



Installation Instructions

Part Number 00EFN900005300A

→ **NOTE:** This accessory is not applicable to 30XA variable speed chillers with Greenspeed® intelligence.

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SAFETY CONSIDERATIONS

Installing, starting up, and servicing air-conditioning equipment can be hazardous due to system pressures, electrical components, and equipment location. Only trained, qualified installers and service technicians should install, start-up, and service this equipment.

When working on air-conditioning equipment, observe precautions in the literature and on tags, stickers, and labels attached to the equipment. Follow all safety codes. Wear safety glasses and work gloves. Use care in handling equipment.

WARNING

Be sure power to equipment is shut off before performing maintenance or service. Lock out and safety-tag all disconnects.

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:

- Shut off electrical power to unit.
- Recover refrigerant to relieve all pressure from system using both high-pressure and low pressure ports.
- 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.
- 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.
- 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

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.

GENERAL

The remote cooler accessory allows for the indoor relocation of the cooler on 30XA082-352 direct expansion (DX) units as another means of freeze protection. When the cooler is located in a heated space, an antifreeze solution is not needed and the performance degradation associated with antifreeze solution can be avoided. Maximum separation of the 30XA base unit and cooler is limited to 50 lineal ft (15.25 m) or 75 equivalent ft (22 m) of piping. For more information, refer to the Carrier Piping Design manual.

The liquid and economizer lines between the exterior-installed unit and the remote, interior-installed cooler must have pressure relief devices installed in accordance with ASHRAE 15 (American Society of Heating, Refrigerating, and Air Conditioning Engineers) and local codes.

Units to be modified for a remote cooler application must have the following options:

- Factory-installed suction service valve option.
- Condenser coil type (one of the following types):
 - Aluminum fin and copper tube
 - Pre-coat aluminum fin and copper tube
 - E-coat aluminum fin and copper tube
 - Copper fin and copper tube
 - E-coat copper fin and copper tube

NOTE: Units with the microchannel heat exchanger option can **NOT** use the remote cooler ACCESSORY.

The application is limited to the following constraints:

- Operating chilled water temperature is between 40 and 55 F (4.4 and 12.8 C). When the remote cooler is applied, the cooler heaters will not function, so it is critical to maintain the water temperature above the freezing point at all times. If the water temperature falls below the freezing point, the cooler does not have protection to keep the water from freezing.
- The interior space temperature where the cooler will be installed must be maintained at a minimum of 50 F (10 C).
- Underground refrigerant piping is **NOT** permitted for this application.

See Table 1 for accessory package usage and see Table 2 for accessory package contents. In addition to the parts supplied with each accessory package, the following material must be field-supplied:

- Refrigerant grade liquid and suction line copper piping for 30XA082-122: circuits A and B and 30XA142-162: circuit B (length determined by installation). See Tables 3, 4A, and 4B for unit suction line material and pipe sizes.
- Schedule 40 steel pipe for 30XA142-162: circuit A and 30XA182-352: circuits A and B (length determined by installation). See Tables 4A and 4B for pipe sizes.
- 350 psig pressure relief valves and fittings (2 per circuit)
- Suction line tubing insulation (length determined by installation)
- Economizer line tubing insulation (length determined by installation)
- 1/2 in. strain relief (2)
- Conduit (length determined by installation)

⚠ CAUTION

The 30XA units use R-134a refrigerant. No other refrigerant may be used in this system. Suction tubing design pressure is 220 psig (1517 kPa). Economizer and liquid tubing design pressure is 350 psig (2413 kPa). Failure to use gage set, hoses, and recovery systems designed to handle R-134a refrigerant may result in personal injury and equipment damage. If unsure about equipment, consult the equipment manufacturer.

Choose a space that can support the weight of the cooler and economizer with service clearances and area for refrigerant piping. Field-supplied piping must be limited to less than 50 lineal ft (15.25 m) or 75 equivalent ft (22 m) in length. Suction and liquid line risers must be limited to less than 15 ft (4.5 m) vertical riser elevation. Suction lines and economizer lines must be insulated to prevent condensation. Relocating the cooler introduces minimal line losses if correct piping practices are followed. Buried lines are not permitted.

The remote cooler system can be applied in three different configurations. See Fig. 1-3. In Fig. 1, the remote cooler and the outdoor unit are at the same elevation. The suction, liquid, and economizer lines run parallel between the cooler and the outdoor unit. In Fig. 2, the outdoor unit and remote cooler are

at the same elevation, but the interconnecting piping has an elevation of up to 15 ft (4.5 m) above the base elevation of the cooler. This could be result of running piping over a wall or through the ceiling in a building. In Fig. 3, the remote cooler is located below the outdoor unit. The interconnecting piping has an elevation of up to 15 ft (4.5 m) above the base elevation of the remote cooler. This could occur if the remote cooler is installed in a basement. Double suction risers are required on all installations.

NOTE: Unit 30XA refrigeration piping can be either copper tubing or steel tubing. All units are factory charged with compressor oil to the required level. However, when the double riser is constructed with U-bends or street elbows, a substantial amount of oil can be trapped in the U-bend during prolonged minimum load operation. If this occurs, additional oil is needed to add to the system to prevent the oil level from dropping below the minimum level in the oil separator. Add 1 gallon of oil to each circuit. Refer to Controls, Start-up, Operation, Service, and Troubleshooting Guide for recommended oil type.

Table 3 — Unit Suction Line Material (English)

30XA	CIRCUIT A	CIRCUIT B
082-122	Copper	Copper
142-162	Steel	Copper
182-352	Steel	Steel

Table 4A — Refrigeration Piping and Connections Material (English)

PIPE SIZE (in.)	MATERIAL
5/8, 7/8, 1 1/8, 1 3/8, 1 5/8, 2 1/8, 2 5/8, 3 1/8	Refrigeration copper
2, 2 1/2, 3, 3 1/2, 4	Schedule 40 Steel

Table 4B — Refrigeration Piping and Connections Material (SI)

PIPE SIZE (mm)	MATERIAL
16, 22, 29, 35, 41, 54, 67, 79	Refrigeration copper
51, 64, 76, 89, 102	Schedule 40 Steel

Table 1 — Accessory Package Usage

30XA UNIT SIZE	PACKAGE REQUIRED
082,092,102,112,122,142,162,182,202,222,242,262,282,302,327,352	00EFN900005300A

Table 2 — Accessory Package Contents

ACCESSORY PACKAGE PART NO.	ITEM NO.	DESCRIPTION	PART NO.	QTY
00EFN900005300A	1	Economizer shutoff valve - 1 1/8 in. (29 mm)	00PPG000023501A	2
	2	Liquid line shutoff valve - 1 3/8 in. (35 mm)	EP71BA393	2
	3	5 Wire jacketed cable	RM02EJ200	200 ft (61 m)
	4	Cable assembly	32GB404694	5
	5	Junction box	HX30FZ001	2
	6	Junction box cover	HX38ZZ001	2
	7	M6 Screws	00PPN500000302A	8
	8	Victaulic 4 in. coupling	CV66AP601	2
	9	Victaulic 5 in. coupling	CV66AP651	2

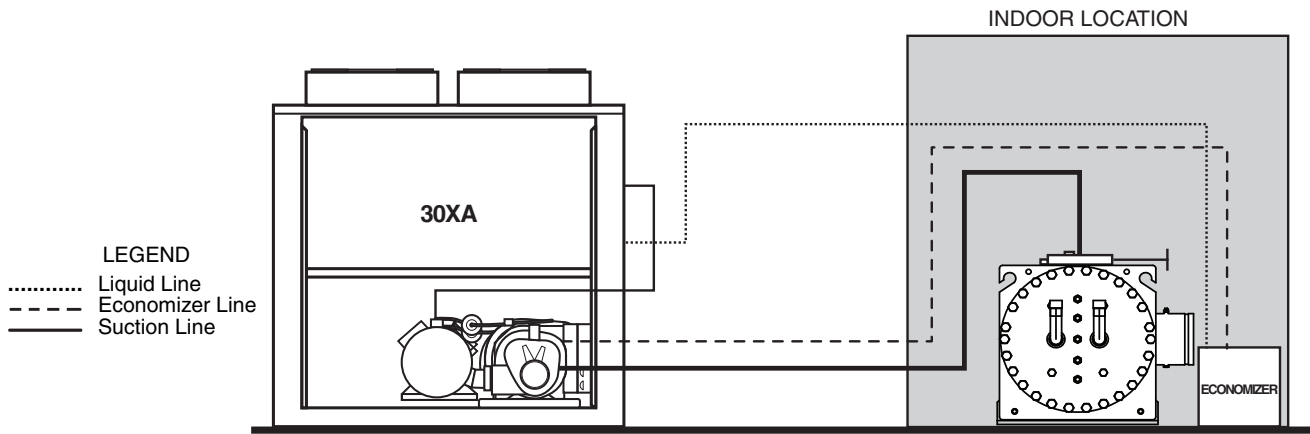


Fig. 1 — 30XA DX Unit and Cooler Level, Piping Parallel (Single Circuit Shown)

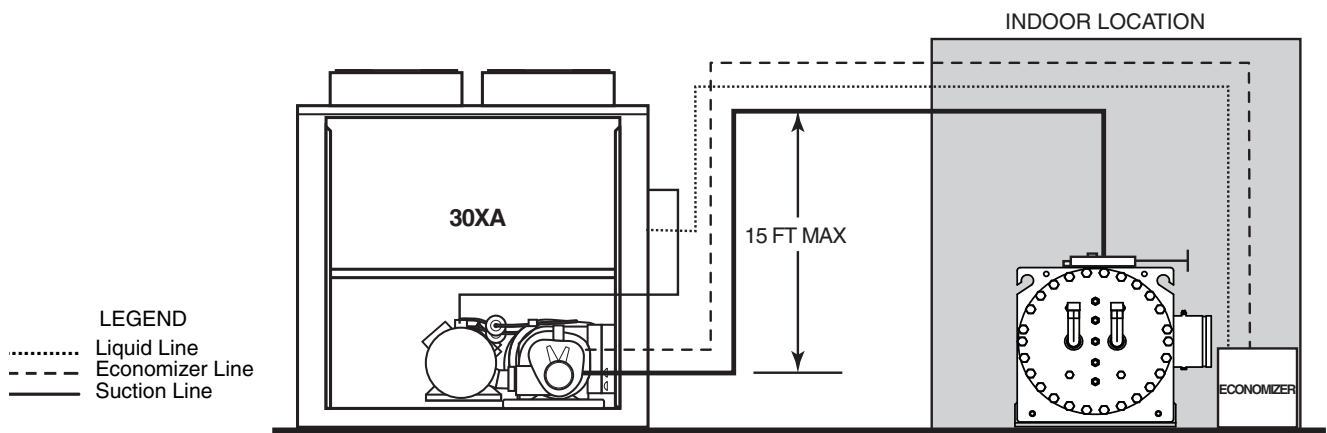


Fig. 2 — 30XA DX Unit and Cooler Level, Piping Elevated (Single Circuit Shown)

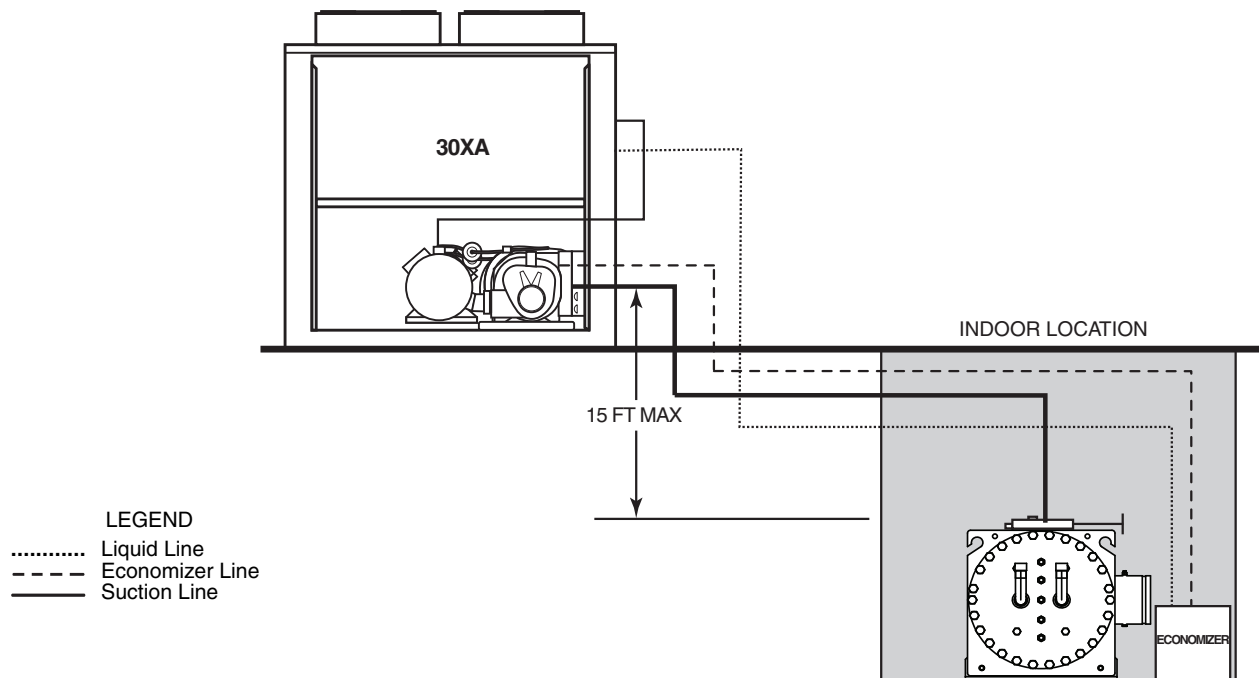


Fig. 3 — 30XA DX Unit with Cooler Located Below Unit (Single Circuit Shown)

INSTALLATION

WARNING

Shut off all power to this equipment prior to installation. There may be more than one disconnect switch. Tag all disconnect locations to alert others not to restore power until work is completed. Failure to disconnect power from equipment prior to installation could result in serious personal injury or death.

1. Inspect package contents for missing or damaged parts. File a claim with the shipping agency if parts are damaged and notify your local Carrier representative if any item is missing.
2. Determine the new location for the cooler. Ensure that the new location supports the cooler and economizers weights and that there is enough room for service access and tube removal. See Tables 5A and 5B to determine refrigeration line sizes. See Table 6 for cooler and economizers weights. See Fig. 5A-6B for cooler and economizers dimensions, tube removal clearances, and service areas.
3. Open and tag all electrical disconnects.

Step 1 — Remove Cooler and Economizer —

The cooler and economizers are accessible from the cooler side of the unit. To remove the cooler and economizers from the unit, complete the following steps:

1. Remove refrigerant from all circuits using standard refrigeration practices. Refer to unit nameplate or installation instructions for refrigerant quantities.
2. Disconnect the cooler heater wiring, and conduit if equipped.
3. Remove entering and leaving chilled water temperature thermistors. Make sure to label thermistors as they are removed. See Fig. 6.
4. Disconnect and label the chilled water flow switch cable from the chilled water flow switch located on the leaving water nozzle. See Fig. 6.
5. Disconnect the electronic expansion valve (EXV) cables from the EXVs at each economizer. Make sure to label cables as they are removed. See Fig. 6.

NOTE: The 30XA082 units do not utilize an economizer. In this case, only the EXVs are present.

6. Cut copper lines and unbolt steel lines at locations shown on Fig. 6.
7. At each circuit's economizer, cut the liquid lines going to the economizer assembly before the manual shutoff valve (see Fig. 6, cut 1, circuits A and B). Cut the cooler liquid lines between the manual shutoff valve and the cooler (see Fig. 6, cut 2, circuits A and B). Cut the economizer lines between the manual shutoff valve and the sensors (see Fig. 6, cut 3, circuits A and B).
8. Remove the screws from the feet of each economizer. Save all of the screws. Remove the economizers by carefully sliding them out the cooler side of the unit.
9. Remove the screws from the cooler feet. Save all of the screws. Slide the cooler slightly to the left to clear the refrigerant tubing.
10. Remove the cooler by carefully sliding the cooler out of the cooler side of the unit.

CAUTION

Because 30XA systems use polyolester oil, which can absorb moisture, it is important to minimize the amount of time that the refrigeration system is left exposed to the atmosphere. Minimizing the exposure time will reduce the amount of moisture that could possibly damage the unit. The removal instructions minimize the exposure time to prevent this type of damage. The remote installation instructions outline a dehydration process to counteract any exposure that might have occurred.

CAUTION

Before installation of the field-supplied piping, the piping must be thoroughly cleaned and free of dirt, debris, oil, and welding residue. Presence of these objects will cause severe damage to the compressors or other components of the refrigeration system.

Table 5A — Refrigeration Line Sizes (English)

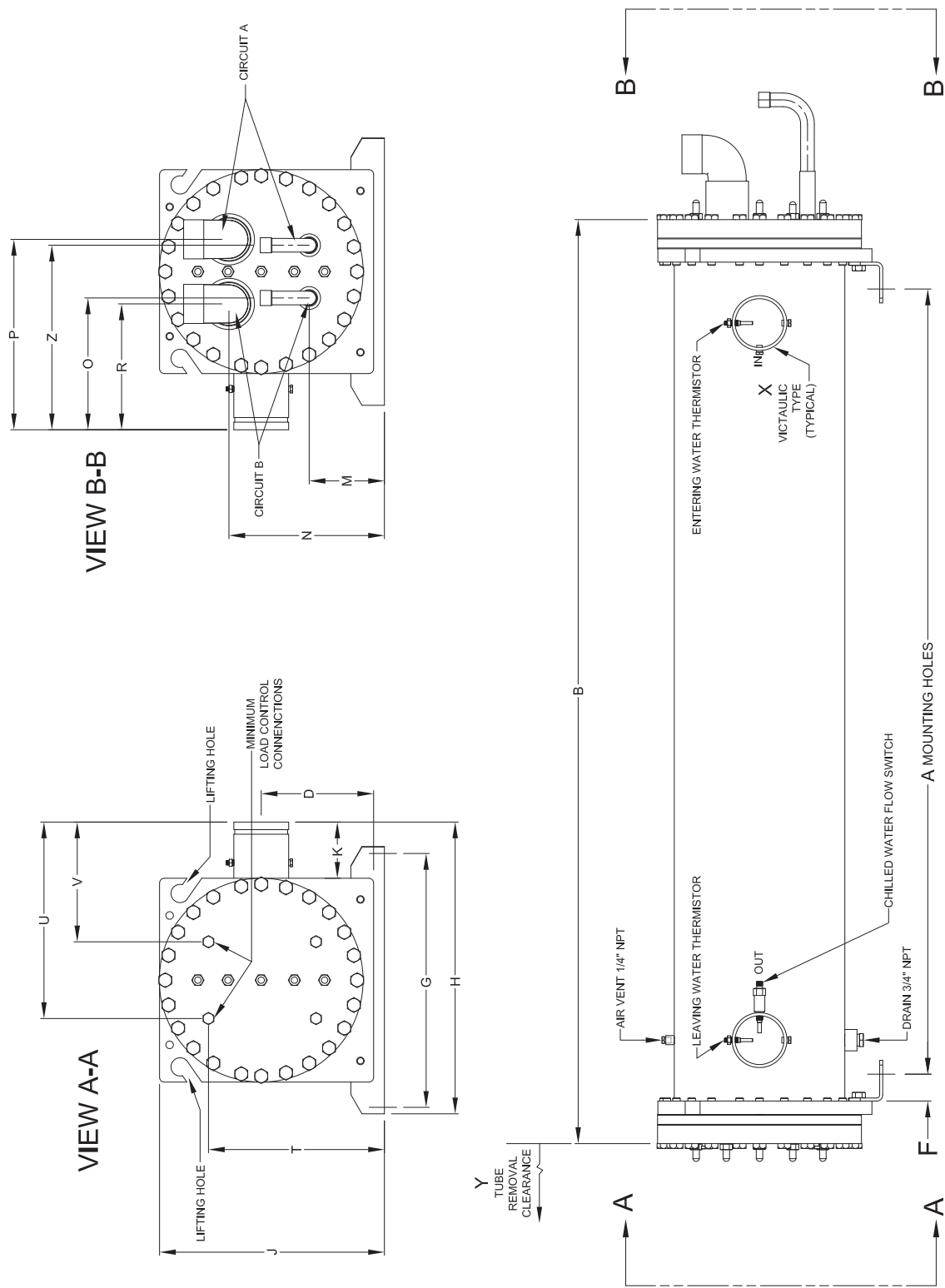
30XA UNIT SIZE	SUCTION LINE		DOUBLE SUCTION RISERS				COOLER LIQUID LINE		CONDENSER LIQUID LINE		ECONOMIZER LINE	
	Circuit A (in.)	Circuit B (in.)	Circuit A		Circuit B		Circuit A (in.)	Circuit B (in.)	Circuit A (in.)	Circuit B (in.)	Circuit A (in.)	Circuit B (in.)
			Riser A (in.)	Riser B (in.)	Riser A (in.)	Riser B (in.)						
082	3 ¹ / ₈	3 ¹ / ₈	1 ⁵ / ₈	2 ⁵ / ₈	1 ⁵ / ₈	2 ⁵ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	—	—
092	3 ¹ / ₈	3 ¹ / ₈	1 ⁵ / ₈	2 ⁵ / ₈	1 ⁵ / ₈	2 ⁵ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	7/8	7/8
102	3 ¹ / ₈	3 ¹ / ₈	1 ⁵ / ₈	2 ⁵ / ₈	1 ⁵ / ₈	2 ⁵ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	7/8	7/8
112	3 ¹ / ₈	3 ¹ / ₈	1 ⁵ / ₈	2 ⁵ / ₈	1 ⁵ / ₈	2 ⁵ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	7/8	7/8
122	3 ¹ / ₈	3 ¹ / ₈	1 ⁵ / ₈	2 ⁵ / ₈	1 ⁵ / ₈	2 ⁵ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	1 ¹ / ₈	7/8	7/8
142	4	3 ¹ / ₈	2	3 ¹ / ₂	1 ⁵ / ₈	2 ⁵ / ₈	1 ³ / ₈	1 ¹ / ₈	1 ³ / ₈	1 ¹ / ₈	1 ¹ / ₈	7/8
162	4	3 ¹ / ₈	2	3 ¹ / ₂	1 ⁵ / ₈	2 ⁵ / ₈	1 ³ / ₈	1 ¹ / ₈	1 ³ / ₈	1 ¹ / ₈	1 ¹ / ₈	7/8
182	4	4	2	3 ¹ / ₂	2	3 ¹ / ₂	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	1 ¹ / ₈	1 ¹ / ₈
202	4	4	2	3 ¹ / ₂	2	3 ¹ / ₂	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	1 ¹ / ₈	1 ¹ / ₈
222	4	4	2	3 ¹ / ₂	2	3 ¹ / ₂	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	1 ¹ / ₈	1 ¹ / ₈
242	4	4	2	3 ¹ / ₂	2	3 ¹ / ₂	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	1 ¹ / ₈	1 ¹ / ₈
262	5	4	2 ¹ / ₂	3	2	3 ¹ / ₂	1 ⁵ / ₈	1 ³ / ₈	1 ⁵ / ₈	1 ³ / ₈	1 ¹ / ₈	1 ¹ / ₈
282	5	4	2 ¹ / ₂	3	2	3 ¹ / ₂	1 ⁵ / ₈	1 ³ / ₈	1 ⁵ / ₈	1 ³ / ₈	1 ¹ / ₈	1 ¹ / ₈
302	5	4	2 ¹ / ₂	3	2	3 ¹ / ₂	1 ⁵ / ₈	1 ³ / ₈	1 ⁵ / ₈	1 ³ / ₈	1 ¹ / ₈	1 ¹ / ₈
327	5	5	2 ¹ / ₂	3	2 ¹ / ₂	3	1 ⁵ / ₈	1 ⁵ / ₈	1 ⁵ / ₈	1 ⁵ / ₈	1 ¹ / ₈	1 ¹ / ₈
352	5	5	2 ¹ / ₂	3	2 ¹ / ₂	3	1 ⁵ / ₈	1 ⁵ / ₈	1 ⁵ / ₈	1 ⁵ / ₈	1 ¹ / ₈	1 ¹ / ₈

Table 5B — Refrigeration Line Sizes (SI)

30XA UNIT SIZE	SUCTION LINE		DOUBLE SUCTION RISERS				COOLER LIQUID LINE		CONDENSER LIQUID LINE		ECONOMIZER LINE	
			Circuit A		Circuit B							
	Circuit A (mm)	Circuit B (mm)	Riser A (mm)	Riser B (mm)	Riser A (mm)	Riser B (mm)	Circuit A (mm)	Circuit B (mm)	Circuit A (mm)	Circuit B (mm)	Circuit A (mm)	Circuit B (mm)
082	79	79	41	67	41	67	29	29	29	29	—	—
092	79	79	41	67	41	67	29	29	29	29	22	22
102	79	79	41	67	41	67	29	29	29	29	22	22
112	79	79	41	67	41	67	29	29	29	29	22	22
122	79	79	41	67	41	67	29	29	29	29	22	22
142	102	79	51	89	41	67	35	29	35	29	29	22
162	102	79	51	89	41	67	35	29	35	29	29	22
182	102	102	51	89	51	89	35	35	35	35	29	29
202	102	102	51	89	51	89	35	35	35	35	29	29
222	102	102	51	89	51	89	35	35	35	35	29	29
242	102	102	51	89	51	89	35	35	35	35	29	29
262	127	102	64	76	51	89	41	35	41	35	29	29
282	127	102	64	76	51	89	41	35	41	35	29	29
302	127	102	64	76	51	89	41	35	41	35	29	29
327	127	127	64	76	64	76	41	41	41	41	29	29
352	127	127	64	76	64	76	41	41	41	41	29	29

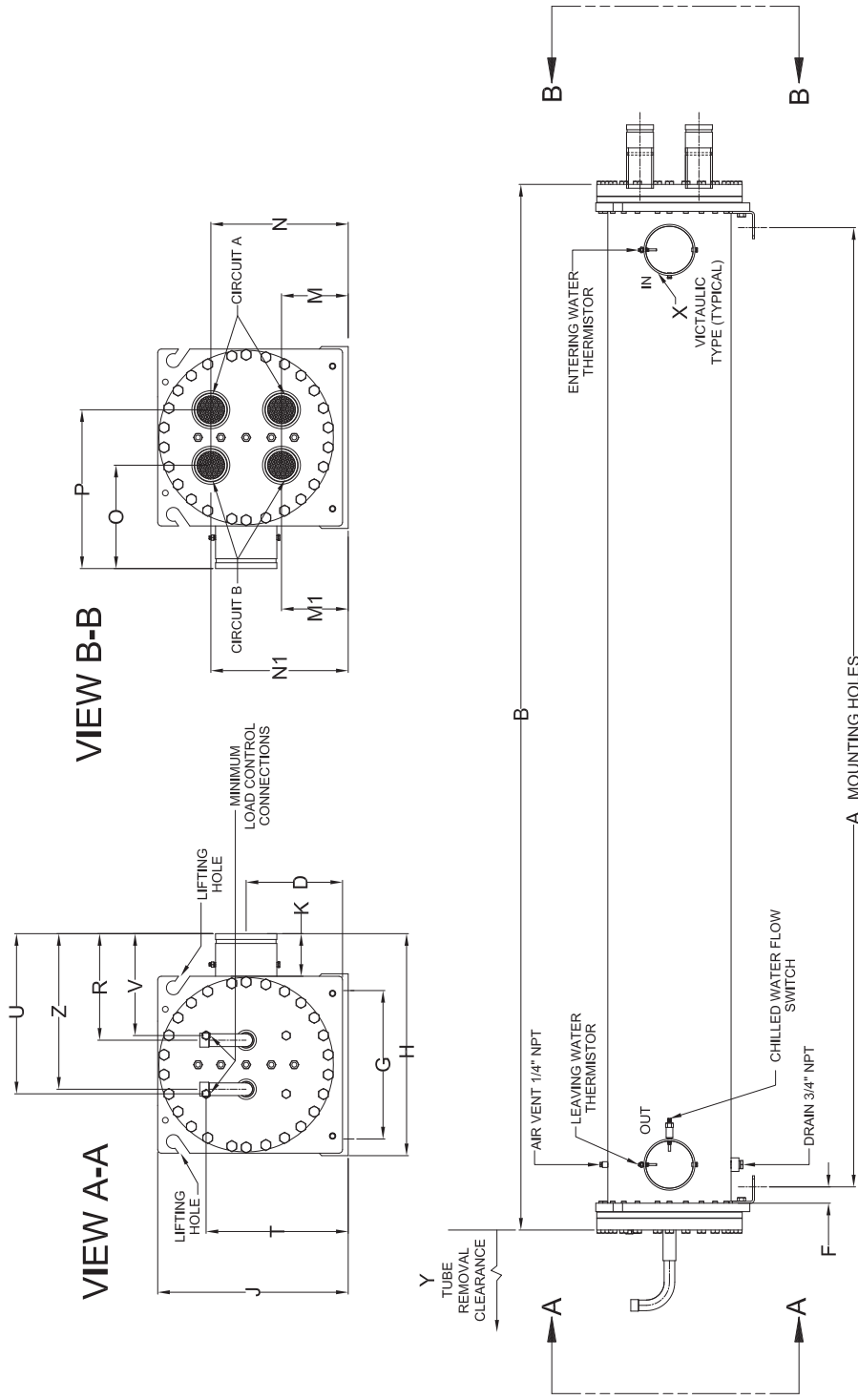
Table 6 — Cooler and Economizer Weights

30XA UNIT SIZE	COOLER OPERATING WEIGHT		ECONOMIZER WEIGHT			
			Circuit A		Circuit B	
			lb	kg	lb	kg
082	1117	507	—	—	—	—
092	1117	507	45	20	45	20
102	1117	507	45	20	45	20
112	1352	613	45	20	45	20
122	1352	613	45	20	45	20
142	1908	865	45	20	55	25
162	1908	865	45	20	55	25
182	2130	966	55	25	55	25
202	2130	966	55	25	55	25
222	2803	1271	55	25	60	27
242	2803	1271	60	27	60	27
262	3103	1407	55	25	70	32
282	3103	1407	60	27	70	32
302	3556	1613	60	27	75	34
327	3556	1613	70	32	70	32
352	3556	1613	70	32	75	34



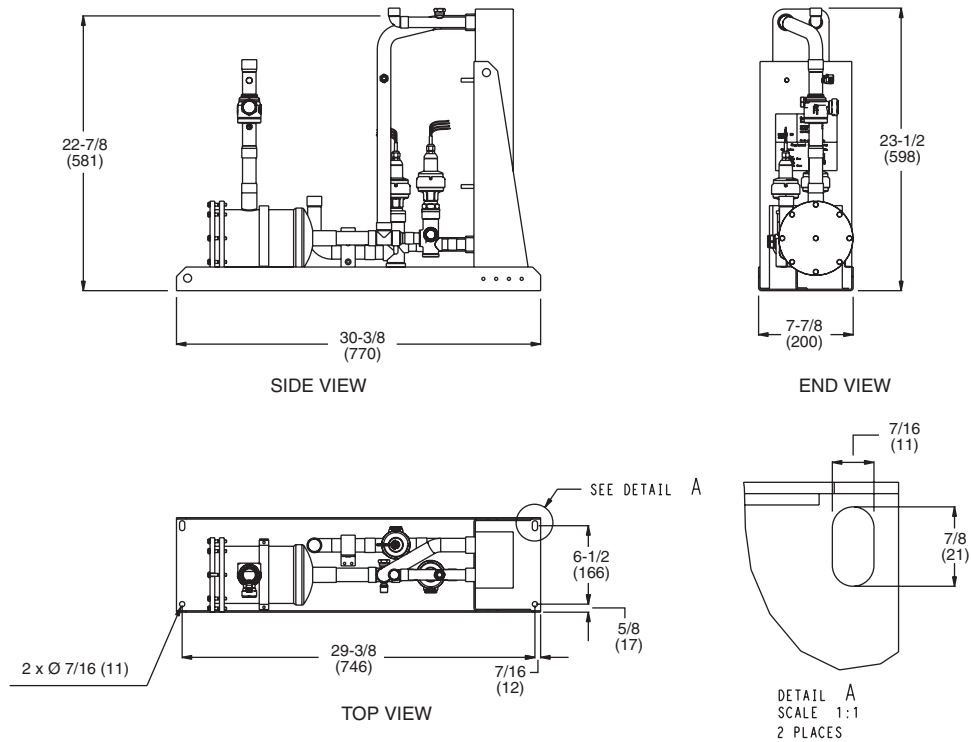
30XA-DX UNIT SIZE	DIMENSIONS																			
	A	B	D	F	G	H	J	K	M	N	O	P	R	T	U	V	X	Y	Z	
082, 092, 102	IN	64.45	75.84	9.23	2.20	20.83	23.95	18.46	4.61	6.18	12.76	10.82	15.63	10.33	14.44	16.13	9.83	4.00	71.69	15.15
	MM	1637	1926	234	56	529	608	469	117	157	324	275	397	262	367	410	250	1821	385	
112, 122	IN	94.25	105.64	9.23	2.20	22.83	25.95	18.46	5.65	6.18	12.76	11.86	16.67	11.37	14.44	17.17	10.87	6.00	101.50	16.19
	MM	2394	2683	234	56	580	659	469	144	157	324	301	423	289	367	436	276	2578	411	

Fig. 4A — 30XA082-122 Cooler Dimensions



30XA-DX UNIT SIZE	DIMENSIONS																			
	A	B	D	F	G	H	J	K	M	N	M1	N1	O	P	R	T	U	V	X	Z
142, 162	IN	106.88	118.10	10.42	2.12	15.29	24.00	20.58	4.61	7.21	14.85	13.46	10.81	17.17	10.82	15.36	17.32	11.02	6.00	113.58
	MM	2715	3000	265	54	388	610	523	117	183	377	342	274	436	275	390	440	280		2885
182, 202	IN	124.43	135.64	10.42	2.12	15.29	24.00	20.58	4.61	7.21	14.85	--	11.17	17.17	11.52	15.36	17.32	11.02	6.00	135.00
	MM	3160	3445	265	54	388	610	523	117	183	377	--	284	436	293	390	440	280		3429
222, 242	IN	105.88	118.88	11.04	2.20	22.83	25.95	22.96	3.37	8.11	15.74	--	10.27	17.77	10.52	17.67	18.44	9.60	6.00	114.00
	MM	2689	3019	280	56	580	659	583	86	206	400	--	261	451	267	449	468	244		2896
262, 282	IN	124.25	137.25	11.04	2.20	22.83	25.95	22.96	3.37	8.11	15.74	--	10.27	17.77	10.52	17.67	18.44	9.60	6.00	131.85
	MM	3156	3486	280	56	580	659	583	86	206	400	--	261	451	267	449	468	244		3349
302, 327, 352	IN	125.71	137.25	12.94	3.24	20.33	27.79	25.27	3.13	8.11	15.74	--	12.13	18.78	12.05	18.74	19.88	11.03	6.00	131.85
	MM	3193	3486	329	82	516	706	642	79	206	400	--	308	477	306	476	505	280		3349

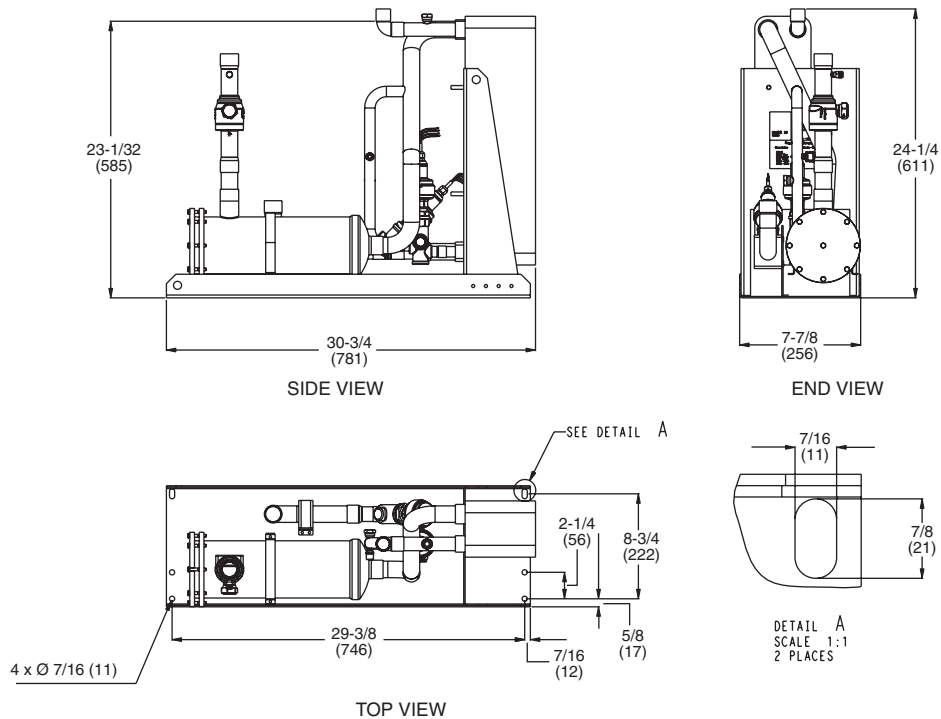
Fig. 4B — 30XA142-352 Cooler Dimensions



NOTES:

1. Measurements are shown in inches (millimeters).
2. Recommended service clearance around the economizer is 36 in. (914 mm).

Fig. 5A — 30XA092-162 Economizer Dimensions



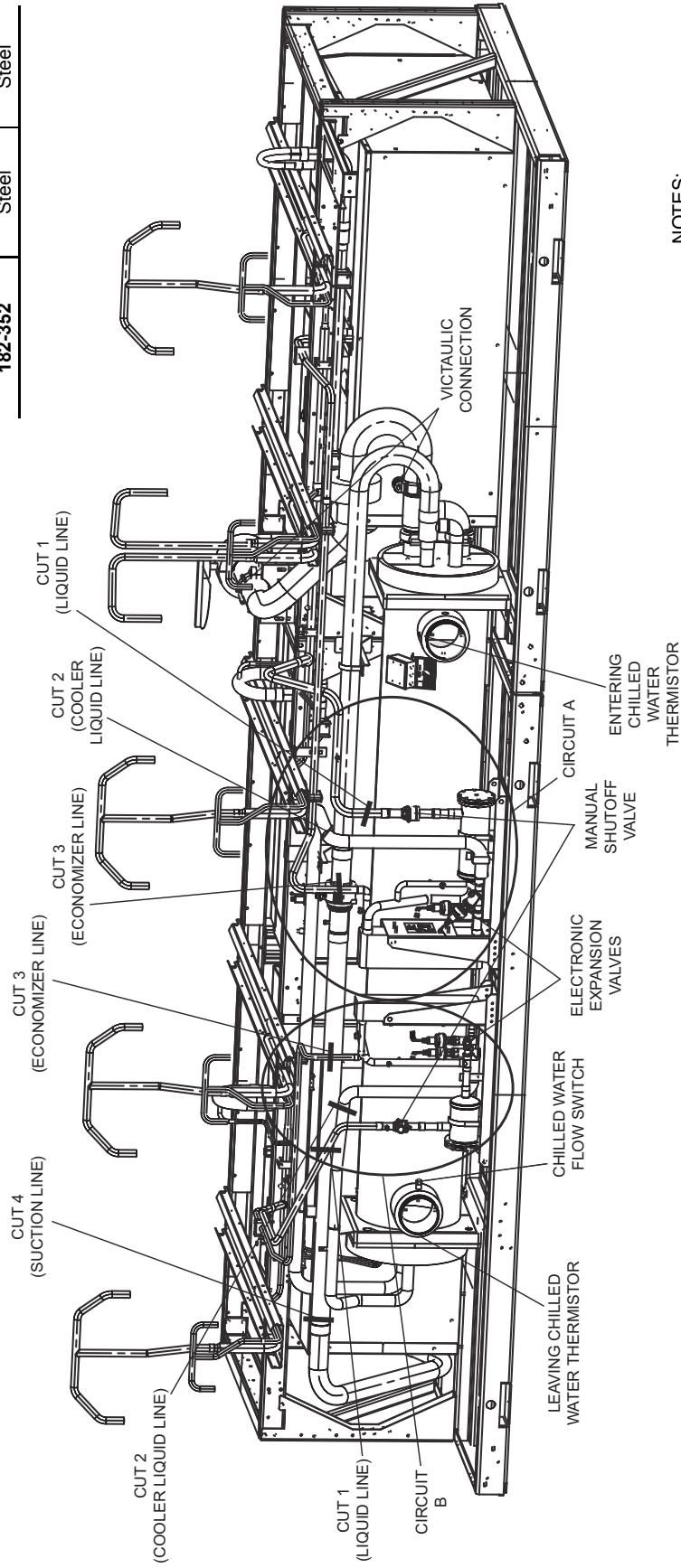
NOTES:

1. Measurements are shown in inches (millimeters).
2. Recommended service clearance around the economizer is 36 in. (914 mm).

Fig. 5B — 30XA182-352 Economizer Dimensions

SUCTION LINE MATERIAL

30XA	CIRCUIT A	CIRCUIT B
082-122	Copper	Copper
142-162	Steel	Copper
182-352	Steel	Steel



NOTES:

1. Circuit A uses steel suction piping.
2. Circuit B uses copper suction piping.

Fig. 6 — Typical Cooler Piping-Cooler Side View (30XA142, 162 Shown)

Step 2 — Install Remote Cooler and Economizers

— Install the cooler and economizers in a remote location by following this procedure:

NOTE: For item no. identification and accessory package contents, refer to Table 2.

1. After removing the cooler from the base unit, strip back the insulation on the cooler tube sheets (if required) and use the two large holes in the top corners for lifting.
2. Transport the cooler and economizer assemblies to the new location and secure them into position. Keep the economizer assemblies as close to the cooler as possible. Also, ensure there is sufficient room to install and remove cooler tubes from either end of the cooler. See Fig. 4A-4B for tube removal clearances.

NOTE: The 30XA080 units do not utilize an economizer. In this case, keep the EXV as close to the cooler as possible.

3. Install the accessory-supplied economizer shutoff valves (Item 1) and liquid line shutoff valves (Item 2) on the two economizer lines and liquid lines at circuits A and B on the 30XA base unit. See Fig. 7.
4. At the new cooler location, connect the field-supplied cooler liquid line piping between the factory-installed manual shutoff valve at the two economizer assemblies and at the cooler. See Fig. 7.
5. Following good piping practices, install additional field-supplied liquid and economizer line piping in the required length to reconnect the two economizer assemblies to the 30XA base unit. See Fig. 8 for double suction riser construction detail.

CAUTION

Do NOT close both manual shutoff valves in one liquid line. Pressure can build up in the trapped area. To avoid the possibility of personal injury or property damage, the new liquid lines between the manual shutoff valves must each have field-supplied and installed pressure relief valves.

6. For 30XA082-122: all circuits and 30XA142-162: circuit B, cut the suction pipe (copper) at the 30XA base unit and discard (see Fig. 6, cut 4, circuit B). Following good piping practices, install field-supplied copper suction line piping from the 30XA base unit to the cooler. Use brazing procedure to connect the field-supplied copper suction line piping at the cooler.
7. For 30XA142-162: circuit A and 30XA182-352: all circuits, unbolt (DO NOT CUT) the portion of the steel suction pipes that connected the flex connector to the cooler at the 30XA base unit and discard. See Fig. 9. Refer to Table 7 for parts required (field-supplied or accessory-supplied) to make new connections at the cooler and

the 30XA base unit with the field-supplied steel suction line. See Fig 10. Follow good piping practices to install field-supplied steel suction line piping between the cooler and the flex connector at the 30XA base unit.

8. All of the piping connections are now complete. Leak test the unit and then pull a deep dehydration vacuum. Connect the vacuum pump to the high-flow access fitting at copper line entering the cooler, the liquid line service valves, and the economizer line service valves. For best results, it is recommended that a vacuum of at least 500 microns (0.5 mm Hg) be obtained. To perform a standing vacuum rise test, observe the rate-of-rise of the vacuum in the system. If the vacuum rises by more than 50 microns in a 30-minute time period, then continue the dehydration process until the standing vacuum requirement is met. This will ensure a dry system.

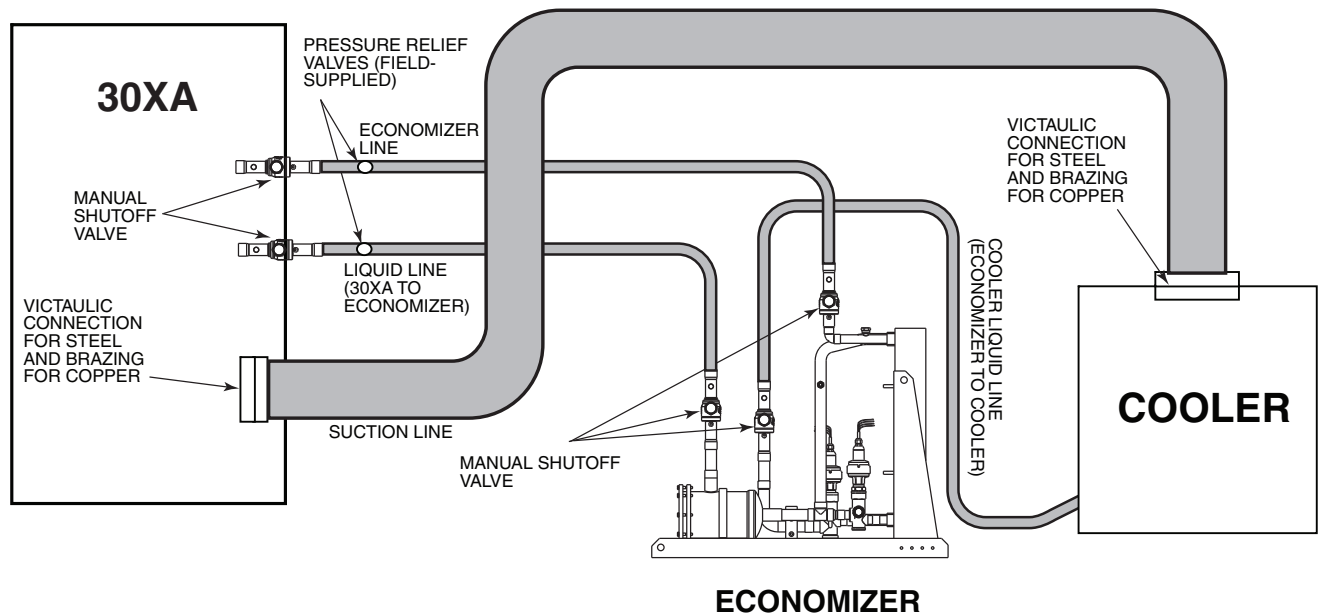
By following this dehydration procedure, the amount of moisture present in the system will be minimized, and the factory-supplied filter driers will provide adequate moisture protection. The filter drier cores should be replaced after 24 hours of operation. This is to ensure that any foreign debris that is captured during start-up is removed from the system. Additional moisture removal capacity is also provided.

9. After system is leak tested and deep dehydration vacuum is completed, install field-supplied suction and economizer line insulation between the economizer and the unit. If necessary, reinstall the insulation on the cooler head.
10. To reconnect the EXV cables, use the accessory-supplied cable assemblies (Item 4). Two cables are needed for the 30XA082 unit, and four cables are needed for 30XA092-352 units. Take one cable assembly, and label both ends with “EXV-A” for the circuit A main EXV. Then label another three cable assemblies the same way with “EXV-B”, “ECEXV-A”, “ECEXV-B” for the circuit B main EXV, circuit A economizer EXV, and circuit B economizer EXV, respectively (economizer EXV does not apply to 30XA082 units).

Plug one side of the electrical connectors of the EXV labeled cables into their corresponding EXV plugs. Run the cables to the 30XA base unit, and plug the other side of the cable connectors into their corresponding EXV leads. Coil excess cables and wire tie in a convenient location.

11. To reconnect the flow switch cable, use the accessory-supplied cable assembly (Item 4). Take one cable assembly and label both ends with “CWFS.” Plug one side of the electrical connector of the labeled cable into the flow switch plug. Run the cable to the base unit, and plug the other side of the cable connector into the flow switch lead. Coil excess cables and wire tie in a convenient location.

12. Using the accessory-supplied M6 screws (Item 7), install the accessory-supplied junction box (Items 5 and 6) at the desired location where the entering and leaving water thermistor cables can be conveniently spliced. One or two knockouts can be used. Follow all local codes. Remove one knockout from the junction box and install the field-supplied strain relief at the knockout hole. If using field-supplied conduit to provide mechanical protection to the thermistor wires between the cooler and the 30XA base unit, remove another knockout.
13. To reconnect the thermistors, locate the entering water thermistor and leaving water thermistor and cut both leads where they can be spliced in the installed junction box. Cut, strip, and label both sides of the entering water thermistor lead "EWT." Cut, strip, and label the leaving water thermistor lead the same way, with "LWT" on both sides. See Fig. 11.
14. Run the labeled thermistor leads connected to the unit into the installed junction box and tighten the field-supplied strain relief. Strip back the lead jackets to expose the two wires in each lead.
15. Take one of the accessory-supplied 5-wire jacketed cables (Item 3) to connect the thermistor leads in the installed junction box to the cooler location. Each wire in the jacketed cable is a different color. Cut the cable into two pieces so that each has a maximum length of 100 ft (30.5 m).
16. Select one jacketed cable and strip back the jacket on both ends to expose the five wires. Pick any two wires and label both ends of each wire "EWT." Pick another pair of wires and label both ends "LWT." The fifth wire is not used. See Fig. 12.
17. Run one end of the accessory-supplied 5-wire jacketed cable into the installed junction box and splice the identically labeled thermistor leads. Solder the splices and insulate them to prevent shorting. Tighten the field-supplied strain relief for the cables.
18. Run the other end of the accessory-supplied 5-wire jacketed cables back to the cooler. Splice the labeled jacketed cable wires to the matching thermistors. If a second junction box is necessary at the cooler location, use the second accessory-supplied junction box (Item 5).
19. Reinstall the thermistors in the correct cooler wells.
20. Charge the unit to the amount of refrigerant as specified on the 30XA base unit nameplate. Because of longer field-installed liquid, economizer, and suction lines, additional charge is needed. Refer to Table 8 to calculate the additional charge for each circuit and then add it to the nameplate charge. Additional charge for the economizer line is NOT required.
21. Perform all pre-start-up and start-up procedures specified in the unit operation instructions. Follow the checklist provided with the unit operation instructions.
22. Verify unit operation.



NOTE: All shaded piping is field supplied and installed.

Fig. 7 — Line Piping and Connections (1 Circuit Shown)

Table 7 — Materials Required for Steel Piping Connections

UNIT SIZE	SUCTION LINE CONNECTION	
	Circuit A	Circuit B
142	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A	N/A*
162	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A	N/A*
182	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A
202	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A
222	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A
242	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A
262	Victaulic 5-in. coupling 6V66AP651 Item 9 in 5300A	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A
282	Victaulic 5-in. coupling 6V66AP651 Item 9 in 5300A	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A
302	Victaulic 5-in. coupling 6V66AP651 Item 9 in 5300A	Victaulic 4-in. coupling 6V66AP601 Item 8 in 5300A
327	Victaulic 5-in. coupling 6V66AP651 Item 9 in 5300A	Victaulic 5-in. coupling 6V66AP651 Item 9 in 5300A
352	Victaulic 5-in. coupling 6V66AP651 Item 9 in 5300A	Victaulic 5-in. coupling 6V66AP651 Item 9 in 5300A

LEGEND

*Copper connection.

5300A — Accessory Package Part No. 00EFN900005300A (30XA082-352)

Item — Item No. (See Table 2)

Table 8 — Additional Refrigerant Charges Required

LINE SIZE		LIQUID LINE lb (kg) OF R-134a REFRIGERANT PER FOOT (305 mm)		SUCTION LINE lb (kg) OF R-134a REFRIGERANT PER FOOT (305 mm)	
		lb	kg	lb	kg
1 ¹ / ₈	29	0.41	0.186	—	—
1 ³ / ₈	35	0.64	0.2903	—	—
1 ⁵ / ₈	41	0.89	0.4037	—	—
3 ¹ / ₈	79	—	—	0.05	0.0227
4	102	—	—	0.09	0.0408

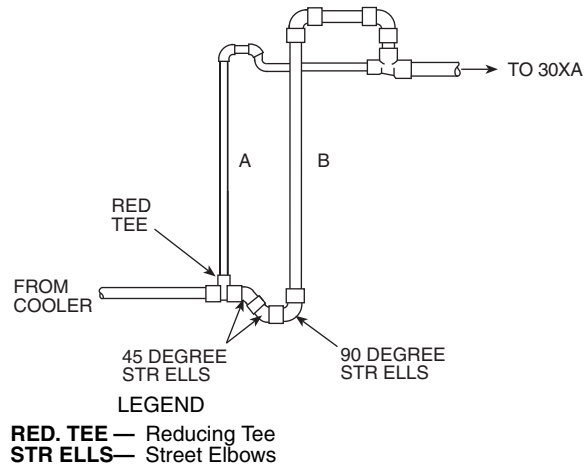
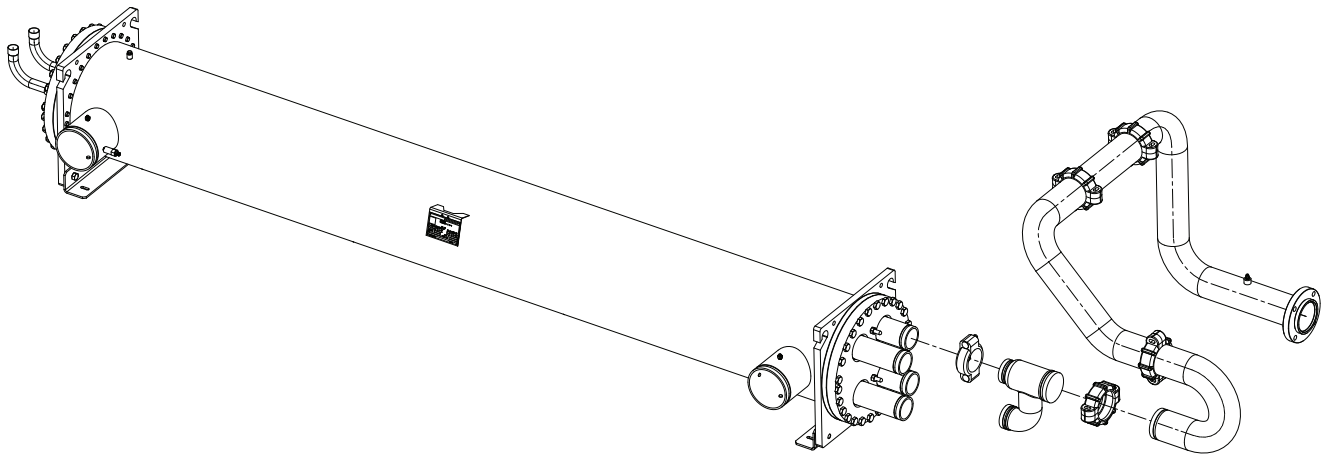


Fig. 8 — Double Suction Riser Construction Detail



**Fig. 9 — Unbolt Portion Between Flex Connector and Cooler
(30XA142, 162: Circuit A and 30XA182-352: All Circuits)**

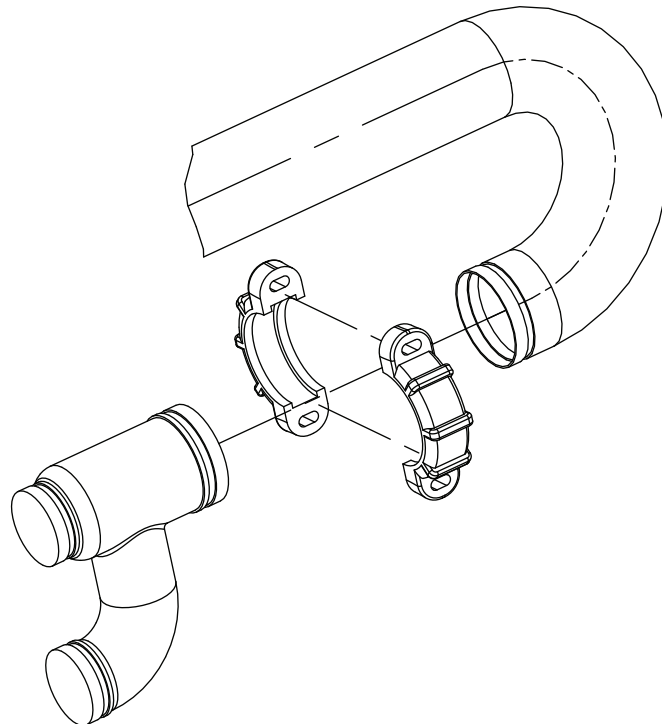


Fig. 10 — Victaulic Connectors

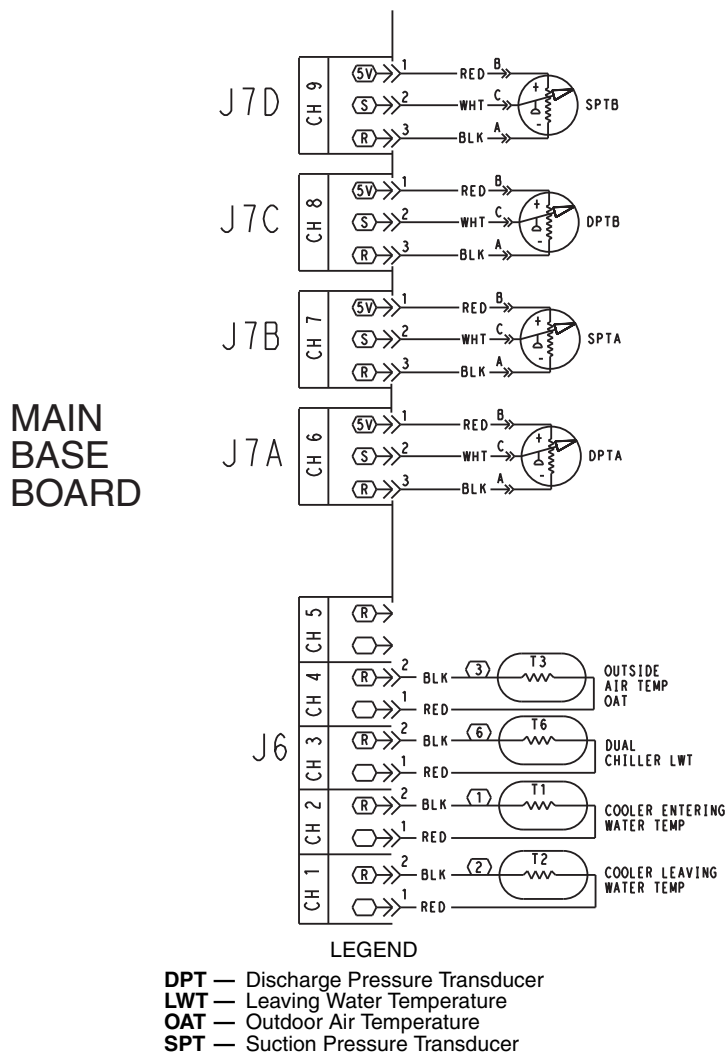


Fig. 11 — Thermistor Connections

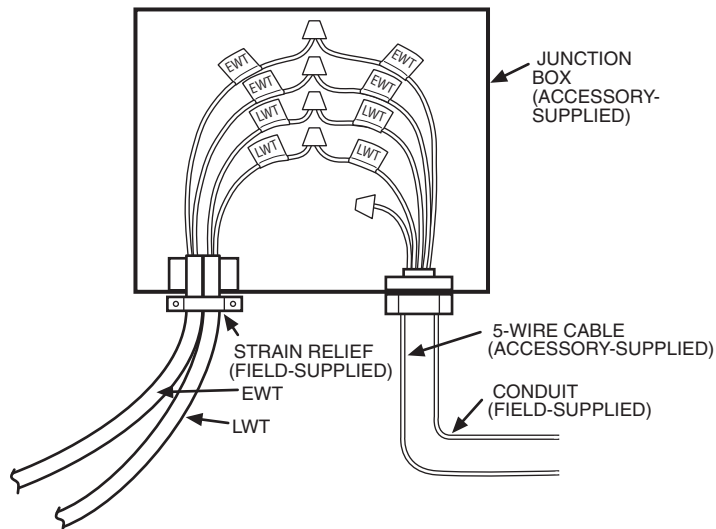


Fig. 12 — Typical Junction Box Connections (EWT and LWT Thermistors Shown)

