THERMAL CARE

Installation Guidelines Manual

MX Series Remote Air-Cooled Condensers

Rotary Screw Modular Chillers
50 to 125 Tons

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Table of Contents

FOREWORD **1**

INSTALLATION **1**

Receiving Inspection 1
Rigging, Handling, and Locating Equipment 1
Interconnecting Refrigerant Piping 2
Electrical Power 2
Table 1 – Remote Air-Cooled Condenser Electrical Data (60 Hz) 3
Interconnnecting Wiring 3

REFRIGERATION PIPING DESIGN **3**

General Design Considerations 3
Figure 1 - Condenser Located with No Elevation Difference 4
Figure 2 - Condenser Located above Chiller Unit 4
Figure 3 - Condenser Located Below Chiller Unit 5
Determining Equivalent Line Length 5
Table 2 – Equivalent Lengths of Fittings 5
Liquid Line Sizing 5
Table 3 - Liquid Line Sizes 6
Discharge (Hot Gas) Line Sizing 6
Figure 4 - Double Discharge Riser 6
Table 4 - Horizontal or Downflow Discharge Line Sizes 7
Table 5 - Upflow Discharge Line Sizes 7

CALCULATING SYSTEM REFRIGERANT AND OIL CHARGE **7**

Table 6 – Combined Chiller & Remote Condenser Refrigerant Charge (Lbs. of HFC-134a) 8
Table 7 - Field Piping Charge (Lbs. of HFC-134a) 8
Oil Charge Determination 8

CONDENSER FAN CONTROLS **8**

DRAWINGS **8**

Figure 5 – MXR50 Remote Condenser Model LAVF14412 Weight & Dimensions Drawing 9
Figure 6– MXR75 Remote Condenser Model LAVF16410 Weight & Dimensions Drawing 10
Figure 7 – MXR100 Remote Condenser Model LAVF24410 Weight & Dimensions Drawing 11
Figure 8 – MXR125 Remote Condenser Model LAVF25410 Weight & Dimensions Drawing 12
Figure 9 – MXR50 Remote Condenser Model LAVF14412 Electrical Schematic 13
Figure 10 – MXR75 Remote Condenser Model LAVF16410 Electrical Schematic 14
Figure 11 – MXR100 Remote Condenser Model LAVF24410 Electrical Schematic 15
Figure 12 – MXR125 Remote Condenser Model LAVF25410 Electrical Schematic 16

Foreword

The intent of this manual is to serve as a guide for placing your remote condenser in service and operating and maintaining it properly. Improper installation can lead to poor equipment performance or severe equipment damage. Failure to follow the installation instructions may result in damage not covered by your warranty. It is extremely important that a qualified refrigeration installation contractor perform all installation line sizing and piping. Please supply these instructions to your authorized refrigeration contractor. This manual is for our standard product line with supplements as required to accommodate any special items provided for a specific application. The written information contained in this manual, as well as various drawings, are intended to be general in nature. The drawings included in this manual are typical only and may not represent the actual unit purchased. Actual drawings are included with the equipment for troubleshooting and servicing of the unit. Additional copies of drawings are available upon request. We strive to maintain an accurate record of all equipment during the course of its useful life. Every effort was made to standardize the design features of these chillers, the various options may make it necessary to rearrange some of the components; therefore, some of the general drawings in this manual may differ from your specific unit.

Due to the ever-changing nature of applicable codes, ordinances, and other local laws pertaining to the use and operation of this equipment we do not reference them in this manual. There is no substitute for common sense and good operating practices when placing any mechanical equipment into operation. We encourage all personnel to familiarize themselves with this manual's contents. Failure to do so may unnecessarily prolong equipment down time.

The chilling equipment uses chemical refrigerants for heat transfer purposes. This chemical is sealed and tested in a pressurized system containing ASME coded vessels; however, a system failure will release it. Refrigerant gas can cause toxic fumes if exposed to fire. Place these units in a well-ventilated area, especially if open flames are present.

Failure to follow these instructions could result in a hazardous condition. The standard refrigerant used in these units is a hydro fluorocarbon (HFC) trade named R-134A. We strongly recommend our customers implement a refrigerant management program including a survey of all equipment to document the type and quantity of refrigerant in each machine. We recommend all refrigeration service technicians be licensed and certified by an EPA approved organization. Follow good piping practices and the information in this manual to insure a successful installation and operation of this equipment. We are not responsible for liabilities created by substandard piping methods and installation practices external to the chiller.

We trust your equipment will have a long and useful life. If you should have any questions, please contact our Customer Service Department specifying the serial number and model number of the unit as indicated on the nameplate.

Installation

Receiving Inspection

Each unit has a holding charge of nitrogen. Before accepting delivery, check the overall equipment condition for any visible damage and document any evident on the delivery receipt. Shipping damage is the responsibility of the carrier. In order to expedite payment for damages, it is important to follow proper procedures and record keeping. Photographs of damaged equipment are excellent documentation for your records.

Inspect for hidden damage after removing the packing. Refrigerant lines can be susceptible to damage in transit. Check for broken lines, oil leaks, damaged controls, or any other major component torn loose from its mounting point.

Our Customer Service Department will provide assistance in preparation and filing of your claims, including arranging for an estimate and quotation on repairs; however, filing the claim is the responsibility of the receiving party.

Rigging, Handling, and Locating Equipment

The condenser coil should be pressurized to 350 PSI (2413 kPa) with dry nitrogen gas and leak-checked prior to rigging. This will ensure no coil damage has occurred after the unit left the factory. The condenser ships with the legs removed. Mount the legs to the condenser using the provided nuts, bolts, and washers.

Follow proper rigging methods to prevent damage to components. Avoid impact loading caused by sudden jerking when lifting or lowering the condenser. Use pads on any abrasive surface contact area.

CAUTION: Do not use the condenser manifolds, control panel, or return bends of the condenser coil for lifting or moving the condenser as this can result in significant damage to the unit.

The condenser is for outdoor use. A primary concern when designing your unit was serviceability; therefore, the condenser should be located in an accessible area. Install the unit on a firm, level base no closer than their width from walls or other condensers. Avoid locations near exhaust fans, plumbing vents, flues, or chimneys. Fasten the mounting legs at their base to the steel or concrete of the supporting structure. For units mounted on a roof structure, the steel support base holding the condenser should be elevated above the roof and attached to the building.

Interconnecting Refrigerant Piping

The chiller unit has a refrigerant holding charge. The chiller is for use only with the air-cooled condenser provided with the unit. The following section covers the required piping between the chiller and the provided air-cooled condenser.

The chiller may consist of multiple evaporators, compressors, liquid line solenoid valves, expansion valves, sight glasses, filter driers, and receivers. If the chiller is to operate in lower ambient air temperatures, the chiller may also contain head pressure control valves. The discharge and liquid lines leaving the chiller have caps. These line sizes do not necessarily reflect the actual line sizes required for the piping between the chiller and the air-cooled condenser. The installing contractor need only provide the interconnecting piping between the chiller and the air-cooled condenser.

Refrigerant piping size and piping design has a significant effect on system performance and reliability. Refer to the Refrigeration Line Sizing section of this manual to ensure the refrigerant piping and runs are proper. All piping should conform to the applicable local and state codes. Use refrigerant grade copper tubing only and isolate the refrigeration lines from building structures to prevent transfer of vibration. Do not use a saw to remove end caps. This might allow copper chips to contaminate the system. Use a tube cutter or heat to remove the caps. When sweating copper joints it is important to flow dry nitrogen through the system prior to charging with refrigerant. This prevents scale formation and the possible formation of an explosive mixture of HFC-134a and air. This will also prevent the formation of toxic phosgene gas, which occurs when exposing HFC-134a to an open flame. Do not use soft solders. For copper-to-copper joints use a phos-copper solder with 6% to 8% silver content. Only use a high silver content brazing rod for copper-to-brass or copper-to-steel joints. Only use oxy-acetylene brazing.

Electrical Power

All wiring must comply with local codes and the National Electric Code. Minimum circuit ampacities and other unit electrical data are on the unit nameplate and are in Table 1.

A specific electrical schematic is with the unit. Measure each leg of the main power supply voltage at the main power source. Voltage must be within the voltage utilization range given in Table 1. If the measured voltage on any leg is not within the specified range, notify the supplier and correct before operating the unit. Voltage imbalance must not exceed two percent. Excessive voltage imbalance between the phases of a three-phase system can cause motors to overheat and eventually fail. Voltage imbalance is determined using the following calculations:

%Imbalance = (Vavg – Vx) x 100 / Vavg

Vavg = (V1 + V2 + V3) / 3
Vx = phase with greatest difference from Vavg

For example, if the three measured voltages are 442, 460, and 454 volts, the average would be:

(442 + 460 + 454) / 3 = 452

The percentage of imbalance is then:

(452 – 442) x 100 / 452 = 2.2 %

This exceeds the maximum allowable of 2%.

There is a terminal block for main power connection to the main power source. The main power source should be connected to the terminal block through an appropriate disconnect switch. There is also a separate lug in the main control panel for grounding the unit. Check the phase sequence at installation and prior to start-up with a phase sequence meter prior to applying power. The proper sequence should read “ABC” on the meter. If the meter reads “CBA”, open the main power disconnect and switch two line leads on the line power terminal blocks (or the unit mounted disconnect). All components requiring electric power are in-phase at the factory. Do not interchange any load leads that are from the unit contactors or the motor terminals.

Table 1 – Remote Air-Cooled Condenser Electrical Data (60 Hz)

Model	Rated Voltage[4]	Allowable Supply		Number of Power Connections	Number of Conductors	Fan Data		Unit Data	
		Min	Max			Qty	RLA[1] Each	MCA[2]	MOCP[3]
LAVF-14412	460/3/60	414	506	1	3	4	3.5	15	20
LEVF-16410	460/3/60	414	506	1	3	6	3.5	22	30
LAVF-24410	460/3/60	414	506	1	3	8	3.5	29	35
LAVF-25410	460/3/60	414	506	1	3	10	3.5	36	45

Notes:
1. RLA is Rated Load Amps
2. MCA is Minimum Circuit Ampacity (for wire sizing)
3. MOCP is Maximum Overcurrent Protection
4. 575/3/60 remote condensers require special selection and pricing. Consult factory for details.

Interconnnecting Wiring

The installation of interconnecting wiring between the condenser and the chiller control panel is required. This wiring allows the chiller PLC to control the operation of the condenser fans. Please see the electrical schematics for the chiller and the remote condenser for details.

Refrigeration Piping Design

The system can be configured in any of the primary arrangements as shown in Figures 1 through 3. The configuration and its associated elevation, along with the total distance between the chiller and the air-cooled condenser are important factors in determining the liquid line and discharge line sizes. This will also affect the field refrigerant charges. Consequently, it is important to adhere to certain physical limitations to ensure the system operates as designed.

General Design Considerations

1. The total distance between the chiller and the air-cooled condenser must not exceed 200 actual feet (61 meters) or 300 equivalent feet (91 meters).
2. Liquid line risers must not exceed 15 feet (5 meters) in height from the condenser liquid line connection. (see Figure 3 - Condenser Located Below Chiller Unit).
3. Discharge line risers cannot exceed an elevation difference greater than 100 actual feet (31 meters) without a minimum of 2% efficiency decrease.

Figure 1 - Condenser Located with No Elevation Difference

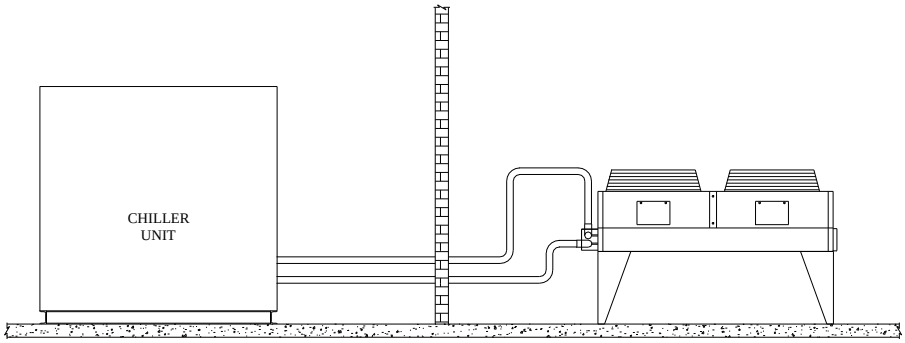


Figure 2 - Condenser Located above Chiller Unit

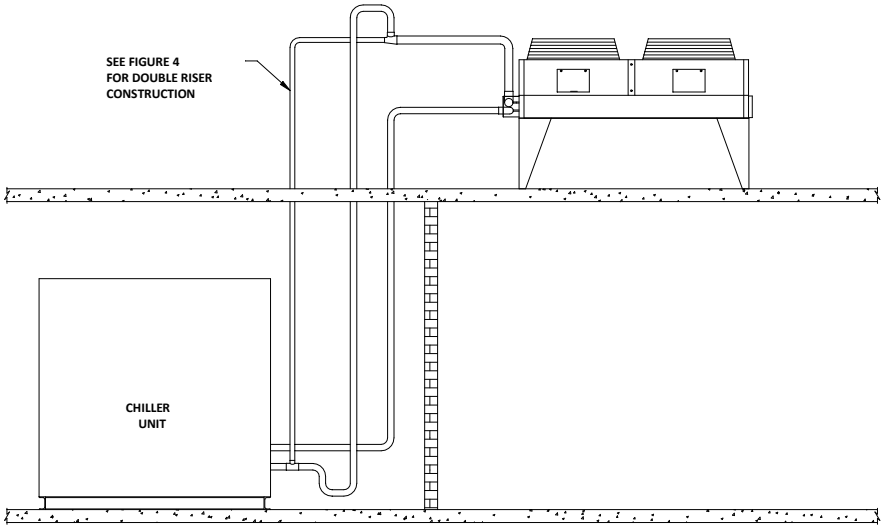
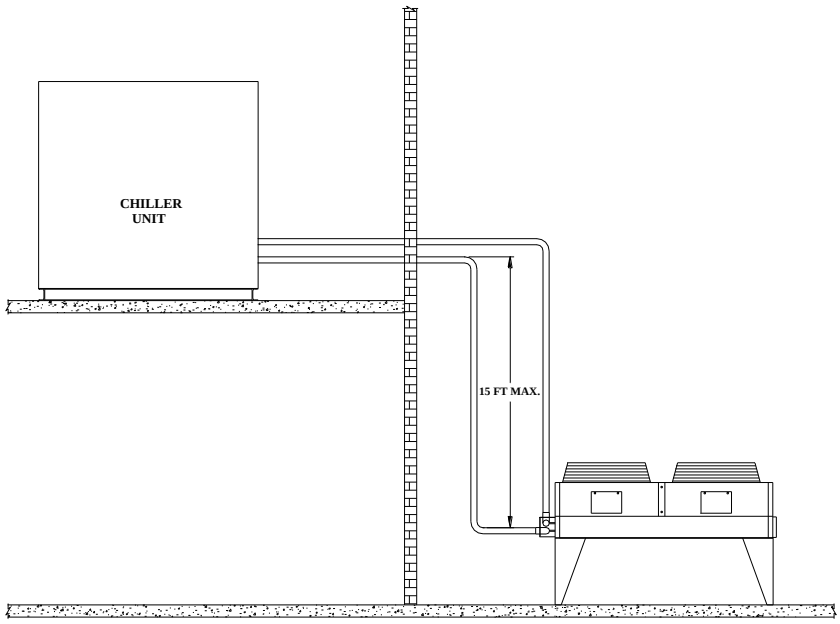


Figure 3 - Condenser Located Below Chiller Unit



Determining Equivalent Line Length

To determine the appropriate size for field installed liquid and discharge lines, it is first necessary to establish the equivalent length of pipe for each line. The equivalent length is the actual friction loss from the linear run of pipe and the added friction loss of elbows, valves, etc. shows the equivalent length of pipe for various nonferrous valves and fittings.

Follow these steps when calculating line size:

1. Start with an initial approximation of equivalent length by assuming that the equivalent length of pipe is 1.5 times the actual pipe length.
2. Refer to Table 4 - Horizontal or Downflow Discharge Line Sizes and Table 5 - Upflow Discharge Line Sizes for a first approximation of line size.
3. Check the line size by calculating the actual equivalent length.

Note: When calculating the equivalent length, do not include piping of the chiller unit. Only field piping must be considered.

Table 2 – Equivalent Lengths of Fittings

Line Size OD (in)	Equivalent Lengths of Refrigerant Pipe (feet)				
	Elbow 90° Standard	Elbow 90° Long Radius	Elbow 90° Street	Elbow 45° Standard	Elbow 45° Long Radius
7/8	2.0	1.4	3.2	0.9	1.6
1 1/8	2.6	1.7	4.1	1.3	2.1
1 3/8	3.3	2.3	5.6	1.7	3.0
1 5/8	4.0	2.6	6.3	2.1	3.4
2 1/8	5.0	3.3	8.2	2.6	4.5
2 5/8	6.0	4.1	10.0	3.2	5.2
3 1/8	7.5	5.0	12.0	4.0	6.4
3 5/8	9.0	5.9	15.0	4.7	7.3
4 1/8	10.0	6.7	17.0	5.2	8.5

Liquid Line Sizing

The liquid line diameter should be as small as possible while maintaining acceptable pressure drop. This is necessary to minimize refrigerant charge. The line size should be large enough to ensure the pressure drop is no greater than an equivalent saturation temperature change of 2°F. The total length between the chiller unit and the air-cooled condenser must not exceed 200 actual feet (61 meters) or 300 equivalent feet (91 meters).

Liquid line risers in the system will require an additional 0.5 PSIG (3.5 kPa) pressure drop per foot (31 cm) of vertical rise. When it is necessary to have a liquid line riser, make the vertical run immediately after the condenser before any additional restrictions. The liquid line risers must not exceed 15 feet (5 meters) in height from the condenser liquid line connection (see Figure 3 - Condenser Located Below Chiller Unit). The liquid line does not require pitching. Install a pressure tap valve at the condenser to facilitate measuring pressure for service.

Liquid lines do not typically require insulation. However, if exposing the lines to solar heat gain or temperatures exceeding 110 °F (43°C), there is a negative effect on sub-cooling. In these situations, insulate the liquid lines.

Table 3 - Liquid Line Sizes

Equivalent Length Total (feet)	Liquid Line Size O.D. (inches)[1]							
	20°F to 39°F Chilled Water Supply				40°F to 80°F Chilled Water Supply			
	MXR50	MXR75	MXR100	MXR125	MXR50	MXR75	MXR100	MXR125
25	1 3/8	1 3/8	1 5/8	1 5/8	1 3/8	1 5/8	2 1/8	2 1/8
50	1 3/8	1 3/8	1 5/8	1 5/8	1 3/8	1 5/8	2 1/8	2 1/8
75	1 3/8	1 3/8	1 5/8	1 5/8	1 3/8	1 5/8	2 1/8	2 1/8
100	1 3/8	1 3/8	1 5/8	1 5/8	1 3/8	1 5/8	2 1/8	2 1/8
125	1 3/8	1 3/8	1 5/8	1 5/8	1 3/8	1 5/8	2 1/8	2 1/8
150	1 3/8	1 5/8	1 5/8	1 5/8	1 3/8	1 5/8	2 1/8	2 1/8
175	1 3/8	1 5/8	1 5/8	1 5/8	1 5/8	2 1/8	2 1/8	2 1/8
200	1 3/8	1 5/8	1 5/8	2 1/8	1 5/8	2 1/8	2 1/8	2 1/8
225	1 3/8	1 5/8	1 5/8	2 1/8	1 5/8	2 1/8	2 1/8	2 1/8
250	1 3/8	1 5/8	2 1/8	2 1/8	1 5/8	2 1/8	2 1/8	2 1/8
275	1 3/8	1 5/8	2 1/8	2 1/8	1 5/8	2 1/8	2 1/8	2 5/8
300	1 3/8	1 5/8	2 1/8	2 1/8	1 5/8	2 1/8	2 1/8	2 5/8

[1]Selection based on Saturation Temperature change < 1°F.

Discharge (Hot Gas) Line Sizing

The discharge line size is determined based on the minimum velocity needed to obtain sufficient oil return while maintaining a pressure drop no greater than an equivalent saturation temperature change of 2°F. It is important to minimize the line length and restrictions to reduce pressure drop and maximize capacity and efficiency.

The horizontal discharge lines should pitch downward, in the direction of the hot gas flow, at the rate of ½ inch (1.25 cm) per each 10 foot (3 meter) of horizontal run. If the chiller unit is below the condenser, loop the discharge line to at least 1 inch (2.5 cm) above the top of the condenser. Install a pressure tap valve at the condenser to facilitate measuring pressure for service. If the chiller is below the condenser, it is import to use care in the design of the discharge gas riser. All chillers have unloading capabilities via compressor unloading; therefore, they all require a double discharge riser for proper oil management. For an example of the double discharge rise construction, see Figure 4 - Double Discharge Riser. Refer to Table 5 - Upflow Discharge Line Sizes to determine the size of the double discharge line riser. If the riser exceeds 25 feet (8 meters) in vertical height, use a double discharge riser for each 25 foot (8 meter) of rise.

Figure 4 - Double Discharge Riser

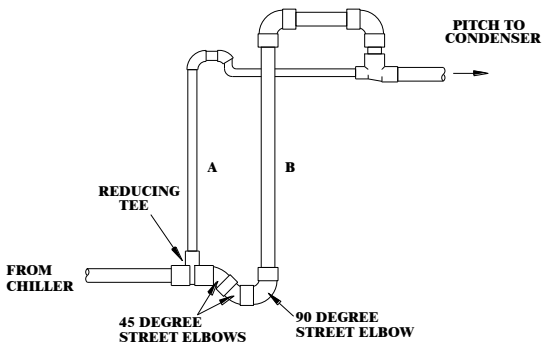


Table 4 - Horizontal or Downflow Discharge Line Sizes

Equivalent Length Total (feet)	Horizontal or Downflow Discharge Line Size O.D. (inches)[1]							
	20°F to 39°F Chilled Water Supply				40°F to 80°F Chilled Water Supply			
	MXR50	MXR75	MXR100	MXR125	MXR50	MXR75	MXR100	MXR125
25	2 1/8	2 5/8	2 5/8	3 1/8	2 1/8	2 5/8	2 5/8	3 1/8
50	2 1/8	2 5/8	2 5/8	3 1/8	2 1/8	2 5/8	2 5/8	3 1/8
75	2 1/8	2 5/8	2 5/8	3 1/8	2 1/8	2 5/8	2 5/8	3 1/8
100	2 1/8	2 5/8	2 5/8	3 1/8	2 1/8	2 5/8	3 1/8	3 1/8
125	2 1/8	2 5/8	2 5/8	3 1/8	2 5/8	2 5/8	3 1/8	3 1/8
150	2 1/8	2 5/8	2 5/8	3 1/8	2 5/8	3 1/8	3 1/8	3 5/8
175	2 1/8	2 5/8	2 5/8	3 1/8	2 5/8	3 1/8	3 1/8	3 5/8
200	2 1/8	2 5/8	2 5/8	3 1/8	2 5/8	3 1/8	3 1/8	3 5/8
225	2 1/8	2 5/8	2 5/8	3 1/8	2 5/8	3 1/8	3 1/8	3 5/8
250	2 1/8	2 5/8	2 5/8	3 1/8	2 5/8	3 1/8	3 1/8	3 5/8
275	2 1/8	2 5/8	2 5/8	3 1/8	2 5/8	3 1/8	3 1/8	3 5/8
300	2 1/8	2 5/8	2 5/8	3 1/8	2 5/8	3 1/8	3 1/8	3 5/8

[1]Selection based on Saturation Temperature change < 1°F and based on maintaining sufficient velocity to return oil in horizontal line assuming a pitch of ½ inch per 10 feet.

Table 5 - Upflow Discharge Line Sizes

Equivalent Length Total (feet)	Upflow Discharge Line Size O.D. (inches)[1]							
	20°F to 39°F Chilled Water Supply				40°F to 80°F Chilled Water Supply			
	MXR50	MXR75	MXR100	MXR125	MXR50	MXR75	MXR100	MXR125
25	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 2 1/8 B - 2 5/8
50	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 2 1/8 B - 2 5/8
75	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 2 1/8 B - 2 5/8
100	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 2 1/8 B - 2 5/8
125	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 2 1/8 B - 2 5/8
150	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 5/8 B - 2 5/8	A - 2 1/8 B - 3 1/8
175	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 5/8 B - 2 5/8	A - 2 1/8 B - 3 1/8
200	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 5/8 B - 2 5/8	A - 2 1/8 B - 3 1/8
225	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 5/8 B - 2 5/8	A - 2 1/8 B - 3 1/8
250	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 5/8 B - 2 5/8	A - 2 1/8 B - 3 1/8
275	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 5/8 B - 2 5/8	A - 2 1/8 B - 3 1/8
300	A - 1 3/8 B - 1 5/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 3/8 B - 2 1/8	A - 1 5/8 B - 2 5/8	A - 1 5/8 B - 2 5/8	A - 2 1/8 B - 3 1/8

[1]Selection based on Saturation Temperature change < 1°F and based on maintaining sufficient velocity to return oil in riser line while minimizing pressure drop in long vertical rise.

Calculating System Refrigerant and Oil Charge

To determine the approximate charge, first refer to

Table 6 – Combined Chiller & Remote Condenser Refrigerant Charge and establish the required charge for the condenser and chiller. Then refer to Table 7 - Field Piping Charge to determine the charge required for the field-installed piping. The approximate charge is therefore the sum of the values from Tables 6 and 7. To verify the system charge, run the system and check the liquid line sight glass. Prolonged periods of foaming in the sight glass may indicate a low refrigerant condition or a restriction in the liquid line.

Note: Occasional bubbling in a sight glass may occur at a time when load conditions are changing and the expansion valve is adjusting to the new conditions. This momentary occurrence is a result of normal chiller operation.

Use the sight glass to check if there is moisture in the refrigeration circuit. If there is moisture in the circuit, the green ring around the perimeter of the sight glass will turn yellow. If this occurs, service immediately.

Table 6 – Combined Chiller & Remote Condenser Refrigerant Charge (Lbs. of HFC-134a)

Chiller Model	HFC-134A Refrigerant Charge (pounds)			
	40°F Minimum Ambient	20°F Minimum Ambient	0°F Minimum Ambient	-20°F Minimum Ambient
MXR50	115	129	143	157
MXR75	187	209	230	251
MXR100	223	249	274	300
MXR125	265	295	324	354

Table 7 - Field Piping Charge (Lbs. of HFC-134a)

Line Size OD (inches)	HFC-134A Refrigerant Charge (pounds) Per 100 Feet of Run	
	Discharge Line	Liquid Line
7/8	1.1	22.7
1 1/8	1.9	40.5
1 3/8	3.0	63.4
1 5/8	4.2	89.7
2 1/8	7.4	156.9
2 5/8	11.4	242.5
3 1/8	16.3	345.6
3 5/8	22.1	468.6
4 1/8	28.7	608.4

Oil Charge Determination

The chiller is factory charged with the amount of oil required by the chiller only and not the total system. Refer to the manual that came with the chiller to determine the type of oil used. The amount of oil required is dependent upon the amount of refrigerant added to the system for the field-installed piping.

Calculate the amount of oil using the following formula:

Pints of Oil = Lbs. of R-134A added / 100

Oil level should be checked after the chiller has run for 15 minutes. The compressor oil level should be visible within the sight glass when the compressor is running. The oil level may vary as the compressor loads and unloads.

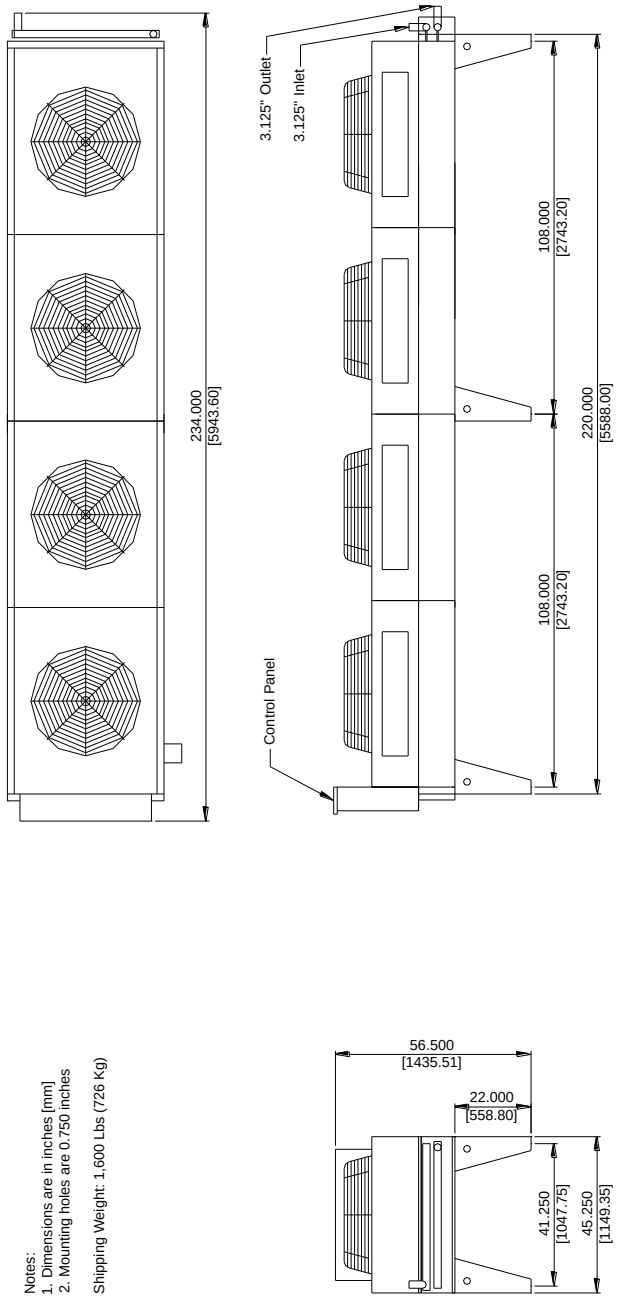
Condenser Fan Controls

The remote condenser is equipped with a variable speed header fan and fan cycling on the remaining fans to control the compressor discharge pressure. If the condenser has two rows of fans instead of one, the fans cycled in parallel. The chiller PLC controls the operation of these fans. Interconnecting wiring between the condenser and the chiller control panel is required to establish communication. Please see the electrical schematics for the chiller and the remote condenser for details. The discharge set point and condenser fan staging parameters are setup in the Chiller Tuning menu within the chiller PLC menu.

Drawings

We have prepared a custom set of drawings for your unit and placed them inside the shipping box or control panel prior to shipment. Please refer to these drawings when troubleshooting, servicing, and installing the unit. If you cannot find these drawings or wish to have additional copies sent, please contact our Customer Service Department and reference the serial number of your unit. The drawings included in this manual are typical only and may not represent the actual unit purchased.

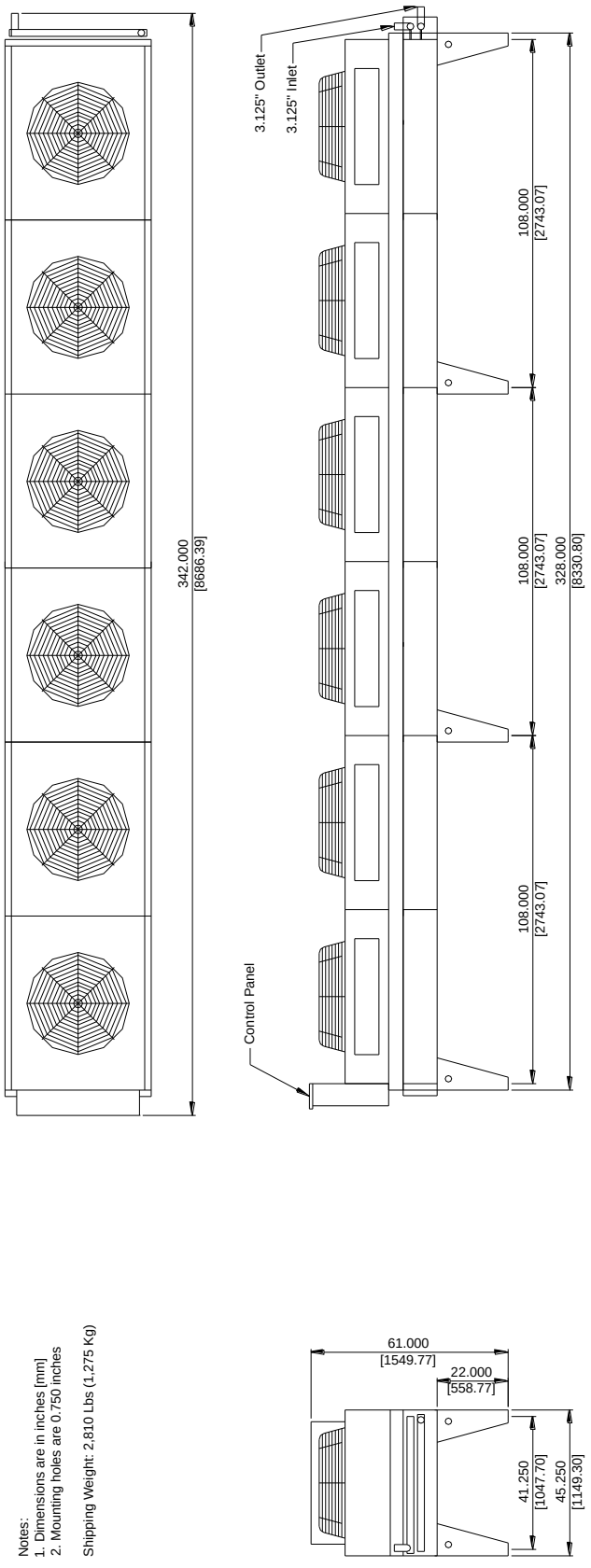
Figure 5 – MXR50 Remote Condenser Model LAVF14412 Weight & Dimensions Drawing



Notes:
1. Dimensions are in inches [mm]
2. Mounting holes are 0.750 inches

Shipping Weight: 1,600 Lbs (726 Kg)

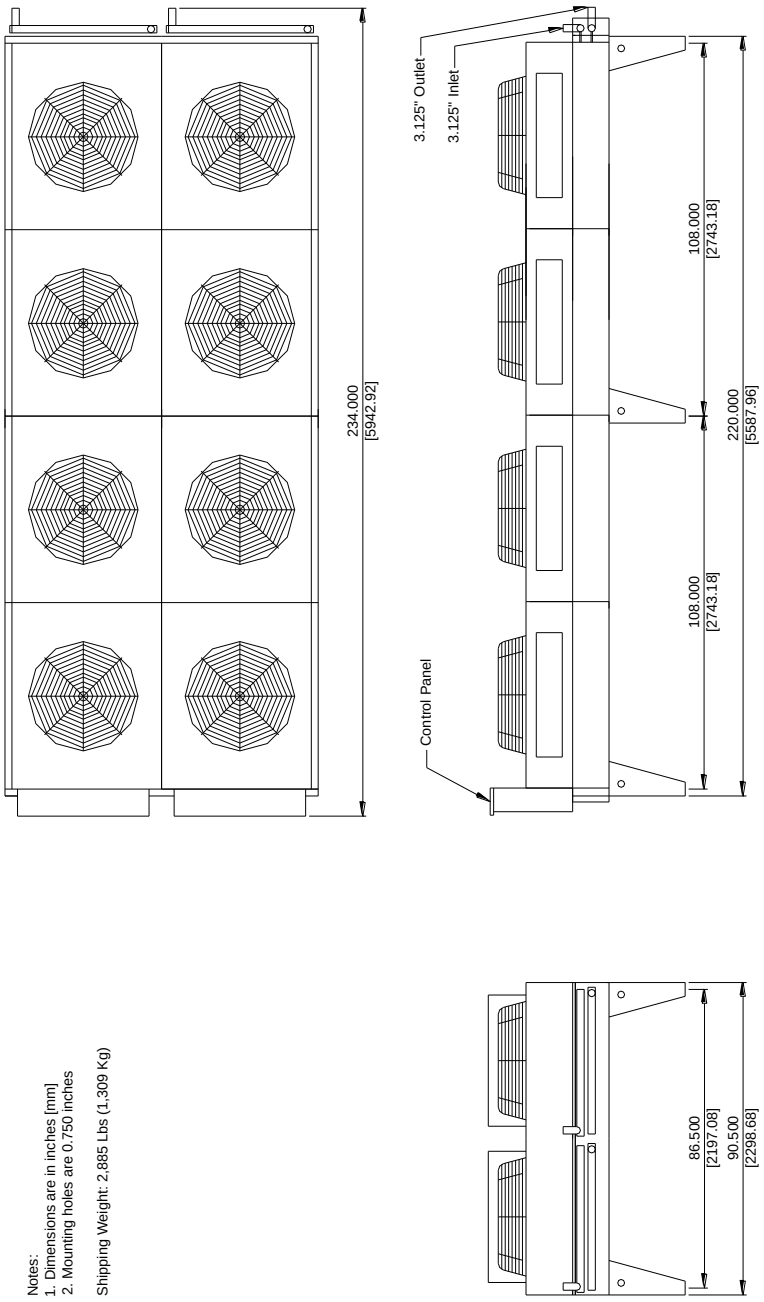
Figure 6– MXR75 Remote Condenser Model LAVF16410 Weight & Dimensions Drawing



Notes:
1. Dimensions are in inches [mm]
2. Mounting holes are 0.750 inches

Shipping Weight: 2,810 Lbs (1,275 Kg)

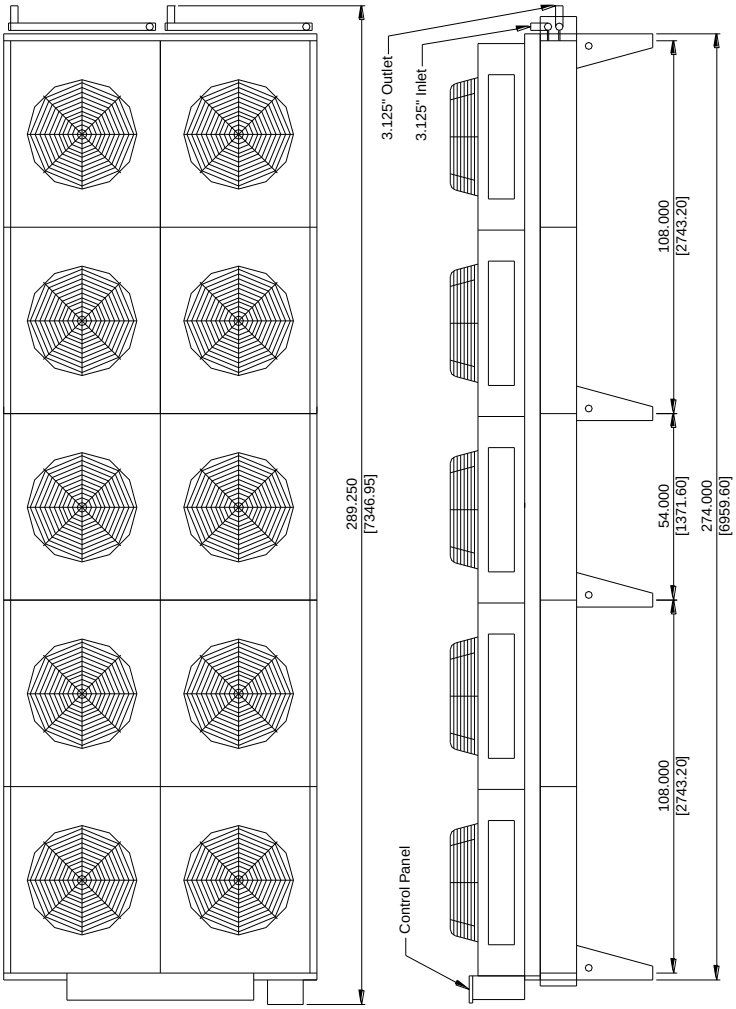
Figure 7 – MXR100 Remote Condenser Model LAVF24410 Weight & Dimensions Drawing

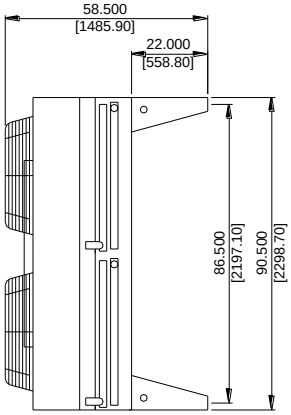


Notes:
1. Dimensions are in inches [mm]
2. Mounting holes are 0.750 inches

Shipping Weight: 2,885 Lbs (1,309 Kg)

Figure 8 – MXR125 Remote Condenser Model LAVF25410 Weight & Dimensions Drawing





Notes:
1. Dimensions are in inches [mm]
2. Mounting holes are 0.750 inches

Shipping Weight: 4,050 Lbs (1,837 Kg)

Figure 9 – MXR50 Remote Condenser Model LAVF14412 Electrical Schematic

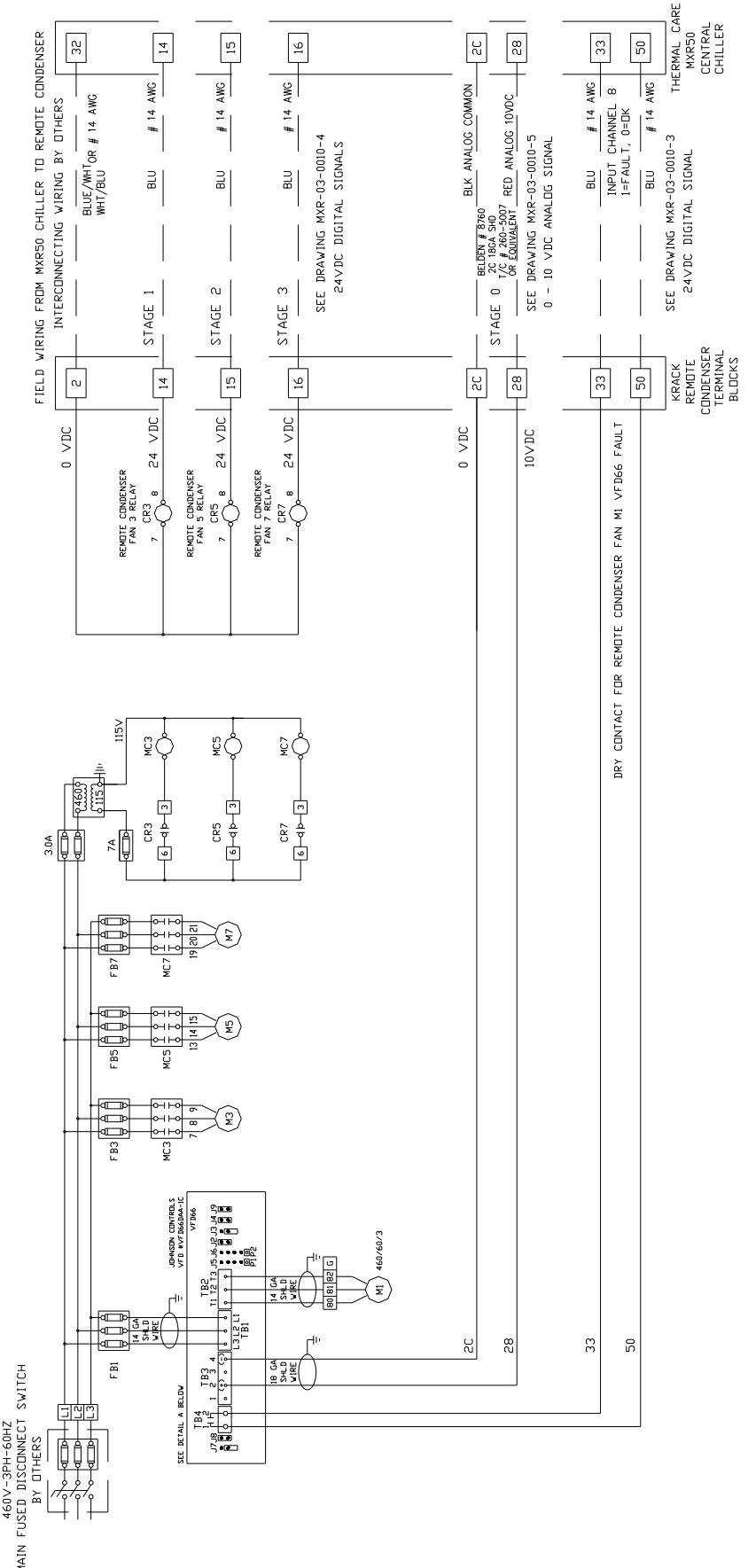


Figure 10 – MXR75 Remote Condenser Model LAVF16410 Electrical Schematic

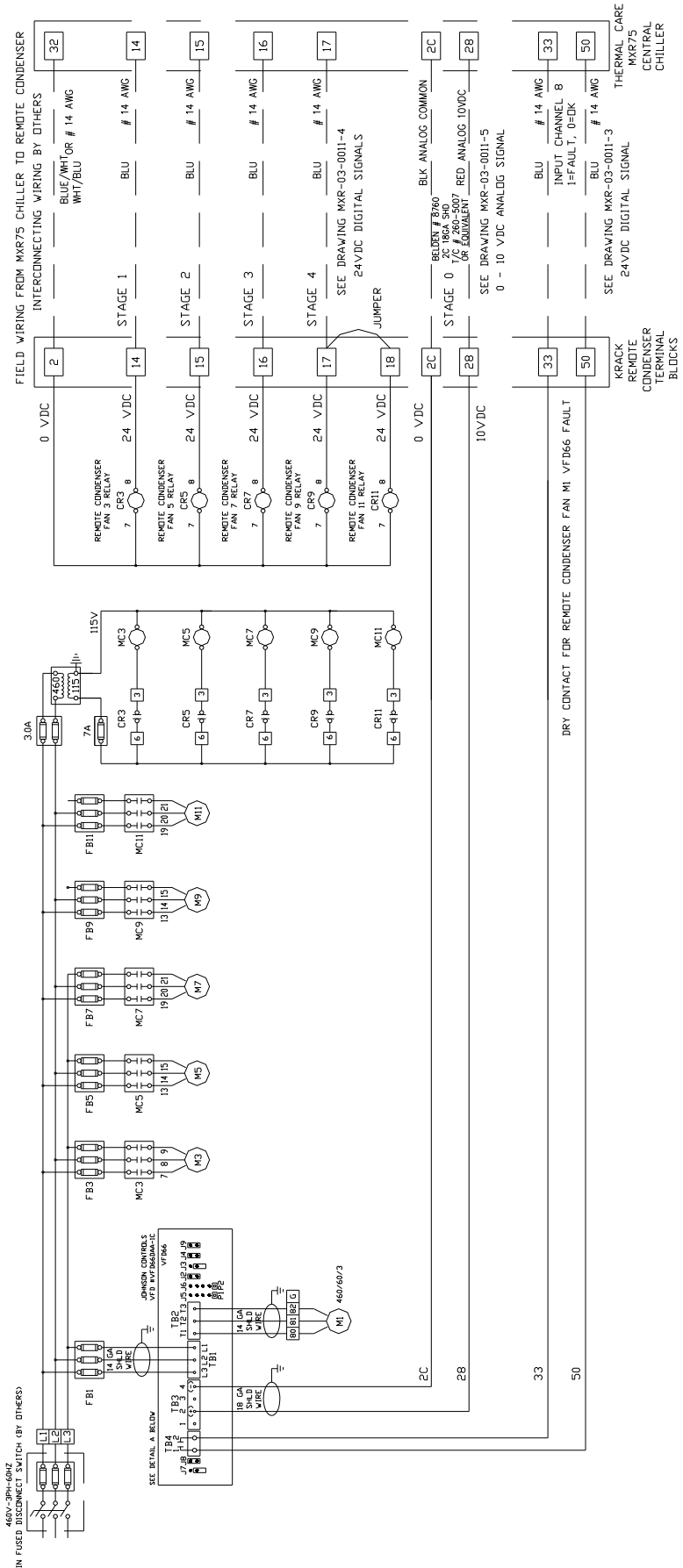


Figure 11 – MXR100 Remote Condenser Model LAVF24410 Electrical Schematic

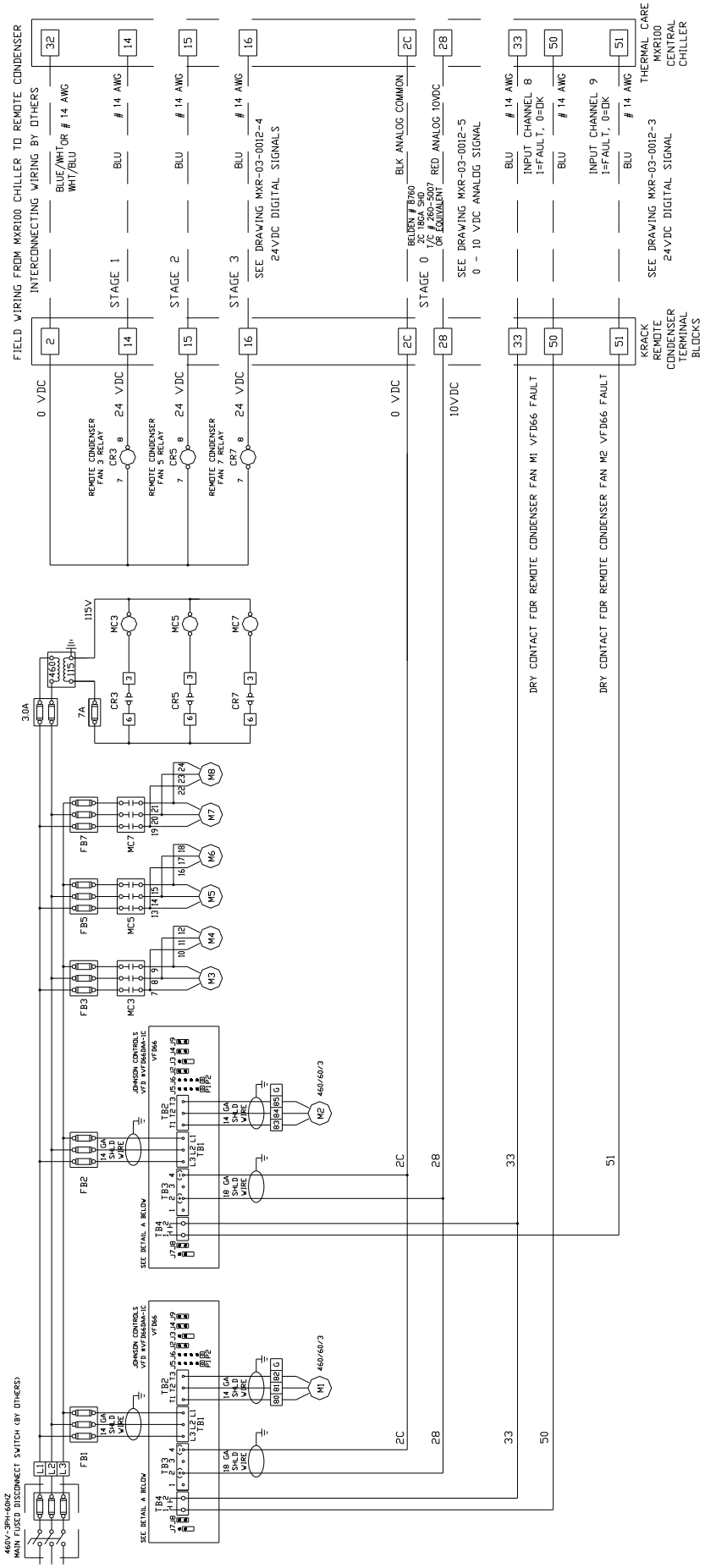
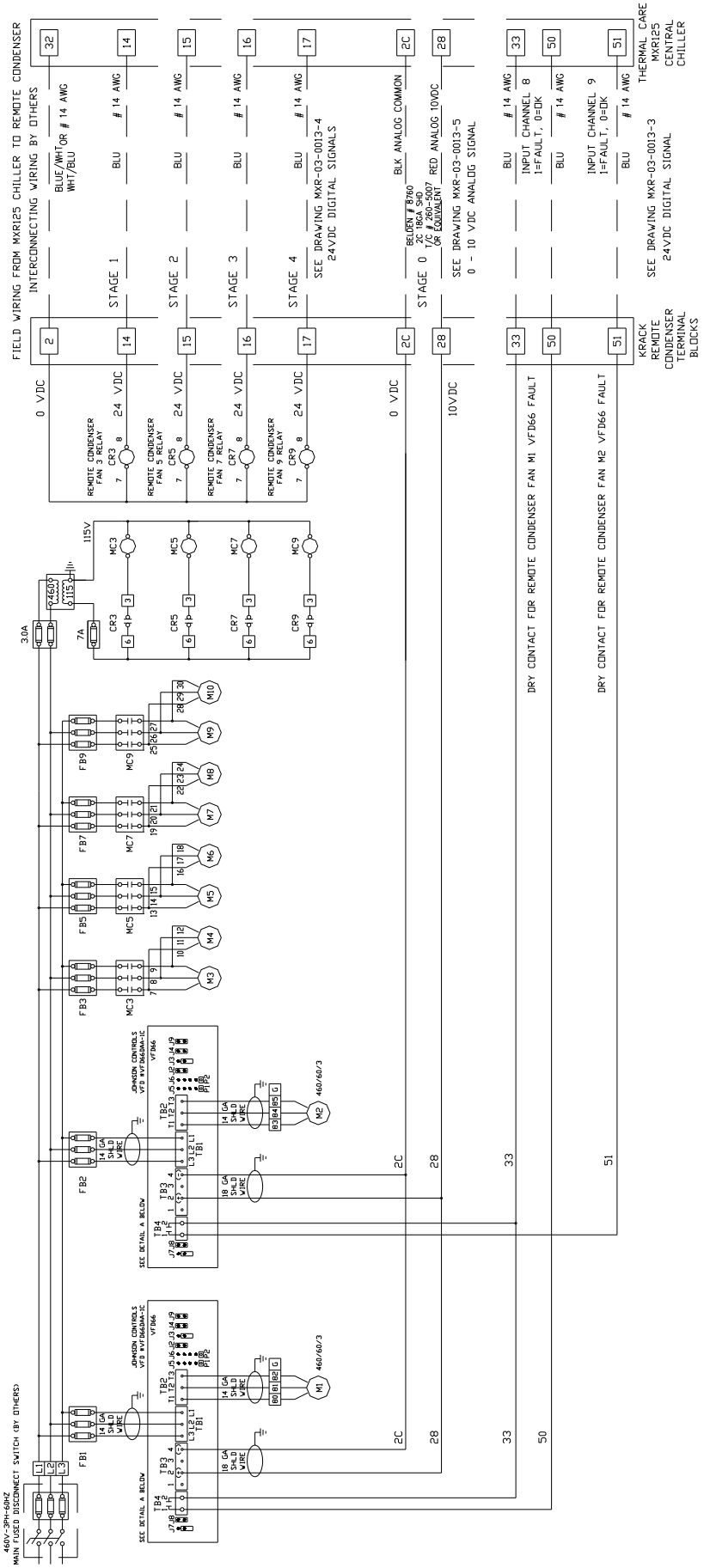


Figure 12 – MXR125 Remote Condenser Model LAVF25410 Electrical Schematic



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