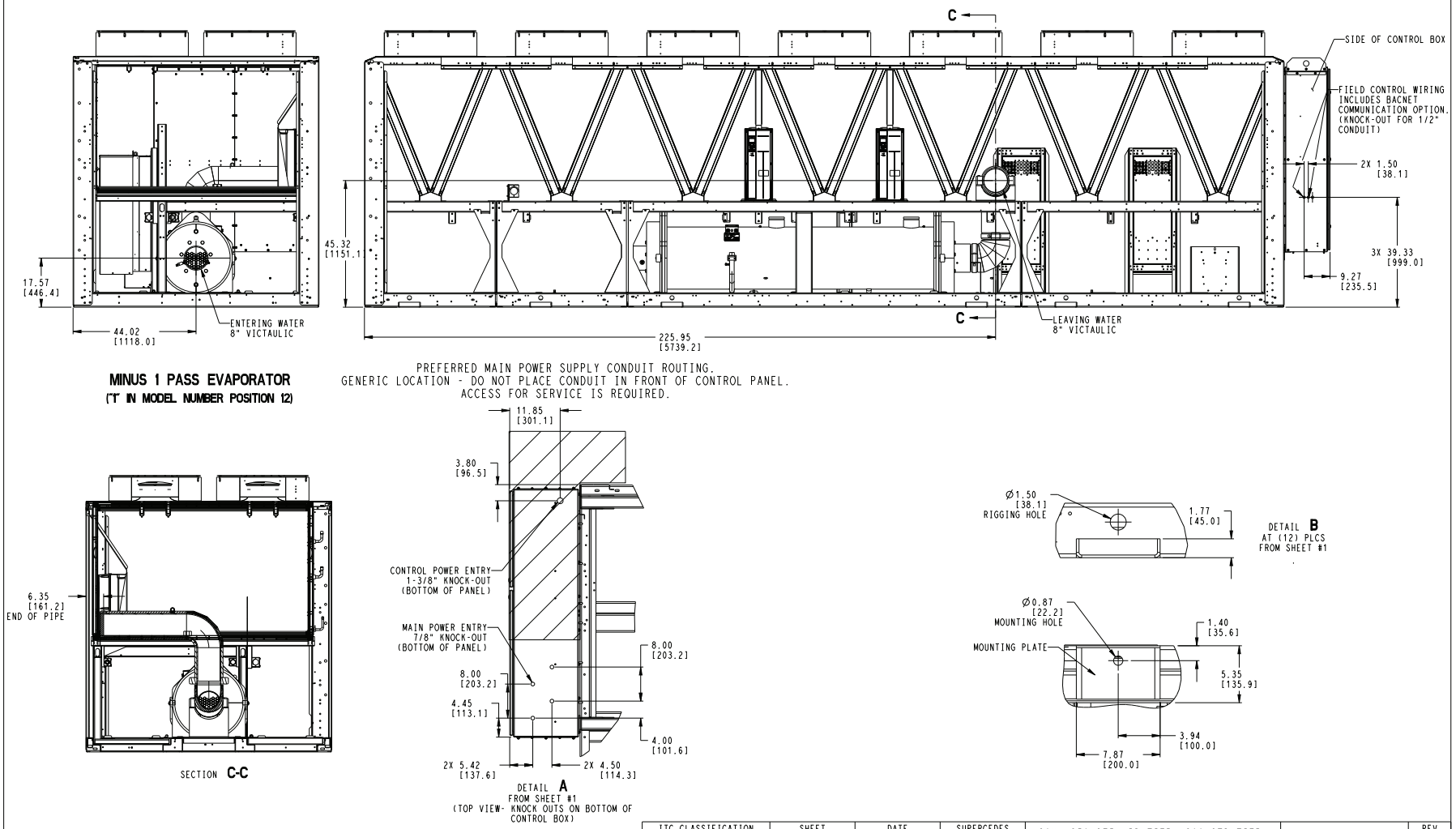
Fig. 9 — 30XV 250,275 Std Tier Air-Cooled Chiller (cont)



30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
225-325	380-575V	NO	2	#2AWG - 600 KCMIL
225-325	380-440V	NFD	4	4/0 - 500 KCMIL
225-325	460-575V	NFD	3 OR (2)	3/0 - 400 KCMIL OR (500KCMIL-750KCMIL)
DUAL POINT POWER				
225-325	380-575V	NO	2	#2AWG - 500 KCMIL
225-325	380-575V	NFD	2	#2AWG - 500 KCMIL

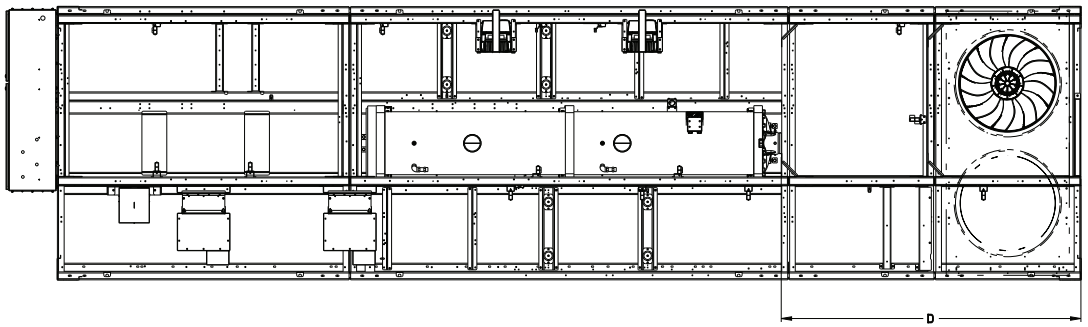
UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-250 MID	148.8	3779	149.9	3809	151.3	3843	45.5	1155	35.0	888
30XV-275 MID	148.7	3778	149.9	3808	151.3	3842	45.6	1157	34.9	888
30XV-300 STD	148.9	3783	150.1	3812	151.4	3846	45.6	1157	34.9	888

Fig. 10 — 30XV 250,275 Mid Tier; 300 Std Tier Air-Cooled Chiller

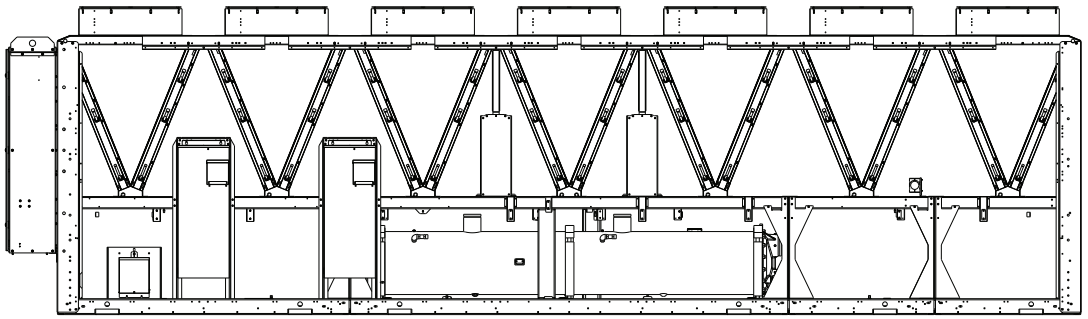


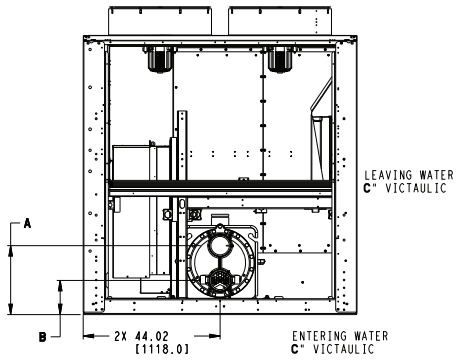
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/16/18	-	30XV 250/275 MID TIER, 300 STD TIER AIR COOLED CHILLER	30XV60001700	C

Fig. 10 — 30XV 250,275 Mid Tier; 300 Std Tier Air-Cooled Chiller (cont)



UNIT	A	B	C	D
250 MID	22.17[563.1]	10.99[279.1]	6"	96.35[2447.3]
275 MID	22.17[563.1]	10.99[279.1]	6"	96.35[2447.3]
300 STD	23.29[591.7]	11.87[301.5]	8"	96.07[2440.2]



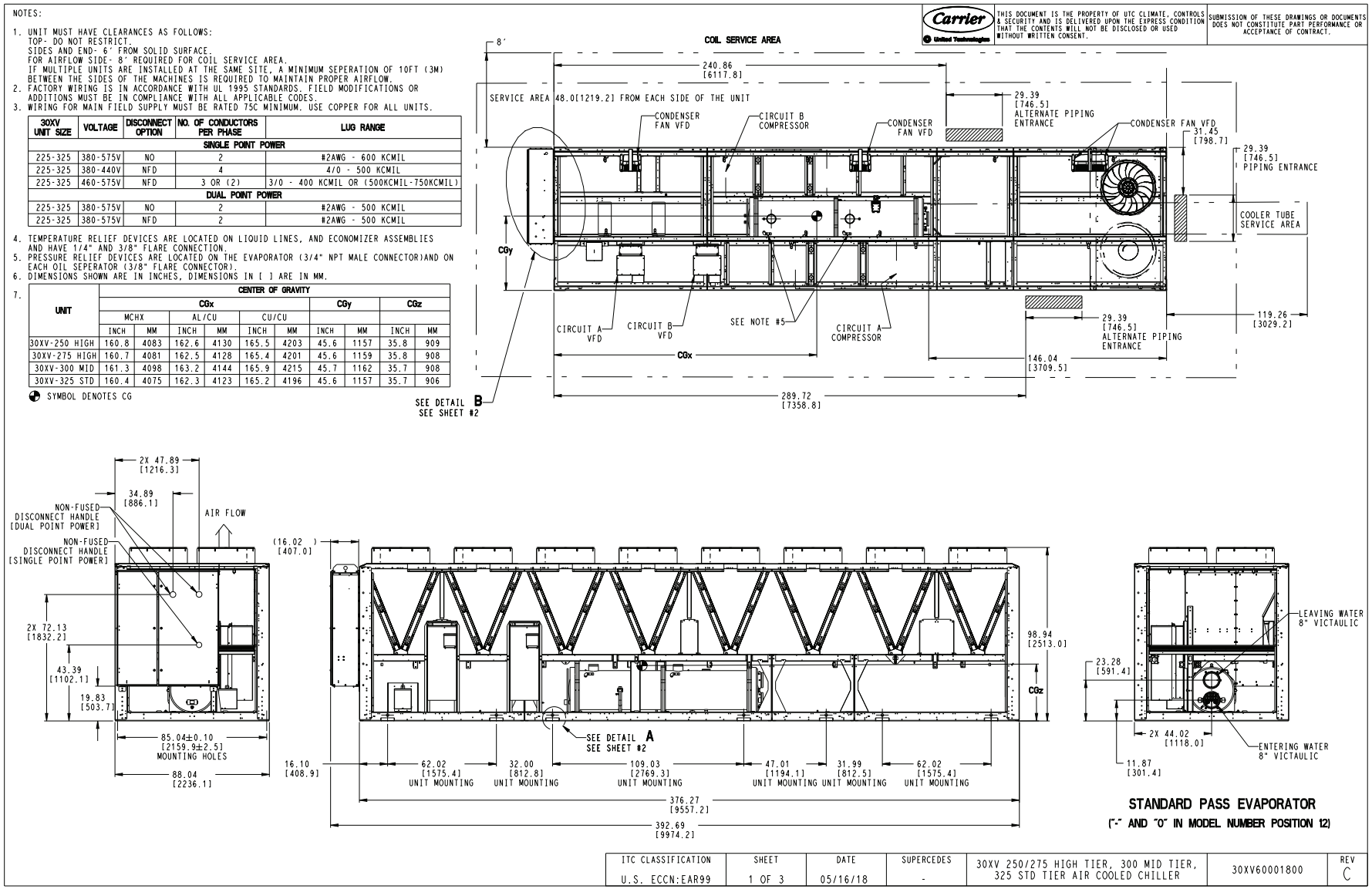


BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

BRINE COOLER OPTION

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	30XV 250/275 MID TIER, 300 STD TIER AIR COOLED CHILLER	30XV60001700	REV
U.S. ECCN:EAR99	3 OF 3	05/16/18	-			C

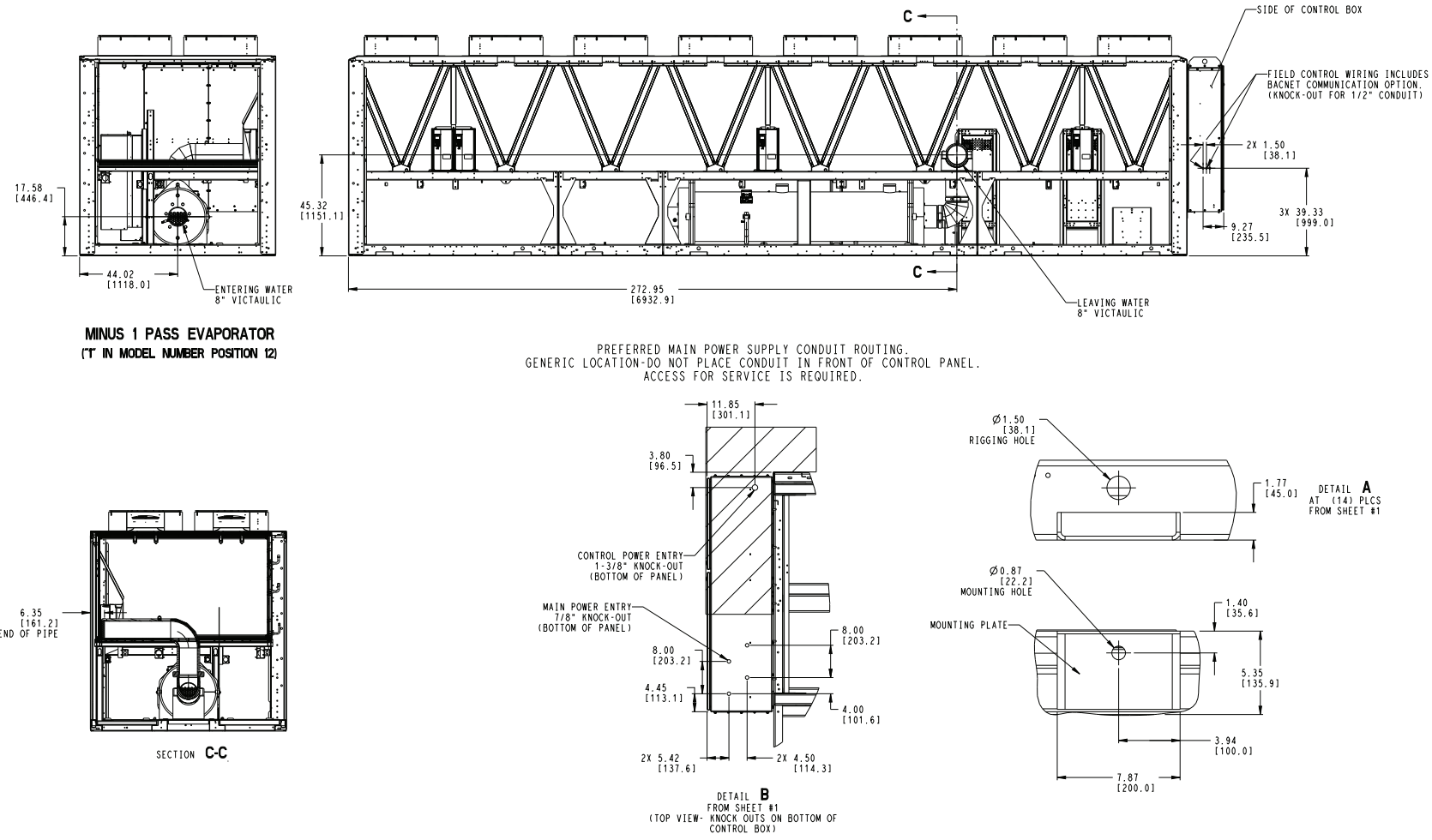
Fig. 10 — 30XV 250,275 Mid Tier; 300 Std Tier Air-Cooled Chiller (cont)



30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
225-325	380-575V	NO	2	#2AWG - 600 KCMIL
225-325	380-440V	NFD	4	4/0 - 500 KCMIL
225-325	460-575V	NFD	3 OR (2)	3/0 - 400 KCMIL OR (500KCMIL-750KCMIL)
DUAL POINT POWER				
225-325	380-575V	NO	2	#2AWG - 500 KCMIL
225-325	380-575V	NFD	2	#2AWG - 500 KCMIL

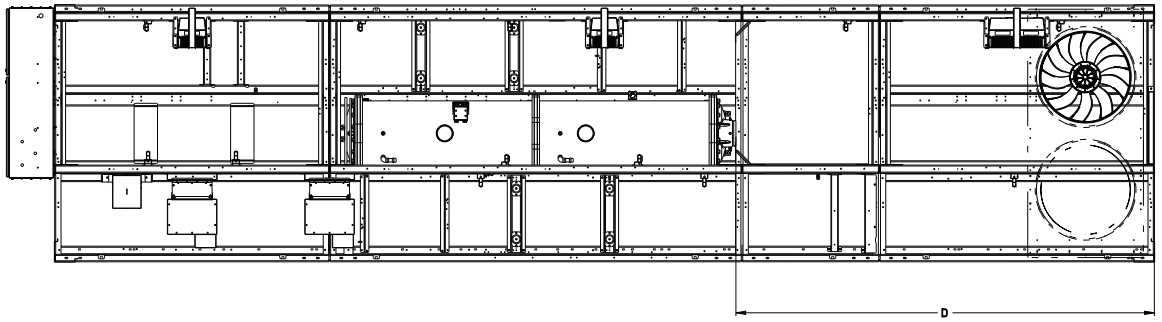
UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-250 HIGH	160.8	4083	162.6	4130	165.5	4203	45.6	1157	35.8	909
30XV-275 HIGH	160.7	4081	162.5	4128	165.4	4201	45.6	1159	35.8	908
30XV-300 MID	161.3	4098	163.2	4144	165.9	4215	45.7	1162	35.7	908
30XV-325 STD	160.4	4075	162.3	4123	165.2	4196	45.6	1157	35.7	906

Fig. 11 — 30XV 250,275 High Tier; 300 Mid Tier; 325 Std Tier Air-Cooled Chiller

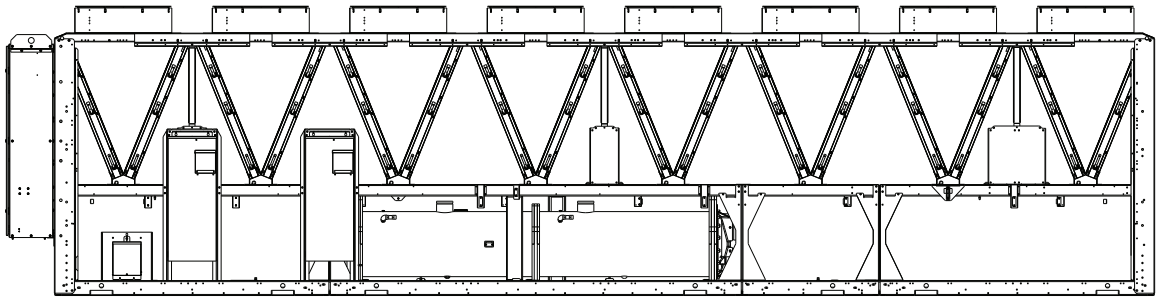


ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/16/18	-	30XV 250/275 HIGH TIER, 300 MID TIER, 325 STD TIER AIR COOLED CHILLER	30XV60001800	C

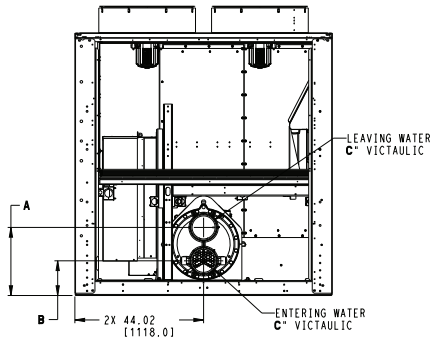
Fig. 11 — 30XV 250,275 High Tier; 300 Mid Tier; 325 Std Tier Air-Cooled Chiller (cont)



UNIT	A	B	C	D
250 HIGH	22.17[563.1]	10.99[279.1]	6"	143.36[3641.3]
275 HIGH	22.17[563.1]	10.99[279.1]	6"	143.36[3641.3]
300 MID	23.28[591.3]	11.87[301.5]	8"	143.09[3634.5]
325 STD	23.28[591.3]	11.87[301.5]	8"	143.09[3634.5]



BRINE COOLER OPTION



BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/16/18	-	30XV 250/275 HIGH TIER, 300 MID TIER, 325 STD TIER AIR COOLED CHILLER	30XV60001800	C

Fig. 11 — 30XV 250,275 High Tier; 300 Mid Tier; 325 Std Tier Air-Cooled Chiller (cont)

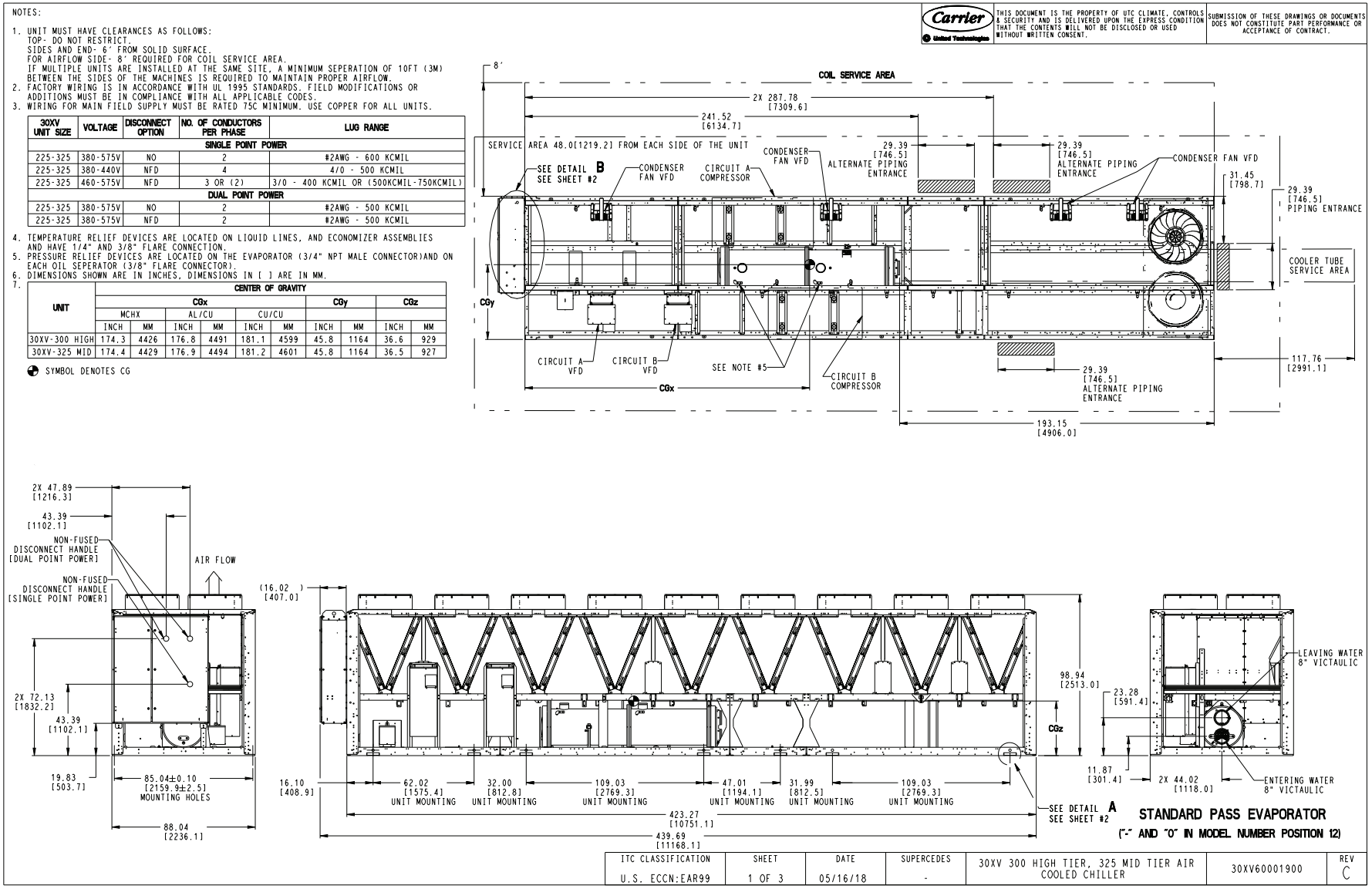
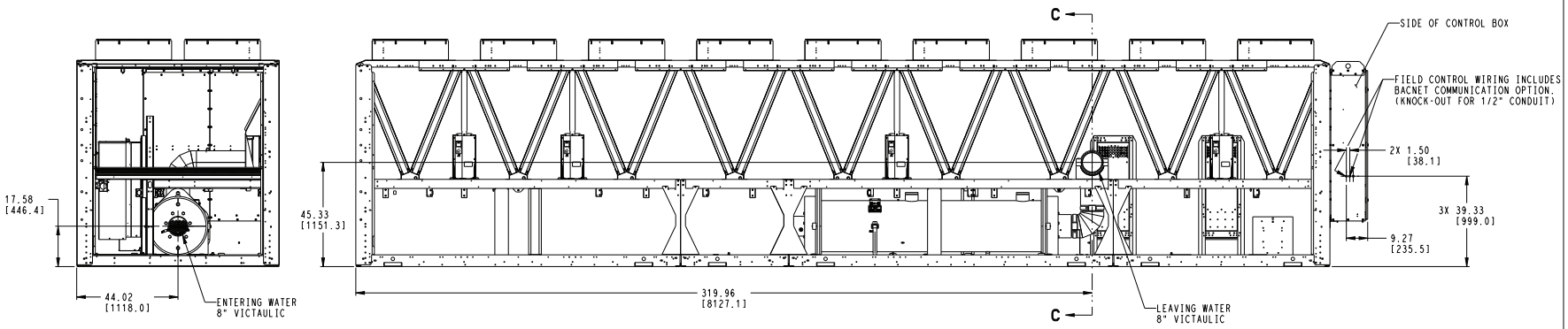
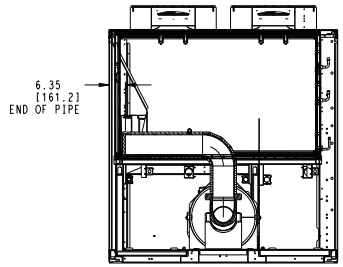


Fig. 12 — 30XV 300 High Tier; 325 Mid Tier Air-Cooled Chiller

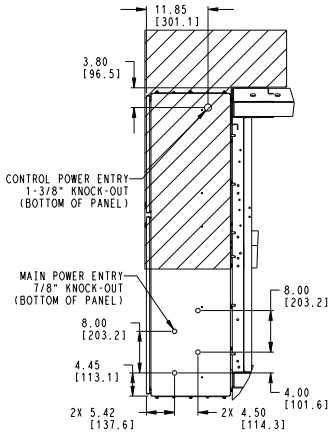


MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)

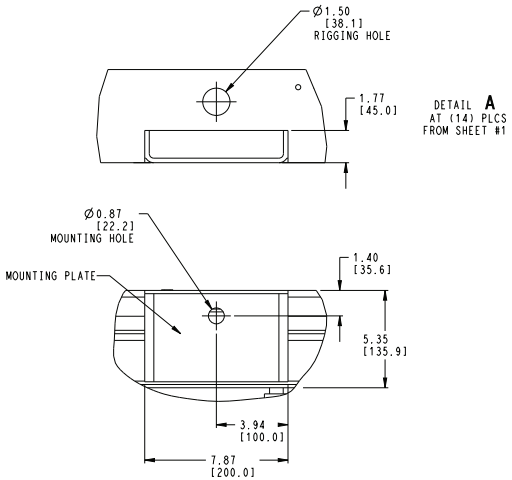
PREFERRED MAIN POWER SUPPLY CONDUIT ROUTING.
GENERIC LOCATION - DO NOT PLACE CONDUIT IN FRONT OF CONTROL PANEL.
ACCESS FOR SERVICE IS REQUIRED.



SECTION **C-C**

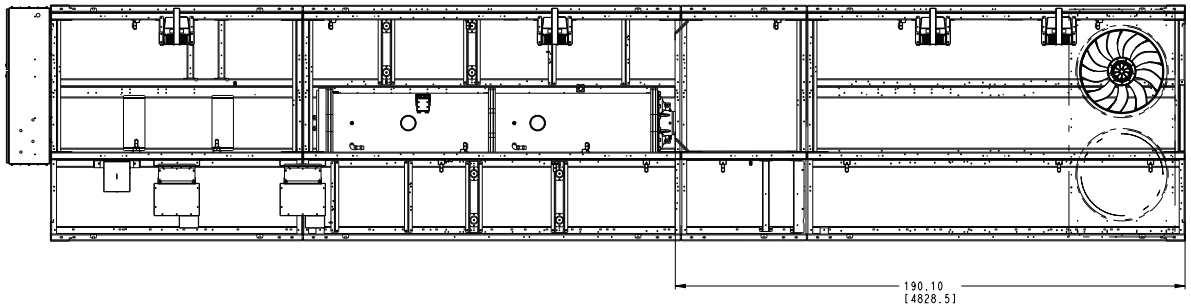


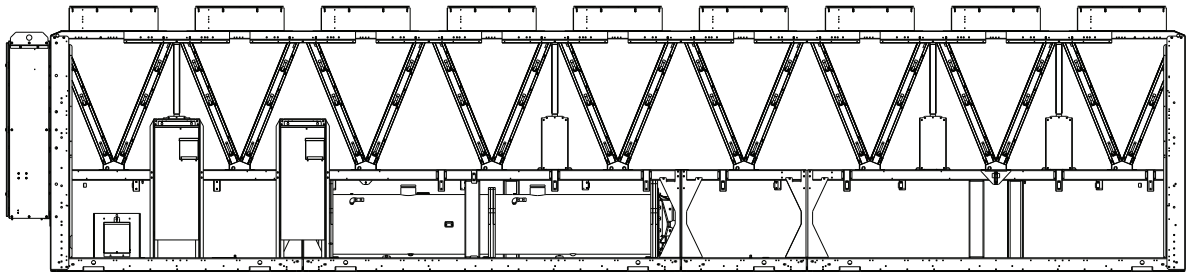
DETAIL **B**
FROM SHEET #1
(TOP VIEW- KNOCK OUTS ON BOTTOM OF CONTROL BOX)



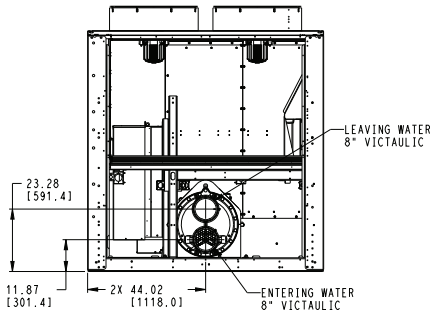
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/16/18	-	30XV 300 HIGH TIER, 325 MID TIER AIR COOLED CHILLER	30XV60001900	C

Fig. 12 — 30XV 300 High Tier; 325 Mid Tier Air-Cooled Chiller (cont)





BRINE COOLER OPTION



BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/16/18	-	30XV 300 HIGH TIER, 325 MID TIER AIR COOLED CHILLER	30XV60001900	C

Fig. 12 — 30XV 300 High Tier; 325 Mid Tier Air-Cooled Chiller (cont)

NOTES:

1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPERATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER AIRFLOW.
2. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
3. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
225-325	380-575V	NO	2	#2AWG - 600 KCMIL
225-325	380-440V	NFD	4	4/0 - 500 KCMIL
225-325	460-575V	NFD	3 OR (2)	3/0 - 400 KCMIL OR (500KCMIL-750KCMIL)
DUAL POINT POWER				
225-325	380-575V	NO	2	#2AWG - 500 KCMIL
225-325	380-575V	NFD	2	#2AWG - 500 KCMIL

4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR)AND ON EACH OIL SEPERATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MM.
7.

UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-325 HIGH	188.4	4786	191.7	4869	197.3	5012	45.9	1166	37.1	942

SYMBOL DENOTES CG

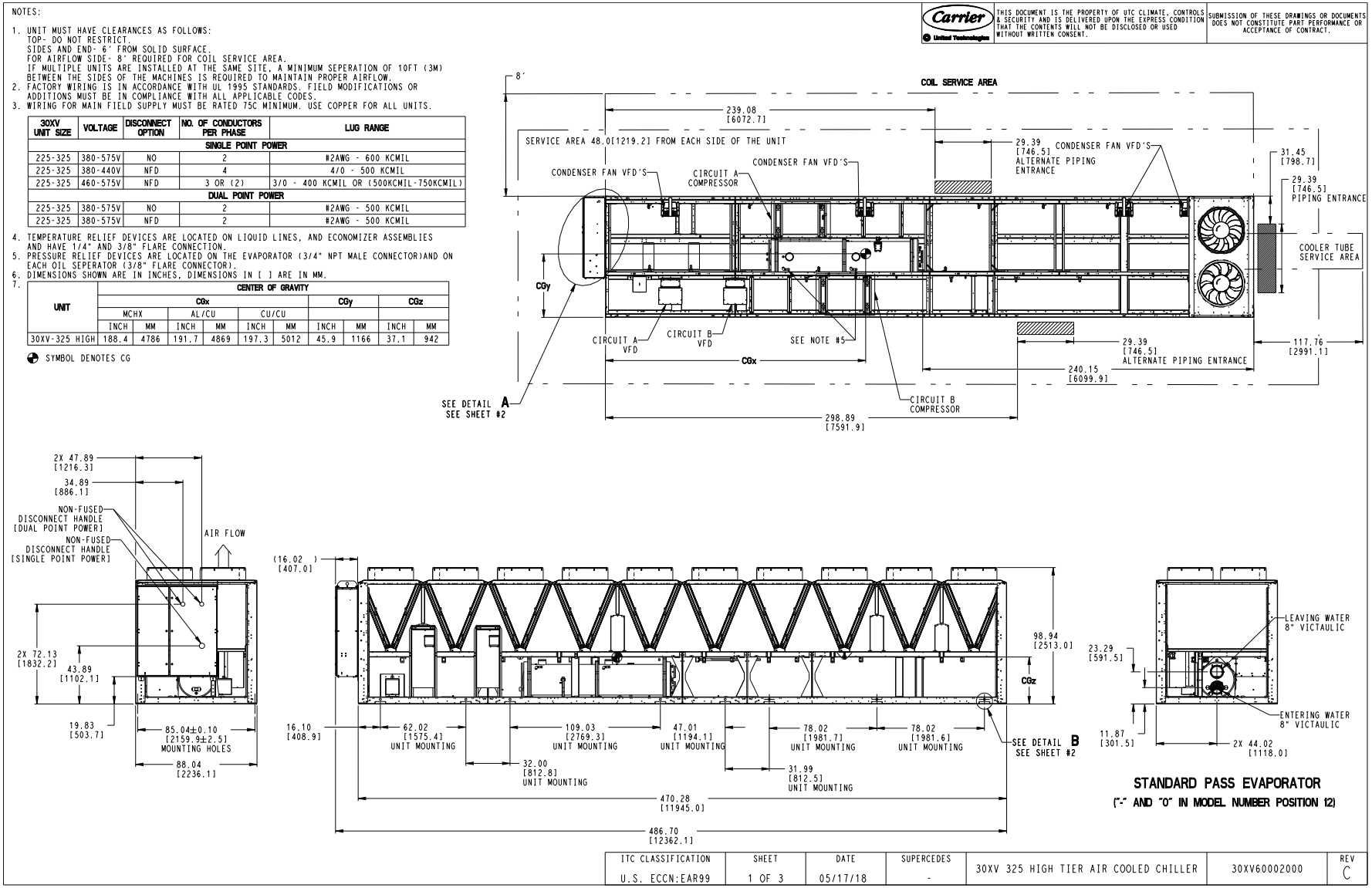
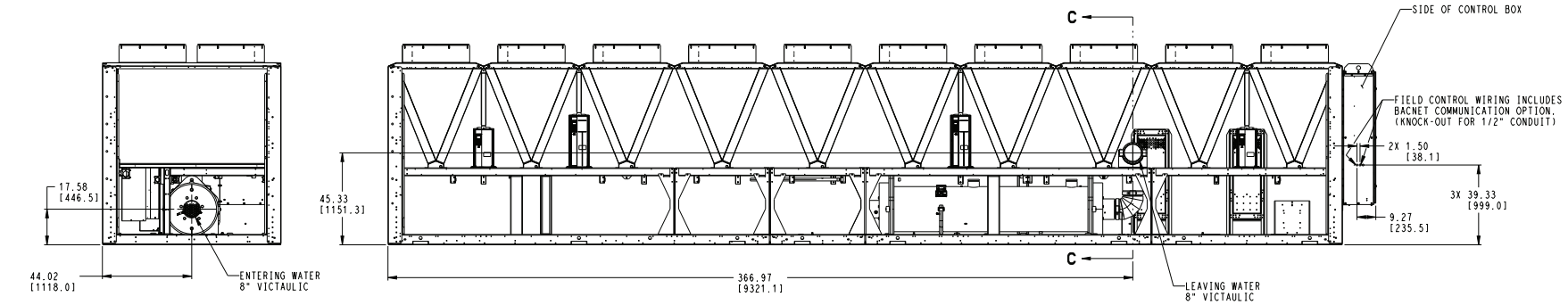
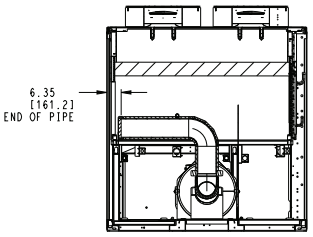


Fig. 13 — 30XV 325 High Tier Air-Cooled Chiller

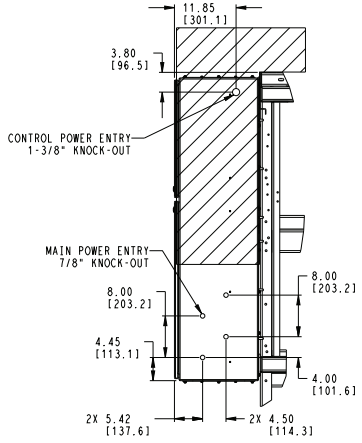


MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)

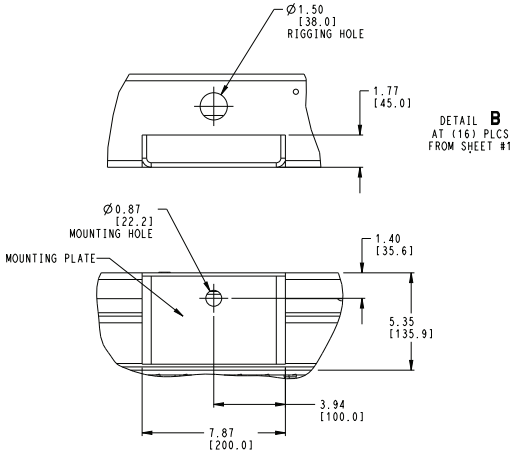
PREFERRED MAIN POWER SUPPLY CONDUIT ROUTING.
GENERIC LOCATION - DO NOT PLACE CONDUIT IN FRONT OF CONTROL PANEL.
ACCESS FOR SERVICE IS REQUIRED.



SECTION **C-C**

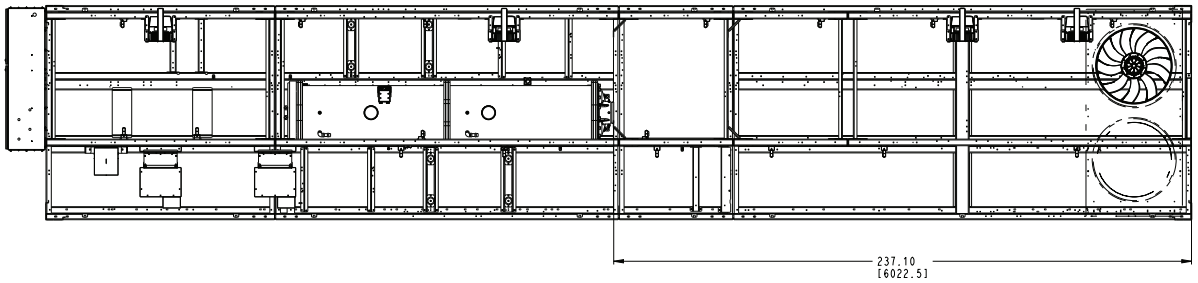


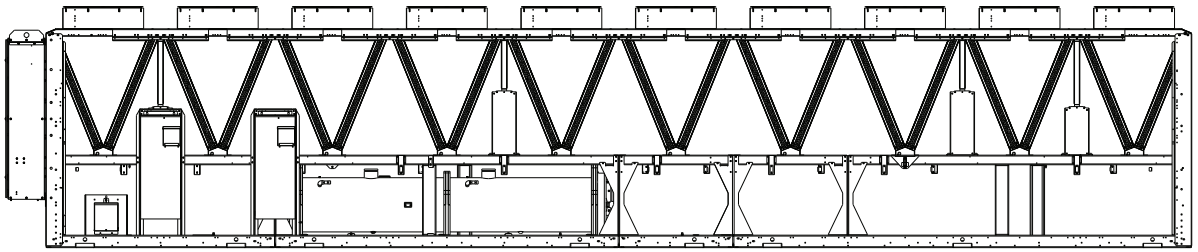
DETAIL **A**
FROM SHEET #1
(TOP VIEW- KNOCK OUTS ON BOTTOM OF CONTROL BOX)



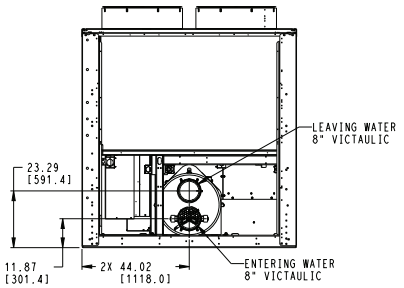
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/17/18	-	30XV 325 HIGH TIER AIR COOLED CHILLER	30XV60002000	C

Fig. 13 — 30XV 325 High Tier Air-Cooled Chiller (cont)





BRINE COOLER OPTION



BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/17/18	-	30XV 325 HIGH TIER AIR COOLED CHILLER	30XV60002000	C

Fig. 13 — 30XV 325 High Tier Air-Cooled Chiller (cont)

NOTES:

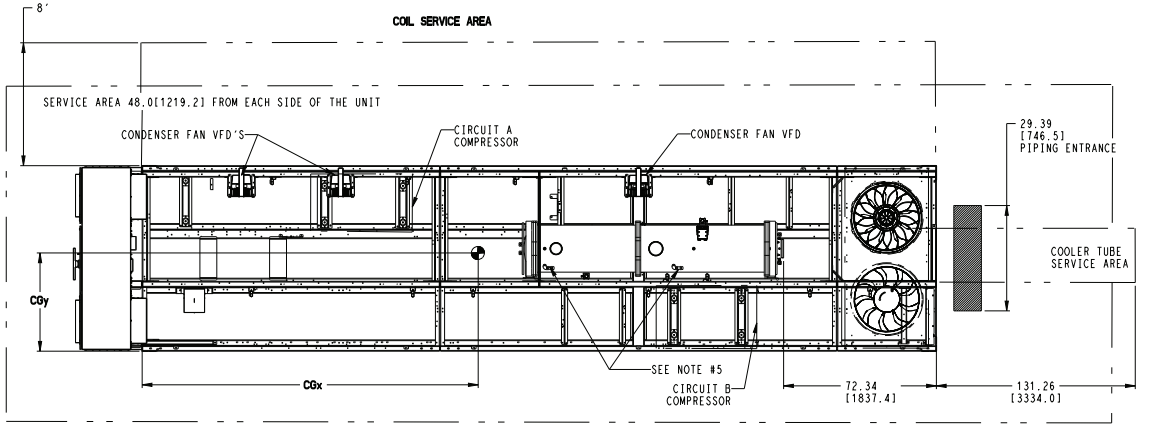
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10 FT (3 M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER AIRFLOW
2. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
3. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

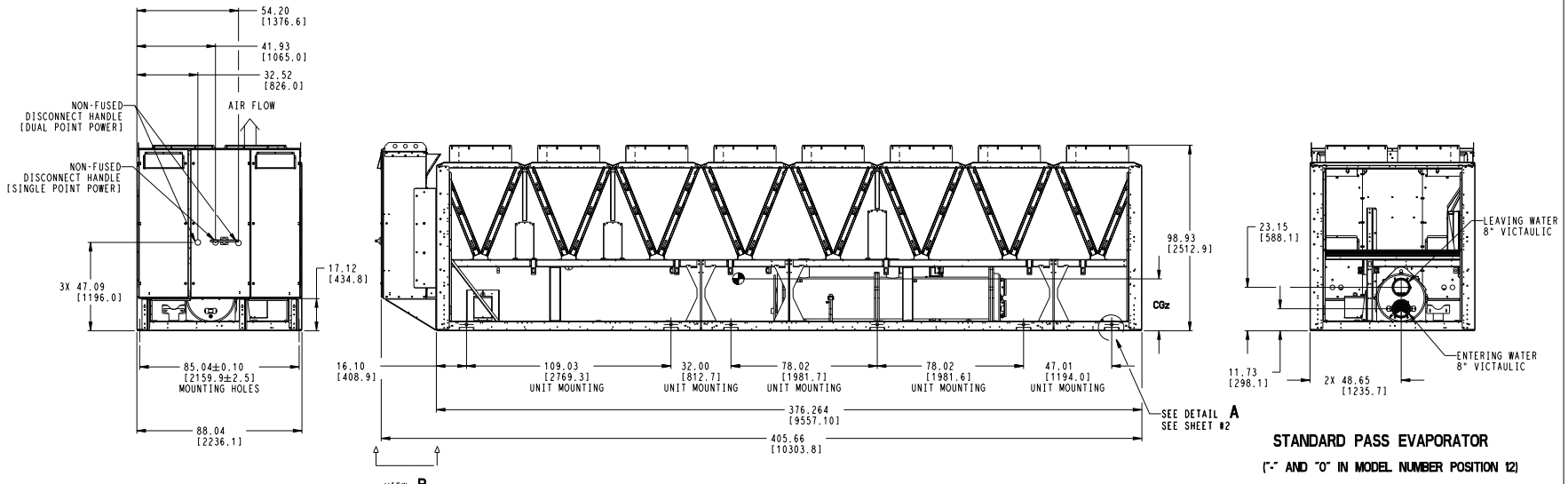
30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
350-500	380-440V	NO	6	#2AWG - 750 KCMIL
350-500	460-575V	NO	4	#2AWG - 750 KCMIL
350-500	380-440V	NFD	6	#2AWG - 600 KCMIL
350-500	460-575V	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER				
350-500	380-440V	NO	4	#2AWG - 750 KCMIL
350-500	460-575V	NO	2	#2AWG - 600 KCMIL
350-500	380-575V (HSCCR)	NO	3	3/0 - 400 KCMIL

4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR)AND ON EACH OIL SEPERATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MM.
7.

UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-350 STD	157	3987	158.6	4029	161.6	4105	47.5	1206	35.9	912

SYMBOL DENOTES CG



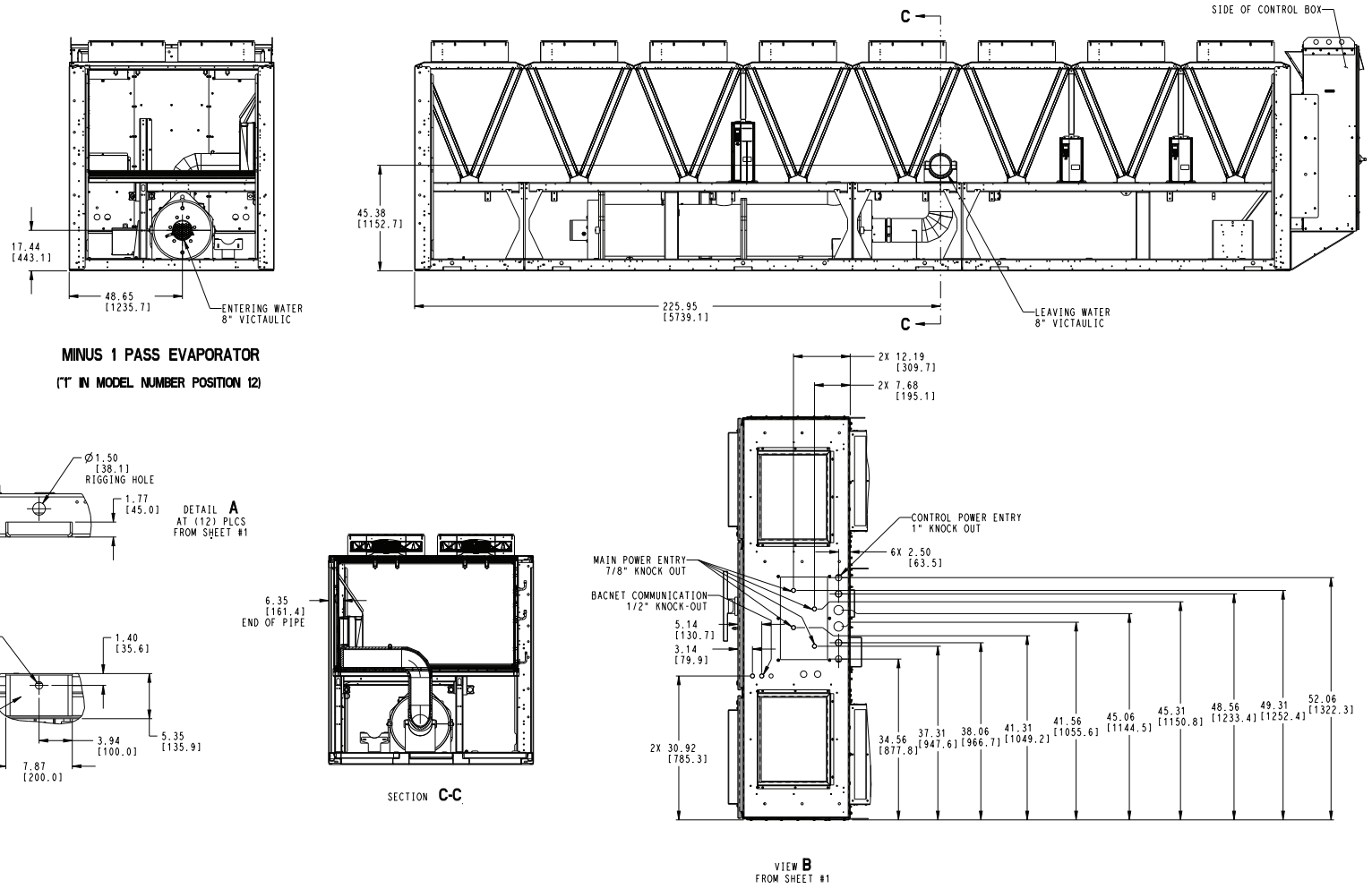


STANDARD PASS EVAPORATOR

("-" AND "0" IN MODEL NUMBER POSITION 12)

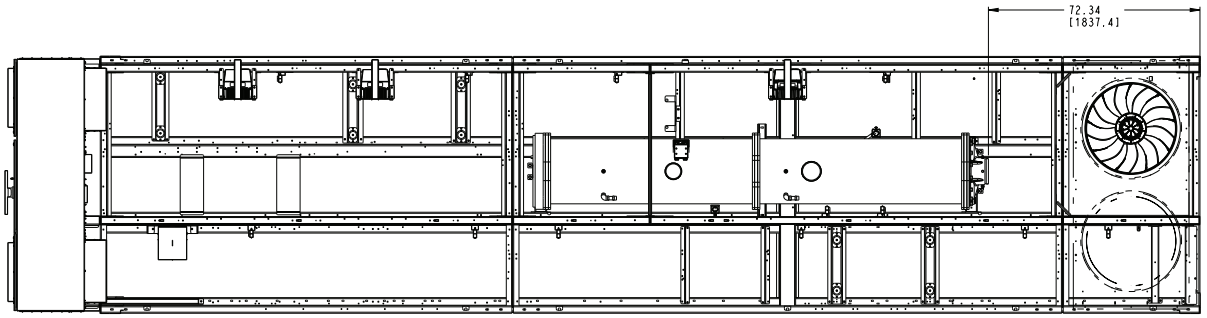
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	1 OF 3	05/17/18	-	30XV 350 STD TIER AIR COOLED CHILLER	30XV60002100	C

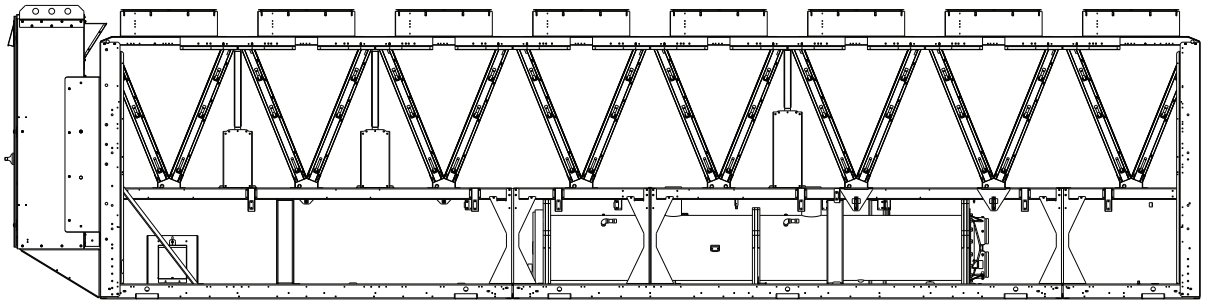
Fig. 14 — 30XV 350 Standard Tier Air-Cooled Chiller

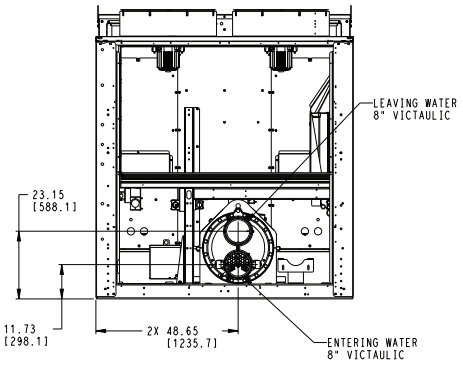


ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/17/18	-	30XV 350 STD TIER AIR COOLED CHILLER	30XV60002100	C

Fig. 14 — 30XV 350 Standard Tier Air-Cooled Chiller (cont)







BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

BRINE COOLER OPTION

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/17/18	-	30XV 350 STD TIER AIR COOLED CHILLER	30XV60002100	C

Fig. 14 — 30XV 350 Standard Tier Air-Cooled Chiller (cont)

NOTES:

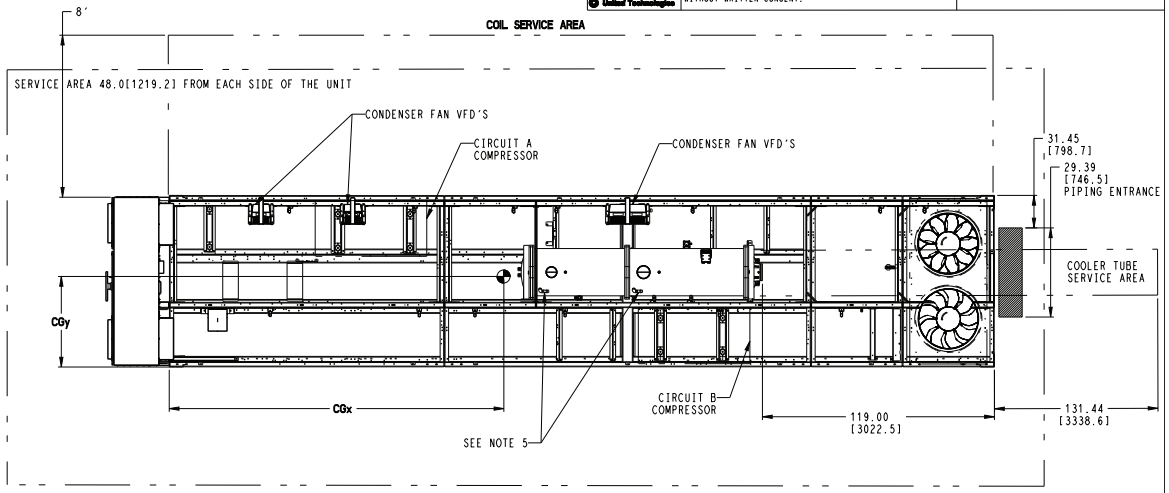
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER AIR FLOW.
2. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
3. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

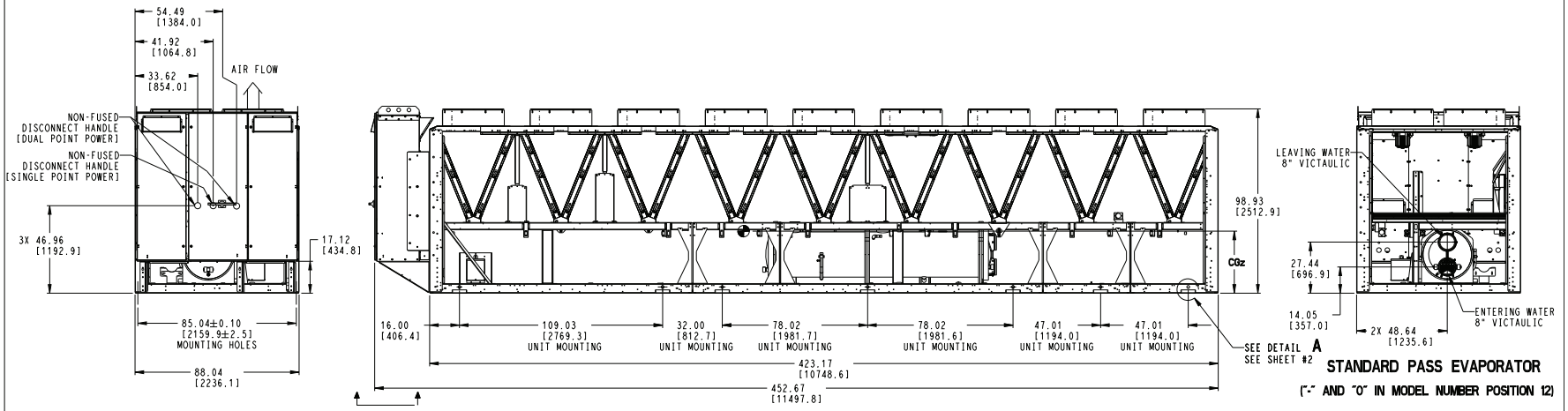
30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
350-500	380-440V	NO	6	#2AWG - 750 KCMIL
350-500	460-575V	NO	4	#2AWG - 750 KCMIL
350-500	380-440V	NFD	6	#2AWG - 600 KCMIL
350-500	460-575V	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER				
350-500	380-440V	NO	4	#2AWG - 750 KCMIL
350-500	460-575V	NO	2	#2AWG - 600 KCMIL
350-500	380-575V (HSCCR)	NO	3	3/0 - 400 KCMIL

4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR)AND ON EACH OIL SEPERATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MM.
7.

UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-350 MID	170.9	4341	173.3	4401	177.2	4502	47.5	1207	36	916

SYMBOL DENOTES CG





STANDARD PASS EVAPORATOR

("-" AND "0" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	30XV 350 MID TIER AIR COOLED CHILLER	30XV60002200	REV
U.S. ECCN:EAR99	1 OF 3	05/17/18	-			C

Fig. 15 — 30XV 350 Mid Tier Air-Cooled Chiller

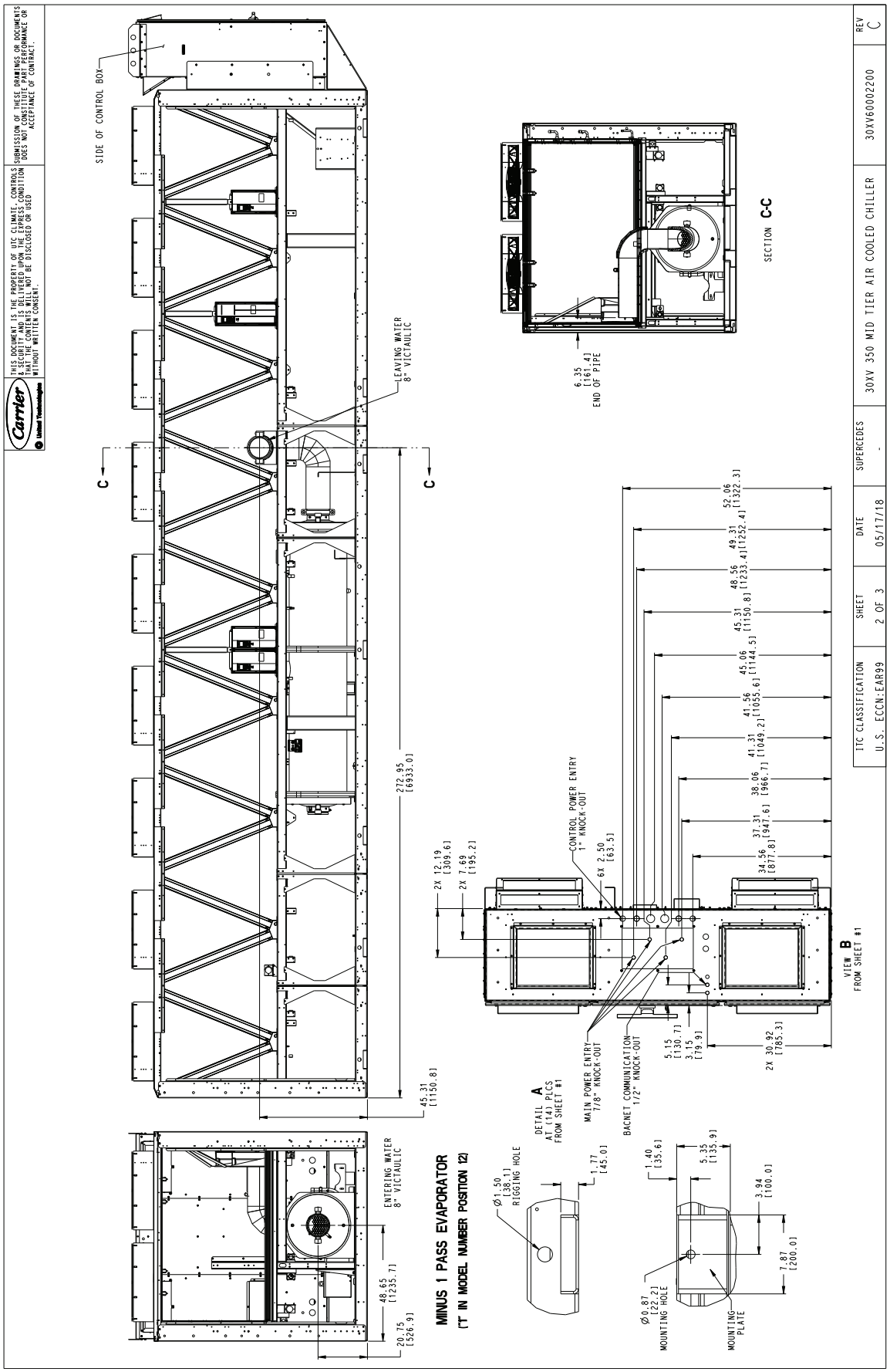
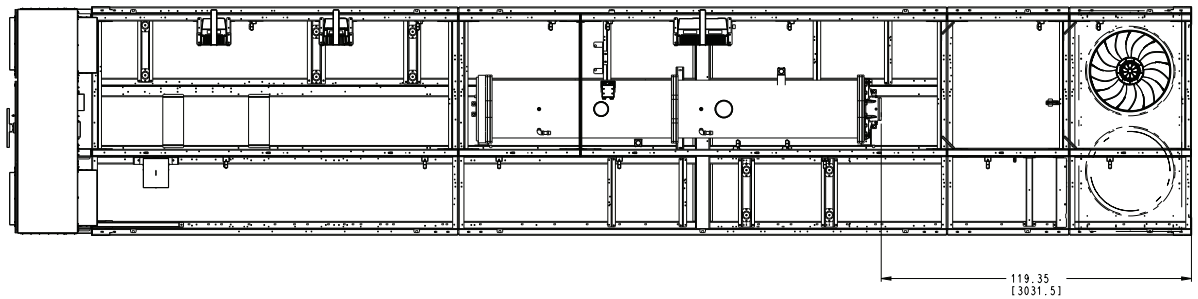
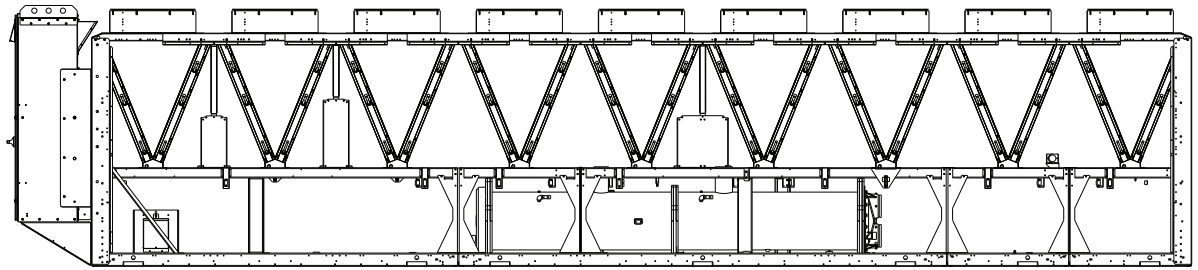
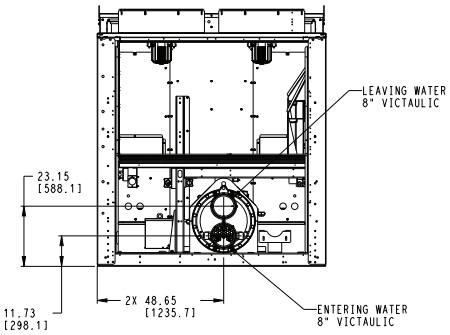


Fig. 15 — 30XV 350 Mid Tier Air-Cooled Chiller (cont)





BRINE COOLER OPTION



BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/17/18	-	30XV 350 MID TIER AIR COOLED CHILLER	30XV60002200	C

Fig. 15 — 30XV 350 Mid Tier Air-Cooled Chiller (cont)

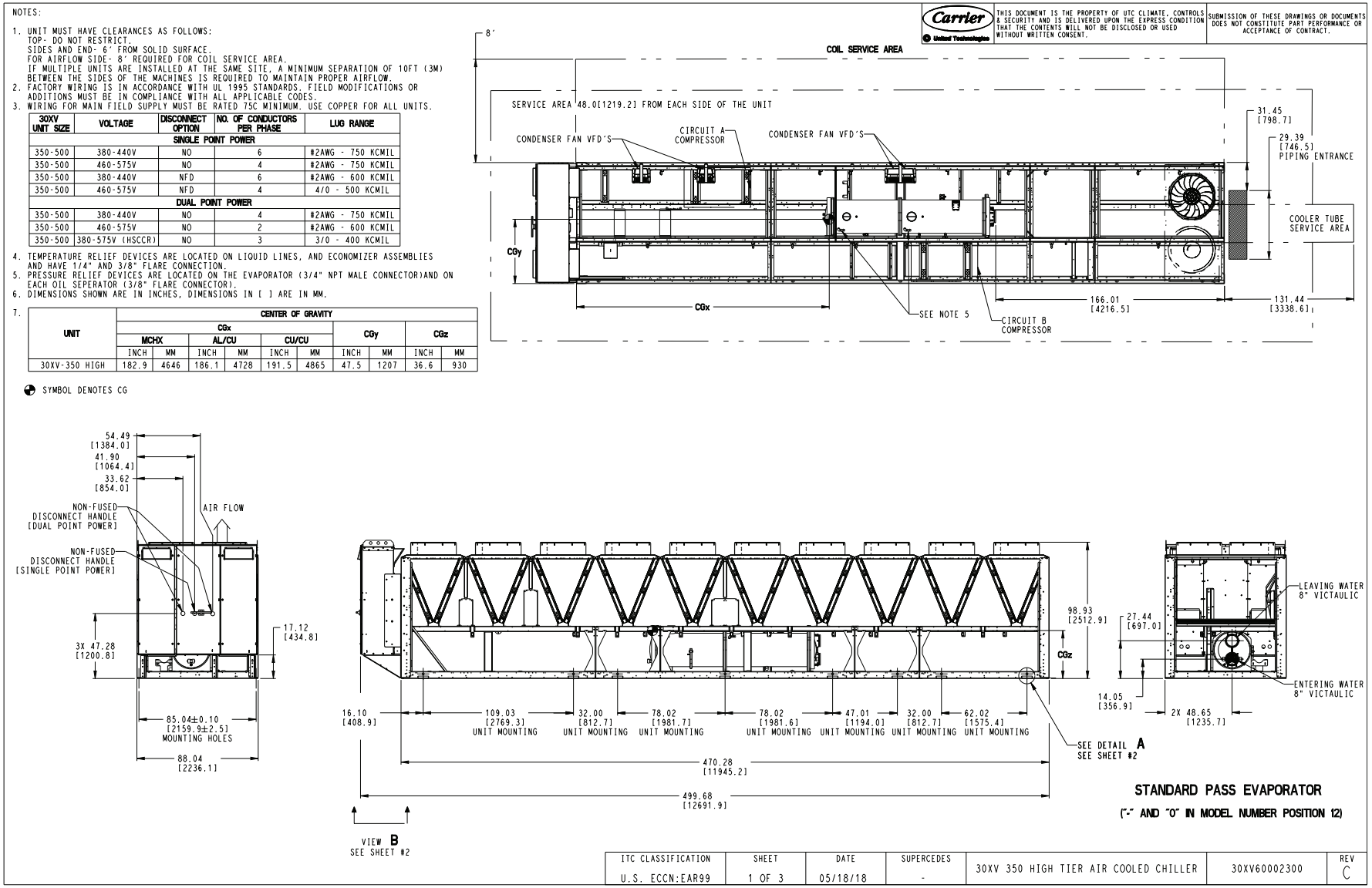


Fig. 16 — 30XV 350 High Tier Air-Cooled Chiller

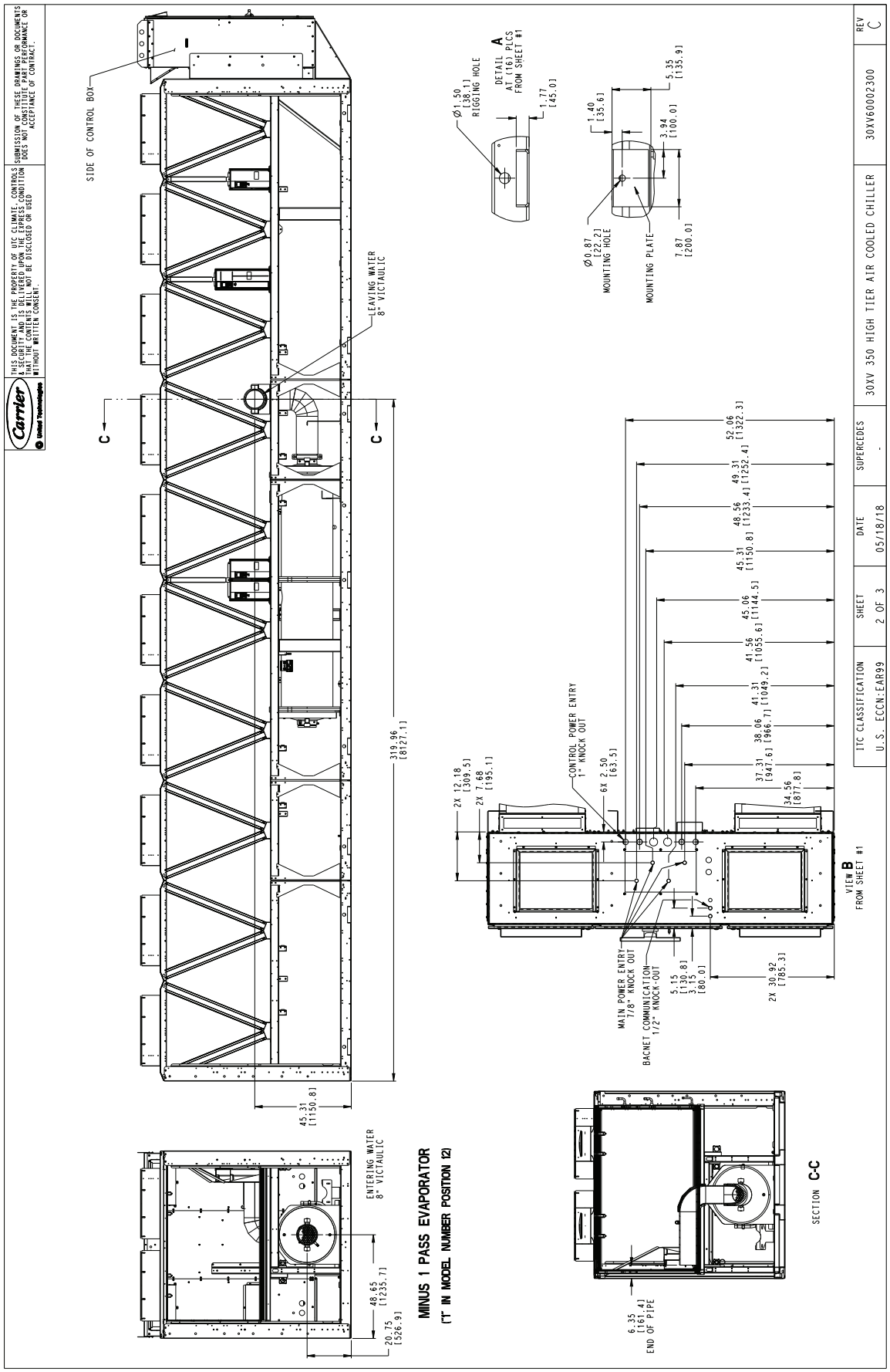
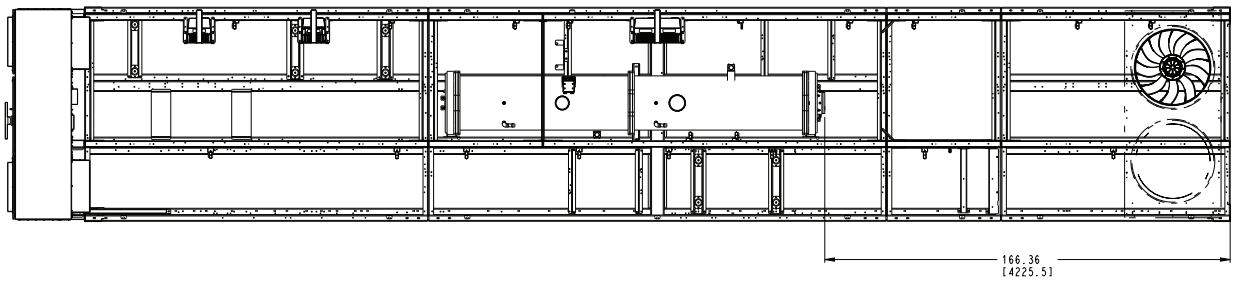
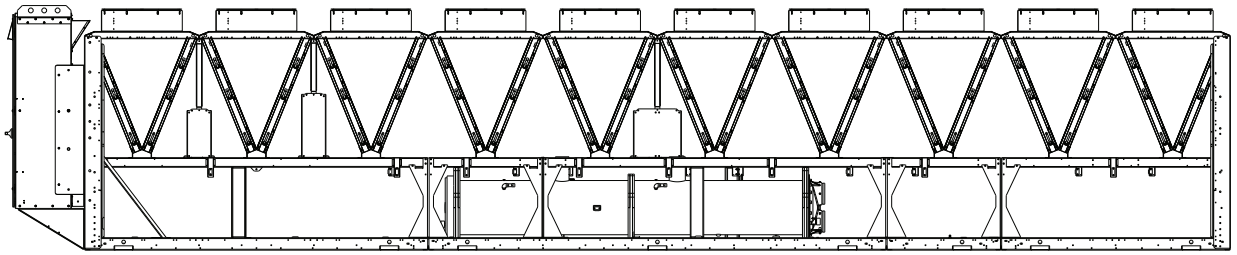
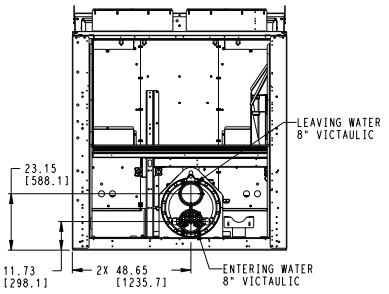


Fig. 16 — 30XV 350 High Tier Air-Cooled Chiller (cont)





BRINE COOLER OPTION



BRINE EVAPORATOR

("2" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/18/18	-	30XV 350 HIGH TIER AIR COOLED CHILLER	30XV60002300	C

Fig. 16 — 30XV 350 High Tier Air-Cooled Chiller (cont)

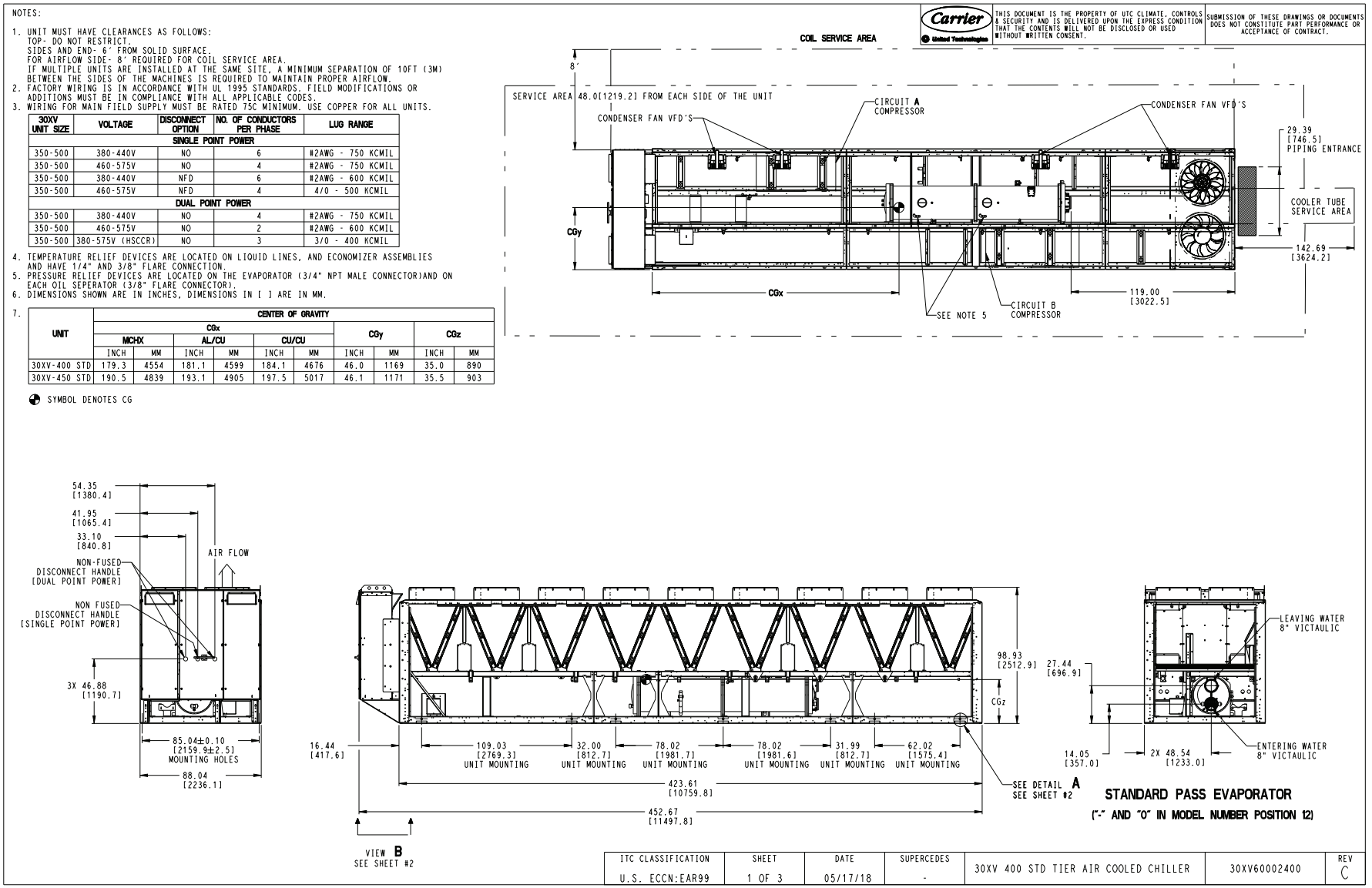


Fig. 17 — 30XV 400 Standard Tier Air-Cooled Chiller

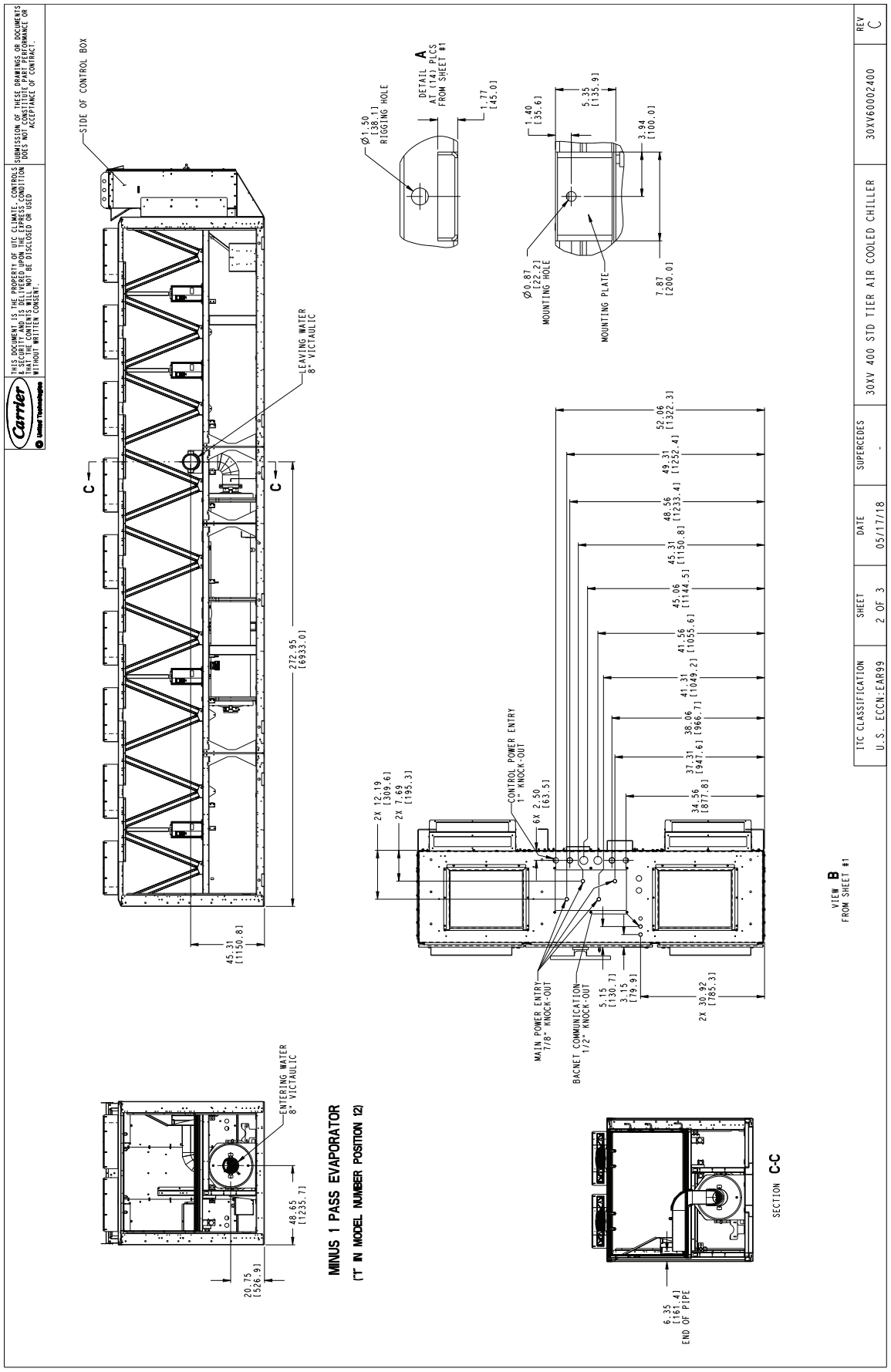
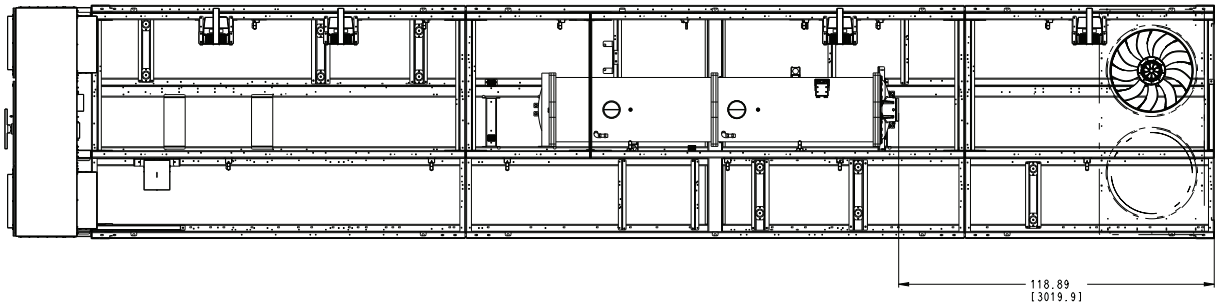
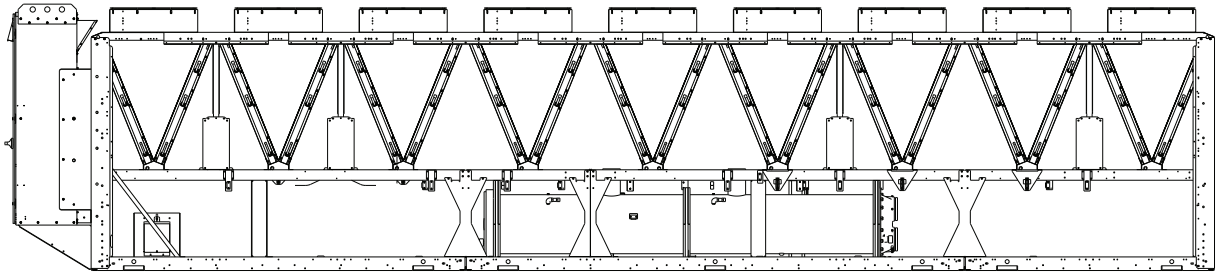
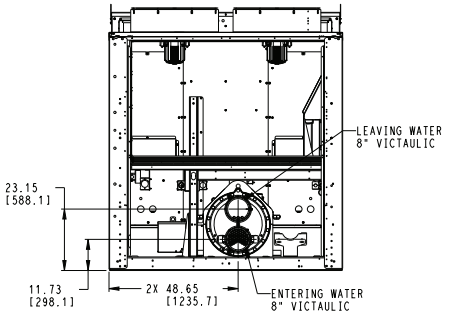


Fig. 17 — 30XV 400 Standard Tier Air-Cooled Chiller (cont)





BRINE COOLER OPTION



BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/17/18	-	30XV 400 STD TIER AIR COOLED CHILLER	30XV60002400	C

Fig. 17 — 30XV 400 Standard Tier Air-Cooled Chiller (cont)

NOTES:

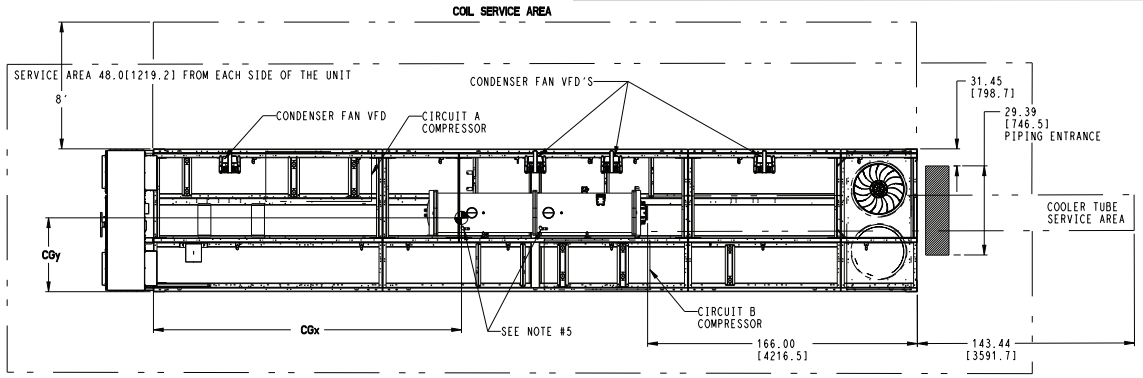
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLEUNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER AIRFLOW.
2. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
3. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

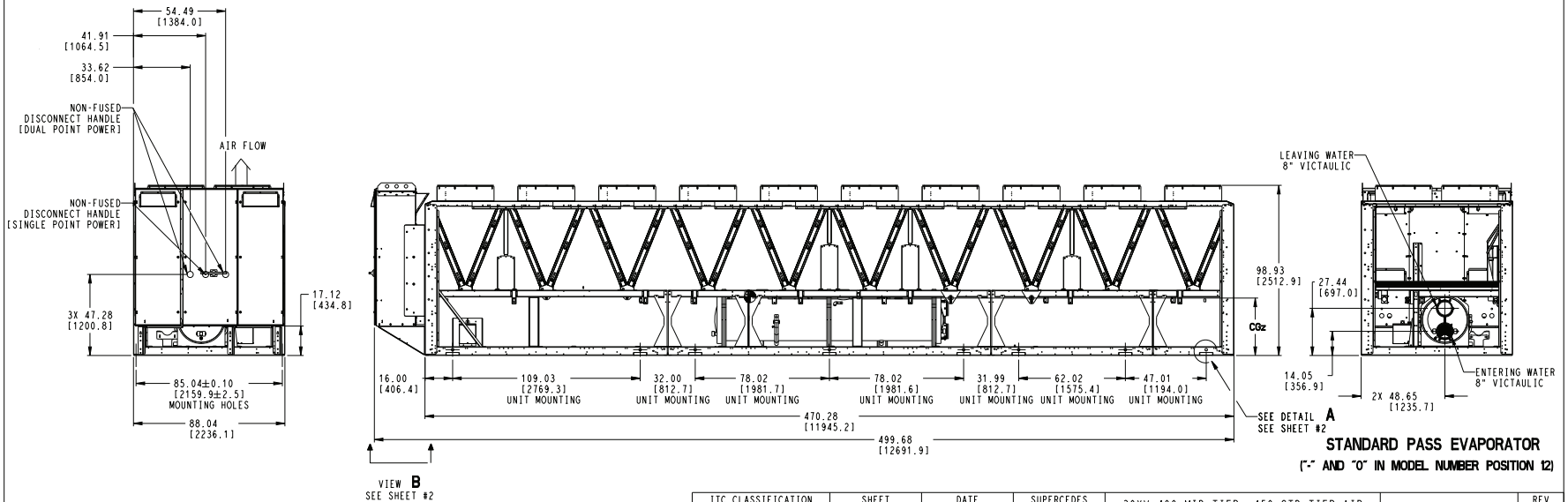
30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
350-500	380-440V	NO	6	#2AWG - 750 KCMIL
350-500	460-575V	NO	4	#2AWG - 750 KCMIL
350-500	380-440V	NFD	6	#2AWG - 600 KCMIL
350-500	460-575V	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER				
350-500	380-440V	NO	4	#2AWG - 750 KCMIL
350-500	460-575V	NO	2	#2AWG - 600 KCMIL
350-500	380-575V (HSCCR)	NO	3	3/0 - 400 KCMIL

4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR)AND ON EACH OIL SEPERATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MM.
7.

UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-400 MID	190.6	4841	193.2	4907	197.6	5019	46.1	1171	35.6	904
30XV-450 STD	190.5	4839	193.1	4905	197.5	5017	46.1	1171	35.5	853

SYMBOL DENOTES CG





STANDARD PASS EVAPORATOR
("-" AND "0" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:EAR99	1 OF 3	05/18/18	-	30XV 400 MID TIER, 450 STD TIER AIR COOLED CHILLER	30XV60002500	REV C

Fig. 18 — 30XV 400 Mid, 450 Standard Tier Air-Cooled Chiller

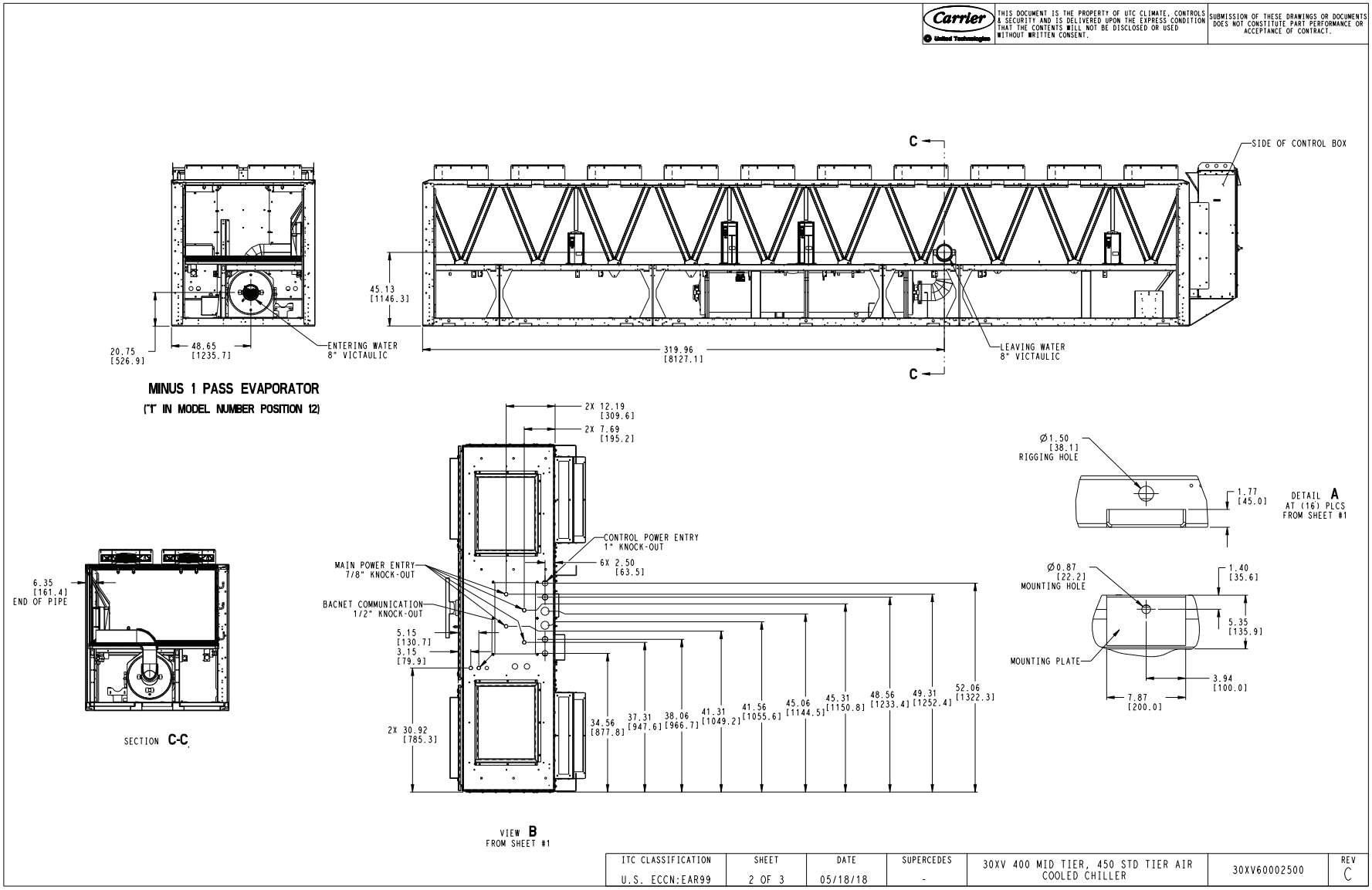
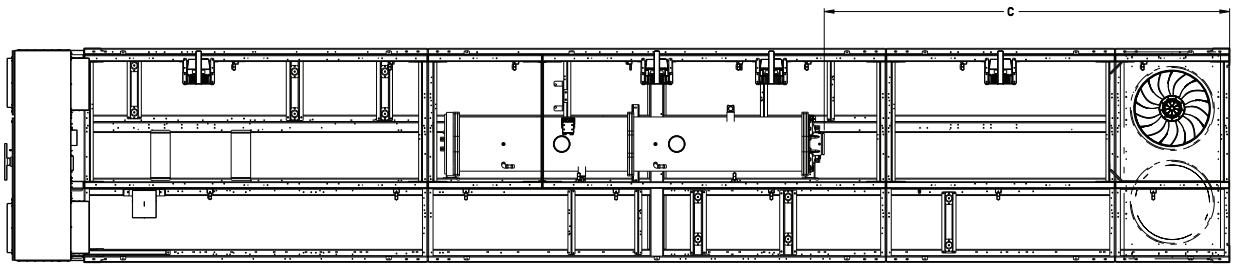
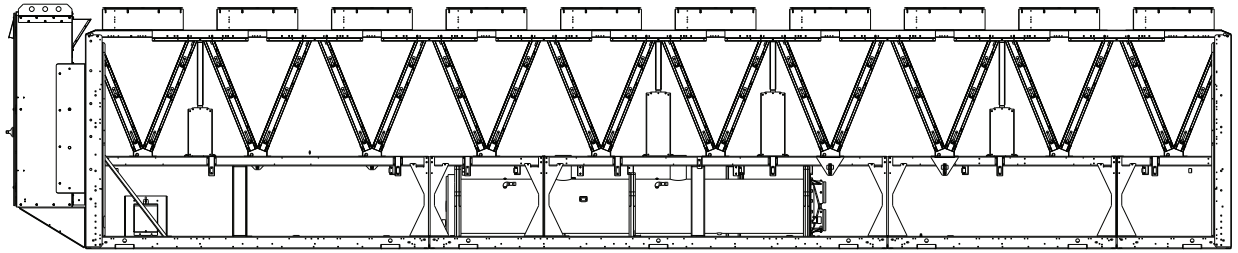
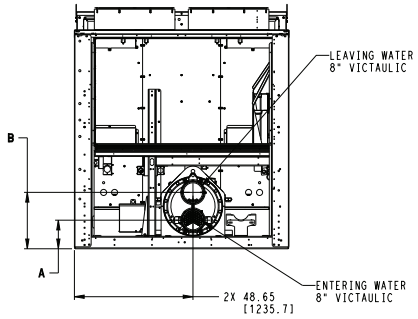


Fig. 18 — 30XV 400 Mid, 450 Standard Tier Air-Cooled Chiller (cont)

UNIT	A	B	C
400 MID	11.73[298.1]	23.15[588.1]	166.36[4225.5]
450 STD	14.05[356.9]	27.44[697.0]	165.90[4213.9]





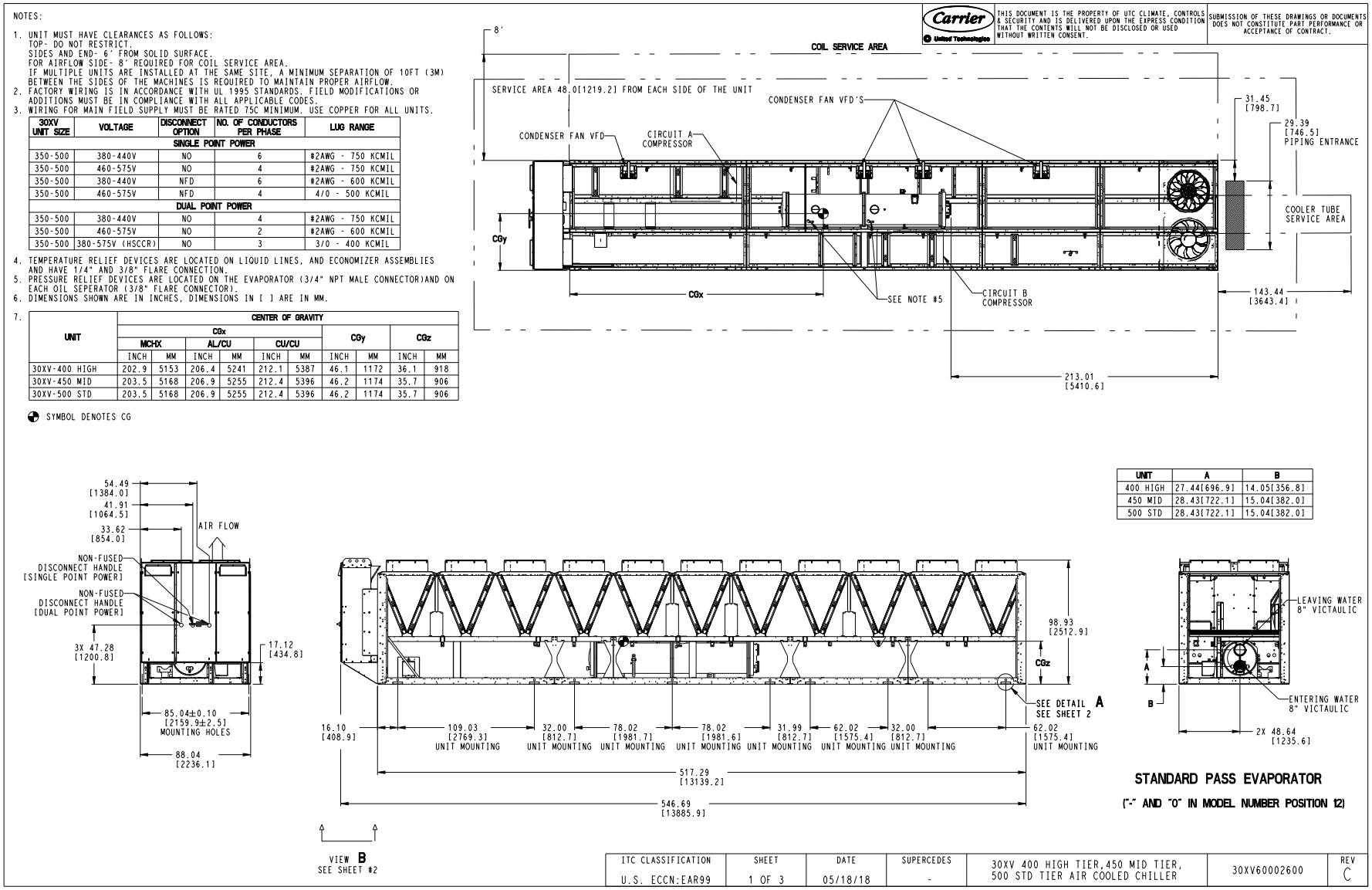


BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

BRINE COOLER OPTION

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/18/18	-	30XV 400 MID TIER, 450 STD TIER AIR COOLED CHILLER	30XV60002500	C

Fig. 18 — 30XV 400 Mid, 450 Standard Tier Air-Cooled Chiller (cont)

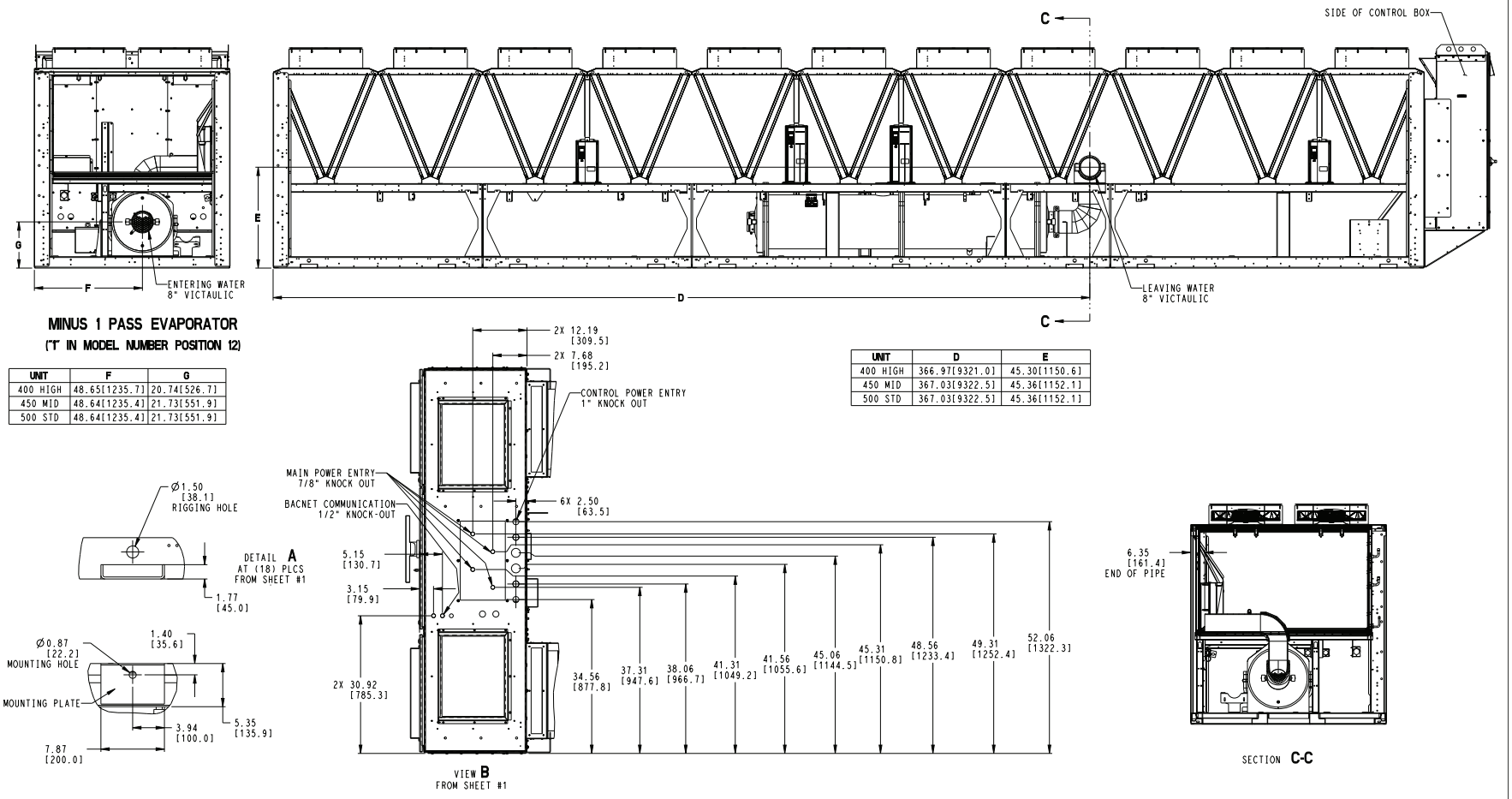


30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
350-500	380-440V	NO	6	#2AWG - 750 KCMIL
350-500	460-575V	NO	4	#2AWG - 750 KCMIL
350-500	380-440V	NFD	6	#2AWG - 600 KCMIL
350-500	460-575V	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER				
350-500	380-440V	NO	4	#2AWG - 750 KCMIL
350-500	460-575V	NO	2	#2AWG - 600 KCMIL
350-500	380-575V (HSCCR)	NO	3	3/0 - 400 KCMIL

UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-400 HIGH	202.9	5153	206.4	5241	212.1	5387	46.1	1172	36.1	918
30XV-450 MID	203.5	5168	206.9	5255	212.4	5396	46.2	1174	35.7	906
30XV-500 STD	203.5	5168	206.9	5255	212.4	5396	46.2	1174	35.7	906

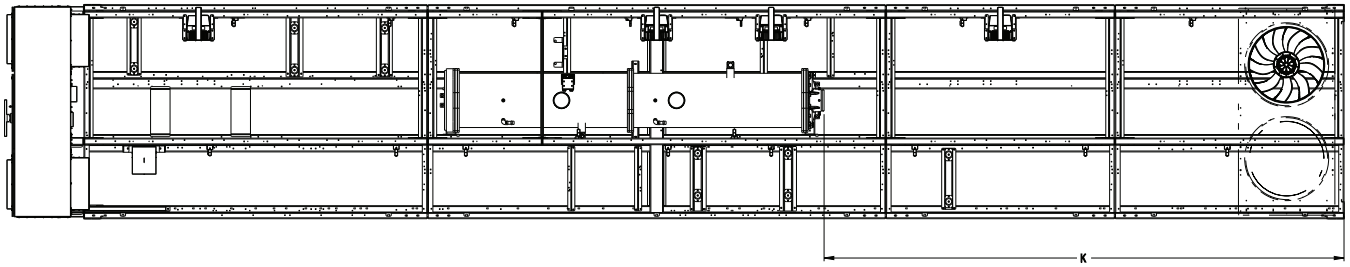
UNIT	A	B
400 HIGH	27.44[696.9]	14.05[356.8]
450 MID	28.43[722.1]	15.04[382.0]
500 STD	28.43[722.1]	15.04[382.0]

Fig. 19 — 30XV 400 High, 450 Mid, 500 Std Tier Air-Cooled Chiller

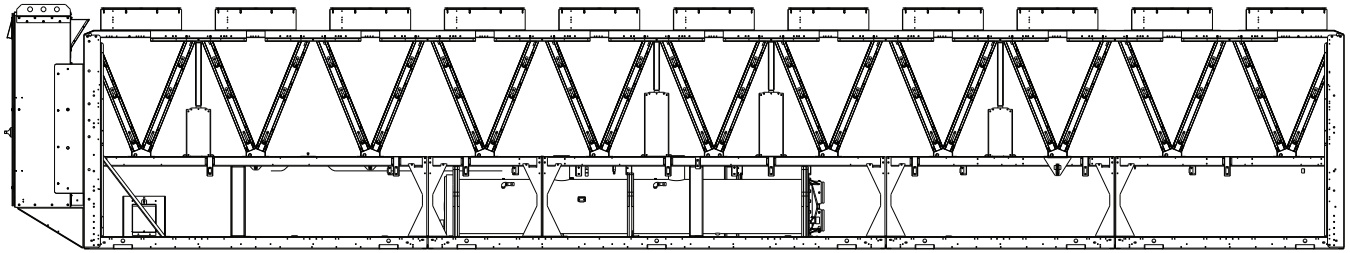


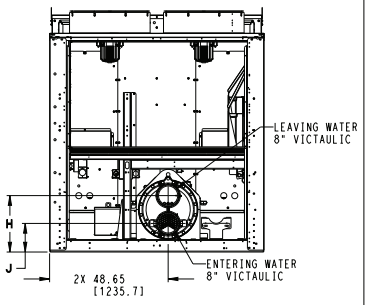
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:EAR99	2 OF 3	05/18/18	-	30XV 400 HIGH TIER,450 MID TIER, 500 STD TIER AIR COOLED CHILLER	30XV60002600 C

Fig. 19 — 30XV 400 High, 450 Mid, 500 Std Tier Air-Cooled Chiller (cont)



UNIT	H	J	K
400 HIGH	23.15[588.0]	11.73[297.9]	213.37[5419.6]
450 MID	27.44[697.0]	14.05[356.9]	212.91[5407.9]
500 STD	28.43[722.1]	15.05[382.3]	212.19[5389.6]





BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

BRINE COOLER OPTION

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/18/18	-	30XV 400 HIGH TIER,450 MID TIER, 500 STD TIER AIR COOLED CHILLER	30XV60002600	C

Fig. 19 — 30XV 400 High, 450 Mid, 500 Std Tier Air-Cooled Chiller (cont)

NOTES:

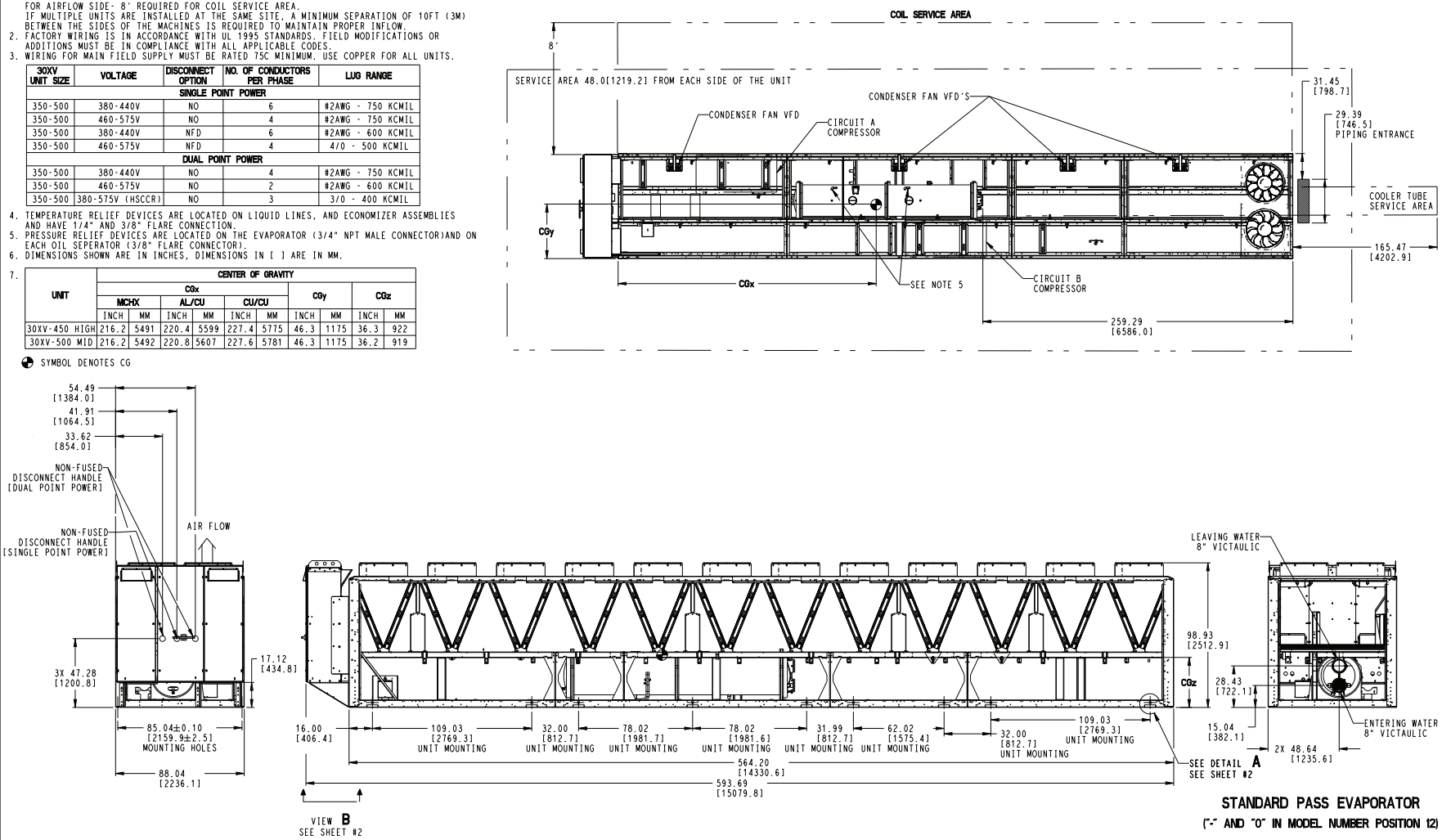
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER INFLOW.
2. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
3. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
350-500	380-440V	NO	6	#2AWG - 750 KCMIL
350-500	460-575V	NO	4	#2AWG - 750 KCMIL
350-500	380-440V	NFD	6	#2AWG - 600 KCMIL
350-500	460-575V	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER				
350-500	380-440V	NO	4	#2AWG - 750 KCMIL
350-500	460-575V	NO	2	#2AWG - 600 KCMIL
350-500	380-575V (HSCCR)	NO	3	3/0 - 400 KCMIL

4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR)AND ON EACH OIL SEPERATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MM.
7.

UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-450 HIGH	216.2	5491	220.4	5599	227.4	5775	46.3	1175	36.3	922
30XV-500 MID	216.2	5492	220.8	5607	227.6	5781	46.3	1175	36.2	919

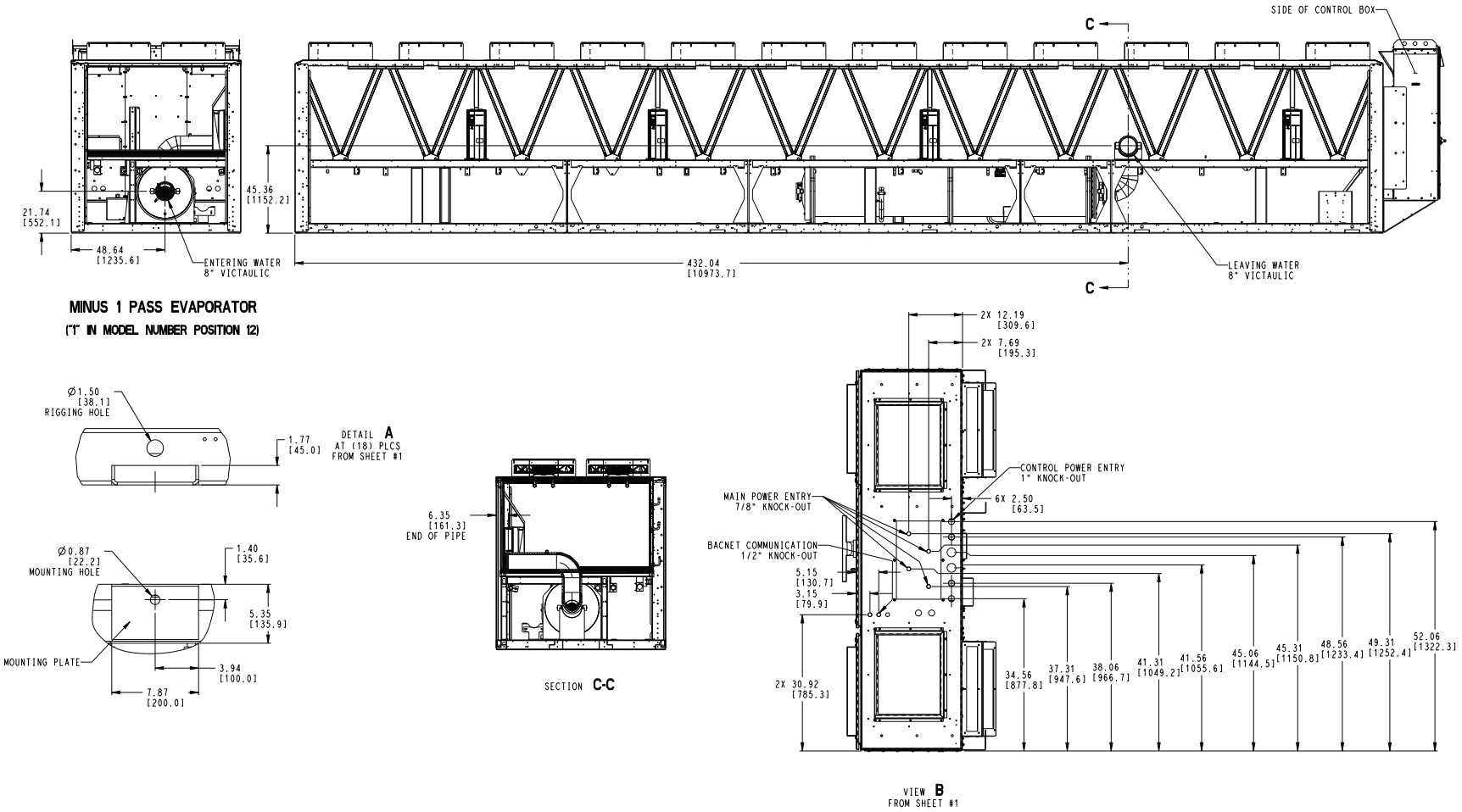
SYMBOL DENOTES CG



STANDARD PASS EVAPORATOR
("-" AND "0" IN MODEL NUMBER POSITION 12)

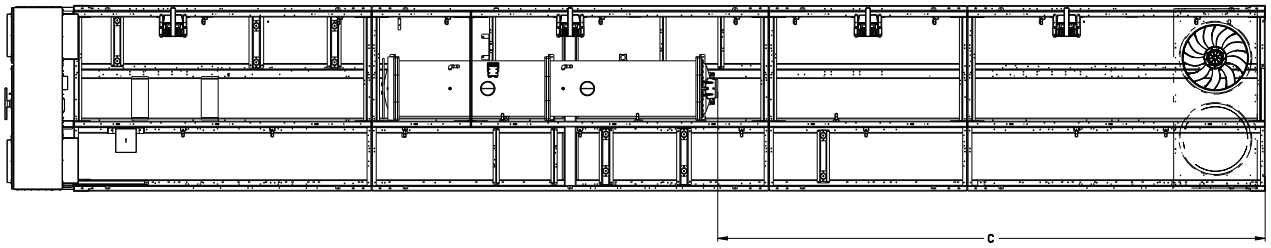
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	30XV 450 HIGH TIER, 500 MID TIER AIR COOLED CHILLER	30XV60002700	REV
U.S. ECCN:EAR99	1 OF 3	05/17/18	-			C

Fig. 20 — 30XV 450 High, 500 Mid Tier Air-Cooled Chiller

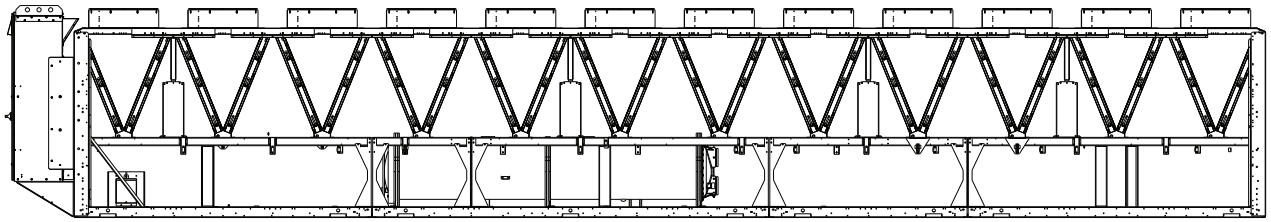


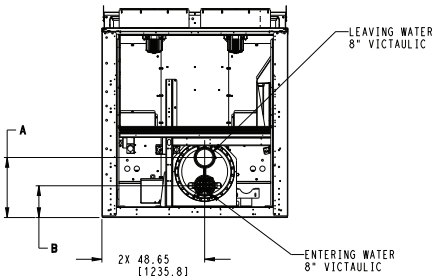
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/17/18	-	30XV 450 HIGH TIER, 500 MID TIER AIR COOLED CHILLER	30XV60002700	C

Fig. 20 — 30XV 450 High, 500 Mid Tier Air-Cooled Chiller (cont)



UNIT	A	B	C
450 HIGH	27.44[696.9]	14.05[357.0]	259.92[6601.9]
500 MID	28.43[722.1]	15.05[382.1]	259.19[6583.4]





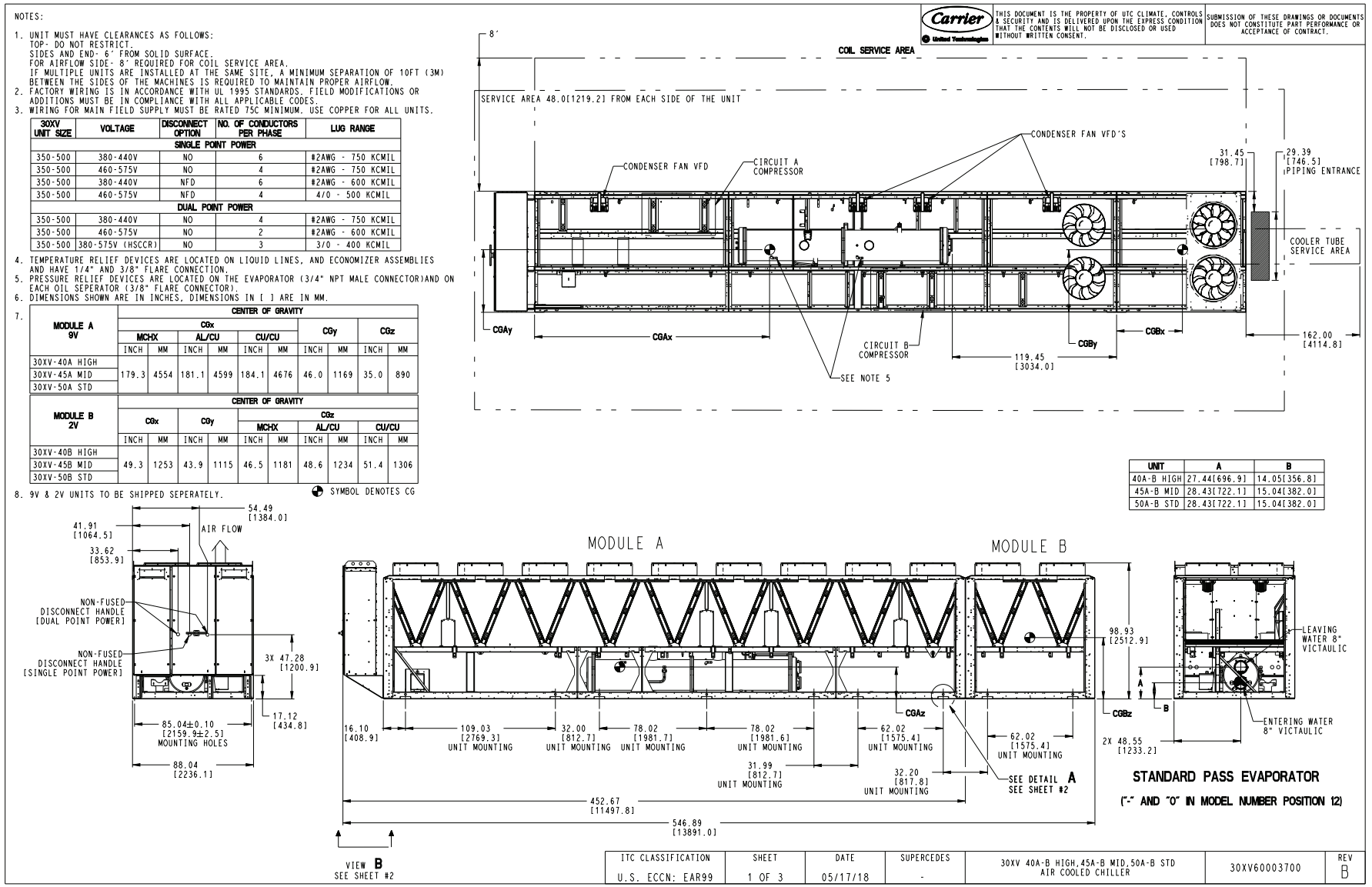
BRINE EVAPORATOR

("2" IN MODEL NUMBER POSITION 12)

BRINE COOLER OPTION

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	30XV 450 HIGH TIER, 500 MID TIER AIR COOLED CHILLER	30XV60002700	REV
U.S. ECCN:EAR99	3 OF 3	05/17/18	-			C

Fig. 20 — 30XV 450 High, 500 Mid Tier Air-Cooled Chiller (cont)



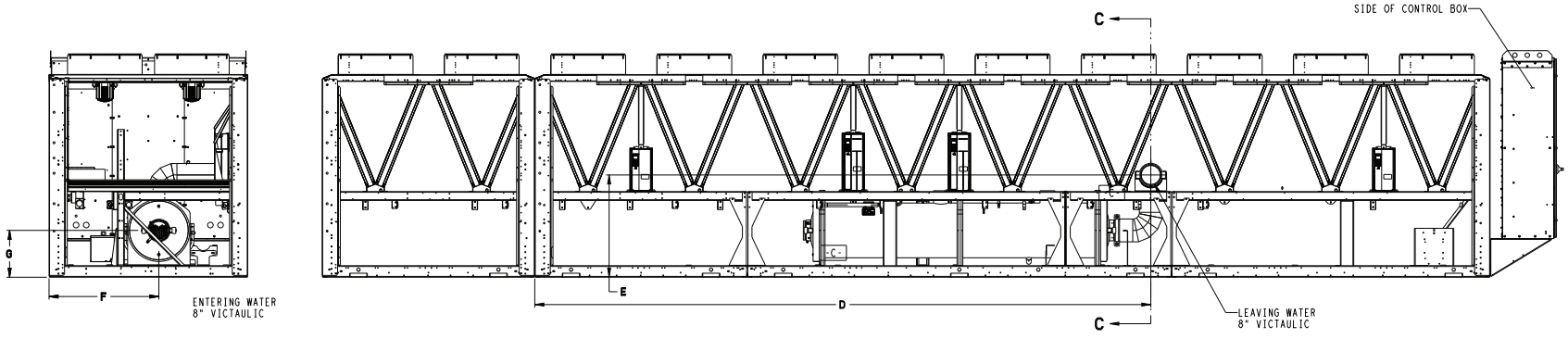
30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
350-500	380-440V	NO	6	#2AWG - 750 KCMIL
350-500	460-575V	NO	4	#2AWG - 750 KCMIL
350-500	380-440V	NFD	6	#2AWG - 600 KCMIL
350-500	460-575V	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER				
350-500	380-440V	NO	4	#2AWG - 750 KCMIL
350-500	460-575V	NO	2	#2AWG - 600 KCMIL
350-500	380-575V (HSCCR)	NO	3	3/0 - 400 KCMIL

MODULE A 9V	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-40A HIGH	179.3	4554	181.1	4599	184.1	4676	46.0	1169	35.0	890
30XV-45A MID										
30XV-50A STD										

MODULE B 2V	CENTER OF GRAVITY									
	CGx		CGy		CGz					
					MCHX		AL/CU		CU/CU	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-40B HIGH	49.3	1253	43.9	1115	46.5	1181	48.6	1234	51.4	1306
30XV-45B MID										
30XV-50B STD										

UNIT	A	B
40A-B HIGH	27.44[696.9]	14.05[356.8]
45A-B MID	28.43[722.1]	15.04[382.0]
50A-B STD	28.43[722.1]	15.04[382.0]

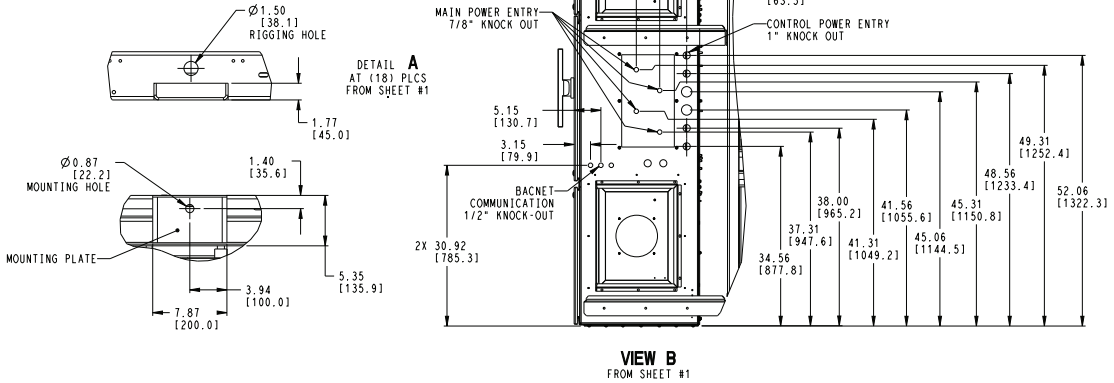
Fig. 21 — 30XV Split Unit 40A-B High, 45A-B Mid, 50A-B Standard Tier Air-Cooled Chiller



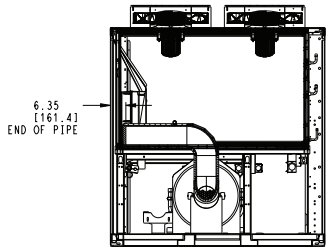
MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)

UNIT	F	G
40A-B HIGH	48.65[1235.7]	20.74[526.7]
45A-B MID	48.64[1235.4]	21.73[551.9]
50A-B STD	48.64[1235.4]	21.73[551.9]

UNIT	D	E
40A-B HIGH	272.95[6932.9]	45.30[1150.6]
45A-B MID	273.01[6934.5]	45.36[1152.1]
50A-B STD	273.01[6934.5]	45.36[1152.1]



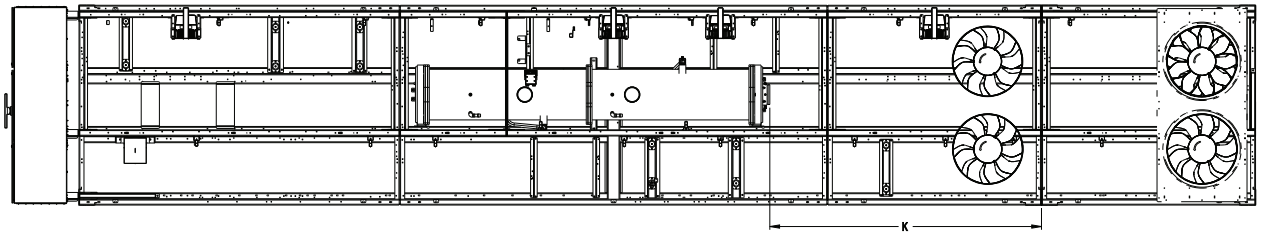
VIEW B
FROM SHEET #1



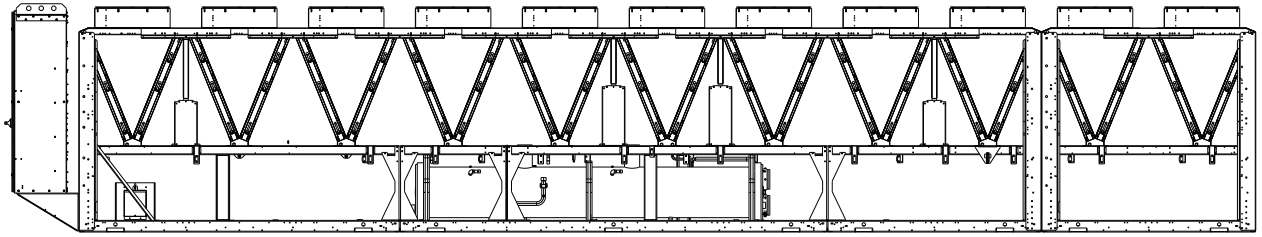
SECTION **C-C**

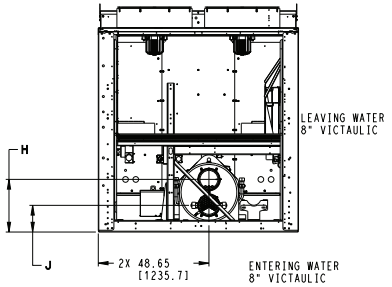
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	30XV 40A-B HIGH,45A-B MID,50A-B STD AIR COOLED CHILLER	30XV60003700	REV
U.S. ECCN: EAR99	2 OF 3	05/17/18	-			B

Fig. 21 — 30XV Split Unit 40A-B High, 45A-B Mid, 50A-B Standard Tier Air-Cooled Chiller (cont)



UNIT	H	J	K
40A-B HIGH	23.15[588.0]	11.73[297.9]	119.45[3034.0]
45A-B MID	27.44[697.0]	14.05[356.9]	118.99[3022.3]
50A-B STD	28.43[722.1]	15.05[382.3]	118.27[3004.1]





BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

BRINE COOLER OPTION

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN: EAR99	3 OF 3	05/17/18	-	30XV 40A-B HIGH,45A-B MID,50A-B STD AIR COOLED CHILLER	30XV60003700	B

Fig. 21 — 30XV Split Unit 40A-B High, 45A-B Mid, 500A-B Standard Tier Air-Cooled Chiller (cont)

NOTES:

1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER AIRFLOW.
2. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
3. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
350-500	380-440V	NO	6	#2AWG - 750 KCMIL
350-500	460-575V	NO	4	#2AWG - 750 KCMIL
350-500	380-440V	NFD	6	#2AWG - 600 KCMIL
350-500	460-575V	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER				
350-500	380-440V	NO	4	#2AWG - 750 KCMIL
350-500	460-575V	NO	2	#2AWG - 600 KCMIL
350-500	380-575V (HSCCR)	NO	3	3/0 - 400 KCMIL

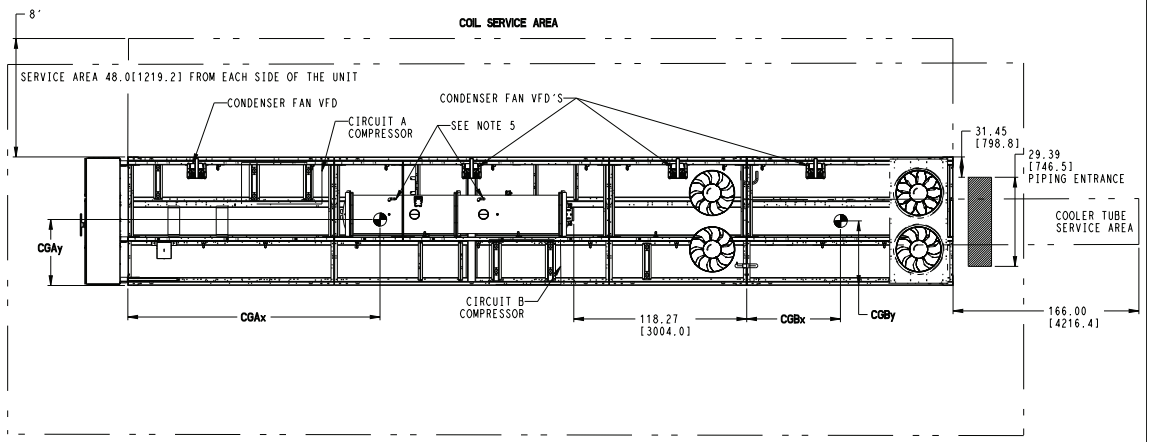
4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR)AND ON EACH OIL SEPERATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MM.
7.

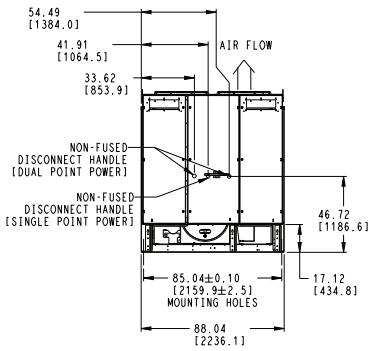
MODULE A 9V	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-45A HIGH	179.3	4554	181.1	4599	184.1	4676	46.0	1169	35.0	890
30XV-50A MID										

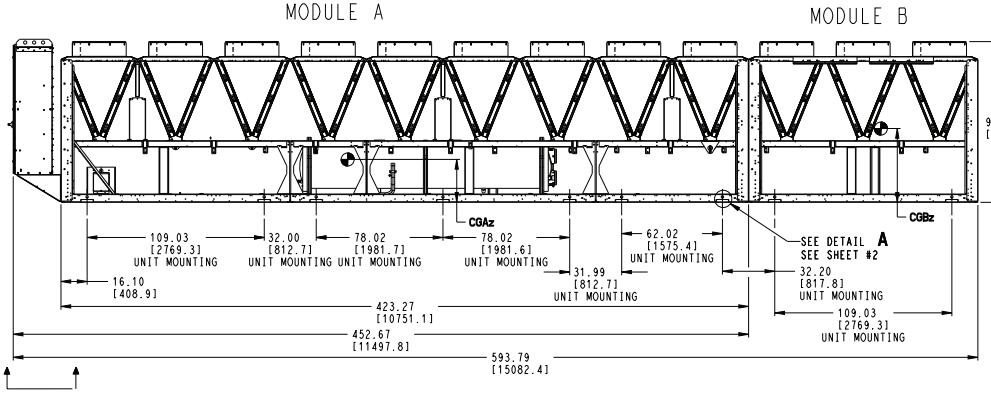
MODULE B 3V	CENTER OF GRAVITY									
	CGx		CGy		CGz					
					MCHX		AL/CU		CU/CU	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-40B HIGH	72.9	1852	43.9	1115	47.2	1198	49.1	1246	51.57	1310
30XV-45B MID										

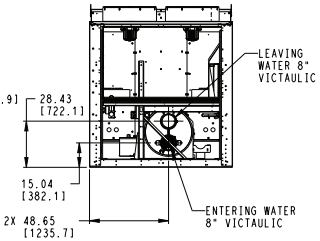
SYMBOL DENOTES CG

8. 9V & 3V UNITS TO BE SHIPPED SEPARATELY.









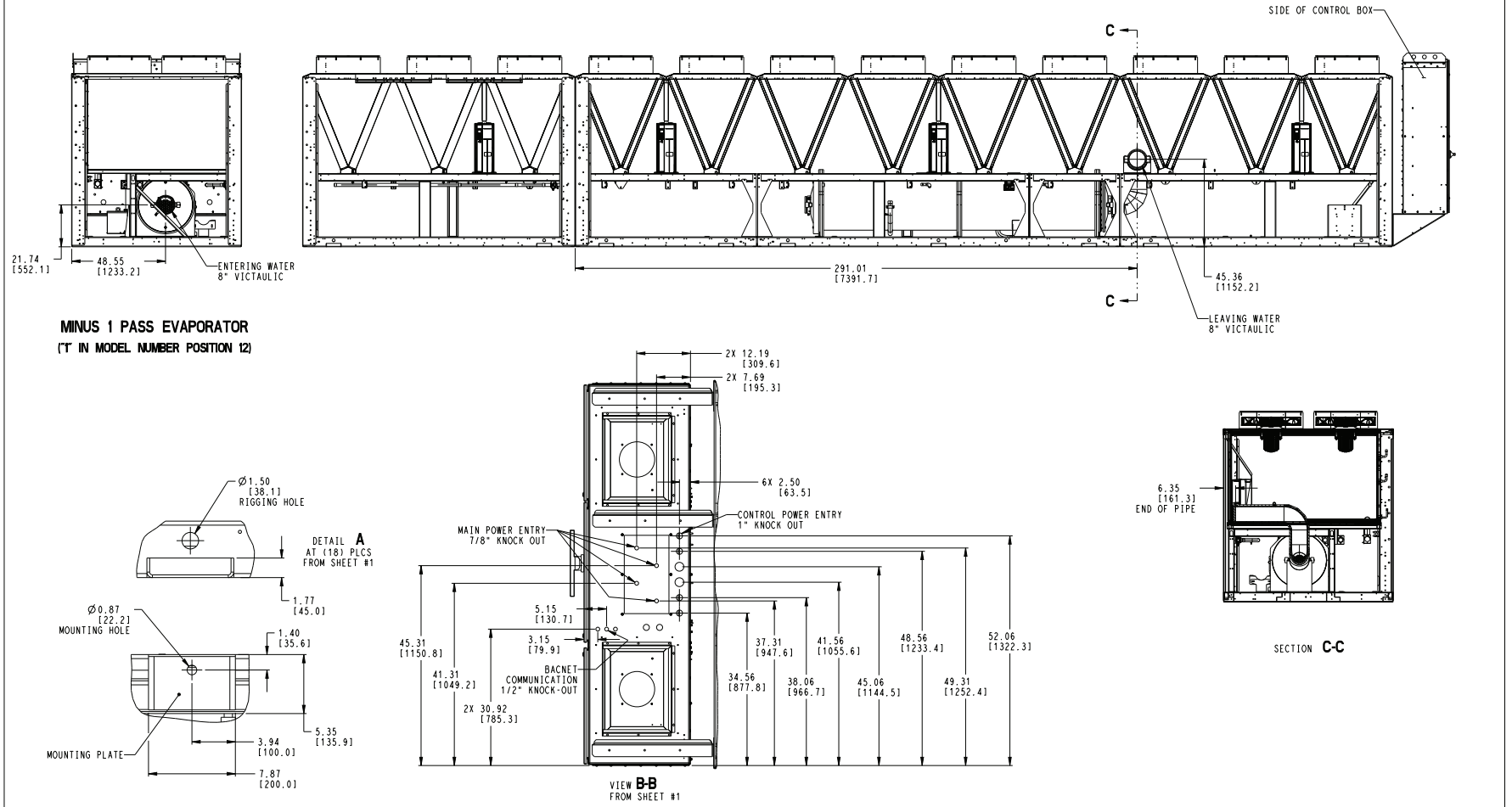
STANDARD PASS EVAPORATOR

("-" AND "0" IN MODEL NUMBER POSITION 12)

VIEW B SEE SHEET #2

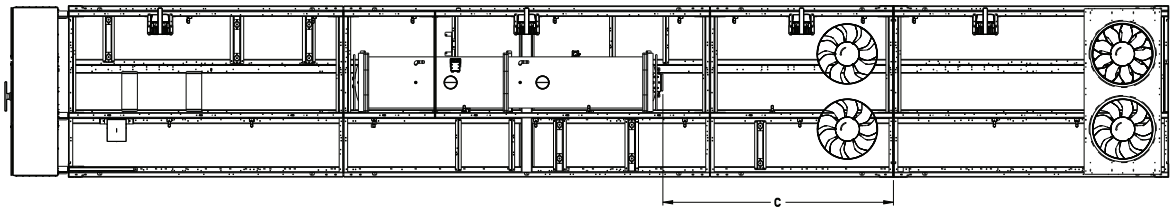
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	1 OF 3	05/17/18	-	30XV 50A-B MID, 45A-B HIGH AIR COOLED CHILLER	30XV60003800	B

Fig. 22 — 30XV Split Unit 45A-B High, 50A-B Mid Tier Air-Cooled Chiller

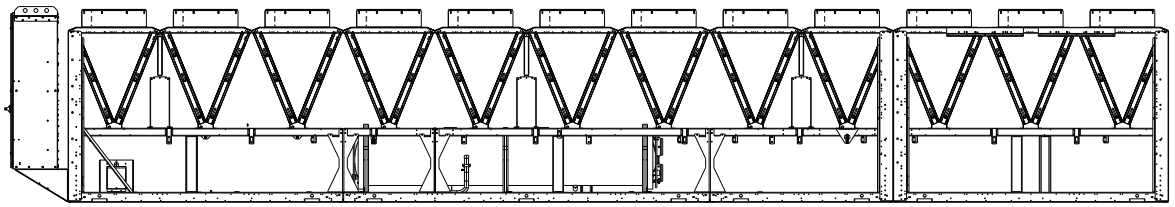


ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	2 OF 3	05/17/18	-	30XV 50A-B MID, 45A-B HIGH AIR COOLED CHILLER	30XV60003800	B

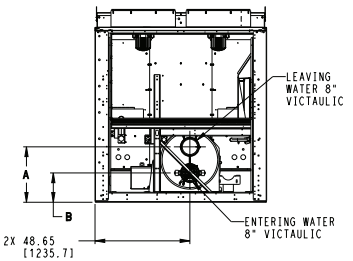
Fig. 22 — 30XV Split Unit 45A-B High, 50A-B Mid Tier Air-Cooled Chiller (cont)



UNIT	A	B	C
450 HIGH	27.44[696.9]	14.05[357.0]	118.27[3004.0]
500 MID	28.43[722.1]	15.05[382.1]	117.54[2985.5]



BRINE COOLER OPTION



BRINE EVAPORATOR
("2" IN MODEL NUMBER POSITION 12)

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:EAR99	3 OF 3	05/17/18	-	30XV 50A-B MID, 45A-B HIGH AIR COOLED CHILLER	30XV60003800	B

Fig. 22 — 30XV Split Unit 45A-B High, 50A-B Mid Tier Air-Cooled Chiller (cont)

Table 1 — Unit Mounting Weights

Units with MCHX Condenser Coils — English

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) MCHX CONDENSER COILS										
		A	B	C	D	E	F	G	H	I	J	Total
140	S	1610	1130	2945	2871	1128	1425	—	—	—	—	11,110
	M	1610	1130	2961	2887	1144	1442	—	—	—	—	11,175
	H	1610	1130	2961	2887	1354	1651	232	232	—	—	12,058
160	S	1610	1130	2961	2887	1144	1442	—	—	—	—	11,175
	M	1610	1130	3008	2934	1400	1698	232	232	—	—	12,245
	H	1610	1130	3008	2934	1191	1488	416	416	459	459	13,112
180	S	1610	1130	3008	2934	1191	1488	—	—	—	—	11,362
	M	1610	1130	3026	2952	1418	1716	232	232	—	—	12,317
	H	1610	1130	3026	2952	1209	1506	416	416	459	459	13,184
200	S	1610	1130	3026	2952	1418	1716	232	232	—	—	12,317
	M	1610	1130	3083	3010	1266	1564	416	416	459	459	13,413
	H	1610	1130	3083	3010	1266	1564	613	613	657	657	14,202

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) MCHX CONDENSER COILS												
		A	B	C	D	E	F	G	H	I	J	K	L	Total
225	S	1316	1007	707	541	3014	2767	1996	1835	—	—	—	—	13,185
	M	1316	1007	707	541	3024	2777	2216	2055	232	232	—	—	14,108
	H	1316	1007	707	541	3024	2777	2006	1845	416	416	459	459	14,975

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) MCHX CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
250	S	1356	1039	752	576	2739	2750	2843	2811	296	254	—	—	—	—	—	—	15,415
	M	1356	1039	752	576	2806	2817	2910	2878	505	463	232	232	—	—	—	—	16,566
	H	1356	1039	752	576	2851	2862	2955	2923	296	254	416	416	459	459	—	—	17,614
275	S	1356	1039	752	576	2851	2862	2955	2923	296	254	—	—	—	—	—	—	15,864
	M	1356	1039	752	576	2820	2831	2925	2893	505	463	232	232	—	—	—	—	16,624
	H	1356	1039	752	576	2820	2831	2925	2893	296	254	416	416	459	459	—	—	17,492
300	S	1356	1039	752	576	2820	2831	2925	2893	505	463	232	232	—	—	—	—	16,624
	M	1356	1039	752	576	2838	2848	2942	2910	296	254	416	416	459	459	—	—	17,560
	H	1356	1039	752	576	2838	2848	2942	2910	296	254	626	626	670	670	—	—	18,401
325	S	1356	1039	752	576	2838	2848	2942	2910	296	254	416	416	459	459	—	—	17,560
	M	1356	1039	752	576	2857	2868	2961	2929	296	254	626	626	670	670	—	—	18,478
	H	1356	1039	752	576	2857	2868	2961	2929	296	254	572	572	572	572	615	615	19,407

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) MCHX CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
350	S	3959	2356	2273	1353	719	596	2442	2827	1616	2128	186	217	—	—	—	—	20,672
	M	3959	2356	2273	1353	773	651	2704	3089	1679	2191	398	429	235	235	—	—	22,326
	H	3959	2356	2273	1353	773	651	2704	3089	1679	2191	186	217	397	397	440	440	23,104

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) MCHX CONDENSER COILS																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Total
400	S	3934	2357	2222	1331	892	772	2724	3500	1318	2041	786	784	550	549	—	—	—	—	23,760
	M	3934	2357	2222	1331	896	775	2747	3524	1328	2051	786	784	763	761	235	235	—	—	24,729
	H	3934	2357	2222	1331	896	775	2747	3524	1328	2051	786	784	550	549	397	397	440	440	25,507
450	S	3934	2357	2222	1331	896	775	2747	3524	1328	2051	786	784	763	761	235	235	—	—	24,729
	M	3934	2357	2222	1331	950	830	3032	3808	1413	2136	786	784	550	549	397	397	440	440	26,356
	H	3934	2357	2222	1331	950	830	3032	3808	1413	2136	786	784	550	549	613	613	657	657	27,221
500	S	3934	2357	2222	1331	950	830	3032	3808	1413	2136	786	784	550	549	397	397	440	440	26,356
	M	3934	2357	2222	1331	956	835	3068	3845	1429	2152	786	784	550	549	613	613	657	657	27,337

LEGEND

MCHX — Microchannel Heat Exchanger

NOTE: See Fig. 23 for mounting weight reference points.

Table 1 — Unit Mounting Weights (cont)

Units with MCHX Condenser Coils — SI

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) MCHX CONDENSER COILS										
		A	B	C	D	E	F	G	H	I	J	Total
140	S	730	513	1336	1302	512	647	—	—	—	—	5039
	M	730	513	1343	1310	519	654	—	—	—	—	5069
	H	730	513	1343	1310	614	749	105	105	—	—	5469
160	S	730	513	1343	1310	519	654	—	—	—	—	5069
	M	730	513	1364	1331	635	770	105	105	—	—	5554
	H	730	513	1364	1331	540	675	189	189	208	208	5948
180	S	730	513	1364	1331	540	675	—	—	—	—	5154
	M	730	513	1372	1339	643	778	105	105	—	—	5587
	H	730	513	1372	1339	548	683	189	189	208	208	5980
200	S	730	513	1372	1339	643	778	105	105	—	—	5587
	M	730	513	1398	1365	574	709	189	189	208	208	6084
	H	730	513	1398	1365	574	709	278	278	298	298	6442

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) MCHX CONDENSER COILS												
		A	B	C	D	E	F	G	H	I	J	K	L	Total
225	S	597	457	321	245	1367	1255	906	832	—	—	—	—	5981
	M	597	457	321	245	1372	1260	1005	932	105	105	—	—	6399
	H	597	457	321	245	1372	1260	910	837	189	189	208	208	6793

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) MCHX CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
250	S	615	471	341	261	1242	1247	1290	1275	134	115	—	—	—	—	—	—	6992
	M	615	471	341	261	1273	1278	1320	1306	229	210	105	105	—	—	—	—	7514
	H	615	471	341	261	1293	1298	1340	1326	134	115	189	189	208	208	—	—	7989
275	S	615	471	341	261	1293	1298	1340	1326	134	115	—	—	—	—	—	—	7196
	M	615	471	341	261	1279	1284	1327	1312	229	210	105	105	—	—	—	—	7541
	H	615	471	341	261	1279	1284	1327	1312	134	115	189	189	208	208	—	—	7934
300	S	615	471	341	261	1279	1284	1327	1312	229	210	105	105	—	—	—	—	7541
	M	615	471	341	261	1287	1292	1334	1320	134	115	189	189	208	208	—	—	7965
	H	615	471	341	261	1287	1292	1334	1320	134	115	284	284	304	304	—	—	8346
325	S	615	471	341	261	1287	1292	1334	1320	134	115	189	189	208	208	—	—	7965
	M	615	471	341	261	1296	1301	1343	1329	134	115	284	284	304	304	—	—	8381
	H	615	471	341	261	1296	1301	1343	1329	134	115	260	260	260	260	279	279	8803

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) MCHX CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
350	S	1796	1069	1031	614	326	271	1108	1282	733	965	84	98	—	—	—	—	9377
	M	1796	1069	1031	614	351	295	1227	1401	761	994	181	195	107	107	—	—	10 127
	H	1796	1069	1031	614	351	295	1227	1401	761	994	84	98	180	180	200	200	10 480

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) MCHX CONDENSER COILS																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Total
400	S	1785	1069	1008	604	405	350	1236	1588	598	926	357	356	250	249	—	—	—	—	10 777
	M	1785	1069	1008	604	406	352	1246	1598	602	930	357	356	346	345	107	107	—	—	11 217
	H	1785	1069	1008	604	406	352	1246	1598	602	930	357	356	250	249	180	180	200	200	11 570
450	S	1785	1069	1008	604	406	352	1246	1598	602	930	357	356	346	345	107	107	—	—	11 217
	M	1785	1069	1008	604	431	376	1375	1727	641	969	357	356	250	249	180	180	200	200	11 955
	H	1785	1069	1008	604	431	376	1375	1727	641	969	357	356	250	249	278	278	298	298	12 347
500	S	1785	1069	1008	604	431	376	1375	1727	641	969	357	356	250	249	180	180	200	200	11 955
	M	1785	1069	1008	604	434	379	1392	1744	648	976	357	356	250	249	278	278	298	298	12 400

LEGEND

MCHX — Microchannel Heat Exchanger

NOTE: See Fig. 23 for mounting weight reference points.

Table 1 — Unit Mounting Weights (cont)

Units with Al/Cu Condenser Coils — English

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) Al/Cu CONDENSER COILS										
		A	B	C	D	E	F	G	H	I	J	Total
140	S	—	—	—	—	—	—	—	—	—	—	—
	M	1694	1215	3045	2972	1228	1526	—	—	—	—	11,680
	H	1697	1218	3048	2975	1470	1767	271	271	—	—	12,718
160	S	1697	1217	3048	2974	1231	1528	—	—	—	—	11,694
	M	1701	1221	3098	3025	1520	1817	275	275	—	—	12,930
	H	1701	1222	3099	3026	1282	1580	488	488	531	531	13,949
180	S	1699	1219	3097	3023	1280	1577	—	—	—	—	11,896
	M	1702	1222	3117	3044	1539	1836	261	261	—	—	12,982
	H	1702	1223	3118	3045	1301	1599	504	504	547	547	14,090
200	S	1702	1222	3117	3044	1539	1836	276	276	—	—	13,012
	M	1702	1223	3175	3102	1359	1656	489	489	532	532	14,260
	H	1706	1226	3179	3105	1362	1660	718	718	762	762	15,200

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) Al/Cu CONDENSER COILS												
		A	B	C	D	E	F	G	H	I	J	K	L	Total
225	S	1392	1083	783	617	3119	2872	2102	1940	—	—	—	—	13,910
	M	1393	1084	784	618	3130	2883	2322	2189	280	280	—	—	14,965
	H	1393	1084	784	618	3130	2883	2112	1951	493	493	536	536	16,013

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) Al/Cu CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
250	S	1422	1105	818	642	2834	2845	2967	2935	333	291	—	—	—	—	—	—	16,191
	M	1425	1108	821	646	2904	2915	3037	3005	574	532	273	273	—	—	—	—	17,514
	H	1426	1109	822	647	2950	2961	3083	3051	337	295	486	486	530	530	—	—	18,712
275	S	1424	1107	820	644	2948	2959	3081	3049	335	293	—	—	—	—	—	—	16,660
	M	1426	1109	822	646	2919	2930	3052	3020	575	533	274	274	—	—	—	—	17,582
	H	1427	1110	823	647	2920	2931	3053	3021	338	296	487	487	530	530	—	—	18,600
300	S	1426	1109	822	646	2919	2930	3052	3020	575	533	274	274	—	—	—	—	17,582
	M	1427	1111	824	648	2938	2949	3071	3039	339	297	487	487	531	531	—	—	18,679
	H	1430	1113	826	651	2941	2951	3074	3042	341	299	729	729	773	773	—	—	19,670
325	S	1427	1111	824	648	2938	2949	3071	3039	339	297	487	487	531	531	—	—	18,679
	M	1431	1114	827	651	2960	2971	3094	3062	342	300	729	729	774	774	—	—	19,757
	H	1431	1114	827	651	2960	2971	3093	3061	342	300	666	666	666	666	709	709	20,832

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) Al/Cu CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
350	S	4058	2455	2372	1452	808	686	2532	2916	1734	2246	227	258	—	—	—	—	21,746
	M	4061	2458	2375	1455	866	743	2797	3181	1800	2312	471	502	280	280	—	—	23,580
	H	4061	2459	2376	1455	866	743	2797	3181	1800	2312	230	261	470	470	514	514	24,510

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) Al/Cu CONDENSER COILS																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Total
400	S	4036	2458	2324	1433	965	844	2854	3631	1390	2114	859	857	623	621	—	—	—	—	25,010
	M	4037	2459	2325	1434	989	868	2840	3617	1421	2144	860	858	865	864	280	280	—	—	26,140
	H	4037	2459	2325	1434	989	868	2840	3617	1421	2144	860	858	624	623	471	471	514	514	27,069
450	S	4037	2459	2325	1434	989	868	2840	3617	1421	2144	860	858	865	864	280	280	—	—	26,140
	M	4038	2461	2326	1435	1045	924	3126	3902	1507	2231	861	859	625	624	472	472	515	515	27,938
	H	4040	2463	2328	1437	1047	926	3128	3904	1509	2233	863	861	656	655	718	718	763	763	29,012
500	S	4038	2461	2326	1435	1045	924	3126	3902	1507	2231	861	859	625	624	472	472	515	515	27,938
	M	4047	2469	2334	1444	1059	938	3171	3948	1532	2255	870	868	663	661	725	725	769	769	29,247

LEGEND

MCHX — Microchannel Heat Exchanger

NOTE: See Fig. 23 for mounting weight reference points.

Table 1 — Unit Mounting Weights (cont)

Units with Al/Cu Condenser Coils — SI

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) Al/Cu CONDENSER COILS										
		A	B	C	D	E	F	G	H	I	J	Total
140	S	—	—	—	—	—	—	—	—	—	—	—
	M	769	551	1381	1348	557	692	—	—	—	—	5298
	H	770	552	1383	1349	667	802	123	123	—	—	5769
160	S	770	552	1382	1349	558	693	—	—	—	—	5304
	M	771	554	1405	1372	689	824	125	125	—	—	5865
	H	772	554	1406	1372	582	717	221	221	241	241	6327
180	S	771	553	1405	1371	581	716	—	—	—	—	5396
	M	772	554	1414	1381	698	833	118	118	—	—	5889
	H	772	555	1414	1381	590	725	229	229	248	248	6391
200	S	772	554	1414	1381	698	833	125	125	—	—	5902
	M	772	555	1440	1407	616	751	222	222	241	241	6468
	H	774	556	1442	1409	618	753	326	326	346	346	6894

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) Al/Cu CONDENSER COILS												
		A	B	C	D	E	F	G	H	I	J	K	L	Total
225	S	632	491	355	280	1415	1303	953	880	—	—	—	—	6310
	M	632	492	356	280	1420	1308	1053	993	127	127	—	—	6788
	H	632	492	356	280	1420	1308	958	885	223	223	243	243	7263

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) Al/Cu CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
250	S	645	501	371	291	1285	1290	1346	1331	151	132	—	—	—	—	—	—	7344
	M	646	503	373	293	1317	1322	1378	1363	261	242	124	124	—	—	—	—	7944
	H	647	503	373	293	1338	1343	1398	1384	153	134	220	220	240	240	—	—	8488
275	S	646	502	372	292	1337	1342	1397	1383	152	133	—	—	—	—	—	—	7557
	M	647	503	373	293	1324	1329	1385	1370	261	242	124	124	—	—	—	—	7975
	H	647	503	373	294	1325	1329	1385	1370	153	134	221	221	241	241	—	—	8437
300	S	647	503	373	293	1324	1329	1385	1370	261	242	124	124	—	—	—	—	7975
	M	647	504	374	294	1333	1338	1393	1378	154	135	221	221	241	241	—	—	8473
	H	649	505	375	295	1334	1339	1394	1380	155	136	330	330	351	351	—	—	8922
325	S	647	504	374	294	1333	1338	1393	1378	154	135	221	221	241	241	—	—	8473
	M	649	505	375	295	1343	1348	1403	1389	155	136	331	331	351	351	—	—	8962
	H	649	505	375	295	1343	1348	1403	1389	155	136	302	302	302	302	322	322	9449

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) Al/Cu CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
350	S	1841	1114	1076	659	367	311	1148	1323	787	1019	103	117	—	—	—	—	9864
	M	1842	1115	1077	660	393	337	1269	1443	816	1049	214	228	127	127	—	—	10 696
	H	1842	1115	1078	660	393	337	1269	1443	816	1049	105	119	213	213	233	233	11 117

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) Al/Cu CONDENSER COILS																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Total
400	S	1831	1115	1054	650	438	383	1295	1647	631	959	390	389	283	282	—	—	—	—	11 344
	M	1831	1116	1054	650	449	394	1288	1640	644	973	390	389	393	392	127	127	—	—	11 857
	H	1831	1116	1054	650	449	394	1288	1641	644	973	390	389	283	282	213	213	233	233	12 278
450	S	1831	1116	1054	650	449	394	1288	1640	644	973	390	389	393	392	127	127	—	—	11 857
	M	1832	1116	1055	651	474	419	1418	1770	684	1012	391	390	284	283	214	214	234	234	12 672
	H	1833	1117	1056	652	475	420	1419	1771	685	1013	392	390	298	297	326	326	346	346	13 159
500	S	1832	1116	1055	651	474	419	1418	1770	684	1012	391	390	284	283	214	214	234	234	12 672
	M	1836	1120	1059	655	480	426	1438	1791	695	1023	395	394	301	300	329	329	349	349	13 266

LEGEND

MCHX — Microchannel Heat Exchanger

NOTE: See Fig. 23 for mounting weight reference points.

Table 1 — Unit Mounting Weights (cont)

Units with Cu/Cu Condenser Coils — English

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) Cu/Cu CONDENSER COILS										
		A	B	C	D	E	F	G	H	I	J	Total
140	S	—	—	—	—	—	—	—	—	—	—	—
	M	1882	1402	3233	3159	1416	1713	—	—	—	—	12,805
	H	1885	1405	3236	3162	1727	2025	342	342	—	—	14,124
160	S	1884	1404	3235	3161	1418	1716	—	—	—	—	12,819
	M	1888	1408	3286	3212	1777	2075	345	345	—	—	14,336
	H	1889	1409	3287	3213	1470	1767	628	628	672	672	15,636
180	S	1887	1407	3284	3211	1468	1765	—	—	—	—	13,021
	M	1889	1410	3305	3231	1797	2094	346	346	—	—	14,418
	H	1890	1410	3306	3232	1489	1786	629	629	673	673	15,717
200	S	1889	1410	3305	3231	1797	2094	362	346	—	—	14,433
	M	1890	1410	3363	3289	1546	1843	629	629	673	673	15,947
	H	1893	1414	3366	3293	1550	1847	929	929	973	973	17,167

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) Cu/Cu CONDENSER COILS												
		A	B	C	D	E	F	G	H	I	J	K	L	Total
225	S	1533	1224	924	758	3330	3083	2312	2151	—	—	—	—	15,316
	M	1534	1225	925	759	3341	3094	2632	2470	351	351			16,681
	H	1533	1225	925	759	3341	3094	2422	2261	633	633	677	677	18,179

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) Cu/Cu CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
250	S	1562	1246	959	783	3045	3055	3248	3216	403	361	—	—	—	—	—	—	17,878
	M	1566	1249	962	786	3115	3126	3318	3286	715	673	343	343	—	—	—	—	19,482
	H	1567	1250	963	787	3161	3172	3364	3332	408	365	627	627	670	670	—	—	20,961
275	S	1564	1248	961	785	3159	3170	3362	3330	405	363	—	—	—	—	—	—	18,347
	M	1567	1250	963	787	3130	3141	3334	3302	716	674	344	344	—	—	—	—	19,550
	H	1567	1250	964	788	3131	3142	3334	3302	408	366	627	627	671	671	—	—	20,849
300	S	1567	1250	963	787	3130	3141	3334	3302	716	674	344	344	—	—	—	—	19,550
	M	1568	1251	964	789	3149	3160	3352	3320	409	367	628	628	672	672	—	—	20,928
	H	1571	1254	967	791	3151	3162	3355	3323	412	369	939	939	984	984	—	—	22,201
325	S	1568	1251	964	789	3149	3160	3352	3320	409	367	628	628	672	672	—	—	20,928
	M	1571	1254	968	792	3171	3182	3375	3343	412	370	940	940	984	984	—	—	22,288
	H	1571	1254	967	792	3171	3182	3374	3342	412	370	854	854	854	854	896	896	23,644

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) Cu/Cu CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
350	S	4269	2666	2583	1663	996	873	2719	3103	1992	2504	298	328	—	—	—	—	23,995
	M	4271	2669	2586	1666	1053	931	2984	3368	2057	2569	612	643	350	350			26,111
	H	4272	2670	2586	1666	1053	931	2985	3369	2058	2570	301	332	611	611	654	654	27,321

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (lb) Cu/Cu CONDENSER COILS																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Total
400	S	4247	2669	2534	1643	1106	985	3135	3912	1531	2254	1000	997	764	762	—	—	—	—	27,540
	M	4248	2670	2535	1644	1176	1056	3028	3804	1608	2332	1001	998	1076	1075	351	351	—	—	28,951
	H	4248	2670	2536	1645	1177	1056	3028	3804	1608	2332	1001	998	765	763	611	611	655	655	30,162
450	S	4248	2670	2535	1644	1176	1056	3028	3804	1608	2332	1001	998	1076	1075	351	351	—	—	28,951
	M	4249	2671	2537	1646	1232	1111	3313	4090	1695	2418	1002	999	766	764	612	612	656	656	31,030
	H	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
500	S	4249	2671	2537	1646	1232	1111	3313	4090	1695	2418	1002	999	766	764	612	612	656	656	31,030
	M	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

MCHX — Microchannel Heat Exchanger

NOTE: See Fig. 23 for mounting weight reference points.

Table 1 — Unit Mounting Weights (cont)

Units with Cu/Cu Condenser Coils — SI

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) Cu/Cu CONDENSER COILS										
		A	B	C	D	E	F	G	H	I	J	Total
140	S	—	—	—	—	—	—	—	—	—	—	—
	M	769	551	1381	1348	557	692	—	—	—	—	5298
	H	770	552	1383	1349	667	802	123	123	—	—	5769
160	S	770	552	1382	1349	558	693	—	—	—	—	5304
	M	771	554	1405	1372	689	824	125	125	—	—	5865
	H	772	554	1406	1372	582	717	221	221	241	241	6327
180	S	771	553	1405	1371	581	716	—	—	—	—	5396
	M	772	554	1414	1381	698	833	118	118	—	—	5889
	H	772	555	1414	1381	590	725	229	229	248	248	6391
200	S	772	554	1414	1381	698	833	125	125	—	—	5902
	M	772	555	1440	1407	616	751	222	222	241	241	6468
	H	774	556	1442	1409	618	753	326	326	346	346	6894

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) Cu/Cu CONDENSER COILS												
		A	B	C	D	E	F	G	H	I	J	K	L	Total
225	S	632	491	355	280	1415	1303	953	880	—	—	—	—	6310
	M	632	492	356	280	1420	1308	1053	993	127	127	—	—	6788
	H	632	492	356	280	1420	1308	958	885	223	223	243	243	7263

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) Cu/Cu CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
250	S	645	501	371	291	1285	1290	1346	1331	151	132	—	—	—	—	—	—	7344
	M	646	503	373	293	1317	1322	1378	1363	261	242	124	124	—	—	—	—	7944
	H	647	503	373	293	1338	1343	1398	1384	153	134	220	220	240	240	—	—	8488
275	S	646	502	372	292	1337	1342	1397	1383	152	133	—	—	—	—	—	—	7557
	M	647	503	373	293	1324	1329	1385	1370	261	242	124	124	—	—	—	—	7975
	H	647	503	373	294	1325	1329	1385	1370	153	134	221	221	241	241	—	—	8437
300	S	647	503	373	293	1324	1329	1385	1370	261	242	124	124	—	—	—	—	7975
	M	647	504	374	294	1333	1338	1393	1378	154	135	221	221	241	241	—	—	8473
	H	649	505	375	295	1334	1339	1394	1380	155	136	330	330	351	351	—	—	8922
325	S	647	504	374	294	1333	1338	1393	1378	154	135	221	221	241	241	—	—	8473
	M	649	505	375	295	1343	1348	1403	1389	155	136	331	331	351	351	—	—	8962
	H	649	505	375	295	1343	1348	1403	1389	155	136	302	302	302	302	322	322	9449

30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) Cu/Cu CONDENSER COILS																
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Total
350	S	1841	1114	1076	659	367	311	1148	1323	787	1019	103	117	—	—	—	—	9864
	M	1842	1115	1077	660	393	337	1269	1443	816	1049	214	228	127	127	—	—	10 696
	H	1842	1115	1078	660	393	337	1269	1443	816	1049	105	119	213	213	233	233	11 117

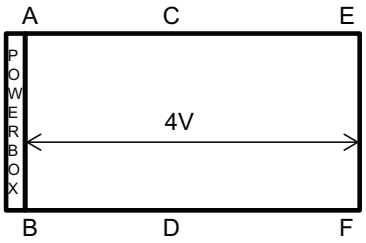
30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) Cu/Cu CONDENSER COILS																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Total
400	S	1831	1115	1054	650	438	383	1295	1647	631	959	390	389	283	282	—	—	—	—	11 344
	M	1831	1116	1054	650	449	394	1288	1640	644	973	390	389	393	392	127	127	—	—	11 857
	H	1831	1116	1054	650	449	394	1288	1641	644	973	390	389	283	282	213	213	233	233	12 278
450	S	1831	1116	1054	650	449	394	1288	1640	644	973	390	389	393	392	127	127	—	—	11 857
	M	1832	1116	1055	651	474	419	1418	1770	684	1012	391	390	284	283	214	214	234	234	12 672
	H	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
500	S	1832	1116	1055	651	474	419	1418	1770	684	1012	391	390	284	283	214	214	234	234	12 672
	M	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

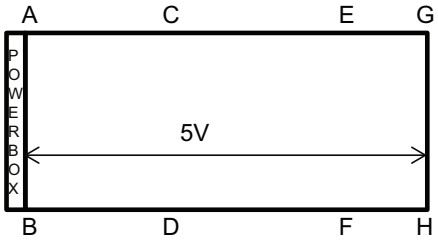
MCHX — Microchannel Heat Exchanger

NOTE: See Fig. 23 for mounting weight reference points.

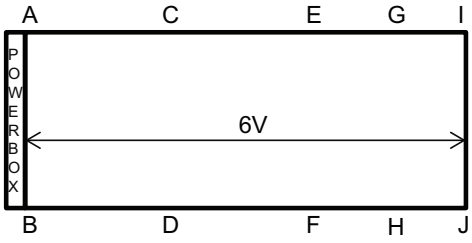
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
140	X	X	
160	X		
180	X		



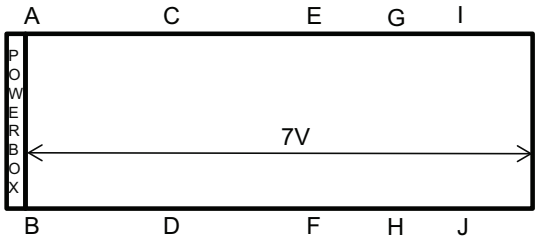
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
140			X
160		X	
180		X	
200	X		



UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
160			X
180			X
200		X	



UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
200			X

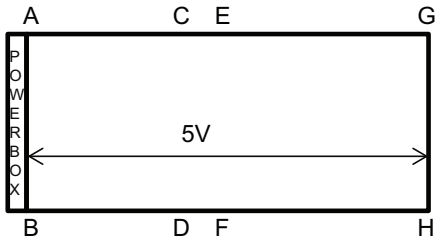


Letters indicate the general location of the mounting weight locations on the base of the unit.

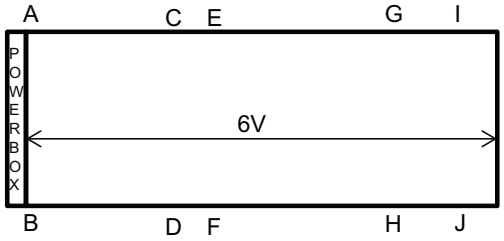
NOTE: See Table 1 for mounting weight at reference points.

Fig. 23 — Unit Mounting Weight Reference Points

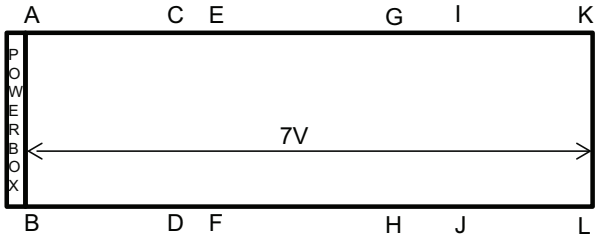
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
225	X		



UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
225		X	



UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
225			X

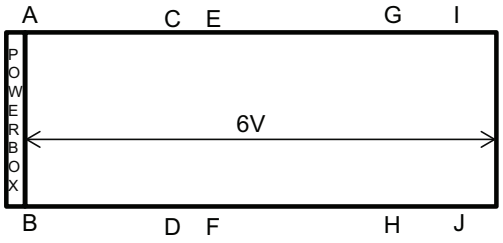


Letters indicate the general location of the mounting weight locations on the base of the unit.

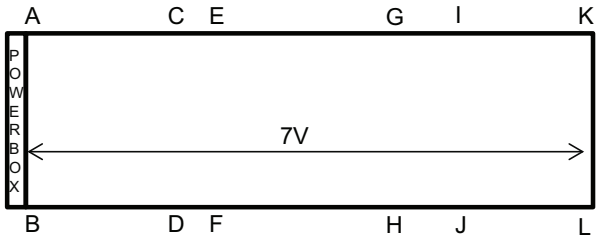
NOTE: See Table 1 for mounting weight at reference points.

Fig. 23 — Unit Mounting Weight Reference Points (cont)

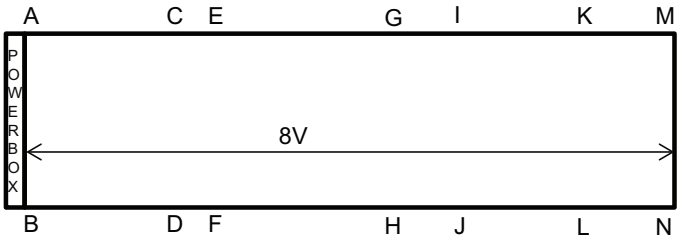
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
250	X		
275	X		



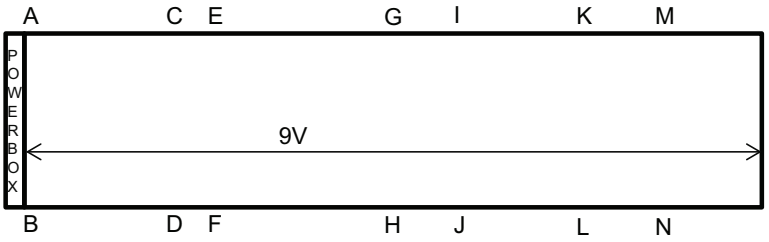
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
250		X	
275		X	
300	X		



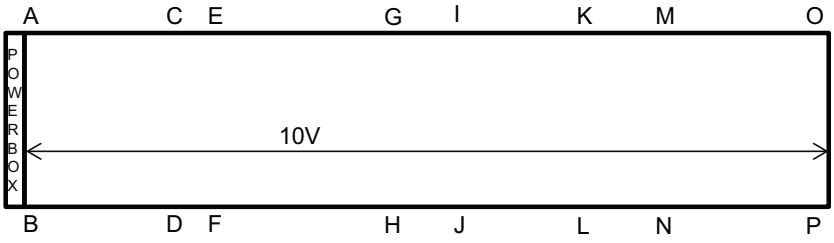
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
250			X
275			X
300		X	
325	X		



UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
300			X
325		X	



UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
325			X

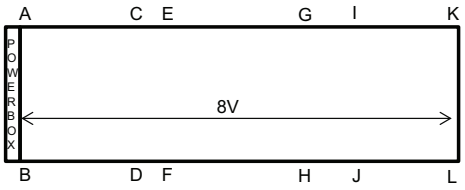


Letters indicate the general location of the mounting weight locations on the base of the unit.

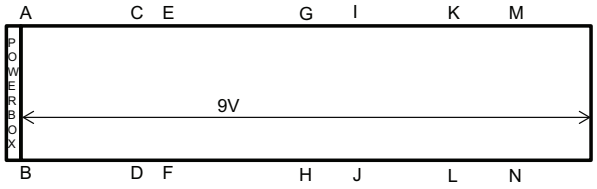
NOTE: See Table 1 for mounting weight at reference points.

Fig. 23 — Unit Mounting Weight Reference Points (cont)

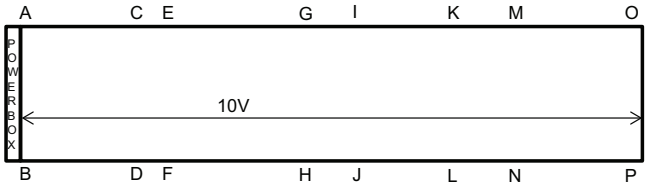
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
350	X		



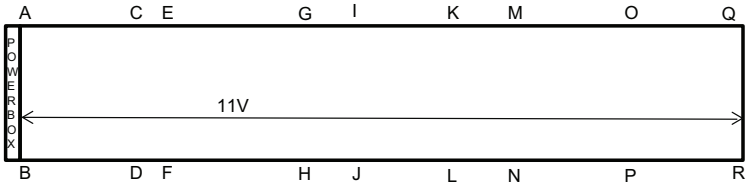
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
350		X	
400	X		



UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
350			X
400		X	
450	X		



UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
400, 40A			X
450, 45A		X	
500, 50A	X		



UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
450, 45A			X
500, 50A		X	

Letters indicate the general location of the mounting weight locations on the base of the unit.

NOTE: See Table 1 for mounting weight at reference points.

Fig. 23 — Unit Mounting Weight Reference Points (cont)

Table 2 — Physical Data — English
30XV 140T-180T

UNIT 30XV WITH FLOODED EVAPORATOR	140			160			180		
TIER (MODEL NO. POS. 10)	S	M	H	S	M	H	S	M	H
CHASSIS DIMENSIONS (in.) (Note 1)									
Length	207.6	207.6	254.6	207.6	254.6	301.6	207.6	254.6	301.6
Width	88.0								
Height	98.9								
OPERATING WEIGHT (lb) (Note 2)									
Al-Cu Condenser Coil	—	11,680	12,718	11,694	12,930	13,949	11,896	12,982	14,090
Cu-Cu Condenser Coil	—	12,805	14,124	12,819	14,336	15,636	13,021	14,418	15,717
MCHX Condenser Coil	11,110	11,175	12,058	11,175	12,245	13,112	11,362	12,317	13,184
SHIPPING WEIGHT (lb) (Note 3)									
Al-Cu Condenser Coil	—	11,492	12,530	11,506	12,720	13,739	11,686	12,755	13,864
Cu-Cu Condenser Coil	—	12,617	13,936	12,631	14,126	15,425	12,811	14,191	15,490
MCHX Condenser Coil	10,937	10,987	11,870	10,987	12,035	12,902	11,152	12,090	12,957
REFRIGERANT TYPE	R-134a EXV Controlled System								
COMPRESSOR	Semi-Hermetic Twin Rotary Screw								
Quantity	2	2	2	2	2	2	2	2	2
Full Load Capacity Split Ckt A / Ckt B (Note 4)	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
Oil Charge (gal), Ckt A / Ckt B	4.0/4.0	4.0/4.0	4.0/4.0	4.0/4.0	4.0/4.0	4.0/4.0	4.0/4.0	4.0/4.0	4.0/4.0
Minimum Capacity (%) (Note 5)	<15	<15	<15	<15	<15	<15	<15	<15	<15
EVAPORATOR									
Net Fluid Volume (gal.)	21	23	23	23	25	25	25	27	27
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220	220	220
Maximum Water-Side Pressure (psig)	300	300	300	300	300	300	300	300	300
WATER CONNECTIONS									
Drain (NPT, in.)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Standard (2-Pass), Inlet and Outlet, Victaulic (in.)	5	5	5	5	5	5	5	5	5
1 Pass, Inlet and Outlet, Victaulic (in.)	5	5	5	5	5	5	5	5	5
3 Pass, Inlet and Outlet, Victaulic (in.)	4	4	4	4	5	5	5	5	5
CONDENSER FANS (Note 6)	Shrouded Axial Type, Vertical Discharge								
Maximum Fan Speed (rpm)	1140	1140	1140	1140	1140	1140	1140	1140	1140
No. Fans (Ckt A / Ckt B)	4/4	4/4	5/5	4/4	5/5	6/6	4/4	5/5	6/6
Total Maximum Airflow (cfm) RTPF Coil	105,120	105,120	131,400	105,120	131,400	157,680	105,120	131,400	157,680
Total Maximum Airflow (cfm) MCHX Coil	116,000	116,000	145,000	116,000	145,000	174,000	116,000	145,000	174,000
CONDENSER COILS									
No. Coils (Ckt A / Ckt B)	4/4	4/4	5/5	4/4	5/5	6/6	4/4	5/5	6/6

LEGEND

Cu — Copper
Al — Aluminum
EXV — Electronic Expansion Valve
MCHX — Microchannel Heat Exchanger
RTPF — Round Tube/Plate Fin

NOTES:
1. More precise dimensions are available on the certified prints.
2. Unit operating weight includes the base unit plus coil trim panels, but no other options or accessories are included. Selected options and accessories will slightly alter the unit weight. See Fig. 23 for the mounting weight detail.
3. Unit shipping weight includes the base unit plus coil trim panels, but no other options or accessories are included. The shipping weight is equal to the operating weight (indicated above) minus the weight of the water in the evaporator.
4. The capacity split is indicative of both compressors operating at a full load condition. The actual capacity split at most operating conditions will not match these values.
5. The minimum capacity is less than 15% for units sized at full capacity. Please use the chiller selection program to determine actual minimum capacity values.
6. Standard-tier models without the variable speed condenser fan option have a maximum speed of 840 rpm.

Table 2 — Physical Data — English (cont)
30XV 200T-250T

UNIT 30XV WITH FLOODED EVAPORATOR	200			225			250		
TIER (MODEL NO. POS. 10)	S	M	H	S	M	H	S	M	H
CHASSIS DIMENSIONS (in.) (Note 1)									
Length	254.6	301.6	348.6	251.7	298.7	345.7	298.7	345.7	392.7
Width	88.0								
Height	98.9								
OPERATING WEIGHT (lb) (Note 2)									
Al-Cu Condenser Coil	13,012	14,260	15,200	13,910	14,965	16,013	16,191	17,514	18,712
Cu-Cu Condenser Coil	14,433	15,947	17,167	15,316	16,681	18,179	17,878	19,482	20,961
MCHX Condenser Coil	12,317	13,413	14,202	13,185	14,108	14,975	15,415	16,566	17,614
SHIPPING WEIGHT (lb) (Note 3)									
Al-Cu Condenser Coil	12,785	14,004	14,943	13,627	14,667	15,715	15,893	17,117	18,316
Cu-Cu Condenser Coil	14,207	15,690	16,911	15,033	16,383	17,881	17,580	19,085	20,565
MCHX Condenser Coil	12,090	13,157	13,946	12,902	13,810	14,677	15,117	16,170	17,217
REFRIGERANT TYPE	R-134a EXV Controlled System								
COMPRESSOR	Semi-Hermetic Twin Rotary Screw								
Quantity	2	2	2	2	2	2	2	2	2
Full Load Capacity Split Ckt A / Ckt B (Note 4)	50/50	50/50	50/50	60/40	60/40	60/40	50/50	50/50	50/50
Oil Charge (gal), Ckt A / Ckt B	4.0/4.0	4.0/4.0	4.0/4.0	6.0/4.0	6.0/4.0	6.0/4.0	6.0/6.0	6.0/6.0	6.0/6.0
Minimum Capacity (%) (Note 5)	<15	<15	<15	<15	<15	<15	<15	<15	<15
EVAPORATOR									
Net Fluid Volume (gal.)	27	31	31	34	36	36	36	48	48
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220	220	220
Maximum Water-Side Pressure (psig)	300	300	300	300	300	300	300	300	300
WATER CONNECTIONS									
Drain (NPT, in.)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Standard (2-Pass), Inlet and Outlet, Victaulic (in.)	5	5	5	5	5	5	5	5	5
1 Pass, Inlet and Outlet, Victaulic (in.)	5	8	8	8	8	8	8	8	8
3 Pass, Inlet and Outlet, Victaulic (in.)	5	5	5	6	6	6	6	8	8
CONDENSER FANS (Note 6)	Shrouded Axial Type, Vertical Discharge								
Maximum Fan Speed (rpm)	1140	1140	1140	1140	1140	1140	1140	1140	1140
No. Fans (Ckt A / Ckt B)	5/5	6/6	7/7	6/4	7/5	8/6	6/6	7/7	8/8
Total Maximum Airflow (cfm) RTPF Coil	131,400	157,680	183,960	131,400	157,680	183,960	157,680	183,960	210,240
Total Maximum Airflow (cfm) MCHX Coil	145,000	174,000	203,000	145,000	174,000	203,000	174,000	203,000	232,000
CONDENSER COILS									
No. Coils (Ckt A / Ckt B)	5/5	6/6	7/7	6/4	7/5	8/6	6/6	7/7	8/8

LEGEND

Cu — Copper
Al — Aluminum
EXV — Electronic Expansion Valve
MCHX — Microchannel Heat Exchanger
RTPF — Round Tube/Plate Fin

NOTES:
1. More precise dimensions are available on the certified prints.
2. Unit operating weight includes the base unit plus coil trim panels, but no other options or accessories are included. Selected options and accessories will slightly alter the unit weight. See Fig. 23 for the mounting weight detail.
3. Unit shipping weight includes the base unit plus coil trim panels, but no other options or accessories are included. The shipping weight is equal to the operating weight (indicated above) minus the weight of the water in the evaporator.
4. The capacity split is indicative of both compressors operating at a full load condition. The actual capacity split at most operating conditions will not match these values.
5. The minimum capacity is less than 15% for units sized at full capacity. Please use the chiller selection program to determine actual minimum capacity values.
6. Standard-tier models without the variable speed condenser fan option have a maximum speed of 840 rpm.

Table 2 — Physical Data — English (cont)
30XV 275T-325T

UNIT 30XV WITH FLOODED EVAPORATOR	275			300			325		
TIER (MODEL NO. POS. 10)	**S**	**M**	**H**	**S**	**M**	**H**	**S**	**M**	**H**
CHASSIS DIMENSIONS (in.) (Note 1)									
Length	298.7	345.7	392.7	345.7	392.7	439.7	392.7	439.7	486.7
Width	88.0								
Height	98.9								
OPERATING WEIGHT (lb) (Note 2)									
Al-Cu Condenser Coil	16,660	17,582	18,600	17,582	18,679	19,670	18,679	19,757	20,832
Cu-Cu Condenser Coil	18,347	19,550	20,849	19,550	20,928	22,201	20,928	22,288	23,644
MCHX Condenser Coil	15,864	16,624	17,492	16,624	17,560	18,401	17,560	18,478	19,407
SHIPPING WEIGHT (lb) (Note 3)									
Al-Cu Condenser Coil	16,263	17,164	18,183	17,164	18,237	19,228	18,237	19,287	20,362
Cu-Cu Condenser Coil	17,950	19,132	20,432	19,132	20,486	21,759	20,486	21,818	23,174
MCHX Condenser Coil	15,467	16,207	17,074	16,207	17,118	17,959	17,118	18,008	18,937
REFRIGERANT TYPE	R-134a EXV Controlled System								
COMPRESSOR	Semi-Hermetic Twin Rotary Screw								
Quantity	2	2	2	2	2	2	2	2	2
Full Load Capacity Split Ckt A / Ckt B (Note 4)	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
Oil Charge (gal), Ckt A / Ckt B	6.0/6.0	6.0/6.0	6.0/6.0	6.0/6.0	6.0/6.0	6.0/6.0	6.0/6.0	6.0/6.0	6.0/6.0
Minimum Capacity (%) (Note 5)	<15	<15	<15	<15	<15	<15	<15	<15	<15
EVAPORATOR									
Net Fluid Volume (gal.)	48	50	50	50	53	53	53	56	56
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220	220	220
Maximum Water-Side Pressure (psig)	300	300	300	300	300	300	300	300	300
WATER CONNECTIONS									
Drain (NPT, in.)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Standard (2-Pass), Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8
1 Pass, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8
3 Pass, Inlet and Outlet, Victaulic (in.)	8	8	8	6	6	6	6	8	8
CONDENSER FANS (Note 6)	Shrouded Axial Type, Vertical Discharge								
Maximum Fan Speed (rpm)	1140	1140	1140	1140	1140	1140	1140	1140	1140
No. Fans (Ckt A / Ckt B)	6/6	7/7	8/8	7/7	8/8	9/9	8/8	9/9	10/10
Total Maximum Airflow (cfm) RTPF Coil	157,680	183,960	210,240	183,960	210,240	236,520	210,240	236,520	262,800
Total Maximum Airflow (cfm) MCHX Coil	174,000	203,000	232,000	203,000	232,000	261,000	232,000	261,000	290,000
CONDENSER COILS									
No. Coils (Ckt A / Ckt B)	6/6	7/7	8/8	7/7	8/8	9/9	8/8	9/9	10/10

LEGEND

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NOTES:
1. More precise dimensions are available on the certified prints.
2. Unit operating weight includes the base unit plus coil trim panels, but no other options or accessories are included. Selected options and accessories will slightly alter the unit weight. See Fig. 23 for the mounting weight detail.
3. Unit shipping weight includes the base unit plus coil trim panels, but no other options or accessories are included. The shipping weight is equal to the operating weight (indicated above) minus the weight of the water in the evaporator.
4. The capacity split is indicative of both compressors operating at a full load condition. The actual capacity split at most operating conditions will not match these values.
5. The minimum capacity is less than 15% for units sized at full capacity. Please use the chiller selection program to determine actual minimum capacity values.
6. Standard-tier models without the variable speed condenser fan option have a maximum speed of 840 rpm.

Table 2 — Physical Data — English (cont)
30XV 350T-500T

UNIT 30XV WITH FLOODED EVAPORATOR	350			400			450			500	
TIER (MODEL NO. POS. 10)	**S**	**M**	**H**	**S**	**M**	**H**	**S**	**M**	**H**	**S**	**M**
CHASSIS DIMENSIONS (in.) (Note 1)											
Length	405.7	452.7	499.7	452.7	499.7	546.6	499.7	546.6	593.7	546.6	593.7
Width	88.0										
Height	98.9										
OPERATING WEIGHT (lb) (Note 2)											
Al-Cu Condenser Coil	21,746	23,580	24,510	25,010	26,140	27,069	26,140	27,938	29,012	27,938	29,247
Cu-Cu Condenser Coil	23,995	26,111	27,321	27,540	28,951	30,162	28,951	31,030	—	31,030	—
MCHX Condenser Coil	20,672	22,326	23,104	23,760	24,729	25,507	24,729	26,356	27,221	26,356	27,337
SHIPPING WEIGHT (lb) (Note 3)											
Al-Cu Condenser Coil	21,232	23,034	23,963	24,463	25,567	26,496	25,567	27,241	28,315	27,241	28,510
Cu-Cu Condenser Coil	23,481	25,564	26,774	26,993	28,379	29,589	28,379	30,334	—	30,334	—
MCHX Condenser Coil	20,158	21,779	22,557	23,213	24,156	24,935	24,156	25,660	26,525	25,660	26,600
REFRIGERANT TYPE	R-134a EXV Controlled System										
COMPRESSOR	Semi-Hermetic Twin Rotary Screw										
Quantity	2	2	2	2	2	2	2	2	2	2	2
Full Load Capacity Split Ckt A / Ckt B (Note 4)	60/40	60/40	60/40	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
Oil Charge (gal), Ckt A / Ckt B	7.5/6.0	7.5/6.0	7.5/6.0	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5	7.5/7.5
Minimum Capacity (%) (Note 5)	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
EVAPORATOR											
Net Fluid Volume (gal.)	62	66	66	66	69	69	69	83	83	83	88
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220	220	220	220	220
Maximum Water-Side Pressure (psig)	300	300	300	300	300	300	300	300	300	300	300
WATER CONNECTIONS											
Drain (NPT, in.)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Standard (2-pass), Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8	8	8
1 Pass, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8	8	8
3 Pass, Inlet and Outlet, Victaulic (in.)	8	6	6	6	6	6	6	6	6	6	6
CONDENSER FANS (Note 6)	Shrouded Axial Type, Vertical Discharge										
Maximum Fan Speed (rpm)	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140
No. Fans (Ckt A / Ckt B)	9/7	10/8	11/9	9/9	10/10	11/11	10/10	11/11	12/12	11/11	12/12
Total Maximum Airflow (cfm) RTPF Coil	210,240	236,520	262,800	236,520	262,800	289,080	262,800	289,080	315,360	289,080	315,360
Total Maximum Airflow (cfm) MCHX Coil	232,000	261,000	290,000	261,000	290,000	319,000	290,000	319,000	348,000	319,000	348,000
CONDENSER COILS											
No. Coils (Ckt A / Ckt B)	9/7	10/8	11/9	9/9	10/10	11/11	10/10	11/11	12/12	11/11	12/12

LEGEND

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RTPF — Round Tube/Plate Fin

NOTES:
1. More precise dimensions are available on the certified prints.
2. Unit operating weight includes the base unit plus coil trim panels, but no other options or accessories are included. Selected options and accessories will slightly alter the unit weight. See Fig. 23 for the mounting weight detail.
3. Unit shipping weight includes the base unit plus coil trim panels, but no other options or accessories are included. The shipping weight is equal to the operating weight (indicated above) minus the weight of the water in the evaporator.
4. The capacity split is indicative of both compressors operating at a full load condition. The actual capacity split at most operating conditions will not match these values.
5. The minimum capacity is less than 15% for units sized at full capacity. Please use the chiller selection program to determine actual minimum capacity values.
6. Standard-tier models without the variable speed condenser fan option have a maximum speed of 840 rpm.

Table 3 — Physical Data — SI
30XV 140T-180T

UNIT 30XV WITH FLOODED EVAPORATOR	140			160			180		
TIER (MODEL NO. POS. 10)	**S**	**M**	**H**	**S**	**M**	**H**	**S**	**M**	**H**
CHASSIS DIMENSIONS (mm) (Note 1)									
Length	5273	5273	6467	5273	6467	7661	5273	6467	7661
Width					2236				
Height					2513				
OPERATING WEIGHT (kg) (Note 2)									
Al-Cu Condenser Coil	—	5298	5769	5304	5865	6327	5396	5889	6391
Cu-Cu Condenser Coil	—	5808	6406	5814	6503	7092	5906	6540	7129
MCHX Condenser Coil	5039	5069	5469	5069	5554	5948	5154	5587	5980
SHIPPING WEIGHT (kg) (Note 3)									
Al-Cu Condenser Coil	—	5213	5684	5219	5770	6232	5301	5786	6288
Cu-Cu Condenser Coil	—	5723	6321	5729	6407	6997	5811	6437	7026
MCHX Condenser Coil	4961	4984	5384	4984	5459	5852	5058	5484	5877
REFRIGERANT TYPE	R-134a EXV Controlled System								
COMPRESSOR	Semi-Hermetic Twin Rotary Screw								
Quantity	2	2	2	2	2	2	2	2	2
Full Load Capacity Split Ckt A / Ckt B (Note 4)	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
Oil Charge (Liters), Ckt A / Ckt B	15.1/15.1	15.1/15.1	15.1/15.1	15.1/15.1	15.1/15.1	15.1/15.1	15.1/15.1	15.1/15.1	15.1/15.1
Minimum Capacity (%) (Note 5)	<15	<15	<15	<15	<15	<15	<15	<15	<15
EVAPORATOR									
Net Fluid Volume (L)	78	85	85	85	95	95	95	103	103
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517	1517	1517
Maximum Water-Side Pressure (kPa)	2068	2068	2068	2068	2068	2068	2068	2068	2068
WATER CONNECTIONS									
Drain (NPT, in.)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Standard (2-Pass), Inlet and Outlet, Victaulic (in.)	5	5	5	5	5	5	5	5	5
1 Pass, Inlet and Outlet, Victaulic (in.)	5	5	5	5	5	5	5	5	5
3 Pass, Inlet and Outlet, Victaulic (in.)	4	4	4	4	5	5	5	5	5
CONDENSER FANS (Note 6)	Shrouded Axial Type, Vertical Discharge								
Maximum Fan Speed (r/s)	19	19	19	19	19	19	19	19	19
No. Fans (Ckt A / Ckt B)	4/4	4/4	5/5	4/4	5/5	6/6	4/4	5/5	6/6
Total Airflow (L/s) RTPF COIL	49 406	49 406	61 758	49 406	61 758	74 110	49 406	61 758	74 110
Total Airflow (L/s) MCHX COIL	54 520	54 520	68 150	54 520	68 150	81 780	54 520	68 150	81 780
CONDENSER COILS									
No. Coils (Ckt A / Ckt B)	4/4	4/4	5/5	4/4	5/5	6/6	4/4	5/5	6/6

LEGEND

Cu — Copper
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RTPF — Round Tube/Plate Fin

NOTES:
1. More precise dimensions are available on the certified prints.
2. Unit operating weight includes the base unit plus coil trim panels, but no other options or accessories are included. Selected options and accessories will slightly alter the unit weight. See Fig. 23 for the mounting weight detail.
3. Unit shipping weight includes the base unit plus coil trim panels, but no other options or accessories are included. The shipping weight is equal to the operating weight (indicated above) minus the weight of the water in the evaporator.
4. The capacity split is indicative of both compressors operating at a full load condition. The actual capacity split at most operating conditions will not match these values.
5. The minimum capacity is less than 15% for units sized at full capacity. Please use the chiller selection program to determine actual minimum capacity values.
6. Standard-tier models without the variable speed condenser fan option have a maximum speed of 14 r/s.

Table 3 — Physical Data — SI (cont)
30XV 200T-250T

UNIT 30XV WITH FLOODED EVAPORATOR	200			225			250		
TIER (MODEL NO. POS. 10)	S	M	H	S	M	H	S	M	H
CHASSIS DIMENSIONS (mm) (Note 1)									
Length	6467	7661	8855	6392	7586	8780	7586	8780	9974
Width					2236				
Height					2513				
OPERATING WEIGHT (kg) (Note 2)									
Al-Cu Condenser Coil	5902	6468	6894	6310	6788	7263	7344	7944	8488
Cu-Cu Condenser Coil	6547	7233	7787	6947	7566	8246	8109	8837	9508
MCHX Condenser Coil	5587	6084	6442	5981	6399	6793	6992	7514	7989
SHIPPING WEIGHT (kg) (Note 3)									
Al-Cu Condenser Coil	5799	6352	6778	6181	6653	7128	7209	7764	8308
Cu-Cu Condenser Coil	6444	7117	7671	6819	7431	8110	7974	8657	9328
MCHX Condenser Coil	5484	5968	6326	5852	6264	6657	6857	7334	7810
REFRIGERANT TYPE	R-134a EXV Controlled System								
COMPRESSOR	Semi-Hermetic Twin Rotary Screw								
Quantity	2	2	2	2	2	2	2	2	2
Full Load Capacity Split Ckt A / Ckt B (Note 4)	50/50	50/50	50/50	60/40	60/40	60/40	50/50	50/50	50/50
Oil Charge (Liters), Ckt A / Ckt B	15.1/15.1	15.1/15.1	15.1/15.1	22.7/15.1	22.7/15.1	22.7/15.1	22.7/22.7	22.7/22.7	22.7/22.7
Minimum Capacity (%) (Note 5)	<15	<15	<15	<15	<15	<15	<15	<15	<15
EVAPORATOR									
Net Fluid Volume (L)	103	116	116	128	135	135	135	180	180
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517	1517	1517
Maximum Water-Side Pressure (kPa)	2068	2068	2068	2068	2068	2068	2068	2068	2068
WATER CONNECTIONS									
Drain (NPT, in.)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Standard (2-Pass), Inlet and Outlet, Victaulic (in.)	5	5	5	5	5	5	5	5	5
1 Pass, Inlet and Outlet, Victaulic (in.)	5	8	8	8	8	8	8	8	8
3 Pass, Inlet and Outlet, Victaulic (in.)	5	5	5	6	6	6	6	8	8
CONDENSER FANS (Note 6)	Shrouded Axial Type, Vertical Discharge								
Maximum Fan Speed (r/s)	19	19	19	19	19	19	19	19	19
No. Fans (Ckt A / Ckt B)	5/5	6/6	7/7	6/4	7/5	8/6	6/6	7/7	8/8
Total Airflow (L/s) RTPF COIL	61 758	74 110	86 461	61 758	74 110	86 461	74 110	86 461	98 813
Total Airflow (L/s) MCHX COIL	68 150	81 780	95 410	68 150	81 780	95 410	81 780	95 410	109 040
CONDENSER COILS									
No. Coils (Ckt A / Ckt B)	5/5	6/6	7/7	6/4	7/5	8/6	6/6	7/7	8/8

LEGEND

Cu — Copper
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NOTES:
1. More precise dimensions are available on the certified prints.
2. Unit operating weight includes the base unit plus coil trim panels, but no other options or accessories are included. Selected options and accessories will slightly alter the unit weight. See Fig. 23 for the mounting weight detail.
3. Unit shipping weight includes the base unit plus coil trim panels, but no other options or accessories are included. The shipping weight is equal to the operating weight (indicated above) minus the weight of the water in the evaporator.
4. The capacity split is indicative of both compressors operating at a full load condition. The actual capacity split at most operating conditions will not match these values.
5. The minimum capacity is less than 15% for units sized at full capacity. Please use the chiller selection program to determine actual minimum capacity values.
6. Standard-tier models without the variable speed condenser fan option have a maximum speed of 14 r/s.

Table 3 — Physical Data — SI (cont)
30XV 275T-325T

UNIT 30XV WITH FLOODED EVAPORATOR	275			300			325		
TIER (MODEL NO. POS. 10)	**S**	**M**	**H**	**S**	**M**	**H**	**S**	**M**	**H**
CHASSIS DIMENSIONS (mm) (Note 1)									
Length	7586	8780	9974	8780	9974	11 168	9974	11 168	12 362
Width					2236				
Height					2513				
OPERATING WEIGHT (kg) (Note 2)									
Al-Cu Condenser Coil	7557	7975	8437	7975	8473	8922	8473	8962	9449
Cu-Cu Condenser Coil	8322	8868	9457	8868	9493	10 070	9493	10 109	10 725
MCHX Condenser Coil	7196	7541	7934	7541	7965	8346	7965	8381	8803
SHIPPING WEIGHT (kg) (Note 3)									
Al-Cu Condenser Coil	7377	7786	8248	7786	8272	8722	8272	8749	9236
Cu-Cu Condenser Coil	8142	8678	9268	8678	9292	9870	9292	9896	10 511
MCHX Condenser Coil	7016	7351	7745	7351	7765	8146	7765	8168	8590
REFRIGERANT TYPE	R-134a EXV Controlled System								
COMPRESSOR	Semi-Hermetic Twin Rotary Screw								
Quantity	2	2	2	2	2	2	2	2	2
Full Load Capacity Split Ckt A / Ckt B (Note 4)	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
Oil Charge (Liters), Ckt A / Ckt B	22.7/22.7	22.7/22.7	22.7/22.7	22.7/22.7	22.7/22.7	22.7/22.7	22.7/22.7	22.7/22.7	22.7/22.7
Minimum Capacity (%) (Note 5)	<15	<15	<15	<15	<15	<15	<15	<15	<15
EVAPORATOR									
Net Fluid Volume (L)	180	189	189	189	201	201	201	213	213
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517	1517	1517
Maximum Water-Side Pressure (kPa)	2068	2068	2068	2068	2068	2068	2068	2068	2068
WATER CONNECTIONS									
Drain (NPT, in.)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Standard (2-Pass), Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8
1 Pass, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8
3 Pass, Inlet and Outlet, Victaulic (in.)	8	8	8	6	6	6	6	8	8
CONDENSER FANS (Note 6)	Shrouded Axial Type, Vertical Discharge								
Maximum Fan Speed (r/s)	19	19	19	19	19	19	19	19	19
No. Fans (Ckt A / Ckt B)	6/6	7/7	8/8	7/7	8/8	9/9	8/8	9/9	10/10
Total Airflow (L/s) RTPF COIL	74 110	86 461	98 813	86 461	98 813	111 164	98 813	111 164	123 516
Total Airflow (L/s) MCHX COIL	81 780	95 410	109 040	95 410	109 040	122 670	109 040	122 670	136 300
CONDENSER COILS									
No. Coils (Ckt A / Ckt B)	6/6	7/7	8/8	7/7	8/8	9/9	8/8	9/9	10/10

LEGEND

Cu — Copper
Al — Aluminum
EXV — Electronic Expansion Valve
MCHX — Microchannel Heat Exchanger
RTPF — Round Tube/Plate Fin

NOTES:
1. More precise dimensions are available on the certified prints.
2. Unit operating weight includes the base unit plus coil trim panels, but no other options or accessories are included. Selected options and accessories will slightly alter the unit weight. See Fig. 23 for the mounting weight detail.
3. Unit shipping weight includes the base unit plus coil trim panels, but no other options or accessories are included. The shipping weight is equal to the operating weight (indicated above) minus the weight of the water in the evaporator.
4. The capacity split is indicative of both compressors operating at a full load condition. The actual capacity split at most operating conditions will not match these values.
5. The minimum capacity is less than 15% for units sized at full capacity. Please use the chiller selection program to determine actual minimum capacity values.
6. Standard-tier models without the variable speed condenser fan option have a maximum speed of 14 r/s.

Table 3 — Physical Data — SI (cont)
30XV 350T-500T

UNIT 30XV WITH FLOODED EVAPORATOR	350			400			450			500	
TIER (MODEL NO. POS. 10)	**S**	**M**	**H**	**S**	**M**	**H**	**S**	**M**	**H**	**S**	**M**
CHASSIS DIMENSIONS (mm) (Note 1)											
Length	10 304	11 498	12 692	11 498	12 692	13 883	12 692	13 883	15 080	13 883	15 080
Width	2236										
Height	2513										
OPERATING WEIGHT (kg) (Note 2)											
Al-Cu Condenser Coil	9864	10 696	11 117	11 344	11 857	12 278	11 857	12 672	13 159	12 672	13 266
Cu-Cu Condenser Coil	10 884	11 844	12 393	12 492	13 132	13 681	13 132	14 075	-	14 075	-
MCHX Condenser Coil	9377	10 127	10 480	10 777	11 217	11 570	11 217	11 955	12 347	11 955	12 400
SHIPPING WEIGHT (kg) (Note 3)											
Al-Cu Condenser Coil	9631	10 448	10 869	11 096	11 597	12 019	11 597	12 357	12 844	12 357	12 932
Cu-Cu Condenser Coil	10 651	11 596	12 145	12 244	12 872	13 421	12 872	13 759	-	13 759	-
MCHX Condenser Coil	9144	9879	10 232	10 529	10 957	11 310	10 957	11 639	12 032	11 639	12 066
REFRIGERANT TYPE	R-134a EXV Controlled System										
COMPRESSOR	Semi-Hermetic Twin Rotary Screw										
Quantity	2	2	2	2	2	2	2	2	2	2	2
Full Load Capacity Split Ckt A / Ckt B (Note 4)	60/40	60/40	60/40	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
Oil Charge (Liters), Ckt A / Ckt B	28.4/22.7	28.4/22.7	28.4/22.7	28.4/28.4	28.4/28.4	28.4/28.4	28.4/28.4	28.4/28.4	28.4/28.4	28.4/28.4	28.4/28.4
Minimum Capacity (%) (Note 5)	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
EVAPORATOR											
Net Fluid Volume (L)	233	248	248	248	260	260	260	316	316	316	334
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517	1517	1517	1517	1517
Maximum Water-Side Pressure (kPa)	2068	2068	2068	2068	2068	2068	2068	2068	2068	2068	2068
WATER CONNECTIONS											
Drain (NPT, in.)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Standard (2-pass), Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8	8	8
1 Pass, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8	8	8
3 Pass, Inlet and Outlet, Victaulic (in.)	8	6	6	6	6	6	6	6	6	6	6
CONDENSER FANS (Note 6)	Shrouded Axial Type, Vertical Discharge										
Maximum Fan Speed (r/s)	19	19	19	19	19	19	19	19	19	19	19
No. Fans (Ckt A / Ckt B)	9/7	10/8	11/9	9/9	10/10	11/11	10/10	11/11	12/12	11/11	12/12
Total Airflow (L/s) RTPF COIL	98 813	111 164	123 516	111 164	123 516	135 868	123 516	135 868	148 219	135 868	148 219
Total Airflow (L/s) MCHX COIL	109 040	122 670	136 300	122 670	136 300	149 930	136 300	149 930	163 560	149 930	163 560
CONDENSER COILS											
No. Coils (Ckt A / Ckt B)	9/7	10/8	11/9	9/9	10/10	11/11	10/10	11/11	12/12	11/11	12/12

LEGEND

Cu — Copper
Al — Aluminum
EXV — Electronic Expansion Valve
MCHX — Microchannel Heat Exchanger
RTPF — Round Tube/Plate Fin

NOTES:
1. More precise dimensions are available on the certified prints.
2. Unit operating weight includes the base unit plus coil trim panels, but no other options or accessories are included. Selected options and accessories will slightly alter the unit weight. See Fig. 23 for the mounting weight detail.
3. Unit shipping weight includes the base unit plus coil trim panels, but no other options or accessories are included. The shipping weight is equal to the operating weight (indicated above) minus the weight of the water in the evaporator.
4. The capacity split is indicative of both compressors operating at a full load condition. The actual capacity split at most operating conditions will not match these values.
5. The minimum capacity is less than 15% for units sized at full capacity. Please use the chiller selection program to determine actual minimum capacity values.
6. Standard-tier models without the variable speed condenser fan option have a maximum speed of 14 r/s.

EXPORT SHIPPING RAILS — Units with the export packaging option will include steel shipping rails. These should be removed prior to mounting the unit. There are mounting bolts on the outside of the base frame and in the lower top section of the frame. If sound enclosure is included, the top cover may need to be removed to access all of the bolts. The bag retainer rail is used to secure the bag for shipping. These may be removed before or after mounting the unit. See Fig. 24.

RIGGING UNIT (See Fig. 25-26) — The 30XV units with Greenspeed® intelligence are designed for overhead rigging and it is important that this method be used. Holes are provided in frame base channels, marked for rigging (see rigging label on unit). Field-supplied shackles are required to facilitate lifting. Secure the shackles to the base rails at the points noted on the rigging label.

Do not use a forklift truck to move the units.

Use spreader bars to keep cables or chains clear of unit sides. As further protection, plywood sheets may be placed against sides of unit, behind cables or chains. Run cables or chains to a central suspension point so that angle from horizontal is not less than 45 degrees. Raise and set unit down carefully. See Fig. 25 and 26 for rigging centers of gravity.

For shipping, some domestic units and all export units are mounted on steel skids under entire base of unit. Skid can be removed before unit is moved to installation site. Lift the unit from above to remove skid. See Fig. 25 and 26 for rigging centers of gravity. If the unit was shipped with a shipping bag, the bag must be removed to gain access to the rigging holes in the base rail.

If overhead rigging is not available, the unit can be moved on rollers or dragged. When unit is moved on rollers, the unit skid, if equipped, must be removed. To lift the unit, use jacks at the rigging points. Use a minimum number of rollers to distribute the load such that the rollers are no more than 6 ft (1.8 m) apart. If the unit is to be dragged, lift the unit as described above, and place unit on a pad. Apply moving force to the pad, and not the unit. When in its final location, raise the unit and remove the pad. If the unit was shipped with protection, it must be removed before start-up. The shipping bag for export units must be removed before start-up.

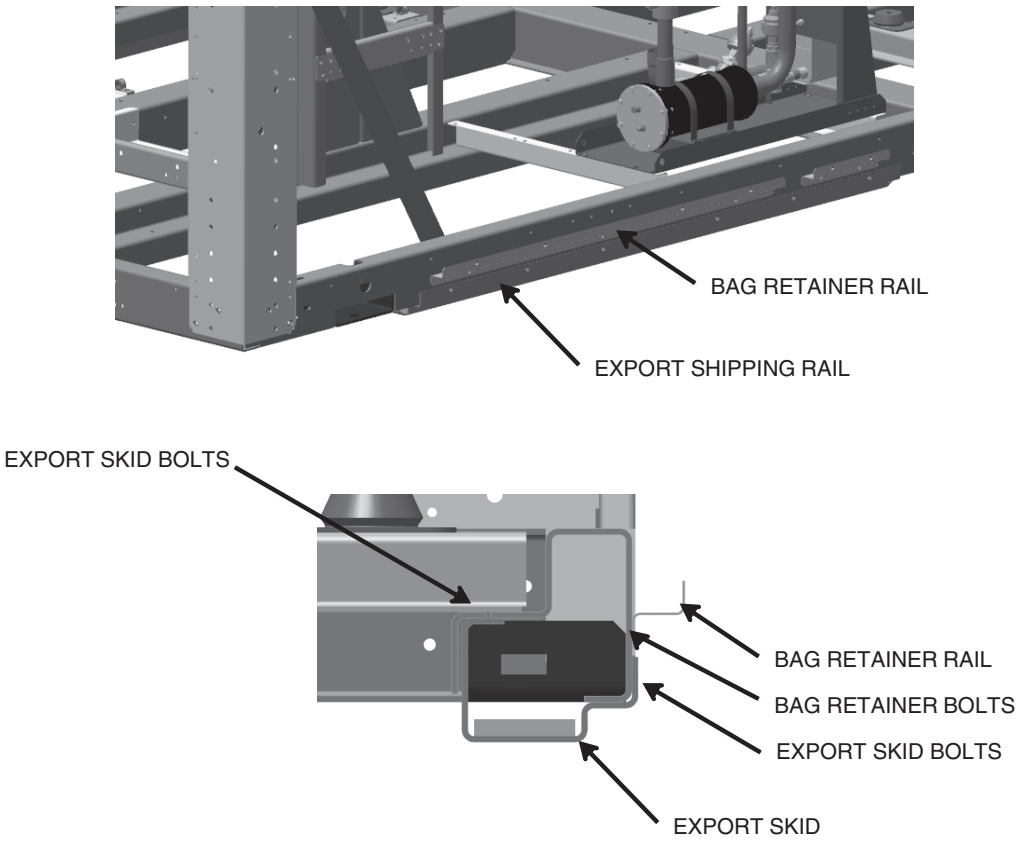


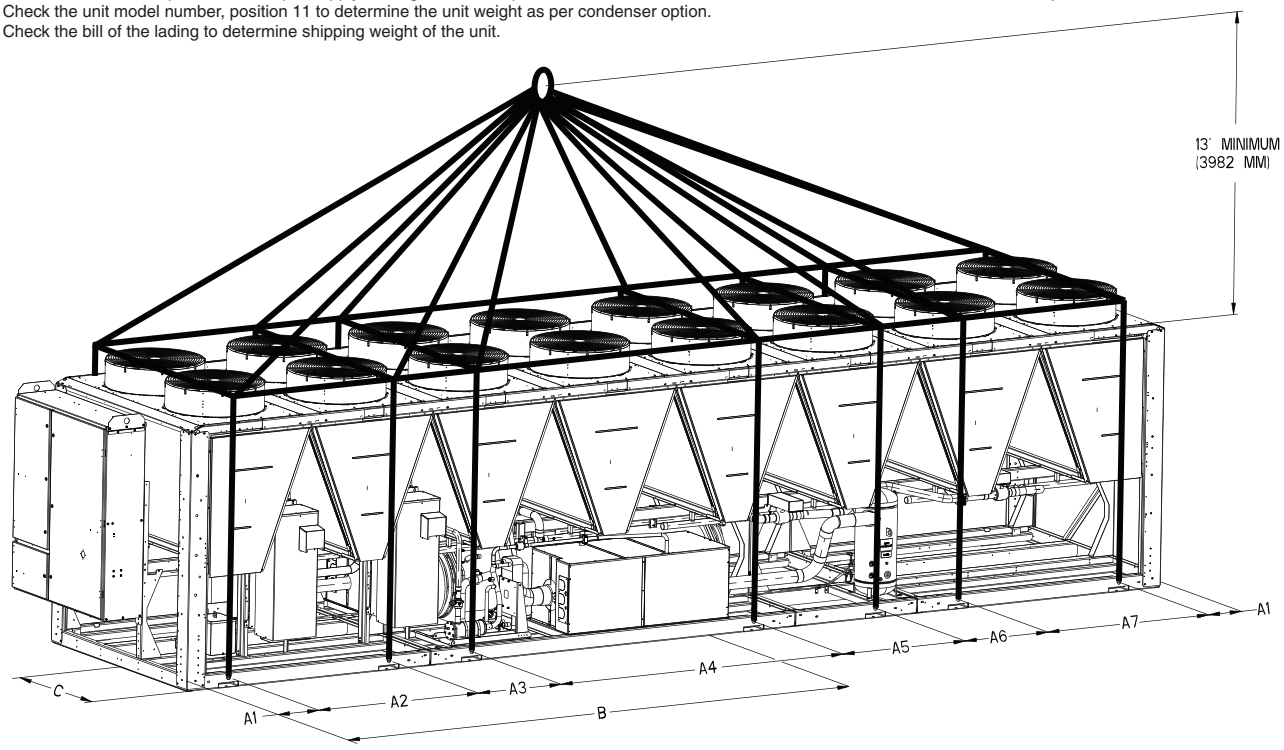
Fig. 24 — Export Shipping Rails

⚠ CAUTION - NOTICE TO RIGGERS:

ALL PANELS MUST BE IN PLACE WHEN RIGGING. DO NOT FORK THESE UNITS IF NO SKID IS SUPPLIED.

NOTE:

1. 1.50 dia (38.1mm) lifting holes provided for field-supplied clevis.
2. Rig with a minimum of 25 ft (7620mm) length chain or cables.
3. If central lifting point is used, it must be a minimum of 13 ft (3962mm) above the top of the unit.
4. Spreader bars made from steel or double nailed, and notched 2x6s approximately 8 ft (2438mm) long, must be placed just above the top of the unit and coils.
5. If overhead rigging is not available, the unit can be moved on roller or dragged. When unit is moved on roller, the unit steel skid, if equipped, must be removed. To lift the unit, use jacks at rigging points. Use a minimum of one roller every 6 ft (1829mm) to distribute the load. If the unit is to be dragged, lift the unit as described above, and place unit on a pad. Apply moving force to the pad, not the unit. When in its final location, raise the unit and remove the pad.
6. Check the unit model number, position 11 to determine the unit weight as per condenser option.
7. Check the bill of the lading to determine shipping weight of the unit.



Model Number	Model Number Position 10	Max Shipping Wt w/o Packaging		Max Shipping Wt with Packaging		Max Shipping Wt w/o Packaging		Max Shipping Wt with Packaging		Max Shipping Wt w/o Packaging		Max Shipping Wt with Packaging		Lifting Holes																		Center of Gravity							
		Model number position 11=4 ,5		Model number position 11=4 ,5		Model number position 11= - ,1,2		Model number position 11= - ,1,2		Model number position 11= 0,3		Model number position 11= 0,3		A1		A2		A3		A4		A5		A6		A7		A8		A9		B						C	
		MCHX*		MCHX*		Al/CU**		Al/CU**		CU/CU***		CU/CU***																		MCHX*		Al/CU**		CU/CU***			
		lbs	Kgs	lbs	Kgs	lbs	Kgs	lbs	Kgs	lbs	Kgs	lbs	Kgs	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
30XVA140	S	10937	4961	12161	5516									16.1	409	78.0	1982	78.0	1982													92.5	2349	92.5	2350	92.7	2354	45.6	1158
	M	10987	4984	12211	5539	11492	5213	12717	5768	12617	5723	13905	6307	16.1	409	78.0	1982	78.0	1982													92.5	2350	92.6	2352	92.7	2355	45.6	1157
	H	11870	5384	13217	5995	12530	5684	13878	6295	13936	6321	15347	6962	16.1	409	78.0	1982	78.0	1982	47.0	1194											103.0	2616	103.8	2636	105.2	2673	45.7	1162
30XVA160	S	10987	4984	12211	5539	11506	5219	12731	5775	12631	5729	13919	6314	16.1	409	78.0	1982	78.0	1982													91.9	2335	92.0	2337	92.2	2342	45.6	1157
	M	12035	5459	13382	6070	12720	5770	14068	6381	14126	6407	15537	7048	16.1	409	78.0	1982	78.0	1982													102.4	2602	103.3	2623	104.7	2660	45.7	1161
	H	12902	5852	14356	6512	13739	6232	15193	6891	15425	6997	16943	7685	16.1	409	78.0	1982	78.0	1982	47.0	1194											115.2	2927	116.8	2968	119.6	3037	45.8	1163
30XVA180	S	11152	5059	12376	5614	11686	5301	12911	5856	12811	5811	14099	6395	16.1	409	78.0	1982	78.0	1982													92.4	2348	92.5	2350	92.7	2353	45.5	1156
	M	12090	5484	13437	6095	12755	5786	14103	6397	14191	6437	15602	7077	16.1	409	78.0	1982	78.0	1982	47.0	1194											103.4	2627	104.2	2647	105.6	2682	45.7	1161
	H	12957	5877	14411	6537	13864	6289	15318	6948	15490	7026	17008	7715	16.1	409	78.0	1982	78.0	1982	32.0	813	62.0	1575									115.4	2932	117.1	2973	119.8	3042	45.8	1163
30XVA200	S	12090	5484	13437	6095	12785	5799	14133	6411	14207	6444	15618	7084	16.1	409	78.0	1982	78.0	1982													102.7	2609	103.6	2630	105.0	2667	45.7	1161
	M	13157	5968	14611	6628	14004	6352	15458	7012	15690	7117	17208	7806	16.1	409	78.0	1982	78.0	1982	47.0	1194											115.4	2932	117.0	2972	119.7	3040	45.8	1162
	H	13946	6326	15557	7057	14943	6778	16555	7509	16911	7671	18587	8431	16.1	409	78.0	1982	78.0	1982	32.0	813	62.0	1575									128.6	3267	131.1	3330	135.1	3431	45.9	1165
30XVA225	S	12902	5852	14535	6593	13627	6181	15261	6922	15033	6819	16794	7618	16.1	409	62.0	1575	32.0	813	109.0	2769											124.7	3166	124.3	3157	123.6	3140	46.7	1187
	M	13810	6264	15568	7062	14667	6653	16426	7451	16383	7431	18269	8287	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194									134.4	3414	134.8	3424	135.5	3441	46.8	1189
	H	14677	6657	16541	7503	15715	7128	17578	7974	17881	8111	19872	9014	16.1	409	62.0	1575	32.0	813	109.0	2769	32.0	813	62.0	1575							145.8	3704	147.0	3733	149.0	3784	46.8	1189
30XVA250	S	15117	6857	16979	7702	15893	7209	17756	8054	17580	7974	19571	8877	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194									137.7	3497	137.9	3502	138.2	3510	45.4	1152
	M	16170	7335	18156	8235	17117	7764	19103	8665	19085	8657	21263	9645	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194	47.2	1200							148.8	3779	149.9	3809	151.3	3843	45.5	1155
	H	17217	7810	19309	8758	18316	8308	20408	9257	20565	9328	22849	10364	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194	32.0	813	62.0	1575					160.8	4083	162.6	4130	165.5	4203	45.6	1157
30XVA275	S	15467	7016	17329	7861	16263	7377	18126	8222	17950	8142	19941	9045	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194									138.7	3522	139.2	3535	139.0	3531	45.4	1154
	M	16207	7351	18193	8252	17164	7786	19150	8687	19132	8678	21246	9637	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194	47.2	1200							148.7	3778	149.9	3808	151.3	3842	45.6	1157
	H	17074	7745	19166	8694	18183	8248	20275	9197	20432	9268	22716	10304	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194		813	62.0	1575					160.7	4081	162.5	4128	165.4	4201	45.6	1159
30XVA300	S	16207	7351	18193	8252	17164	7786	19150	8687	19132	8678	21246	9637	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194	47.2	1200							148.9	3783	150.1	3812	151.4	3846	45.6	1157
	M	17118	7765	19210	8714	18237	8272	20329	9221	20486	9292	22770	10328	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194	32.0	813	62.0	1575					161.3	4098	163.2	4144	165.9	4215	45.7	1162
	H	17959	8146	20208	9166	19228	8722	21478	9742	21759	9870	24200	10977	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194	32.0	813	109.0	2769					174.3	4426	176.8	4491	181.1	4599	45.8	1164
30XVA325	S	17118	7765	19210	8714	18237	8272	20329	9221	20486	9292	22770	10328	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194	32.0	813	62.0	1575					160.4	4075	162.3	4123	165.2	4196	45.6	1157
	M	18008	8168	20257	9189	19287	8749	21537	9769	21818	9896	24259	11004	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194	32.0	813	109.0	2769					174.4	4429	176.9	4494	181.2	4601	45.8	1164
	H	18937	8590	21315	9668	20362	9236	22740	10315	23174	10512	25744	11677	16.1	409	62.0	1575	32.0	813	109.0	2769	47.0	1194	32.0	813	78.0	1982	78.0	1982			188.4	4786	191.7	4869	197.3	5012	45.9	1166

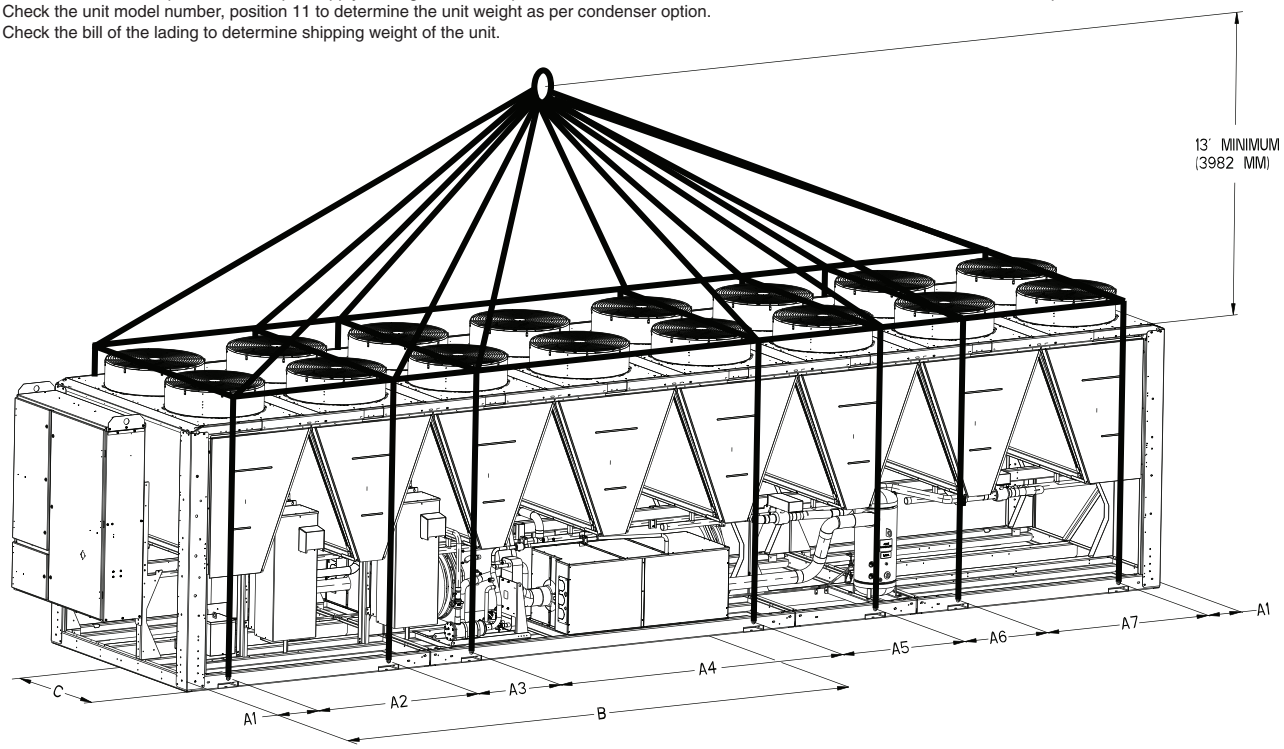
* Condenser coil (MCHX): Microchannel (MCHX) Design
**Condenser coil (Al/CU): Aluminum fins/Copper Tubing
***Condenser coil (CU/CU): Copper fins/Copper Tubing

Fig. 25 — Unit Rigging Label Detail 30XV140-500

⚠ CAUTION - NOTICE TO RIGGERS:

ALL PANELS MUST BE IN PLACE WHEN RIGGING. DO NOT FORK THESE UNITS IF NO SKID IS SUPPLIED.

NOTE:
1. 1.50 dia (38.1mm) lifting holes provided for field-supplied clevis.
2. Rig with a minimum of 25 ft (7620mm) length chain or cables.
3. If central lifting point is used, it must be a minimum of 13 ft (3962mm) above the top of the unit.
4. Spreader bars made from steel or double nailed, and notched 2x6s approximately 8 ft (2438mm) long, must be placed just above the top of the unit and coils.
5. If overhead rigging is not available, the unit can be moved on roller or dragged. When unit is moved on roller, the unit steel skid, if equipped, must be removed. To lift the unit, use jacks at rigging points. Use a minimum of one roller every 6 ft (1829mm) to distribute the load. If the unit is to be dragged, lift the unit as described above, and place unit on a pad. Apply moving force to the pad, not the unit. When in its final location, raise the unit and remove the pad.
6. Check the unit model number, position 11 to determine the unit weight as per condenser option.
7. Check the bill of the lading to determine shipping weight of the unit.



Model Number	Model Number Position 10	Max Shipping Wt w/o Packaging		Max Shipping Wt with Packaging		Max Shipping Wt w/o Packaging		Max Shipping Wt with Packaging		Max Shipping Wt w/o Packaging		Max Shipping Wt with Packaging		Lifting Holes																Center of Gravity							
		Model number position 11=4 ,5		Model number position 11=4 ,5		Model number position 11= - ,1,2		Model number position 11= - ,1,2		Model number position 11= 0,3		Model number position 11= 0,3																		B						C	
		MCHX*		MCHX*		Al/CU**		Al/CU**		CU/CU***		CU/CU***		A1		A2		A3		A4		A5		A6		A7		A8		A9		MCHX*		AL/CU**		CU/CU***			
		lbs	Kgs	lbs	Kgs	lbs	Kgs	lbs	Kgs	lbs	Kgs	lbs	Kgs	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
30XVA350	S	20158	9144	22027	9991	21232	9631	23101	10478	23481	10651	25542	11586	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	47.0	1194	16.1	409	0.0						157.0	3987	158.6	4029	161.6	4105	47.5	1206
	M	21779	9879	23781	10787	23034	10448	25036	11356	25564	11596	27758	12591	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	47.0	1194	47.0	1194	47.0	1194					170.9	4341	173.3	4401	177.2	4502	47.5	1207
	H	22557	10232	24694	11201	23963	10869	26099	11839	26774	12145	29103	13201	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	47.0	1194	47.0	1194	32.0	813	16.1	409			182.9	4646	186.1	4728	191.5	4865	47.5	1207
30XVA400	S	23213	10529	24984	11333	24463	11096	26234	11899	26993	12244	29020	13163	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575							179.3	4554	181.1	4599	184.1	4676	46.0	1169
	M	24156	10957	26061	11821	25567	11597	27472	12461	28379	12872	30539	13853	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	47.0	1194					190.6	4841	193.2	4907	197.6	5019	46.1	1171
	H	24935	11310	26968	12233	26496	12019	28530	12941	29589	13421	31879	14460	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	32.0	813	62.01	1575			202.9	5153	206.4	5241	212.1	5387	46.1	1172
30XVA450	S	24156	10957	26054	11818	25567	11597	27465	12458	28379	12872	30532	13849	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	47.0	1194					190.5	4839	193.1	4905	197.5	5017	46.1	1171
	M	25660	11639	27686	12558	27241	12357	29268	13276	30334	13759	32616	14795	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	32.0	813	62.01	1575			203.5	5168	206.9	5255	212.4	5396	46.2	1174
	H	26525	12032	28691	13014	28315	12844	30482	13827	-	-	-	-	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	32.0	813	109	2769			216.2	5491	220.4	5599	-	-	46.3	1175
30XVA500	S	25660	11639	27686	12558	27241	12357	29268	13276	30334	13759	32616	14795	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	32.0	813	62.01	1575			203.5	5168	206.9	5255	212.4	5396	46.2	1174
	M	26600	12066	28766	13048	28510	12932	30677	13915	-	-	-	-	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	32.0	813	109	2769			216.2	5492	220.8	5607	-	-	46.3	1175

30XV50034101 Rev C

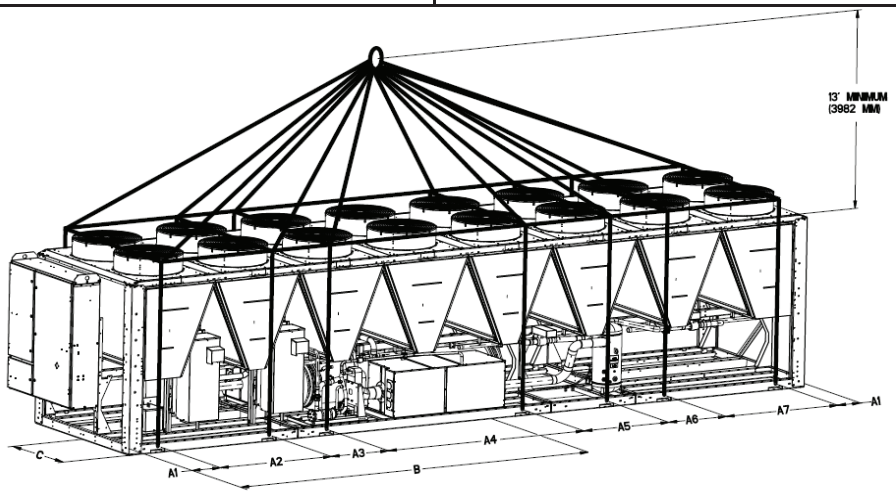
* Condenser coil (MCHX): Microchannel (MCHX) Design
**Condenser coil (Al/CU): Aluminum fins/Copper Tubing
***Condenser coil (CU/CU): Copper fins/Copper Tubing

Fig. 25 — Unit Rigging Label Detail 30XV140-500 (cont)

⚠ CAUTION - NOTICE TO RIGGERS:

ALL PANELS MUST BE IN PLACE WHEN RIGGING. DO NOT FORK THESE UNITS IF NO SKID IS SUPPLIED.

NOTE:	REMARQUE:
1. 1.50 dia (38.1mm) lifting holes provided for field supplied clevis.	1
2. Rig with a minimum of 25 ft (7620mm) length chain or cabels.	2
3 If central lifting point is used, it must be minimum of 13 ft. (3962mm) above the top of the unit.	3
4. Spreader bars made from steel or double nailed, and notched 2x6's approximately 8 ft.(2438mm) long, must be placed just above the top of the unit and coils.	4
5. If overhead rigging is not available, the unit can be moved on roller or dragged. When unit is moved on roller, the unit steel skid, if equippled, must be removed. To lift the unit, use jacks at rigging points. Use a minimum of one roller every 6 ft. (1829mm) to distribuite the load. If the unit is to be dragged, lift the unit as described above, and place unit on a pad. Apply moving force to the pad, not the unit. When in its final location. raise the unit and remove the pad.	5
6. Check the unit model number, position 11 to determine the unit weight as per condenser option.	6
7. Check the bill of the lading to determine shipping weight of the unit.	7



Model Number	Model Number Position 10	Max Shipping Wt w/o Packaging		Max Shipping Wt with Packaging		Max Shipping Wt w/o Packaging		Max Shipping Wt with Packaging		Max Shipping Wt w/o Packaging		Max Shipping Wt with Packaging		Lifting Holes														Center of Gravity							
		Model number position 11=4 ,5		Model number position 11=4 ,5		Model number position 11= - ,1,2		Model number position 11= - ,1,2		Model number position 11= 0,3		Model number position 11= 0,3																B						C	
		MCHX*		MCHX*		Al/CU**		Al/CU**		CU/CU***		CU/CU***		A1		A2		A3		A4		A5		A6		A7		MCHX*		AL/CU**		CU/CU***			
		lbs	Kgs	lbs	Kgs	lbs	Kgs	lbs	Kgs	lbs	Kgs	lbs	Kgs	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
30XVA40A	H	23132	10493	24902	11296	24433	11083	26203	11886	27185	12331	29212	13250	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	179.3	4554	181.1	4599	184.1	4676	46.0	1169
30XVA45A	M	23857	10821	25627	11625	25178	11421	26948	12224	27930	12669	29957	13588	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	179.3	4554	181.1	4599	184.1	4676	46.0	1169
30XVA45A	H	23897	10840	25668	11643	25266	11461	27037	12264	28270	12823	30297	13743	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	179.3	4554	181.1	4599	184.1	4676	46.0	1169
30XVA50A	S	23857	10821	25627	11625	25178	11421	26948	12224	27930	12669	29957	13588	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	179.3	4554	181.1	4599	184.1	4676	46.0	1169
30XVA50A	M	23972	10874	25743	11677	25461	11549	27232	12352	28465	12912	30492	13831	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575	179.3	4554	181.1	4599	184.1	4676	46.0	1169
30XVA40B	H	1803	818	2057	933	2064	936	2318	1051	2404	1090	2658	1206	16.1	409	62.0	1575											49.3	1253	49.3	1253	49.3	1253	43.9	1115
30XVA45B	M	1803	818	2057	933	2064	936	2318	1051	2404	1090	2658	1206	16.1	409	62.0	1575											49.3	1253	49.3	1253	49.3	1253	43.9	1115
30XVA45B	H	2628	1192	3040	1379	3049	1383	3461	1570	3559	1615	3971	1801	16.1	409	109.0	2769											72.9	1852	72.9	1852	72.9	1852	43.9	1115
30XVA50B	S	1803	818	2057	933	2064	936	2318	1051	2404	1090	2658	1206	16.1	409	62.0	1575											49.3	1253	49.3	1253	49.3	1253	43.9	1115
30XVA50B	M	2628	1192	3040	1379	3049	1383	3461	1570	3559	1615	412	186.7	16.1	409	109.0	2769											72.9	1852	72.9	1852	72.9	1852	43.9	1115

* Condenser coil (MCHX): Microchannel (MCHX) Design
**Condenser coil (Al/CU): Aluminum fins/Copper Tubing
***Condenser coil (CU/CU): Copper fins/Copper Tubing

Fig. 26 — Unit Rigging Detail 30XV400-500 Split Units

Step 3 — Make Refrigerant, Evaporator Fluid and Drain Piping Connections

⚠ CAUTION

Units are designed for Victaulic-type water-side connections. If chilled water piping is to be welded to the water nozzles, remove the chilled water flow switch, entering and leaving water thermistors before welding connecting piping. Reinstall flow switch and thermistors after welding is complete. Failure to remove these devices may cause unit damage.

⚠ CAUTION

Factory-supplied insulation is not flammable but can be damaged by welding sparks and open flame. Protect insulation with a wet canvas cover. Failure to protect insulation may cause unit damage.

SPLIT UNIT ASSEMBLY — The 30XV 400H, 450M, 450H, 500S, and 500M units are offered as two separate modules from the factory as an option. This allows the units to fit in containers for export shipping. Table 4 shows the module designation.

Table 4 — Split Unit Sizes

UNIT SIZE	MODULE A	MODULE B
400	40A	40B
450	45A	45B
500	50A	50B

These modules must be assembled in the field including brazing and wiring. A split unit installation kit is provided for this process. The kit is located in the control box of module A. Steps for this assembly are below.

Module Placement — Place the modules in the final installation location in the orientation shown in Fig. 27. The ball valves, open on one end, should be facing each other. There may be a 0 to 2.0-in. (0 to 50.8 mm) gap between the units.

Brazing

⚠ CAUTION

The ball valves on the liquid and discharge line must remain closed prior to brazing the mating tubes and pulling a vacuum on this area for both liquid and discharge side. Do not open the valves until indicated in the brazing instructions below. Failure to follow the steps below could result in a release of refrigerant or air and moisture in the system. Work should be performed by a skilled HVAC technician.

The gas and liquid lines must be brazed together using standard refrigeration practices. The interconnecting tubes are in the control panel in a box. Be sure plastic caps are removed from ball valves on unit and connecting tubes. Figure 28 shows the orientation of the tubes. If the joint is inaccessible by reaching from under the braces, remove the rails. The tube with the male connection may need to be trimmed to fit. Make sure the ball valves remain closed until the brazing and vac process is complete. Ball valves should be protected from heat by using a wet rag. Schrader cores and fusible plugs should also be removed from the interconnecting tubes supplied in the kit prior to brazing. Nitrogen purge must be applied during brazing. Schrader taps on ball valves can be used for a connection.

After brazing is complete:

- Leak check.
- Pull vacuum on the connection tube to at least 500 microns.
- Hold vacuum for 5 minutes to confirm braze integrity.
- Open all 4 ball valves to complete the connection process.

NOTE: A nitrogen purge can be applied to this section. Connections are at each ball valve.

Ball Valve Wiring —The 450H and 500M units have an automated discharge ball valve on the B module. See Fig. 29. A cable is tied on the end of the A module. Route the cable to the ball valve and connect to the actuator using the plugs. Secure the cable using wire ties, making sure the cable is not against tubes or sharp edges.

Units may be ordered with manual ball valves instead of the automated valve option. For this case, there is no wiring required for the valves.

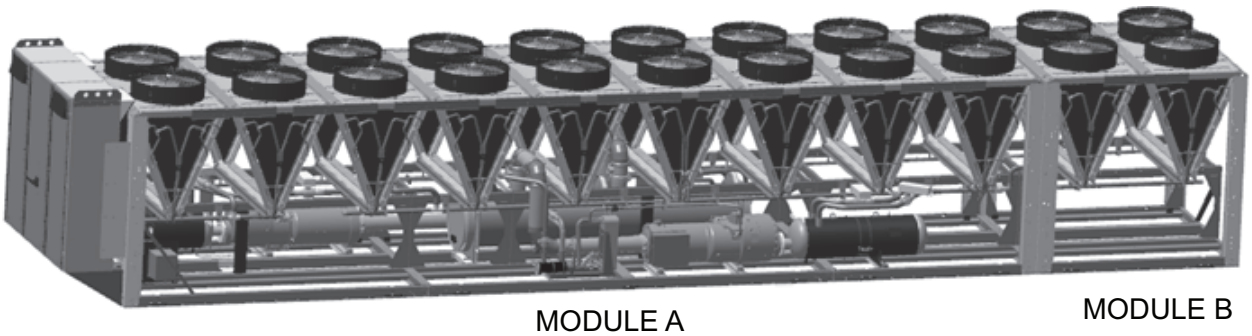


Fig. 27 — Split Unit Module Placement

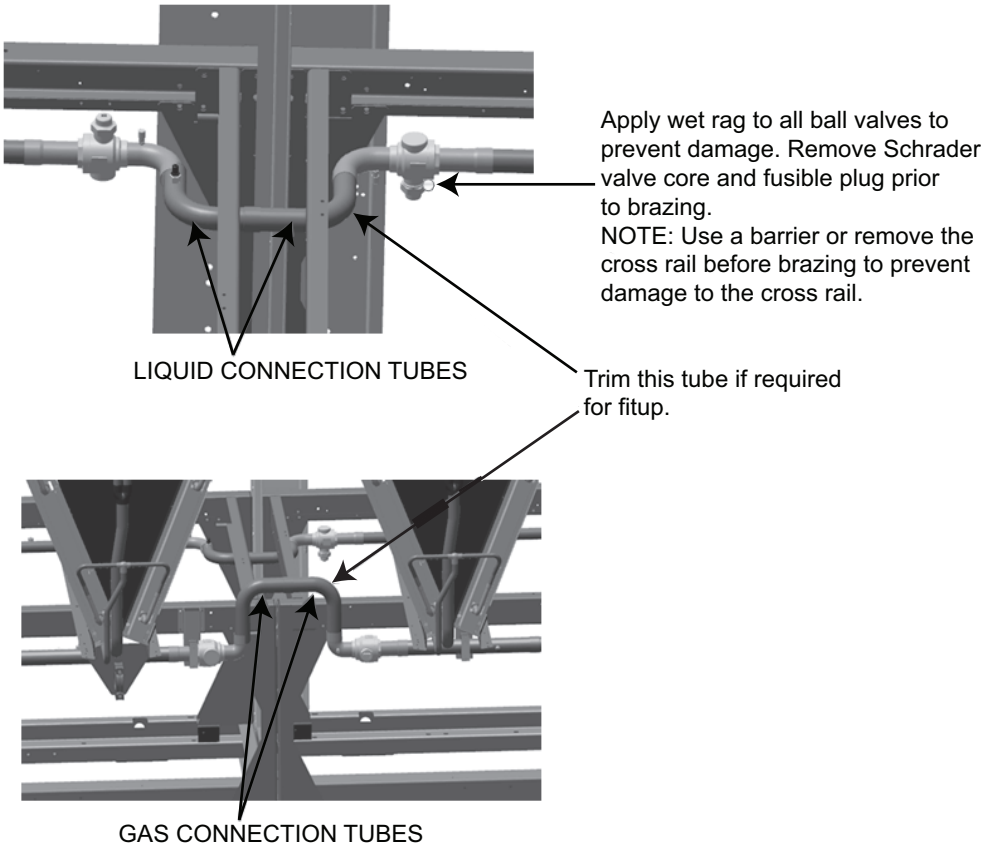


Fig. 28 — Brazing Gas and Liquid Lines

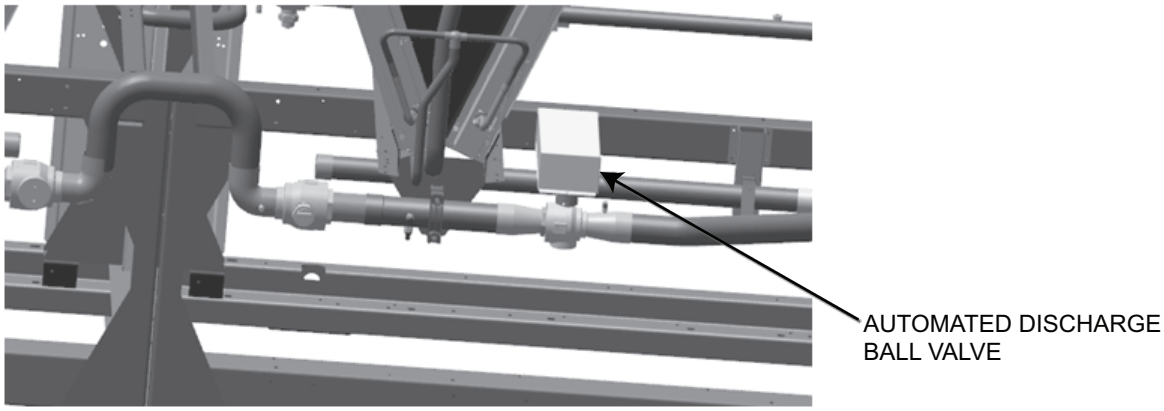


Fig. 29 — Automated Discharge Ball Valve

Fan VFD Wiring, 400H, 450M, and 500S (with Fan VFD Option) — The fan cable for fan motors on module B is tied at end of module A. Route the cable through the wiring rail similar to existing fan cables on module A. To get around the corner posts, bring the cables out of the rail, around the corner posts, and back into the rail. Use conduit included in the installation kit, 30XV70001001, to cover the section of the wiring outside of the rail. The kit is located in the control panel of module A unit. The cables will be routed through the bottom of the B2 fan drive using the existing strain relief. See Fig. 30. Terminate wires on the motor wiring terminal board inside drive. The terminal board is color-coded to match fan motor wires. Torque lugs to 16 in.-lbs. The drive cover is removed with a T20 bit.

Fan VFD Wiring, 450H, 500M —To connect power to fan drive B2, use the conduit tied to the end of the A module. Route this conduit to drive B2. See Fig. 31. Connect to bottom of drive and route wires to terminal block. Connect wires to L1, L2, L3, and ground. Torque lugs to 16 in.-lbs. The drive cover is removed with a T20 bit.

Fan Cable Wiring, 500S (without Fan VFD Option) — The fan cable for fan motors on module B is tied at end of the module A unit. Route through the wiring rail similar to existing fan cables on module A. To get around the corner posts, bring the cables out of the rail, around the corner posts, and back into the rail. Use the conduit included in the split unit installation kit to cover the section of wiring outside of the rail. The cables will be routed to the fan wiring box. Route cables into fan wiring box. See Fig. 32. Plug fan cables to matching plugs in box. The plugs are labeled for identification.

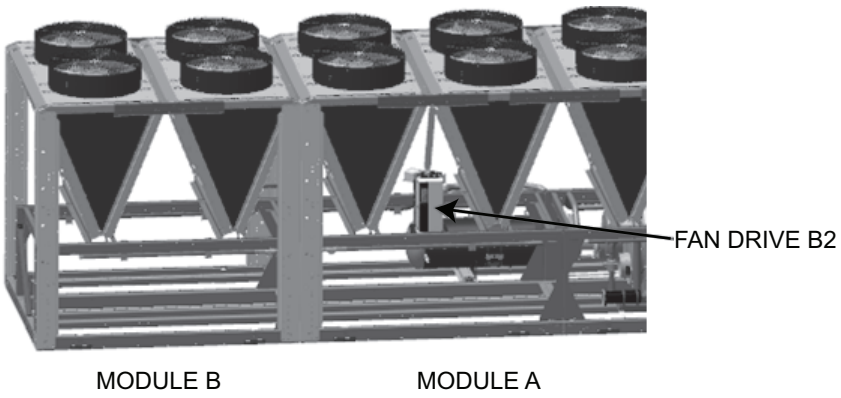


Fig. 30 — Fan VFD Wiring, 400H, 450M, and 500S

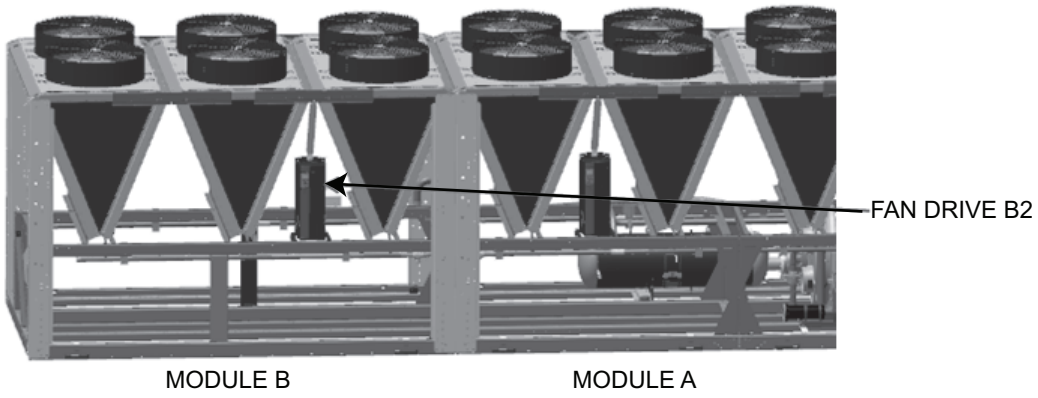
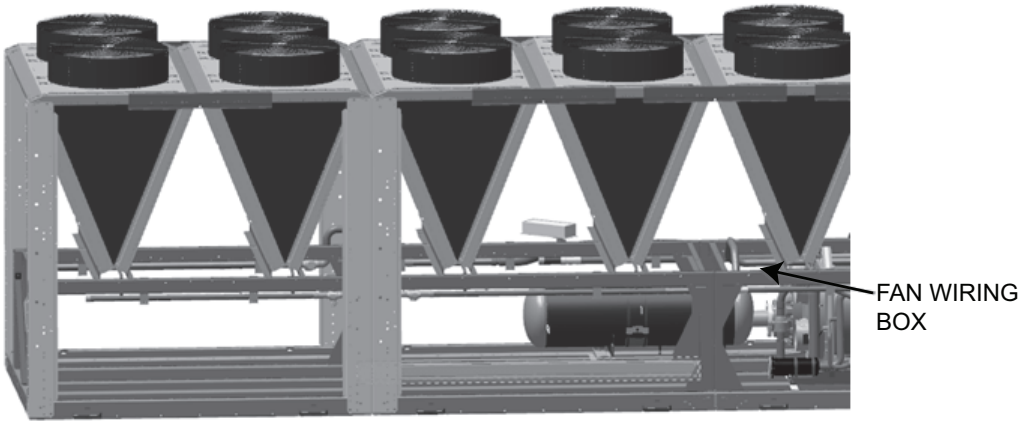


Fig. 31 — Fan VFD Wiring, 450H and 500M



NOTE: If unit has grilles or louvered panels these will have to be removed in order to access the fan wiring box.

Fig. 32 — Fan Cable Wiring, 500S

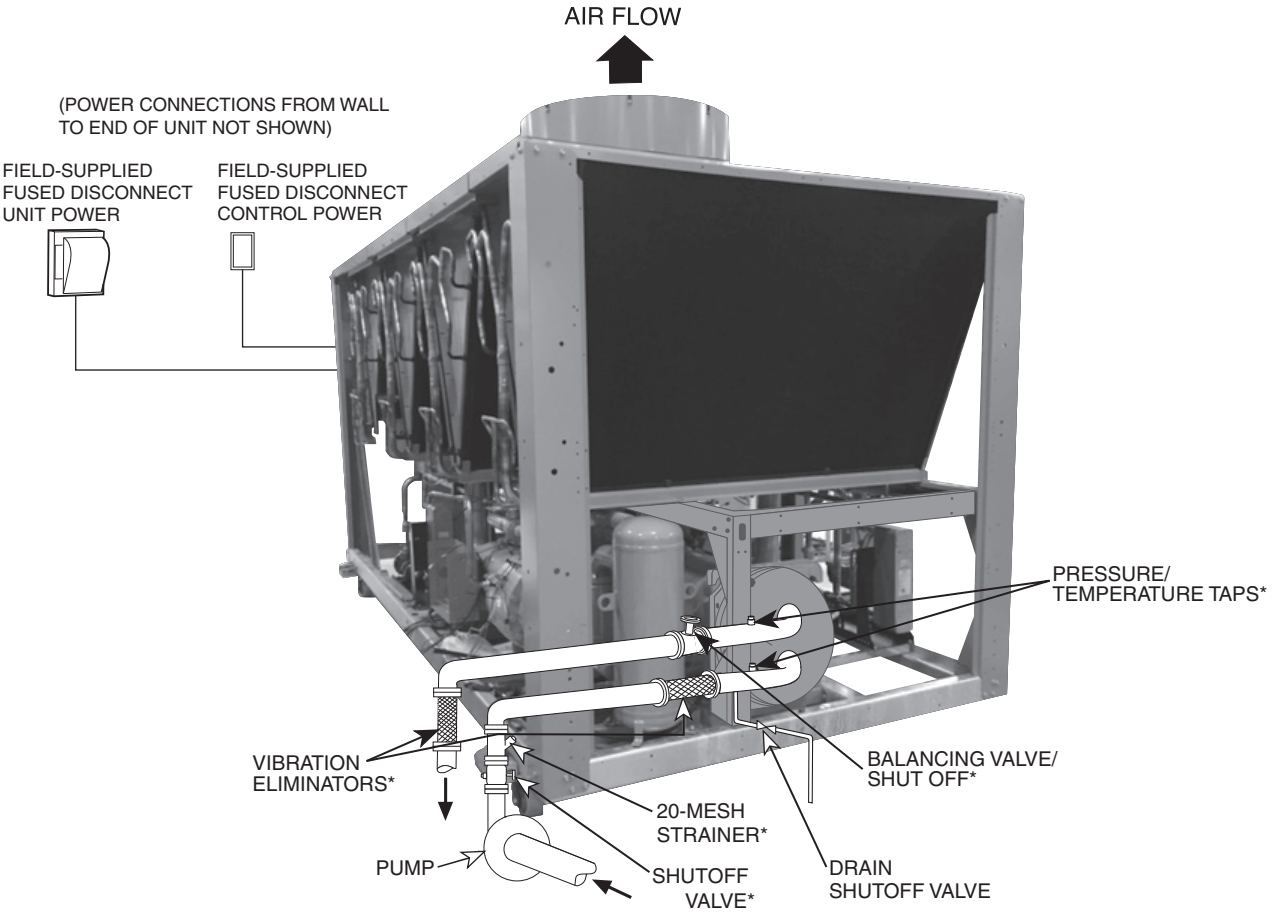
GENERAL — See Fig. 2-22 and Fig. 33 for typical piping and wiring. The Victaulic connections allow clamp-on connection of water lines to the evaporators in all 30XV units. See Table 5 for 30XV unit operating range and Tables 6 and 7 for minimum and maximum water flow. A flow sensor is factory-installed in the side of the entering fluid nozzle. See Fig. 34.

Minimum Loop Volume — The preferred minimum loop volume is dependent on the type of application. In order to obtain leaving water temperature stability for comfort cooling applications, a minimum of 3 gallons per ton (3.25 liters per kW) is required on all unit sizes. For process cooling applications, applications where high stability is critical, or operation at ambient temperatures below 32°F (0°C) is expected, the loop volume should be increased to 6 to 10 gallons per ton (6.46 to 10.76 liters per kW) of cooling. In order to achieve this volume, it may be necessary to add a water storage tank to the water loop. If a storage tank is added to the system, it should be properly vented so that the tank can be completely filled and all air eliminated. Failure to do so could cause lack

of pump stability and poor system operation. Any storage tank that is placed in the water loop should have internal baffles to allow thorough mixing of the fluid. See Fig. 35.

System Piping — Proper system design and installation procedures should be followed closely. The system must be constructed with pressure tight components and thoroughly tested for installation leaks.

Installation of water systems should follow sound engineering practice as well as applicable local and industry standards. Improperly designed or installed systems may cause unsatisfactory operation and/or system failure. Consult a water treatment specialist or appropriate literature for information regarding filtration, water treatment, and control devices. Figures 36 and 37 show a typical installation and components.



LEGEND

FD — Fused Disconnect

Airflow Through Condenser

Chilled Water Piping

Power Wiring

*Field-installed.

NOTES:
1. Chiller must be installed level to maintain proper compressor oil return.
2. Piping shown are general points-of-connection guides only and are not intended for a specific installation. Wiring and piping shown are for a quick overview of system and are not in accordance with recognized standards.
3. All wiring must comply with applicable local and national codes.
4. All piping must follow standard piping techniques. Refer to Carrier System Design Manual or appropriate ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) handbook for details.
5. A 20 mesh strainer is required within 10 ft (3 m) of the evaporator.

Fig. 33 — 30XV Typical Piping and Wiring

Table 5 — Operating Temperature Limits Applicable to All Sizes

TEMPERATURE	F	C
Maximum Ambient Temperature	125	51.7
Minimum Ambient Temperature*	32	0.0
Maximum Evaporator EWT†	95	35.0
Maximum Evaporator LWT	60	15.6
Minimum Evaporator LWT	38**	3.3**
Maximum Evaporator Glycol EWT†	95	35.0
Minimum Evaporator Glycol LWT	30	16.7

LEGEND

EWT — Entering Fluid (Water) Temperature
LWT — Leaving Fluid (Water) Temperature

* Lowest allowable ambient temperature for the standard unit to start and operate is 32°F (0°C). With the inclusion of wind baffles and variable speed fans (field fabricated and installed), the unit is capable to start as low as 0°F (–17.8°C) and to operate as low as –20°F (–29°C) ambient temperature.

†For sustained operation, EWT should not exceed 70°F (21.1°C).

**Unit requires brine fluid for operation below this temperature.

Table 6 — Min/Max Water Flow — Standard (2-Pass) Evaporator

30XV	TIERS	MINIMUM FLOW RATE		MAXIMUM FLOW RATE	
		(gpm)	(L/s)	(gpm)	(L/s)
140	All	170.4	10.8	681.6	43.0
160	All	193.2	12.2	772.8	48.8
180	All	204.0	12.9	816.0	51.5
200	All	236.4	14.9	945.6	59.7
225	All	266.4	16.8	1065.6	67.2
250	All	308.4	19.5	1233.6	77.8
275	All	327.6	20.7	1310.4	82.7
300	All	349.2	22.0	1396.8	88.1
325	All	379.2	23.9	1516.8	95.7
350	All	419.0	26.4	1676.0	105.7
400	All	483.0	30.5	1932.0	121.9
450	All	543.5	34.3	2174.0	137.2
500	All	600.0	37.9	2400.0	151.4

Table 7 — Min/Max Water Flow — 1-Pass Evaporator

30XV	TIERS	MINIMUM FLOW RATE		MAXIMUM FLOW RATE	
		(gpm)	(L/s)	(gpm)	(L/s)
140	All	340.8	21.6	1363.2	86.0
160	All	386.4	24.4	1545.6	97.6
180	All	408.0	25.8	1632.0	103.0
200	All	472.8	29.8	1891.2	119.4
225	All	532.8	33.6	2131.2	134.4
250	All	616.8	39.0	2467.2	155.6
275	All	655.2	41.4	2620.8	165.4
300	All	698.4	44.0	2793.6	176.2
325	All	758.4	47.8	3033.6	191.4
350	All	838.0	52.8	3352.0	211.4
400	All	966.0	61.0	3864.0	243.8
450	All	1087.0	68.6	4348.0	274.4
500	All	1200.0	75.8	4800.0	302.8

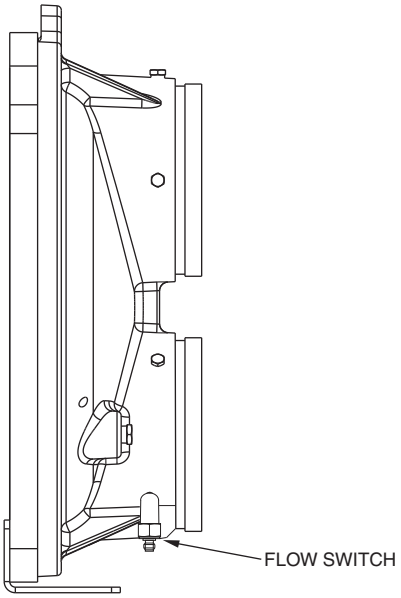


Fig. 34 — Flow Switch Location

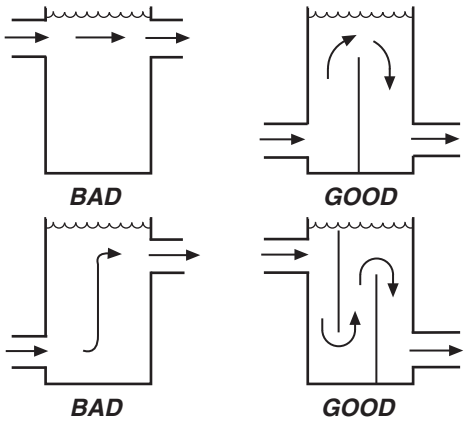


Fig. 35 — Tank Baffling

Air Separation — For proper system operation, it is essential that water loops be installed with proper means to manage air in the system. Free air in the system can cause noise, reduce terminal output, stop flow, or even cause pump failure due to pump cavitation. For closed systems, equipment should be provided to eliminate all air from the system.

The amount of air that water can hold in solution depends on the pressure and temperature of the water/air mixture. Air is less soluble at higher temperatures and at lower pressures. Therefore, separation can best be done at the point of highest water temperature and lowest pressure. Typically, this point would be on the suction side of the pump as the water is returning from the system or terminals. This is generally the optimal place to install an air separator, if possible.

1. Install automatic air vents at all high points in the system. (If the 30XV unit is located at the high point of the system, a vent can be installed on the piping leaving the heat exchanger on the 1/4 in. NPT female port.)
2. Install an air separator in the water loop, at the place where the water is at higher temperatures and lower pressures — usually in the chilled water return piping. On a primary-secondary system, the highest temperature water is normally in the secondary loop, close to the decoupler. Preference should be given to that point on the system (see Fig. 36). In-line or centrifugal air separators are readily available in the field.

If it is not possible to install air separators at the place of the highest temperature and lowest pressure, preference should be given to the points of highest temperature. It is important that the pipe be sized correctly so that free air can be moved to the point of separation. Generally, a water velocity of at least 2 feet per second (0.6 m per second) will keep free air entrained and prevent it from forming air pockets.

Automatic vents should be installed at all physically elevated points in the system so that air can be eliminated during system operation. Provisions should also be made for manual venting during the water loop fill.

Units Field Piping — When facing the evaporator side of the unit, the inlet (return) water connection is on the bottom. It is required that a field-supplied strainer with a minimum size of 20 mesh be installed within 10 ft (3.05 m) of the evaporator inlet to prevent debris from damaging internal tubes of the evaporator. The outlet (supply) water connection is on the top. When single pass evaporator is selected, it will have nozzles on either end of the evaporator. The nozzle opposite the control box side is entering water. The evaporator has water-side Victaulic-type connections (follow connection directions as provided by the coupling manufacturer). Provide proper support for the piping. If accessory security grilles have been added, holes must be cut in the grilles for field piping and insulation. See Fig. 37 for a typical piping diagram of a 30XV unit with Greenspeed® intelligence. A drain connection is located at the leaving water (supply) end of evaporator. See Fig. 2-20 for connection location. Insulate the drain piping (in the same manner as the chilled water piping) for at least 12 in. (305 mm) from the unit.

Dual Chiller Control — The Touch Pilot™ controller allows 2 chillers (piped in parallel or series) to operate as a single chilled water plant with standard control functions coordinated through the master chiller controller. This standard Touch Pilot feature requires a communication link between the 2 chillers on the CCN bus.

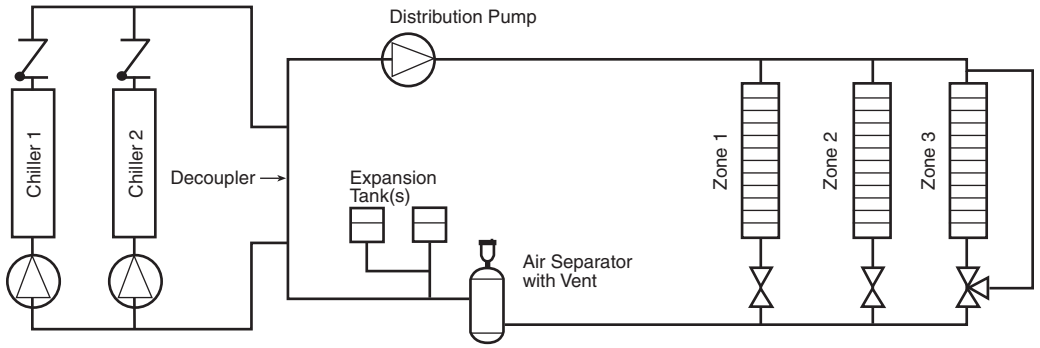
Dual Chiller Leaving Water Sensor — If the dual chiller algorithm is used, and the machines are installed in parallel, a dual chilled water sensor must be installed for each module. Install the well in the common leaving water header. See Fig. 38. The connection size for the thermowell is 1/4 in. npt. A dual chiller accessory kit (P/N 00EFN900005600A) is available.

Parallel Dual Chiller Operation — Parallel chiller operation is the recommended option for dual chiller control. In this case, each chiller must control its own dedicated pump or isolation valve. Balancing valves are recommended to ensure proper flow in each chiller. Two field-supplied and installed dual chiller leaving water temperature sensors are required, one for each module, for this function to operate properly.

Consider adding additional isolation valves to isolate each chiller to allow for service on a machine, and still allow for partial capacity from the other chiller. See Fig 38.

Dual Chiller Operation — Series chiller operation is an alternate control method supported by the Touch Pilot™ control system. Certain applications might require that the two chillers be connected in series.

Consider adding additional piping and isolation valves to isolate each chiller to allow for service on a machine, and still allow for partial capacity from the other chiller. See Fig. 39.



NOTE: Expansion tanks for 30XV hydronic kits must be installed for chillers piped in parallel in the primary water loop.

Fig. 36 — Typical Air Separator and Expansion Tank Location on Primary-Secondary Systems

LEGEND

D — Drain, 3/4-in. NPT
FS — Flow Switch
PP — Pipe Plug, 1/4-in. NPT
T1 — Leaving Water Thermistor
T2 — Entering Water Thermistor
V — Vent, 3/8-in. NPT

— 20 Mesh Strainer required within 10 ft (3 m) of evaporator

— Relief Valve

Fig. 37 — Typical Piping Diagram for 30XV Units with Greenspeed® Intelligence

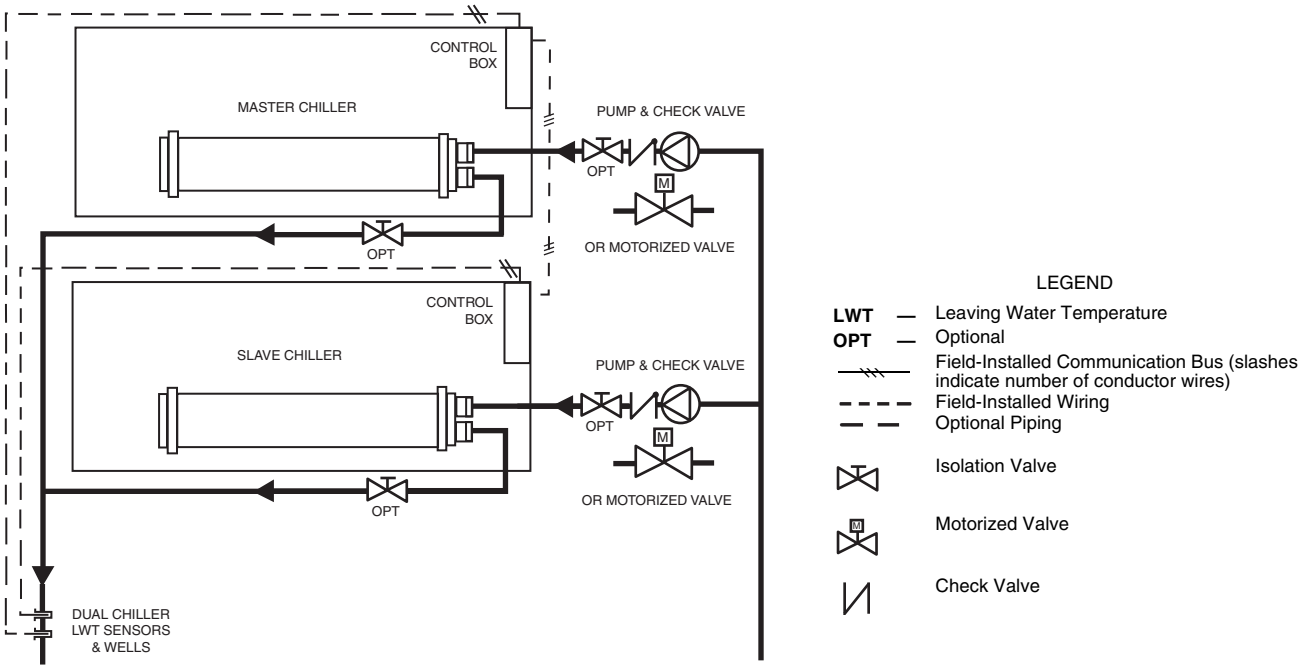


Fig. 38 — Parallel Dual Chiller Operation

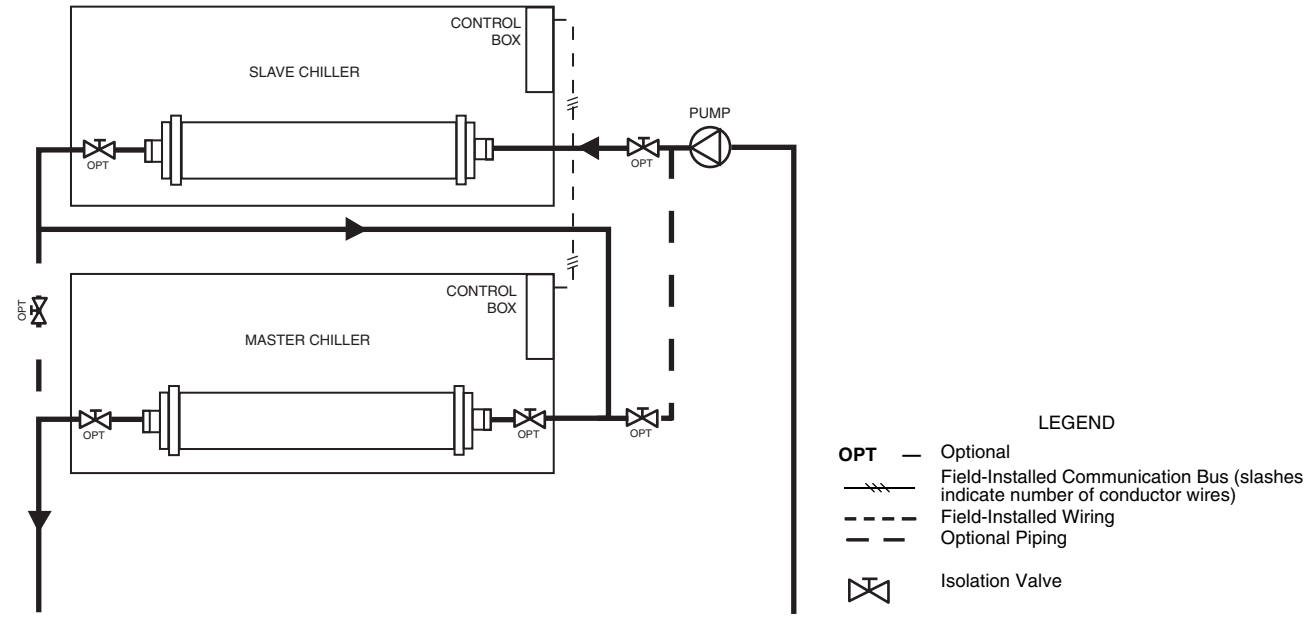


Fig. 39 — Series Dual Chiller Operation

IMPORTANT: Automatic vents should be located in accessible locations for maintenance purposes and should be protected from freezing.

EVAPORATOR PUMP CONTROL — It is required that evaporator pump control be utilized on all chillers unless the chilled water pump runs continuously or the chilled water system contains a suitable antifreeze solution.

⚠ CAUTION

Applications that utilize fresh water as the circulated fluid require that the circulating pump be controlled directly by the chiller. Operation with fresh water is not fail-safe should there be a loss of power to the chiller or to the circulating pump. Freeze damage due to power loss or disabling chiller pump control in fresh water systems will impair or otherwise negatively affect the warranty.

Refer to the control and power wiring schematic on page 103 for proper connection of the evaporator pump (PMP1 and PMP2). The evaporator pump output will remain energized for 30 seconds after all compressors stop due to an OFF command. In the event a freeze protection alarm is generated, the evaporator pump output will be energized regardless of the evaporator pump control software configuration. The evaporator pump output is also energized when certain alarms are generated. A thermal flow sensor is factory installed in the entering fluid nozzle to prevent operation without flow through the evaporator. See Fig. 40. The flow sensor is factory wired.

Proper software configuration of the evaporator pump control parameters is required to prevent possible evaporator freeze-up. Refer to the Controls, Start-Up, Operation, Service and Troubleshooting guide for more information.

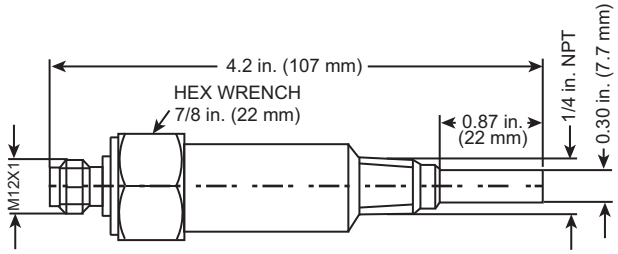


Fig. 40 — Thermal Flow Sensor

If evaporator pump control is not utilized, it is required that the chiller be electrically interlocked with the chilled water pump starter. The interlock should be wired to terminals TB5-27 and TB5-28. It is also recommended that the evaporator pump output be used as an override to the chilled water pump control circuit to provide additional freeze protection. See the Field Control and Power Wiring figure on page 103.

PREPARATION FOR YEAR-ROUND OPERATION — In areas where the piping or unit is exposed to 32°F (0°C) or lower ambient temperatures, freeze-up protection is required using inhibited glycol or other suitable corrosion-resistant antifreeze solution and electric heater tapes. Heater tapes on piping should have a rating for area ambient temperatures and be covered with a suitable thickness of closed-cell insulation. Route power for the heater tapes from a separately fused disconnect. Mount the disconnect within sight from the unit per local or NEC (National Electric Code) codes. Identify disconnect at heater tape power source with a warning that power must not be turned off except when servicing unit.

IMPORTANT: Adding antifreeze solution is the only certain means of protecting the unit from freeze-up if heater fails or electrical power is interrupted or lost while temperatures are below 32°F (0°C).

A drain connection is located at the bottom of the evaporator head. See Fig. 37 for connection location. Install shut-off valves to the drain line before filling the system with fluid.

Low Ambient Temperature Head Pressure Control — For units intended to operate in low ambient conditions, field-fabricated and field-installed wind baffle is required if the wind velocity is anticipated to be greater than 5 mph (8 km/h). Wind baffle should be constructed with minimum 18-gage galvanized sheet metal or other suitable corrosion-resistant material with cross breaks for strength. See Fig. 41. Use field-supplied screws to attach baffle to the corner posts of the machine. Be sure to hem or turn a flange on all edges to eliminate sharp edges on the baffles.

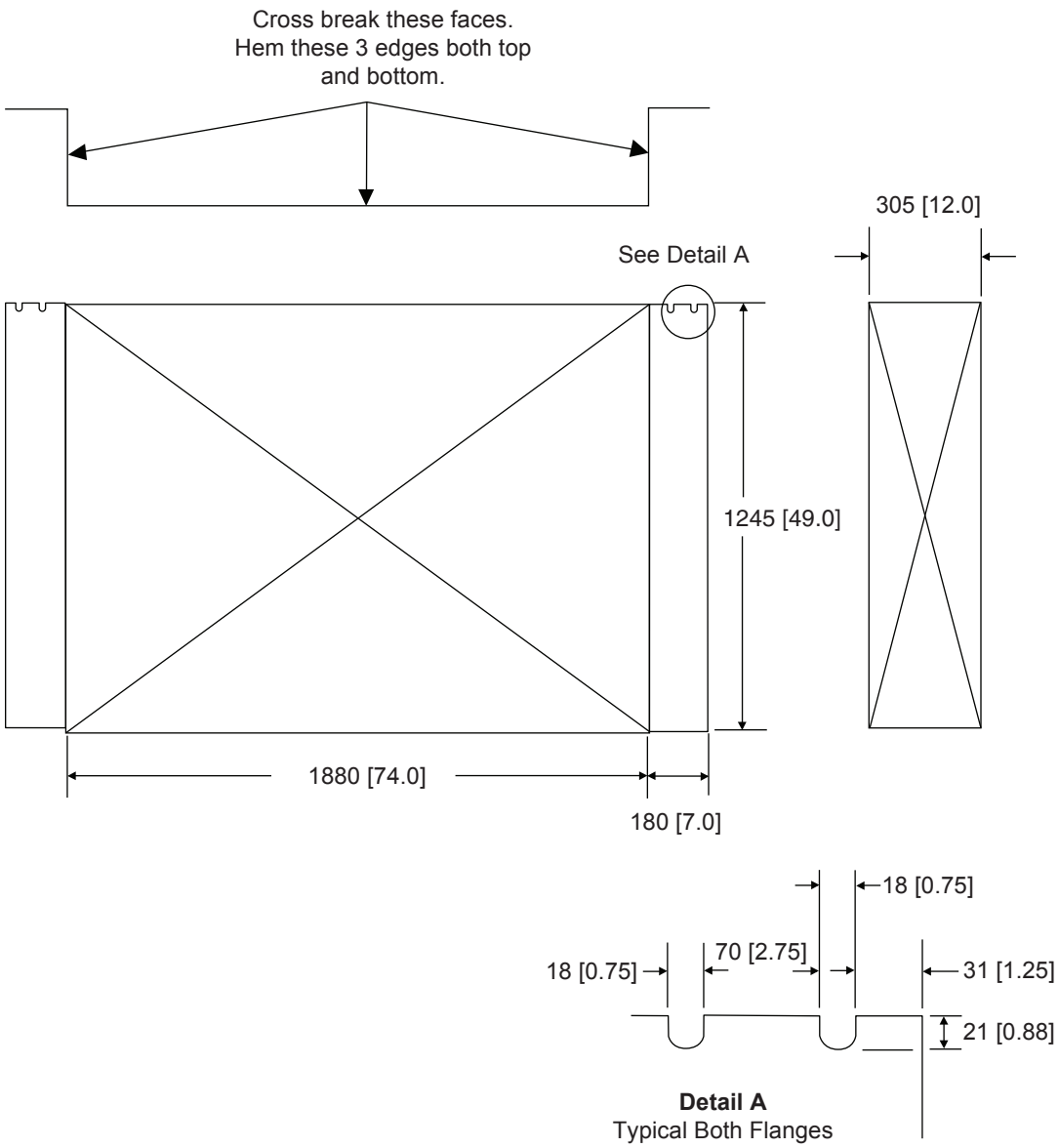
⚠ WARNING

Disconnect all power to the unit before performing maintenance or service. Electrical shock and personal injury could result.

⚠ CAUTION

To avoid damage to the refrigerant coils and electrical components, use extreme care when drilling screw holes and screwing in fasteners.

Mount baffle opposite control box end. It is recommended that the upper notches be used for mounting the baffle. This reduces the risk of damaging the coil while drilling a mounting hole. Loosen the upper corner post bolts and slide the baffle under the bolt and washer. Tighten the bolt. Drill holes in the bottom of the flange of the baffle and mount with two screws to secure the bottom of the baffle to the corner post.



NOTES:
1. Place baffle on end opposite the control box.
2. Material: 18 ga. Corrosion Resistant Sheet Metal.
3. Dimensions are in mm [inches].

Fig. 41 — Field-Fabricated and Field-Installed Wind Baffle

Step 4 — Fill the Chilled Water Loop

IMPORTANT: Before starting unit, be sure all of the air has been purged from the system.

⚠ CAUTION

In low ambient (below 32°F [0°C]) and/or low leaving fluid temperature applications (below 40°F [4.4°C]), a suitable antifreeze solution of the proper concentration for the specific operating conditions must be used as the fluid circulated through the evaporator to prevent freezing and damage to the system. Failure to operate the system with an antifreeze solution of the proper concentration will impair or otherwise negatively affect the warranty should damage result from freezing.

The maximum evaporator water side pressure is 300 psig (2068 kPa). Check the pressure rating for all of the chilled water devices installed. Do not exceed the lowest pressure rated device.

BRINE EVAPORATOR OPTION . . — Add sufficient inhibited glycol or other suitable corrosion-resistant antifreeze solution to prevent evaporator freeze-up.

WATER SYSTEM CLEANING — Proper water system cleaning is of vital importance. Excessive particulates in the water system can cause excessive pump seal wear, reduce or stop flow, and cause damage of other components. Ideally, the chilled water loop will be cleaned before the unit is connected.

1. Install a temporary bypass around the chiller to avoid circulating dirty water and particulates into the chiller during the flush. Use a temporary circulating pump during the cleaning process. Also, be sure that there is capability to fully drain the system after cleaning. See Fig. 42.
2. Be sure to use a cleaning agent that is compatible with all system materials. Be especially careful if the system contains any galvanized or aluminum components. Both detergent-dispersant and alkaline-dispersant cleaning agents are available.
3. It is recommended to fill the system through a water meter. This provides a reference point for the future for loop volume readings, and it also establishes the correct quantity of cleaner needed in order to reach the required concentration.
4. Use a feeder/transfer pump to mix the solution and fill the system. Circulate the cleaning system for the length of time recommended by the cleaning agent manufacturer.
   a. After cleaning, drain the cleaning fluid and flush the system with fresh water.
   b. A slight amount of cleaning residue in the system can help keep the desired, slightly alkaline, water pH of 8 to 9. Avoid a pH greater than 10, since this will adversely affect pump seal components.
   c. A side stream filter is recommended (see Fig. 43) during the cleaning process. Filter side flow rate should be enough to filter the entire water volume every 3 to 4 hours. Change filters as often as necessary during the cleaning process.
   d. Remove temporary bypass when cleaning is complete.

WATER TREATMENT — Fill the fluid loop with water (or brine) and a corrosion-resistant inhibitor suitable for the water of the area. Consult the local water treatment specialist for characteristics of system water and a recommended inhibitor for the evaporator fluid loop.

Untreated or improperly treated water may result in corrosion, scaling, erosion, or algae. The services of a qualified water treatment specialist should be obtained to develop and monitor a treatment program.

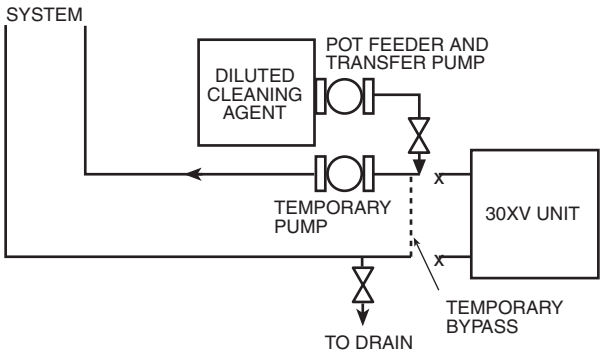


Fig. 42 — Typical Set Up for Cleaning Process

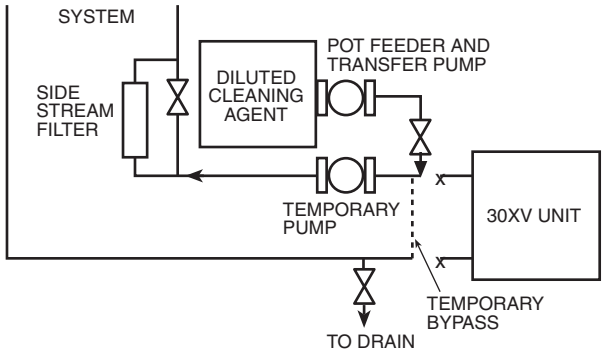


Fig. 43 — Cleaning Using a Side Stream Filter

⚠ CAUTION

Water must be within design flow limits, clean, and treated to ensure proper chiller performance and reduce the potential of tube damage due to corrosion, scaling, erosion, and algae. Carrier assumes no responsibility for chiller damage resulting from untreated or improperly treated water.

NOTE: Do not use automobile anti-freeze, or any other fluid that is not approved for heat exchanger duty. Only use appropriately inhibited glycols, concentrated to provide adequate protection for the temperature considered.

SYSTEM PRESSURIZATION — A proper initial cold fill pressure must be established before filling of the unit. The initial cold fill pressure is the pressure applied at the filling point to fill a system to its highest point, plus a minimum pressure at the top of the system (4 psig minimum [27.6 kPa]) to operate air vents and positively pressurize the system. The expansion tank is very important to system pressurization. The expansion tank serves several purposes:

1. Provides NPSHR (Net Positive Suction Head Required) for the pump to operate satisfactorily.
2. Sets system pressure.
3. Accommodates expansion/contraction of water due to temperature changes.
4. Acts as a pressure reference for the pump.

The expansion tank pressure must be set BEFORE the system is filled. Follow the manufacturer's recommendation for instructions on setting the pressure in the expansion tank.

Once the system is pressurized, the pressure at the connection point of the expansion tank to water piping will not change unless the water loop volume changes (either due to addition/

subtraction of water or temperature expansion/contraction). The pressure at this point remains the same regardless of whether or not the pump is running.

Since the expansion tank acts as a reference point for the pump, there cannot be two reference points (two expansion tanks) in a system, unless manifolded together as seen in Fig. 36. It is permissible to install the expansion tank(s) in a portion of the return water line that is common to all pumps, providing that the tank is properly sized for combined system volume.

If the application involves two or more chillers in a primary-secondary system, a common place for mounting the expansion tank is in the chilled water return line, just before the decoupler. See Fig. 36 for placement of expansion tank in primary-secondary systems.

If a diaphragm expansion tank is utilized (a flexible diaphragm physically separates the water/air interface) it is not recommended to have any air in the water loop. See the section on air separation on page 95 for instructions on providing air separation equipment.

FILLING THE SYSTEM — The initial fill of the chilled water system must accomplish three goals:

1. The entire piping system must be filled with water.
2. The pressure at the top of the system must be high enough to vent air from the system (usually 4 psig [27.6 kPa] is adequate for most vents).
3. The pressure at all points in the system must be high enough to prevent flashing in the piping or cavitation in the pump.

The pressure created by an operating pump affects system pressure at all points except one — the connection of the expansion tank to the system. This is the only location in the system where pump operation will not give erroneous pressure indications during the fill. Therefore, the best location to install the fill connection is close to the expansion tank. An air vent should be installed close by to help eliminate air that enters during the fill procedure.

When filling the system, ensure the following:

1. Remove temporary bypass piping and cleaning/flushing equipment.
2. Check to make sure all drain plugs are installed.

Normally, a closed system needs to be filled only once. The actual filling process is a fairly simple procedure. All air should be purged or vented from the system. Thorough venting at high points and circulation at room temperature for several hours is highly recommended.

NOTE: Local codes concerning backflow devices and other protection of the city water system should be consulted and followed to prevent contamination of the public water supply. This is critical when antifreeze is used in the system.

SET WATER FLOW RATE — Once the system is cleaned, pressurized, and filled, the flow rate through the chiller needs to be established. Follow the manufacturer's recommendations for setting the balancing valve. Local codes may prohibit restricting the amount of water using the balancing valve for a given motor horsepower.

NOTE: Carrier recommends a differential pressure gage when measuring pressures across the pumps or balancing valves. This provides for greater accuracy and reduces error build-up that often occurs when subtracting pressures made by different gages.

A rough estimate of water flow can also be obtained from the pressure gages across the 30XV heat exchanger.

The Controls, Start-Up Operation, Service, and Troubleshooting guide includes graphs that show the relationship between gpm and heat exchanger pressure drop. It should be noted that these curves are for fresh water and "clean" heat exchangers; they do not apply to heat exchangers with fouling.

FREEZE PROTECTION — The 30XV units with Greenspeed® intelligence are provided with a flow switch to protect against freezing situations that occur from no water flow. While the flow switch is helpful in preventing freezing during no-flow situations, it does not protect the chiller in case of power failure during sub-freezing ambient temperatures, or in other cases where water temperature falls below the freezing mark. Appropriate concentrations of inhibited propylene or ethylene glycol or other suitable inhibited antifreeze solution should be considered for chiller protection where ambient temperatures are expected to fall below 32°F (0°C). Consult a local water treatment specialist on characteristics of the system water and add a recommended inhibitor to the chilled water. The Carrier warranty does not cover damage due to freezing.

NOTE: Do not use automobile anti-freeze, or any other fluid that is not approved for heat exchanger duty. Only use appropriately inhibited glycols, concentrated to provide adequate protection for the temperature considered.

Use electric heater tape for the external piping, if unit will be exposed to freezing temperatures and is not protected with a suitable antifreeze solution.

For units equipped with evaporator heaters, ensure that power is available to the chiller at all times, even during the off-season, so that the evaporator heaters have power. Also make sure that the piping heater tape has power.

Units with evaporator heaters are protected from freezing down to 0°F (–18°C) through the evaporator heaters and control algorithms. If the unit controls the chilled water pump and valves, allowing flow through the evaporator, the unit is protected from freezing down to –20°F (–29°C). The Carrier warranty does not cover damage due to freezing.

PREPARATION FOR WINTER SHUTDOWN — If the unit is not operational during the winter months, at the end of cooling season complete the following steps.

⚠ CAUTION

Failure to remove power before draining heater equipped evaporators can result in heater damage.

1. If the evaporator will not be drained, do not shut off power disconnect during off-season shutdown. If evaporator is to be drained, first open the circuit breaker for the heater, CB-7, or shut off power during off-season shutdown.
2. Draining the fluid from the system is highly recommended. Units have a drain plug mounted on the bottom of the evaporator head at each end of the evaporator.
3. Isolate the evaporator from the rest of the system with water shutoff valves.
4. Replace the drain plug and completely fill the evaporator with a mixture of water and a suitable corrosion-inhibited anti-freeze solution such as propylene glycol. The concentration should be adequate to provide freeze protection to 15°F (8.3°C) below the expected low ambient temperature conditions. Antifreeze can be added through the vent on top of the evaporator head.
5. Leave the evaporator filled with the antifreeze solution for the winter, or drain antifreeze solution if desired. Be sure to deenergize heaters (if installed) as explained in Step 1 to prevent damage if the evaporator is drained. Use an approved method of disposal when removing antifreeze solution.

At the beginning of the next cooling season, be sure that there is refrigerant pressure on each circuit before refilling evaporator, add recommended inhibitor, and reset the CB-7 (circuit breaker heater) (if opened) or restore power.

If system does not have charge at this time, find and repair the leak. Always assure water is flowing in the evaporator before charging or evacuating the unit.

Step 5 — Make Electrical Connections

⚠ WARNING

Electrical shock can cause personal injury and death. Shut off all power to this equipment during installation. There may be more than one disconnect switch. Tag all disconnect locations to alert others not to restore power until work is completed.

POWER SUPPLY — The electrical characteristics of the available power supply must agree with the unit nameplate rating. Supply voltage must be within the limits shown. See Table 8 for power entry option. See Tables 9-18 for electrical and configuration data.

FIELD POWER CONNECTIONS (See Fig. 44) — All power wiring must comply with applicable local and national codes. Install field-supplied, branch circuit fused disconnect(s) of a type that can be locked off or open. Disconnect(s) must be located within sight and readily accessible from the unit in compliance with NEC Article 440-14 (U.S.A.). See Tables 9-18 for unit electrical data.

IMPORTANT: The 30XV units with Greenspeed® intelligence have a factory-installed option available for a non-fused disconnect for unit power supply. If the unit is equipped with this option, all field power wiring should be made to the non-fused disconnect since no terminal blocks are supplied.

Maximum wire sizes that the unit terminal block or non-fused disconnect are listed in Table 8.

POWER WIRING — All power wiring must comply with applicable local and national codes. Install field-supplied branch circuit fused disconnect per NEC of a type that can be locked OFF or OPEN. Disconnect must be within sight and readily accessible from the unit in compliance with NEC Article 440-14. In the power box, $^{7}/_{8}$ in. knockouts are provided for power entry. The holes will need to be enlarged to accept the appropriate conduit. NEC also requires all conduits from a conditioned space to the power box(es) be sealed to prevent airflow and moisture into the control box.

The 30XV units with Greenspeed intelligence require 1 or 2 power supplies, depending on the unit and power option selected. See Tables 9-18 for chiller electrical data. Evaporator heaters, if factory-installed, are wired in the control circuit. Heaters on chillers with the optional control transformer will be capable of operation only when the main power supply to the chiller is on. On chillers with separate control power, the heaters are capable of operation whenever the control power is supplied.

IMPORTANT: The 30XV units with Greenspeed® intelligence rated 575V will have compressors rated at 460V. The compressor VFD will have proper configuration to accept 575V line power and output 460V to the compressor.

FIELD CONTROL POWER CONNECTIONS (See Fig. 44) — All units require 115-1-60 control circuit power, unless the control transformer option is installed.

A field-supplied remote on-off switch or control relay can be wired into TB5-9 and TB5-10. Contacts must be rated for dry-circuit applications capable of handling a 24-vac at 50 mA load.

⚠ CAUTION

Do not use interlocks or other safety device contacts connected between TB5-9 and TB5-10 as remote on-off. Connection of safeties or other interlocks between these 2 terminals will result in an electrical bypass if the ENABLE-OFF-REMOTE contact switch is in the ENABLE position. If remote on-off unit control is required, a field-supplied relay must be installed in the unit control box and wired as shown in Fig. 44. Failure to wire the remote on-off as recommended may result in tube freeze damage.

CARRIER COMFORT NETWORK® COMMUNICATION BUS WIRING (See Fig. 45) — The communication bus wiring is a shielded, 3-conductor cable with drain wire and is field supplied and installed in the field.

The system elements are connected to the communication bus in a daisy chain arrangement. The positive pin of each system element communication connector must be wired to the positive pins of the system elements on either side of it. This is also required for the negative and signal ground pins of each system element. Wiring connections for CCN (Carrier Comfort Network) should be made at TB (terminal block) 3. Consult the CCN Contractor's Manual for further information. See Fig. 45.

NOTE: Conductors and drain wire must be 20 AWG (American Wire Gage) minimum stranded, tinned copper. Individual conductors must be insulated with PVC, PVC/nylon, vinyl, Teflon*, or polyethylene. An aluminum/polyester 100% foil shield and an outer jacket of PVC, PVC/nylon, chrome vinyl, or Teflon with a minimum operating temperature range of –4°F (–20°C) to 140°F (60°C) is required. See Table 19 for a list of manufacturers that produce CCN bus wiring that meet these requirements.

It is important when connecting to a CCN communication bus that a color coding scheme be used for the entire network to simplify the installation. It is recommended that red be used for the signal positive, black for the signal negative, and white for the signal ground. Use a similar scheme for cables containing different colored wires. At each system element, the shields of its communication bus cables must be tied together. If the communication bus is entirely within one building, the resulting continuous shield must be connected to a ground at one point only. If the communication bus cable exits from one building and enters another, the shields must be connected to grounds at the lightning suppressor in each building where the cable enters or exits the building (one point per building only).

To connect the unit to the network:

1. Turn off power to the control box.
2. Cut the CCN wire and strip the ends of the red (+), white (ground), and black (–) conductors. Substitute appropriate colors for different colored cables.
3. Connect the red wire to (+) terminal on TB3 of the plug, the white wire to COM terminal, and the black wire to the (–) terminal.
4. The RJ14 CCN connector on TB3 can also be used, but is only intended for temporary connection (for example, a laptop computer running service tool).

*Teflon is a registered trademark of Dupont.

NOTES:

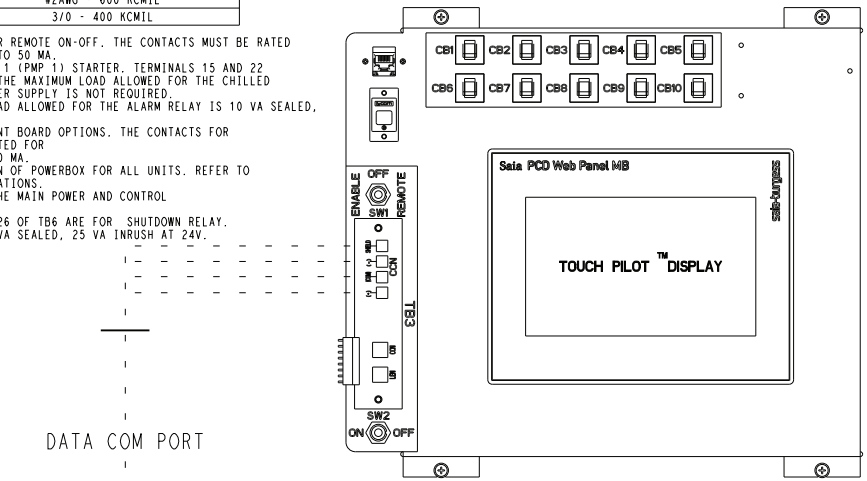
1. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
2. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

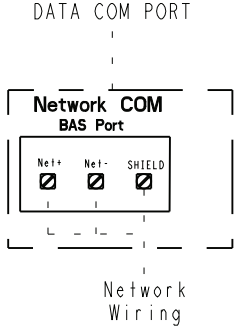
30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER				
140-200	208/230V	NO	4	#2AWG - 750 KCMIL
140-325	380-575V	NO	2	#2AWG - 600 KCMIL
140-200	380-575V	NFD	2	2/0 - 500 KCMIL
225-325	380-440V	NFD	4	4/0 - 500 KCMIL
225-325	460-575V	NFD	3 or (2)	3/0 - 400 KCMIL OR (500KCMIL-750KCMIL)
350-500	380-440V	NO	6	#2AWG - 750 KCMIL
350-500	460-575V	NO	4	#2AWG - 750 KCMIL
350-500	380-440V	NFD	6	#2AWG - 600 KCMIL
350-500	460-575V	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER				
140-200	208/230V	NO	3	3/0 - 400 KCMIL
140-200	380-575V	NO	1 OR (2)	2/0-500 KCMIL OR (2/0-250 KCMIL)
225-325	380-575V	NO	2	#2AWG - 500 KCMIL
140-200	380-575V	NFD	1 OR (2)	2/0-500 KCMIL OR (2/0-250 KCMIL)
225-325	380-575V	NFD	2	#2AWG - 500 KCMIL
350-500	380-440V	NO	4	#2AWG - 750 KCMIL
350-500	460-575V	NO	2	#2AWG - 600 KCMIL
350-500	380-575V (HSCCR)	NO	3	3/0 - 400 KCMIL

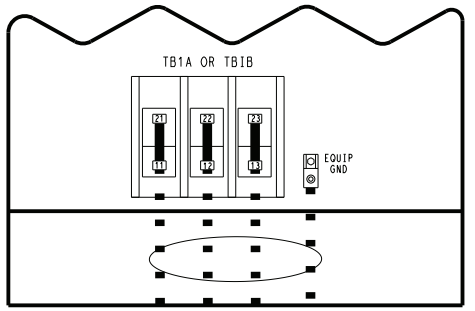
3. TERMINALS 9 AND 10 OF TB5 ARE FOR FIELD EXTERNAL CONNECTIONS FOR REMOTE ON-OFF. THE CONTACTS MUST BE RATED FOR DRY CIRCUIT APPLICATION CAPABLE OF HANDLING A 24VAC LOAD UP TO 50 MA.
4. TERMINALS 11 AND 23 OF TB5 ARE FOR CONTROL OF CHILLED WATER PUMP 1 (PMP 1) STARTER. TERMINALS 15 AND 22 OF TB5 ARE FOR CONTROL OF CHILLED WATER PUMP 2 (PMP 2) STARTER. THE MAXIMUM LOAD ALLOWED FOR THE CHILLED WATER PUMP RELAY IS 5 VA SEALED, 10 VA INRUSH AT 24 V. FIELD POWER SUPPLY IS NOT REQUIRED.
5. TERMINALS 12 AND 21 OF TB5 ARE FOR A ALARM RELAY. THE MAXIMUM LOAD ALLOWED FOR THE ALARM RELAY IS 10 VA SEALED, 25 VA INRUSH AT 24V. FIELD POWER SUPPLY IS NOT REQUIRED.
6. MAKE APPROPRIATE CONNECTIONS TO TB6 AS SHOWN FOR ENERGY MANAGEMENT BOARD OPTIONS. THE CONTACTS FOR OCCUPANCY OVERRIDE, DEMAND LIMIT AND ICE DONE OPTIONS MUST BE RATED FOR DRY CIRCUIT APPLICATION CAPABLE OF HANDLING A 24VAC LOAD UP TO 50 MA.
7. TERMINAL BLOCKS, TB5 & TB6 ARE LOCATED IN THE LOW VOLTAGE SECTION OF POWERBOX FOR ALL UNITS. REFER TO CERTIFIED DIMENSIONAL DRAWING FOR EACH UNIT TO GET THE EXACT LOCATIONS.
8. REFER TO CERTIFIED DIMENSIONAL DRAWINGS FOR EXACT LOCATIONS OF THE MAIN POWER AND CONTROL POWER ENTRANCE LOCATIONS.
9. TERMINALS 18 & 26 OF TB6 ARE FOR ALERT RELAY AND TERMINALS 20 & 26 OF TB6 ARE FOR SHUTDOWN RELAY. THE MAXIMUM LOAD ALLOWED FOR THE ALERT AND SHUTDOWN RELAY IS 10 VA SEALED, 25 VA INRUSH AT 24V. FIELD POWER SUPPLY IS NOT REQUIRED.

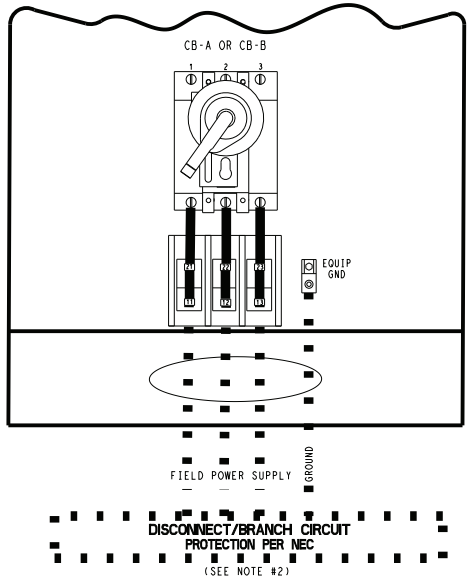
LEGEND:

A - ALARM
PMP - CHILLED WATER PUMP
EMM - ENERGY MANAGEMENT
TB - TERMINAL BLOCK
MLV - MINIMUM LOAD VALVE
NEC - NATIONAL ELECTRIC CODE
HSCCR - HIGH SHORT CIRCUIT CURRENT RATING
SCCR - SHORT CIRCUIT CURRENT RATING









ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			
U.S. ECCN:EAR99	1 OF 3	05/17/18		30XV 140-500 AIR COOLED	30XV60002800	REV D

Fig. 44 — Field Control and Power Wiring

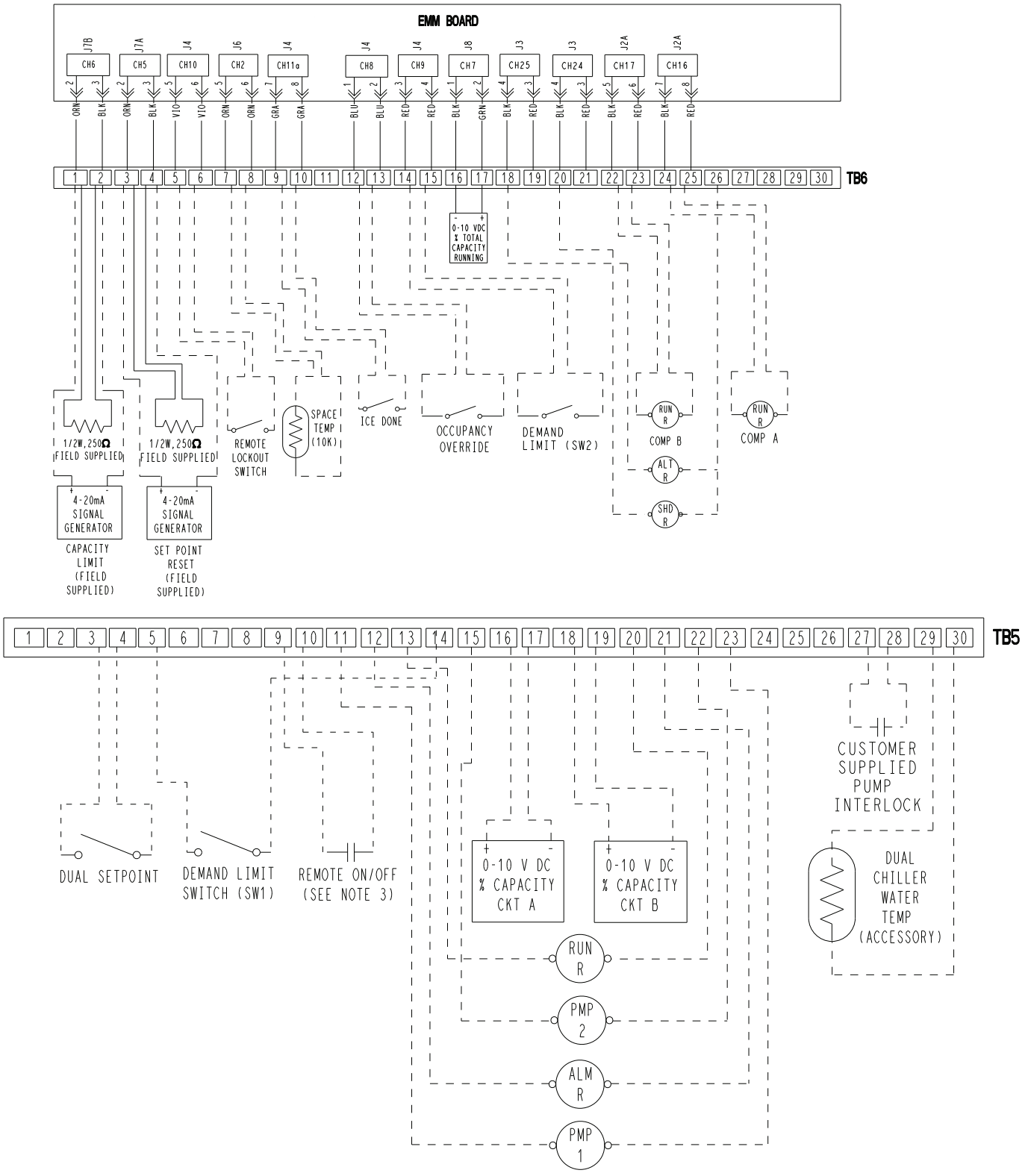


Fig. 44 — Field Control and Power Wiring (cont)

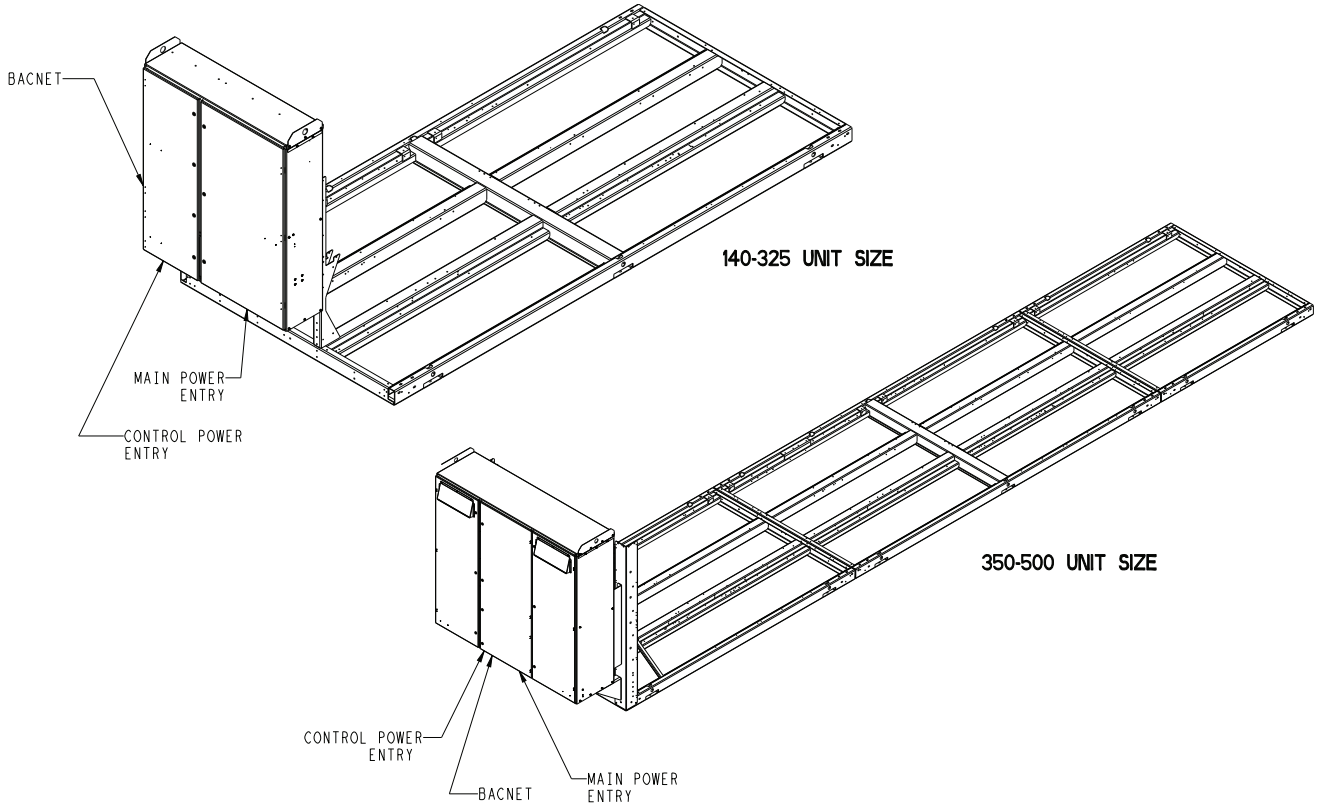


Fig. 44 — Field Control and Power Wiring (cont)

Table 8 — Power Entry Options

POWER ENTRY OPTION	30XV UNIT SIZE	VOLTAGE	DISCONNECT OPTION	NO. OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER	140-200	208/230V	NO	4	#2AWG - 750 KCMIL
		380-575V	NFD	2	2/0 - 500 KCMIL
	140-325	380-575V	NO	2	#2AWG - 600 KCMIL
	225-325	380-440V	NFD	4	4/0 - 500 KCMIL
		460-575V	NFD	3 (or 2)	3/0 - 400 KCMIL or (500 KCMIL - 750 KCMIL)
	350-500	380-440V	NO	6	#2AWG - 750 KCMIL
		460-575V	NO	4	#2AWG - 750 KCMIL
		380-440V	NFD	6	#2AWG - 600 KCMIL
		460-575V	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER	140-200	208/230V	NO	3	3/0 - 400 KCMIL
		380-575V	NO	1 or (2)	2/0-500 KCMIL or (2/0-250 KCMIL)
		380-575V	NFD	1 or (2)	2/0-500 KCMIL or (2/0-250 KCMIL)
	225-325	380-575V	NO	2	#2AWG - 500 KCMIL
		380-575V	NFD	2	#2AWG - 500 KCMIL
	350-500	380V	NO	4	#2AWG - 750 KCMIL
		460-575V	NO	2	#2AWG - 600 KCMIL
		380-575V (HSCCR)	NO	3	3/0 - 400 KCMIL

LEGEND

AWG — American Wire Gage
HSCCR — High Short Circuit Current Rating
NFD — Non-fused Disconnect
NO — None

Table 9 — 30XV140-500 Electrical Data, Single Point Power, Standard Tier, Fixed Speed Fans

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS	MCA	MOCP	REC FUSE SIZE	CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied						Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max						
140	208/230	60	187	253	8	573.8	800	700	115	40
	380	60	342	418	8	314.5	400	350	115	40
	400	60	360	440	8	299.8	400	350	115	40
	460	60	414	506	8	259.4	350	300	115	40
	575	60	518	633	8	208.9	250	250	115	40
160	208/230	60	187	253	8	675.1	800	800	115	40
	380	60	342	418	8	368.5	500	450	115	40
	400	60	360	440	8	351.5	450	400	115	40
	460	60	414	506	8	304.4	400	350	115	40
	575	60	518	633	8	244.9	300	300	115	40
180	208/230	60	187	253	8	776.3	1000	1000	115	60
	380	60	342	418	8	424.7	500	500	115	60
	400	60	360	440	8	405.5	500	450	115	60
	460	60	414	506	8	351.0	450	400	115	60
	575	60	518	633	8	280.9	350	350	115	60
200	208/230	60	187	253	10	805.3	1000	1000	115	60
	380	60	342	418	10	440.9	600	500	115	60
	400	60	360	440	10	419.2	500	500	115	60
	460	60	414	506	10	364.2	500	450	115	60
	575	60	518	633	10	292.4	400	350	115	60
225	380	60	342	418	10	515.2	700	600	115	60
	400	60	360	440	10	489.5	700	600	115	60
	460	60	414	506	10	424.7	600	500	115	60
	575	60	518	633	10	340.7	500	400	115	60
250	380	60	342	418	12	578.7	800	700	115	60
	400	60	360	440	12	549.9	700	700	115	60
	460	60	414	506	12	476.7	600	600	115	60
	575	60	518	633	12	382.0	500	450	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 9 — 30XV140-500 Electrical Data, Single Point Power, Standard Tier, Fixed Speed Fans (cont)

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS	MCA	MOCP	REC FUSE SIZE	CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied						Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max						
275	380	60	342	418	12	621.4	800	700	115	60
	400	60	360	440	12	590.4	800	700	115	60
	460	60	414	506	12	512.5	700	600	115	60
	575	60	518	633	12	411.2	500	500	115	60
300	380	60	342	418	14	637.6	800	800	115	60
	400	60	360	440	14	606.3	800	700	115	60
	460	60	414	506	14	526.1	700	600	115	60
	575	60	518	633	14	422.8	500	500	115	60
325	380	60	342	418	16	698.8	800	800	115	60
	400	60	360	440	16	664.9	800	800	115	60
	460	60	414	506	16	577.1	800	700	115	60
	575	60	518	633	16	463.6	600	600	115	60
350	380	60	342	418	16	828.7	1200	1000	115	60
	400	60	360	440	16	787.3	1000	1000	115	60
	460	60	414	506	16	683.6	1000	800	115	60
	575	60	518	633	16	548.3	800	700	115	60
400	380	60	342	418	18	891.1	1200	1000	115	60
	400	60	360	440	18	847.9	1000	1000	115	60
	460	60	414	506	18	735.3	1000	1000	115	60
	575	60	518	633	18	590.3	800	700	115	60
450	380	60	342	418	20	1031.1	1200	1200	115	60
	400	60	360	440	20	980.8	1200	1200	115	60
	460	60	414	506	20	851.5	1200	1000	115	60
	575	60	518	633	20	682.9	800	800	115	60
500	380	60	342	418	22	1120.9	1200	1200	115	60
	400	60	360	440	22	1065.6	1200	1200	115	60
	460	60	414	506	22	924.6	1200	1200	115	60
	575	60	518	633	22	739.8	1000	1000	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 10 — 30XV160-500 Electrical Data, Single Point Power, Standard Tier, Variable Speed Fans

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS	STANDARD CONDENSER FANS			HIGH STATIC CONDENSER FANS			CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied			MCA	MOCP	REC FUSE SIZE	MCA	MOCP	REC FUSE SIZE	Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max									
160	208/230	60	187	253	8	680.7	800	800	691.0	800	800	115	40
	380	60	342	418	8	372.7	500	450	383.0	500	450	115	40
	400	60	360	440	8	354.8	450	400	364.9	450	400	115	40
	460	60	414	506	8	307.5	400	350	316.3	400	350	115	40
	575	60	518	633	8	248.2	300	300	255.1	300	300	115	40
	380	50	342	418	8	380.3	500	450	390.8	500	450	115	40
	400	50	360	440	8	362.4	500	400	372.4	500	450	115	40
	415	50	374	457	8	349.7	450	400	359.4	450	400	115	40
	440	50	396	484	8	329.5	450	400	338.6	450	400	115	40
180	208/230	60	187	253	8	781.9	1000	1000	792.3	1000	1000	115	60
	380	60	342	418	8	428.9	500	500	439.3	500	500	115	60
	400	60	360	440	8	406.6	500	450	416.6	500	500	115	60
	460	60	414	506	8	353.2	450	400	362.0	450	400	115	60
	575	60	518	633	8	284.2	350	350	291.1	350	350	115	60
	380	50	342	418	8	438.8	600	500	449.3	600	500	115	60
	400	50	360	440	8	418.6	500	500	428.7	500	500	115	60
	415	50	374	457	8	403.7	500	450	413.4	500	500	115	60
	440	50	396	484	8	381.2	500	450	390.3	500	450	115	60
200	208/230	60	187	253	10	812.2	1000	1000	825.1	1000	1000	115	60
	380	60	342	418	10	446.1	600	500	459.0	600	600	115	60
	400	60	360	440	10	423.2	500	500	435.8	500	500	115	60
	460	60	414	506	10	367.0	500	450	378.0	500	450	115	60
	575	60	518	633	10	295.6	400	350	304.2	400	350	115	60
	380	50	342	418	10	456.1	600	600	469.3	600	600	115	60
	400	50	360	440	10	435.5	600	500	448.0	600	500	115	60
	415	50	374	457	10	420.2	500	500	432.2	500	500	115	60
	440	50	396	484	10	394.9	500	450	406.3	500	450	115	60
225	380	60	342	418	10	511.8	700	600	524.8	700	600	115	60
	400	60	360	440	10	487.2	700	600	499.8	700	600	115	60
	460	60	414	506	10	422.2	600	500	433.2	600	500	115	60
	575	60	518	633	10	338.2	450	400	346.8	450	400	115	60
	380	50	342	418	10	523.1	700	600	536.3	700	600	115	60
	400	50	360	440	10	498.5	700	600	511.0	700	600	115	60
	415	50	374	457	10	480.6	700	600	492.7	700	600	115	60
	440	50	396	484	10	453.6	600	600	465.0	600	600	115	60
250	380	60	342	418	12	588.9	800	700	604.5	800	700	115	60
	400	60	360	440	12	558.8	700	700	573.9	700	700	115	60
	460	60	414	506	12	484.9	600	600	498.1	600	600	115	60
	575	60	518	633	12	390.0	500	450	400.3	500	450	115	60
	380	50	342	418	12	601.4	800	700	617.3	800	700	115	60
	400	50	360	440	12	573.5	700	700	588.5	800	700	115	60
	415	50	374	457	12	553.3	700	700	567.8	700	700	115	60
	440	50	396	484	12	520.7	700	600	534.4	700	600	115	60
275	380	60	342	418	12	609.2	800	700	624.7	800	700	115	60
	400	60	360	440	12	579.0	800	700	594.1	800	700	115	60
	460	60	414	506	12	502.4	700	600	515.6	700	600	115	60
	575	60	518	633	12	403.5	500	450	413.8	500	500	115	60
	380	50	342	418	12	621.7	800	700	637.5	800	700	115	60
	400	50	360	440	12	591.5	800	700	606.5	800	700	115	60
	415	50	374	457	12	571.3	700	700	585.8	800	700	115	60
	440	50	396	484	12	538.7	700	600	552.4	700	700	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 10 — 30XV160-500 Electrical Data, Single Point Power, Standard Tier, Variable Speed Fans (cont)

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS	STANDARD CONDENSER FANS			HIGH STATIC CONDENSER FANS			CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied			MCA	MOCP	REC FUSE SIZE	MCA	MOCP	REC FUSE SIZE	Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max									
300	380	60	342	418	14	648.8	800	800	667.0	800	800	115	60
	400	60	360	440	14	618.2	800	700	635.8	800	700	115	60
	460	60	414	506	14	535.8	700	600	551.2	700	700	115	60
	575	60	518	633	14	430.6	500	500	442.6	500	500	115	60
	380	50	342	418	14	663.8	800	800	682.3	800	800	115	60
	400	50	360	440	14	633.1	800	700	650.6	800	800	115	60
	415	50	374	457	14	610.3	800	700	627.2	800	700	115	60
	440	50	396	484	14	574.9	700	700	590.9	800	700	115	60
325	380	60	342	418	16	715.5	800	800	736.2	800	1000	115	60
	400	60	360	440	16	679.8	800	800	699.9	800	800	115	60
	460	60	414	506	16	590.0	800	700	607.6	800	700	115	60
	575	60	518	633	16	473.5	600	600	487.2	600	600	115	60
	380	50	342	418	16	730.7	1000	1000	751.8	1000	1000	115	60
	400	50	360	440	16	694.9	800	800	715.0	800	800	115	60
	415	50	374	457	16	671.7	800	800	691.1	800	800	115	60
	440	50	396	484	16	633.6	800	700	651.8	800	800	115	60
350	380	60	342	418	16	835.6	1200	1000	856.3	1200	1000	115	60
	400	60	360	440	16	794.6	1000	1000	814.7	1000	1000	115	60
	460	60	414	506	16	689.6	1000	800	707.2	1000	800	115	60
	575	60	518	633	16	552.6	800	700	566.4	800	700	115	60
	380	50	342	418	16	853.2	1200	1000	874.4	1200	1000	115	60
	400	50	360	440	16	812.2	1000	1000	832.3	1000	1000	115	60
	415	50	374	457	16	783.1	1000	1000	802.4	1000	1000	115	60
	440	50	396	484	16	738.6	1000	1000	756.9	1000	1000	115	60
400	380	60	342	418	18	886.7	1200	1000	910.0	1200	1000	115	60
	400	60	360	440	18	843.7	1000	1000	866.3	1000	1000	115	60
	460	60	414	506	18	731.4	1000	1000	751.2	1000	1000	115	60
	575	60	518	633	18	586.0	800	700	601.5	800	700	115	60
	380	50	342	418	18	904.3	1200	1000	928.1	1200	1200	115	60
	400	50	360	440	18	861.3	1000	1000	883.8	1200	1000	115	60
	415	50	374	457	18	831.0	1000	1000	852.7	1000	1000	115	60
	440	50	396	484	18	783.3	1000	1000	803.8	1000	1000	115	60
450	380	60	342	418	20	1054.6	1200	1200	1080.5	1200	1200	115	60
	400	60	360	440	20	1002.1	1200	1200	1027.2	1200	1200	115	60
	460	60	414	506	20	870.9	1200	1000	892.9	1200	1000	115	60
	575	60	518	633	20	698.6	800	800	715.8	800	800	115	60
	380	50	342	418	20	1076.9	1200	1200	1103.3	1200	1200	115	60
	400	50	360	440	20	1024.3	1200	1200	1049.4	1200	1200	115	60
	415	50	374	457	20	987.0	1200	1200	1011.1	1200	1200	115	60
	440	50	396	484	20	931.9	1200	1200	954.7	1200	1200	115	60
500	380	60	342	418	22	1137.0	1200	1200	1165.5	1200	1200	115	60
	400	60	360	440	22	1079.5	1200	1200	1107.1	1200	1200	115	60
	460	60	414	506	22	938.3	1200	1200	962.5	1200	1200	115	60
	575	60	518	633	22	752.8	1000	1000	771.7	1000	1000	115	60
	380	50	342	418	22	1159.5	1600	1600	1188.6	1600	1600	115	60
	400	50	360	440	22	1104.2	1200	1200	1131.8	1200	1200	115	60
	415	50	374	457	22	1064.2	1200	1200	1090.8	1200	1200	115	60
	440	50	396	484	22	1004.1	1200	1200	1029.2	1200	1200	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is on.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 11 — 30XV140-500 Electrical Data, Single Point Power, Mid Tier, Variable Speed Fans

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS	STANDARD CONDENSER FANS			HIGH STATIC CONDENSER FANS			CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied			MCA	MOCP	REC FUSE SIZE	MCA	MOCP	REC FUSE SIZE	Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max									
140	208/230	60	187	253	8	586.2	800	700	596.5	800	700	115	40
	380	60	342	418	8	320.9	400	400	331.3	450	400	115	40
	400	60	360	440	8	305.3	400	350	315.4	400	350	115	40
	460	60	414	506	8	265.0	350	300	273.8	350	300	115	40
	575	60	518	633	8	212.2	250	250	219.1	250	250	115	40
	380	50	342	418	8	328.5	450	400	339.1	450	400	115	40
	400	50	360	440	8	312.9	400	350	322.9	400	400	115	40
	415	50	374	457	8	305.3	400	350	312.1	400	350	115	40
	440	50	396	484	8	286.7	350	350	295.8	400	350	115	40
160	208/230	60	187	253	10	643.5	800	800	656.4	800	800	115	40
	380	60	342	418	10	351.6	450	400	364.5	450	400	115	40
	400	60	360	440	10	335.5	450	400	348.0	450	400	115	40
	460	60	414	506	10	290.0	350	350	301.0	400	350	115	40
	575	60	518	633	10	232.6	300	300	241.2	300	300	115	40
	380	50	342	418	10	359.4	450	400	372.6	500	450	115	40
	400	50	360	440	10	343.2	450	400	355.8	450	400	115	40
	415	50	374	457	10	335.5	450	400	342.2	450	400	115	40
	440	50	396	484	10	311.6	400	350	323.0	400	400	115	40
180	208/230	60	187	253	10	726.7	1000	800	739.6	1000	1000	115	60
	380	60	342	418	10	398.8	500	450	411.8	500	450	115	60
	400	60	360	440	10	378.2	500	450	390.8	500	450	115	60
	460	60	414	506	10	327.8	450	400	338.8	450	400	115	60
	575	60	518	633	10	264.1	350	300	272.7	350	300	115	60
	380	50	342	418	10	408.9	500	450	422.1	500	500	115	60
	400	50	360	440	10	390.5	500	450	403.0	500	450	115	60
	415	50	374	457	10	375.2	500	450	387.2	500	450	115	60
	440	50	396	484	10	354.4	450	400	365.8	450	400	115	60
200	208/230	60	187	253	12	812.9	1000	1000	828.4	1000	1000	115	60
	380	60	342	418	12	445.3	600	500	460.8	600	600	115	60
	400	60	360	440	12	424.2	500	500	439.2	500	500	115	60
	460	60	414	506	12	366.7	500	450	379.9	500	450	115	60
	575	60	518	633	12	295.0	400	350	305.3	400	350	115	60
	380	50	342	418	12	455.6	600	600	471.4	600	600	115	60
	400	50	360	440	12	434.4	500	500	449.4	600	500	115	60
	415	50	374	457	12	418.7	500	500	433.2	500	500	115	60
	440	50	396	484	12	395.1	500	450	408.8	500	450	115	60
225	380	60	342	418	12	498.0	700	600	513.5	700	600	115	60
	400	60	360	440	12	473.1	600	600	488.2	700	600	115	60
	460	60	414	506	12	410.0	500	500	423.2	600	500	115	60
	575	60	518	633	12	328.8	450	400	339.2	450	400	115	60
	380	50	342	418	12	508.5	700	600	524.3	700	600	115	60
	400	50	360	440	12	484.6	700	600	499.6	700	600	115	60
	415	50	374	457	12	467.4	600	600	481.9	600	600	115	60
	440	50	396	484	12	441.0	600	500	454.7	600	600	115	60
250	380	60	342	418	14	561.1	700	700	579.2	700	700	115	60
	400	60	360	440	14	534.9	700	600	552.5	700	700	115	60
	460	60	414	506	14	463.1	600	600	478.5	600	600	115	60
	575	60	518	633	14	372.1	500	450	384.1	500	450	115	60
	380	50	342	418	14	573.8	700	700	592.3	700	700	115	60
	400	50	360	440	14	547.6	700	600	565.1	700	600	115	60
	415	50	374	457	14	527.0	700	600	543.9	700	600	115	60
	440	50	396	484	14	498.4	600	600	514.4	600	600	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 11 — 30XV140-500 Electrical Data, Single Point Power, Mid Tier, Variable Speed Fans (cont)

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS	STANDARD CONDENSER FANS			HIGH STATIC CONDENSER FANS			CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied			MCA	MOCP	REC FUSE SIZE	MCA	MOCP	REC FUSE SIZE	Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max									
275	380	60	342	418	14	601.6	800	700	619.7	800	700	115	60
	400	60	360	440	14	570.9	700	700	588.5	800	700	115	60
	460	60	414	506	14	495.9	600	600	511.3	700	600	115	60
	575	60	518	633	14	396.8	500	450	408.9	500	450	115	60
	380	50	342	418	14	614.3	800	700	632.8	800	700	115	60
	400	50	360	440	14	585.8	800	700	603.4	800	700	115	60
	415	50	374	457	14	565.3	700	700	582.2	800	700	115	60
	440	50	396	484	14	532.2	700	600	548.1	700	600	115	60
300	380	60	342	418	16	627.7	800	700	648.5	800	800	115	60
	400	60	360	440	16	596.6	800	700	616.7	800	700	115	60
	460	60	414	506	16	517.1	700	600	534.7	700	600	115	60
	575	60	518	633	16	415.0	500	500	428.7	500	500	115	60
	380	50	342	418	16	640.7	800	800	661.8	800	800	115	60
	400	50	360	440	16	609.4	800	700	629.5	800	700	115	60
	415	50	374	457	16	588.5	800	700	607.8	800	700	115	60
	440	50	396	484	16	554.8	700	700	573.1	700	700	115	60
325	380	60	342	418	18	683.2	800	800	706.5	800	800	115	60
	400	60	360	440	18	649.2	800	800	671.8	800	800	115	60
	460	60	414	506	18	564.0	700	700	583.8	700	700	115	60
	575	60	518	633	18	453.4	600	500	468.8	600	500	115	60
	380	50	342	418	18	698.5	800	800	722.3	800	800	115	60
	400	50	360	440	18	664.5	800	800	687.1	800	800	115	60
	415	50	374	457	18	641.0	800	800	662.7	800	800	115	60
	440	50	396	484	18	604.5	800	700	625.0	800	700	115	60
350	380	60	342	418	18	775.0	1000	1000	798.3	1000	1000	115	60
	400	60	360	440	18	737.0	1000	1000	759.6	1000	1000	115	60
	460	60	414	506	18	638.8	800	800	658.6	800	800	115	60
	575	60	518	633	18	511.5	700	600	527.0	700	600	115	60
	380	50	342	418	18	790.6	1000	1000	814.4	1000	1000	115	60
	400	50	360	440	18	752.6	1000	1000	775.1	1000	1000	115	60
	415	50	374	457	18	725.3	1000	1000	747.0	1000	1000	115	60
	440	50	396	484	18	684.8	800	800	705.3	1000	800	115	60
400	380	60	342	418	20	879.1	1200	1000	905.0	1200	1000	115	60
	400	60	360	440	20	835.6	1000	1000	860.7	1000	1000	115	60
	460	60	414	506	20	724.9	1000	800	746.9	1000	1000	115	60
	575	60	518	633	20	581.6	800	700	598.8	800	700	115	60
	380	50	342	418	20	896.9	1200	1000	923.3	1200	1200	115	60
	400	50	360	440	20	853.3	1000	1000	878.4	1200	1000	115	60
	415	50	374	457	20	822.7	1000	1000	846.9	1000	1000	115	60
	440	50	396	484	20	776.7	1000	1000	799.5	1000	1000	115	60
450	380	60	342	418	22	1049.2	1200	1200	1077.7	1200	1200	115	60
	400	60	360	440	22	996.3	1200	1200	1023.9	1200	1200	115	60
	460	60	414	506	22	864.9	1200	1000	889.1	1200	1000	115	60
	575	60	518	633	22	692.0	800	800	710.9	800	800	115	60
	380	50	342	418	22	1071.8	1200	1200	1100.8	1200	1200	115	60
	400	50	360	440	22	1018.7	1200	1200	1046.3	1200	1200	115	60
	415	50	374	457	22	983.2	1200	1200	1009.8	1200	1200	115	60
	440	50	396	484	22	927.6	1200	1200	952.7	1200	1200	115	60
500	380	60	342	418	24	1104.6	1200	1200	1135.7	1200	1200	115	60
	400	60	360	440	24	1051.2	1200	1200	1081.3	1200	1200	115	60
	460	60	414	506	24	912.0	1200	1200	938.4	1200	1200	115	60
	575	60	518	633	24	730.4	1000	1000	751.0	1000	1000	115	60
	380	50	342	418	24	1127.4	1200	1200	1159.1	1200	1200	115	60
	400	50	360	440	24	1071.5	1200	1200	1101.6	1200	1200	115	60
	415	50	374	457	24	1033.4	1200	1200	1062.4	1200	1200	115	60
	440	50	396	484	24	975.0	1200	1200	1002.4	1200	1200	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 12 — 30XV140-500 Electrical Data, Single Point Power, High Tier, Variable Speed Fans

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS	STANDARD CONDENSER FANS			HIGH STATIC CONDENSER FANS			CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied			MCA	MOCP	REC FUSE SIZE	MCA	MOCP	REC FUSE SIZE	Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max									
140	208/230	60	187	253	10	560.2	700	700	573.1	700	700	115	40
	380	60	342	418	10	306.6	400	350	319.5	400	350	115	40
	400	60	360	440	10	292.7	350	350	305.3	400	350	115	40
	460	60	414	506	10	252.9	300	300	263.9	350	300	115	40
	575	60	518	633	10	203.3	250	225	211.9	250	250	115	40
	380	50	342	418	10	314.4	400	350	327.6	400	400	115	40
	400	50	360	440	10	300.5	400	350	313.0	400	350	115	40
	415	50	374	457	10	289.7	350	350	300.5	400	350	115	40
	440	50	396	484	10	273.4	350	300	282.4	350	350	115	40
160	208/230	60	187	253	12	646.7	800	800	662.2	800	800	115	40
	380	60	342	418	12	355.3	450	400	370.8	450	450	115	40
	400	60	360	440	12	336.4	450	400	351.4	450	400	115	40
	460	60	414	506	12	291.9	350	350	305.1	400	350	115	40
	575	60	518	633	12	234.9	300	300	245.3	300	300	115	40
	380	50	342	418	12	363.2	450	400	379.1	500	450	115	40
	400	50	360	440	12	346.6	450	400	361.6	450	400	115	40
	415	50	374	457	12	335.4	450	400	348.7	450	400	115	40
	440	50	396	484	12	316.3	400	350	327.6	400	400	115	40
180	208/230	60	187	253	12	853.7	1000	1000	869.2	1000	1000	115	60
	380	60	342	418	12	467.8	600	600	483.3	600	600	115	60
	400	60	360	440	12	381.4	500	450	396.4	500	450	115	60
	460	60	414	506	12	330.1	450	400	343.3	450	400	115	60
	575	60	518	633	12	264.2	350	300	274.5	350	300	115	60
	380	50	342	418	12	478.0	600	600	493.8	600	600	115	60
	400	50	360	440	12	454.6	600	500	469.6	600	600	115	60
	415	50	374	457	12	438.9	600	500	453.4	600	500	115	60
	440	50	396	484	12	415.3	500	500	429.0	500	500	115	60
200	208/230	60	187	253	14	802.7	1000	1000	820.8	1000	1000	115	60
	380	60	342	418	14	440.0	500	500	458.1	600	500	115	60
	400	60	360	440	14	418.3	500	500	435.9	500	500	115	60
	460	60	414	506	14	362.2	450	400	377.6	500	450	115	60
	575	60	518	633	14	290.6	350	350	302.6	400	350	115	60
	380	50	342	418	14	450.4	600	500	468.9	600	600	115	60
	400	50	360	440	14	428.7	500	500	446.3	600	500	115	60
	415	50	374	457	14	414.9	500	500	431.8	500	500	115	60
	440	50	396	484	14	390.8	500	450	406.8	500	450	115	60
225	380	60	342	418	14	491.1	700	600	509.3	700	600	115	60
	400	60	360	440	14	468.0	600	600	485.6	600	600	115	60
	460	60	414	506	14	405.4	500	500	420.8	600	500	115	60
	575	60	518	633	14	325.5	450	400	337.5	450	400	115	60
	380	50	342	418	14	501.9	700	600	520.3	700	600	115	60
	400	50	360	440	14	477.4	600	600	495.0	700	600	115	60
	415	50	374	457	14	462.1	600	600	479.0	600	600	115	60
	440	50	396	484	14	435.2	600	500	451.2	600	500	115	60
250	380	60	342	418	16	555.7	700	700	576.5	700	700	115	60
	400	60	360	440	16	529.1	700	600	549.2	700	600	115	60
	460	60	414	506	16	458.4	600	600	476.0	600	600	115	60
	575	60	518	633	16	367.7	500	450	381.5	500	450	115	60
	380	50	342	418	16	568.7	700	700	589.8	800	700	115	60
	400	50	360	440	16	541.9	700	600	562.0	700	700	115	60
	415	50	374	457	16	523.2	700	600	542.6	700	600	115	60
	440	50	396	484	16	494.1	600	600	512.3	600	600	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 12 — 30XV140-500 Electrical Data, Single Point Power, High Tier, Variable Speed Fans (cont)

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS	STANDARD CONDENSER FANS			HIGH STATIC CONDENSER FANS			CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied			MCA	MOCP	REC FUSE SIZE	MCA	MOCP	REC FUSE SIZE	Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max									
275	380	60	342	418	16	591.7	800	700	612.5	800	700	115	60
	400	60	360	440	16	562.8	700	700	582.9	700	700	115	60
	460	60	414	506	16	488.3	600	600	505.9	600	600	115	60
	575	60	518	633	16	392.5	500	450	406.2	500	450	115	60
	380	50	342	418	16	604.7	800	700	625.8	800	700	115	60
	400	50	360	440	16	575.7	700	700	595.7	800	700	115	60
	415	50	374	457	16	554.7	700	700	574.1	700	700	115	60
	440	50	396	484	16	523.3	700	600	541.6	700	600	115	60
300	380	60	342	418	18	622.4	800	700	645.7	800	800	115	60
	400	60	360	440	18	590.7	800	700	613.3	800	700	115	60
	460	60	414	506	18	512.5	700	600	532.3	700	600	115	60
	575	60	518	633	18	410.6	500	450	426.1	500	500	115	60
	380	50	342	418	18	635.5	800	700	659.3	800	800	115	60
	400	50	360	440	18	606.0	800	700	628.6	800	700	115	60
	415	50	374	457	18	584.7	800	700	606.5	800	700	115	60
	440	50	396	484	18	550.5	700	700	571.0	700	700	115	60
325	380	60	342	418	20	682.3	800	800	708.2	800	800	115	60
	400	60	360	440	20	650.1	800	800	675.2	800	800	115	60
	460	60	414	506	20	563.4	700	700	585.4	700	700	115	60
	575	60	518	633	20	451.2	600	500	468.4	600	600	115	60
	380	50	342	418	20	697.9	800	800	724.3	800	800	115	60
	400	50	360	440	20	663.3	800	800	688.4	800	800	115	60
	415	50	374	457	20	641.7	800	800	665.9	800	800	115	60
	440	50	396	484	20	604.7	800	700	627.5	800	700	115	60
350	380	60	342	418	20	752.1	1000	1000	778.0	1000	1000	115	60
	400	60	360	440	20	714.9	1000	800	740.0	1000	1000	115	60
	460	60	414	506	20	620.9	800	700	642.9	800	800	115	60
	575	60	518	633	20	498.9	700	600	516.1	700	600	115	60
	380	50	342	418	20	768.0	1000	1000	794.4	1000	1000	115	60
	400	50	360	440	20	730.7	1000	1000	755.7	1000	1000	115	60
	415	50	374	457	20	705.3	1000	800	729.4	1000	1000	115	60
	440	50	396	484	20	665.2	800	800	688.0	800	800	115	60
400	380	60	342	418	22	889.5	1200	1000	918.0	1200	1200	115	60
	400	60	360	440	22	845.5	1000	1000	873.1	1000	1000	115	60
	460	60	414	506	22	734.2	1000	1000	758.4	1000	1000	115	60
	575	60	518	633	22	588.5	800	700	607.4	800	700	115	60
	380	50	342	418	22	907.5	1200	1000	936.6	1200	1200	115	60
	400	50	360	440	22	863.4	1000	1000	891.0	1200	1000	115	60
	415	50	374	457	22	832.4	1000	1000	859.0	1000	1000	115	60
	440	50	396	484	22	785.8	1000	1000	810.9	1000	1000	115	60
450	380	60	342	418	24	962.9	1200	1200	994.0	1200	1200	115	60
	400	60	360	440	24	916.2	1200	1200	946.3	1200	1200	115	60
	460	60	414	506	24	795.4	1000	1000	821.8	1000	1000	115	60
	575	60	518	633	24	638.1	800	700	658.8	800	800	115	60
	380	50	342	418	24	983.4	1200	1200	1015.1	1200	1200	115	60
	400	50	360	440	24	936.5	1200	1200	966.6	1200	1200	115	60
	415	50	374	457	24	902.9	1200	1000	931.9	1200	1200	115	60
	440	50	396	484	24	851.3	1000	1000	878.6	1200	1000	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 13 — 30XV140-500 Electrical Data, Dual Point Power, Standard Tier, Fixed Speed Fans

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS		MCA		MOCP		REC FUSE SIZE		CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied										Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2		
140	208/230	60	187	253	4	4	319.4	311.4	500	500	400	400	115	40
	380	60	342	418	4	4	175.1	170.7	300	250	225	225	115	40
	400	60	360	440	4	4	167.0	162.6	250	250	200	200	115	40
	460	60	414	506	4	4	144.4	140.8	225	225	175	175	115	40
	575	60	518	633	4	4	116.3	113.4	175	175	150	150	115	40
160	208/230	60	187	253	4	4	375.7	367.7	600	600	450	450	115	40
	380	60	342	418	4	4	205.1	200.7	350	300	250	250	115	40
	400	60	360	440	4	4	195.7	191.3	300	300	250	250	115	40
	460	60	414	506	4	4	169.4	165.8	250	250	225	200	115	40
	575	60	518	633	4	4	136.3	133.4	225	225	175	175	115	40
180	208/230	60	187	253	4	4	431.9	423.9	700	700	600	600	115	60
	380	60	342	418	4	4	236.3	231.9	400	400	300	300	115	60
	400	60	360	440	4	4	225.7	221.3	350	350	300	300	115	60
	460	60	414	506	4	4	195.3	191.6	300	300	250	250	115	60
	575	60	518	633	4	4	156.3	153.4	250	250	200	200	115	60
200	208/230	60	187	253	5	5	447.3	439.3	700	700	600	600	115	60
	380	60	342	418	5	5	244.9	240.5	400	400	300	300	115	60
	400	60	360	440	5	5	232.9	228.5	400	350	300	300	115	60
	460	60	414	506	5	5	202.3	198.6	300	300	250	250	115	60
	575	60	518	633	5	5	162.4	159.5	250	250	200	200	115	60
225	380	60	342	418	6	4	340.8	214.4	500	350	450	300	115	60
	400	60	360	440	6	4	323.7	203.8	500	350	400	250	115	60
	460	60	414	506	6	4	281.0	176.6	450	300	350	225	115	60
	575	60	518	633	6	4	225.1	142.1	350	225	300	175	115	60
250	380	60	342	418	6	6	322.1	315.4	500	500	400	400	115	60
	400	60	360	440	6	6	306.2	299.5	500	500	400	400	115	60
	460	60	414	506	6	6	265.3	259.8	450	450	350	350	115	60
	575	60	518	633	6	6	212.6	208.2	350	350	300	250	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 13 — 30XV140-500 Electrical Data, Dual Point Power, Standard Tier, Fixed Speed Fans (cont)

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS		MCA		MOCP		REC FUSE SIZE		CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied										Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2		
275	380	60	342	418	6	6	345.8	339.1	500	500	450	450	115	60
	400	60	360	440	6	6	328.7	322.0	500	500	400	400	115	60
	460	60	414	506	6	6	285.2	279.6	450	450	350	350	115	60
	575	60	518	633	6	6	228.8	224.4	350	350	300	300	115	60
300	380	60	342	418	7	7	354.4	347.7	600	600	450	450	115	60
	400	60	360	440	7	7	337.1	330.4	500	500	400	400	115	60
	460	60	414	506	7	7	292.4	286.9	500	450	350	350	115	60
	575	60	518	633	7	7	235.0	230.6	400	400	300	300	115	60
325	380	60	342	418	8	8	388.0	381.3	600	600	500	500	115	60
	400	60	360	440	8	8	369.3	362.6	600	600	450	450	115	60
	460	60	414	506	8	8	320.4	314.9	500	500	400	400	115	60
	575	60	518	633	8	8	257.4	253.0	400	400	350	300	115	60
350	380	60	342	418	9	7	523.5	375.2	800	600	700	450	115	60
	400	60	360	440	9	7	497.1	356.7	800	600	600	450	115	60
	460	60	414	506	9	7	431.7	309.6	700	500	600	400	115	60
	575	60	518	633	9	7	346.5	248.1	600	400	450	300	115	60
400	380	60	342	418	9	9	494.7	487.4	800	800	600	600	115	60
	400	60	360	440	9	9	470.9	463.6	800	800	600	600	115	60
	460	60	414	506	9	9	408.2	402.1	700	700	500	500	115	60
	575	60	518	633	9	9	327.7	322.9	500	500	400	400	115	60
450	380	60	342	418	10	10	572.1	564.8	800	800	700	700	115	60
	400	60	360	440	10	10	544.3	537.0	800	800	700	700	115	60
	460	60	414	506	10	10	472.4	466.4	800	800	600	600	115	60
	575	60	518	633	10	10	378.9	374.0	600	600	450	450	115	60
500	380	60	342	418	11	11	601.9	594.6	1000	1000	800	800	115	60
	400	60	360	440	11	11	572.8	565.5	800	800	700	700	115	60
	460	60	414	506	11	11	496.8	490.8	800	800	600	600	115	60
	575	60	518	633	11	11	397.5	392.7	600	600	500	500	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 14 — 30XV160-500 Electrical Data, Dual Point Power, Standard Tier, Variable Speed Fans

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS		STANDARD CONDENSER FANS						HIGH STATIC CONDENSER FANS						CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied				MCA		MOCP		REC FUSE SIZE		MCA		MOCP		REC FUSE SIZE		Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2		
160	208/230	60	187	253	4	4	379.6	366.8	600	600	450	450	384.8	372.0	600	600	500	450	115	40
	380	60	342	418	4	4	207.9	200.8	350	300	250	250	213.0	206.0	350	350	250	250	115	40
	400	60	360	440	4	4	198.1	191.0	300	300	250	250	203.1	196.1	300	300	250	250	115	40
	460	60	414	506	4	4	171.5	165.7	250	250	225	200	175.9	170.1	250	250	225	200	115	40
	575	60	518	633	4	4	138.4	133.8	225	225	175	175	141.9	137.2	225	225	175	175	115	40
	380	50	342	418	4	4	212.0	205.0	350	350	250	250	217.3	210.3	350	350	300	250	115	40
	400	50	360	440	4	4	202.2	195.2	300	300	250	250	207.2	200.2	300	300	250	250	115	40
	415	50	374	457	4	4	195.2	188.2	300	300	250	225	200.1	193.0	300	300	250	250	115	40
	440	50	396	484	4	4	184.1	177.1	300	300	225	225	188.7	181.7	300	300	225	225	115	40
180	208/230	60	187	253	4	4	435.9	423.0	700	700	600	600	441.1	428.2	700	700	600	600	115	60
	380	60	342	418	4	4	239.1	232.1	400	400	300	300	244.3	237.3	400	400	300	300	115	60
	400	60	360	440	4	4	226.8	219.8	350	350	300	300	231.8	224.8	350	350	300	300	115	60
	460	60	414	506	4	4	196.9	191.1	300	300	250	250	201.3	195.5	300	300	250	250	115	60
	575	60	518	633	4	4	158.4	153.8	250	250	200	200	161.9	157.2	250	250	200	200	115	60
	380	50	342	418	4	4	244.5	237.5	400	400	300	300	249.8	242.8	400	400	300	300	115	60
	400	50	360	440	4	4	233.5	226.4	350	350	300	300	238.5	231.4	400	350	300	300	115	60
	415	50	374	457	4	4	225.2	218.2	350	350	300	300	230.1	223.0	350	350	300	300	115	60
	440	50	396	484	4	4	212.9	205.8	350	350	300	250	217.4	210.4	350	350	300	250	115	60
200	208/230	60	187	253	5	5	451.7	438.8	700	700	600	600	458.1	445.3	700	700	600	600	115	60
	380	60	342	418	5	5	248.1	241.0	400	400	300	300	254.5	247.5	400	400	300	300	115	60
	400	60	360	440	5	5	235.5	228.5	350	350	300	300	241.8	234.8	400	400	300	300	115	60
	460	60	414	506	5	5	204.1	198.3	300	300	250	250	209.6	203.8	350	350	250	250	115	60
	575	60	518	633	5	5	164.4	159.7	250	250	200	200	168.7	164.0	250	250	200	200	115	60
	380	50	342	418	5	5	253.6	246.5	400	400	300	300	260.2	253.2	400	400	350	300	115	60
	400	50	360	440	5	5	242.3	235.2	400	400	300	300	248.5	241.5	400	400	300	300	115	60
	415	50	374	457	5	5	233.8	226.8	350	350	300	300	239.9	232.9	400	350	300	300	115	60
	440	50	396	484	5	5	220.0	212.9	350	350	300	300	225.7	218.6	350	350	300	300	115	60
225	380	60	342	418	6	4	338.0	212.1	500	350	400	300	345.8	217.3	500	350	450	300	115	60
	400	60	360	440	6	4	321.4	202.3	500	300	400	250	329.0	207.3	500	350	400	250	115	60
	460	60	414	506	6	4	278.9	174.8	450	300	350	225	285.5	179.2	450	300	350	225	115	60
	575	60	518	633	6	4	223.4	140.0	350	225	300	175	228.6	143.5	350	225	300	175	115	60
	380	50	342	418	6	4	344.9	217.5	500	350	450	300	352.8	222.8	500	350	450	300	115	60
	400	50	360	440	6	4	328.3	207.7	500	350	400	250	335.8	212.7	500	350	400	300	115	60
	415	50	374	457	6	4	317.2	199.4	500	300	400	250	324.4	204.3	500	300	400	250	115	60
	440	50	396	484	6	4	299.3	188.3	500	300	400	225	306.1	192.9	500	300	400	250	115	60
250	380	60	342	418	6	6	326.7	320.0	500	500	400	400	334.5	327.8	500	500	400	400	115	60
	400	60	360	440	6	6	310.1	303.4	500	500	400	400	317.7	311.0	500	500	400	400	115	60
	460	60	414	506	6	6	269.0	263.4	450	450	350	350	275.6	270.0	450	450	350	350	115	60
	575	60	518	633	6	6	216.3	211.9	350	350	300	300	221.5	217.1	350	350	300	300	115	60
	380	50	342	418	6	6	333.6	326.9	500	500	400	400	341.5	334.8	500	500	450	400	115	60
	400	50	360	440	6	6	318.2	311.5	500	500	400	400	325.7	319.0	500	500	400	400	115	60
	415	50	374	457	6	6	307.1	300.4	500	500	400	400	314.4	307.7	500	500	400	400	115	60
	440	50	396	484	6	6	289.2	282.5	450	450	350	350	296.1	289.4	500	450	350	350	115	60
275	380	60	342	418	6	6	337.9	331.2	500	500	400	400	345.7	339.0	500	500	450	400	115	60
	400	60	360	440	6	6	321.4	314.7	500	500	400	400	328.9	322.2	500	500	400	400	115	60
	460	60	414	506	6	6	278.7	273.2	450	450	350	350	285.3	279.8	450	450	350	350	115	60
	575	60	518	633	6	6	223.8	219.4	350	350	300	300	229.0	224.6	350	350	300	300	115	60
	380	50	342	418	6	6	344.8	338.1	500	500	450	400	352.7	346.0	500	500	450	450	115	60
	400	50	360	440	6	6	328.2	321.5	500	500	400	400	335.7	329.0	500	500	400	400	115	60
	415	50	374	457	6	6	317.1	310.4	500	500	400	400	324.4	317.7	500	500	400	400	115	60
	440	50	396	484	6	6	299.2	292.5	500	500	400	350	306.1	299.4	500	500	400	400	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 14 — 30XV160-500 Electrical Data, Dual Point Power, Standard Tier, Variable Speed Fans (cont)

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS		STANDARD CONDENSER FANS						HIGH STATIC CONDENSER FANS						CONTROL CIRCUIT	
							MCA		MOCP		REC FUSE SIZE		MCA		MOCP		REC FUSE SIZE		Voltage 1 PH, 60 Hz	MCA and MOCP
	V(3 Ph)	Hz	Supplied Min	Supplied Max	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2		
300	380	60	342	418	7	7	359.4	352.7	600	600	450	450	368.5	361.8	600	600	450	450	115	60
	400	60	360	440	7	7	342.6	335.9	500	500	450	400	351.4	344.7	500	500	450	450	115	60
	460	60	414	506	7	7	296.8	291.2	500	500	350	350	304.5	298.9	500	500	400	400	115	60
	575	60	518	633	7	7	238.5	234.1	400	400	300	300	244.5	240.1	400	400	300	300	115	60
	380	50	342	418	7	7	367.6	360.9	600	600	450	450	376.9	370.2	600	600	450	450	115	60
	400	50	360	440	7	7	350.8	344.1	500	500	450	450	359.5	352.8	600	500	450	450	115	60
	415	50	374	457	7	7	338.2	331.5	500	500	400	400	346.7	340.0	500	500	450	400	115	60
	440	50	396	484	7	7	318.8	312.1	500	500	400	400	326.8	320.1	500	500	400	400	115	60
325	380	60	342	418	8	8	395.9	389.1	600	600	500	500	406.2	399.5	600	600	500	500	115	60
	400	60	360	440	8	8	376.3	369.6	600	600	450	450	386.3	379.6	600	600	500	450	115	60
	460	60	414	506	8	8	326.4	320.9	500	500	400	400	335.2	329.7	500	500	400	400	115	60
	575	60	518	633	8	8	262.0	257.5	400	400	350	350	268.8	264.4	450	400	350	350	115	60
	380	50	342	418	8	8	404.2	397.5	600	600	500	500	414.7	408.0	600	600	500	500	115	60
	400	50	360	440	8	8	384.6	377.9	600	600	500	450	394.6	387.9	600	600	500	500	115	60
	415	50	374	457	8	8	371.9	365.1	600	600	450	450	381.5	374.8	600	600	450	450	115	60
	440	50	396	484	8	8	350.9	344.2	500	500	450	450	360.0	353.3	600	500	450	450	115	60
350	380	60	342	418	9	7	526.1	377.7	800	600	700	450	537.8	386.8	800	600	700	500	115	60
	400	60	360	440	9	7	500.0	359.6	800	600	600	450	511.3	368.4	800	600	700	450	115	60
	460	60	414	506	9	7	434.2	311.7	700	500	600	400	444.1	319.4	700	500	600	400	115	60
	575	60	518	633	9	7	347.5	250.3	500	400	450	300	355.3	256.4	600	400	450	350	115	60
	380	50	342	418	9	7	537.1	385.9	800	600	700	500	548.9	395.2	800	600	700	500	115	60
	400	50	360	440	9	7	510.9	367.8	800	600	700	450	522.2	376.6	800	600	700	450	115	60
	415	50	374	457	9	7	493.0	354.0	800	600	600	450	503.9	362.5	800	600	600	450	115	60
	440	50	396	484	9	7	465.5	333.3	700	500	600	400	475.8	341.3	800	500	600	450	115	60
400	380	60	342	418	9	9	491.8	481.8	800	800	600	600	503.5	493.5	800	800	600	600	115	60
	400	60	360	440	9	9	468.2	458.3	700	700	600	600	479.5	469.6	800	800	600	600	115	60
	460	60	414	506	9	9	405.7	397.5	600	600	500	500	415.6	407.4	700	600	500	500	115	60
	575	60	518	633	9	9	325.0	318.5	500	500	400	400	332.8	326.2	500	500	400	400	115	60
	380	50	342	418	9	9	501.5	491.5	800	800	600	600	513.4	503.4	800	800	700	600	115	60
	400	50	360	440	9	9	477.9	467.9	800	800	600	600	489.2	479.2	800	800	600	600	115	60
	415	50	374	457	9	9	461.2	451.3	700	700	600	600	472.1	462.1	700	700	600	600	115	60
	440	50	396	484	9	9	435.0	425.0	700	700	600	600	445.3	435.3	700	700	600	600	115	60
450	380	60	342	418	10	10	584.5	574.6	1000	800	700	700	597.5	587.5	1000	1000	800	700	115	60
	400	60	360	440	10	10	555.7	545.7	800	800	700	700	568.2	558.3	800	800	700	700	115	60
	460	60	414	506	10	10	482.7	474.5	800	800	600	600	493.7	485.5	800	800	600	600	115	60
	575	60	518	633	10	10	387.2	380.7	600	600	500	450	395.8	389.3	600	600	500	500	115	60
	380	50	342	418	10	10	596.8	586.8	1000	1000	800	700	610.0	600.1	1000	1000	800	800	115	60
	400	50	360	440	10	10	567.9	557.9	800	800	700	700	580.5	570.5	800	800	700	700	115	60
	415	50	374	457	10	10	547.3	537.4	800	800	700	700	559.4	549.5	800	800	700	700	115	60
	440	50	396	484	10	10	517.1	507.1	800	800	700	600	528.5	518.5	800	800	700	700	115	60
500	380	60	342	418	11	11	629.7	619.8	1000	1000	800	800	644.0	634.0	1000	1000	800	800	115	60
	400	60	360	440	11	11	598.1	588.1	1000	1000	800	700	611.9	602.0	1000	1000	800	800	115	60
	460	60	414	506	11	11	519.7	511.4	800	800	700	700	531.8	523.5	800	800	700	700	115	60
	575	60	518	633	11	11	416.9	410.3	700	700	500	500	426.4	419.8	700	700	600	500	115	60
	380	50	342	418	11	11	642.1	632.2	1000	1000	800	800	656.7	646.7	1000	1000	800	800	115	60
	400	50	360	440	11	11	611.7	601.7	1000	1000	800	800	625.5	615.5	1000	1000	800	800	115	60
	415	50	374	457	11	11	589.7	579.7	1000	1000	700	700	603.0	593.0	1000	1000	800	800	115	60
	440	50	396	484	11	11	556.7	546.7	800	800	700	700	569.2	559.2	800	800	700	700	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 15 — 30XV140-500 Electrical Data, Dual Point Power, Mid Tier, Variable Speed Fans

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS		STANDARD CONDENSER FANS						HIGH STATIC CONDENSER FANS						CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied				MCA		MOCP		REC FUSE SIZE		MCA		MOCP		REC FUSE SIZE		Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2		
140	208/230	60	187	253	4	4	327.1	314.3	500	500	400	400	332.3	319.5	500	500	400	400	115	40
	380	60	342	418	4	4	179.1	172.1	300	250	225	225	184.3	177.3	300	250	225	225	115	40
	400	60	360	440	4	4	170.6	163.5	250	250	200	200	175.6	168.6	250	250	225	200	115	40
	460	60	414	506	4	4	147.9	142.1	225	225	175	175	152.3	146.5	250	225	200	175	115	40
	575	60	518	633	4	4	118.4	113.8	175	175	150	150	121.9	117.2	200	175	150	150	115	40
	380	50	342	418	4	4	183.3	176.2	300	300	225	225	188.6	181.5	300	300	225	225	115	40
	400	50	360	440	4	4	174.7	167.7	250	250	225	200	179.7	172.7	250	250	225	225	115	40
	415	50	374	457	4	4	169.0	161.9	250	250	200	200	173.8	166.8	250	250	225	200	115	40
	440	50	396	484	4	4	160.4	153.3	250	250	200	200	164.9	157.9	250	250	200	200	115	40
160	208/230	60	187	253	5	5	357.9	345.0	500	500	450	450	364.4	351.5	600	500	450	450	115	40
	380	60	342	418	5	5	195.6	188.5	300	300	250	225	202.0	195.0	300	300	250	250	115	40
	400	60	360	440	5	5	186.8	179.7	300	300	225	225	193.0	186.0	300	300	225	225	115	40
	460	60	414	506	5	5	161.3	155.5	250	250	200	200	166.8	161.0	250	250	200	200	115	40
	575	60	518	633	5	5	129.4	124.7	200	200	175	150	133.7	129.0	200	200	175	175	115	40
	380	50	342	418	5	5	199.8	192.8	300	300	250	250	206.4	199.4	300	300	250	250	115	40
	400	50	360	440	5	5	191.0	184.0	300	300	225	225	197.3	190.2	300	300	250	225	115	40
	415	50	374	457	5	5	183.8	176.8	300	250	225	225	189.9	182.9	300	300	225	225	115	40
	440	50	396	484	5	5	173.7	166.7	250	250	225	200	179.4	172.4	250	250	225	225	115	40
180	208/230	60	187	253	5	5	404.2	391.3	600	600	500	500	410.6	397.8	600	600	500	500	115	60
	380	60	342	418	5	5	221.8	214.8	350	350	300	300	228.3	221.3	350	350	300	300	115	60
	400	60	360	440	5	5	210.5	203.5	350	300	250	250	216.8	209.8	350	350	300	250	115	60
	460	60	414	506	5	5	182.3	176.5	300	300	225	225	187.8	182.0	300	300	225	225	115	60
	575	60	518	633	5	5	146.9	142.2	225	225	175	175	151.2	146.5	250	225	200	175	115	60
	380	50	342	418	5	5	227.3	220.3	350	350	300	300	233.9	226.9	350	350	300	300	115	60
	400	50	360	440	5	5	217.3	210.2	350	350	300	250	223.5	216.5	350	350	300	300	115	60
	415	50	374	457	5	5	208.8	201.8	350	300	250	250	214.9	207.9	350	300	300	250	115	60
	440	50	396	484	5	5	197.5	190.4	300	300	250	225	203.2	196.1	300	300	250	250	115	60
200	208/230	60	187	253	6	6	452.9	435.8	700	700	600	600	460.6	443.6	700	700	600	600	115	60
	380	60	342	418	6	6	248.1	238.7	400	400	300	300	255.8	246.5	400	400	300	300	115	60
	400	60	360	440	6	6	236.5	227.2	350	350	300	300	244.0	234.7	350	350	300	300	115	60
	460	60	414	506	6	6	204.3	196.6	300	300	250	250	210.9	203.2	300	300	250	250	115	60
	575	60	518	633	6	6	164.3	158.1	250	250	200	200	169.5	163.3	250	250	200	200	115	60
	380	50	342	418	6	6	253.7	244.4	400	400	300	300	261.6	252.3	400	400	300	300	115	60
	400	50	360	440	6	6	242.1	232.8	400	350	300	300	249.6	240.3	400	400	300	300	115	60
	415	50	374	457	6	6	233.5	224.2	350	350	300	300	240.8	231.4	350	350	300	300	115	60
	440	50	396	484	6	6	220.6	211.3	350	350	300	250	227.4	218.1	350	350	300	300	115	60
225	380	60	342	418	7	5	327.0	207.3	500	350	400	250	336.0	213.8	500	350	400	300	115	60
	400	60	360	440	7	5	311.4	196.0	500	300	400	250	320.2	202.3	500	300	400	250	115	60
	460	60	414	506	7	5	269.5	170.3	450	250	350	225	277.2	175.8	450	250	350	225	115	60
	575	60	518	633	7	5	215.6	137.2	350	225	300	175	221.7	141.5	350	225	300	175	115	60
	380	50	342	418	7	5	333.9	211.5	500	350	400	250	343.2	218.2	500	350	450	300	115	60
	400	50	360	440	7	5	318.3	201.5	500	300	400	250	327.1	207.7	500	300	400	250	115	60
	415	50	374	457	7	5	307.1	194.3	500	300	400	250	315.5	200.4	500	300	400	250	115	60
	440	50	396	484	7	5	290.1	182.9	450	300	350	225	298.1	188.6	450	300	350	225	115	60
250	380	60	342	418	7	7	310.6	303.9	500	500	400	400	319.7	313.0	500	500	400	400	115	60
	400	60	360	440	7	7	296.3	289.6	500	450	350	350	305.1	298.4	500	500	400	350	115	60
	460	60	414	506	7	7	256.4	250.9	400	400	350	300	264.1	258.6	400	400	350	350	115	60
	575	60	518	633	7	7	206.0	201.6	300	300	250	250	212.0	207.6	350	300	250	250	115	60
	380	50	342	418	7	7	317.6	310.9	500	500	400	400	326.9	320.2	500	500	400	400	115	60
	400	50	360	440	7	7	303.3	296.6	500	500	400	350	312.0	305.3	500	500	400	400	115	60
	415	50	374	457	7	7	292.0	285.3	450	450	350	350	300.5	293.7	500	450	400	350	115	60
	440	50	396	484	7	7	276.3	269.6	450	450	350	350	284.3	277.6	450	450	350	350	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 15 — 30XV140-500 Electrical Data, Dual Point Power, Mid Tier, Variable Speed Fans (cont)

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS		STANDARD CONDENSER FANS						HIGH STATIC CONDENSER FANS						CONTROL CIRCUIT	
							MCA		MOCP		REC FUSE SIZE		MCA		MOCP		REC FUSE SIZE		Voltage 1 PH, 60 Hz	MCA and MOCP
	V(3 Ph)	Hz	Supplied																	
			Min	Max	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2		
275	380	60	342	418	7	7	333.1	326.4	500	500	400	400	342.2	335.5	500	500	450	400	115	60
	400	60	360	440	7	7	316.3	309.6	500	500	400	400	325.1	318.4	500	500	400	400	115	60
	460	60	414	506	7	7	274.6	269.1	450	450	350	350	282.3	276.8	450	450	350	350	115	60
	575	60	518	633	7	7	219.8	215.3	350	350	300	300	225.8	221.4	350	350	300	300	115	60
	380	50	342	418	7	7	340.1	333.4	500	500	400	400	349.4	342.7	500	500	450	450	115	60
	400	50	360	440	7	7	324.5	317.8	500	500	400	400	333.3	326.6	500	500	400	400	115	60
	415	50	374	457	7	7	313.2	306.5	500	500	400	400	321.7	315.0	500	500	400	400	115	60
	440	50	396	484	7	7	295.1	288.3	500	450	350	350	303.0	296.3	500	500	400	350	115	60
300	380	60	342	418	8	8	347.1	340.4	500	500	450	450	357.5	350.8	500	500	450	450	115	60
	400	60	360	440	8	8	330.0	323.3	500	500	400	400	340.1	333.4	500	500	400	400	115	60
	460	60	414	506	8	8	285.9	280.4	450	450	350	350	294.7	289.2	450	450	350	350	115	60
	575	60	518	633	8	8	229.5	225.0	350	350	300	300	236.3	231.9	350	350	300	300	115	60
	380	50	342	418	8	8	354.2	347.5	500	500	450	450	364.7	358.0	600	600	450	450	115	60
	400	50	360	440	8	8	337.1	330.4	500	500	400	400	347.1	340.4	500	500	450	400	115	60
	415	50	374	457	8	8	325.6	318.9	500	500	400	400	335.3	328.6	500	500	400	400	115	60
	440	50	396	484	8	8	307.1	300.4	500	500	400	400	316.3	309.6	500	500	400	400	115	60
325	380	60	342	418	9	9	377.3	370.6	600	600	450	450	389.0	382.3	600	600	500	450	115	60
	400	60	360	440	9	9	358.7	352.0	600	500	450	450	370.0	363.3	600	600	450	450	115	60
	460	60	414	506	9	9	311.5	306.0	500	500	400	400	321.4	315.9	500	500	400	400	115	60
	575	60	518	633	9	9	250.4	246.0	400	400	300	300	258.1	253.7	400	400	350	300	115	60
	380	50	342	418	9	9	385.7	379.0	600	600	500	450	397.6	390.9	600	600	500	500	115	60
	400	50	360	440	9	9	367.1	360.4	600	600	450	450	378.4	371.7	600	600	450	450	115	60
	415	50	374	457	9	9	354.2	347.5	500	500	450	450	365.1	358.4	600	600	450	450	115	60
	440	50	396	484	9	9	334.2	327.5	500	500	400	400	344.5	337.8	500	500	450	400	115	60
350	380	60	342	418	10	8	486.3	350.4	800	500	600	450	499.3	360.8	800	600	600	450	115	60
	400	60	360	440	10	8	462.5	333.3	700	500	600	400	475.0	343.4	700	500	600	450	115	60
	460	60	414	506	10	8	400.9	288.8	600	450	500	350	411.9	297.6	600	500	500	350	115	60
	575	60	518	633	10	8	321.0	231.3	500	350	400	300	329.6	238.2	500	400	400	300	115	60
	380	50	342	418	10	8	496.1	357.5	800	600	600	450	509.3	368.0	800	600	600	450	115	60
	400	50	360	440	10	8	472.2	340.4	800	500	600	450	484.8	350.4	800	500	600	450	115	60
	415	50	374	457	10	8	455.4	327.6	700	500	600	400	467.5	337.3	700	500	600	400	115	60
	440	50	396	484	10	8	430.1	309.2	700	500	600	400	441.5	318.3	700	500	600	400	115	60
400	380	60	342	418	10	10	487.0	477.1	800	800	600	600	500.0	490.0	800	800	600	600	115	60
	400	60	360	440	10	10	463.2	453.2	700	700	600	600	475.7	465.8	700	700	600	600	115	60
	460	60	414	506	10	10	401.6	393.4	600	600	500	500	412.6	404.4	600	600	500	500	115	60
	575	60	518	633	10	10	322.2	315.7	500	500	400	400	330.8	324.3	500	500	400	400	115	60
	380	50	342	418	10	10	496.8	486.8	800	800	600	600	510.0	500.1	800	800	600	600	115	60
	400	50	360	440	10	10	472.9	462.9	800	700	600	600	485.5	475.5	800	800	600	600	115	60
	415	50	374	457	10	10	456.1	446.1	700	700	600	600	468.2	458.2	700	700	600	600	115	60
	440	50	396	484	10	10	430.8	420.9	700	700	600	500	442.2	432.3	700	700	600	600	115	60
450	380	60	342	418	11	11	581.0	571.0	800	800	700	700	595.2	585.3	1000	800	700	700	115	60
	400	60	360	440	11	11	551.9	541.9	800	800	700	700	565.7	555.7	800	800	700	700	115	60
	460	60	414	506	11	11	478.9	470.7	800	800	600	600	491.0	482.8	800	800	600	600	115	60
	575	60	518	633	11	11	383.2	376.6	600	600	450	450	392.6	386.1	600	600	500	500	115	60
	380	50	342	418	11	11	593.4	583.4	1000	1000	700	700	607.9	597.9	1000	1000	800	800	115	60
	400	50	360	440	11	11	564.2	554.2	800	800	700	700	578.0	568.0	800	800	700	700	115	60
	415	50	374	457	11	11	544.7	534.7	800	800	700	700	558.0	548.0	800	800	700	700	115	60
	440	50	396	484	11	11	514.2	504.2	800	800	700	600	526.7	516.7	800	800	700	700	115	60
500	380	60	342	418	12	12	611.2	601.2	1000	1000	800	800	626.7	616.8	1000	1000	800	800	115	60
	400	60	360	440	12	12	581.8	571.8	800	800	700	700	596.9	586.9	1000	800	700	700	115	60
	460	60	414	506	12	12	504.6	496.4	800	800	600	600	517.8	509.6	800	800	700	600	115	60
	575	60	518	633	12	12	404.1	397.5	600	600	500	500	414.4	407.9	600	600	500	500	115	60
	380	50	342	418	12	12	623.7	613.7	1000	1000	800	800	639.5	629.6	1000	1000	800	800	115	60
	400	50	360	440	12	12	593.0	583.0	1000	1000	700	700	608.1	598.1	1000	1000	800	800	115	60
	415	50	374	457	12	12	572.1	562.1	800	800	700	700	586.6	576.6	800	800	700	700	115	60
	440	50	396	484	12	12	540.0	530.0	800	800	700	700	553.7	543.7	800	800	700	700	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 16 — 30XV140-500 Electrical Data, Dual Point Power, High Tier, Variable Speed Fans

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS		STANDARD CONDENSER FANS						HIGH STATIC CONDENSER FANS						CONTROL CIRCUIT	
	V(3 Ph)	Hz	Supplied				MCA		MOCP		REC FUSE SIZE		MCA		MOCP		REC FUSE SIZE		Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2		
140	208/230	60	187	253	5	5	311.7	298.8	500	450	400	350	318.1	305.3	500	500	400	400	115	40
	380	60	342	418	5	5	170.6	163.5	250	250	200	200	177.0	170.0	250	250	225	200	115	40
	400	60	360	440	5	5	163.0	156.0	250	250	200	200	169.3	162.3	250	250	200	200	115	40
	460	60	414	506	5	5	140.7	134.9	225	225	175	175	146.2	140.4	225	225	175	175	115	40
	575	60	518	633	5	5	113.1	108.5	175	175	150	150	117.4	112.8	175	175	150	150	115	40
	380	50	342	418	5	5	174.8	167.8	250	250	225	200	181.4	174.4	250	250	225	225	115	40
	400	50	360	440	5	5	167.3	160.2	250	250	200	200	173.5	166.5	250	250	225	200	115	40
	415	50	374	457	5	5	161.3	154.3	250	250	200	200	167.4	160.4	250	250	200	200	115	40
	440	50	396	484	5	5	152.5	145.4	250	225	200	175	158.2	151.1	250	225	200	200	115	40
160	208/230	60	187	253	6	6	358.7	345.8	500	500	450	450	366.4	353.6	500	500	450	450	115	40
	380	60	342	418	6	6	197.0	190.0	300	300	250	225	204.8	197.8	300	300	250	250	115	40
	400	60	360	440	6	6	186.7	179.7	300	250	225	225	194.2	187.2	300	300	225	225	115	40
	460	60	414	506	6	6	161.9	156.1	250	250	200	200	168.5	162.7	250	250	200	200	115	40
	575	60	518	633	6	6	130.3	125.6	200	200	175	150	135.5	130.8	200	200	175	175	115	40
	380	50	342	418	6	6	201.4	194.4	300	300	250	250	209.3	202.3	300	300	250	250	115	40
	400	50	360	440	6	6	192.3	185.3	300	300	225	225	199.8	192.8	300	300	250	225	115	40
	415	50	374	457	6	6	186.2	179.2	300	250	225	225	193.5	186.4	300	300	225	225	115	40
	440	50	396	484	6	6	175.8	168.8	250	250	225	200	182.6	175.6	250	250	225	225	115	40
180	208/230	60	187	253	6	6	473.7	460.8	700	700	600	600	481.4	468.6	800	800	600	600	115	60
	380	60	342	418	6	6	259.5	252.5	400	400	350	300	267.3	260.3	400	400	350	350	115	60
	400	60	360	440	6	6	211.7	204.7	350	300	250	250	219.2	212.2	350	350	300	250	115	60
	460	60	414	506	6	6	183.1	177.3	300	250	225	225	189.7	183.9	300	300	225	225	115	60
	575	60	518	633	6	6	146.5	141.9	225	225	175	175	151.7	147.1	225	225	200	175	115	60
	380	50	342	418	6	6	265.1	258.1	400	400	350	350	273.1	266.0	450	400	350	350	115	60
	400	50	360	440	6	6	252.3	245.3	400	400	300	300	259.8	252.8	400	400	350	300	115	60
	415	50	374	457	6	6	243.7	236.7	400	400	300	300	251.0	243.9	400	400	300	300	115	60
	440	50	396	484	6	6	230.8	223.8	350	350	300	300	237.6	230.6	350	350	300	300	115	60
200	208/230	60	187	253	7	7	446.1	429.1	700	700	600	600	455.2	438.1	700	700	600	600	115	60
	380	60	342	418	7	7	244.5	235.2	400	350	300	300	253.6	244.3	400	400	300	300	115	60
	400	60	360	440	7	7	232.7	223.4	350	350	300	300	241.5	232.2	350	350	300	300	115	60
	460	60	414	506	7	7	201.3	193.6	300	300	250	250	209.0	201.3	300	300	250	250	115	60
	575	60	518	633	7	7	161.5	155.3	250	250	200	200	167.5	161.4	250	250	200	200	115	60
	380	50	342	418	7	7	250.3	240.9	400	400	300	300	259.5	250.2	400	400	350	300	115	60
	400	50	360	440	7	7	238.4	229.1	350	350	300	300	247.2	237.8	400	350	300	300	115	60
	415	50	374	457	7	7	230.9	221.5	350	350	300	300	239.3	230.0	350	350	300	300	115	60
	440	50	396	484	7	7	217.7	208.3	350	300	300	250	225.7	216.3	350	350	300	300	115	60
225	380	60	342	418	8	6	320.9	205.0	500	300	400	250	331.3	212.8	500	350	400	250	115	60
	400	60	360	440	8	6	306.3	194.7	500	300	400	250	316.4	202.2	500	300	400	250	115	60
	460	60	414	506	8	6	265.0	169.1	400	250	350	200	273.8	175.7	450	250	350	225	115	60
	575	60	518	633	8	6	212.8	135.6	350	225	250	175	219.7	140.8	350	225	300	175	115	60
	380	50	342	418	8	6	328.0	209.4	500	350	400	250	338.6	217.3	500	350	400	300	115	60
	400	50	360	440	8	6	312.1	199.0	500	300	400	250	322.2	206.5	500	300	400	250	115	60
	415	50	374	457	8	6	301.9	192.9	500	300	400	250	311.6	200.2	500	300	400	250	115	60
	440	50	396	484	8	6	284.7	181.3	450	300	350	225	293.8	188.1	450	300	350	225	115	60
250	380	60	342	418	8	8	307.1	300.4	500	500	400	400	317.5	310.8	500	500	400	400	115	60
	400	60	360	440	8	8	292.5	285.8	450	450	350	350	302.6	295.9	450	450	400	350	115	60
	460	60	414	506	8	8	253.3	247.8	400	400	300	300	262.1	256.6	400	400	350	300	115	60
	575	60	518	633	8	8	203.2	198.8	300	300	250	250	210.1	205.7	300	300	250	250	115	60
	380	50	342	418	8	8	314.2	307.5	500	500	400	400	324.7	318.0	500	500	400	400	115	60
	400	50	360	440	8	8	299.6	292.9	500	450	400	350	309.6	302.9	500	500	400	400	115	60
	415	50	374	457	8	8	289.4	282.6	450	450	350	350	299.0	292.3	450	450	350	350	115	60
	440	50	396	484	8	8	273.4	266.7	450	450	350	350	282.5	275.8	450	450	350	350	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the “inrush” current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 16 — 0XV140-500 Electrical Data, Dual Point Power, High Tier, Variable Speed Fans (cont)

UNIT 30XV	UNIT VOLTAGE				NUMBER OF COND FANS		STANDARD CONDENSER FANS						HIGH STATIC CONDENSER FANS						CONTROL CIRCUIT	
							MCA		MOCP		REC FUSE SIZE		MCA		MOCP		REC FUSE SIZE			
	V(3 Ph)	Hz	Supplied																Voltage 1 PH, 60 Hz	MCA and MOCP
			Min	Max	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2	CKT 1	CKT 2		
275	380	60	342	418	8	8	327.1	320.4	500	500	400	400	337.5	330.8	500	500	400	400	115	60
	400	60	360	440	8	8	311.3	304.6	500	500	400	400	321.3	314.6	500	500	400	400	115	60
	460	60	414	506	8	8	269.9	264.4	450	400	350	350	278.7	273.2	450	450	350	350	115	60
	575	60	518	633	8	8	217.0	212.5	350	350	300	250	223.8	219.4	350	350	300	300	115	60
	380	50	342	418	8	8	334.2	327.5	500	500	400	400	344.7	338.0	500	500	450	400	115	60
	400	50	360	440	8	8	318.3	311.6	500	500	400	400	328.3	321.6	500	500	400	400	115	60
	415	50	374	457	8	8	306.9	300.1	500	500	400	400	316.5	309.8	500	500	400	400	115	60
	440	50	396	484	8	8	289.6	282.9	450	450	350	350	298.8	292.1	450	450	350	350	115	60
300	380	60	342	418	9	9	343.6	336.8	500	500	450	400	355.2	348.5	500	500	450	450	115	60
	400	60	360	440	9	9	326.2	319.5	500	500	400	400	337.5	330.8	500	500	400	400	115	60
	460	60	414	506	9	9	282.9	277.3	450	450	350	350	292.8	287.2	450	450	350	350	115	60
	575	60	518	633	9	9	226.6	222.2	350	350	300	300	234.4	230.0	350	350	300	300	115	60
	380	50	342	418	9	9	350.7	344.0	500	500	450	450	362.6	355.9	500	500	450	450	115	60
	400	50	360	440	9	9	334.6	327.9	500	500	400	400	345.9	339.2	500	500	450	400	115	60
	415	50	374	457	9	9	323.0	316.3	500	500	400	400	333.8	327.1	500	500	400	400	115	60
	440	50	396	484	9	9	304.2	297.5	500	500	400	350	314.5	307.8	500	500	400	400	115	60
325	380	60	342	418	10	10	376.3	369.6	600	600	450	450	389.2	382.5	600	600	600	450	115	60
	400	60	360	440	10	10	358.7	352.0	600	500	450	450	371.2	364.5	600	600	600	450	115	60
	460	60	414	506	10	10	310.7	305.1	500	500	400	400	321.7	316.1	500	500	500	400	115	60
	575	60	518	633	10	10	248.8	244.4	400	400	300	300	257.4	253.0	400	400	400	300	115	60
	380	50	342	418	10	10	384.8	378.1	600	600	450	450	398.0	391.3	600	600	500	500	115	60
	400	50	360	440	10	10	365.9	359.2	600	600	450	450	378.4	371.7	600	600	450	450	115	60
	415	50	374	457	10	10	354.1	347.4	500	500	450	450	366.2	359.5	600	500	450	450	115	60
	440	50	396	484	10	10	333.8	327.1	500	500	400	400	345.2	338.5	500	500	450	400	115	60
350	380	60	342	418	11	9	470.3	340.6	700	500	600	400	484.5	352.3	800	500	600	450	115	60
	400	60	360	440	11	9	447.4	323.3	700	500	600	400	461.2	334.6	700	500	600	400	115	60
	460	60	414	506	11	9	388.4	281.0	600	450	500	350	400.5	290.9	600	450	500	350	115	60
	575	60	518	633	11	9	311.9	226.0	500	350	400	300	321.4	233.7	500	350	400	300	115	60
	380	50	342	418	11	9	480.2	347.8	800	500	600	450	494.7	359.7	800	500	600	450	115	60
	400	50	360	440	11	9	457.3	330.4	700	500	600	400	471.1	341.7	700	500	600	400	115	60
	415	50	374	457	11	9	441.5	318.8	700	500	600	400	454.8	329.6	700	500	600	400	115	60
	440	50	396	484	11	9	416.0	301.3	700	500	500	400	428.5	311.5	700	500	600	400	115	60
400	380	60	342	418	11	11	492.2	482.3	800	800	600	600	506.5	496.5	800	800	600	600	115	60
	400	60	360	440	11	11	468.1	458.1	700	700	600	600	481.9	472.0	800	700	600	600	115	60
	460	60	414	506	11	11	406.3	398.1	600	600	500	500	418.4	410.2	600	600	500	500	115	60
	575	60	518	633	11	11	325.7	319.1	500	500	400	400	335.1	328.6	500	500	400	400	115	60
	380	50	342	418	11	11	502.1	492.2	800	800	600	600	516.7	506.7	800	800	700	600	115	60
	400	50	360	440	11	11	478.0	468.0	800	700	600	600	491.8	481.8	800	800	600	600	115	60
	415	50	374	457	11	11	460.9	451.0	700	700	600	600	474.3	464.3	700	700	600	600	115	60
	440	50	396	484	11	11	435.4	425.4	700	700	600	600	448.0	438.0	700	700	600	600	115	60
450	380	60	342	418	12	12	532.4	522.5	800	800	700	700	548.0	538.0	800	800	700	700	115	60
	400	60	360	440	12	12	506.8	496.8	800	800	600	600	512.3	511.9	800	800	700	700	115	60
	460	60	414	506	12	12	439.8	431.6	700	700	600	600	388.2	444.8	700	700	600	600	115	60
	575	60	518	633	12	12	352.9	346.3	500	500	450	450	311.6	356.6	600	600	450	450	115	60
	380	50	342	418	12	12	543.7	533.7	800	800	700	700	559.5	549.6	800	800	700	700	115	60
	400	50	360	440	12	12	518.0	508.0	800	800	700	600	533.1	523.1	800	800	700	700	115	60
	415	50	374	457	12	12	499.6	489.6	800	800	600	600	514.1	504.1	800	800	700	600	115	60
	440	50	396	484	12	12	471.2	461.3	700	700	600	600	484.9	475.0	800	700	600	600	115	60

LEGEND

MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
VFD — Variable Frequency Drive

NOTES:

1. Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits. Maximum allowable phase imbalance is: voltage, 2%; amps 10%.
2. Evaporator heater (where applicable) is wired into the control circuit so it is always operable as long as the control power supply disconnect is on, even if any safety device is open.
3. For MCA that is less than or equal to 380 amps, 3 conductors are required.
   For MCA between 381-760 amps, 6 conductors are required.
   For MCA between 761-1140 amps, 9 conductors are required.
   For MCA between 1141-1520 amps, 12 conductors are required.
   Calculation of conductors required is based on 75 C copper wire.
4. Based on the operational characteristics of a VFD, the "inrush" current normally associated with a chiller is limited and will be lower than the MCA rating of the chiller.
5. Wiring for main field supply must be rated 75 C minimum. Use copper for all units. Refer to Table 8 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 17 — Fan Electrical Data

UNIT 30XV	UNIT VOLTAGE		NUMBER OF COND FANS						STANDARD CONDENSER FANS FLA				HIGH STATIC CONDENSER FANS FLA		
	V(3 Ph)	Hz	SINGLE POINT			DUAL POINT			TIER				TIER		
			STD	MID	HIGH	STD	MID	HIGH	STD	MID	HIGH	STD+	MID	HIGH	STD+
140	208/230	60	8	8	10	4/4	4/4	5/5	6.6	9.5	9.5	—	10.8	10.8	—
	380	60	8	8	10	4/4	4/4	5/5	3.6	5.2	5.2	—	6.5	6.5	—
	400	60	8	8	10	4/4	4/4	5/5	3.5	4.9	4.9	—	6.2	6.2	—
	460	60	8	8	10	4/4	4/4	5/5	3.0	4.3	4.3	—	5.4	5.4	—
	575	60	8	8	10	4/4	4/4	5/5	2.4	3.4	3.4	—	4.3	4.3	—
	380	50	8	8	10	4/4	4/4	5/5	3.7	5.3	5.3	—	6.6	6.6	6.6
	400	50	8	8	10	4/4	4/4	5/5	3.5	5.0	5.0	—	6.3	6.3	6.3
	415	50	8	8	10	4/4	4/4	5/5	3.4	4.9	4.9	—	6.1	6.1	6.1
	440	50	8	8	10	4/4	4/4	5/5	3.2	4.6	4.6	—	5.7	5.7	5.7
160	208/230	60	8	10	12	4/4	5/5	6/6	6.6	9.5	9.5	9.5	10.8	10.8	10.8
	380	60	8	10	12	4/4	5/5	6/6	3.6	5.2	5.2	5.2	6.5	6.5	6.5
	400	60	8	10	12	4/4	5/5	6/6	3.5	4.9	4.9	4.9	6.2	6.2	6.2
	460	60	8	10	12	4/4	5/5	6/6	3.0	4.3	4.3	4.3	5.4	5.4	5.4
	575	60	8	10	12	4/4	5/5	6/6	2.4	3.4	3.4	3.4	4.3	4.3	4.3
	380	50	8	10	12	4/4	5/5	6/6	3.7	5.3	5.3	5.3	6.6	6.6	6.6
	400	50	8	10	12	4/4	5/5	6/6	3.5	5.0	5.0	5.0	6.3	6.3	6.3
	415	50	8	10	12	4/4	5/5	6/6	3.4	4.9	4.9	4.9	6.1	6.1	6.1
	440	50	8	10	12	4/4	5/5	6/6	3.2	4.6	4.6	4.6	5.7	5.7	5.7
180	208/230	60	8	10	12	4/4	5/5	6/6	6.6	9.5	9.5	9.5	10.8	10.8	10.8
	380	60	8	10	12	4/4	5/5	6/6	3.6	5.2	5.2	5.2	6.5	6.5	6.5
	400	60	8	10	12	4/4	5/5	6/6	3.5	4.9	4.9	4.9	6.2	6.2	6.2
	460	60	8	10	12	4/4	5/5	6/6	3.0	4.3	4.3	4.3	5.4	5.4	5.4
	575	60	8	10	12	4/4	5/5	6/6	2.4	3.4	3.4	3.4	4.3	4.3	4.3
	380	50	8	10	12	4/4	5/5	6/6	3.7	5.3	5.3	5.3	6.6	6.6	6.6
	400	50	8	10	12	4/4	5/5	6/6	3.5	5.0	5.0	5.0	6.3	6.3	6.3
	415	50	8	10	12	4/4	5/5	6/6	3.4	4.9	4.9	4.9	6.1	6.1	6.1
	440	50	8	10	12	4/4	5/5	6/6	3.2	4.6	4.6	4.6	5.7	5.7	5.7
200	208/230	60	10	12	14	5/5	6/6	7/7	6.6	9.5	9.5	9.5	10.8	10.8	10.8
	380	60	10	12	14	5/5	6/6	7/7	3.6	5.2	5.2	5.2	6.5	6.5	6.5
	400	60	10	12	14	5/5	6/6	7/7	3.5	4.9	4.9	4.9	6.2	6.2	6.2
	460	60	10	12	14	5/5	6/6	7/7	3.0	4.3	4.3	4.3	5.4	5.4	5.4
	575	60	10	12	14	5/5	6/6	7/7	2.4	3.4	3.4	3.4	4.3	4.3	4.3
	380	50	10	12	14	5/5	6/6	7/7	3.7	5.3	5.3	5.3	6.6	6.6	6.6
	400	50	10	12	14	5/5	6/6	7/7	3.5	5.0	5.0	5.0	6.3	6.3	6.3
	415	50	10	12	14	5/5	6/6	7/7	3.4	4.9	4.9	4.9	6.1	6.1	6.1
	440	50	10	12	14	5/5	6/6	7/7	3.2	4.6	4.6	4.6	5.7	5.7	5.7
225	380	60	10	12	14	6/4	7/5	8/6	3.6	5.2	5.2	5.2	6.5	6.5	6.5
	400	60	10	12	14	6/4	7/5	8/6	3.5	4.9	4.9	4.9	6.2	6.2	6.2
	460	60	10	12	14	6/4	7/5	8/6	3.0	4.3	4.3	4.3	5.4	5.4	5.4
	575	60	10	12	14	6/4	7/5	8/6	2.4	3.4	3.4	3.4	4.3	4.3	4.3
	380	50	10	12	14	6/4	7/5	8/6	3.7	5.3	5.3	5.3	6.6	6.6	6.6
	400	50	10	12	14	6/4	7/5	8/6	3.5	5.0	5.0	5.0	6.3	6.3	6.3
	415	50	10	12	14	6/4	7/5	8/6	3.4	4.9	4.9	4.9	6.1	6.1	6.1
	440	50	10	12	14	6/4	7/5	8/6	3.2	4.6	4.6	4.6	5.7	5.7	5.7
250	380	60	12	14	16	6/6	7/7	8/8	3.6	5.2	5.2	5.2	6.5	6.5	6.5
	400	60	12	14	16	6/6	7/7	8/8	3.5	4.9	4.9	4.9	6.2	6.2	6.2
	460	60	12	14	16	6/6	7/7	8/8	3.0	4.3	4.3	4.3	5.4	5.4	5.4
	575	60	12	14	16	6/6	7/7	8/8	2.4	3.4	3.4	3.4	4.3	4.3	4.3
	380	50	12	14	16	6/6	7/7	8/8	3.7	5.3	5.3	5.3	6.6	6.6	6.6
	400	50	12	14	16	6/6	7/7	8/8	3.5	5.0	5.0	5.0	6.3	6.3	6.3
	415	50	12	14	16	6/6	7/7	8/8	3.4	4.9	4.9	4.9	6.1	6.1	6.1
	440	50	12	14	16	6/6	7/7	8/8	3.2	4.6	4.6	4.6	5.7	5.7	5.7
275	380	60	12	14	16	6/6	7/7	8/8	3.6	5.2	5.2	5.2	6.5	6.5	6.5
	400	60	12	14	16	6/6	7/7	8/8	3.5	4.9	4.9	4.9	6.2	6.2	6.2
	460	60	12	14	16	6/6	7/7	8/8	3.0	4.3	4.3	4.3	5.4	5.4	5.4
	575	60	12	14	16	6/6	7/7	8/8	2.4	3.4	3.4	3.4	4.3	4.3	4.3
	380	50	12	14	16	6/6	7/7	8/8	3.7	5.3	5.3	5.3	6.6	6.6	6.6
	400	50	12	14	16	6/6	7/7	8/8	3.5	5.0	5.0	5.0	6.3	6.3	6.3
	415	50	12	14	16	6/6	7/7	8/8	3.4	4.9	4.9	4.9	6.1	6.1	6.1
	440	50	12	14	16	6/6	7/7	8/8	3.2	4.6	4.6	4.6	5.7	5.7	5.7

LEGEND

FLA — Full Load Amps
STD+ — Standard Tier unit with variable speed condenser fans

Table 17 — Fan Electrical Data (cont)

UNIT 30XV	UNIT VOLTAGE		NUMBER OF COND FANS						STANDARD CONDENSER FANS FLA				HIGH STATIC CONDENSER FANS FLA		
	V(3 Ph)	Hz	SINGLE POINT			DUAL POINT			TIER				TIER		
			STD	MID	HIGH	STD	MID	HIGH	STD	MID	HIGH	STD+	MID	HIGH	STD+
300	380	60	14	16	18	7/7	8/8	9/9	3.6	5.2	5.2	5.2	6.5	6.5	6.5
	400	60	14	16	18	7/7	8/8	9/9	3.5	4.9	4.9	4.9	6.2	6.2	6.2
	460	60	14	16	18	7/7	8/8	9/9	3.0	4.3	4.3	4.3	5.4	5.4	5.4
	575	60	14	16	18	7/7	8/8	9/9	2.4	3.4	3.4	3.4	4.3	4.3	4.3
	380	50	14	16	18	7/7	8/8	9/9	3.7	5.3	5.3	5.3	6.6	6.6	6.6
	400	50	14	16	18	7/7	8/8	9/9	3.5	5.0	5.0	5.0	6.3	6.3	6.3
	415	50	14	16	18	7/7	8/8	9/9	3.4	4.9	4.9	4.9	6.1	6.1	6.1
	440	50	14	16	18	7/7	8/8	9/9	3.2	4.6	4.6	4.6	5.7	5.7	5.7
325	380	60	16	18	20	8/8	9/9	10/10	3.6	5.2	5.2	5.2	6.5	6.5	6.5
	400	60	16	18	20	8/8	9/9	10/10	3.5	4.9	4.9	4.9	6.2	6.2	6.2
	460	60	16	18	20	8/8	9/9	10/10	3.0	4.3	4.3	4.3	5.4	5.4	5.4
	575	60	16	18	20	8/8	9/9	10/10	2.4	3.4	3.4	3.4	4.3	4.3	4.3
	380	50	16	18	20	8/8	9/9	10/10	3.7	5.3	5.3	5.3	6.6	6.6	6.6
	400	50	16	18	20	8/8	9/9	10/10	3.5	5.0	5.0	5.0	6.3	6.3	6.3
	415	50	16	18	20	8/8	9/9	10/10	3.4	4.9	4.9	4.9	6.1	6.1	6.1
	440	50	16	18	20	8/8	9/9	10/10	3.2	4.6	4.6	4.6	5.7	5.7	5.7
350	380	60	16	18	20	9/7	10/8	11/9	3.7	5.3	5.3	5.3	6.5	6.5	6.5
	400	60	16	18	20	9/7	10/8	11/9	3.5	5.0	5.0	5.0	6.2	6.2	6.2
	460	60	16	18	20	9/7	10/8	11/9	3.4	4.9	4.9	4.9	5.4	5.4	5.4
	575	60	16	18	20	9/7	10/8	11/9	3.2	4.6	4.6	4.6	4.3	4.3	4.3
	380	50	16	18	20	9/7	10/8	11/9	3.6	5.2	5.2	5.2	6.6	6.6	6.6
	400	50	16	18	20	9/7	10/8	11/9	3.5	4.9	4.9	4.9	6.3	6.3	6.3
	415	50	16	18	20	9/7	10/8	11/9	3.0	4.3	4.3	4.3	6.1	6.1	6.1
	440	50	16	18	20	9/7	10/8	11/9	2.4	3.4	3.4	3.4	5.7	5.7	5.7
400	380	60	18	20	22	9/9	10/10	11/11	3.6	5.2	5.2	5.2	6.5	6.5	6.5
	400	60	18	20	22	9/9	10/10	11/11	3.5	4.9	4.9	4.9	6.2	6.2	6.2
	460	60	18	20	22	9/9	10/10	11/11	3.0	4.3	4.3	4.3	5.4	5.4	5.4
	575	60	18	20	22	9/9	10/10	11/11	2.4	3.4	3.4	3.4	4.3	4.3	4.3
	380	50	18	20	22	9/9	10/10	11/11	3.7	5.3	5.3	5.3	6.6	6.6	6.6
	400	50	18	20	22	9/9	10/10	11/11	3.5	5.0	5.0	5.0	6.3	6.3	6.3
	415	50	18	20	22	9/9	10/10	11/11	3.4	4.9	4.9	4.9	6.1	6.1	6.1
	440	50	18	20	22	9/9	10/10	11/11	3.2	4.6	4.6	4.6	5.7	5.7	5.7
450	380	60	20	22	24	10/10	11/11	12/12	3.6	5.2	5.2	5.2	6.5	6.5	6.5
	400	60	20	22	24	10/10	11/11	12/12	3.5	4.9	4.9	4.9	6.2	6.2	6.2
	460	60	20	22	24	10/10	11/11	12/12	3.0	4.3	4.3	4.3	5.4	5.4	5.4
	575	60	20	22	24	10/10	11/11	12/12	2.4	3.4	3.4	3.4	4.3	4.3	4.3
	380	50	20	22	24	10/10	11/11	12/12	3.7	5.3	5.3	5.3	6.6	6.6	6.6
	400	50	20	22	24	10/10	11/11	12/12	3.5	5.0	5.0	5.0	6.3	6.3	6.3
	415	50	20	22	24	10/10	11/11	12/12	3.4	4.9	4.9	4.9	6.1	6.1	6.1
	440	50	20	22	24	10/10	11/11	12/12	3.2	4.6	4.6	4.6	5.7	5.7	5.7
500	380	60	22	24	—	11/11	12/12	—	3.6	5.2	5.2	5.2	6.5	6.5	6.5
	400	60	22	24	—	11/11	12/12	—	3.5	4.9	4.9	4.9	6.2	6.2	6.2
	460	60	22	24	—	11/11	12/12	—	3.0	4.3	4.3	4.3	5.4	5.4	5.4
	575	60	22	24	—	11/11	12/12	—	2.4	3.4	3.4	3.4	4.3	4.3	4.3
	380	50	22	24	—	11/11	12/12	—	3.7	5.3	—	5.3	6.6	6.6	6.6
	400	50	22	24	—	11/11	12/12	—	3.5	5.0	—	5.0	6.3	6.3	6.3
	415	50	22	24	—	11/11	12/12	—	3.4	4.9	—	4.9	6.1	6.1	6.1
	440	50	22	24	—	11/11	12/12	—	3.2	4.6	—	4.6	5.7	5.7	5.7

LEGEND

FLA — Full Load Amps
STD+ — Standard Tier unit with variable speed condenser fans

Table 18 — Compressor Electrical Data

UNIT 30XV	UNIT VOLTAGE		COMPRESSOR RLA							
	V(3 Ph)	Hz	A				B			
			STD	MID	HIGH	STD+	STD	MID	HIGH	STD+
140	208/230	60	228	221	201	—	228	221	201	—
	380	60	125	121	110	—	125	121	110	—
	400	60	119	115	105	—	119	115	105	—
	460	60	103	100	91	—	103	100	91	—
	575	60	83	80	73	—	83	80	73	—
	380	50	128	124	113	119	128	124	113	119
	400	50	122	118	108	114	122	118	108	114
	415	50	118	114	104	109	118	114	104	109
	440	50	111	108	98	103	111	108	98	103
160	208/230	60	273	238	231	263	273	238	231	263
	380	60	149	130	127	144	149	130	127	144
	400	60	142	124	120	137	142	124	120	137
	460	60	123	107	104	119	123	107	104	119
	575	60	99	86	84	96	99	86	84	96
	380	50	152	133	130	147	152	133	130	147
	400	50	145	127	124	140	145	127	124	140
	415	50	140	122	120	135	140	122	120	135
	440	50	132	115	113	127	132	115	113	127
180	208/230	60	318	275	323	308	318	275	323	308
	380	60	174	151	177	169	174	151	177	169
	400	60	166	143	140	160	166	143	140	160
	460	60	144	124	121	139	144	124	121	139
	575	60	115	100	97	112	115	100	97	112
	380	50	178	155	181	173	178	155	181	173
	400	50	170	148	172	165	170	148	172	165
	415	50	163	142	166	159	163	142	166	159
	440	50	154	134	157	150	154	134	157	150
200	208/230	60	325	303	290	313	325	303	290	313
	380	60	178	166	159	172	178	166	159	172
	400	60	169	158	151	163	169	158	151	163
	460	60	147	137	131	141	147	137	131	141
	575	60	118	110	105	114	118	110	105	114
	380	50	182	170	163	176	182	170	163	176
	400	50	173	162	155	168	173	162	155	168
	415	50	167	156	150	162	167	156	150	162
	440	50	158	147	141	152	158	147	141	152
225	380	60	250	226	217	239	160	145	139	153
	400	60	237	215	207	227	152	137	132	146
	460	60	206	186	179	197	132	119	115	126
	575	60	165	149	144	158	106	96	92	101
	380	50	255	231	222	244	164	148	142	157
	400	50	243	220	211	232	156	141	135	150
	415	50	234	212	204	224	151	136	131	144
	440	50	221	200	192	211	142	128	123	136
250	380	60	235	214	207	231	235	214	207	231
	400	60	223	204	197	219	223	204	197	219
	460	60	193	177	171	190	193	177	171	190
	575	60	155	142	137	153	155	142	137	153
	380	50	240	219	212	236	240	219	212	236
	400	50	228	209	202	225	228	209	202	225
	415	50	220	201	195	217	220	201	195	217
	440	50	208	190	184	204	208	190	184	204
275	380	60	254	232	223	240	254	232	223	240
	400	60	241	220	212	228	241	220	212	228
	460	60	209	191	184	198	209	191	184	198
	575	60	168	153	148	159	168	153	148	159
	380	50	260	237	228	245	260	237	228	245
	400	50	247	226	217	233	247	226	217	233
	415	50	239	218	209	225	239	218	209	225
	440	50	225	205	197	212	225	205	197	212

LEGEND

RLA — Rated Load Amps
STD+ — Standard Tier unit with variable speed condenser fans

Table 18 — Compressor Electrical Data (cont)

UNIT 30XV	UNIT VOLTAGE		COMPRESSOR RLA							
	V(3 Ph)	Hz	A				B			
			STD	MID	HIGH	STD+	STD	MID	HIGH	STD+
300	380	60	258	239	232	253	258	239	232	253
	400	60	245	227	220	241	245	227	220	241
	460	60	213	197	191	209	213	197	191	209
	575	60	171	158	153	168	171	158	153	168
	380	50	264	244	237	259	264	244	237	259
	400	50	251	232	226	247	251	232	226	247
	415	50	242	224	218	238	242	224	218	238
	440	50	228	211	205	224	228	211	205	224
325	380	60	282	259	254	278	282	259	254	278
	400	60	268	246	242	264	268	246	242	264
	460	60	233	214	210	229	233	214	210	229
	575	60	187	172	168	184	187	172	168	184
	380	50	288	265	260	284	288	265	260	284
	400	50	274	252	247	270	274	252	247	270
	415	50	264	243	239	261	264	243	239	261
	440	50	249	229	225	246	249	229	225	246
350	380	60	387	341	324	377	280	247	235	273
	400	60	367	324	308	358	266	235	223	260
	460	60	319	281	268	311	231	204	194	225
	575	60	256	225	215	249	185	163	156	181
	380	50	395	348	331	385	286	252	240	279
	400	50	376	331	315	366	272	240	228	266
	415	50	362	319	304	353	262	231	220	256
	440	50	342	301	286	333	247	218	208	241
400	380	60	364	340	340	348	364	340	340	348
	400	60	346	323	323	331	346	323	323	331
	460	60	300	280	281	287	300	280	281	287
	575	60	241	225	225	230	241	225	225	230
	380	50	372	347	347	355	372	347	347	355
	400	50	354	330	330	338	354	330	330	338
	415	50	341	318	318	326	341	318	318	326
	440	50	322	300	300	307	322	300	300	307
450	380	60	423	411	368	418	423	411	368	418
	400	60	402	390	350	397	402	390	350	397
	460	60	349	339	304	345	349	339	304	345
	575	60	280	271	244	277	280	271	244	277
	380	50	432	420	376	427	432	420	376	427
	400	50	411	399	358	406	411	399	358	406
	415	50	396	385	345	391	396	385	345	391
	440	50	374	363	325	369	374	363	325	369
500	380	60	444	431	—	450	444	431	—	450
	400	60	422	410	—	427	422	410	—	427
	460	60	366	356	—	371	366	356	—	371
	575	60	293	285	—	298	293	285	—	298
	380	50	453	440	—	459	453	440	—	459
	400	50	431	418	—	437	431	418	—	437
	415	50	415	403	—	421	415	403	—	421
	440	50	392	380	—	397	392	380	—	397

LEGEND

RLA — Rated Load Amps
STD+ — Standard Tier unit with variable speed condenser fans

Table 19 — CCN Communication Bus Wiring

MANUFACTURER	PART NUMBER	
	Regular Wiring	Plenum Wiring
Alpha	1895	—
American	A21451	A48301
Belden	8205	884421
Columbia	D6451	—
Manhatten	M13402	M64430
Quabik	6130	—

IMPORTANT: A shorted CCN bus cable will prevent some routines from running and may prevent the unit from starting. If abnormal conditions occur, disconnect the machine from the CCN. If conditions return to normal, check the CCN connector and cable. Run new cable if necessary. A short in one section of the bus can cause problems with all system elements on the bus.

BACNET IP OR ETHERNET COMMUNICATION — The 30XV units with Greenspeed® Intelligence come standard with BACnet IP and Ethernet communications. The cabling for this is standard CAT 5 (minimum) with RJ45 connector.

NON-CCN COMMUNICATION WIRING — The 30XV units with Greenspeed® intelligence offer several non-CCN translators. Refer to the separate installation instructions for additional wiring steps.

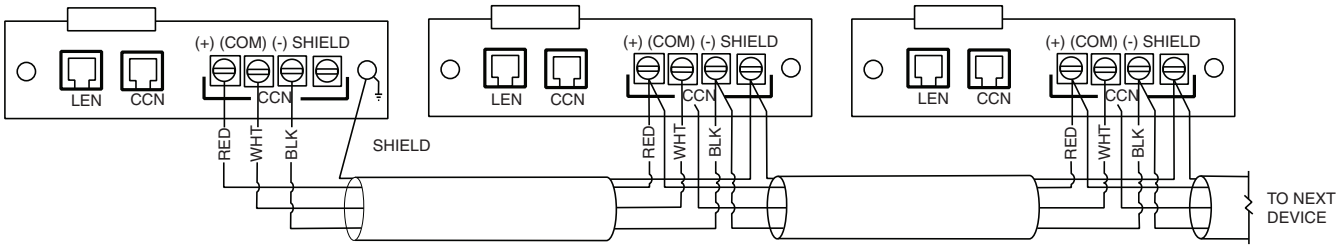
FIELD CONTROL OPTION WIRING — Install field control wiring options. Some options, such as 4 to 20 mA demand limit that requires the energy management module, may require that accessories be installed first (if not factory installed) for terminal connections.

DUAL CHILLER LEAVING WATER SENSOR — If the dual chiller algorithm is used and the machines are installed in parallel, an additional chilled water sensor must be installed for each chiller. Install the wells in the common leaving water header. See Fig 46. DO NOT relocate the chiller's leaving water thermistors. They must remain in place for the unit to operate properly.

The thermistor well is a 1/4 in. NPT fitting for securing the well in the piping. The piping must be drilled and tapped for the well. Select a location that will allow for removal of the thermistor without any restrictions.

Once the well is inserted, install the thermistors. Insert the thermistor into the well until the O-ring reaches the well body. Use the nut on the thermistor to secure the thermistor in place. Once the thermistor is in place, it is recommended that a thermistor wire loop be made and secured with a wire tie to the chilled water pipe. See Fig. 46.

For dual chiller control a CCN bus must be connected between the two modules (Fig. 45). See the Carrier Comfort Network Communication Bus Wiring section for additional information.



LEGEND
CCN — Carrier Comfort Network®
LEN — Local Equipment Network

Fig. 45 — TB3 — CCN Wiring

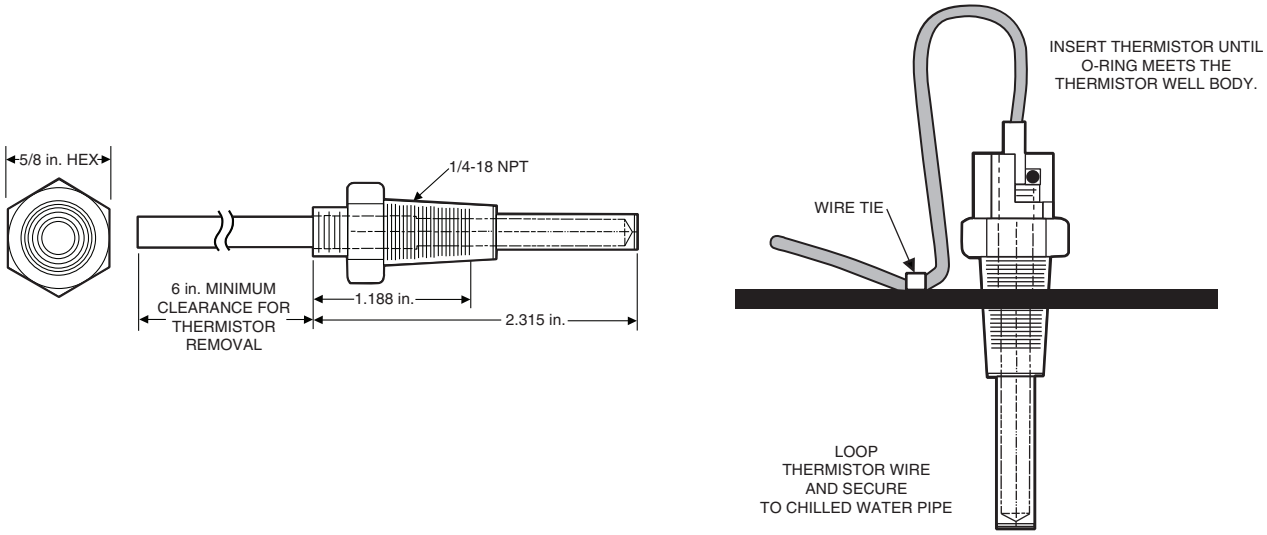


Fig. 46 — Dual Chiller Accessory Kit Leaving Water Thermistor and Well (Part No. 00EFN900044000A)

Step 6 — Install Accessories — A number of accessories are available to provide the following optional features (for details, refer to the Controls, Start-Up, Operation, Service and Troubleshooting guide shipped with the unit).

ENERGY MANAGEMENT MODULE — The energy management module (EMM) is used for any of the following types of temperature reset, demand limit and ice features:

- 4 to 20 mA inputs for cooling set point reset and capacity limit (requires field-supplied 4 to 20 mA generator)
- 0 to 10 v output for percentage total capacity running
- 24 v discrete outputs for shutdown and running relays
- 10k space temperature input

The EMM provides discrete inputs for occupancy override, demand limit switch 2 (step 1 demand limit is wired to the base board, requires field-supplied dry contacts), remote lockout switch, and ice done switch (requires field-supplied dry contacts).

UNIT SECURITY/PROTECTION ACCESSORIES — For applications with unique security and/or protection requirements, several options are available for unit protection. Security grilles and hail guards are available. Contact your local Carrier representative for more details. For installation details, refer to separate installation instructions supplied with the accessory package.

COMMUNICATION ACCESSORIES — A number of communication options are available to meet any requirement. Contact your local Carrier representative for more details. For installation details, refer to separate installation instructions supplied with the accessory package.

SERVICE OPTIONS — A ground fault convenience outlet (GFI-CO) accessory is available to aid in servicing 30XV units with Greenspeed intelligence. The GFI-CO is a convenience outlet with a 5-amp GFI receptacle.

Contact your local Carrier representative for more details. For installation details, refer to separate installation instructions supplied with the accessory package.

Step 7 — Leak Test Unit — The 30XV chiller with Greenspeed® intelligence is shipped with a complete operating charge of R-134a and should be under sufficient pressure to conduct a leak test.

Perform a leak test to ensure that leaks have not developed during unit shipment. Dehydration of the system is not required unless the entire refrigerant charge has been lost. There are several O-ring face seal fittings utilized in the oil line piping. If a leak is detected at any of these fittings, open the system and inspect the O-ring surface for foreign matter or damage. Do not re-use O-rings. Repair any leak found following good refrigeration practices.

⚠ CAUTION

DO NOT OVERTIGHTEN THESE O-RING FACE SEAL FITTINGS. Over-tightening will result in O-ring damage and a potential refrigerant leak.

Refer to the Controls, Start-Up, Operation, Service and Troubleshooting manual for additional information.

DEHYDRATION — Refer to Carrier Standard Service Techniques Manual, Chapter 1, Refrigerants, Sections 6 and 7 for details. Do not use compressor to evacuate system.

REFRIGERANT CHARGE — The 30XV chiller with Greenspeed intelligence is shipped from the factory with a full charge of R-134a. The unit should not need to be charged at installation unless a leak was detected in Leak Test Unit section. If dehydration and recharging is necessary, use industry standard practices or refer to Carrier Standard Service Techniques Manual as required.

IMPORTANT: These units are designed for use with R-134a only. DO NOT USE ANY OTHER refrigerant in these units.

⚠ CAUTION

When evacuating or charging, circulate water through the evaporator at all times to prevent freezing and a potential refrigerant leak. Failure to follow this procedure will impact or otherwise negatively affect the warranty should damage result from freezing.

⚠ CAUTION

DO NOT OVERCHARGE system. Overcharging results in higher discharge pressure with higher power consumption and possible compressor damage.

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

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