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

Installation Instructions

CONTENTS

SAFETY CONSIDERATIONS

Installing, starting up, and servicing this equipment can be hazardous due to system pressures, electrical components, and equipment location (roof, elevated structures, etc.). Only trained, qualified installers and service technicians should install, start up, and service this equipment. When working on this equipment, observe precautions in the literature, on tags, stickers, and labels attached to the equipment, and any other safety precautions that apply. Follow all safety codes. Wear safety glasses and work gloves. Use care in handling, rigging, and setting this equipment, and in handling all electrical components.

⚠ 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.

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⚠ 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: 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.

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. 2-20.

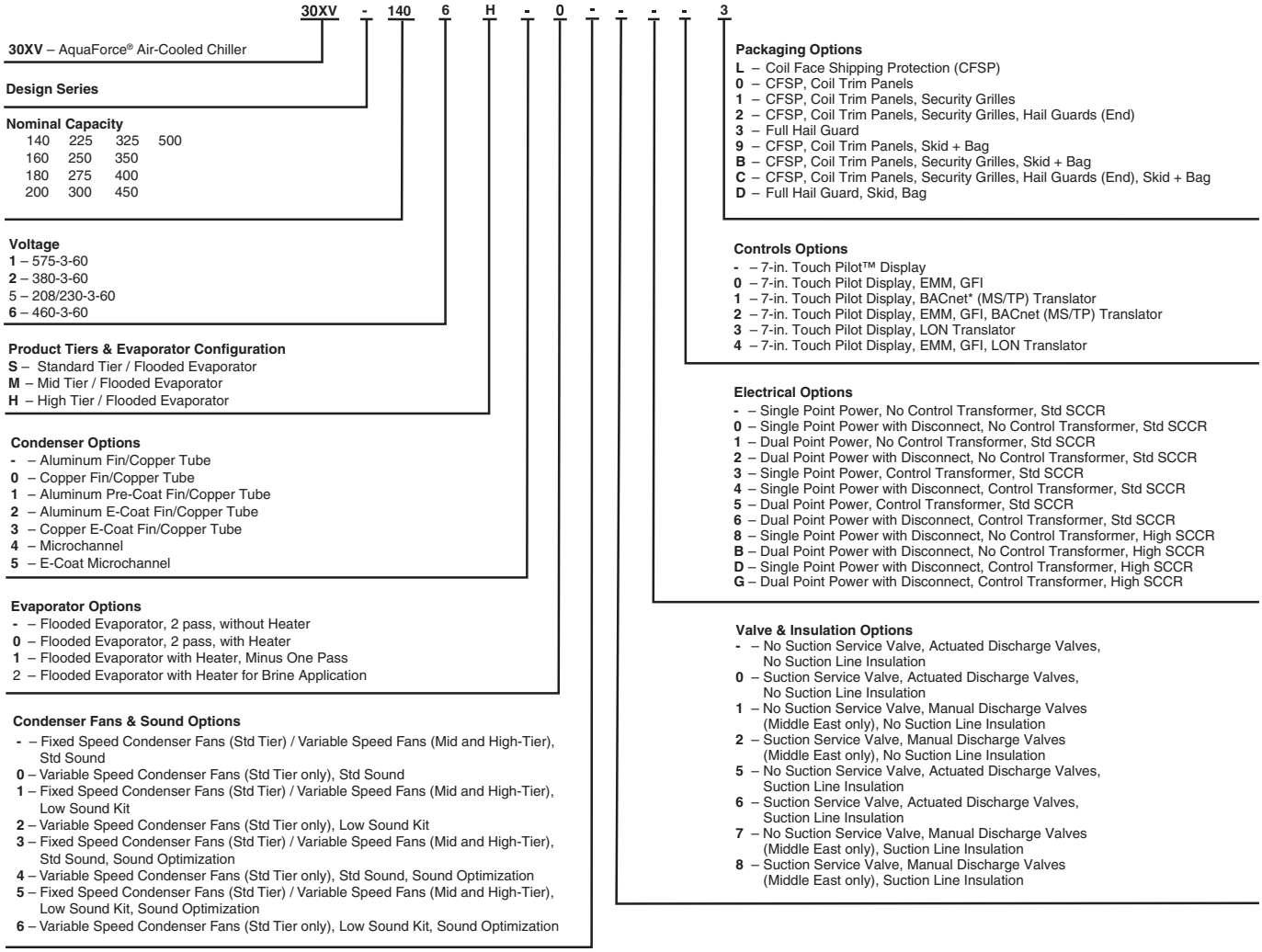
NOTE: To facilitate refrigerant vent piping, all units have fusible plugs with 1/4 in. SAE (Society of Automotive Engineers) flares and pressure reliefs with 3/4 in. NPT and 3/8 in. SAE flare fittings (if required by local codes).

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. 21 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 oil separator. 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

*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

NOTES:

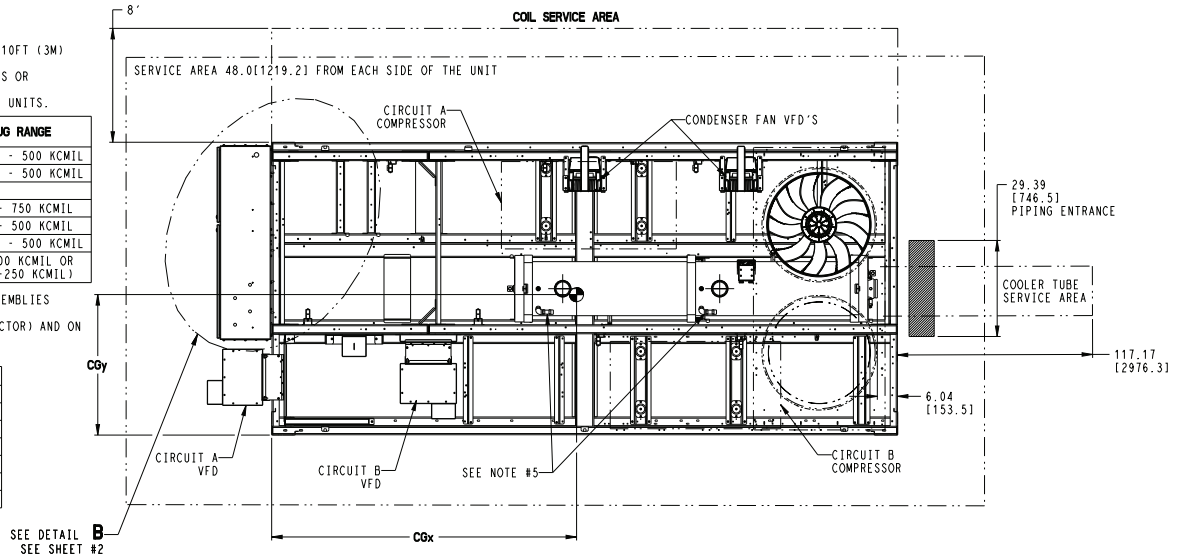
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

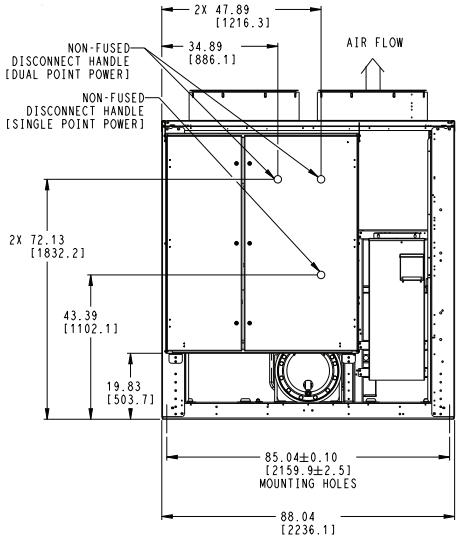
POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
DUAL POINT POWER (200V)	140-200	NFD	2	500 - 750 KCMIL
SINGLE POINT POWER (380V)	140-200	NFD	4	4/0 - 500 KCMIL
SINGLE POINT POWER (460 - 575V)	140-200	NFD	2	#2 AWG - 500 KCMIL
DUAL POINT POWER (380 - 575V)	140-200	NFD	1 OR (2)	2/0-500 KCMIL OR (2/0-250 KCMIL)

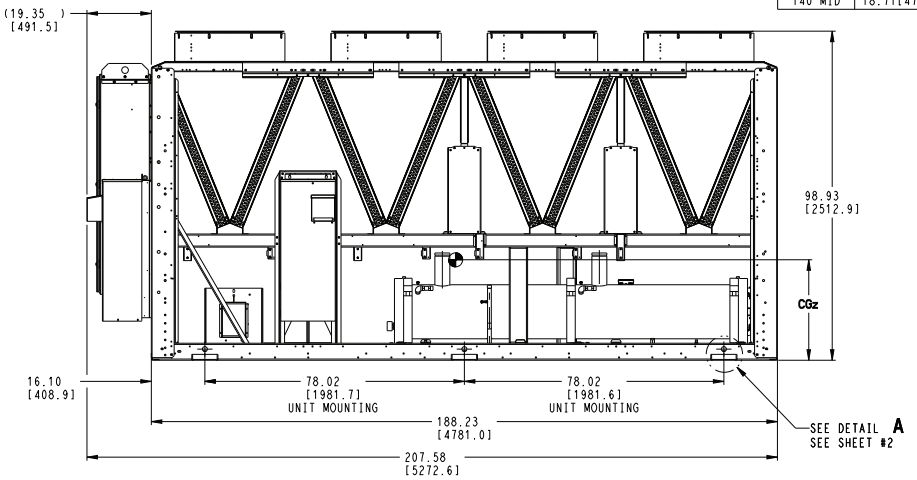
4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR) AND ON EACH OIL SEPARATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS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

⊕ SYMBOL DENOTES CG







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]

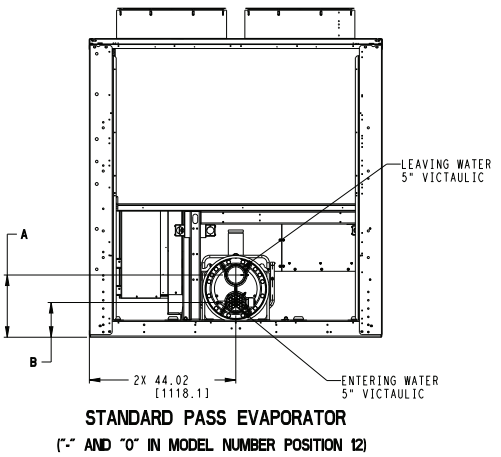
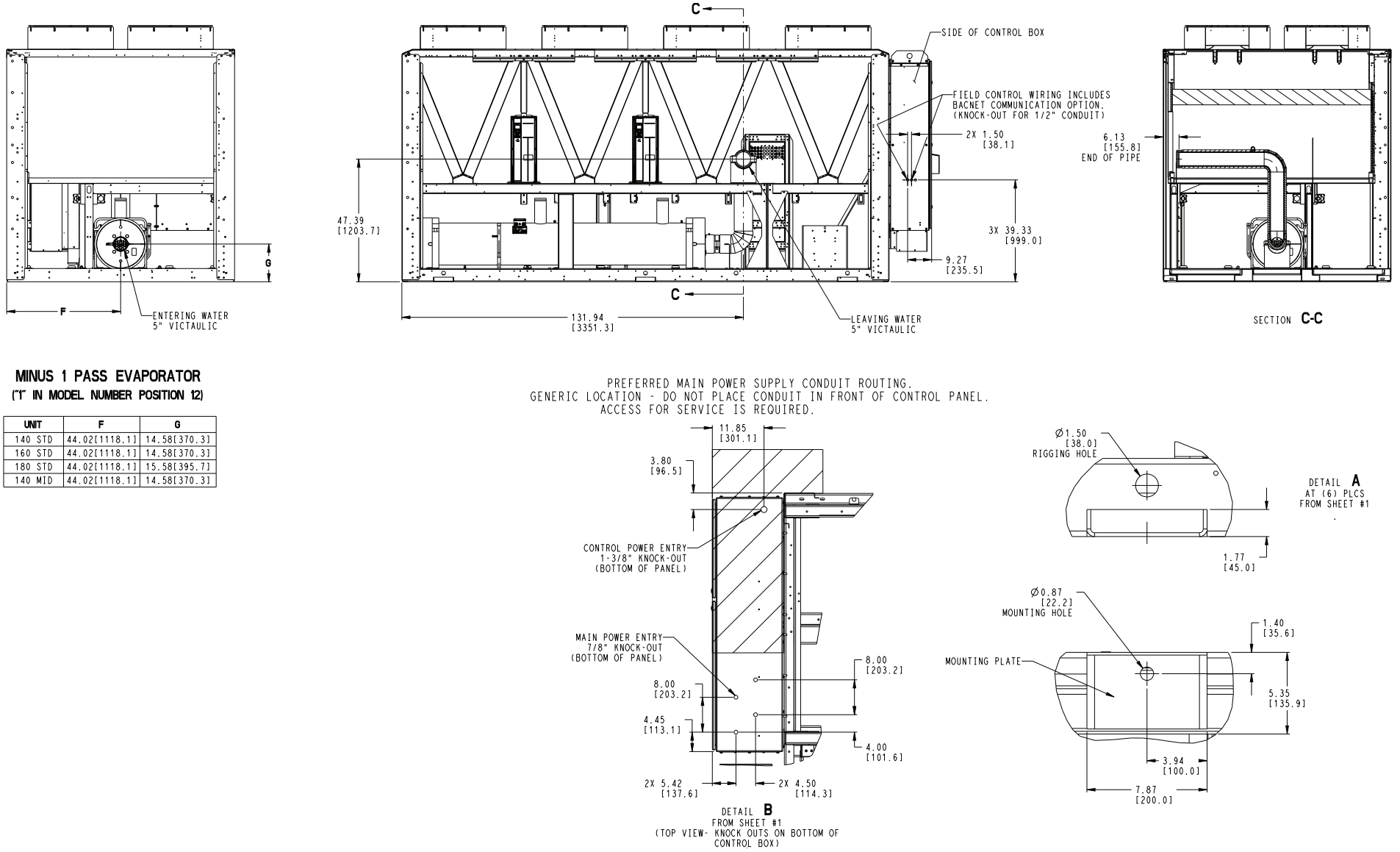


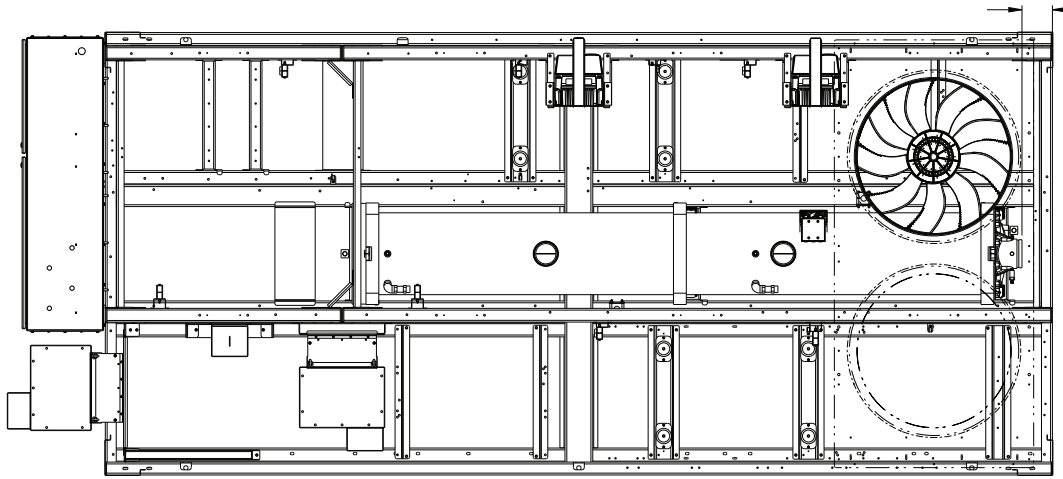
Fig. 2 — 30XV 140,160,180 Std Tier; 140 Mid Tier Air-Cooled Chiller

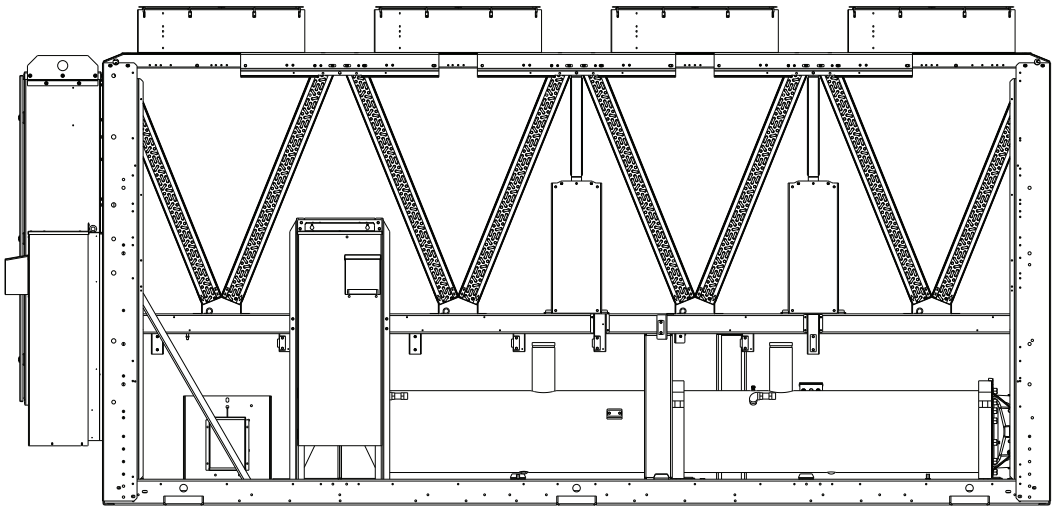


MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)

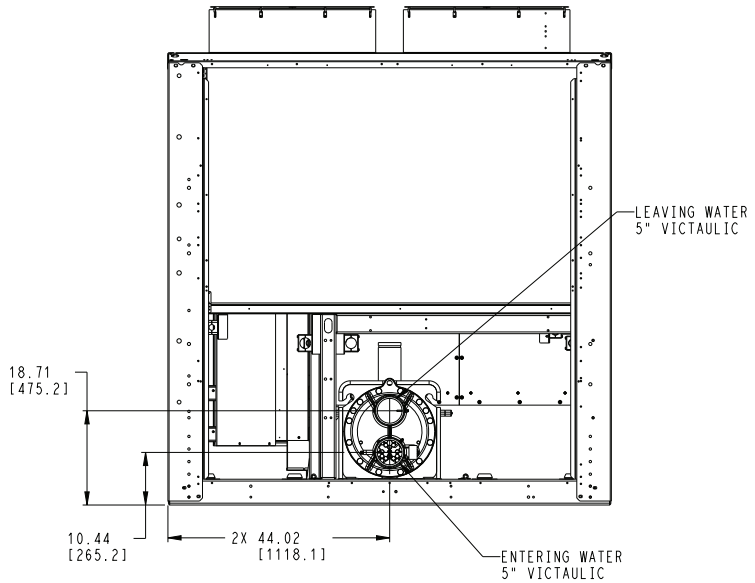
UNIT	F	G
140 STD	44.02[1118.1]	14.58[370.3]
160 STD	44.02[1118.1]	14.58[370.3]
180 STD	44.02[1118.1]	15.58[395.7]
140 MID	44.02[1118.1]	14.58[370.3]

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





BRINE EVAPORATOR OPTION



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

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

NOTES:

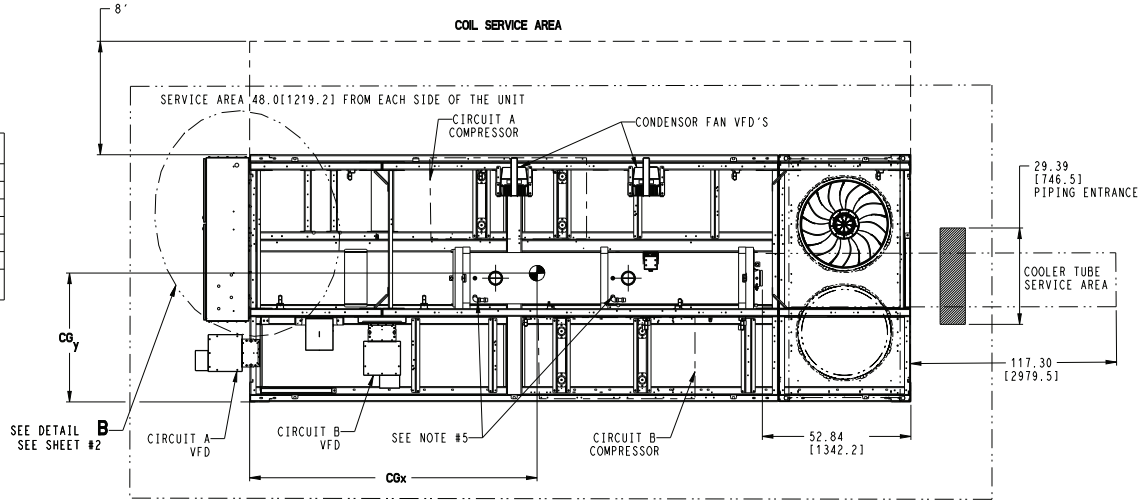
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6′ FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8′ REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
DUAL POINT POWER (200V)	140-200	NFD	2	500 - 750 KCMIL
SINGLE POINT POWER (380V)	140-200	NFD	4	4/0 - 500 KCMIL
SINGLE POINT POWER (460 - 575V)	140-200	NFD	2	#2 AWG - 500 KCMIL
DUAL POINT POWER (380 - 575V)	140-200	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 SEPARATOR (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]

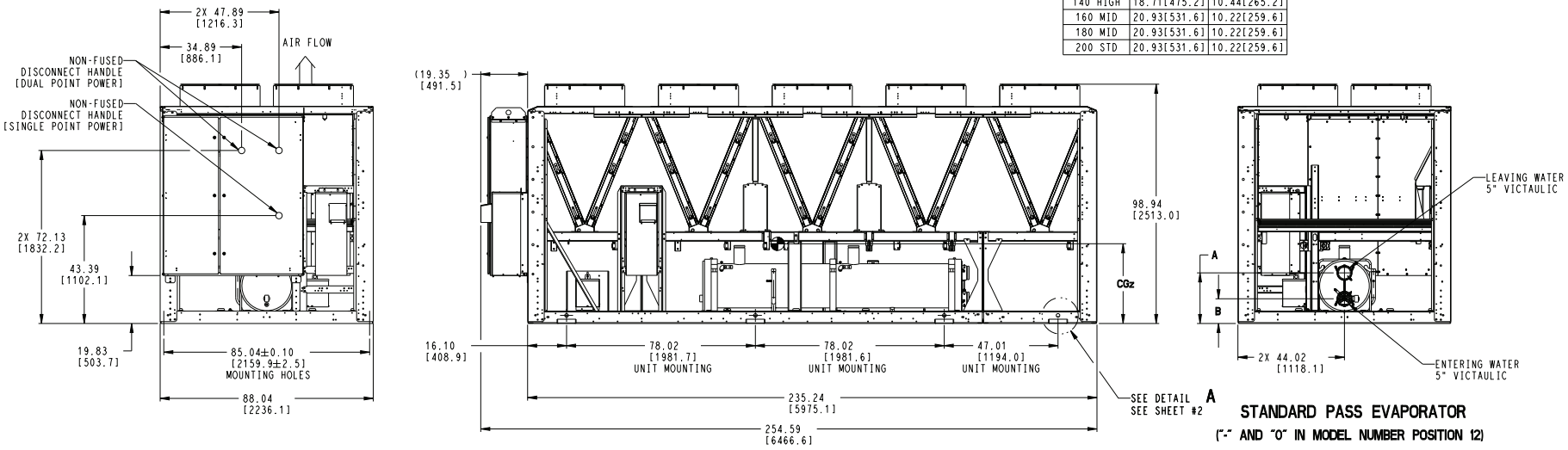
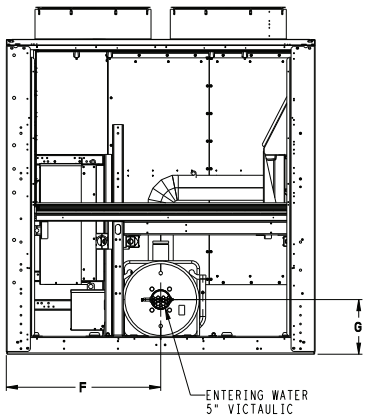
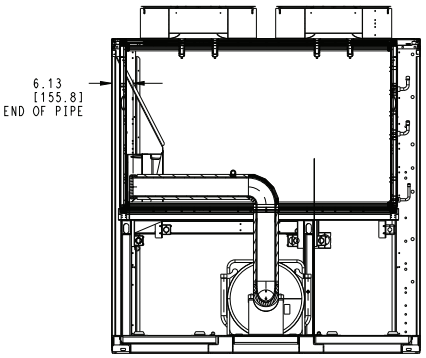


Fig. 3 — 30XV 140 High Tier; 160,180 Mid Tier; 200 Std Tier Air-Cooled Chiller

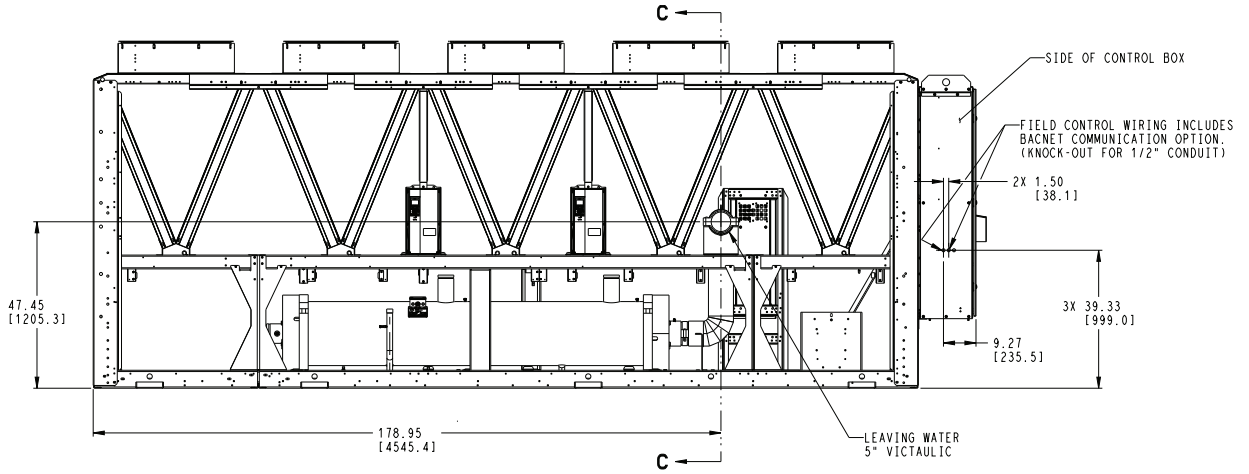


MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)

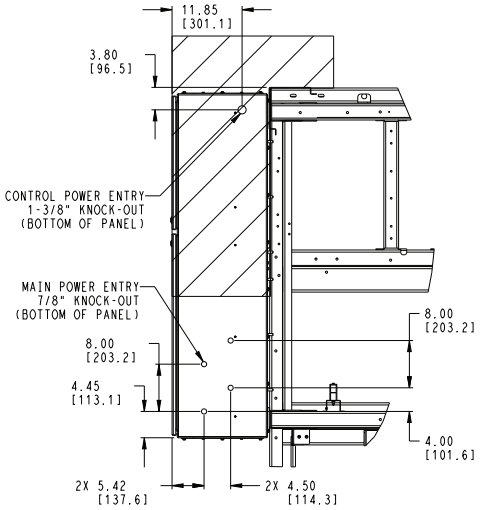
UNIT	F	G
140 HIGH	44.02[1118.1]	14.58[370.3]
160 MID	44.02[1118.1]	15.58[395.7]
180 MID	44.02[1118.1]	15.58[395.7]
200 STD	44.02[1118.1]	15.58[395.7]



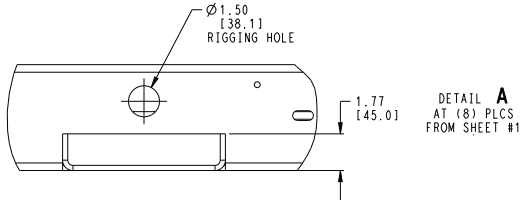
SECTION **C-C**



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

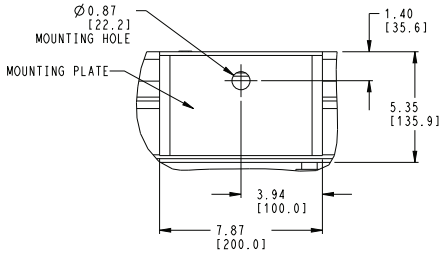
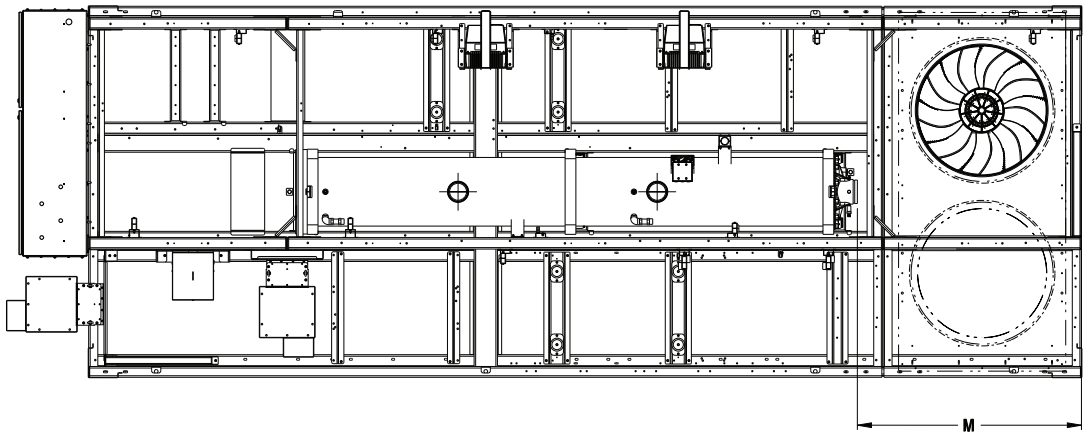
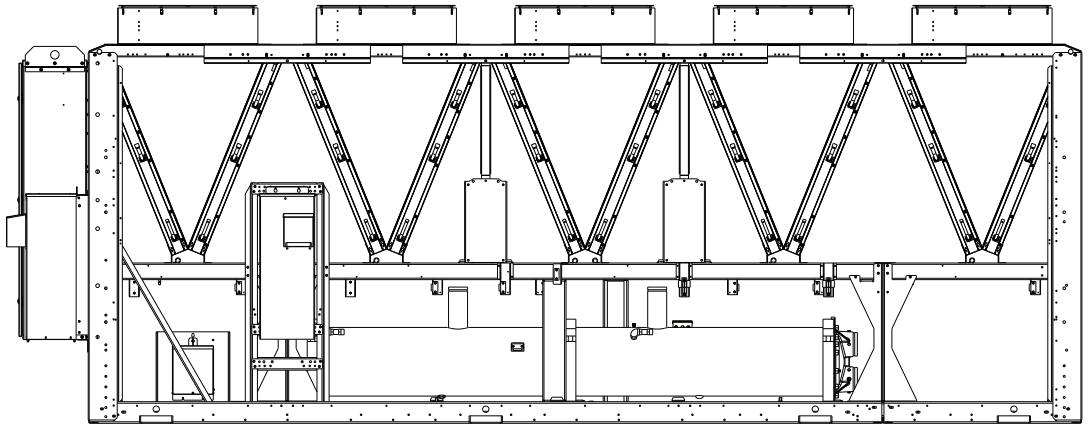


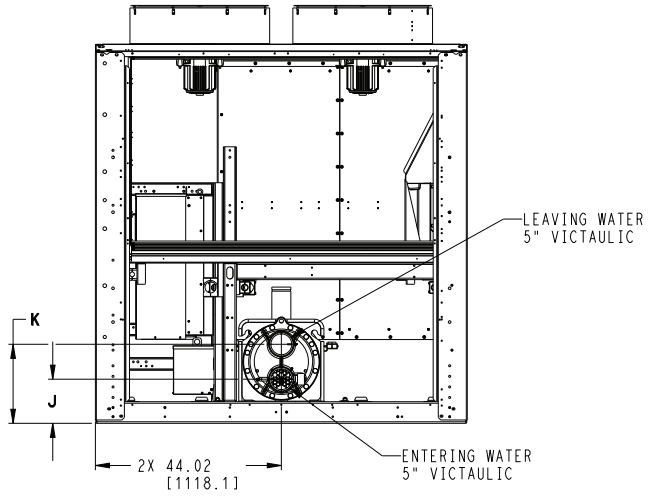
Fig. 3 — 30XV 140 High Tier; 160,180 Mid Tier; 200 Std Tier Air-Cooled Chiller (cont)



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 OPTION



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

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

NOTES:

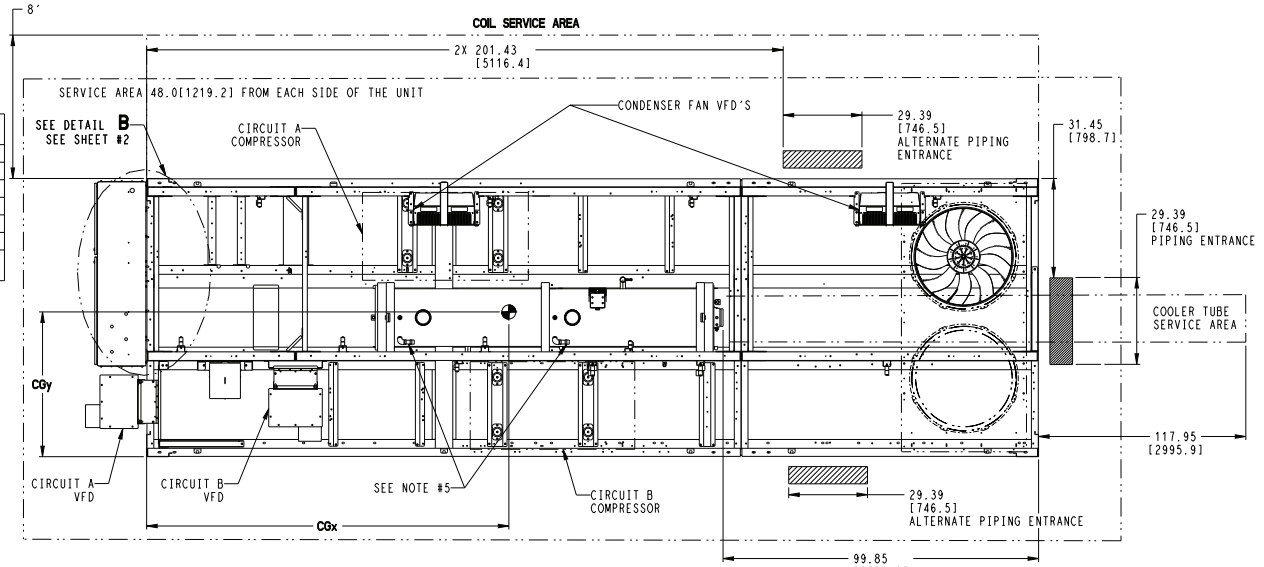
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
DUAL POINT POWER (200V)	140-200	NFD	2	500 - 750 KCMIL
SINGLE POINT POWER (380V)	140-200	NFD	4	4/0 - 500 KCMIL
SINGLE POINT POWER (460 - 575V)	140-200	NFD	2	#2 AWG - 500 KCMIL
DUAL POINT POWER (380 - 575V)	140-200	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 SEPARATOR (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"

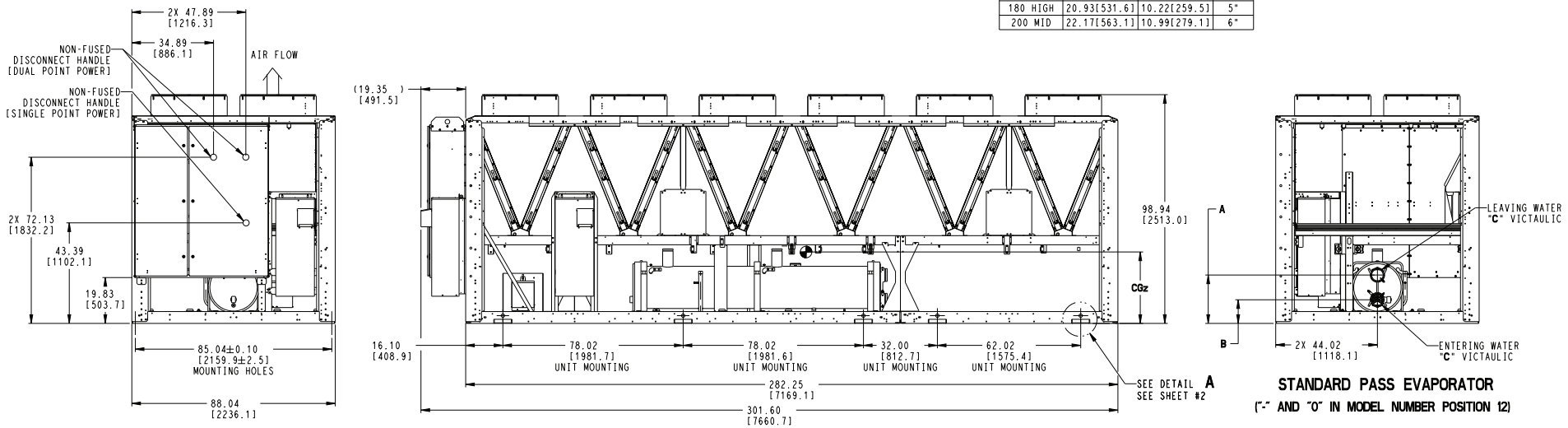
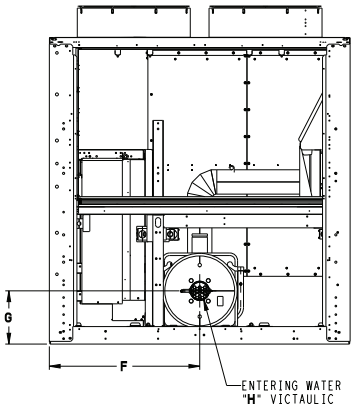
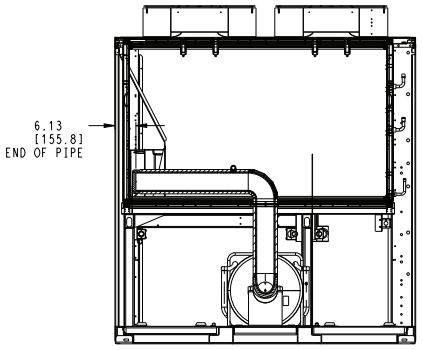


Fig. 4 — 30XV 160,180 High Tier; 200 Mid Tier Air-Cooled Chiller

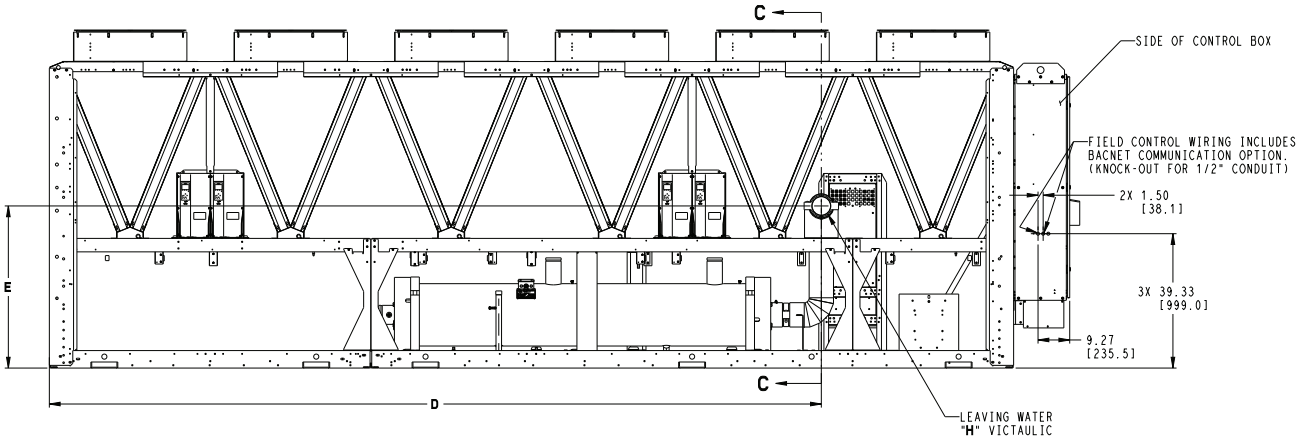


MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)

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"

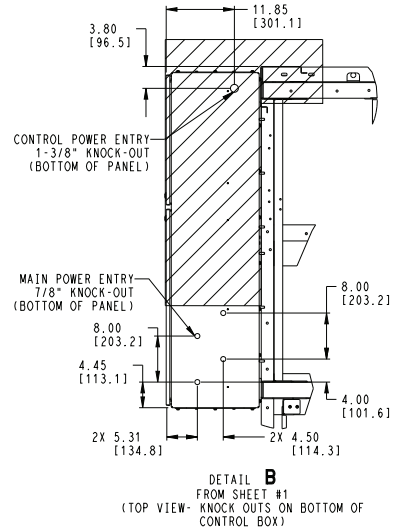


SECTION **C-C**

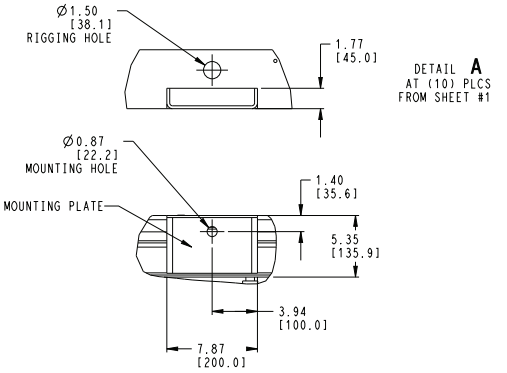


PREFERRED MAIN POWER SUPPLY CONDUIT ROUTING.
GENERIC LOCATION - DO NOT PLACE CONDUIT IN FRONT OF CONTROL PANEL.
ACCESS FOR SERVICE IS REQUIRED.

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]

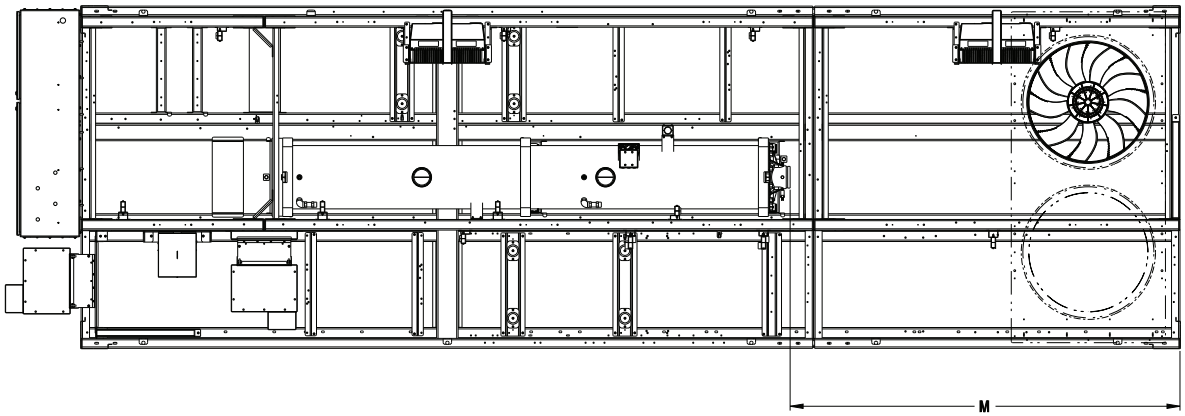


DETAIL **B**
FROM SHEET #1
(TOP VIEW- KNOCK OUTS ON BOTTOM OF
CONTROL BOX)

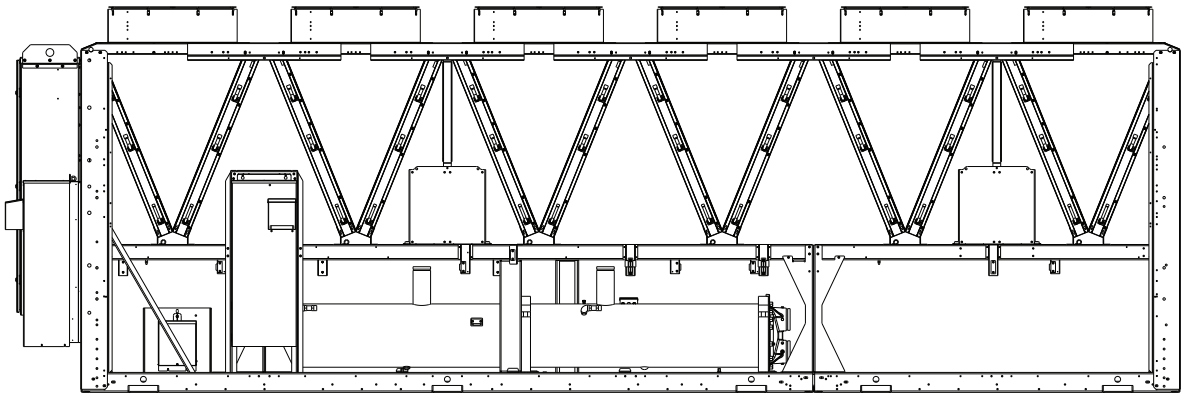


DETAIL **A**
AT (10) PLCS
FROM SHEET #1

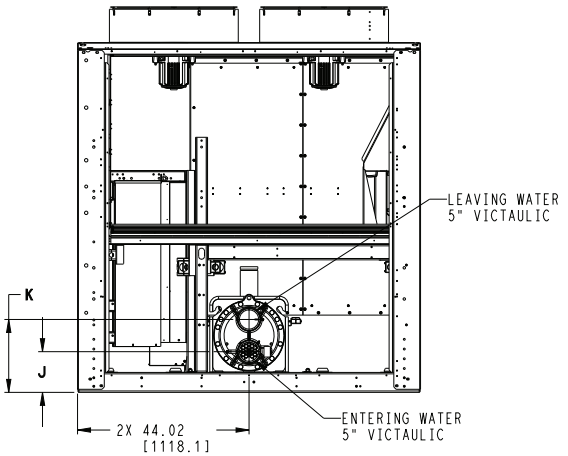
Fig. 4 — 30XV 160,180 High Tier; 200 Mid Tier Air-Cooled Chiller (cont)



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 OPTION



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

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

NOTES:

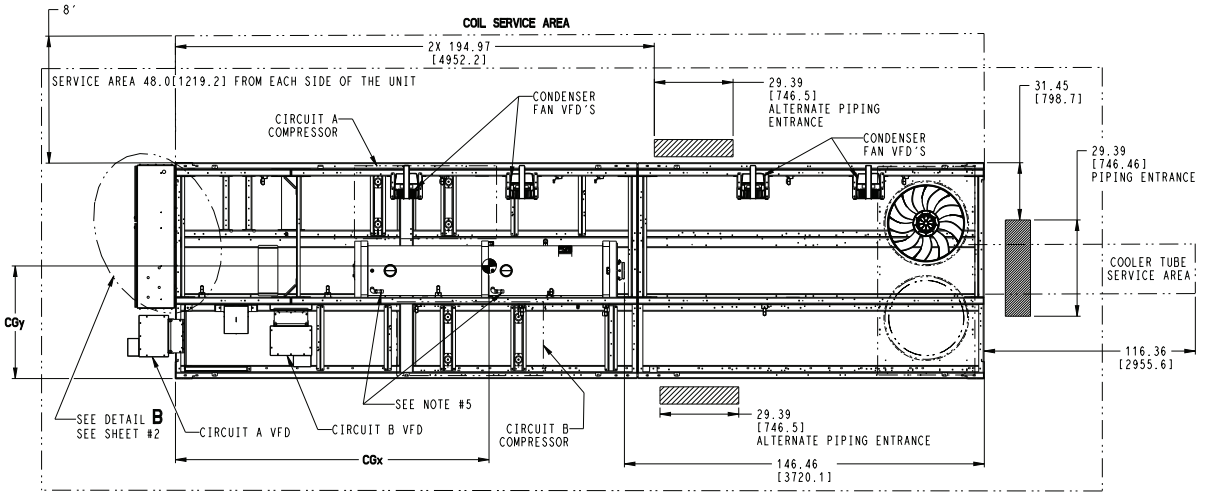
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
DUAL POINT POWER (200V)	140-200	NFD	2	500 - 750 KCMIL
SINGLE POINT POWER (380V)	140-200	NFD	4	4/0 - 500 KCMIL
SINGLE POINT POWER (460 - 575V)	140-200	NFD	2	#2 AWG - 500 KCMIL
DUAL POINT POWER (380 - 575V)	140-200	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 SEPARATOR (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



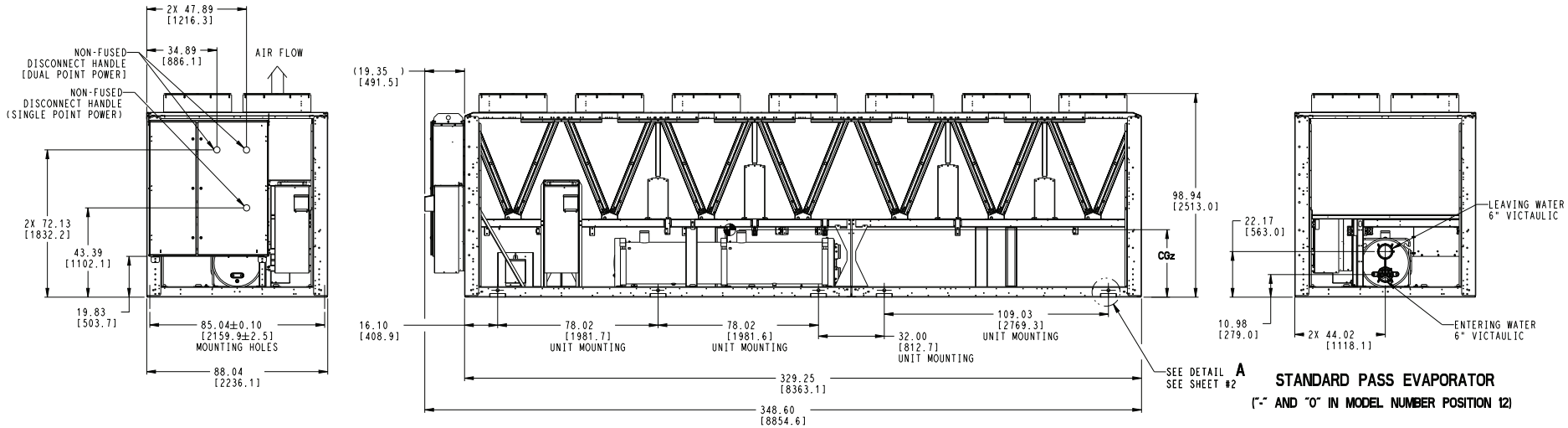


Fig. 5 — 30XV 200 High Tier Air-Cooled Chiller

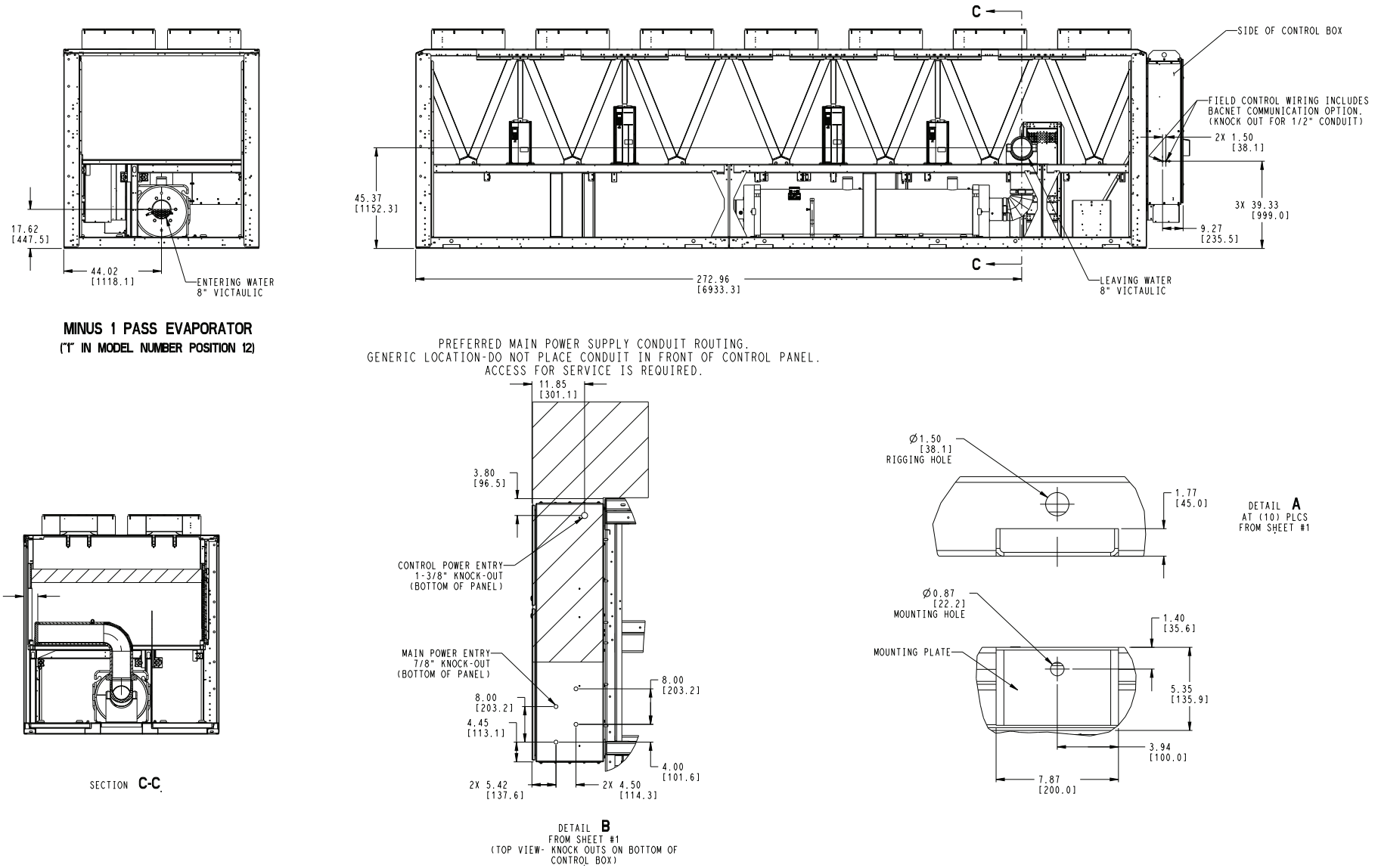
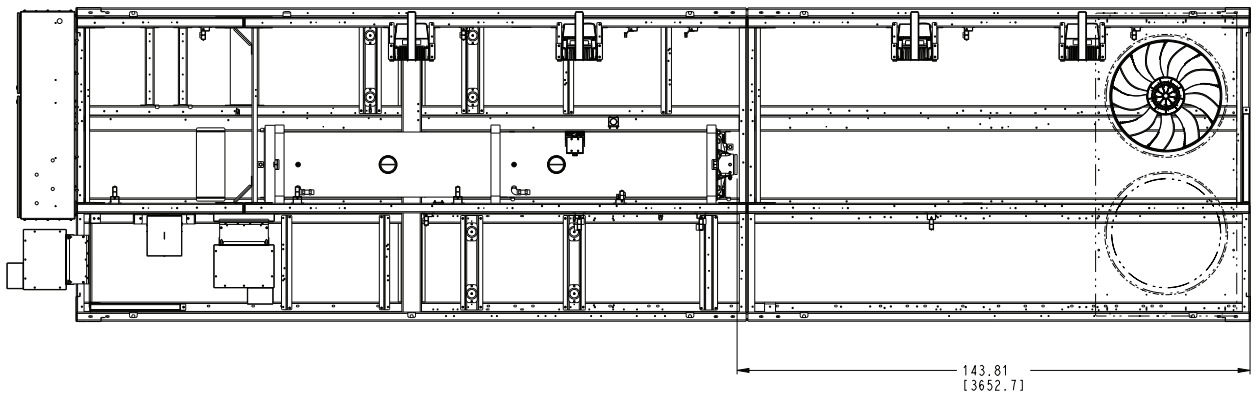
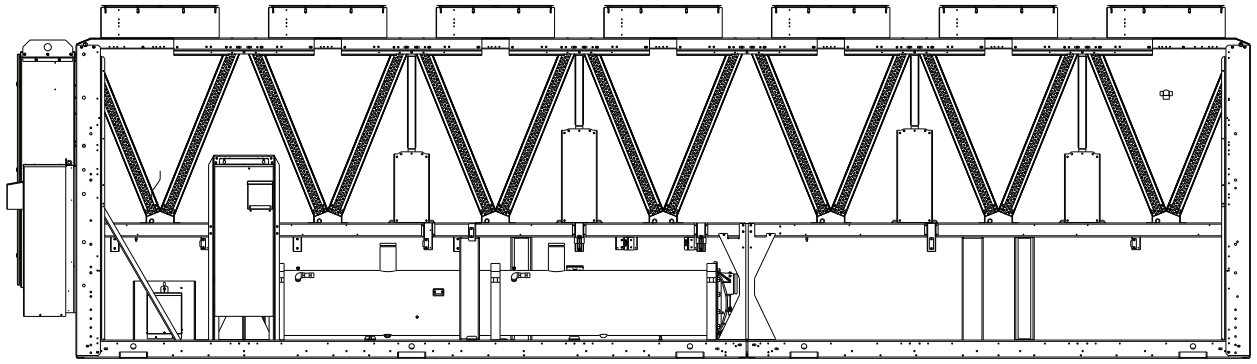
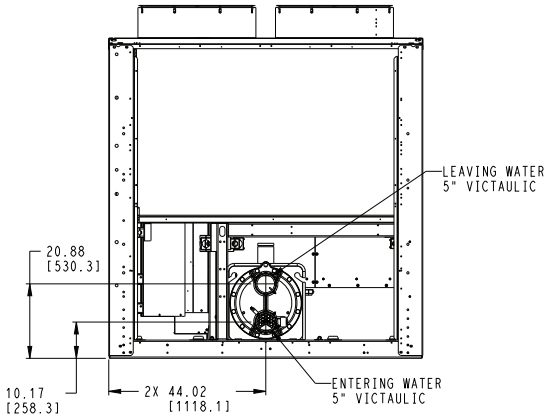


Fig. 5 — 30XV 200 High Tier Air-Cooled Chiller (cont)





BRINE EVAPORATOR OPTION



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

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

NOTES:

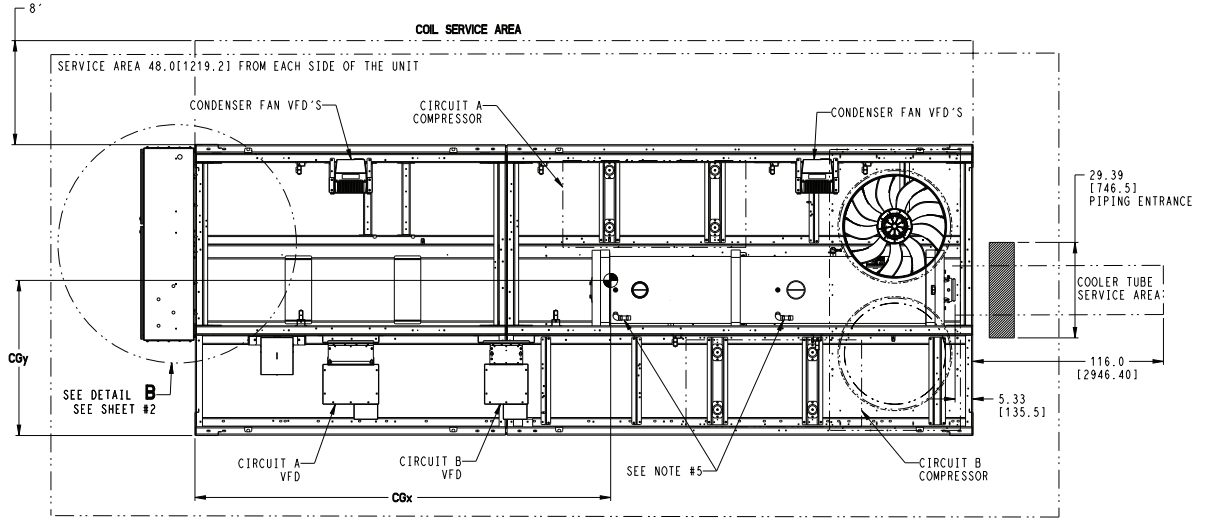
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
SINGLE POINT POWER (380 - 575V)	225-325	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER (380 - 575V)	225-325	NFD	2	2/0 - 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 SEPARATOR (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-225 STD	124.7	3166	124.3	3157	123.6	3140	46.7	1187	33.0	838

SYMBOL DENOTES CG



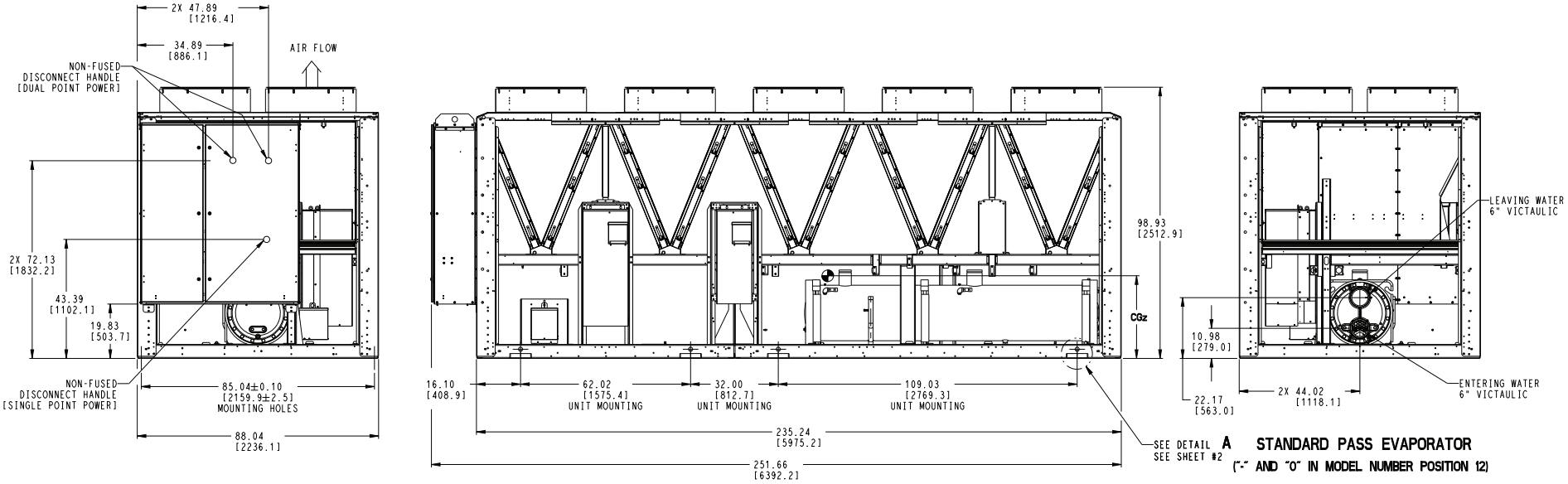


Fig. 6 — 30XV 225 Std Tier Air-Cooled Chiller

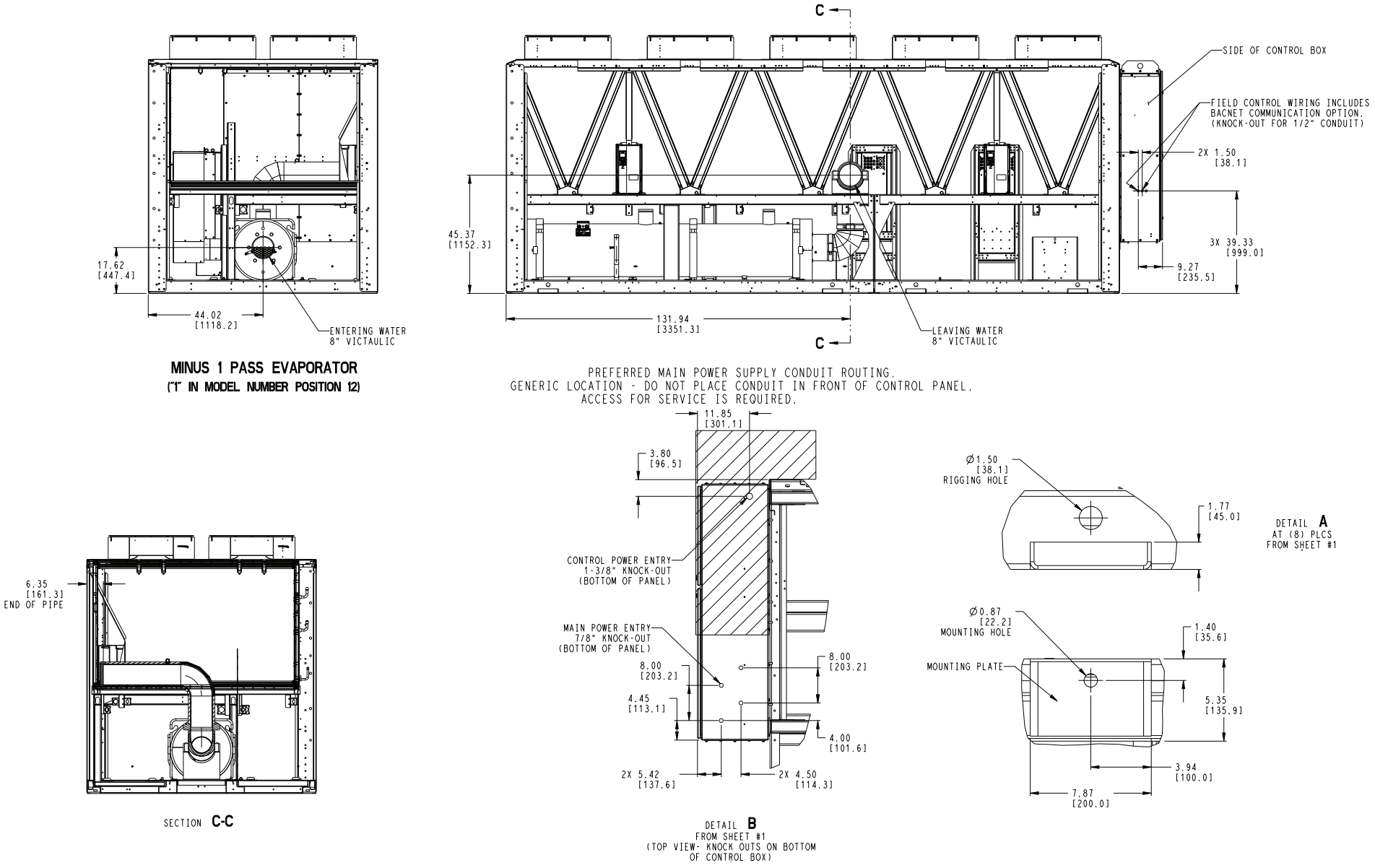
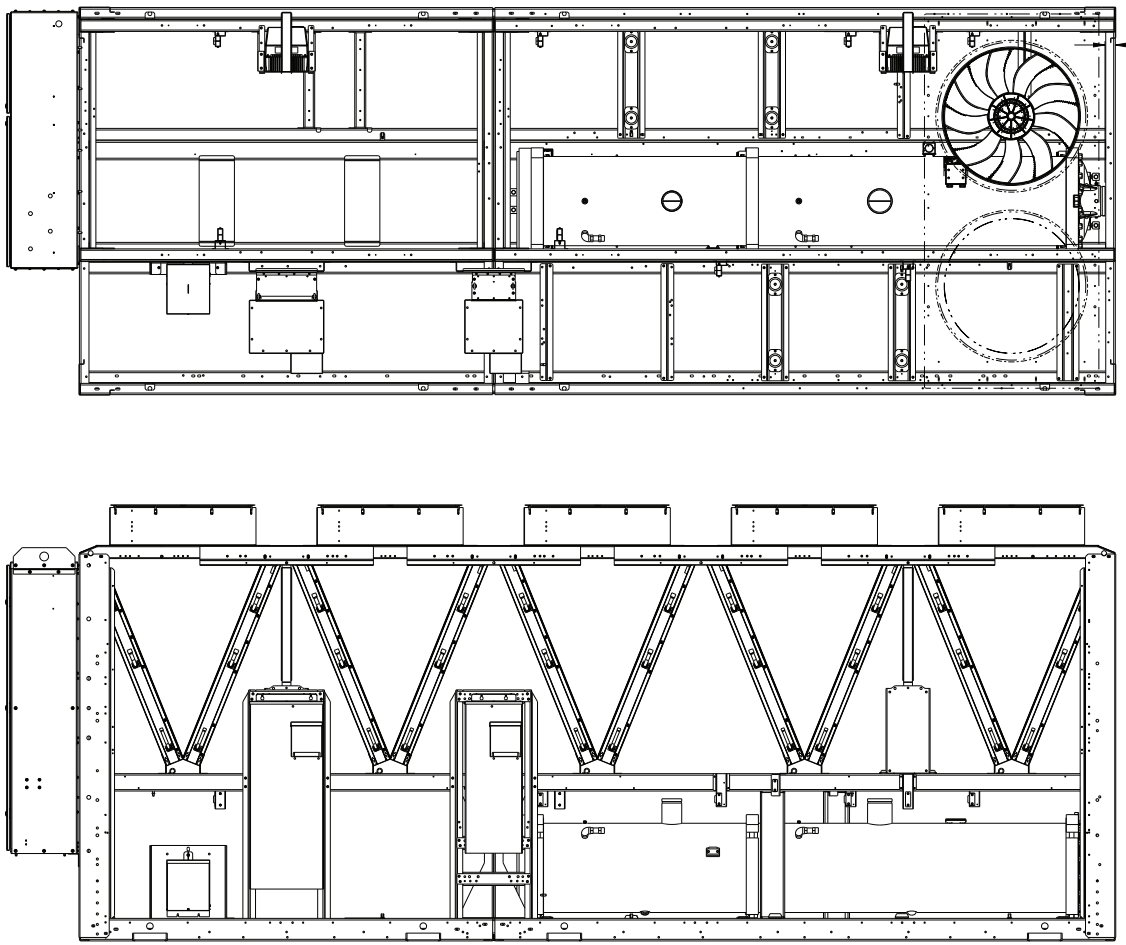
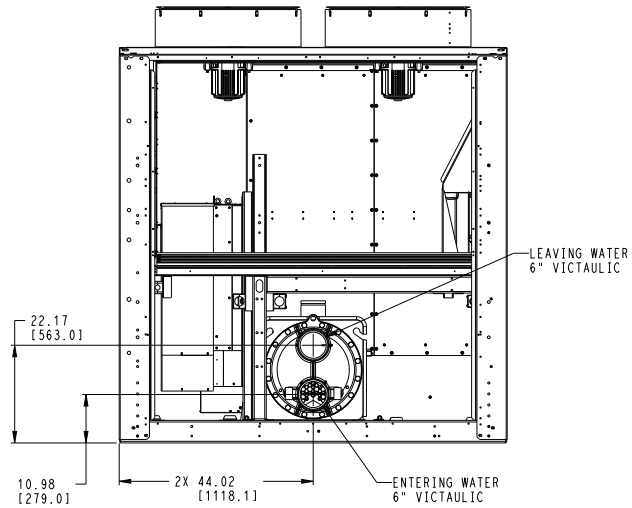


Fig. 6 — 30XV 225 Std Tier Air-Cooled Chiller (cont)



BRINE EVAPORATOR OPTION



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

Fig. 6 — 30XV 225 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 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
SINGLE POINT POWER (380-575V)	225-325	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER (380 - 575V)	225-325	NFD	2	2/0-500 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 SEPARATOR (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-225 MID	134.4	3414	134.8	3424	135.5	3441	46.8	1189	34.8	883

⊕ SYMBOL DENOTES CG

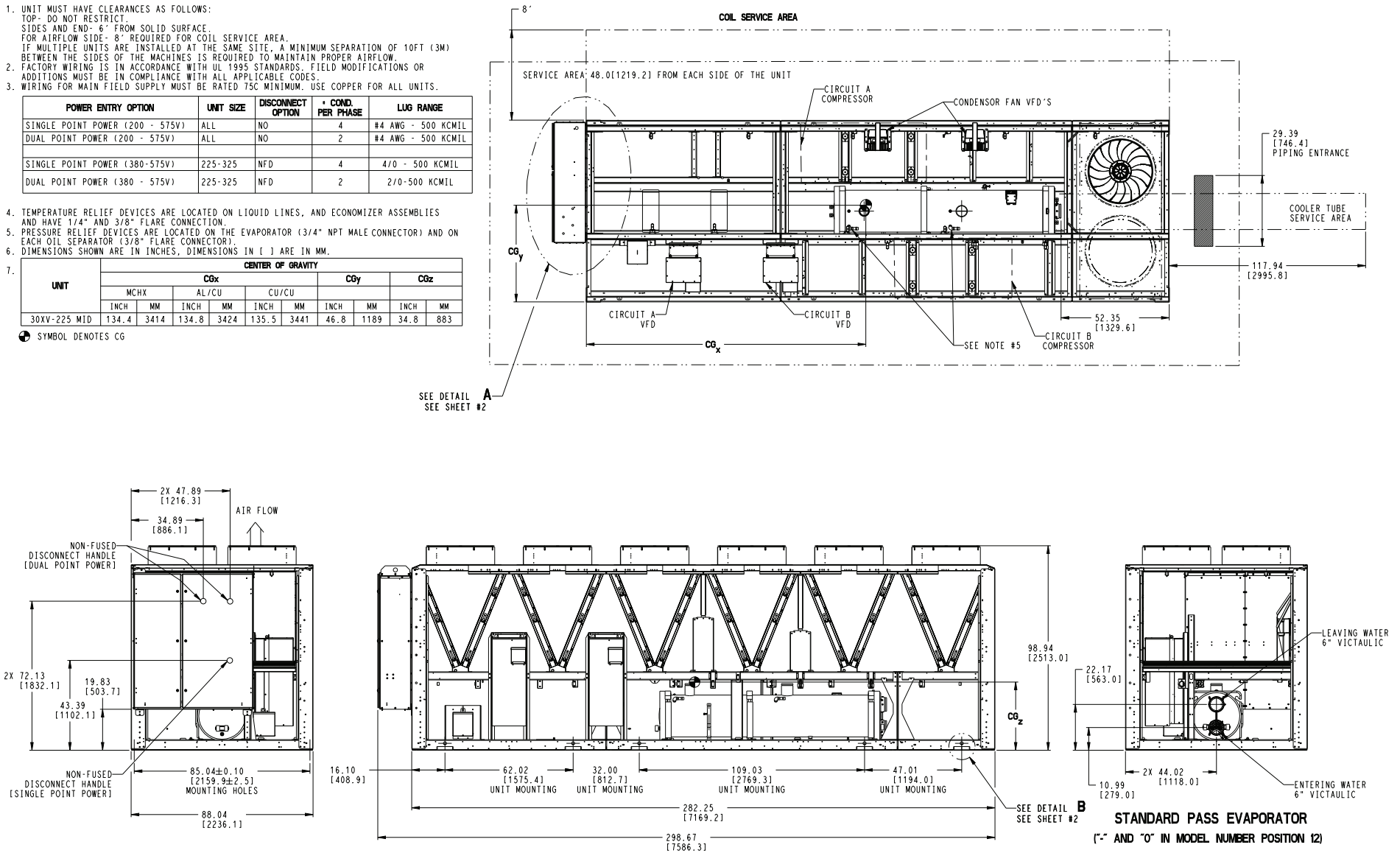
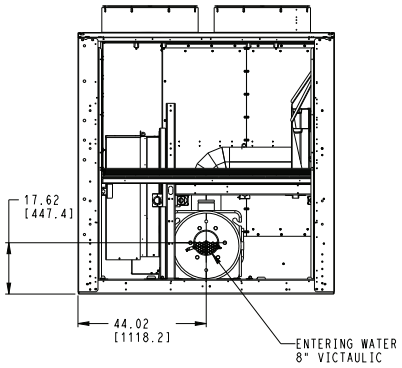
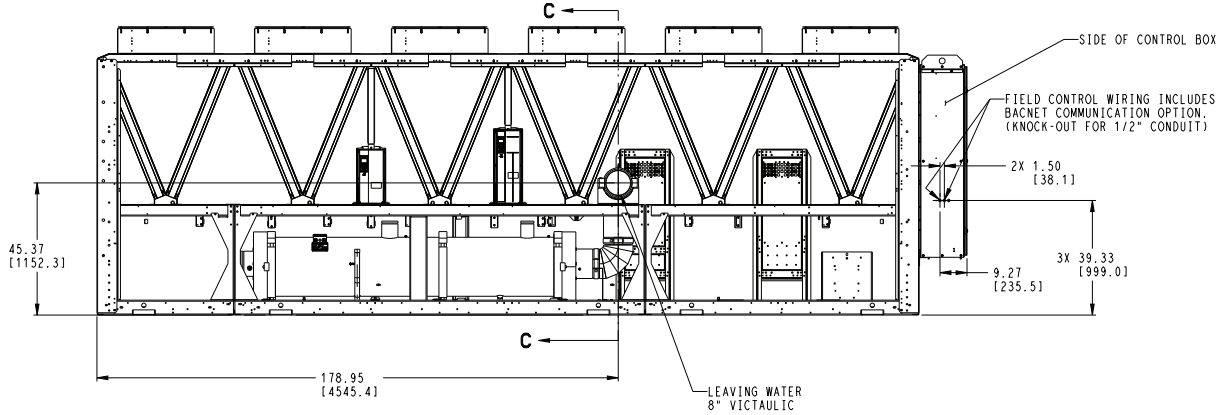


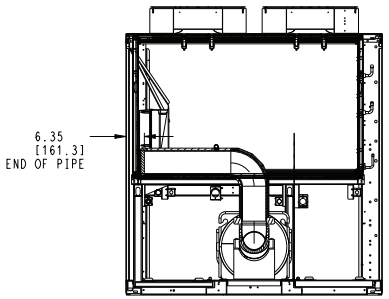
Fig. 7 — 30XV 225 Mid Tier Air-Cooled Chiller



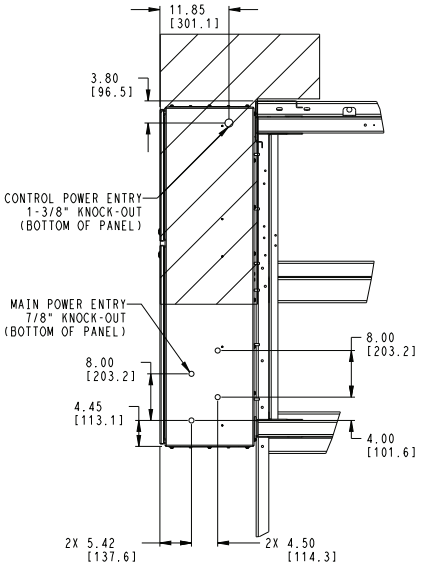
MINUS 1 PASS EVAPORATOR
("1" IN MODEL NUMBER POSITION 12)



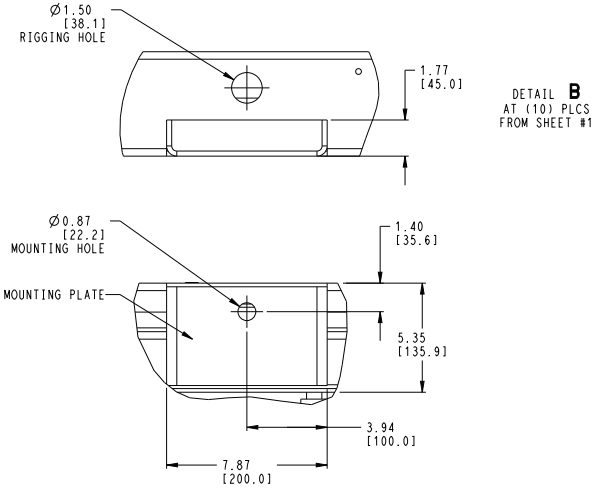
PREFERRED MAIN POWER SUPPLY CONDUIT ROUTING.
GENERIC LOCATION - DO NOT PLACE CONDUIT IN FRONT OF CONTROL PANEL.
ACCESS FOR SERVICE IS REQUIRED.



SECTION **C-C**

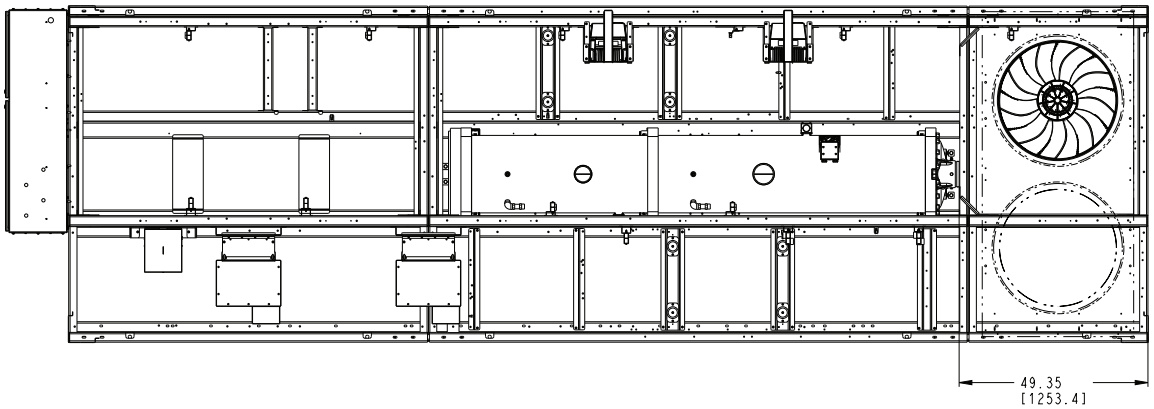


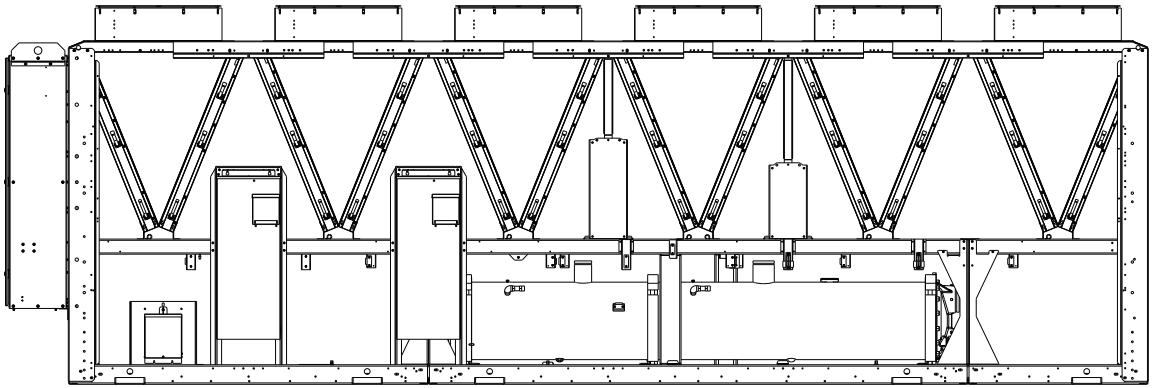
DETAIL **A**
FROM SHEET #1
(TOP VIEW- KNOCK OUTS ON BOTTOM
OF CONTROL BOX)



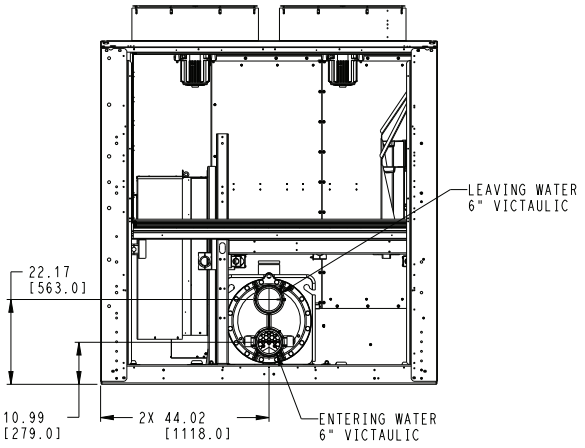
DETAIL **B**
AT (10) PLCS
FROM SHEET #1

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





BRINE EVAPORATOR OPTION



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

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

NOTES:

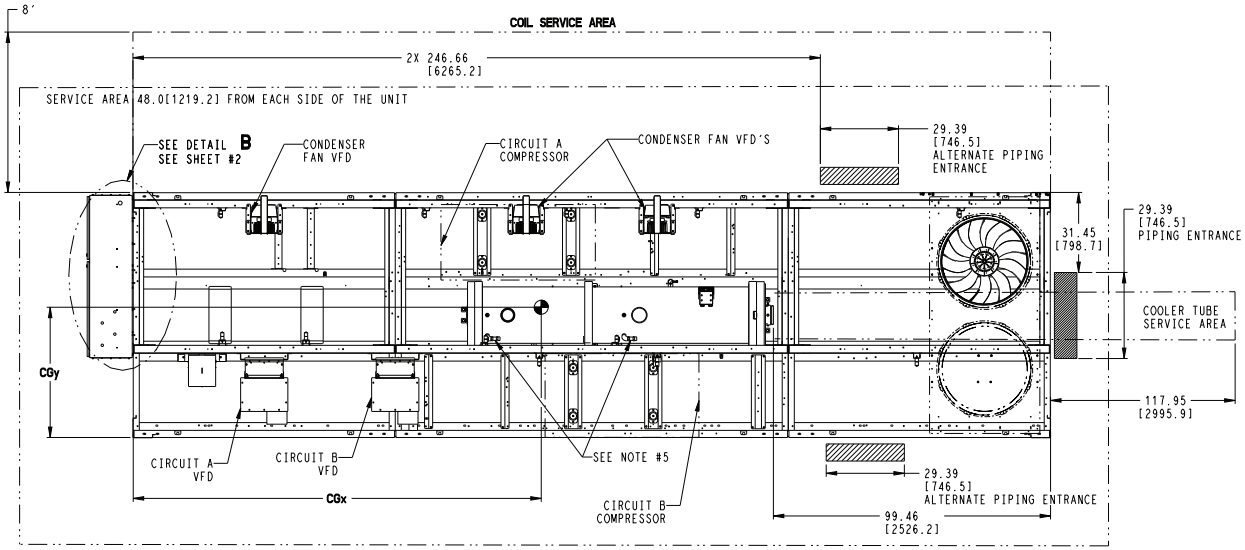
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
SINGLE POINT POWER (380-575V)	225-325	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER (380 - 575V)	225-325	NFD	2	2/0-500 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 SEPARATOR (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-225 HIGH	145.8	3704	147.0	3733	149.0	3784	46.8	1189	35.7	906

⊕ SYMBOL DENOTES CG



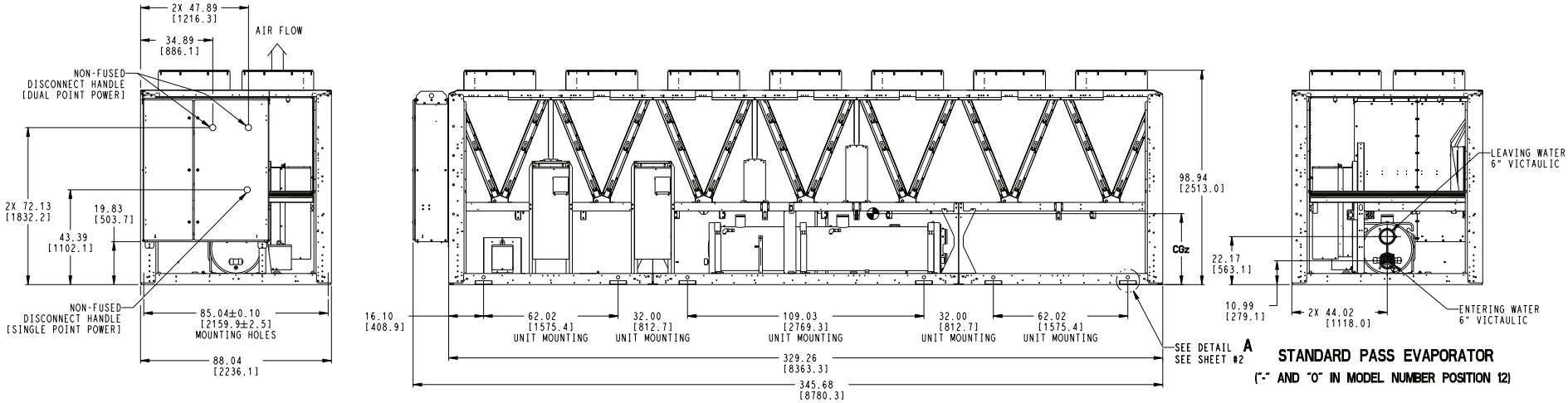


Fig. 8 — 30XV 225 High Tier Air-Cooled Chiller

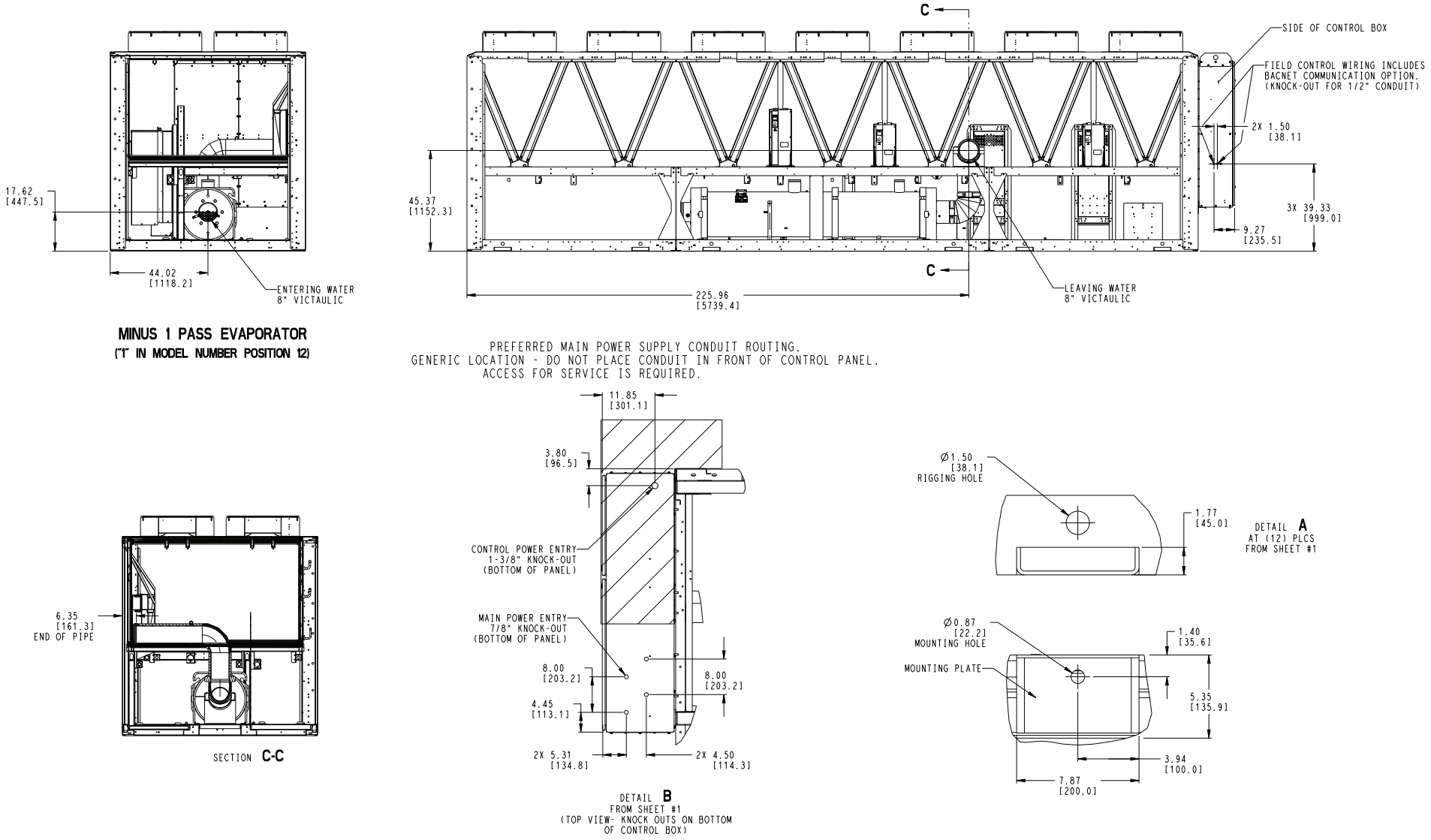
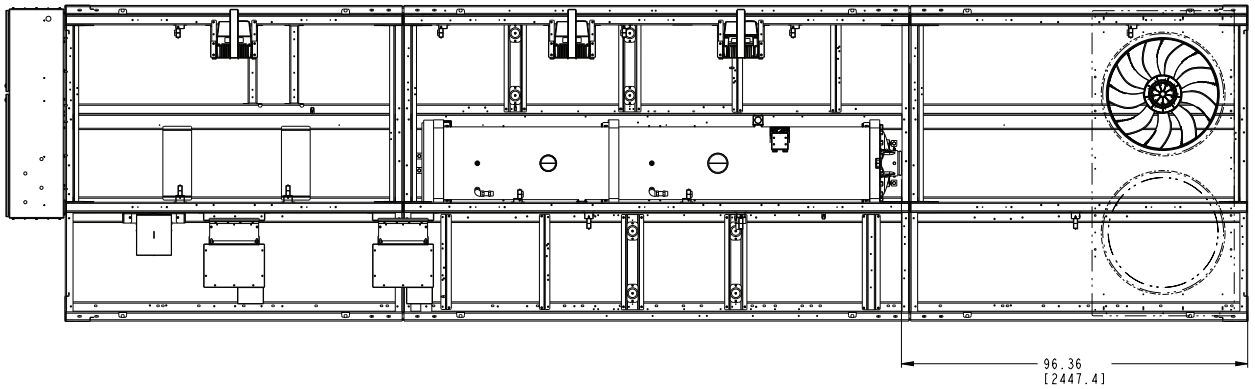
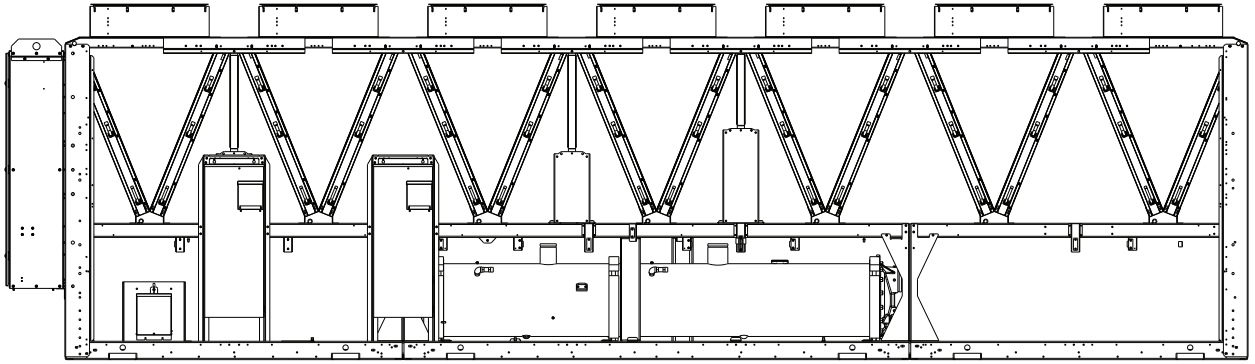
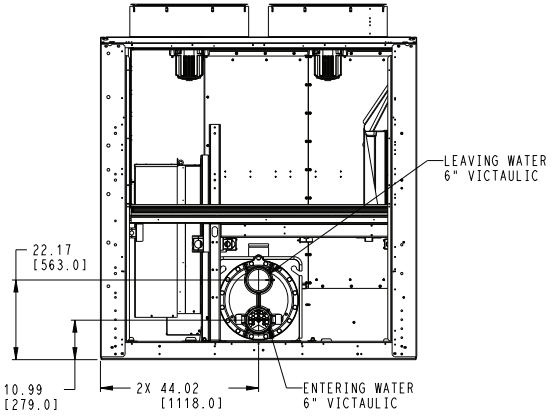


Fig. 8 — 30XV 225 High Tier Air-Cooled Chiller (cont)





BRINE EVAPORATOR OPTION



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

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

NOTES:

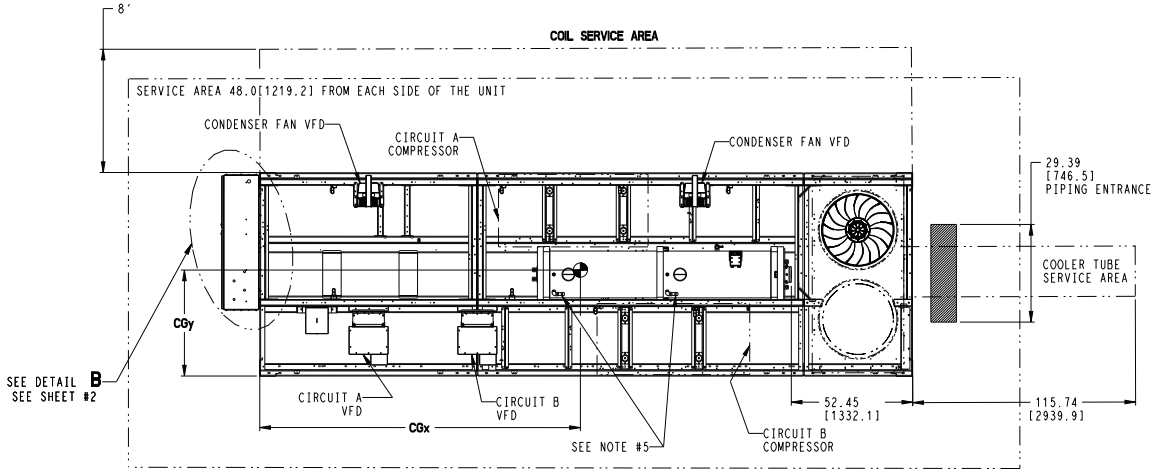
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6′ FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8′ REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

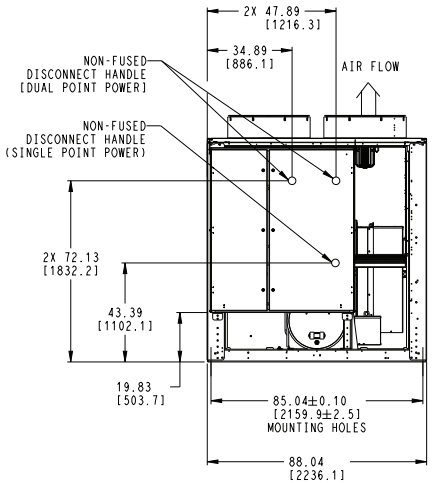
POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
SINGLE POINT POWER (380V - 575V)	225-325	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER (380V - 575V)	225-325	NFD	2	2/0 - 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 SEPARATOR (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"

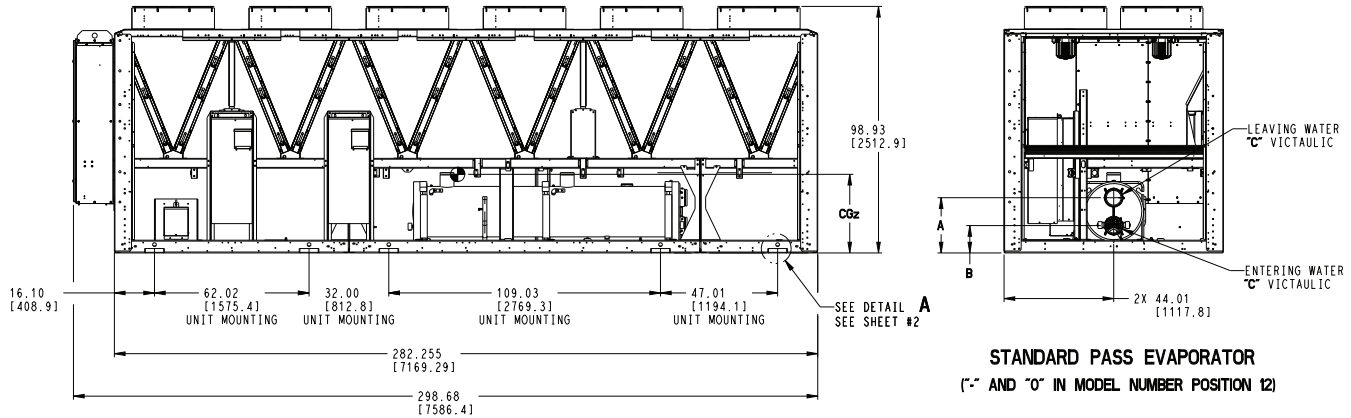
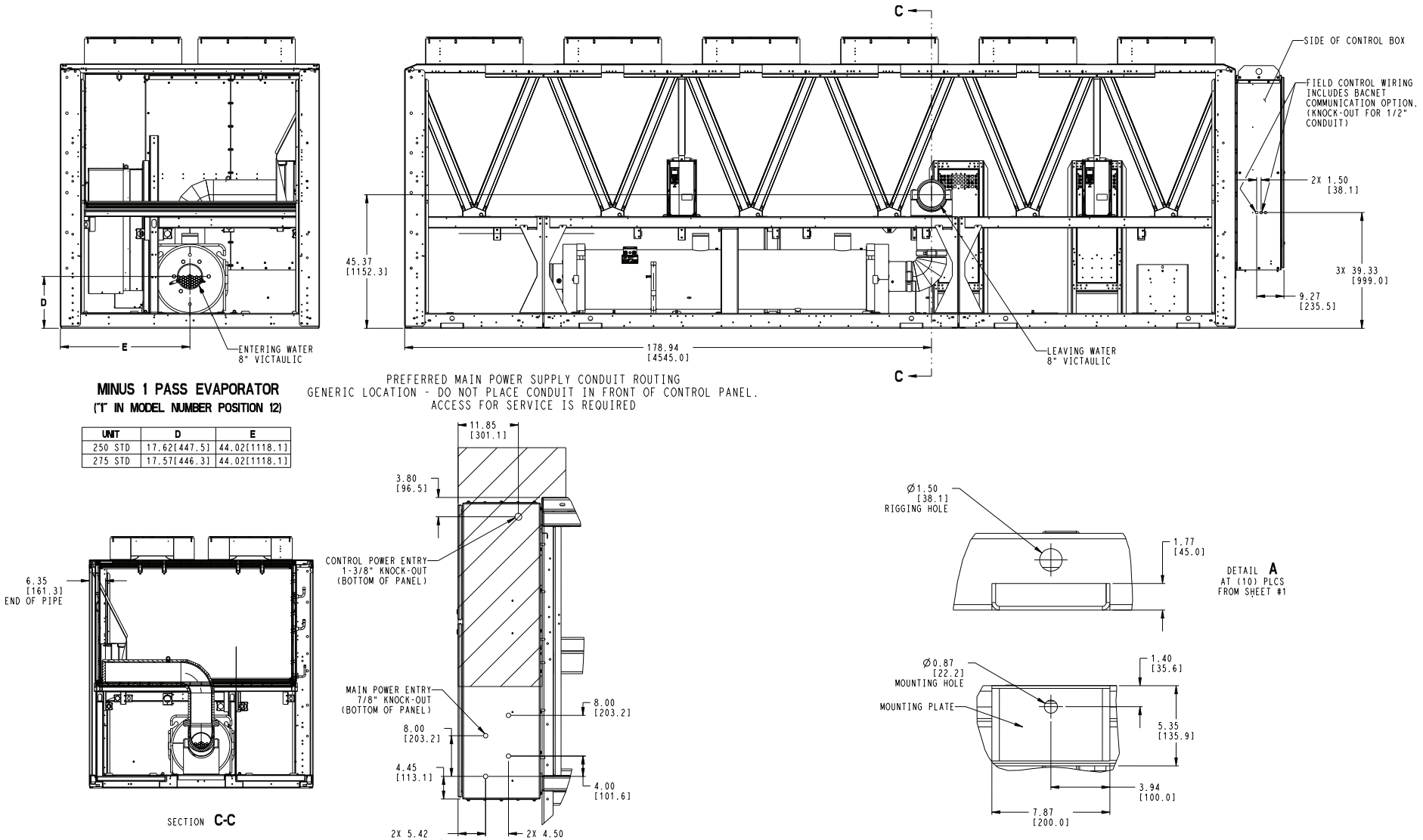
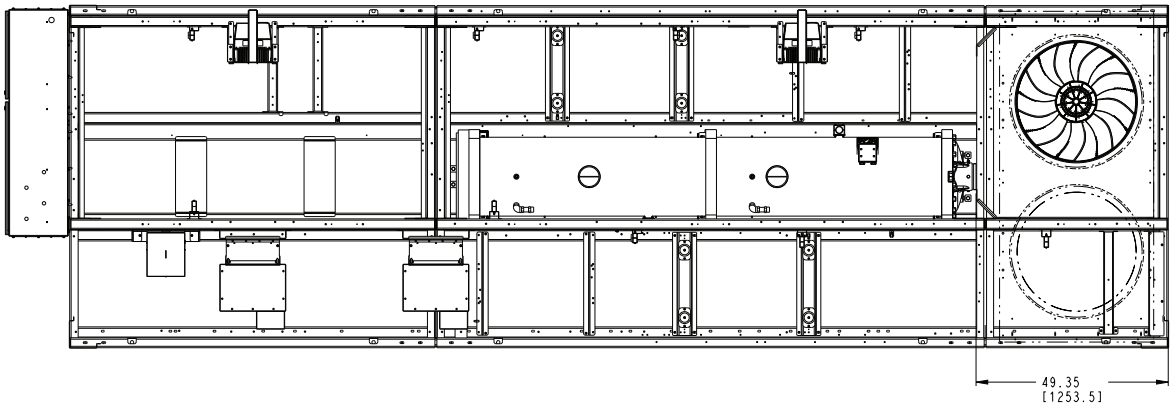


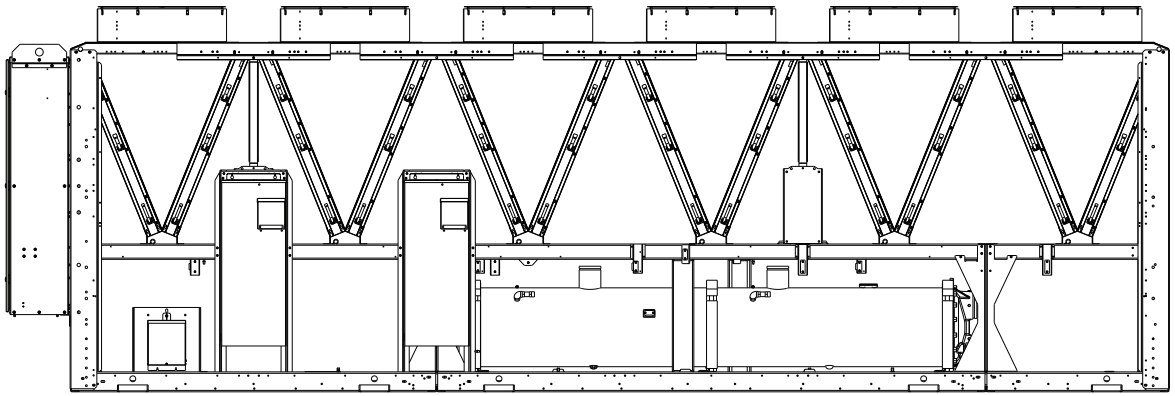
Fig. 9 — 30XV 250,275 Std Tier Air-Cooled Chiller



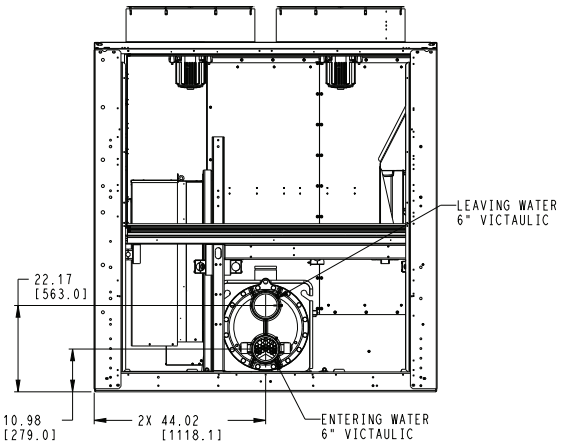
UNIT	D	E
250 STD	17.62[447.5]	44.02[1118.1]
275 STD	17.57[446.3]	44.02[1118.1]

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





BRINE EVAPORATOR OPTION



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

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

NOTES:

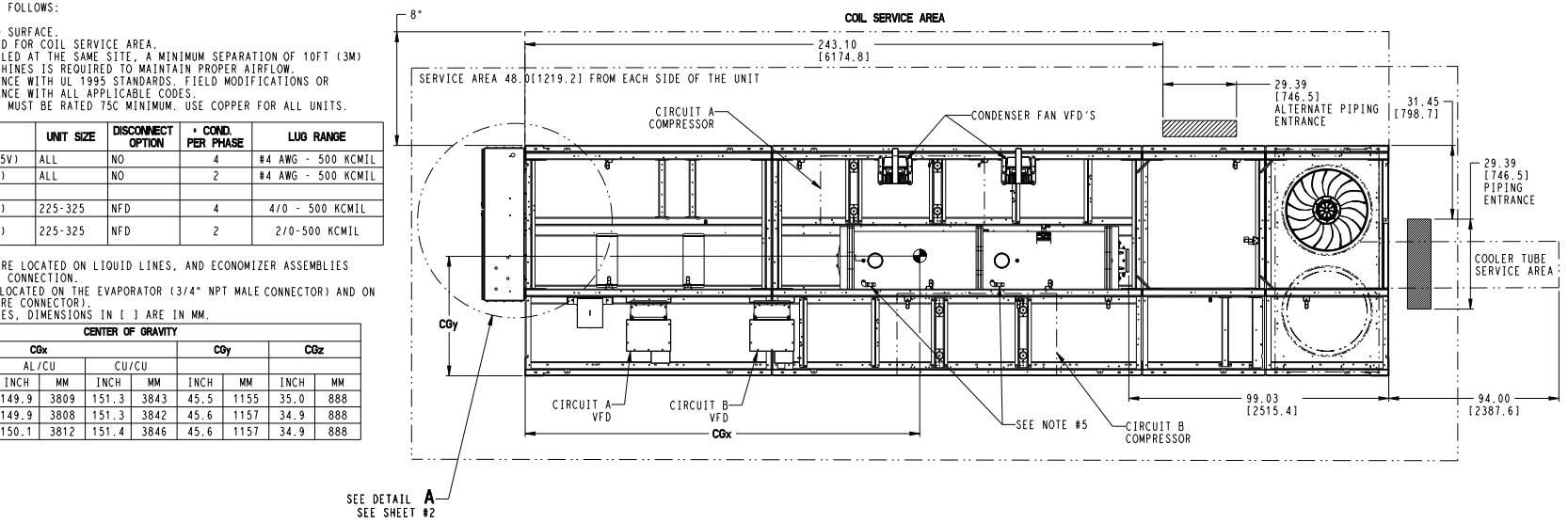
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6" FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8" REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
SINGLE POINT POWER (380-575V)	225-325	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER (380 - 575V)	225-325	NFD	2	2/0-500 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 SEPARATOR (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 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

SYMBOL DENOTES CG



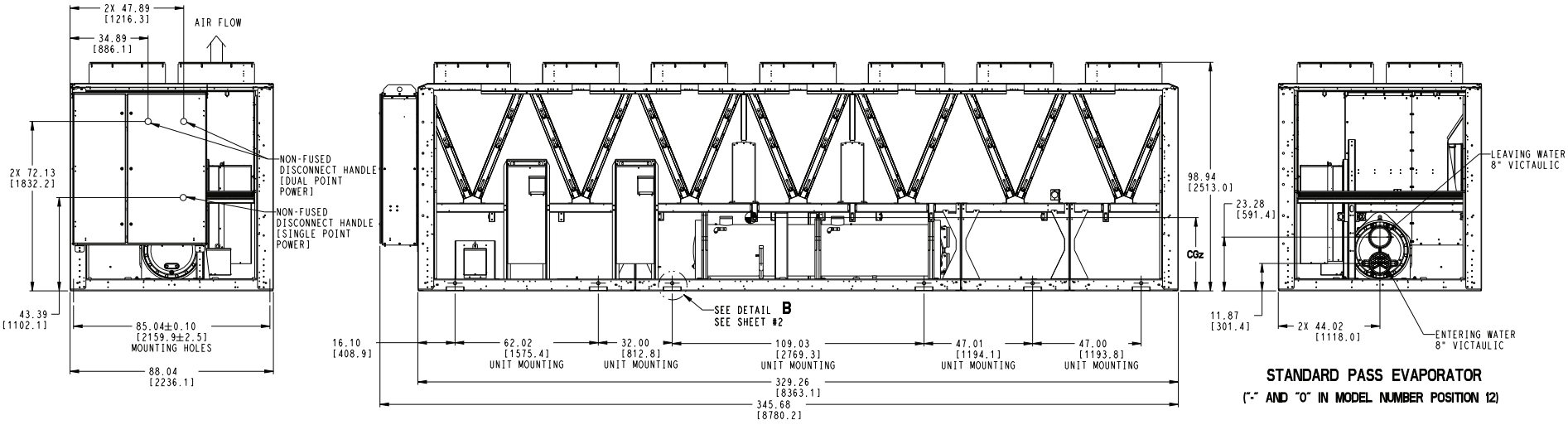


Fig. 10 — 30XV 250,275 Mid Tier; 300 Std Tier Air-Cooled Chiller

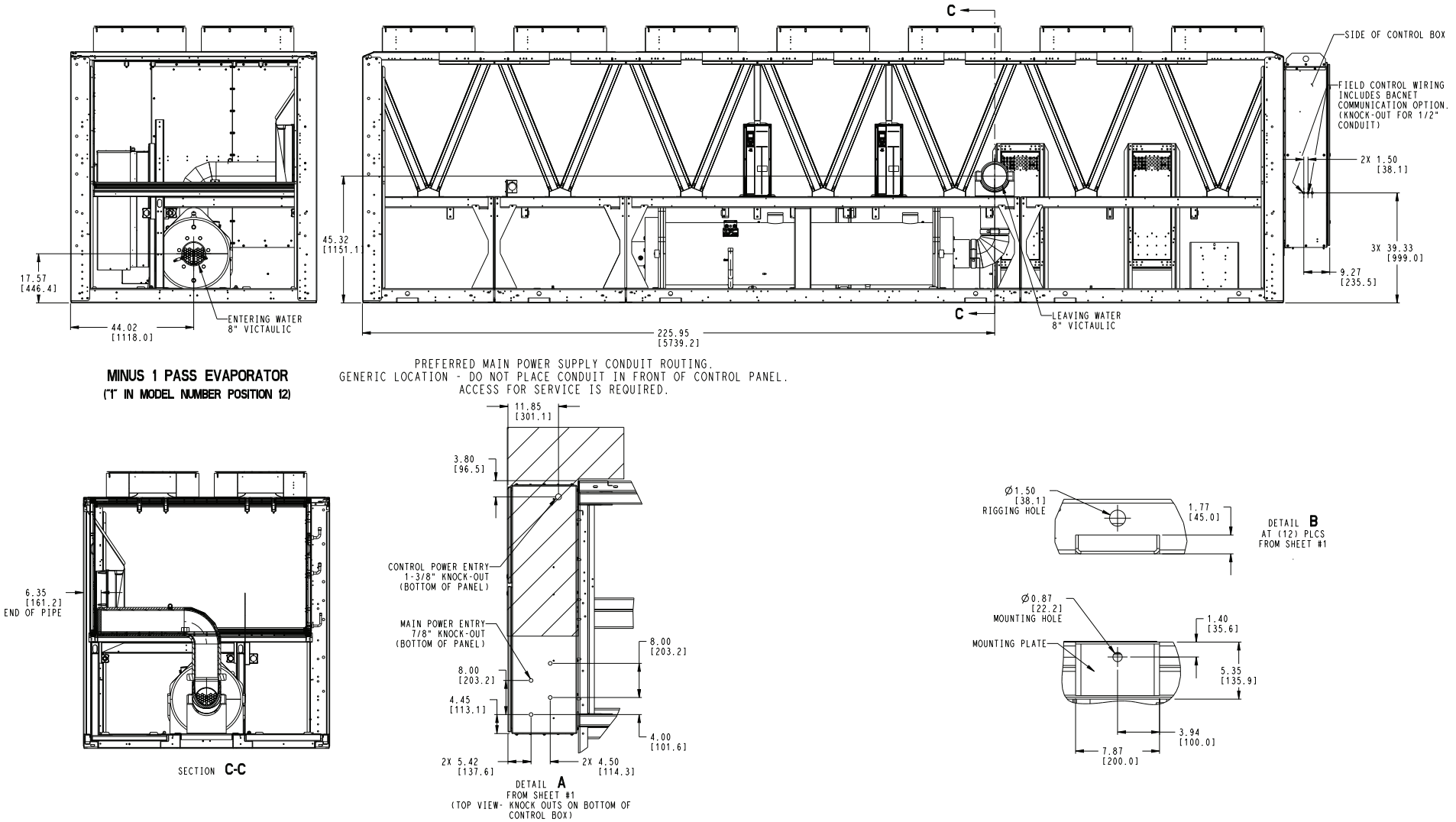
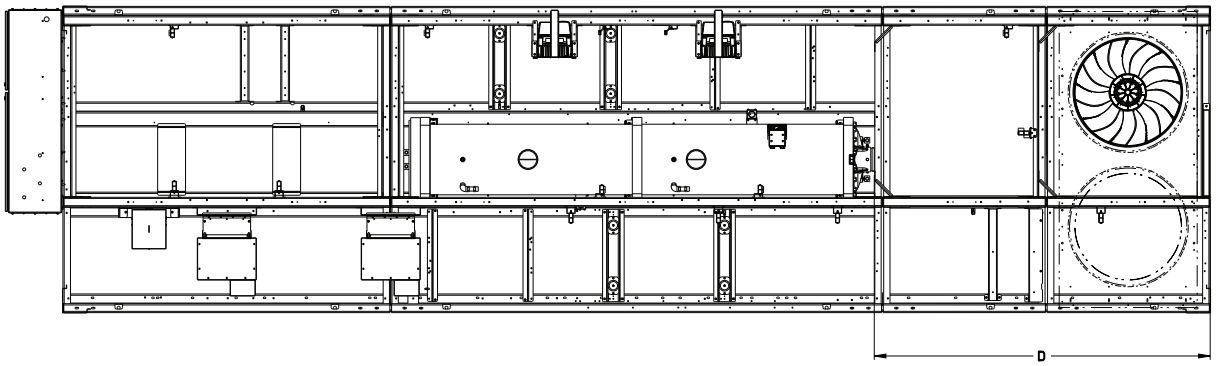
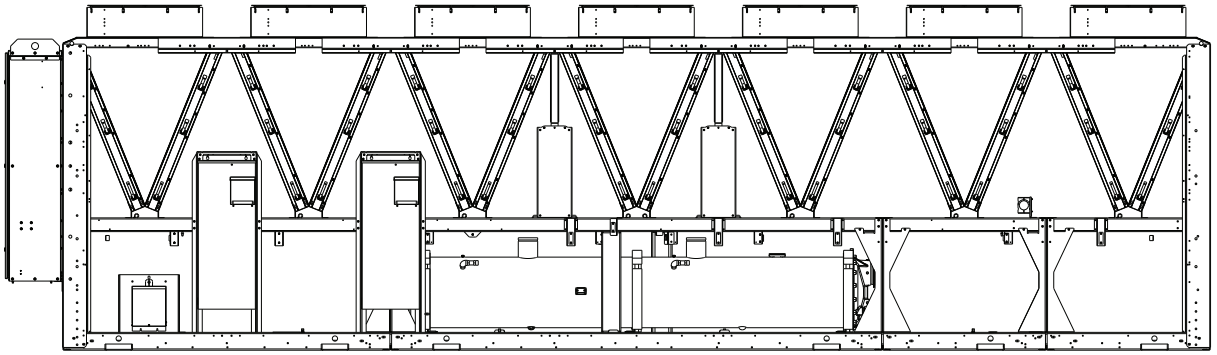


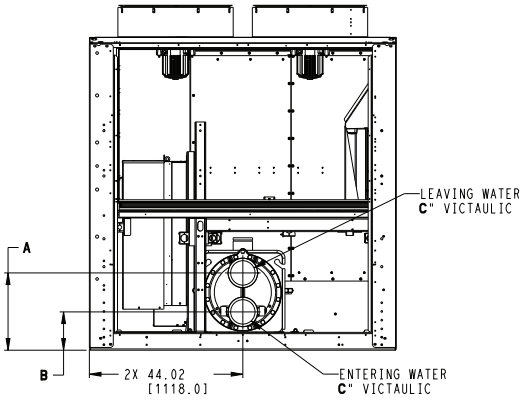
Fig. 10 — 30XV 250,275 Mid Tier; 300 Std Tier Air-Cooled Chiller (cont)



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 OPTION



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

Fig. 10 — 30XV 250,275 Mid Tier; 300 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 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
SINGLE POINT POWER (380-575V)	225-325	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER (380 - 575V)	225-325	NFD	2	2/0-500 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 SEPARATOR (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 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

SYMBOL DENOTES CG

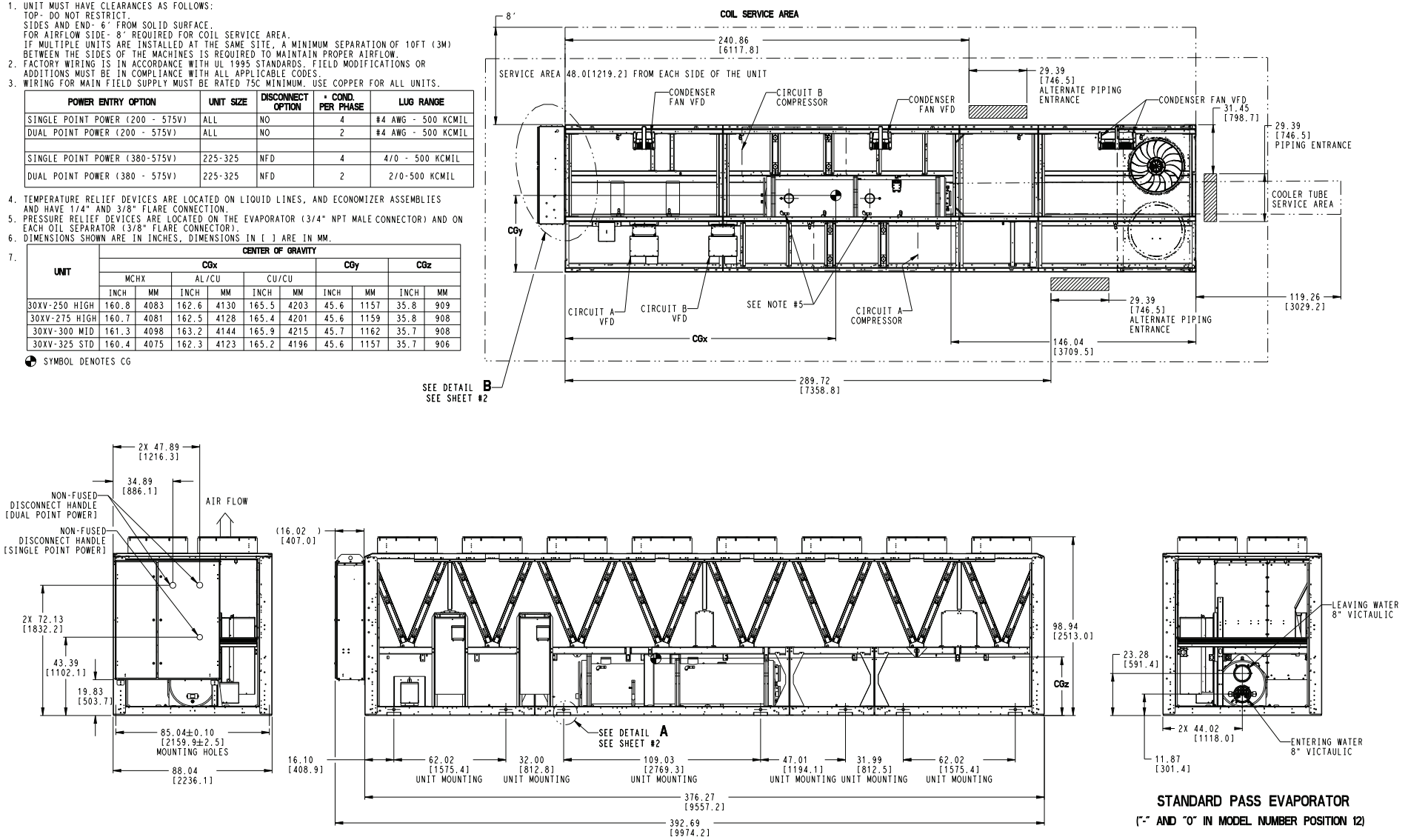


Fig. 11 — 30XV 250,275 High Tier; 300 Mid Tier; 325 Std Tier Air-Cooled Chiller

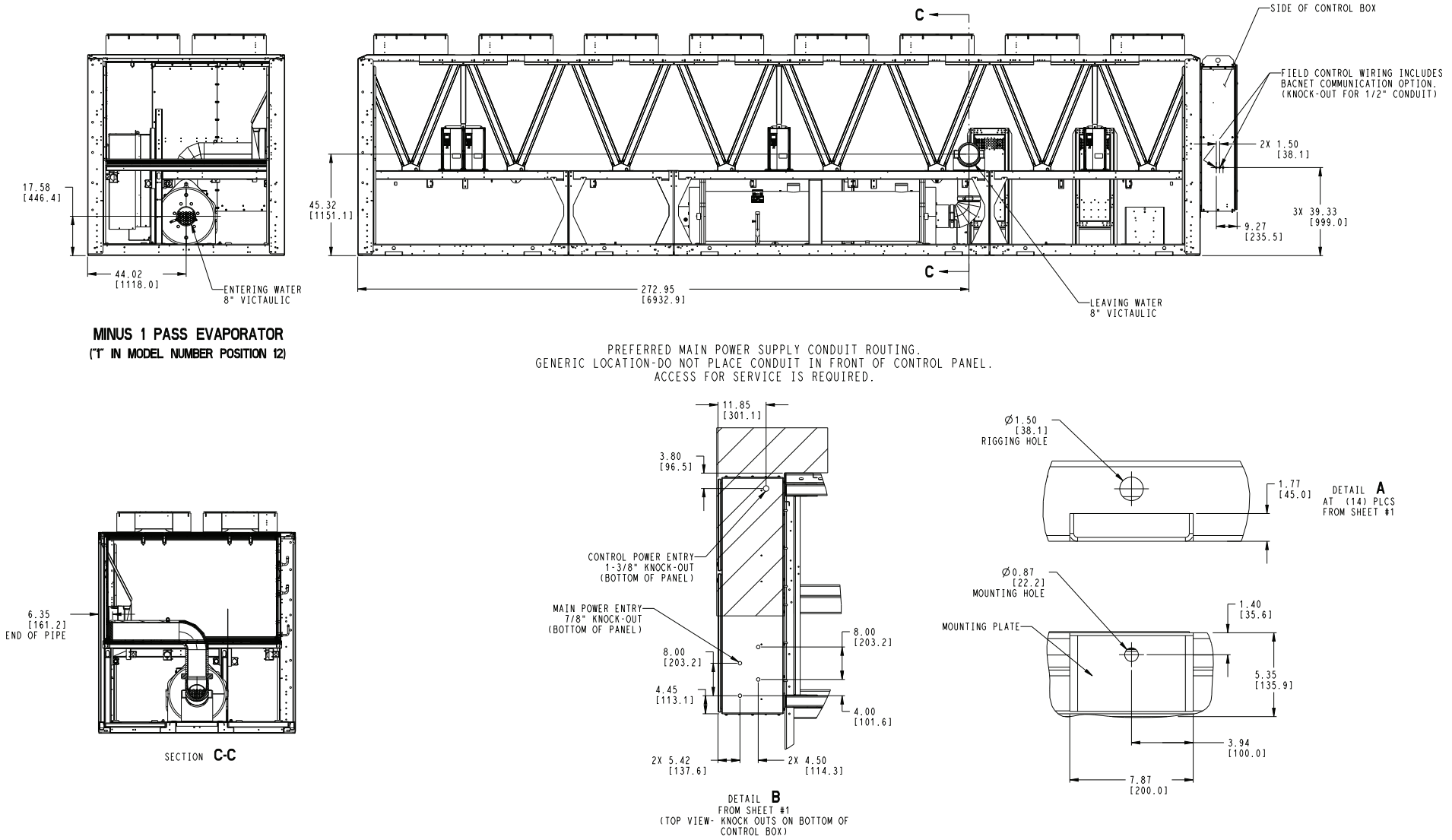
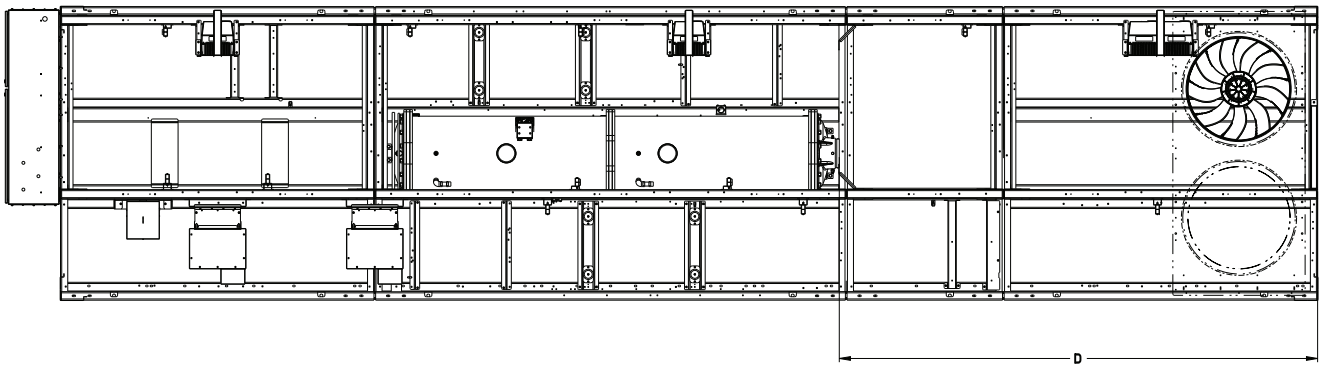
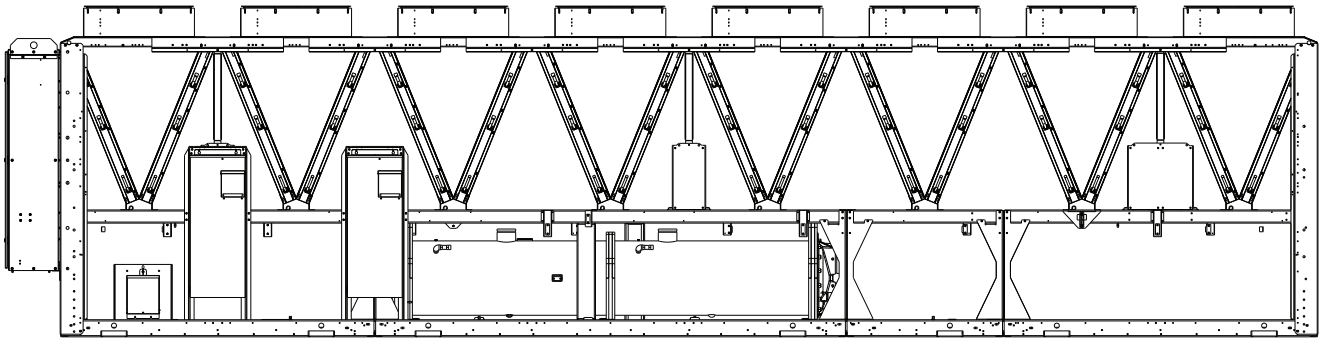


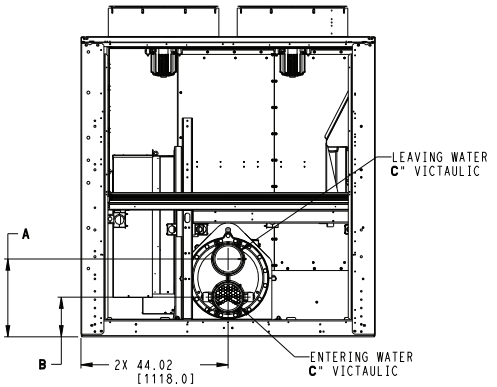
Fig. 11 — 30XV 250,275 High Tier; 300 Mid Tier; 325 Std Tier Air-Cooled Chiller (cont)



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 EVAPORATOR OPTION



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

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

NOTES:

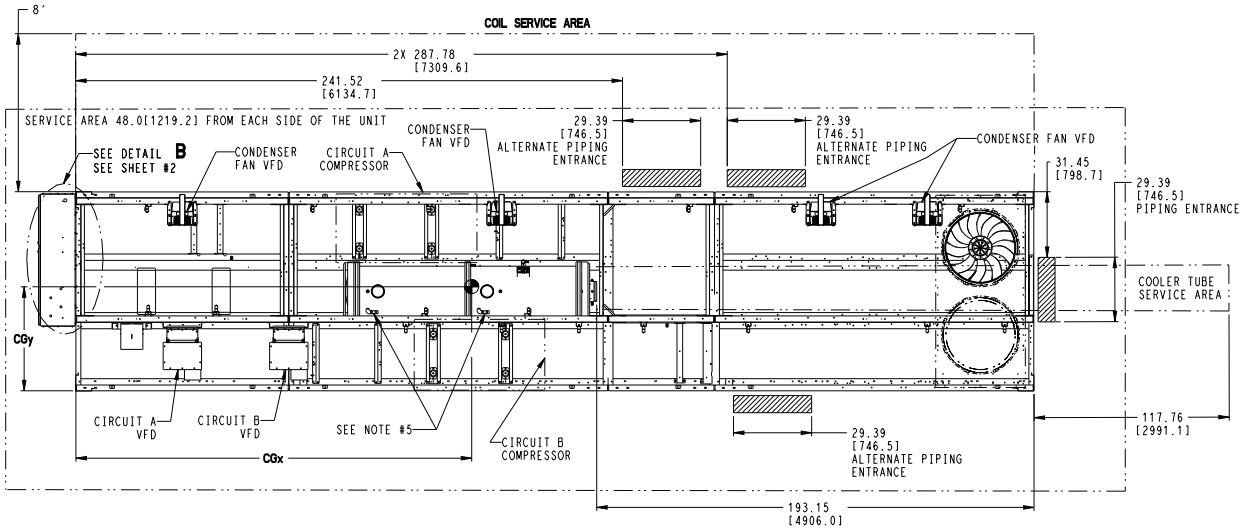
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN PROPER 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
SINGLE POINT POWER (380 - 575V)	225-325	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER (380 - 575V)	225-325	NFD	2	2/0 - 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 SEPARATOR (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-300 HIGH	174.3	4426	176.8	4491	181.1	4599	45.8	1164	36.6	929
30XV-325 MID	174.4	4429	176.9	4494	181.2	4601	45.8	1164	36.5	927

⊕ SYMBOL DENOTES CG



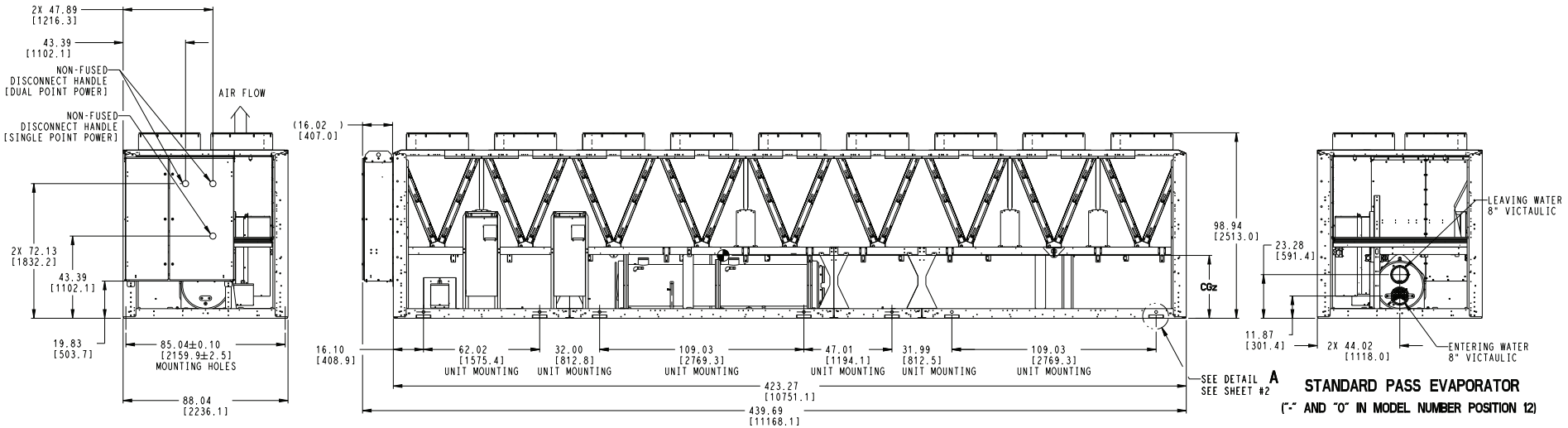


Fig. 12 — 30XV 300 High Tier; 325 Mid Tier Air-Cooled Chiller

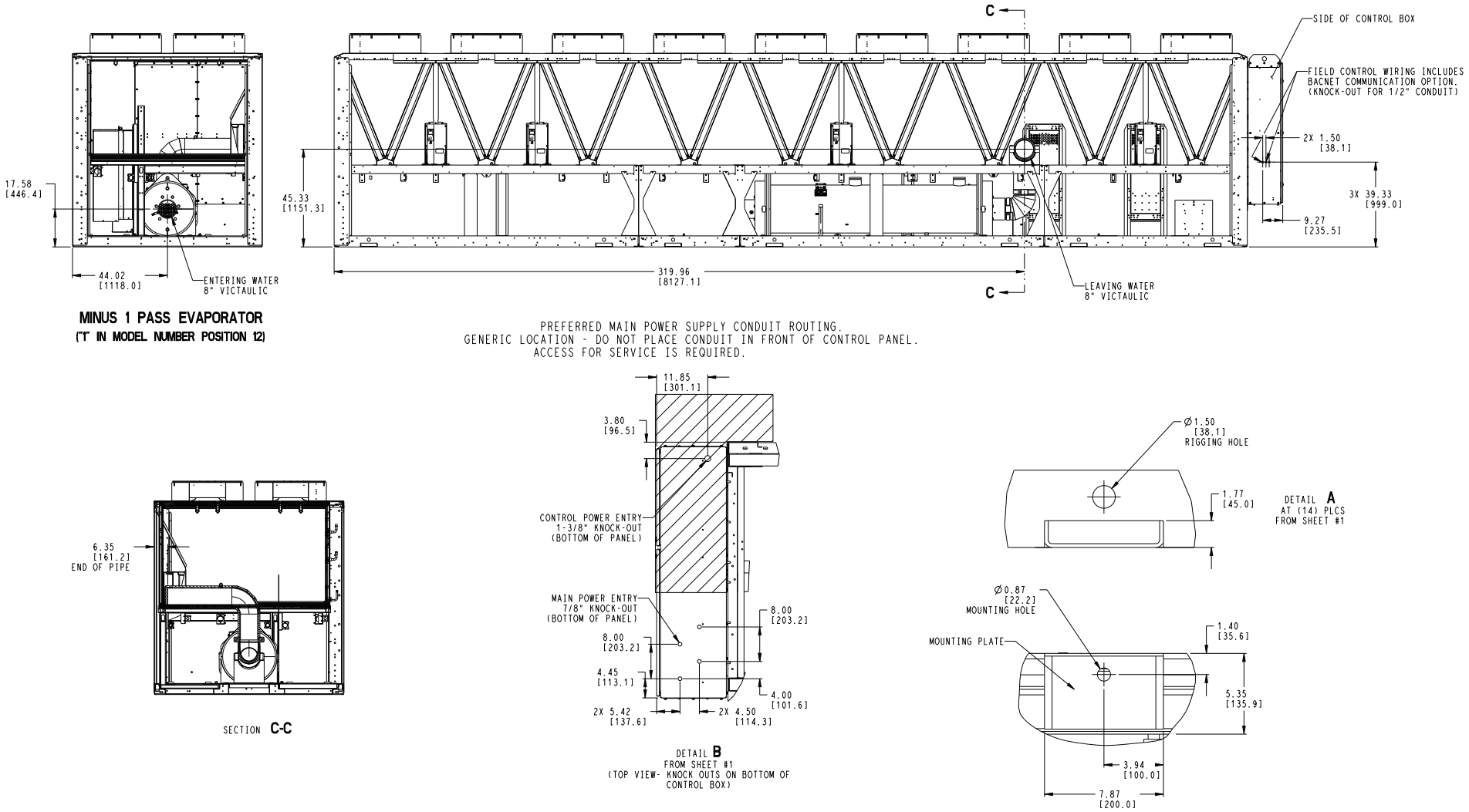
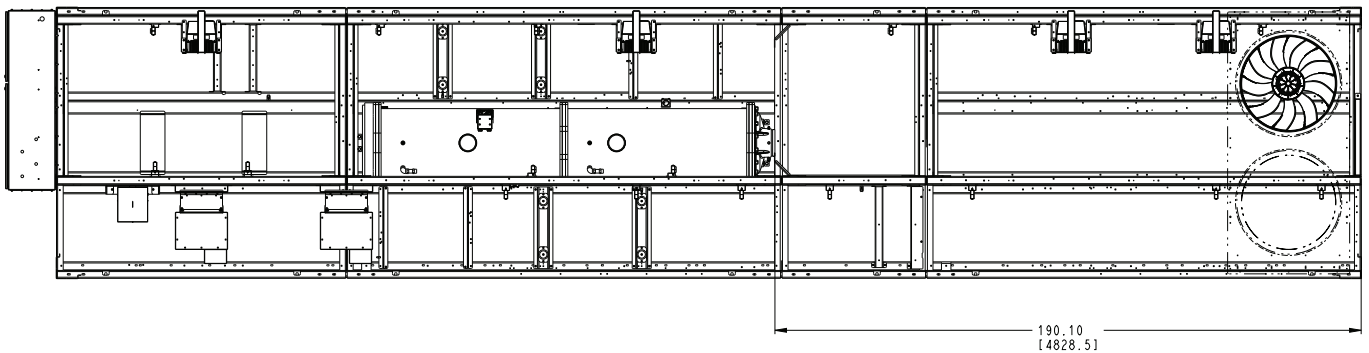
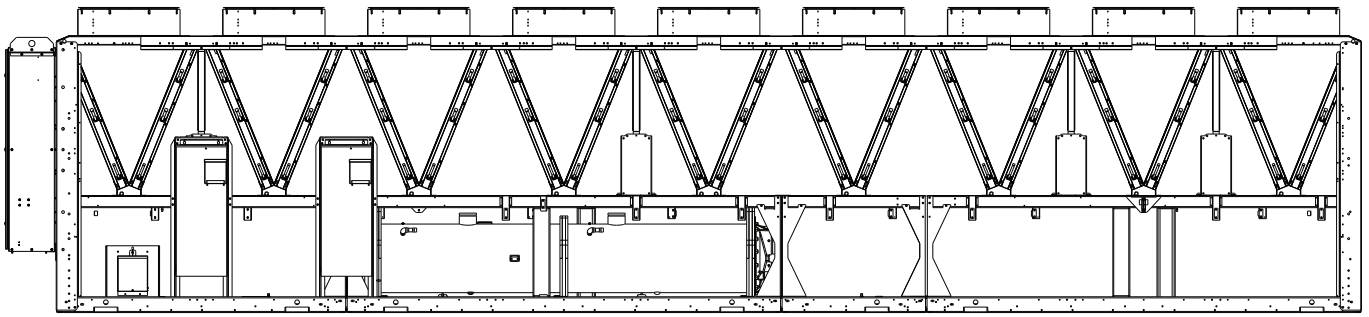
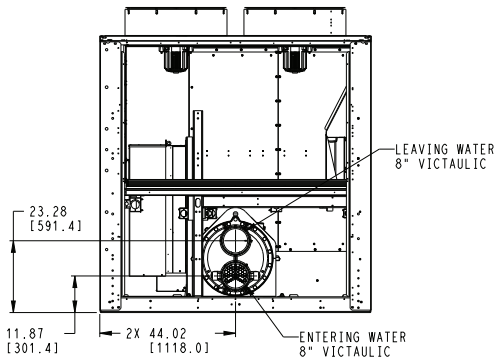


Fig. 12 — 30XV 300 High Tier; 325 Mid Tier Air-Cooled Chiller (cont)





BRINE EVAPORATOR OPTION



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

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

NOTES:

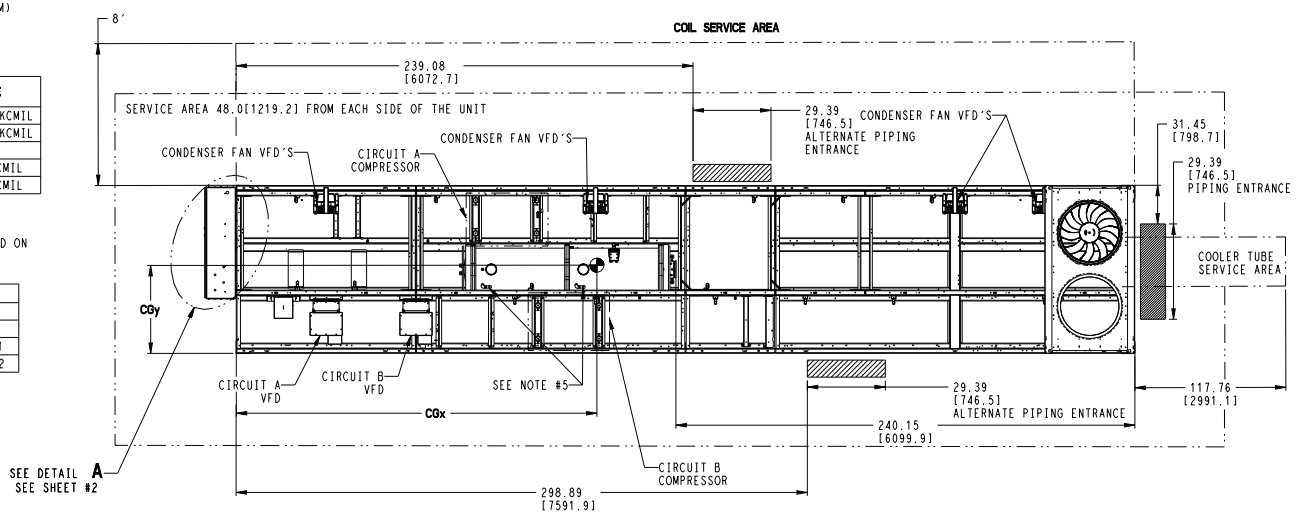
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6′ FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8′ REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

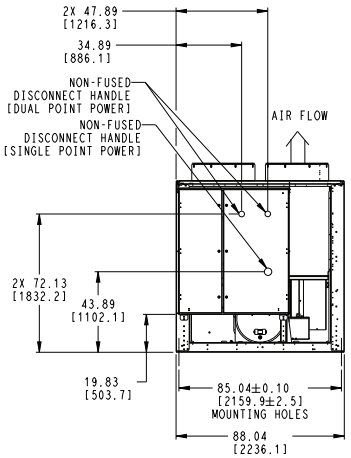
POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (200 - 575V)	ALL	NO	4	#4 AWG - 500 KCMIL
DUAL POINT POWER (200 - 575V)	ALL	NO	2	#4 AWG - 500 KCMIL
SINGLE POINT POWER (380V - 575V)	225-325	NFD	4	4/0 - 500 KCMIL
DUAL POINT POWER (380V - 575V)	225-325	NFD	2	2/0 - 500 KCMIL

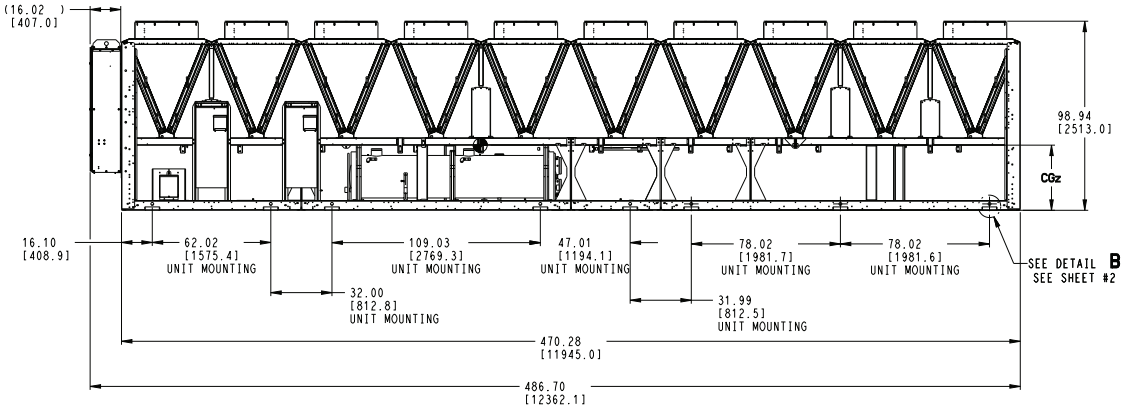
4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR) AND ON EACH OIL SEPARATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS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

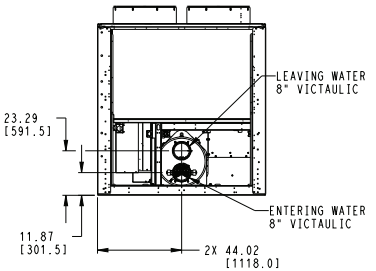
UNIT	CENTER OF GRAVITY									
	CGx						CGy		CGz	
	MCHX		AL/CU		CU/CU					
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
30XV-325 HIGH	188.4	4786	191.7	4869	197.3	5012	45.9	1166	37.1	942

⊕ SYMBOL DENOTES CG









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

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

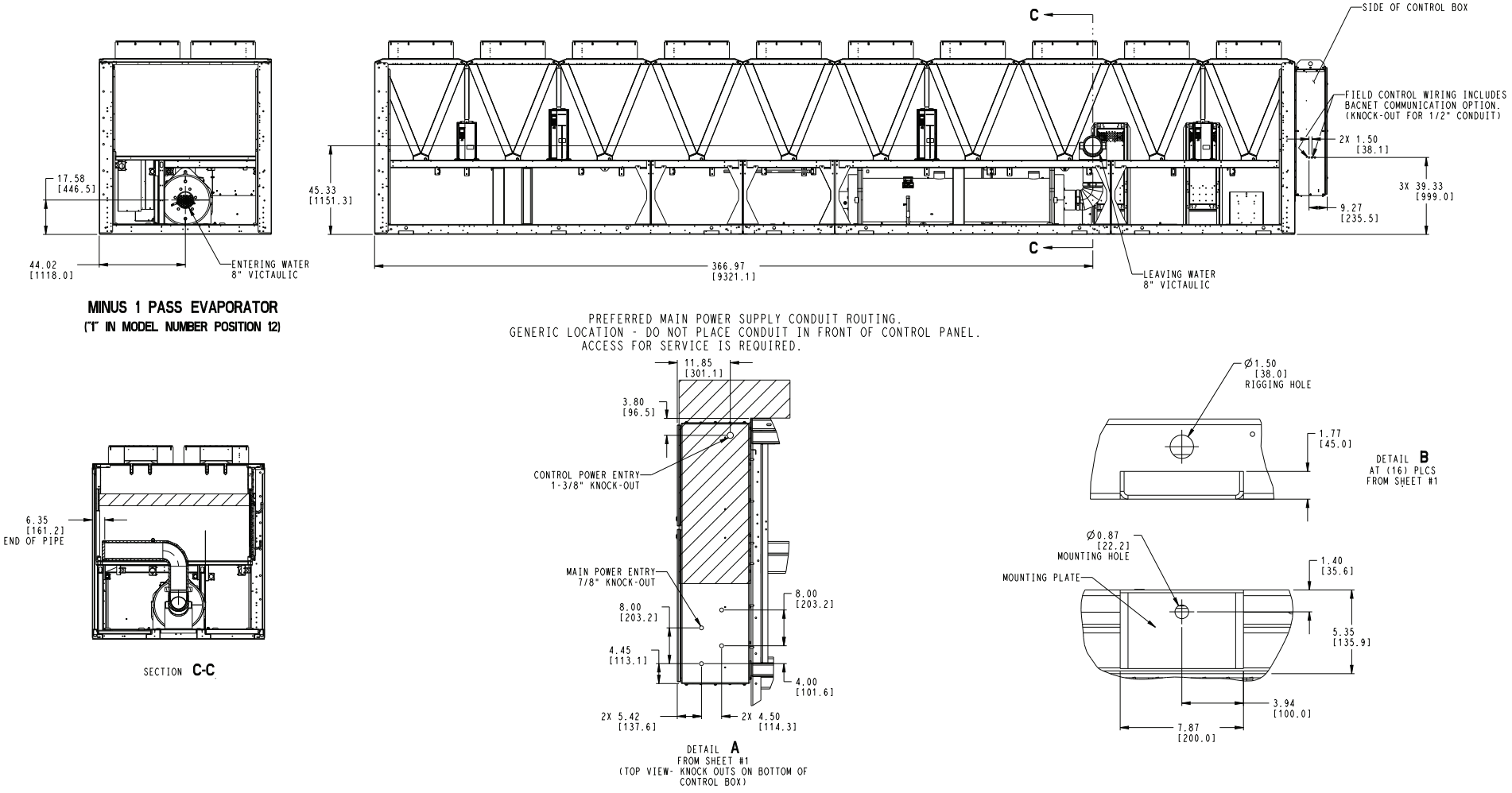
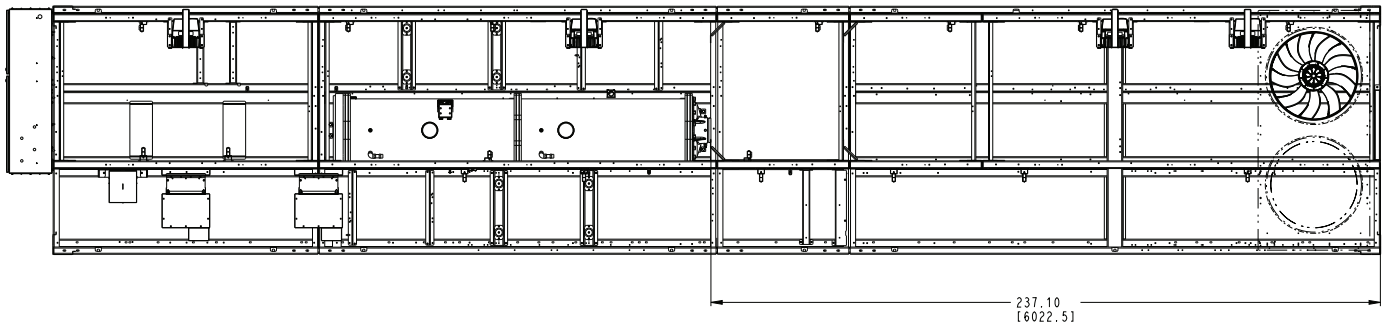
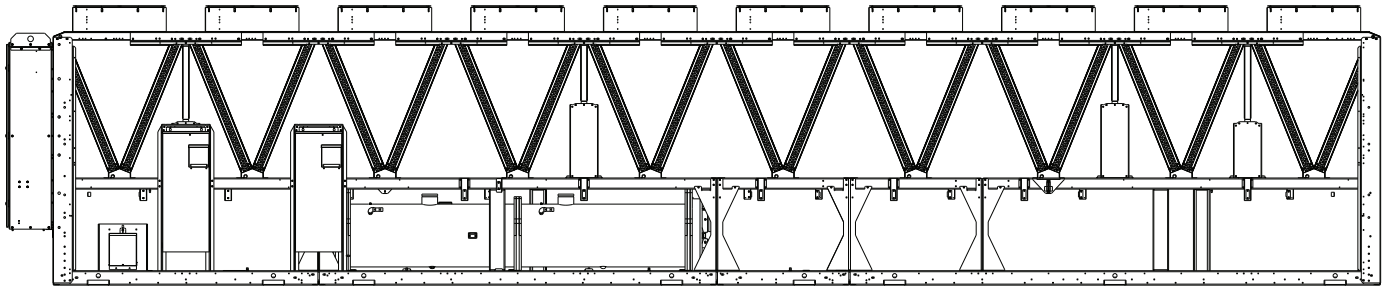
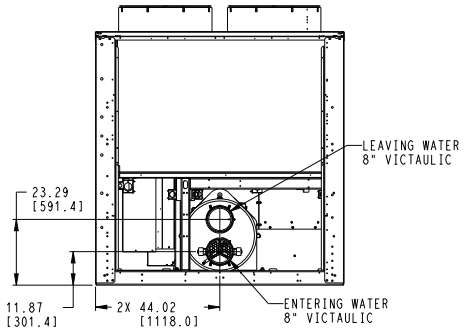


Fig. 13 — 30XV 325 High Tier Air-Cooled Chiller (cont)





BRINE EVAPORATOR OPTION



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

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

NOTES:

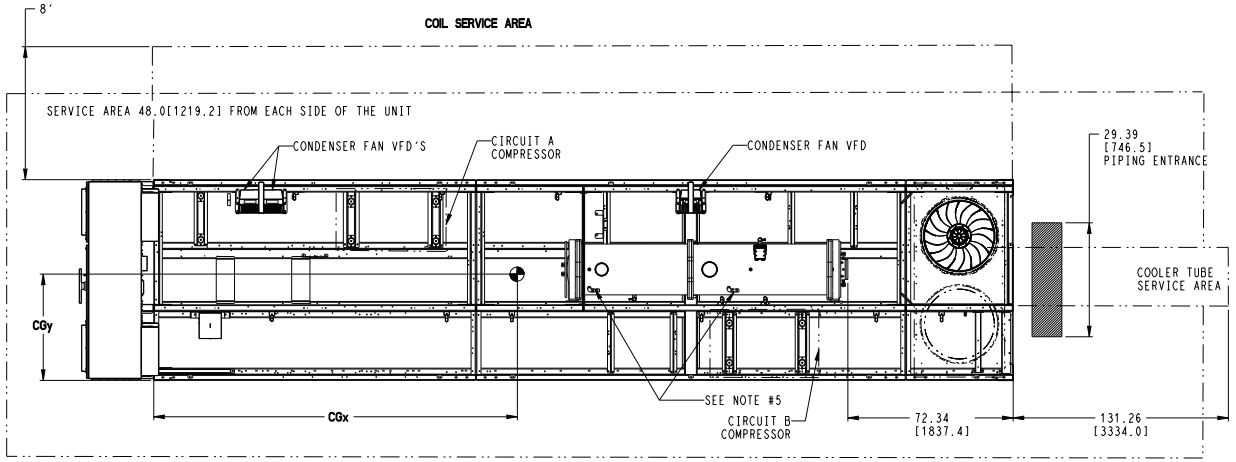
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10 FT (3 M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (460 - 575V)	ALL	NO	4	#2 AWG - 600 KCMIL
SINGLE POINT POWER (380V)	ALL	NO	6	#2 AWG - 600 KCMIL
DUAL POINT POWER (380-575V)	ALL	NO	2	#4 AWG - 500 KCMIL
DUAL POINT POWER (380-575V)	ALL	NFD	3	#3/0 AWG-400 KCMIL
SINGLE POINT POWER (380V)	ALL	NFD	6	#2 AWG - 600 KCMIL
SINGLE POINT POWER (460 - 575V)	ALL	NFD	4	#4/0 AWG - 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 SEPARATOR (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



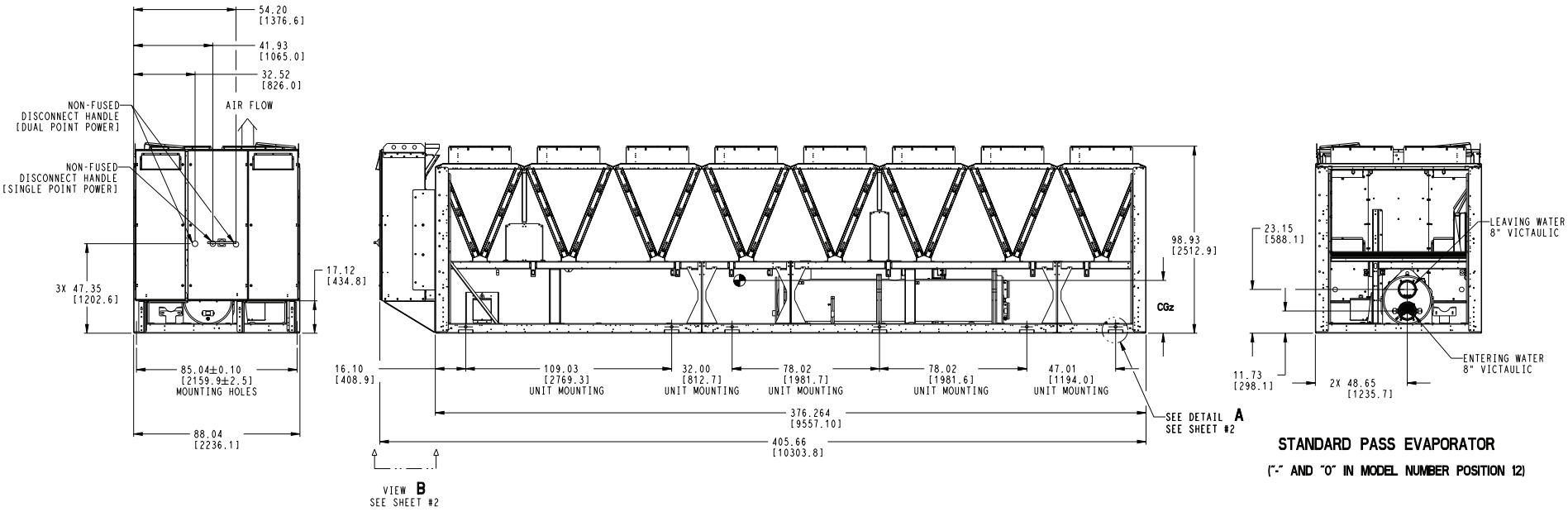


Fig. 14 — 30XV 350 Standard Tier Air-Cooled Chiller

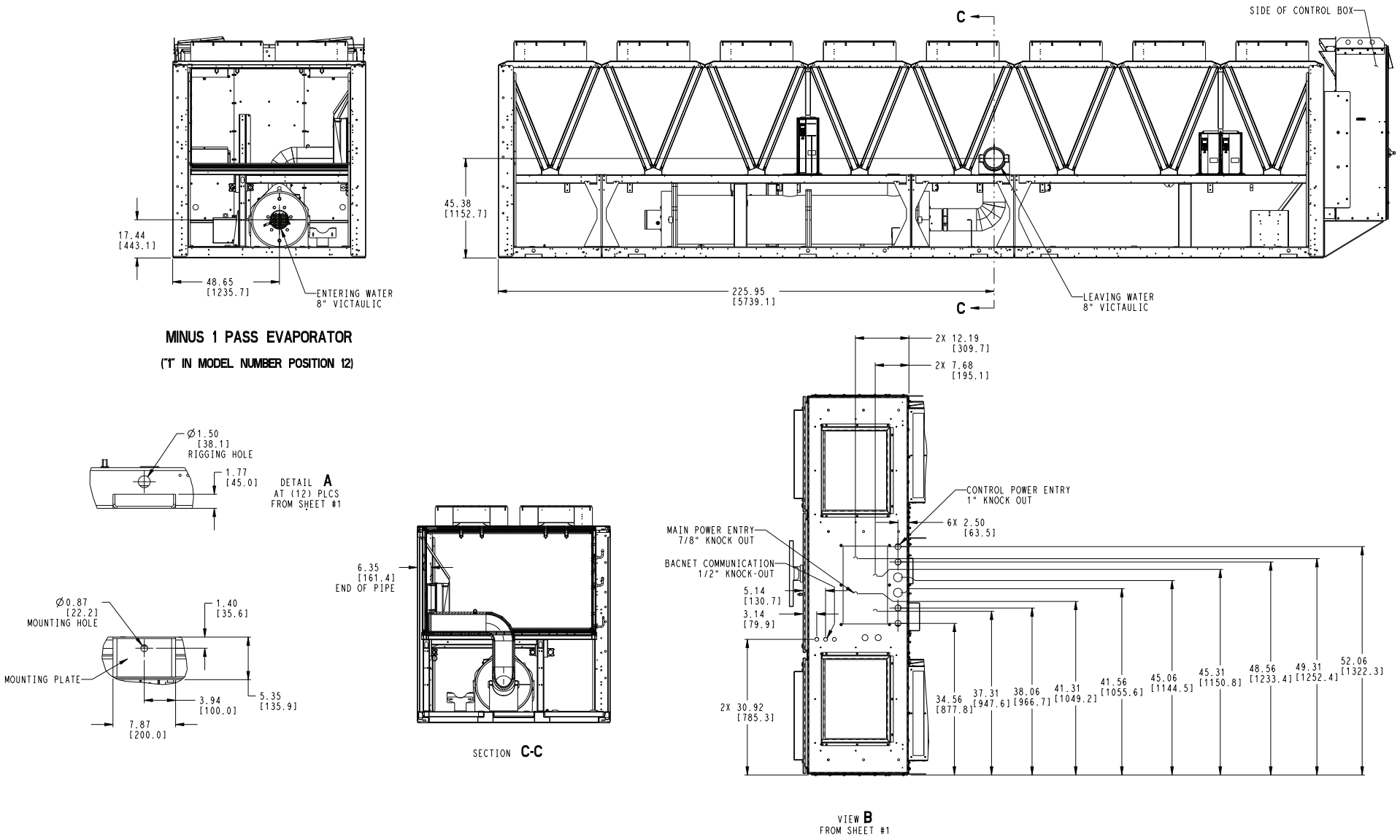
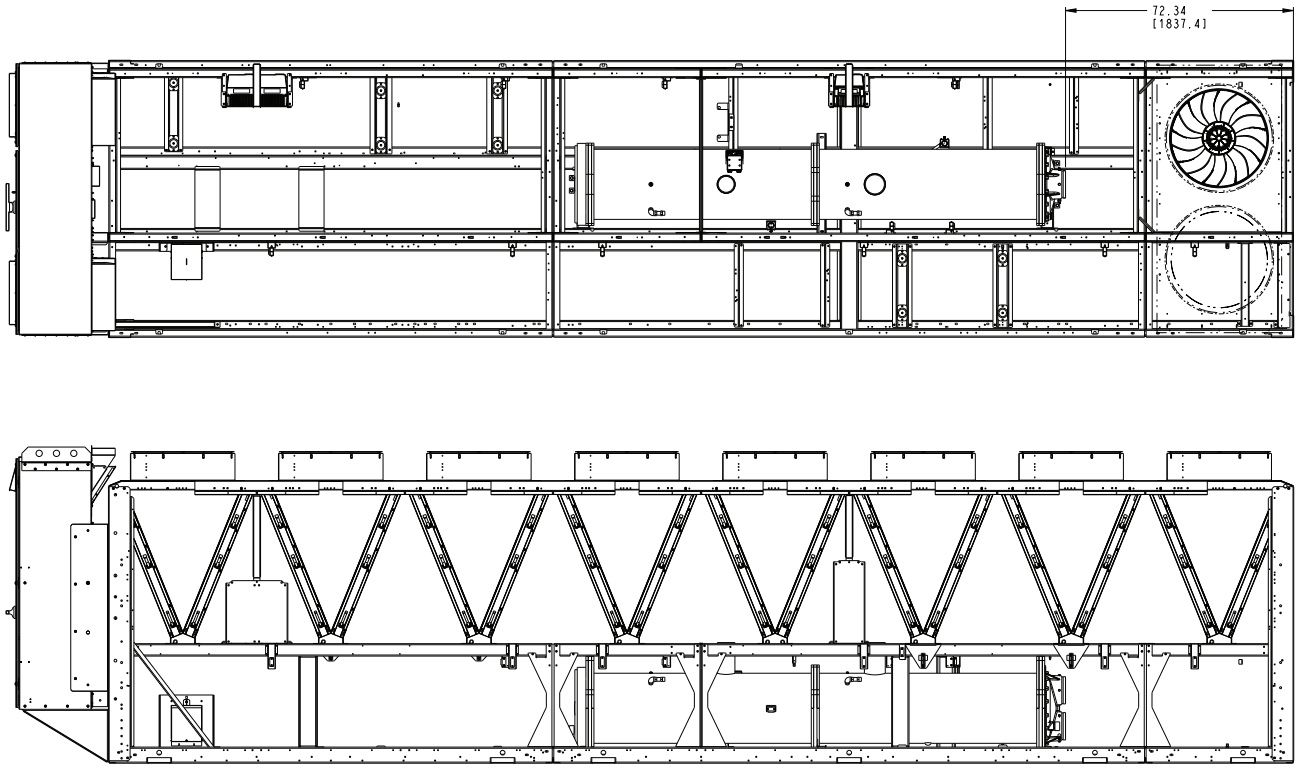
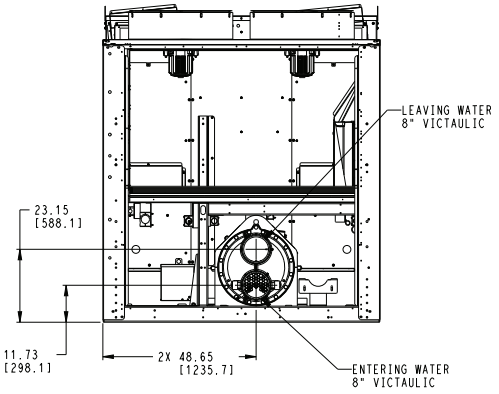


Fig. 14 — 30XV 350 Standard Tier Air-Cooled Chiller (cont)



BRINE EVAPORATOR OPTION



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

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

NOTES:

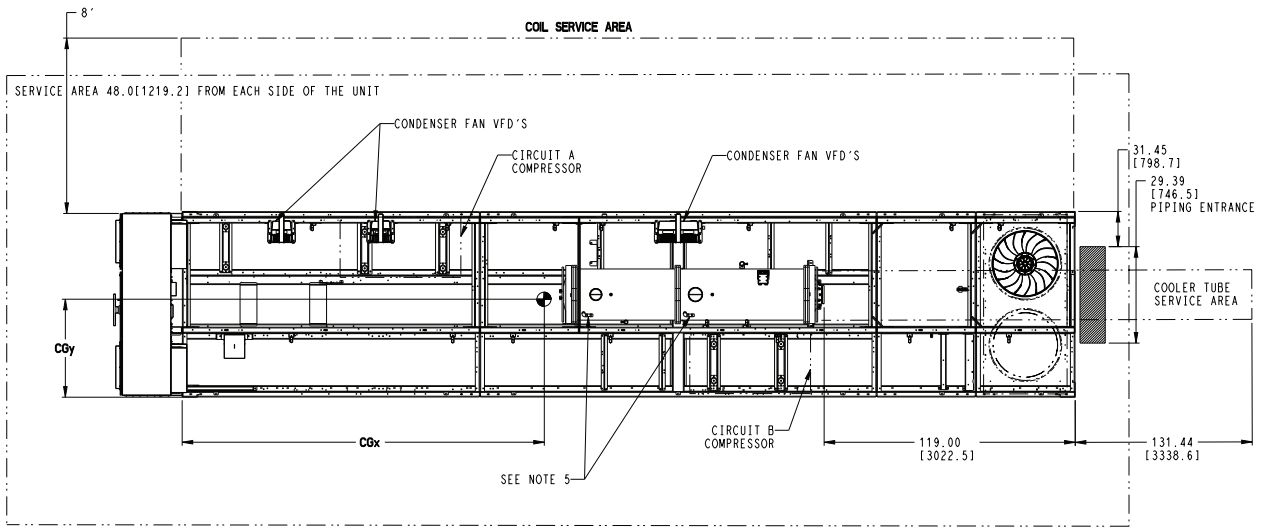
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6′ FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8′ REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (460 - 575V)	ALL	NO	4	#2 AWG - 600 KCMIL
SINGLE POINT POWER (380V)	ALL	NO	6	#2 AWG - 600 KCMIL
DUAL POINT POWER (380-575V)	ALL	NO	2	#4 AWG - 500 KCMIL
DUAL POINT POWER (380-575V)	ALL	NFD	3	#3/0 AWG-400 KCMIL
SINGLE POINT POWER (380V)	ALL	NFD	6	#2 AWG - 600 KCMIL
SINGLE POINT POWER (460 - 575V)	ALL	NFD	4	#4/0 AWG - 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 SEPARATOR (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



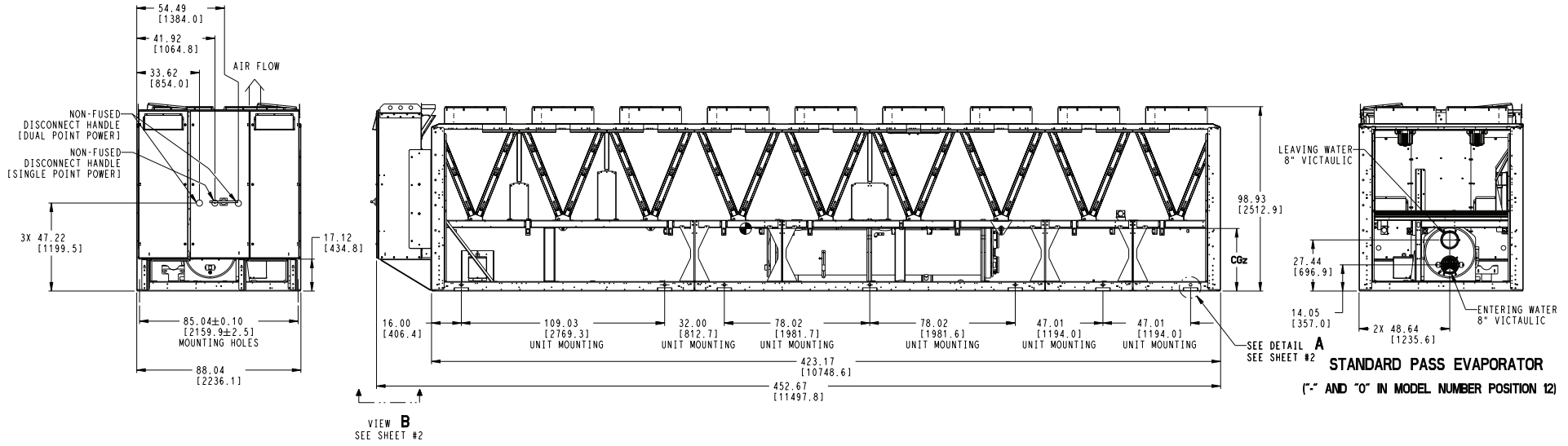


Fig. 15 — 30XV 350 Mid Tier Air-Cooled Chiller

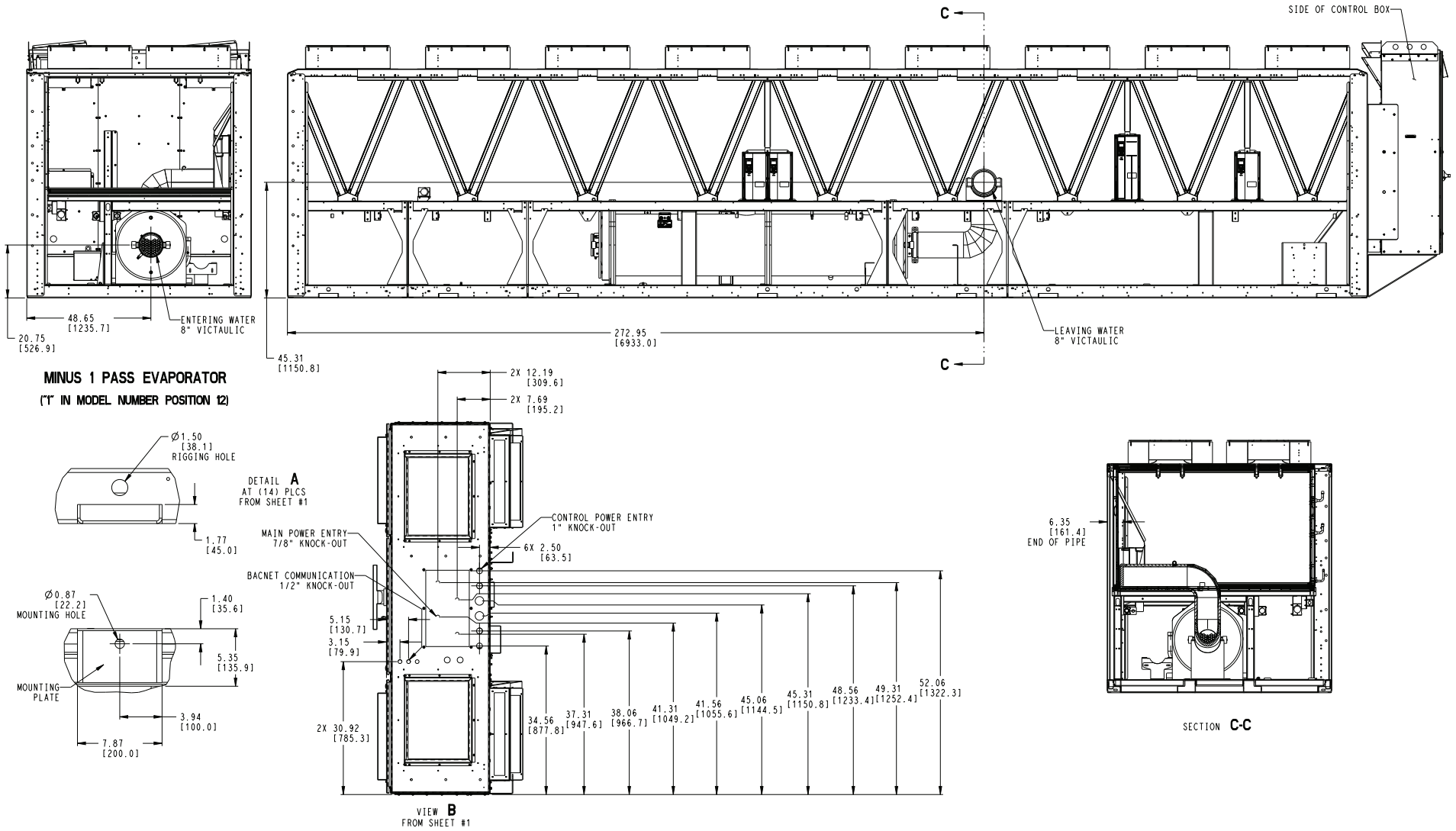
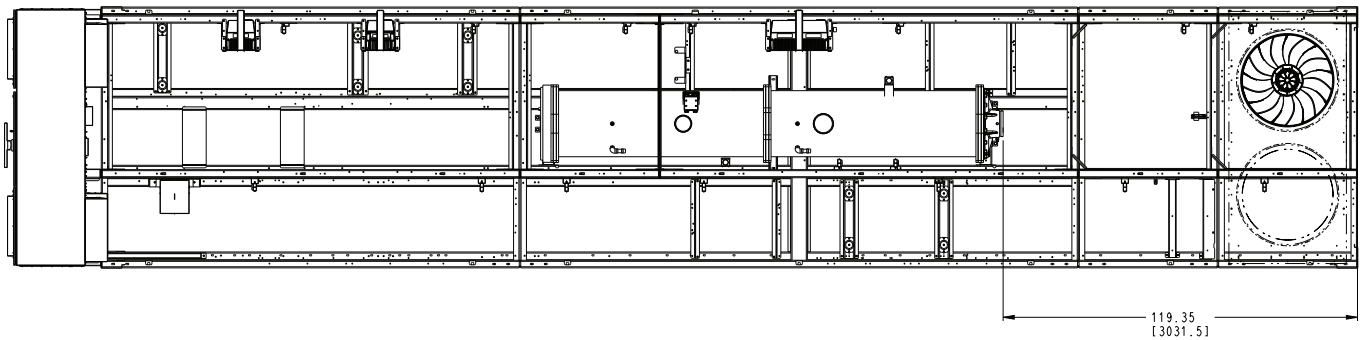
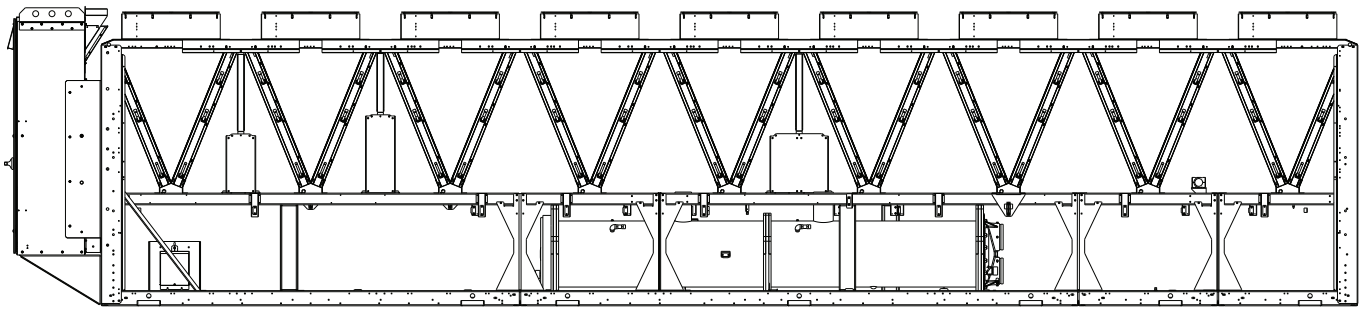
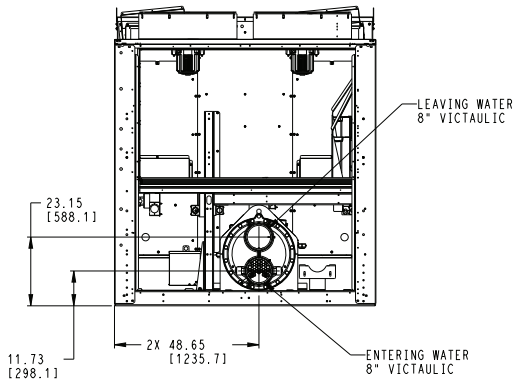


Fig. 15 — 30XV 350 Mid Tier Air-Cooled Chiller (cont)





BRINE EVAPORATOR OPTION



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

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

NOTES:

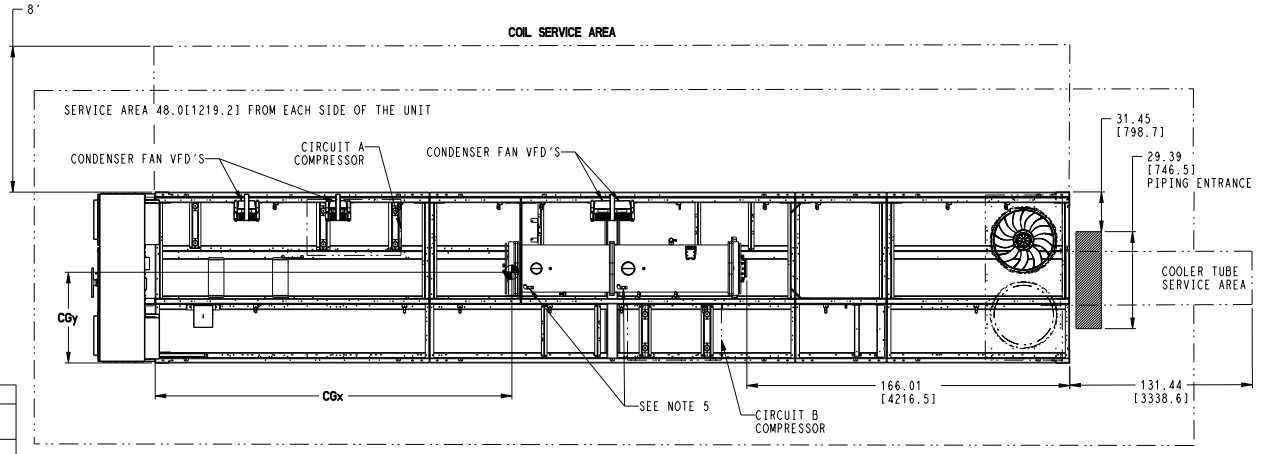
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

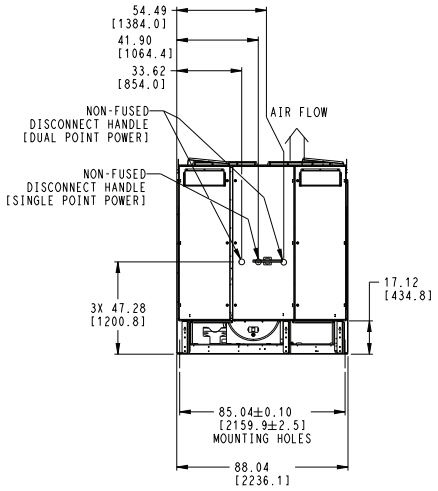
POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (460 - 575V)	ALL	NO	4	#2 AWG - 600 KCMIL
SINGLE POINT POWER (380V)	ALL	NO	6	#2 AWG - 600 KCMIL
DUAL POINT POWER (380-575V)	ALL	NO	2	#4 AWG - 500 KCMIL
DUAL POINT POWER (380-575V)	ALL	NFD	3	#3/0 AWG-400 KCMIL
SINGLE POINT POWER (380V)	ALL	NFD	6	#2 AWG - 600 KCMIL
SINGLE POINT POWER (460 - 575V)	ALL	NFD	4	#4/0 AWG - 500 KCMIL

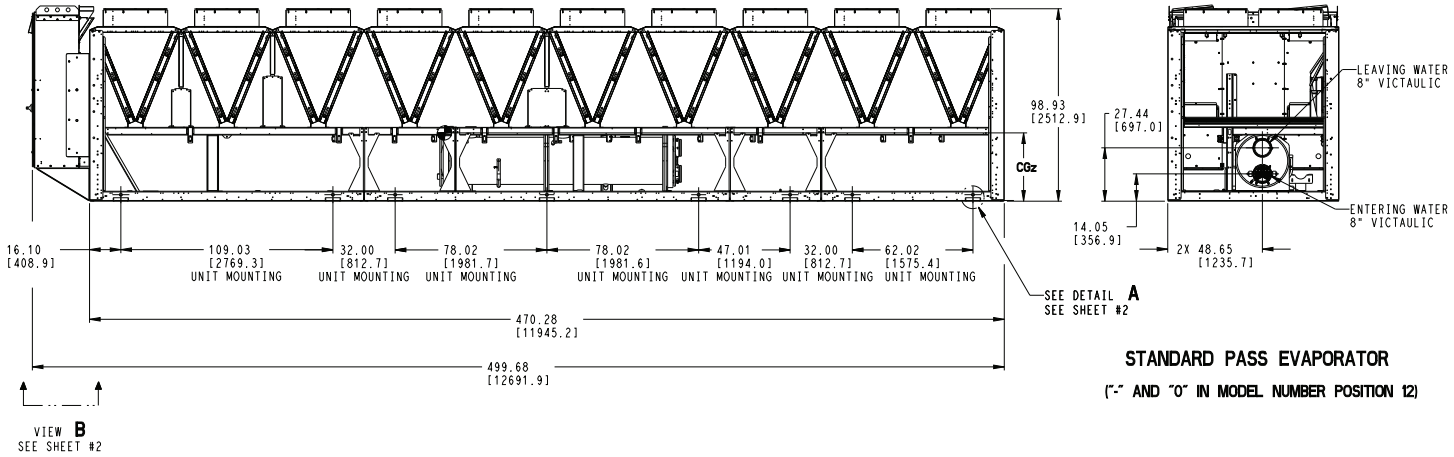
4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR) AND ON EACH OIL SEPARATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS 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 HIGH	182.9	4646	186.1	4728	191.5	4865	47.5	1207	36.6	930

SYMBOL DENOTES CG







STANDARD PASS EVAPORATOR

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

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

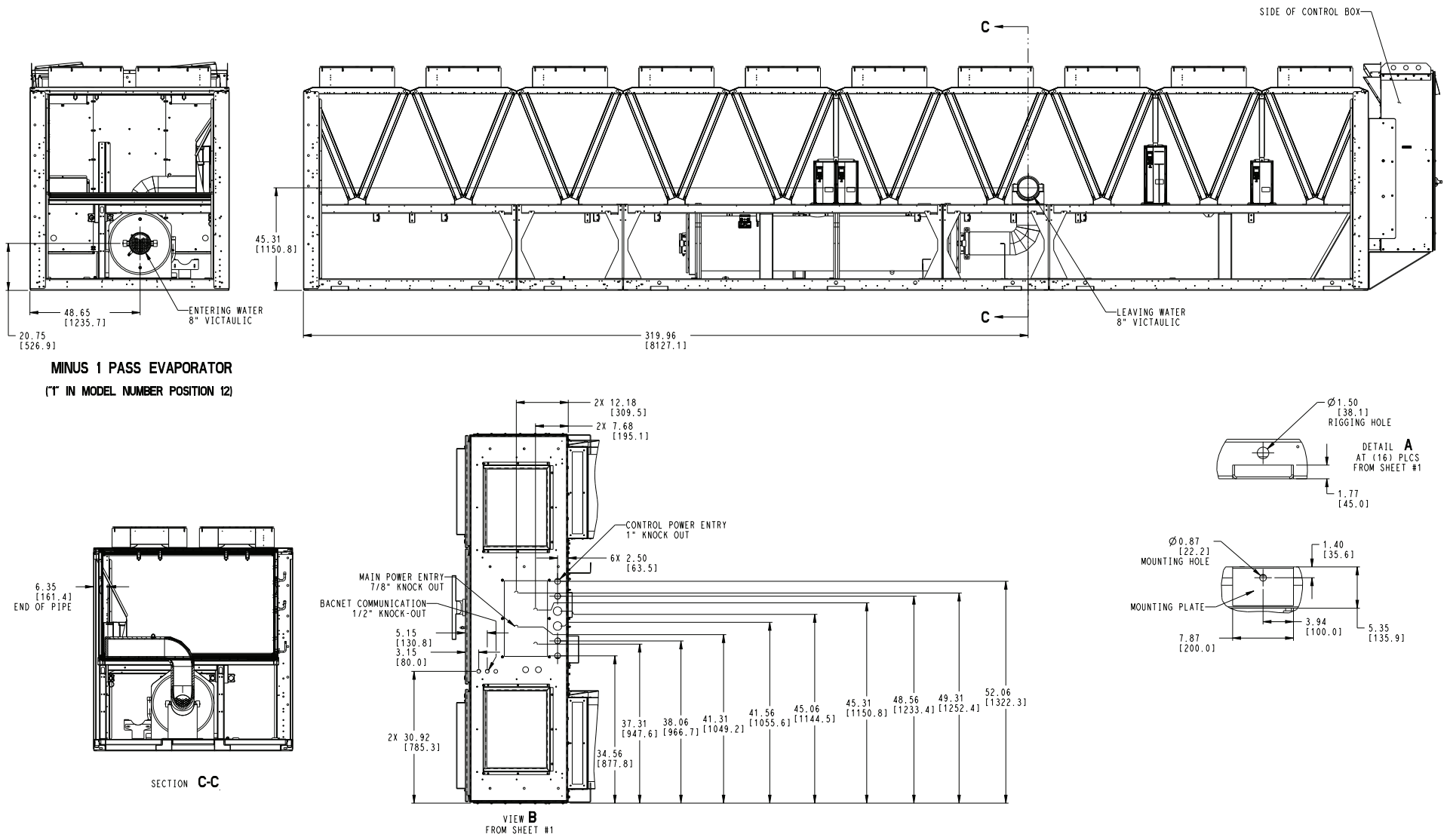
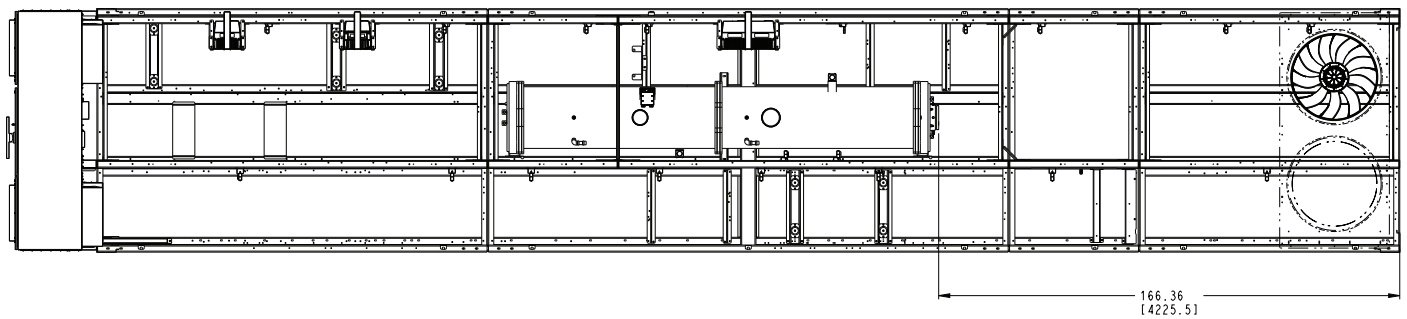
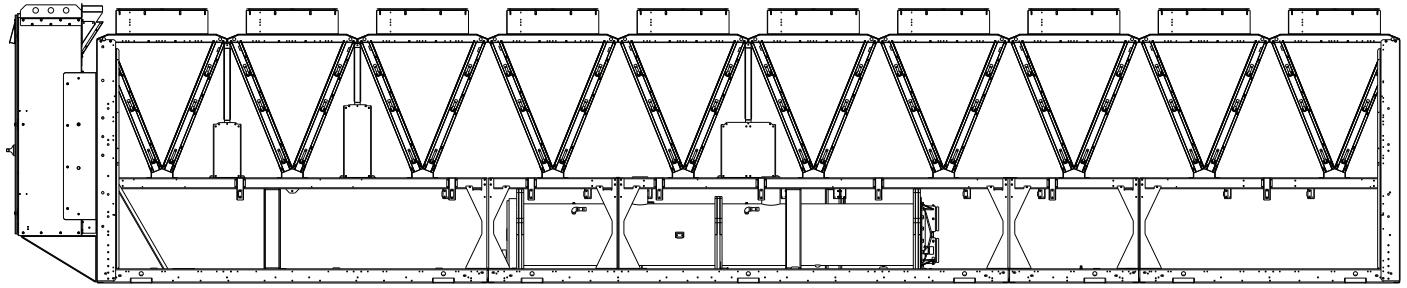
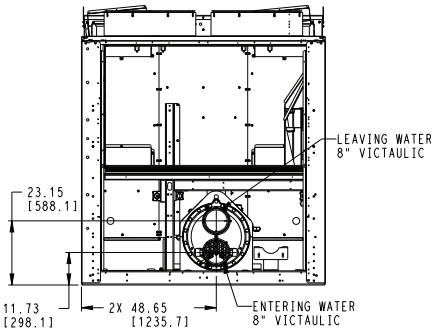


Fig. 16 — 30XV 350 High Tier Air-Cooled Chiller (cont)





BRINE EVAPORATOR OPTION



BRINE EVAPORATOR

("2" IN MODEL NUMBER POSITION 12)

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

NOTES:

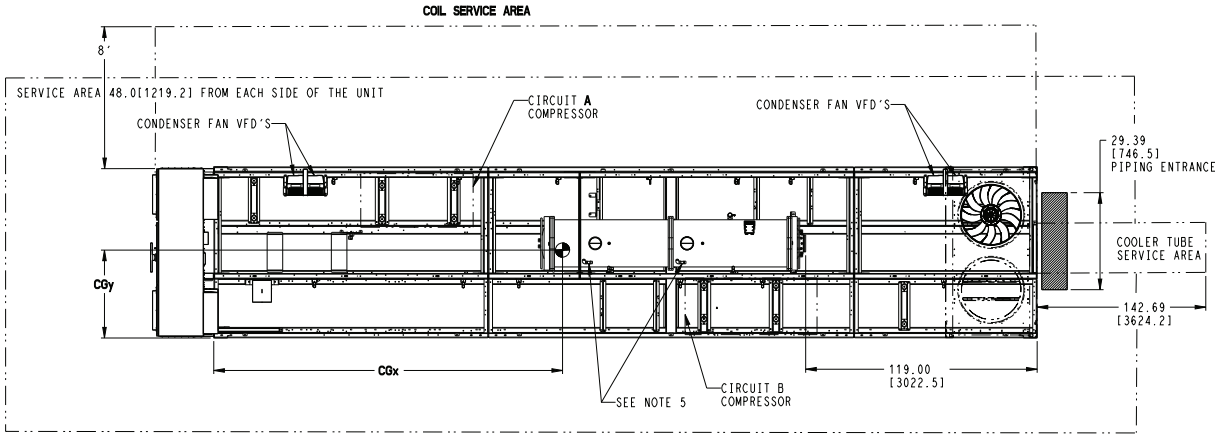
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

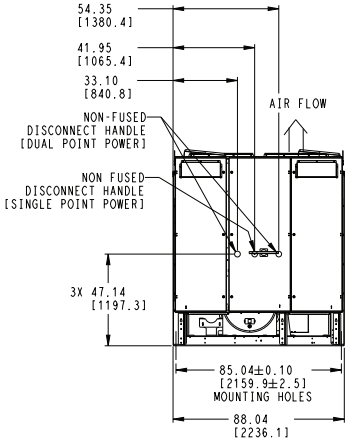
POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (460 - 575V)	ALL	NO	4	#2 AWG - 600 KCMIL
SINGLE POINT POWER (380V)	ALL	NO	6	#2 AWG - 600 KCMIL
DUAL POINT POWER (380-575V)	ALL	NO	2	#4 AWG - 500 KCMIL
DUAL POINT POWER (380-575V)	ALL	NFD	3	#3/0 AWG-400 KCMIL
SINGLE POINT POWER (380V)	ALL	NFD	6	#2 AWG - 600 KCMIL
SINGLE POINT POWER (460 - 575V)	ALL	NFD	4	#4/0 AWG - 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 SEPARATOR (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 STD	179.3	4554	181.1	4599	184.1	4676	46.0	1169	35.0	890

SYMBOL DENOTES CG





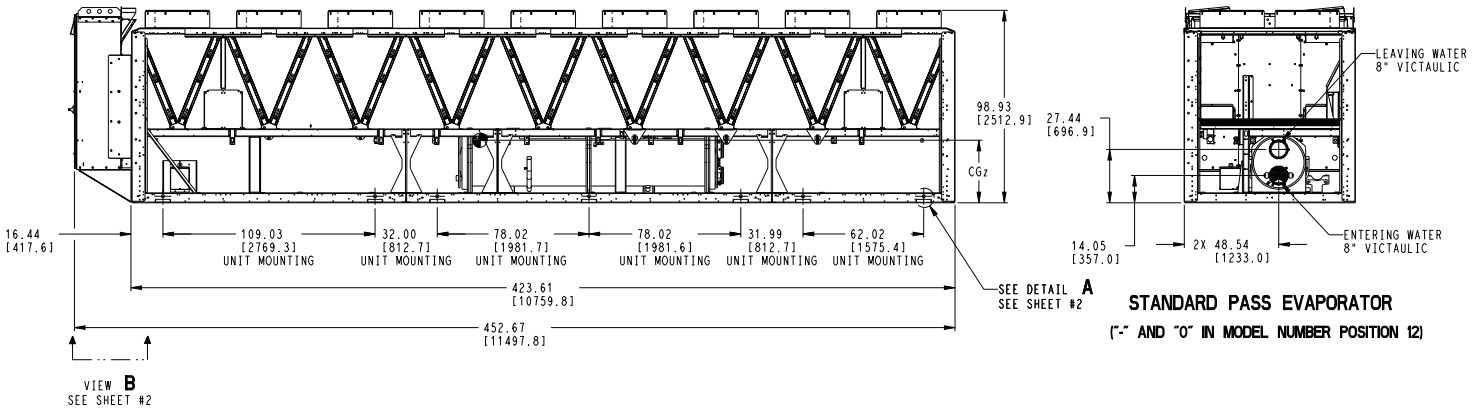


Fig. 17 — 30XV 400 Standard Tier Air-Cooled Chiller

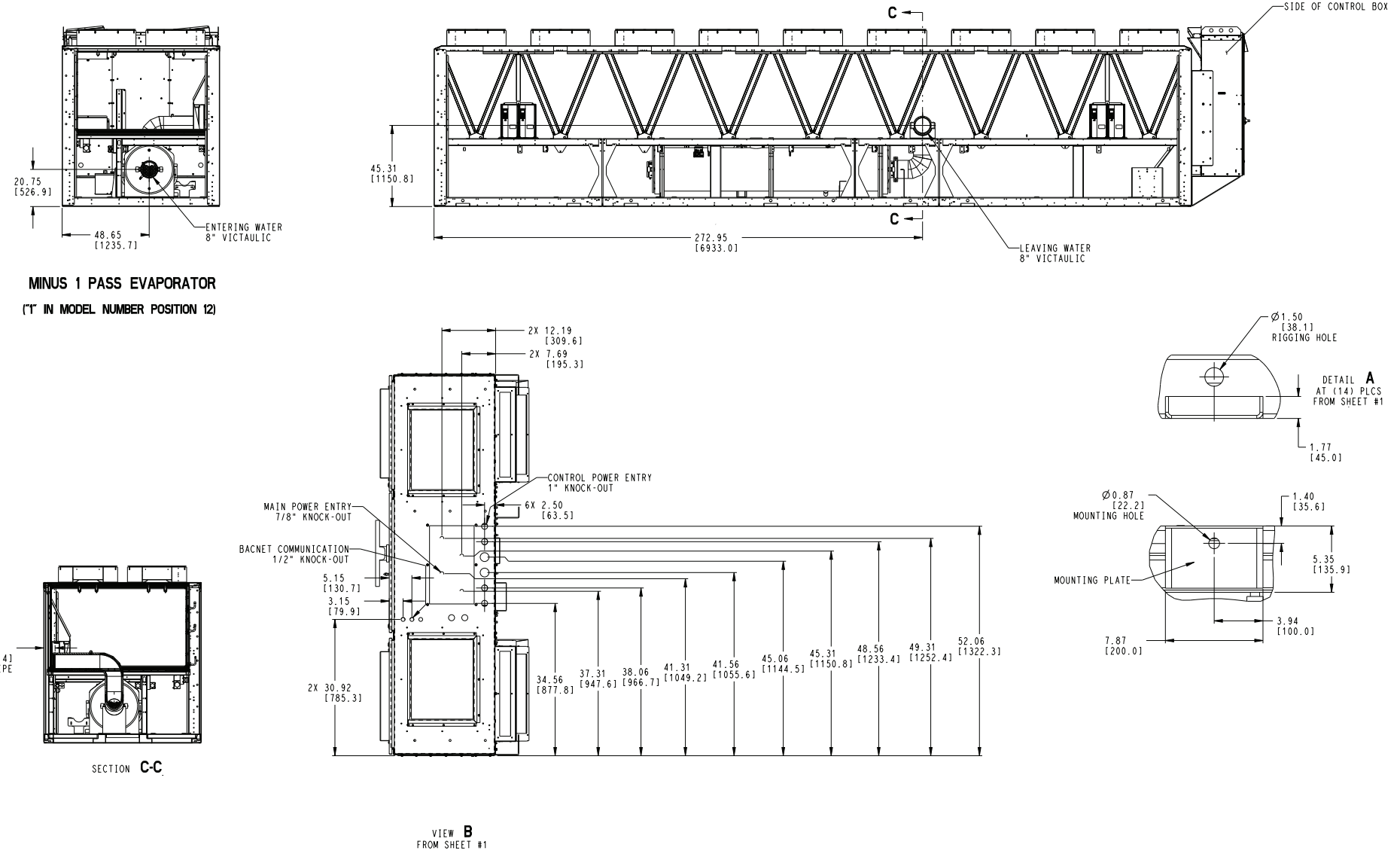
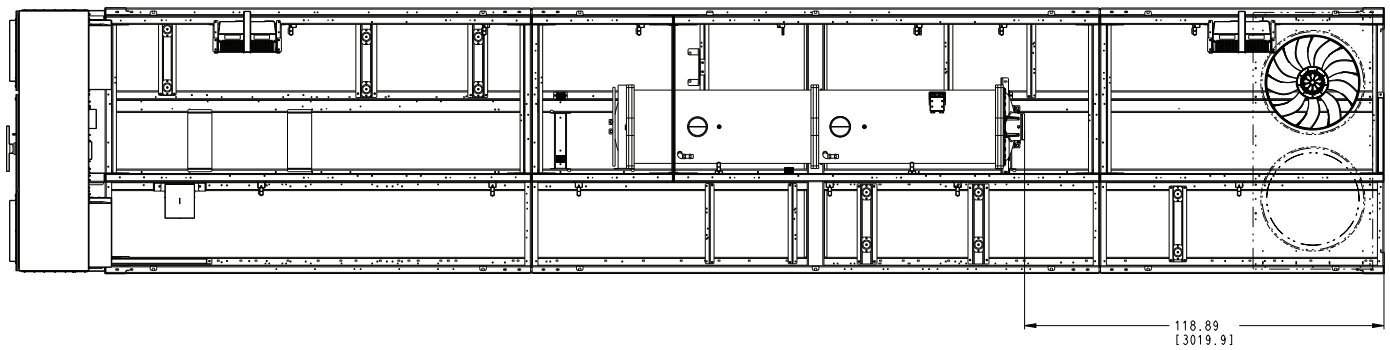
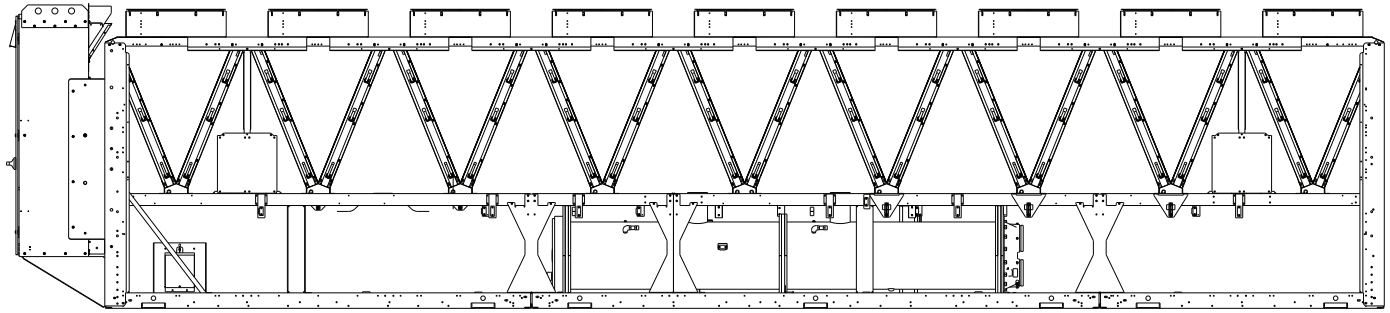
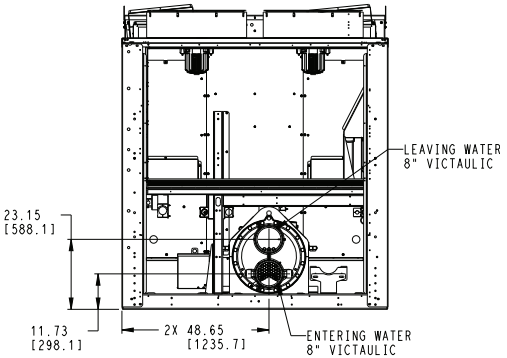


Fig. 17 — 30XV 400 Standard Tier Air-Cooled Chiller (cont)





BRINE EVAPORATOR OPTION



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

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

NOTES:

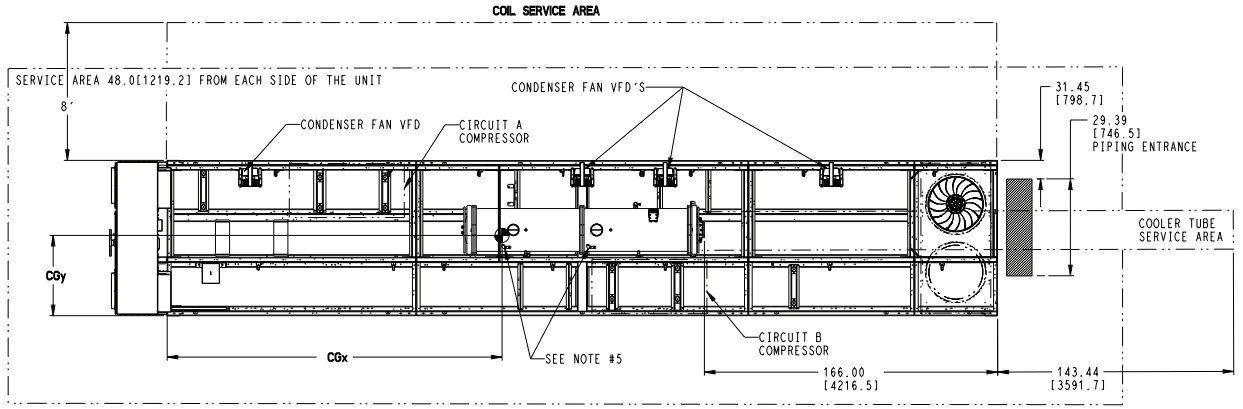
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6' FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8' REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLEUNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (460 - 575V)	ALL	NO	4	#2 AWG - 600 KCMIL
SINGLE POINT POWER (380V)	ALL	NO	6	#2 AWG - 600 KCMIL
DUAL POINT POWER (380-575V)	ALL	NO	2	#4 AWG - 500 KCMIL
DUAL POINT POWER (380-575V)	ALL	NFD	3	#3/0 AWG-400 KCMIL
SINGLE POINT POWER (380V)	ALL	NFD	6	#2 AWG - 600 KCMIL
SINGLE POINT POWER (460 - 575V)	ALL	NFD	4	#4/0 AWG - 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 SEPARATOR (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	903

SYMBOL DENOTES CG



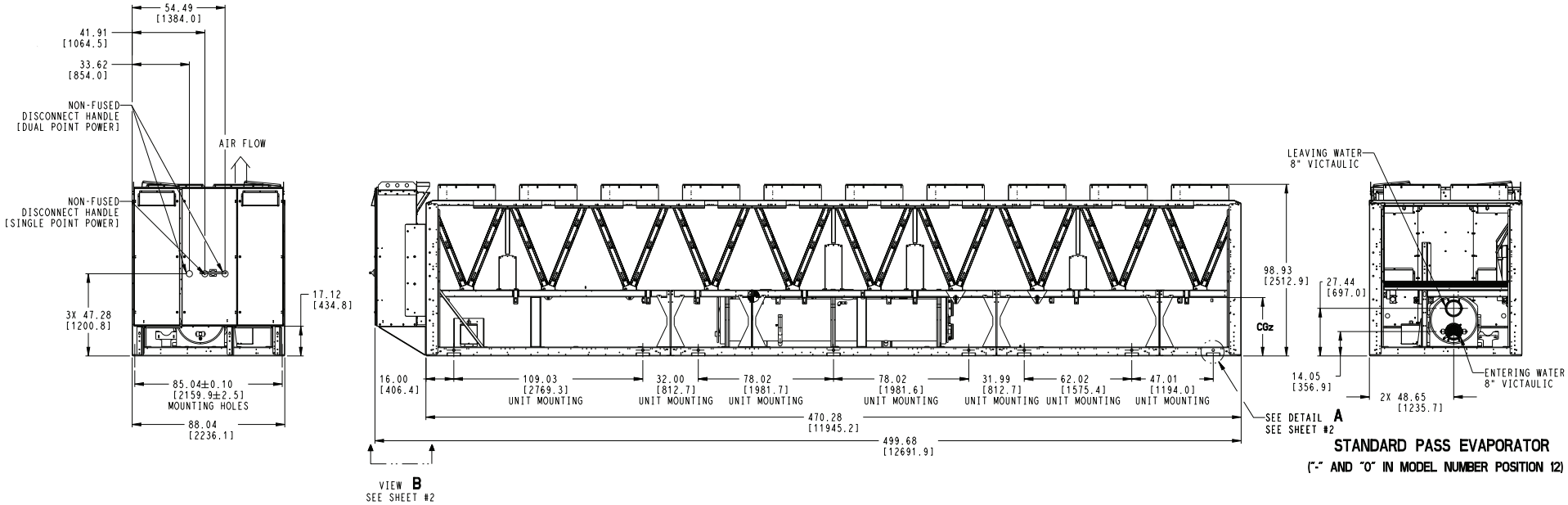


Fig. 18 — 30XV 400 Mid, 450 Standard Tier Air-Cooled Chiller

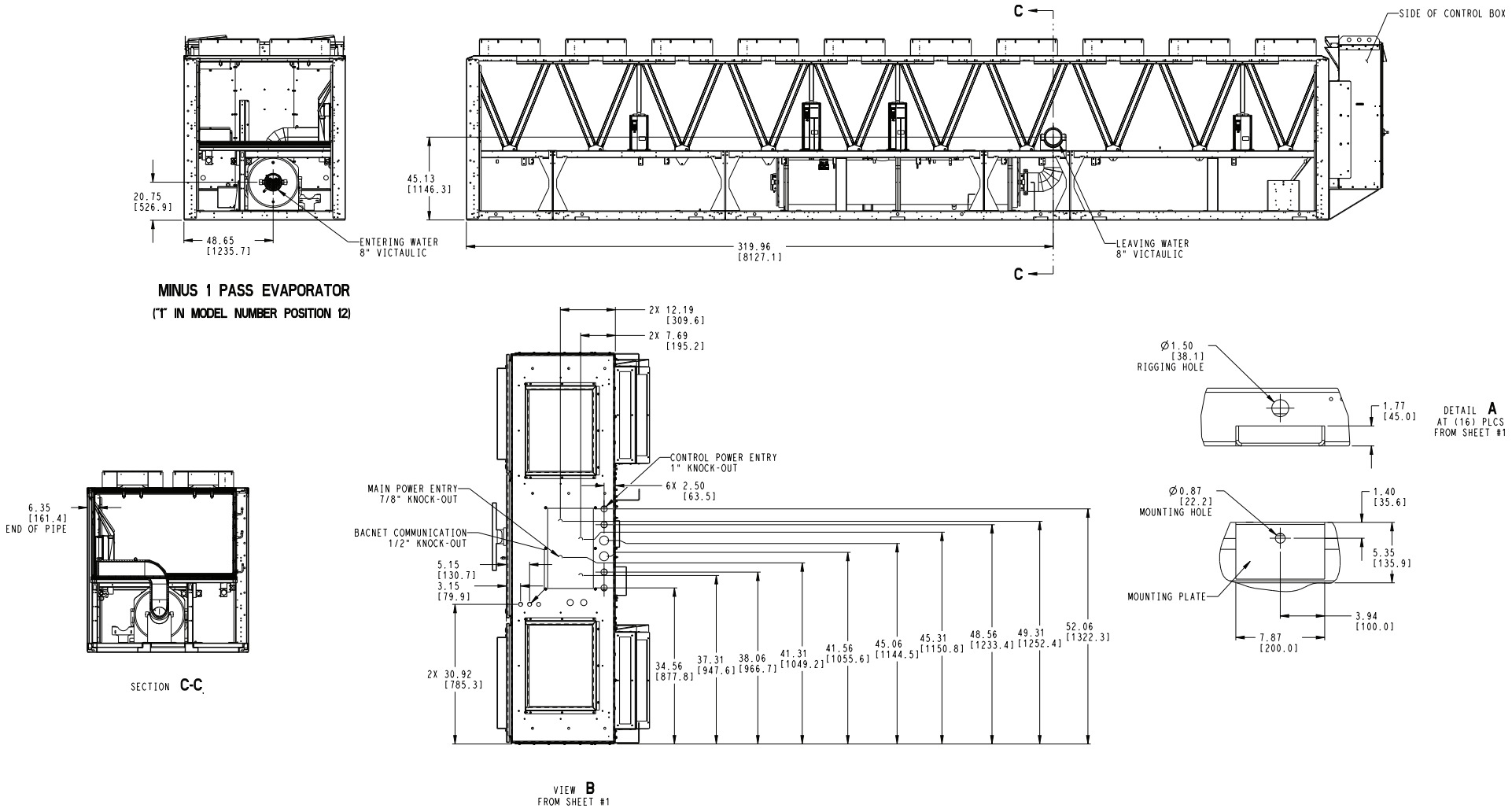
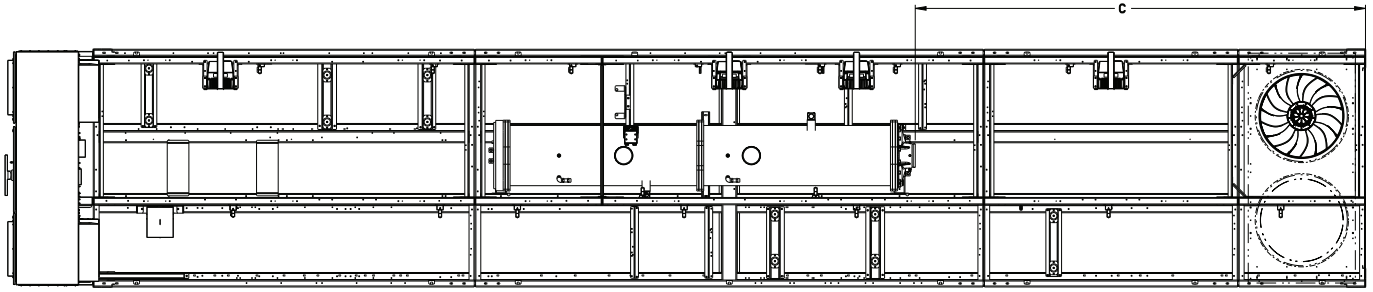
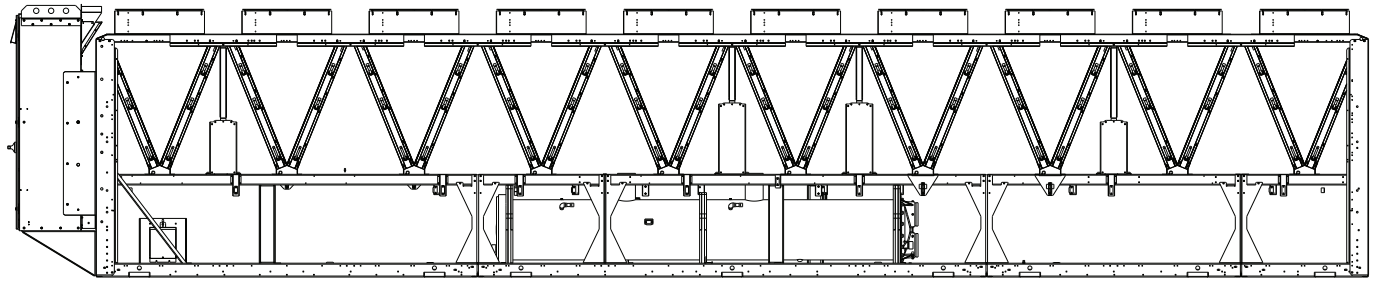


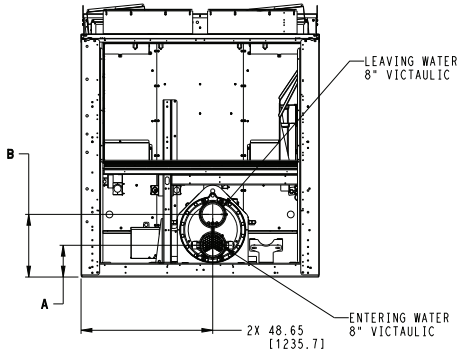
Fig. 18 — 30XV 400 Mid, 450 Standard Tier Air-Cooled Chiller (cont)



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 OPTION



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

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

NOTES:

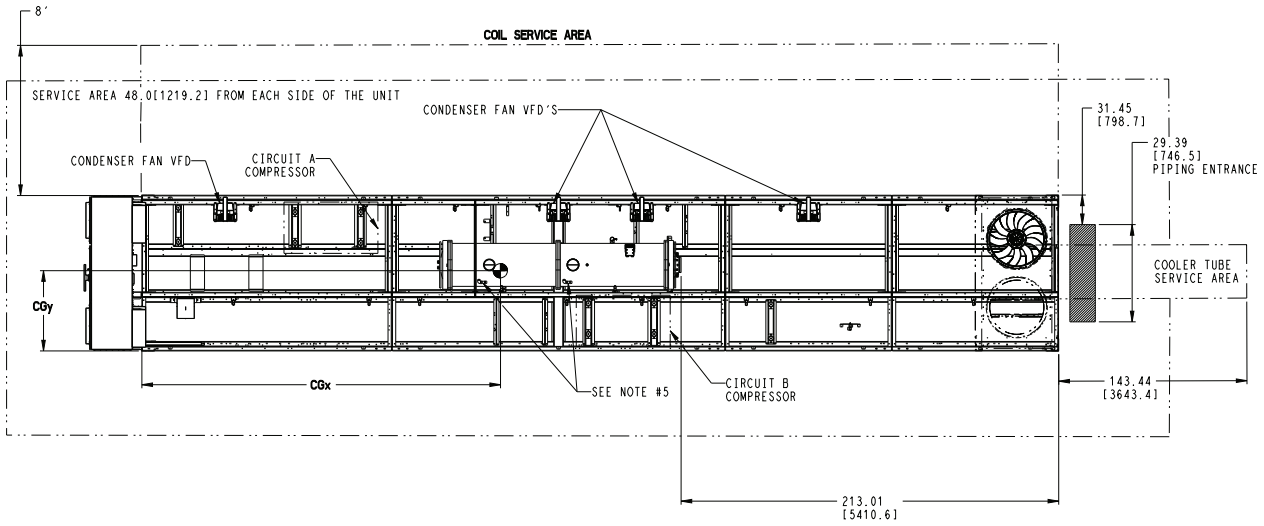
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6′ FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8′ REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

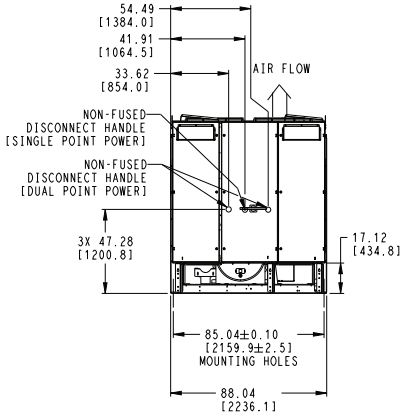
POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (460 - 575V)	ALL	NO	4	#2 AWG - 600 KCMIL
SINGLE POINT POWER (380V)	ALL	NO	6	#2 AWG - 600 KCMIL
DUAL POINT POWER (380-575V)	ALL	NO	2	#4 AWG - 500 KCMIL
DUAL POINT POWER (380-575V)	ALL	NFD	3	#3/0 AWG-400 KCMIL
SINGLE POINT POWER (380V)	ALL	NFD	6	#2 AWG - 600 KCMIL
SINGLE POINT POWER (460 - 575V)	ALL	NFD	4	#4/0 AWG - 500 KCMIL

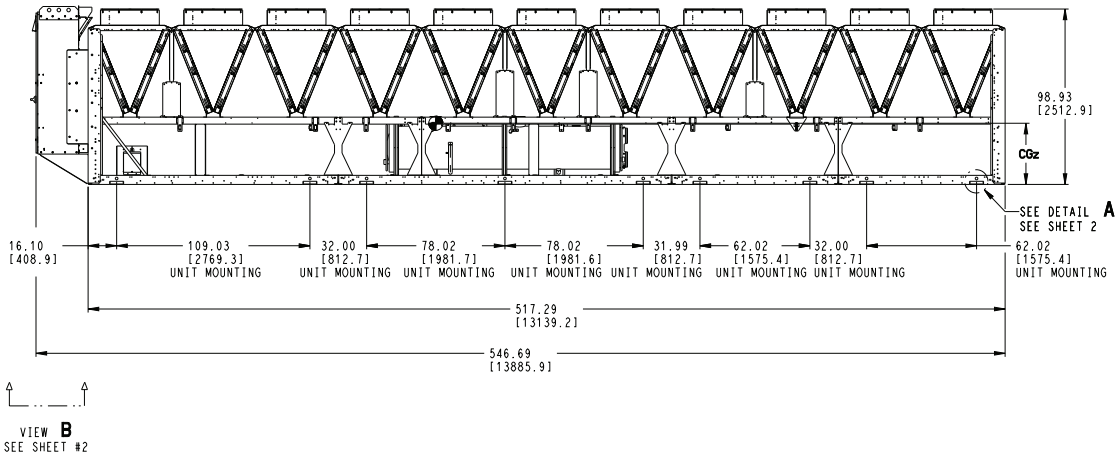
4. TEMPERATURE RELIEF DEVICES ARE LOCATED ON LIQUID LINES, AND ECONOMIZER ASSEMBLIES AND HAVE 1/4" AND 3/8" FLARE CONNECTION.
5. PRESSURE RELIEF DEVICES ARE LOCATED ON THE EVAPORATOR (3/4" NPT MALE CONNECTOR) AND ON EACH OIL SEPARATOR (3/8" FLARE CONNECTOR).
6. DIMENSIONS SHOWN ARE IN INCHES, DIMENSIONS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

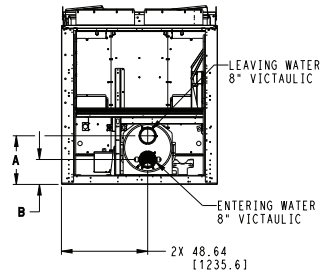
SYMBOL DENOTES CG







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]



STANDARD PASS EVAPORATOR

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

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

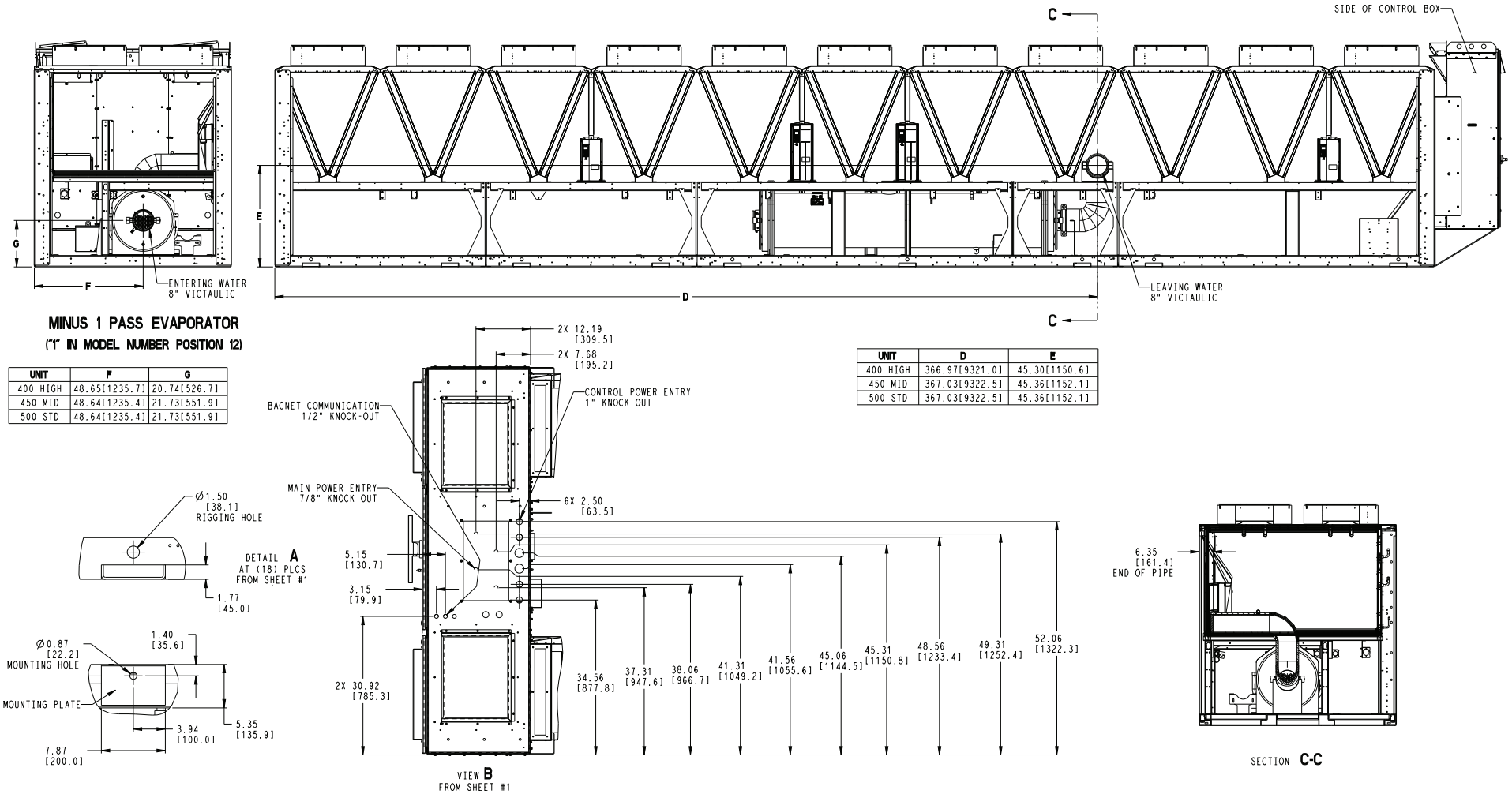
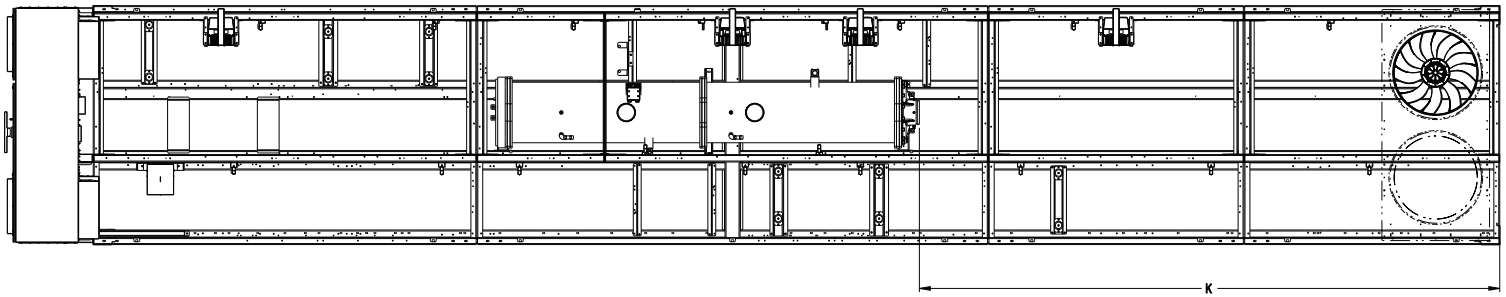
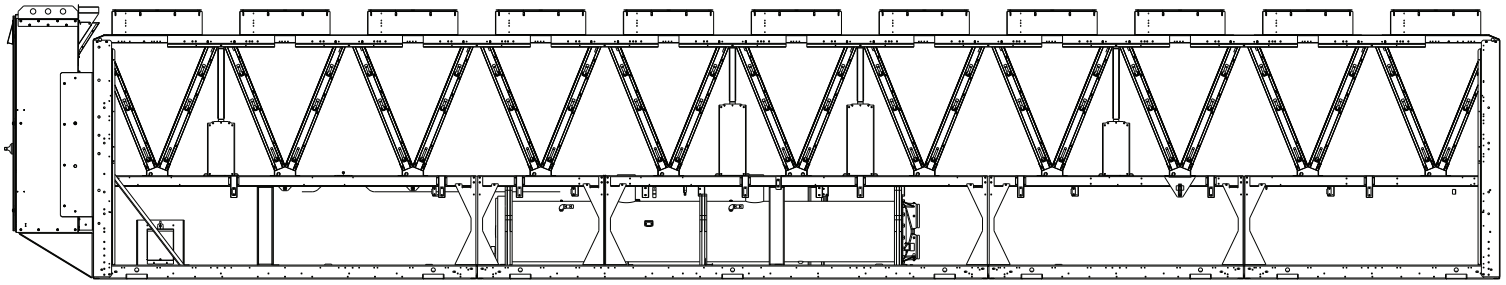


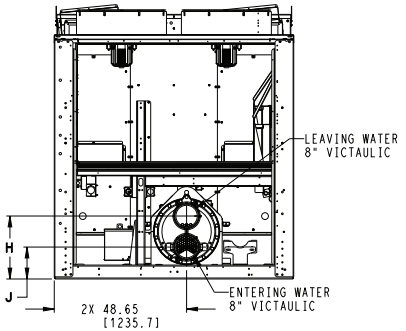
Fig. 19 — 30XV 400 High, 450 Mid, 500 Std Tier Air-Cooled Chiller (cont)



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 OPTION



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

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

NOTES:

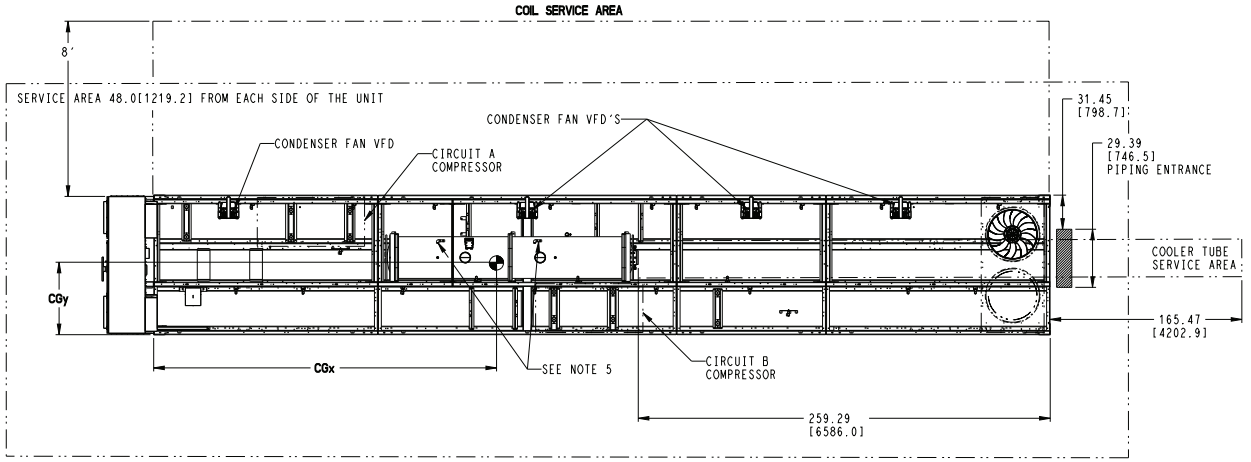
1. UNIT MUST HAVE CLEARANCES AS FOLLOWS:
   TOP- DO NOT RESTRICT.
   SIDES AND END- 6′ FROM SOLID SURFACE.
   FOR AIRFLOW SIDE- 8′ REQUIRED FOR COIL SERVICE AREA.
   IF MULTIPLE UNITS ARE INSTALLED AT THE SAME SITE, A MINIMUM SEPARATION OF 10FT (3M) BETWEEN THE SIDES OF THE MACHINES IS REQUIRED TO MAINTAIN 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.

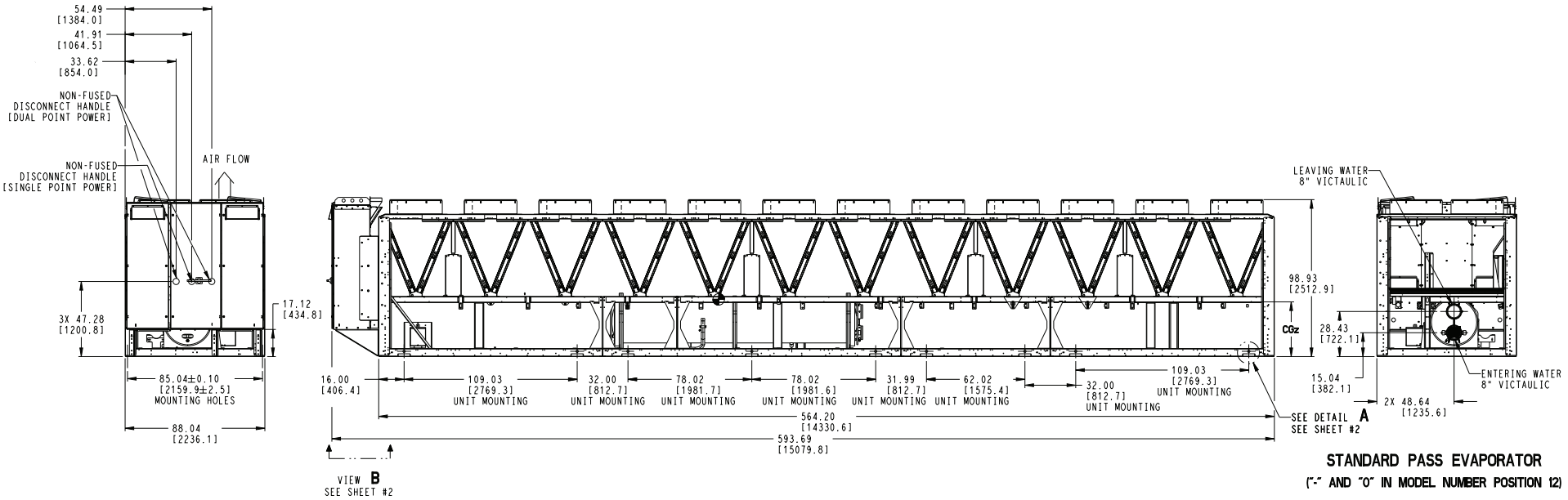
POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# COND. PER PHASE	LUG RANGE
SINGLE POINT POWER (460 - 575V)	ALL	NO	4	#2 AWG - 600 KCMIL
SINGLE POINT POWER (380V)	ALL	NO	6	#2 AWG - 600 KCMIL
DUAL POINT POWER (380-575V)	ALL	NO	2	#4 AWG - 500 KCMIL
DUAL POINT POWER (380-575V)	ALL	NFD	3	#3/0 AWG-400 KCMIL
SINGLE POINT POWER (380V)	ALL	NFD	6	#2 AWG - 600 KCMIL
SINGLE POINT POWER (460 - 575V)	ALL	NFD	4	#4/0 AWG - 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 SEPARATOR (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)

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

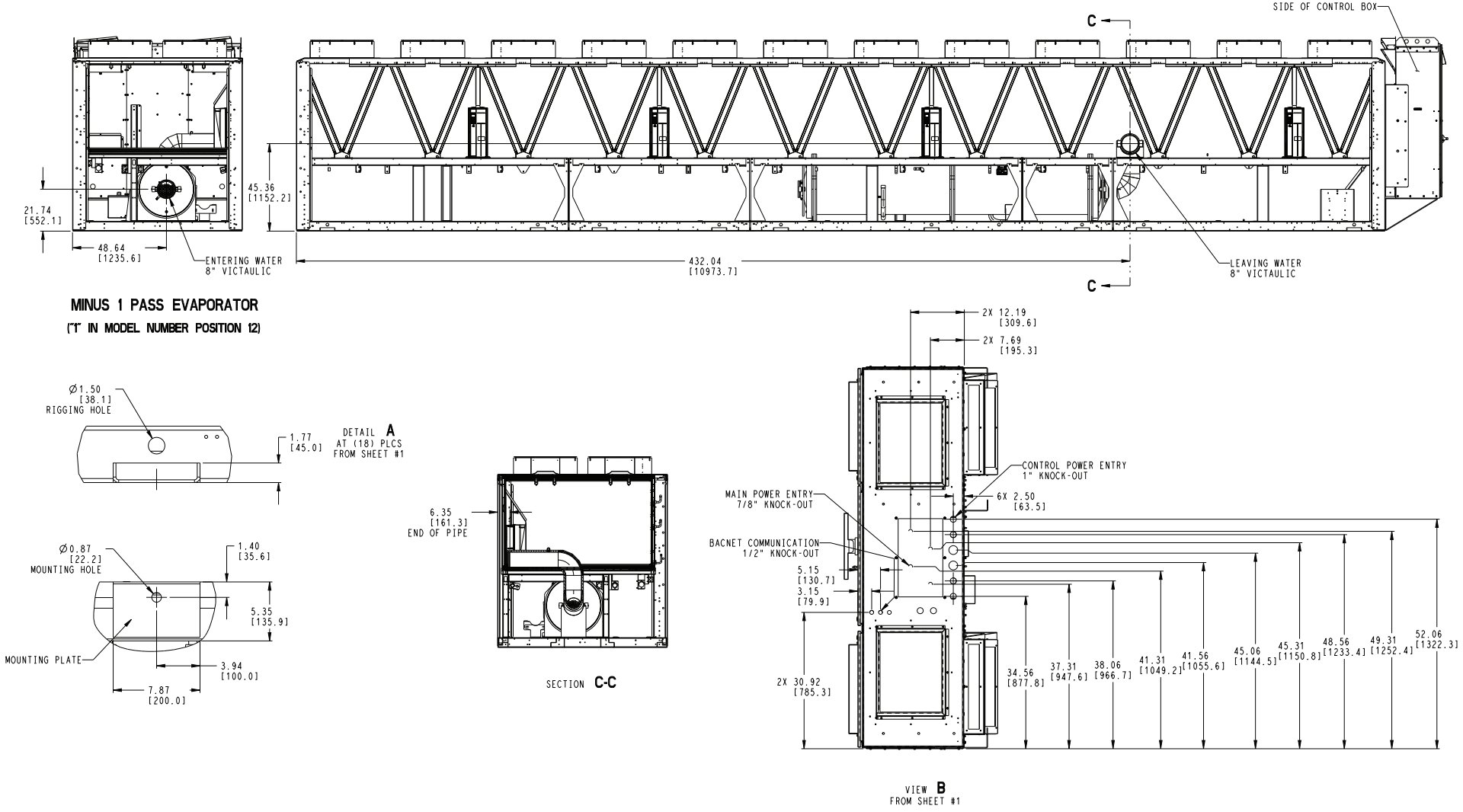
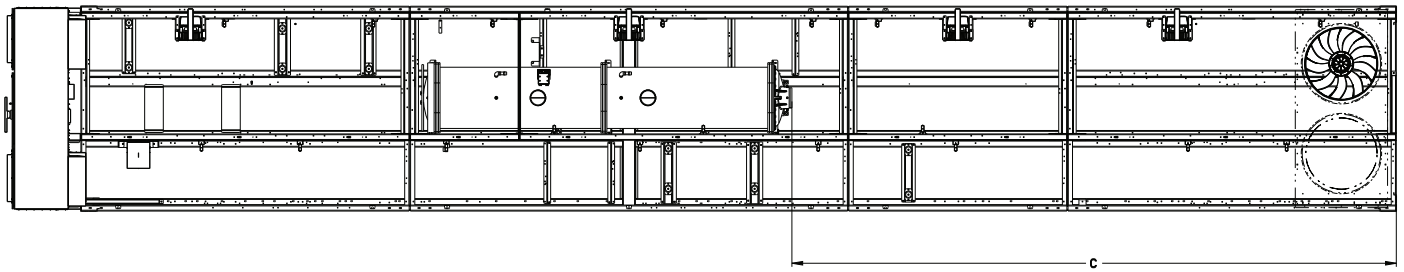
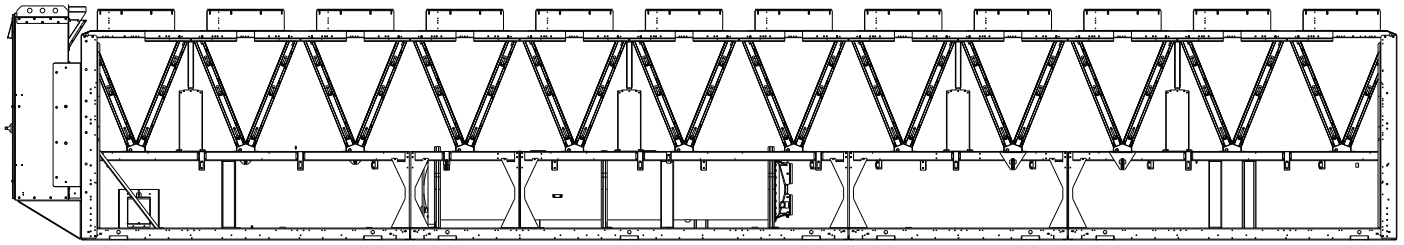


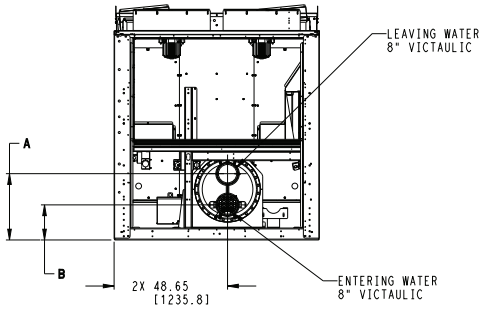
Fig. 20 — 30XV 450 High, 500 Mid Tier Air-Cooled Chiller (cont)



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 OPTION



BRINE EVAPORATOR

("2" IN MODEL NUMBER POSITION 12)

Fig. 20 — 30XV 450 High, 500 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. 21 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. 21 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	1692	1212	3026	2953	1210	1507	—	—	—	—	11,599
	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. 21 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	767	550	1373	1339	549	683	—	—	—	—	5261
	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. 21 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	1879	1399	3214	3140	1397	1694	—	—	—	—	12,724
	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. 21 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	767	550	1373	1339	549	683	—	—	—	—	5261
	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

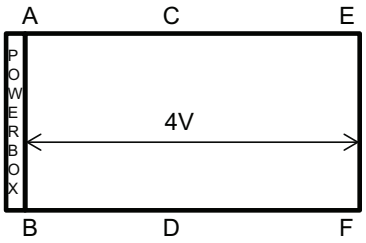
30XV UNIT SIZE	TIER (MODEL NO. POS. 10)	MOUNTING WEIGHT (kg) Cu/Cu CONDENSER COILS																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Total
400	S	1831	1115	1054	650	438	383	1295	1647	631	959	390	389	283	282	—	—	—	—	11 344
	M	1831	1116	1054	650	449	394	1288	1640	644	973	390	389	393	392	127	127	—	—	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	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

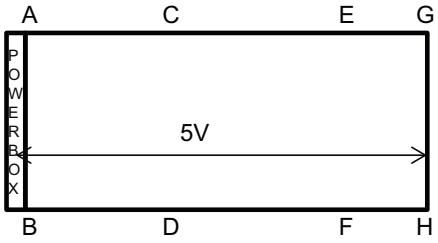
MCHX — Microchannel Heat Exchanger

NOTE: See Fig. 21 for mounting weight reference points.

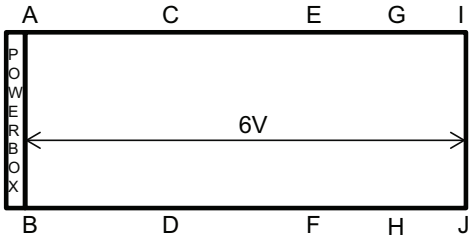
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
140	X	X	
160	X		
180	X		



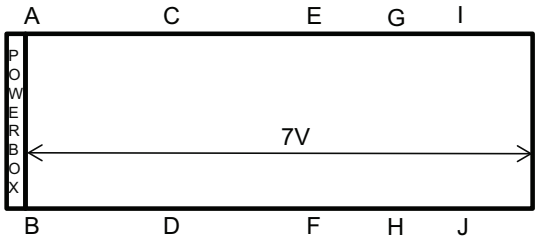
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
140			X
160		X	
180		X	
200	X		



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

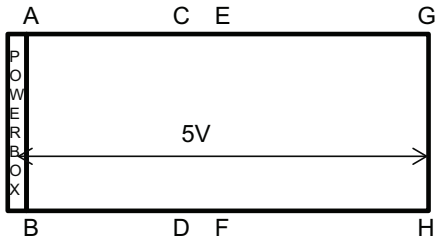


Letters indicate the general location of the mounting weight locations on the base of the unit.

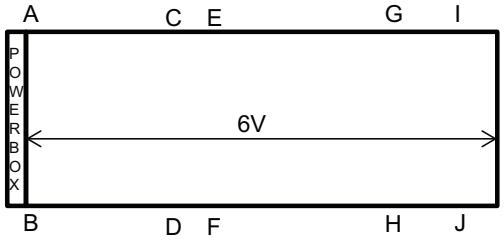
NOTE: See Table 1 for mounting weight at reference points.

Fig. 21 — Unit Mounting Weight Reference Points

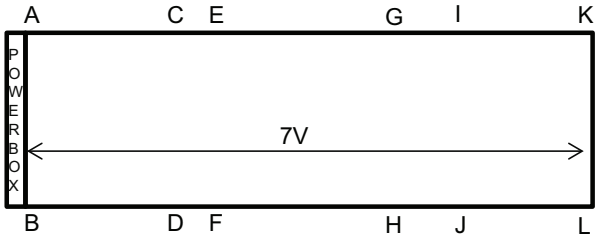
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
225	X		



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

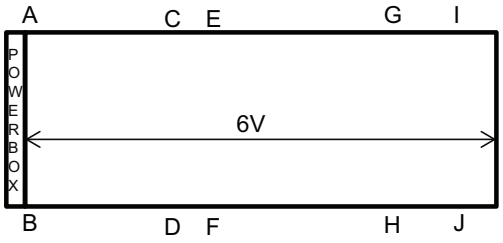


Letters indicate the general location of the mounting weight locations on the base of the unit.

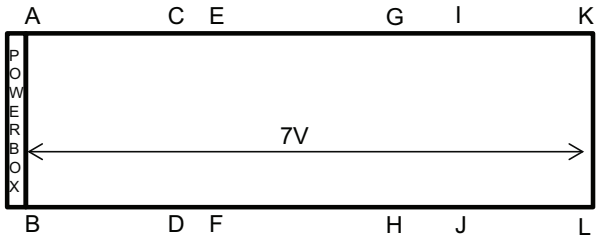
NOTE: See Table 1 for mounting weight at reference points.

Fig. 21 — Unit Mounting Weight Reference Points (cont)

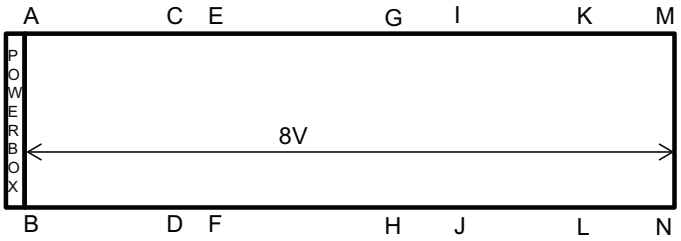
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
250	X		
275	X		



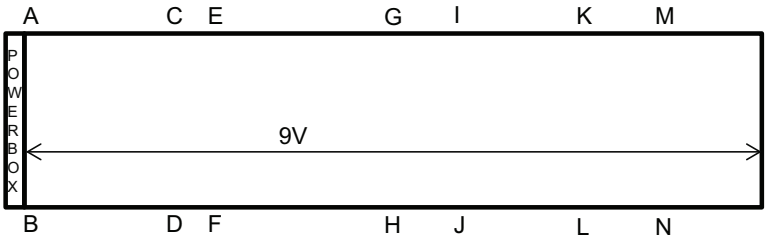
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
250		X	
275		X	
300	X		



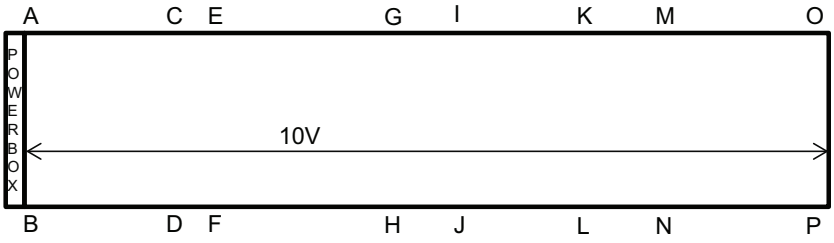
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
250			X
275			X
300		X	
325	X		



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

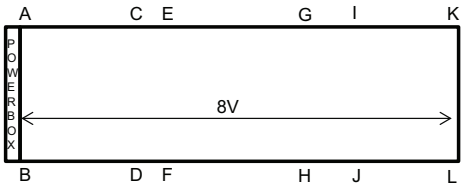


Letters indicate the general location of the mounting weight locations on the base of the unit.

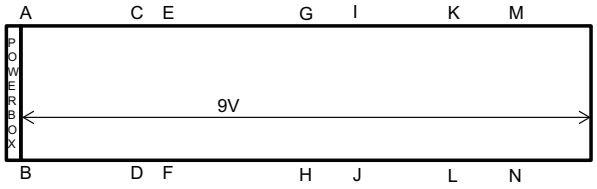
NOTE: See Table 1 for mounting weight at reference points.

Fig. 21 — Unit Mounting Weight Reference Points (cont)

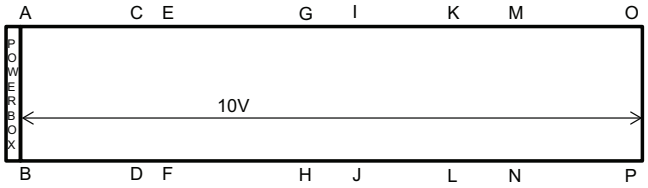
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
350	X		



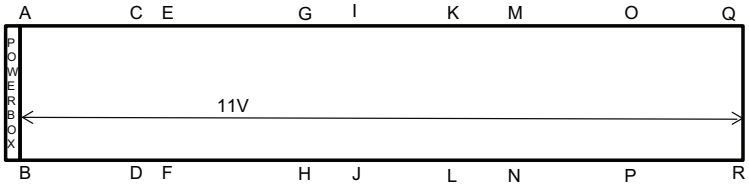
UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
350		X	
400	X		



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			X
450		X	
500	X		



UNIT 30XV SIZE	TIER (MODEL NO. POS. 10)		
	S	M	H
450			X
500		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. 21 — 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	11,599	11,680	12,718	11,694	12,930	13,949	11,896	12,982	14,090
Cu-Cu Condenser Coil	12,724	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	11,426	11,492	12,530	11,506	12,720	13,739	11,686	12,755	13,864
Cu-Cu Condenser Coil	12,551	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, Inlet and Outlet, Victaulic (in.)	5	5	5	5	5	5	5	5	5
Number of Passes	2	2	2	2	2	2	2	2	2
Minus 1 Pass, Inlet and Outlet, Victaulic (in.)	5	5	5	5	5	5	5	5	5
Number of Passes	1	1	1	1	1	1	1	1	1
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

*Operating weights include coil trim panels. See Table 1 for mounting weight details.

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. 21 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, Inlet and Outlet, Victaulic (in.)	5	6	6	6	6	6	6	8	8
Number of Passes	2	2	2	2	2	2	2	2	2
Minus 1 Pass, Inlet and Outlet, Victaulic (in.)	5	8	8	8	8	8	8	8	8
Number of Passes	1	1	1	1	1	1	1	1	1
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

*Operating weights include coil trim panels. See Table 1 for mounting weight details.

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. 21 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, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8
Number of Passes	2	2	2	2	2	2	2	2	2
Minus 1 Pass, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8
Number of Passes	1	1	1	1	1	1	1	1	1
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

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

*Operating weights include coil trim panels. See Table 1 for mounting weight details.

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. 21 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, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8	8	8
Number of Passes	2	2	2	2	2	2	2	2	2	2	2
Minus 1 Pass, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8	8	8
Number of Passes	1	1	1	1	1	1	1	1	1	1	1
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

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

*Operating weights include coil trim panels. See Table 1 for mounting weight details.

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. 21 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	5261	5298	5769	5304	5865	6327	5396	5889	6391
Cu-Cu Condenser Coil	5771	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	5183	5213	5684	5219	5770	6232	5301	5786	6288
Cu-Cu Condenser Coil	5693	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, Inlet and Outlet, Victaulic (in.)	5	5	5	5	5	5	5	5	5
Number of Passes	2	2	2	2	2	2	2	2	2
Minus 1 Pass, Inlet and Outlet, Victaulic (in.)	5	5	5	5	5	5	5	5	5
Number of Passes	1	1	1	1	1	1	1	1	1
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
Al — Aluminum
EXV — Electronic Expansion Valve
MCHX — Microchannel Heat Exchanger
RTPF — Round Tube/Plate Fin

*Operating weights include coil trim panels. See Table 1 for mounting weight details.

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. 21 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, Inlet and Outlet, Victaulic (in.)	5	6	6	6	6	6	6	8	8
Number of Passes	2	2	2	2	2	2	2	2	2
Minus 1 Pass, Inlet and Outlet, Victaulic (in.)	5	8	8	8	8	8	8	8	8
Number of Passes	1	1	1	1	1	1	1	1	1
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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MCHX — Microchannel Heat Exchanger
RTPF — Round Tube/Plate Fin

*Operating weights include coil trim panels. See Table 1 for mounting weight details.

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. 21 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, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8
Number of Passes	2	2	2	2	2	2	2	2	2
Minus 1 Pass, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8
Number of Passes	1	1	1	1	1	1	1	1	1
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
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MCHX — Microchannel Heat Exchanger
RTPF — Round Tube/Plate Fin

*Operating weights include coil trim panels. See Table 1 for mounting weight details.

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. 21 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, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8	8	8
Number of Passes	2	2	2	2	2	2	2	2	2	2	2
Minus 1 Pass, Inlet and Outlet, Victaulic (in.)	8	8	8	8	8	8	8	8	8	8	8
Number of Passes	1	1	1	1	1	1	1	1	1	1	1
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
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EXV — Electronic Expansion Valve
MCHX — Microchannel Heat Exchanger
RTPF — Round Tube/Plate Fin

*Operating weights include coil trim panels. See Table 1 for mounting weight details.

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. 21 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. 22.

RIGGING UNIT (See Fig. 23 and 24) — 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. 23 and 24 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. 23 and 24 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.

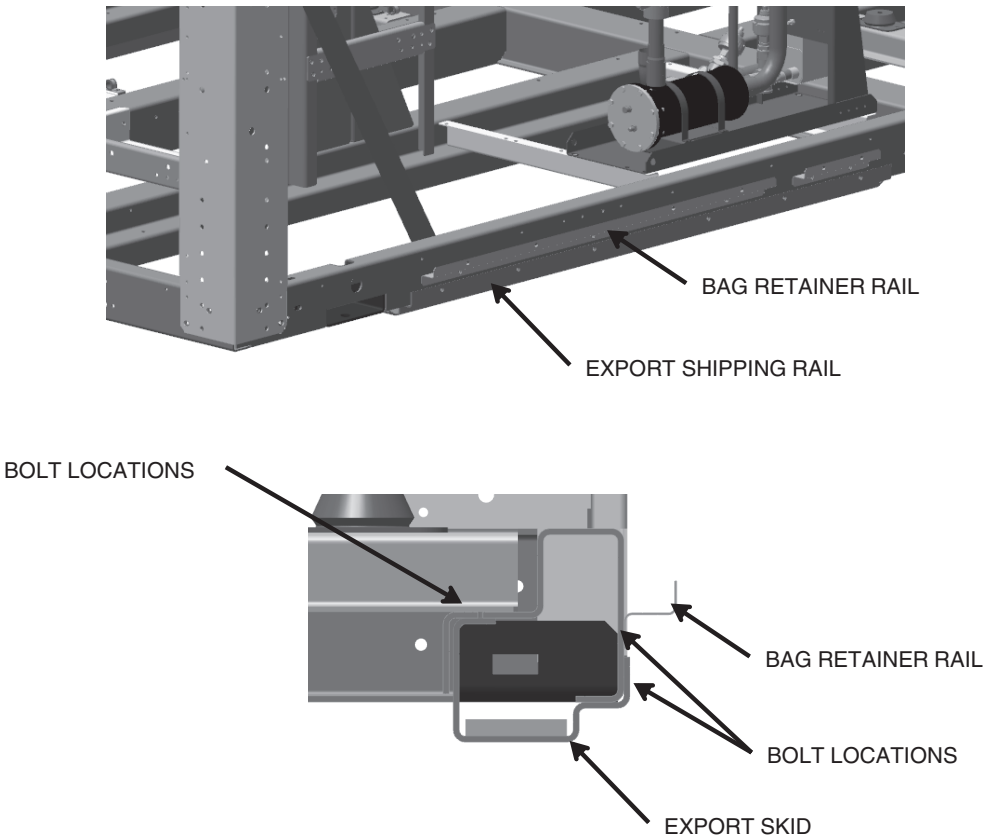
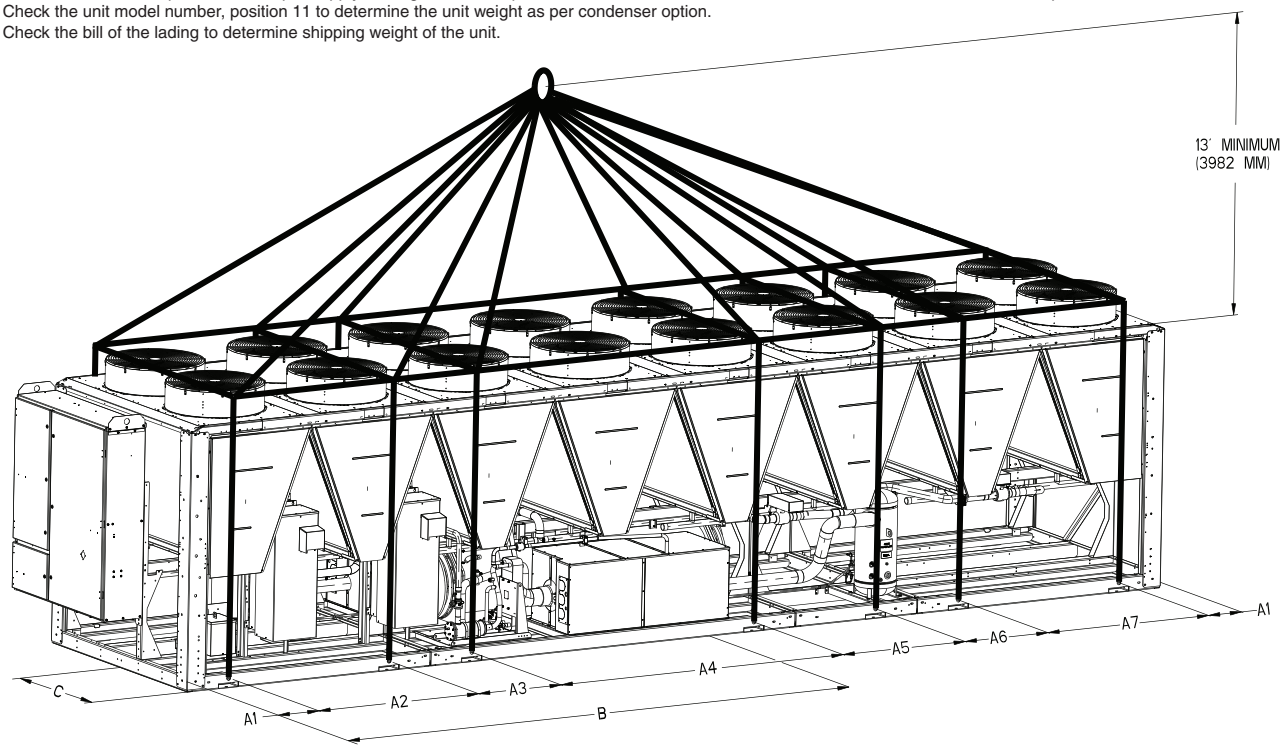


Fig. 22 — Export Shipping Rails

⚠ 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																		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
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	-	-	-	-	-	-	-	-	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	-	-	-	-	-	-	-	-	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	-	-	-	-	-	-	-	-	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	-	-	-	-	-	-	-	-	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	-	-	-	-	-	-	-	-	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	-	-	-	-	-	-	-	-	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			62.0	1575					160.7	4081	162.5	4128	165.4	4201	45.6	1159
30XVA300	S	16207	7351	18193	8252	-	-	-	-	-	-	-	-	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	-	-	-	-	-	-	-	-	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

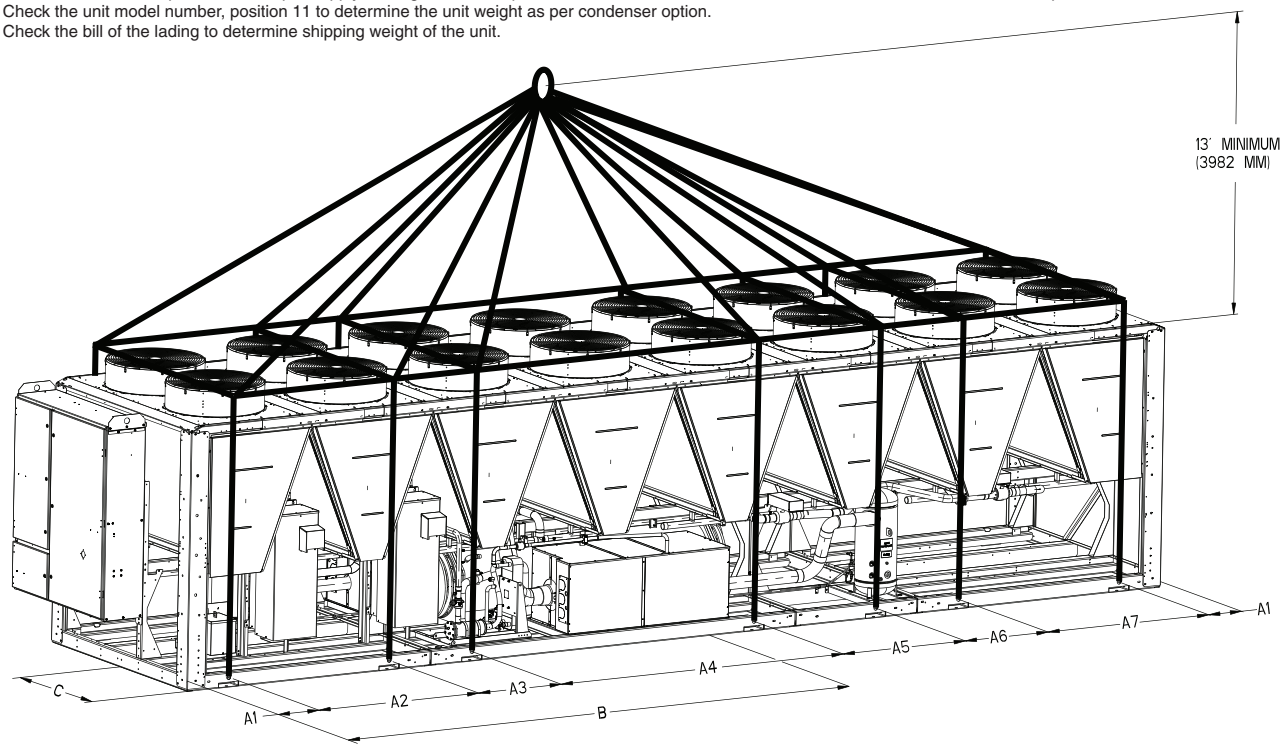
Fig. 23 — Unit Rigging Label Detail 30XV140-325

⚠ 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																			
		MCHX*		MCHX*		Al/CU**		Al/CU**		CU/CU***		CU/CU***		A1		A2		A3		A4		A5		A6		A7		A8		A9		B		C	
		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
30XVA350	S	19694	8933	21334	9677	-	-	-	-	-	-	-	-	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	47.0	1194	16.1	409	0.0				159.1	4041	46.2	1174
	M	21156	9597	22950	10410	22192	10066	23986	10880	24722	11214	26708	12115	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	47.0	1194	47.0	1194	47.0	1194			172.3	4376	46.4	1178
	H	21935	9949	23883	10833	23085	10471	25034	11355	25897	11747	28037	12718	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	183.9	4672	46.4	1179
30XVA400	S	22235	10086	24053	10910	-	-	-	-	-	-	-	-	16.1	409	109.0	2769	32.0	813	78.0	1982	78.0	1982	32.0	813	62.0	1575					179.2	4551	45.2	1147
	M	23178	10514	25151	11408	24329	11036	26302	11930	27140	12311	29369	13322	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	4838	45.3	1150
	H	23956	10867	26083	11831	25222	11441	27349	12406	28315	12844	30698	13924	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	202.6	5146	45.4	1152
30XVA450	S	23178	10514	25143	11405	-	-	-	-	-	-	-	-	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	4838	45.3	1150
	M	24681	11195	26801	12157	25947	11770	28067	12731	29040	13172	31415	14250	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	203.3	5165	45.5	1155
	H	25547	11588	27736	12581	26985	12240	29174	13233	-	-	-	-	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	216.0	5486	45.5	1156
30XVA500	S	24681	11195	26801	12157	-	-	-	-	-	-	-	-	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	203.3	5165	45.5	1155
	M	25622	11622	27906	12658	27060	12274	29344	13310	-	-	-	-	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	216.1	5488	45.5	1156

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

Fig. 24 — Unit Rigging Label Detail 30XV350-500

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

⚠CAUTION

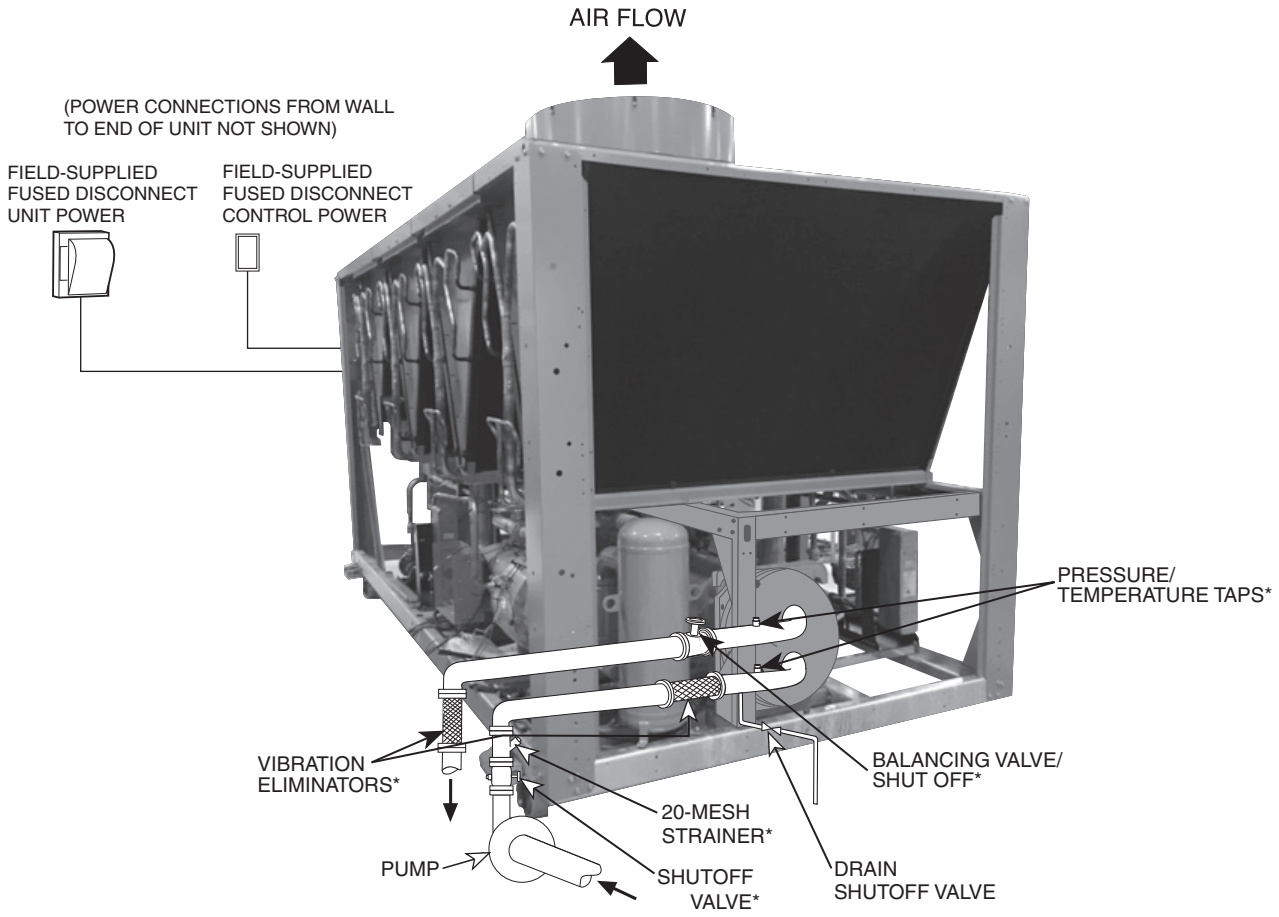
Remove the chilled water flow switch, entering and leaving water thermistors before welding connecting piping. Reinstall flow switch and thermistors after welding is complete. Failure to remove these devices may cause unit damage.

GENERAL — See Fig. 25 for typical piping and wiring. The Victaulic connections allow clamp-on connection of water lines to the evaporators in all 30XV units. See Table 4 for 30XV unit operating range and Tables 5 and 6 for minimum and maximum water flow. A flow sensor is factory-installed in the side of the entering fluid nozzle. See Fig. 26.

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. 27.

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 28 and 29 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. 25 — 30XV Typical Piping and Wiring

Table 4 — 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

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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 5 — Min/Max Water Flow — Standard 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 6 — Min/Max Water Flow — Minus-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

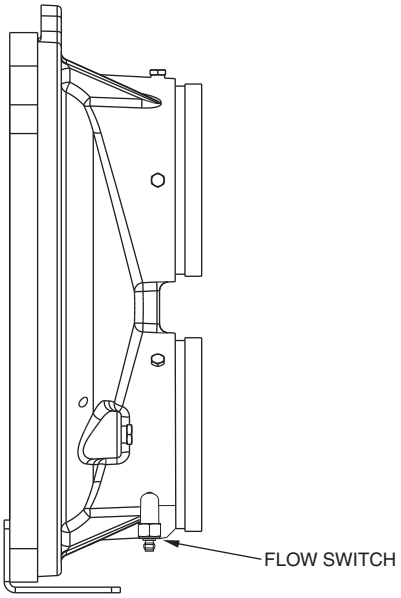


Fig. 26 — Flow Switch Location

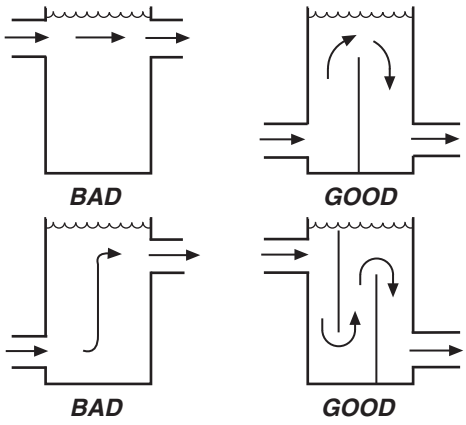


Fig. 27 — Tank Baffling

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. 28). 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. 29 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.

There are several advantages to this type of control:

- redundancy (multiple circuits)
- better low load control, (lower tonnage capability)
- lower rigging lift weights (two machines rather than one large machine)
- chiller lead-lag operation (evens the wear between the two machines)

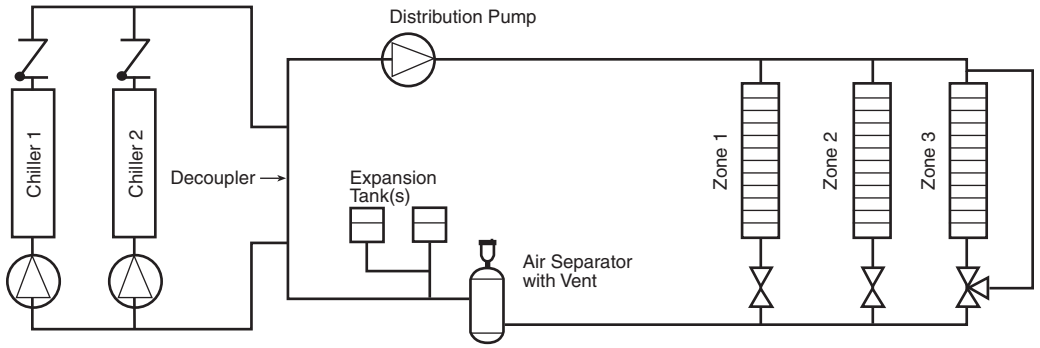
Dual Chiller Leaving Water Sensor — If the dual chiller algorithm is used, and the machines are installed in parallel, a dual chilled water sensor must be installed for each module. Install the well in the common leaving water header. See Fig. 30.

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 30.

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. For nominal 10º F (5.6º C) evaporator ranges, use the minus 1 pass evaporator arrangements to reduce the fluid-side pressure drop. Use the standard evaporator pass arrangement for low flow, high evaporator temperature rise applications.

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. 31.



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

Fig. 28 — 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. 29 — Typical Piping Diagram for 30XV Units with Greenspeed® Intelligence

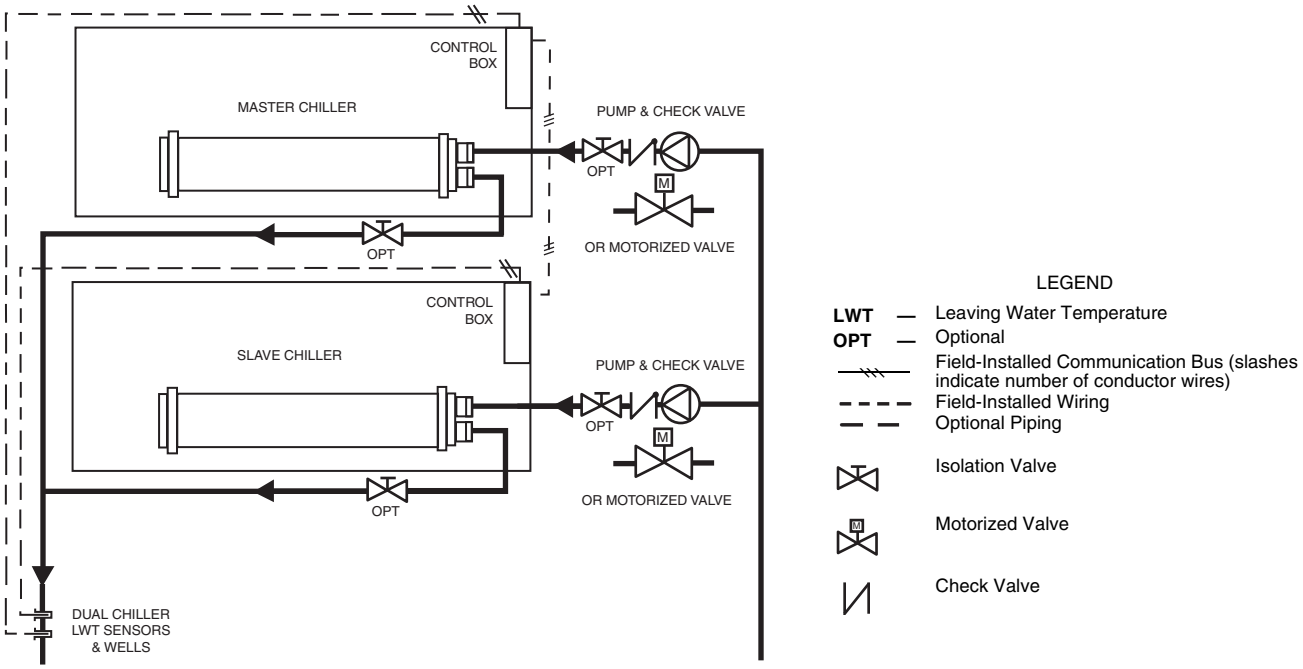


Fig. 30 — Parallel Dual Chiller Operation

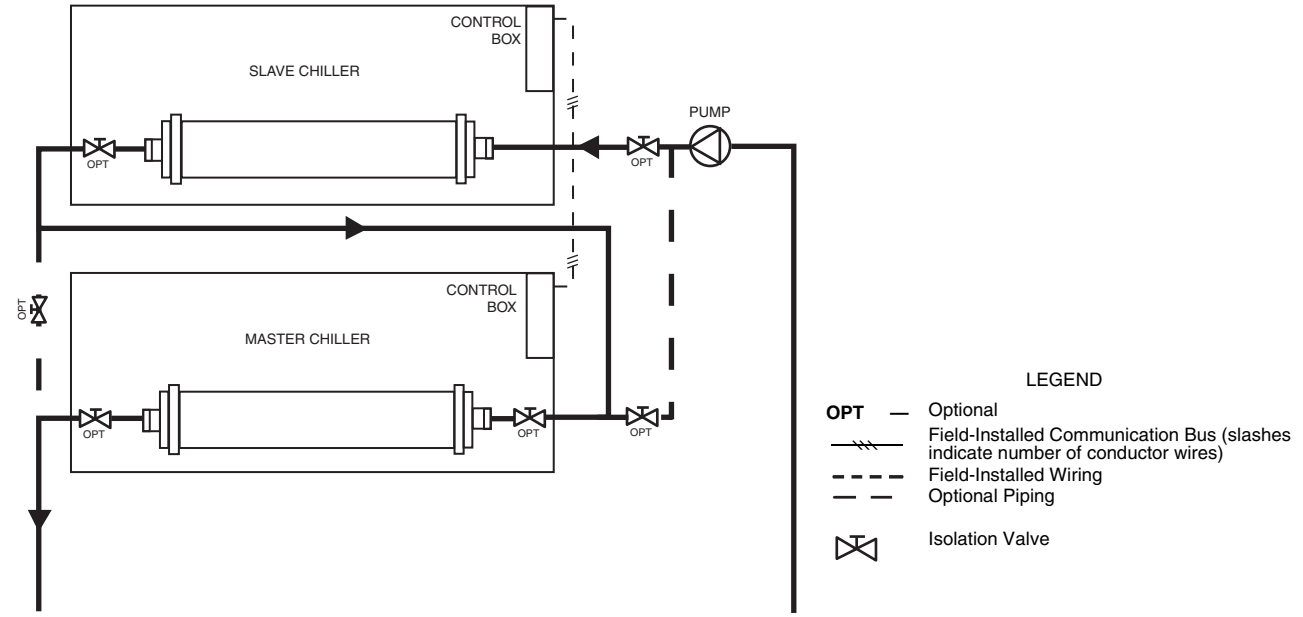


Fig. 31 — Series Dual Chiller Operation

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

Brine Evaporator Option — Add sufficient inhibited glycol or other suitable corrosion-resistant antifreeze solution to prevent evaporator freeze-up.

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 93 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. 32. 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.

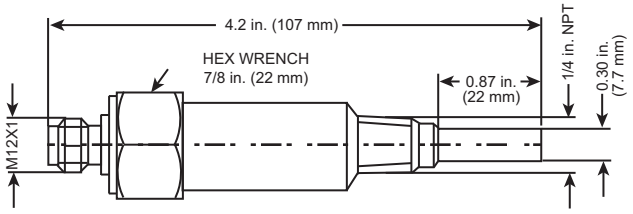


Fig. 32 — Thermal Flow Sensor

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 93.

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. 29 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. 33. 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.

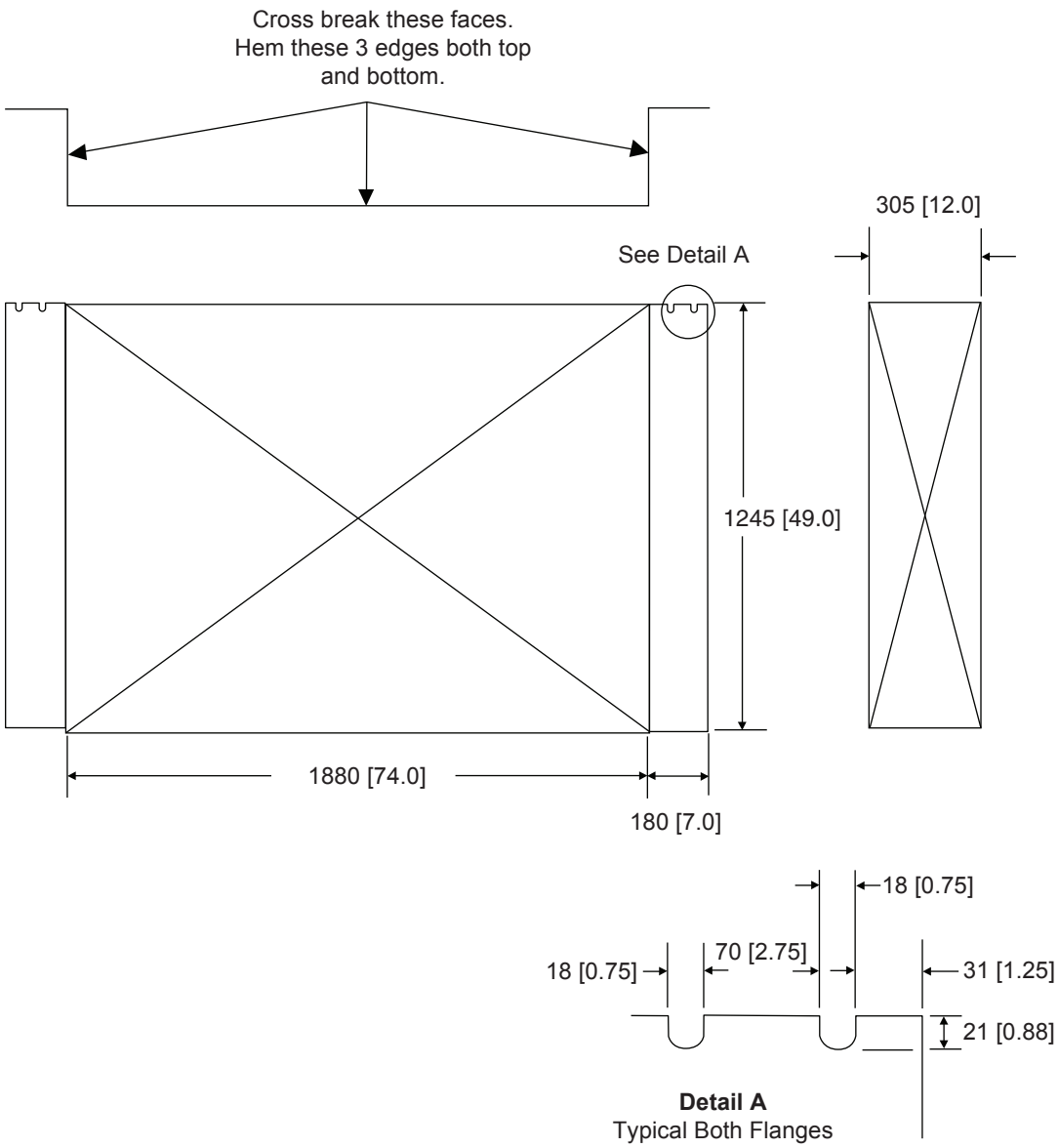
⚠ WARNING

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. 33 — 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.

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. 34.
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. 35) 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.

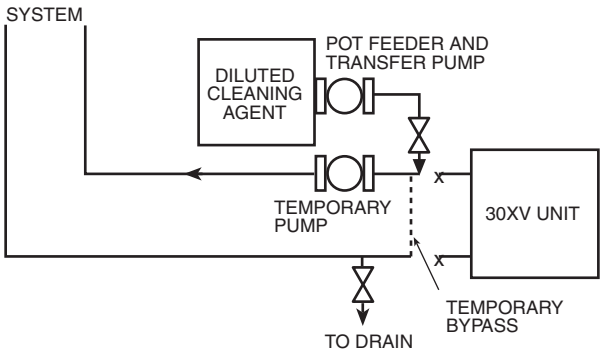


Fig. 34 — Typical Set Up for Cleaning Process

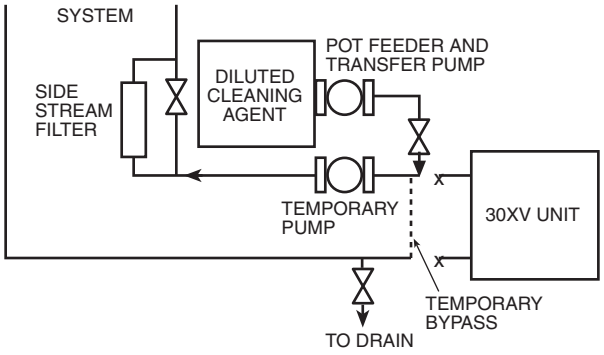


Fig. 35 — Cleaning Using a Side Stream Filter

⚠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. 28. 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. 28 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 85 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 an electric heater tape for the external piping, if unit will be exposed to freezing temperatures.

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.

All units are equipped with evaporator heaters. Units 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 coolers 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.

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 7 for power entry option. See Tables 8-17 for electrical and configuration data.

FIELD POWER CONNECTIONS (See Fig. 36) — 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 8-17 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 size that the unit terminal block or non-fused disconnect will accept is 500 kcmil.

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 circuit voltage. See Tables 8-17 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.

FIELD CONTROL POWER CONNECTIONS (See Fig. 36) — 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. 36. Failure to wire the remote on-off as recommended may result in tube freeze damage.

CARRIER COMFORT NETWORK® COMMUNICATION BUS WIRING (See Fig. 37) — 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. 37.

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 18 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:

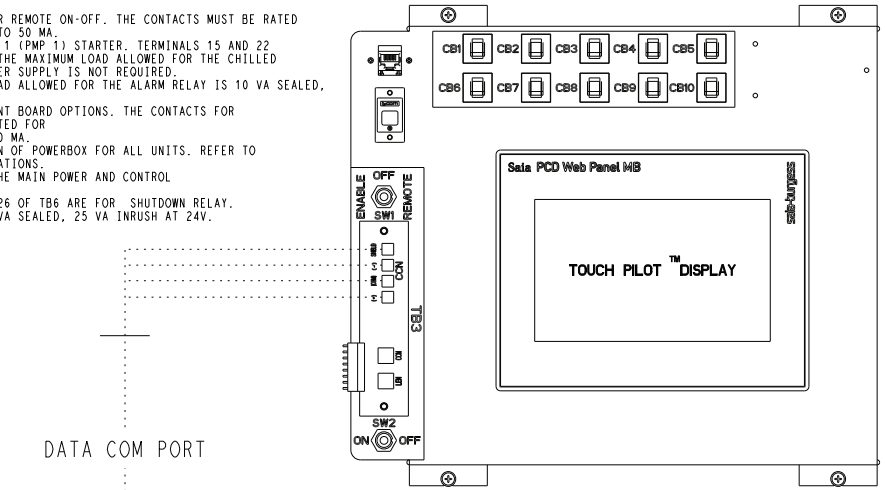
1. FACTORY WIRING IS IN ACCORDANCE WITH UL 1995 STANDARDS. FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
2. WIRING FOR MAIN FIELD SUPPLY MUST BE RATED 75C MINIMUM. USE COPPER FOR ALL UNITS.

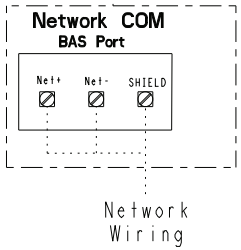
POWER ENTRY OPTION	UNIT SIZE	DISCONNECT OPTION	# OF CONDUCTORS PER PHASE	LUG RANGE
SINGLE POINT POWER (230V)	140-200	NO	4	#2AWG-750 KCMIL
SINGLE POINT POWER (380-575V)	ALL	NO	2	#2AWG-600 KCMIL
DUAL POINT POWER (200V)	140-200	NO	3	3/0-400 KCMIL
DUAL POINT POWER (380-575V)	140-200	NO	1 OR (2)	2/0-500 KCMIL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

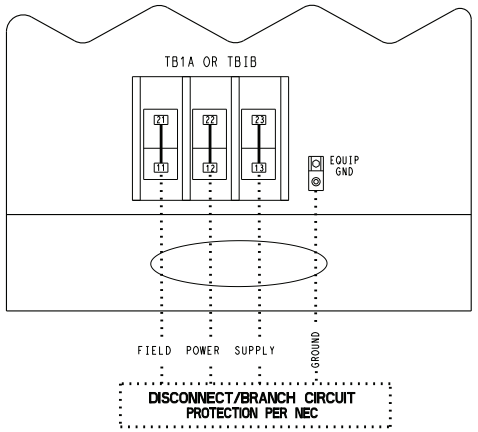
3. TERMINALS 9 AND 10 OF TB5 ARE FOR FIELD EXTERNAL CONNECTIONS FOR REMOTE ON-OFF. THE CONTACTS MUST BE RATED FOR DRY CIRCUIT APPLICATION CAPABLE OF HANDLING A 24VAC LOAD UP TO 50 MA.
4. TERMINALS 11 AND 23 OF TB5 ARE FOR CONTROL OF CHILLED WATER PUMP 1 (PMP 1) STARTER. TERMINALS 15 AND 22 OF TB5 ARE 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

ALM — ALARM
ALT — ALERT
PMP — CHILLED WATER PUMP
NEC — NATIONAL ELECTRIC CODE
R — RELAY
TB — TERMINAL BLOCK







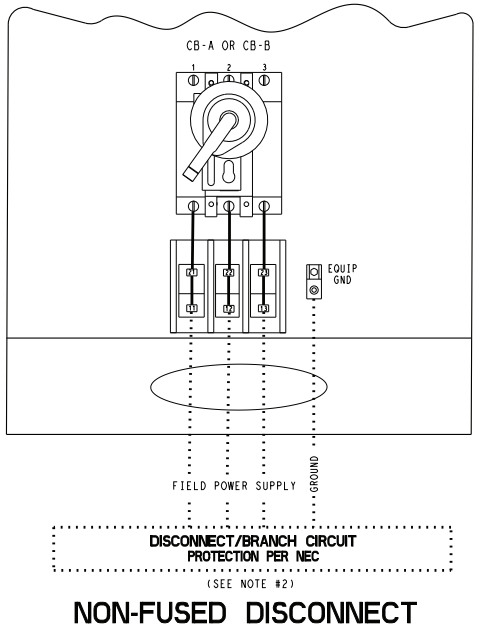


Fig. 36 — Field Control and Power Wiring

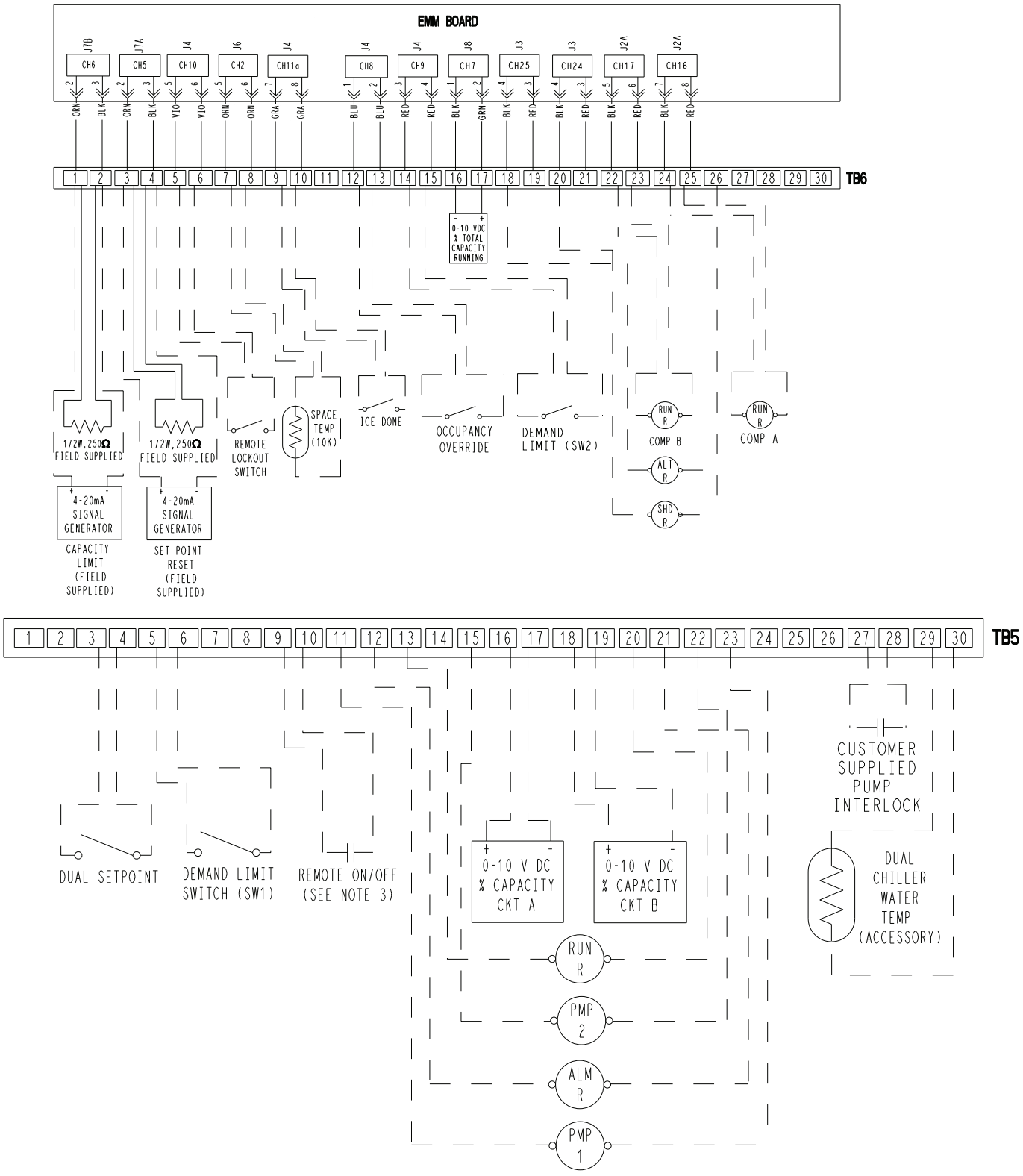


Fig. 36 — Field Control and Power Wiring (cont)

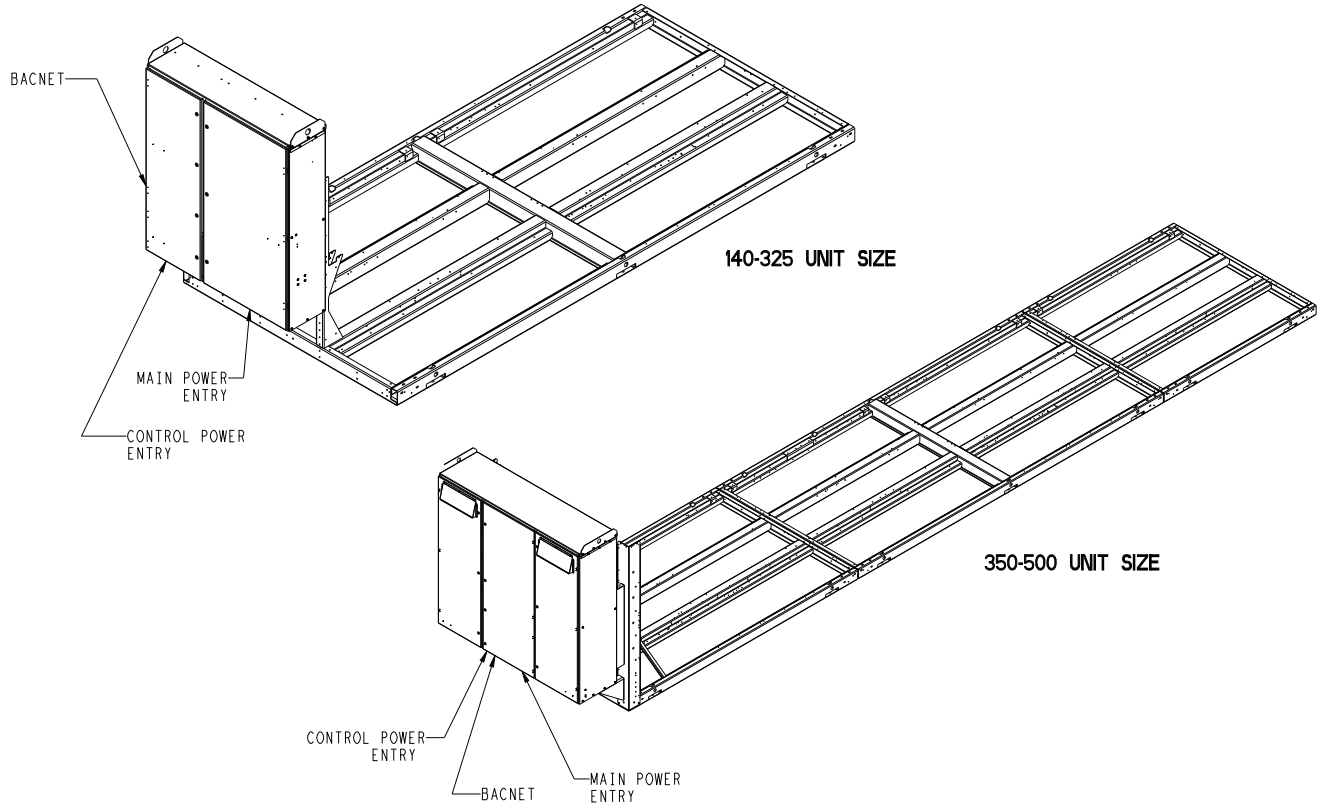


Fig. 36 — Field Control and Power Wiring (cont)

Table 7 — Power Entry Option

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

LEGEND

AWG — American Wire Gage
NFD — Non-fused Disconnect
NO — None

Table 8 — 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	618.8	800	700	115	40
	380	60	342	418	8	339.2	450	400	115	40
	460	60	414	506	8	279.6	350	350	115	40
	575	60	518	633	8	224.6	300	250	115	40
160	208/230	60	187	253	8	713.3	1000	800	115	40
	380	60	342	418	8	391.0	500	450	115	40
	460	60	414	506	8	322.4	450	400	115	40
	575	60	518	633	8	258.4	350	300	115	40
180	208/230	60	187	253	8	873.1	1200	1000	115	60
	380	60	342	418	8	478.7	600	600	115	60
	460	60	414	506	8	394.4	500	450	115	60
	575	60	518	633	8	316.9	400	350	115	60
200	208/230	60	187	253	10	877.3	1200	1000	115	60
	380	60	342	418	10	479.2	600	600	115	60
	460	60	414	506	10	395.9	500	450	115	60
	575	60	518	633	10	317.2	400	350	115	60
225	380	60	342	418	10	563.2	800	700	115	60
	460	60	414	506	10	464.8	600	600	115	60
	575	60	518	633	10	373.2	500	450	115	60
250	380	60	342	418	12	630.4	800	700	115	60
	460	60	414	506	12	520.8	700	600	115	60
	575	60	518	633	12	418.0	500	500	115	60
275	380	60	342	418	12	682.2	800	800	115	60
	460	60	414	506	12	563.5	700	700	115	60
	575	60	518	633	12	451.7	600	500	115	60
300	380	60	342	418	14	684.9	800	800	115	60
	460	60	414	506	14	565.0	700	700	115	60
	575	60	518	633	14	452.0	600	500	115	60
325	380	60	342	418	16	701.1	800	800	115	60
	460	60	414	506	16	577.8	800	700	115	60
	575	60	518	633	16	463.6	600	600	115	60
350	380	60	342	418	16	835.8	1200	1000	115	60
	460	60	414	506	16	687.7	1000	800	115	60
	575	60	518	633	16	550.9	800	700	115	60
400	380	60	342	418	18	954.0	1200	1200	115	60
	460	60	414	506	18	785.7	1000	1000	115	60
	575	60	518	633	18	629.7	800	700	115	60
450	380	60	342	418	20	1091.7	1200	1200	115	60
	460	60	414	506	20	899.7	1200	1000	115	60
	575	60	518	633	20	720.0	1000	800	115	60
500	380	60	342	418	22	1210.7	1600	1600	115	60
	460	60	414	506	22	997.3	1200	1200	115	60
	575	60	518	633	22	799.4	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 7 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 9 — 30XV160-500 Electrical Data, Single Point Power, Standard Tier, Variable 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						
160	208/230	60	187	253	8	736.6	1000	1000	115	40
	380	60	342	418	8	403.8	500	450	115	40
	460	60	414	506	8	332.8	450	400	115	40
	575	60	518	633	8	266.7	350	300	115	40
180	208/230	60	187	253	8	896.4	1200	1000	115	60
	380	60	342	418	8	491.5	600	600	115	60
	460	60	414	506	8	404.8	500	450	115	60
	575	60	518	633	8	325.2	450	400	115	60
200	208/230	60	187	253	10	906.4	1200	1000	115	60
	380	60	342	418	10	495.2	600	600	115	60
	460	60	414	506	10	408.9	500	450	115	60
	575	60	518	633	10	327.6	450	400	115	60
225	380	60	342	418	10	579.3	800	700	115	60
	460	60	414	506	10	477.8	600	600	115	60
	575	60	518	633	10	383.6	500	450	115	60
250	380	60	342	418	12	649.7	800	800	115	60
	460	60	414	506	12	536.4	700	600	115	60
	575	60	518	633	12	430.5	600	500	115	60
275	380	60	342	418	12	701.4	800	800	115	60
	460	60	414	506	12	579.1	800	700	115	60
	575	60	518	633	12	464.2	600	600	115	60
300	380	60	342	418	14	707.3	800	800	115	60
	460	60	414	506	14	583.2	800	700	115	60
	575	60	518	633	14	466.6	600	600	115	60
325	380	60	342	418	16	726.7	1000	800	115	60
	460	60	414	506	16	598.6	800	700	115	60
	575	60	518	633	16	480.2	600	600	115	60
350	380	60	342	418	16	861.5	1200	1000	115	60
	460	60	414	506	16	708.5	1000	800	115	60
	575	60	518	633	16	567.5	800	700	115	60
400	380	60	342	418	18	982.9	1200	1200	115	60
	460	60	414	506	18	809.1	1000	1000	115	60
	575	60	518	633	18	648.4	800	800	115	60
450	380	60	342	418	20	1123.8	1200	1200	115	60
	460	60	414	506	20	925.7	1200	1200	115	60
	575	60	518	633	20	740.8	1000	1000	115	60
500	380	60	342	418	22	1210.7	1600	1600	115	60
	460	60	414	506	22	997.3	1200	1200	115	60
	575	60	518	633	22	799.4	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 7 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 10 — 30XV140-500 Electrical Data, Single Point Power, Mid Tier, Variable 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	621.9	800	700	115	40
	380	60	342	418	8	340.8	450	400	115	40
	460	60	414	506	8	281.0	350	350	115	40
	575	60	518	633	8	226.2	300	250	115	40
160	208/230	60	187	253	10	735.4	1000	1000	115	40
	380	60	342	418	10	403.0	500	450	115	40
	460	60	414	506	10	332.4	450	400	115	40
	575	60	518	633	10	266.8	350	300	115	40
180	208/230	60	187	253	10	865.9	1200	1000	115	60
	380	60	342	418	10	475.0	600	600	115	60
	460	60	414	506	10	390.9	500	450	115	60
	575	60	518	633	10	314.1	400	350	115	60
200	208/230	60	187	253	12	864.4	1000	1000	115	60
	380	60	342	418	12	474.2	600	600	115	60
	460	60	414	506	12	390.1	500	450	115	60
	575	60	518	633	12	313.5	400	350	115	60
225	380	60	342	418	12	552.7	700	700	115	60
	460	60	414	506	12	455.1	600	600	115	60
	575	60	518	633	12	365.0	500	450	115	60
250	380	60	342	418	14	615.1	800	700	115	60
	460	60	414	506	14	506.7	700	600	115	60
	575	60	518	633	14	405.8	500	450	115	60
275	380	60	342	418	14	653.3	800	800	115	60
	460	60	414	506	14	538.2	700	600	115	60
	575	60	518	633	14	430.6	500	500	115	60
300	380	60	342	418	16	679.5	800	800	115	60
	460	60	414	506	16	560.3	700	700	115	60
	575	60	518	633	16	448.7	600	500	115	60
325	380	60	342	418	18	721.4	800	800	115	60
	460	60	414	506	18	595.9	800	700	115	60
	575	60	518	633	18	478.1	600	600	115	60
350	380	60	342	418	18	822.4	1000	1000	115	60
	460	60	414	506	18	675.6	800	800	115	60
	575	60	518	633	18	540.9	700	700	115	60
400	380	60	342	418	20	934.8	1200	1200	115	60
	460	60	414	506	20	768.2	1000	1000	115	60
	575	60	518	633	20	614.8	800	700	115	60
450	380	60	342	418	22	1064.5	1200	1200	115	60
	460	60	414	506	22	875.8	1200	1000	115	60
	575	60	518	633	22	702.6	800	800	115	60
500	380	60	342	418	24	1162.6	1600	1600	115	60
	460	60	414	506	24	956.4	1200	1200	115	60
	575	60	518	633	24	765.8	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 7 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, High Tier, Variable 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	10	627.4	800	700	115	40
	380	60	342	418	10	344.5	450	400	115	40
	460	60	414	506	10	282.9	350	350	115	40
	575	60	518	633	10	226.3	300	250	115	40
160	208/230	60	187	253	12	704.9	800	800	115	40
	380	60	342	418	12	386.4	500	450	115	40
	460	60	414	506	12	318.5	400	350	115	40
	575	60	518	633	12	255.7	300	300	115	40
180	208/230	60	187	253	12	848.9	1000	1000	115	60
	380	60	342	418	12	465.1	600	600	115	60
	460	60	414	506	12	383.7	500	450	115	60
	575	60	518	633	12	307.4	400	350	115	60
200	208/230	60	187	253	14	833.9	1000	1000	115	60
	380	60	342	418	14	457.6	600	500	115	60
	460	60	414	506	14	376.2	500	450	115	60
	575	60	518	633	14	302.3	400	350	115	60
225	380	60	342	418	14	520.6	700	600	115	60
	460	60	414	506	14	430.0	600	500	115	60
	575	60	518	633	14	344.6	450	400	115	60
250	380	60	342	418	16	594.0	800	700	115	60
	460	60	414	506	16	490.6	600	600	115	60
	575	60	518	633	16	392.5	500	450	115	60
275	380	60	342	418	16	639.0	800	700	115	60
	460	60	414	506	16	526.6	700	600	115	60
	575	60	518	633	16	421.7	500	500	115	60
300	380	60	342	418	18	640.4	800	800	115	60
	460	60	414	506	18	528.4	700	600	115	60
	575	60	518	633	18	424.1	500	500	115	60
325	380	60	342	418	20	684.6	800	800	115	60
	460	60	414	506	20	564.0	700	700	115	60
	575	60	518	633	20	451.2	600	500	115	60
350	380	60	342	418	20	789.6	1000	1000	115	60
	460	60	414	506	20	648.7	800	800	115	60
	575	60	518	633	20	520.0	700	600	115	60
400	380	60	342	418	22	907.0	1200	1000	115	60
	460	60	414	506	22	745.3	1000	1000	115	60
	575	60	518	633	22	596.9	800	700	115	60
450	380	60	342	418	24	1025.4	1200	1200	115	60
	460	60	414	506	24	843.9	1000	1000	115	60
	575	60	518	633	24	675.8	800	800	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 7 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 12 — 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	344.4	336.4	500	500	450	400	115	40
	380	60	342	418	4	4	188.8	184.4	300	300	225	225	115	40
	460	60	414	506	4	4	155.6	152.0	250	250	200	200	115	40
	575	60	518	633	4	4	125.0	122.1	200	200	150	150	115	40
160	208/230	60	187	253	4	4	396.9	388.9	600	600	500	500	115	40
	380	60	342	418	4	4	217.6	213.2	350	350	300	300	115	40
	460	60	414	506	4	4	179.4	175.8	300	300	225	225	115	40
	575	60	518	633	4	4	143.8	140.9	225	225	175	175	115	40
180	208/230	60	187	253	4	4	485.7	477.7	800	800	600	600	115	60
	380	60	342	418	4	4	266.3	261.9	450	450	350	350	115	60
	460	60	414	506	4	4	219.4	215.8	350	350	300	300	115	60
	575	60	518	633	4	4	176.3	173.4	300	300	225	225	115	60
200	208/230	60	187	253	5	5	487.3	479.3	800	800	600	600	115	60
	380	60	342	418	5	5	266.2	261.8	450	450	350	350	115	60
	460	60	414	506	5	5	219.9	216.3	350	350	300	300	115	60
	575	60	518	633	5	5	176.2	173.3	300	300	225	225	115	60
225	380	60	342	418	6	4	350.8	261.9	600	450	450	350	115	60
	460	60	414	506	6	4	289.8	215.8	500	350	350	300	115	60
	575	60	518	633	6	4	232.6	173.4	400	300	300	225	115	60
250	380	60	342	418	6	6	350.8	344.1	600	600	450	450	115	60
	460	60	414	506	6	6	289.8	284.3	500	450	350	350	115	60
	575	60	518	633	6	6	232.6	228.2	400	350	300	300	115	60
275	380	60	342	418	6	6	379.6	372.9	600	600	450	450	115	60
	460	60	414	506	6	6	313.5	308.0	500	500	400	400	115	60
	575	60	518	633	6	6	251.3	246.9	400	400	300	300	115	60
300	380	60	342	418	7	7	380.7	374.0	600	600	500	450	115	60
	460	60	414	506	7	7	314.0	308.5	500	500	400	400	115	60
	575	60	518	633	7	7	251.2	246.8	400	400	300	300	115	60
325	380	60	342	418	8	8	389.3	382.6	600	600	500	500	115	60
	460	60	414	506	8	8	320.8	315.3	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	531.6	374.0	800	600	700	450	115	60
	460	60	414	506	9	7	436.7	308.5	700	500	600	400	115	60
	575	60	518	633	9	7	350.1	246.8	600	400	450	300	115	60
400	380	60	342	418	9	9	531.6	519.9	800	800	700	700	115	60
	460	60	414	506	9	9	436.7	429.5	700	700	600	600	115	60
	575	60	518	633	9	9	350.1	344.1	600	600	450	450	115	60
450	380	60	342	418	10	10	607.7	596.0	1000	1000	800	800	115	60
	460	60	414	506	10	10	499.7	492.5	800	800	600	600	115	60
	575	60	518	633	10	10	400.0	394.0	600	600	500	500	115	60
500	380	60	342	418	11	11	653.8	642.1	1000	1000	800	800	115	60
	460	60	414	506	11	11	537.7	530.5	800	800	700	700	115	60
	575	60	518	633	11	11	431.1	425.2	700	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 7 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 13 — 30XV160-500 Electrical Data, Dual Point Power, Standard Tier, Variable 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		
160	208/230	60	187	253	4	4	408.6	400.5	600	600	500	500	115	40
	380	60	342	418	4	4	224.0	219.6	350	350	300	300	115	40
	460	60	414	506	4	4	184.6	181.0	300	300	225	225	115	40
	575	60	518	633	4	4	147.9	145.0	250	250	175	175	115	40
180	208/230	60	187	253	4	4	497.3	489.3	800	800	600	600	115	60
	380	60	342	418	4	4	272.7	268.3	450	450	350	350	115	60
	460	60	414	506	4	4	224.6	221.0	350	350	300	300	115	60
	575	60	518	633	4	4	180.4	177.5	300	300	225	225	115	60
200	208/230	60	187	253	5	5	501.8	493.8	800	800	600	600	115	60
	380	60	342	418	5	5	274.2	269.8	450	450	350	350	115	60
	460	60	414	506	5	5	226.4	222.8	350	350	300	300	115	60
	575	60	518	633	5	5	181.4	178.5	300	300	225	225	115	60
225	380	60	342	418	6	4	360.4	268.3	600	450	450	350	115	60
	460	60	414	506	6	4	297.6	221.0	500	350	400	300	115	60
	575	60	518	633	6	4	238.8	177.5	400	300	300	225	115	60
250	380	60	342	418	6	6	360.4	353.7	600	600	450	450	115	60
	460	60	414	506	6	6	297.6	292.1	500	500	400	350	115	60
	575	60	518	633	6	6	238.8	234.4	400	400	300	300	115	60
275	380	60	342	418	6	6	389.2	382.5	600	600	500	500	115	60
	460	60	414	506	6	6	321.3	315.8	500	500	400	400	115	60
	575	60	518	633	6	6	257.6	253.1	400	400	350	300	115	60
300	380	60	342	418	7	7	391.9	385.2	600	600	500	500	115	60
	460	60	414	506	7	7	323.1	317.6	500	500	400	400	115	60
	575	60	518	633	7	7	258.5	254.1	400	400	350	350	115	60
325	380	60	342	418	8	8	402.1	395.4	600	600	500	500	115	60
	460	60	414	506	8	8	331.2	325.7	500	500	400	400	115	60
	575	60	518	633	8	8	265.7	261.3	450	400	350	350	115	60
350	380	60	342	418	9	7	546.1	385.2	800	600	700	500	115	60
	460	60	414	506	9	7	448.4	317.6	700	500	600	400	115	60
	575	60	518	633	9	7	359.4	254.1	600	400	450	350	115	60
400	380	60	342	418	9	9	546.1	534.3	800	800	700	700	115	60
	460	60	414	506	9	9	448.4	441.2	700	700	600	600	115	60
	575	60	518	633	9	9	359.4	353.5	600	600	450	450	115	60
450	380	60	342	418	10	10	623.8	612.1	1000	1000	800	800	115	60
	460	60	414	506	10	10	512.7	505.5	800	800	700	600	115	60
	575	60	518	633	10	10	410.4	404.4	700	700	500	500	115	60
500	380	60	342	418	11	11	671.5	659.8	1000	1000	800	800	115	60
	460	60	414	506	11	11	552.0	544.8	800	800	700	700	115	60
	575	60	518	633	11	11	442.5	436.6	700	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 7 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 14 — 30XV140-500 Electrical Data, Dual Point Power, Mid Tier, Variable 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	344.8	336.8	500	500	450	400	115	40
	380	60	342	418	4	4	189.0	184.6	300	300	225	225	115	40
	460	60	414	506	4	4	155.8	152.2	250	250	200	200	115	40
	575	60	518	633	4	4	125.4	122.5	200	200	150	150	115	40
160	208/230	60	187	253	5	5	406.8	398.8	600	600	500	500	115	40
	380	60	342	418	5	5	222.9	218.5	350	350	300	300	115	40
	460	60	414	506	5	5	183.9	180.3	300	300	225	225	115	40
	575	60	518	633	5	5	147.6	144.7	225	225	175	175	115	40
180	208/230	60	187	253	5	5	479.3	471.3	800	800	600	600	115	60
	380	60	342	418	5	5	262.9	258.5	400	400	350	350	115	60
	460	60	414	506	5	5	216.4	212.8	350	350	300	300	115	60
	575	60	518	633	5	5	173.9	171.0	250	250	225	225	115	60
200	208/230	60	187	253	6	6	479.3	467.1	800	700	600	600	115	60
	380	60	342	418	6	6	262.9	256.2	400	400	350	350	115	60
	460	60	414	506	6	6	216.3	210.8	350	350	300	250	115	60
	575	60	518	633	6	6	173.8	169.4	250	250	225	200	115	60
225	380	60	342	418	7	5	340.6	258.5	500	400	450	350	115	60
	460	60	414	506	7	5	280.6	212.8	450	350	350	300	115	60
	575	60	518	633	7	5	224.8	171.0	350	250	300	225	115	60
250	380	60	342	418	7	7	340.6	333.9	500	500	450	400	115	60
	460	60	414	506	7	7	280.6	275.1	450	450	350	350	115	60
	575	60	518	633	7	7	224.8	220.3	350	350	300	300	115	60
275	380	60	342	418	7	7	361.9	355.2	600	600	450	450	115	60
	460	60	414	506	7	7	298.1	292.6	500	500	400	350	115	60
	575	60	518	633	7	7	238.5	234.1	400	400	300	300	115	60
300	380	60	342	418	8	8	375.9	369.1	600	600	450	450	115	60
	460	60	414	506	8	8	309.9	304.4	500	500	400	400	115	60
	575	60	518	633	8	8	248.2	243.8	400	400	300	300	115	60
325	380	60	342	418	9	9	398.6	391.8	600	600	500	500	115	60
	460	60	414	506	9	9	329.2	323.7	500	500	400	400	115	60
	575	60	518	633	9	9	264.1	259.7	400	400	350	350	115	60
350	380	60	342	418	10	8	518.8	369.1	800	600	700	450	115	60
	460	60	414	506	10	8	425.2	304.4	700	500	600	400	115	60
	575	60	518	633	10	8	340.4	243.8	500	400	450	300	115	60
400	380	60	342	418	10	10	518.8	507.1	800	800	700	600	115	60
	460	60	414	506	10	10	425.2	418.0	700	700	600	500	115	60
	575	60	518	633	10	10	340.4	334.4	500	500	450	400	115	60
450	380	60	342	418	11	11	590.2	578.5	1000	800	700	700	115	60
	460	60	414	506	11	11	484.5	477.3	800	800	600	600	115	60
	575	60	518	633	11	11	388.8	382.8	600	600	500	500	115	60
500	380	60	342	418	12	12	644.2	632.5	1000	1000	800	800	115	60
	460	60	414	506	12	12	528.8	521.6	800	800	700	700	115	60
	575	60	518	633	12	12	423.5	417.5	700	700	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 7 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, High Tier, Variable 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	5	5	346.8	338.8	500	500	450	400	115	40
	380	60	342	418	5	5	190.4	186.0	300	300	225	225	115	40
	460	60	414	506	5	5	156.4	152.8	250	250	200	200	115	40
	575	60	518	633	5	5	125.1	122.2	200	200	150	150	115	40
160	208/230	60	187	253	6	6	388.9	380.8	600	600	500	450	115	40
	380	60	342	418	6	6	213.1	208.7	350	350	250	250	115	40
	460	60	414	506	6	6	175.7	172.1	250	250	225	225	115	40
	575	60	518	633	6	6	141.1	138.1	225	225	175	175	115	40
180	208/230	60	187	253	6	6	468.9	460.8	700	700	600	600	115	60
	380	60	342	418	6	6	256.9	252.5	400	400	350	300	115	60
	460	60	414	506	6	6	211.9	208.3	350	350	250	250	115	60
	575	60	518	633	6	6	169.8	166.9	250	250	200	200	115	60
200	208/230	60	187	253	7	7	461.3	449.1	700	700	600	600	115	60
	380	60	342	418	7	7	253.1	246.4	400	400	300	300	115	60
	460	60	414	506	7	7	208.1	202.6	300	300	250	250	115	60
	575	60	518	633	7	7	167.3	162.8	250	250	200	200	115	60
225	380	60	342	418	8	6	328.4	232.5	500	350	400	300	115	60
	460	60	414	506	8	6	271.2	192.1	450	300	350	250	115	60
	575	60	518	633	8	6	217.0	154.4	350	250	300	200	115	60
250	380	60	342	418	8	8	328.4	321.6	500	500	400	400	115	60
	460	60	414	506	8	8	271.2	265.7	450	450	350	350	115	60
	575	60	518	633	8	8	217.0	212.5	350	350	300	250	115	60
275	380	60	342	418	8	8	353.4	346.6	500	500	450	450	115	60
	460	60	414	506	8	8	291.2	285.7	450	450	350	350	115	60
	575	60	518	633	8	8	233.2	228.8	350	350	300	300	115	60
300	380	60	342	418	9	9	353.6	346.8	500	500	450	450	115	60
	460	60	414	506	9	9	291.7	286.2	450	450	350	350	115	60
	575	60	518	633	9	9	234.1	229.7	350	350	300	300	115	60
325	380	60	342	418	10	10	377.5	370.8	600	600	450	450	115	60
	460	60	414	506	10	10	311.0	305.5	500	500	400	400	115	60
	575	60	518	633	10	10	248.8	244.4	400	400	300	300	115	60
350	380	60	342	418	11	9	502.7	346.8	800	500	600	450	115	60
	460	60	414	506	11	9	412.0	286.2	600	450	500	350	115	60
	575	60	518	633	11	9	330.0	229.7	500	350	400	300	115	60
400	380	60	342	418	11	11	502.7	491.0	800	800	600	600	115	60
	460	60	414	506	11	11	412.0	404.8	600	600	500	500	115	60
	575	60	518	633	11	11	330.0	324.1	500	500	400	400	115	60
450	380	60	342	418	12	12	567.9	556.2	800	800	700	700	115	60
	460	60	414	506	12	12	466.3	459.1	700	700	600	600	115	60
	575	60	518	633	12	12	373.5	367.5	600	600	450	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 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 7 for power entry option.
6. MCA and MOCP values shown are inclusive of control power transformer loads.

Table 16 — Fan Electrical Data

UNIT 30XV	UNIT VOLTAGE		NUMBER OF COND FANS						CONDENSER FANS FLA			
	V(3 Ph)	Hz	SINGLE POINT			DUAL POINT			TIER			
			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	—
	380	60	8	8	10	4/4	4/4	5/5	3.6	5.2	5.2	—
	460	60	8	8	10	4/4	4/4	5/5	3.0	4.3	4.3	—
	575	60	8	8	10	4/4	4/4	5/5	2.4	3.4	3.4	—
160	208/230	60	8	10	12	4/4	5/5	6/6	6.6	9.5	9.5	9.5
	380	60	8	10	12	4/4	5/5	6/6	3.6	5.2	5.2	5.2
	460	60	8	10	12	4/4	5/5	6/6	3.0	4.3	4.3	4.3
	575	60	8	10	12	4/4	5/5	6/6	2.4	3.4	3.4	3.4
180	208/230	60	8	10	12	4/4	5/5	6/6	6.6	9.5	9.5	9.5
	380	60	8	10	12	4/4	5/5	6/6	3.6	5.2	5.2	5.2
	460	60	8	10	12	4/4	5/5	6/6	3.0	4.3	4.3	4.3
	575	60	8	10	12	4/4	5/5	6/6	2.4	3.4	3.4	3.4
200	208/230	60	10	12	14	5/5	6/6	7/7	6.6	9.5	9.5	9.5
	380	60	10	12	14	5/5	6/6	7/7	3.6	5.2	5.2	5.2
	460	60	10	12	14	5/5	6/6	7/7	3.0	4.3	4.3	4.3
	575	60	10	12	14	5/5	6/6	7/7	2.4	3.4	3.4	3.4
225	380	60	10	12	14	6/4	7/5	8/6	3.6	5.2	5.2	5.2
	460	60	10	12	14	6/4	7/5	8/6	3.0	4.3	4.3	4.3
	575	60	10	12	14	6/4	7/5	8/6	2.4	3.4	3.4	3.4
250	380	60	12	14	16	6/6	7/7	8/8	3.6	5.2	5.2	5.2
	460	60	12	14	16	6/6	7/7	8/8	3.0	4.3	4.3	4.3
	575	60	12	14	16	6/6	7/7	8/8	2.4	3.4	3.4	3.4
275	380	60	12	14	16	6/6	7/7	8/8	3.6	5.2	5.2	5.2
	460	60	12	14	16	6/6	7/7	8/8	3.0	4.3	4.3	4.3
	575	60	12	14	16	6/6	7/7	8/8	2.4	3.4	3.4	3.4
300	380	60	14	16	18	7/7	8/8	9/9	3.6	5.2	5.2	5.2
	460	60	14	16	18	7/7	8/8	9/9	3.0	4.3	4.3	4.3
	575	60	14	16	18	7/7	8/8	9/9	2.4	3.4	3.4	3.4
325	380	60	16	18	20	8/8	9/9	10/10	3.6	5.2	5.2	5.2
	460	60	16	18	20	8/8	9/9	10/10	3.0	4.3	4.3	4.3
	575	60	16	18	20	8/8	9/9	10/10	2.4	3.4	3.4	3.4
350	380	60	16	18	20	9/7	10/8	11/9	3.6	5.2	5.2	5.2
	460	60	16	18	20	9/7	10/8	11/9	3.0	4.3	4.3	4.3
	575	60	16	18	20	9/7	10/8	11/9	2.4	3.4	3.4	3.4
400	380	60	18	20	22	9/9	10/10	11/11	3.6	5.2	5.2	5.2
	460	60	18	20	22	9/9	10/10	11/11	3.0	4.3	4.3	4.3
	575	60	18	20	22	9/9	10/10	11/11	2.4	3.4	3.4	3.4
450	380	60	20	22	24	10/10	11/11	12/12	3.6	5.2	5.2	5.2
	460	60	20	22	24	10/10	11/11	12/12	3.0	4.3	4.3	4.3
	575	60	20	22	24	10/10	11/11	12/12	2.4	3.4	3.4	3.4
500	380	60	22	24	—	11/11	12/12	—	3.6	5.2	—	5.2
	460	60	22	24	—	11/11	12/12	—	3.0	4.3	—	4.3
	575	60	22	24	—	11/11	12/12	—	2.4	3.4	—	3.4

LEGEND

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

Table 17 — 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	248	239	233	248	248	239	233	248
	380	60	136	131	128	136	136	131	128	136
	460	60	112	108	105	112	112	108	105	112
	575	60	90	87	84	90	90	87	84	90
160	208/230	60	290	281	259	290	290	281	259	290
	380	60	159	154	142	159	159	154	142	159
	460	60	131	127	117	131	131	127	117	131
	575	60	105	102	94	105	105	102	94	105
180	208/230	60	361	339	323	361	361	339	323	361
	380	60	198	186	177	198	198	186	177	198
	460	60	163	153	146	163	163	153	146	163
	575	60	131	123	117	131	131	123	117	131
200	208/230	60	357	328	306	357	357	328	306	357
	380	60	195	180	168	195	195	180	168	195
	460	60	161	148	138	161	161	148	138	161
	575	60	129	119	111	129	129	119	111	129
225	380	60	258	238	224	258	198	186	161	198
	460	60	213	196	185	213	163	153	133	163
	575	60	171	157	148	171	131	123	107	131
250	380	60	258	238	224	258	258	238	224	258
	460	60	213	196	185	213	213	196	185	213
	575	60	171	157	148	171	171	157	148	171
275	380	60	281	255	244	281	281	255	244	281
	460	60	232	210	201	232	232	210	201	232
	575	60	186	168	161	186	186	168	161	186
300	380	60	279	262	240	279	279	262	240	279
	460	60	230	216	198	230	230	216	198	230
	575	60	184	173	159	184	184	173	159	184
325	380	60	283	276	255	283	283	276	255	283
	460	60	233	228	210	233	233	228	210	233
	575	60	187	183	168	187	187	183	168	187
350	380	60	390	364	347	390	279	262	240	279
	460	60	322	300	286	322	230	216	198	230
	575	60	258	240	229	258	184	173	159	184
400	380	60	390	364	347	390	390	364	347	390
	460	60	322	300	286	322	322	300	286	322
	575	60	258	240	229	258	258	240	229	258
450	380	60	448	417	395	448	448	417	395	448
	460	60	370	344	326	370	370	344	326	370
	575	60	296	276	261	296	296	276	261	296
500	380	60	482	456	—	482	482	456	—	482
	460	60	398	376	—	398	398	376	—	398
	575	60	319	301	—	319	319	301	—	319

LEGEND

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

Table 18 — 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.

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.

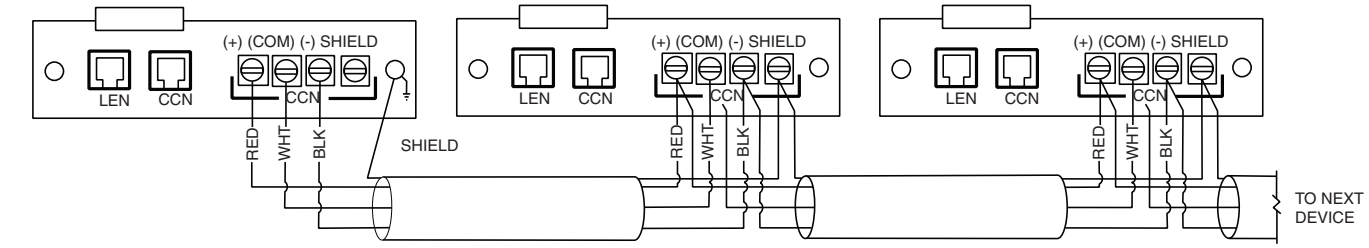
FIELD CONTROL OPTION WIRING — Install field control wiring options. Some options, such as 4 to 20 mA demand limit that requires the energy management module, may require that accessories be installed first (if not factory installed) for terminal connections.

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 38. 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. 38.

For dual chiller control a CCN bus must be connected between the two modules (Fig. 37). See the Carrier Comfort Network Communication Bus Wiring section for additional information.



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

Fig. 37 — TB3 — CCN Wiring

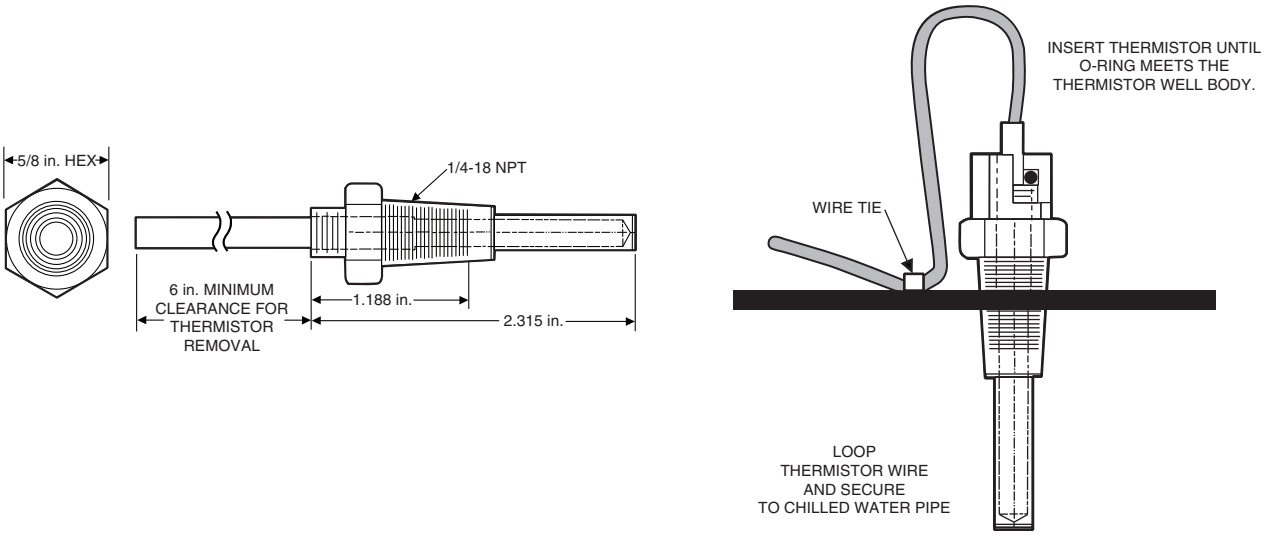


Fig. 38 — Dual Chiller Accessory Kit Leaving Water Thermistor and Well (Part No. 00EFN900044000A)

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 practice.

⚠ CAUTION

DO NOT OVERTIGHTEN THESE FITTINGS. Overtightening will result in O-ring damage.

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. Failure to follow this procedure will impair 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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