

Quad-Plate Chiller Model QPC

INSTALLATION AND OPERATION MANUAL

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MUELLER



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Section 1.0 – Introduction

1.1 GENERAL INFORMATION

Mueller® quad-plate chillers are designed to provide chilled water at a preset temperature for batch applications. This manual provides the basic information necessary to install, startup, and operate a Mueller quad-plate chiller. The information in this manual must be followed to prevent equipment damage. Please contact Paul Mueller Company for additional technical assistance.

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1.2 DESCRIPTION OF THE EQUIPMENT

The Mueller quad-plate chiller evaporator assembly is available in three models to meet installation and application needs. The sizes are as follows:

- **QPC-5 (Part No. 9844597):** Nominal 120-gallon storage capacity to be used with a 5 horsepower (HP) remote condensing unit.
- **QPC-8 (9844424):** Nominal 120-gallon storage capacity to be used with an 8 HP remote condensing unit.
- **QPC-10 (9844576):** Nominal 120-gallon storage capacity to be used with a 10 HP remote condensing unit.

1.3 DIMENSIONS AND WEIGHT

| Model | QPC-5 | QPC-8 | QPC-10 |
|-----------------------------|----------|----------|----------|
| Width | 70" | 70" | 70" |
| Depth | 51" | 51" | 51" |
| Height | 74" | 74" | 74" |
| Approximate Shipping Weight | 1,720 lb | 1,825 lb | 1,930 lb |

1.4 REFRIGERATION COMPONENTS

The refrigeration components of the evaporator assembly include a thermal expansion valve for refrigerant control, a refrigerant manifold with a hot gas valve/solenoid/pressure switch, and a stainless steel quad-plate evaporator. Single-point refrigeration piping connections are provided for ease of installation (see Section 2.5).

1.5 LIQUID SOLUTION FLOW COMPONENTS

Liquid solution flow components include a baked, glass-lined, and insulated water storage tank; a water solenoid valve to control make-up water; a recirculation pump to provide water flow for the evaporator; a circulation pump to provide water to the process piping loop; and inner-connect piping. Single-point 1" FPT connections are provided for the water inlet, as well as a 1" MPT process recirculation return connection, and a 1½" MPT process water outlet.

1.5 LIQUID SOLUTION FLOW COMPONENTS (CONTINUED)

This system is designed to maintain the water level in the storage tank after each batch of chilled water is drawn. Makeup water will not enter the storage tank during the batch draw, which eliminates temperature blending of the warmer make-up water and chilled water.

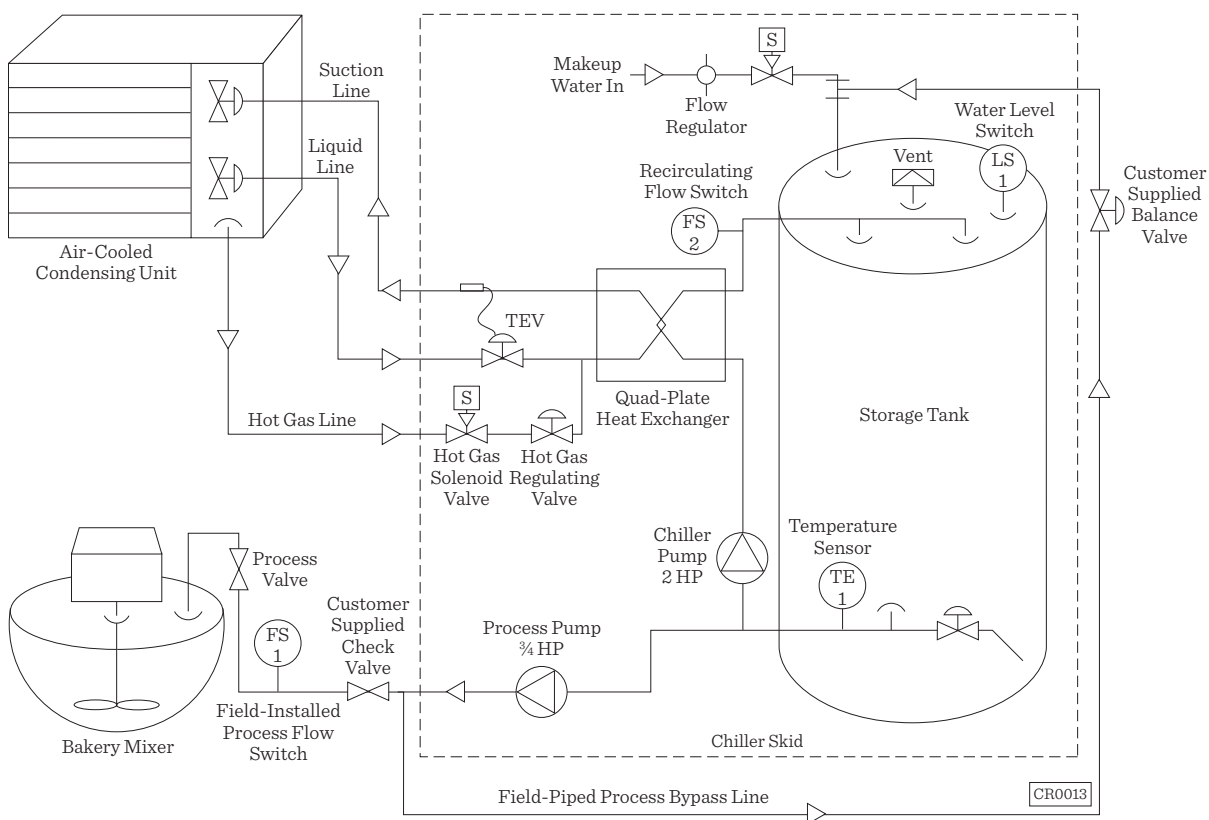
1.6 ELECTRICAL COMPONENTS

All wiring must be performed in compliance with the National Electric Code and local codes and regulations.

The control box contains fuses for system protection. Fuse failure requires troubleshooting to determine the cause of failure and replacement with the same fuses, as shown in Figure 5.

The electronic temperature control can be set for temperature control of chilled water and temperature indication in Fahrenheit or Celsius. Programming is described in Section 4.0.

FIGURE 1: QUAD-PLATE CHILLER PROCESS DIAGRAM



NOTE: Refer to Section 2.4 for chilled water piping.

Section 2.0 – Installation

2.1 INSPECTION

Because it is possible for equipment to be damaged during shipment, Paul Mueller Company recommends thoroughly inspecting the equipment before it is unloaded from the freight truck. Carefully examine the equipment for concealed damage. It may be difficult to collect for damage if it is not found prior to unloading. It is important to note any damage on the bill of lading and have the driver sign it.

2.2 SAFETY

Installation and service should be performed by an authorized service technician who has the proper training to install and service refrigeration equipment. Effective November 1994, the service technician must be certified in refrigerant usage by a testing organization approved by the U.S. Environmental Protection Agency (EPA) before installing or servicing refrigeration equipment.

All electrical connections must be performed by a qualified electrician in accordance with the National Electric Code and local regulations.

2.3 LOCATION

When choosing a location for the Mueller quad-plate chiller, consider these items:

- **Environment:** An indoor location where the chiller is protected from freezing temperatures will be necessary.
- **Serviceability:** The chiller should be located with the circulating pumps and the control panel accessible for service. Keep in mind the chiller will require field connections to the main electrical supply and water supply line. The chiller should be located close to a drain for service and cleaning.
- **Condensing Unit:** The condensing unit must be located where it is protected from the environment and has adequate air flow for the condenser. Be especially cautious of conditions that would allow dust or oil to enter the condenser.
- **Efficiency:** Locate the chiller as close as possible to point of use for chilled water.

2.4 CHILLED WATER PIPING

The process water outlet should be connected to the 1½" outlet located near the circulation pump. The process water (chilled water) line should be piped to the process water outlet(s) with a minimum pipe size of 1" and a recirculation line with a minimum pipe size of ½" connected to the process water return connection. A valve should be installed just prior to the process water return connection to adjust the recirculation flow (see Figure 1). All process water lines should be insulated to reduce the external heat gain to the chilled water.

The tee fitting and flow switch assembly are shipped loose, to be field installed close to the process control valve (see Figure 1). After the switch assembly's installation, a connection needs to be made to switch from terminals 4 and 5 in the quad-plate control box.

NOTE: The direction of flow should match the arrow on the flow switch.

Check all piping for leaks and repair if required. Clean and rinse the lines and water storage tank prior to use.

2.5 CONDENSING UNIT INSTALLATION

All refrigerant piping should be in accordance to acceptable refrigeration practices. Distance between the condensing unit and the chiller assembly should be as close as possible. Long distance piping and risers may require attention to reduce restriction of refrigerant flow and to provide adequate oil return.

The liquid, hot gas, and suction lines should be of adequate size, as recommended in the ASHRAE Refrigeration Handbook. A liquid line drier of adequate size should be installed on all quad-plate chiller models. A liquid line sight glass should be installed just prior to the thermal expansion valve (TEV) on the chiller evaporator assembly.

Evacuation to 500 microns prior to refrigerant charging is required. The system must hold 1,000 microns in a standing vacuum test, ensuring it is leak free.

Initial refrigerant charging should be through the liquid service valve, as most blended refrigerants must be charged in liquid form only. Charge with an adequate amount of refrigerant prior to starting the compressor and make sure the water storage tank is filled with water. Refer to Section 3.1 for startup procedures and Section 7.0 for condensing units.

The hot gas line must be field installed from the condensing unit to the hot gas bypass pressure switch. A tee must be field installed/cut-in on the condensing unit. Refer to Figure 2.

FIGURE 2: HOT GAS LINE

Install a tee in the hot gas line.



NOTE: Refer to Figure 10, “Refrigeration Cycle Diagram.”

Section 3.0 – First Time Startup and Cleaning the System

3.1 FIRST TIME STARTUP CLEANING PROCEDURE

Before proceeding, ensure the water piping is complete, as described in Section 2.4 and Figure 1, and the refrigeration piping is complete, as described in Section 2.5 and Figure 4. In addition, ensure the wiring is complete, as described in Section 5.0.

1. First, open the supply water shut-off valve(s).
2. Open the drain valve located at the outlet of the water storage tank.
3. A toggle switch, located inside the control box in the back panel's upper right corner, disables the circulation pump. The up position allows the pump to run and the down position disables the pump. Turn the toggle switch to the down position.



IMPORTANT: Any time the tank is empty, or on initial startup, the operator must disable the circulation pump. Disabling the circulation pump allows the fill solenoid to fill the tank and prevents the pump from running dry.

4. Turn the power on to the control panel. Make sure the power is off to the condensing unit during this part of startup. Turn the green selector switch, located on the front of the control panel, from the left position to the center position to energize the system. The green light will be lit. This will allow water to flow to the storage tank. Allow water to flow until clean and clear water is flowing out of the drain.
5. Close the drain valve and allow the storage tank to fill.
6. Turn the toggle switch to the up position and allow the circulation pump to operate for two minutes and turn the selector switch off (left position).
7. Open the drain valve again and drain the water from the storage tank. If the water is not clean, repeat the cleaning procedure.

3.2 FILLING THE SYSTEM

1. Close the drain valve.
2. Turn the toggle switch to the down position
3. Turn the selector switch on to fill the system with water again.
4. Open the chilled water valve and allow water to flow until clean.
5. Close the chilled water valve and allow the storage tank to refill with make-up water.
6. Turn the toggle switch to the up position to operate the circulation pump.
7. Complete the initial condensing unit charging procedure. The final refrigerant charging is to be completed in conjunction with the TEV superheat adjustment, as described in Sections 7.6 and 7.7.

Section 4.0 – Programming and Troubleshooting

4.1 POWER ON SEQUENCE OF OPERATION

A. When the selector switch is in the OFF (left) position:

1. Power is supplied to the temperature controller and a temperature is displayed. Setpoints may be changed any time power is supplied to the temperature controller. The temperature displayed may not be a true reading of the tank temperature if the circulation pump is not running.
2. All other functions of the chiller are disabled.

B. When the selector switch is in the ON (center) position:

1. Power is supplied to the temperature controller and a temperature is displayed. Setpoints may be changed any time power is supplied to the temperature controller. The temperature displayed may not be a true reading of the tank temperature if the circulation pump is not running.
2. The system light at the center of the selector switch is on.
3. The fill solenoid allows the tank to fill until the level sensor stops the fill near the top of the storage tank.
4. The circulation pump is on. The operator must disable the circulation pump any time the tank is empty or during initial startup. This will allow the fill solenoid to fill the tank and prevent the pump from running dry. Refer to Section 3.1, “First Time Startup” for detailed information.
5. Water will flow through the quad-plate chiller and close the contacts of the chiller loop flow switch, returning to the top of the storage tank.
6. When the chiller flow switch is closed and the tank is completely filled, the temperature controller can turn the condensing unit on if the water temperature is above the setpoint.
7. If the refrigerant suction pressure falls below 67 psig (R-507), the hot gas valve will open to help prevent the quad-plate chiller from freezing. Should the quad-plate chiller freeze, the chiller loop flow switch will turn the condensing unit off. The circulation pump will continue to operate. Refer to Section 7.7, “Hot Gas Pressure Switch Adjustment.”

C. When the selector switch is in the CHILLER LOOP/PROCESS PUMP (right) position:

1. All of the functions of the chiller loop remain.
2. The process pump is on.
3. Water will flow through the process bypass piping loop and return to the tank.
4. When a batch is drawn, flow through the process increases. This opens the contacts of the process flow switch, disabling the fill solenoid and the condensing unit. The chiller loop pump and the process pump will continue to operate.
5. When the batch draw is complete, the process flow switch contacts will close and the fill solenoid will refill the tank. The temperature controller again has control of the condensing unit.

4.2 LOCKING AND UNLOCKING THE TEMPERATURE CONTROLLER

1. Press and hold the “SEL” key for five seconds until “AL1” is displayed. Press the “↓” down key once to display “LoC.”
2. Press the “SEL” key once again to display the locking code (i.e., “0” for unlocked and “4” for locked).
3. Press the “↑” up key or the “↓” down key until either “0” for unlocked or “4” for locked is displayed.

NOTE: Any number between “0” and “5” may be entered, but only “0” and “4” are active.

4. Press the “SEL” key to save the change made. The controller will once again display “LoC.”
5. Press and hold the “SEL” key for five seconds until the setpoint value is displayed, indicated by a small “SV” illuminating in the upper left corner of the controller.
6. Press the “SEL” key to display the current tank temperature.

NOTE: If the “SEL” key is not pressed within approximately 25 seconds, the controller will time out and return to the current temperature, storing the new setpoint or any changes made.

4.3 CHANGING THE SETPOINT ON THE TEMPERATURE CONTROLLER

1. Unlock the controller as in Section 4.2, step 2.
2. Press the “SEL” once to display the setpoint. This is indicated by a small “SV” illuminating in the upper left corner of the controller.
3. Press the “↑” up key or the “↓” down key until the desired setpoint is displayed.
4. Press the “SEL” key to save the change made and to display the current tank temperature.

NOTE: If the “SEL” key is not pressed within approximately 25 seconds, the controller will time out and return to the current temperature, storing the new setpoint or any changes made.

4.4 CHANGING THE CALIBRATION OFFSET ON THE TEMPERATURE CONTROLLER



IMPORTANT: Temperature control accuracy is a very important variable in the functionality and protection of the quad-plate chiller. Before energizing the refrigeration, measure the water temperature at the reservoir drain with a calibrated thermometer. If the temperature control does not correspond, adjust the offset by following the directions below.

1. Unlock the controller as in Section 4.2, step 2.
2. Press and hold the “SEL” key for seven seconds until “P-F” is displayed.
3. Press the “↓” down key once to display “PUOF.”
4. Press the “SEL” key once to display the calibration offset.

4.4 CHANGING THE CALIBRATION OFFSET ON THE TEMPERATURE CONTROLLER [CONTINUED]

5. Press the “↑” up key or the “↓” down key to adjust the calibration offset to the amount of offset required to match the actual water temperature. The calibration offset can be used to set the actual temperature display should it not be the same as the water temperature in the storage tank.
6. Press the “SEL” key to save the change made. The controller will once again display “PUOF.”
7. Press and hold the “SEL” key for five seconds until the setpoint value is displayed, indicated by a small “SV” illuminating in the upper left corner of the controller.
8. Press the “SEL” key to display the current tank temperature.

NOTE: If the “SEL” key is not pressed within approximately 25 seconds, the controller will time out and return to the current temperature, storing the new setpoint or any changes made.

4.5 CHANGING THE UNITS OF MEASURE ON THE TEMPERATURE CONTROLLER



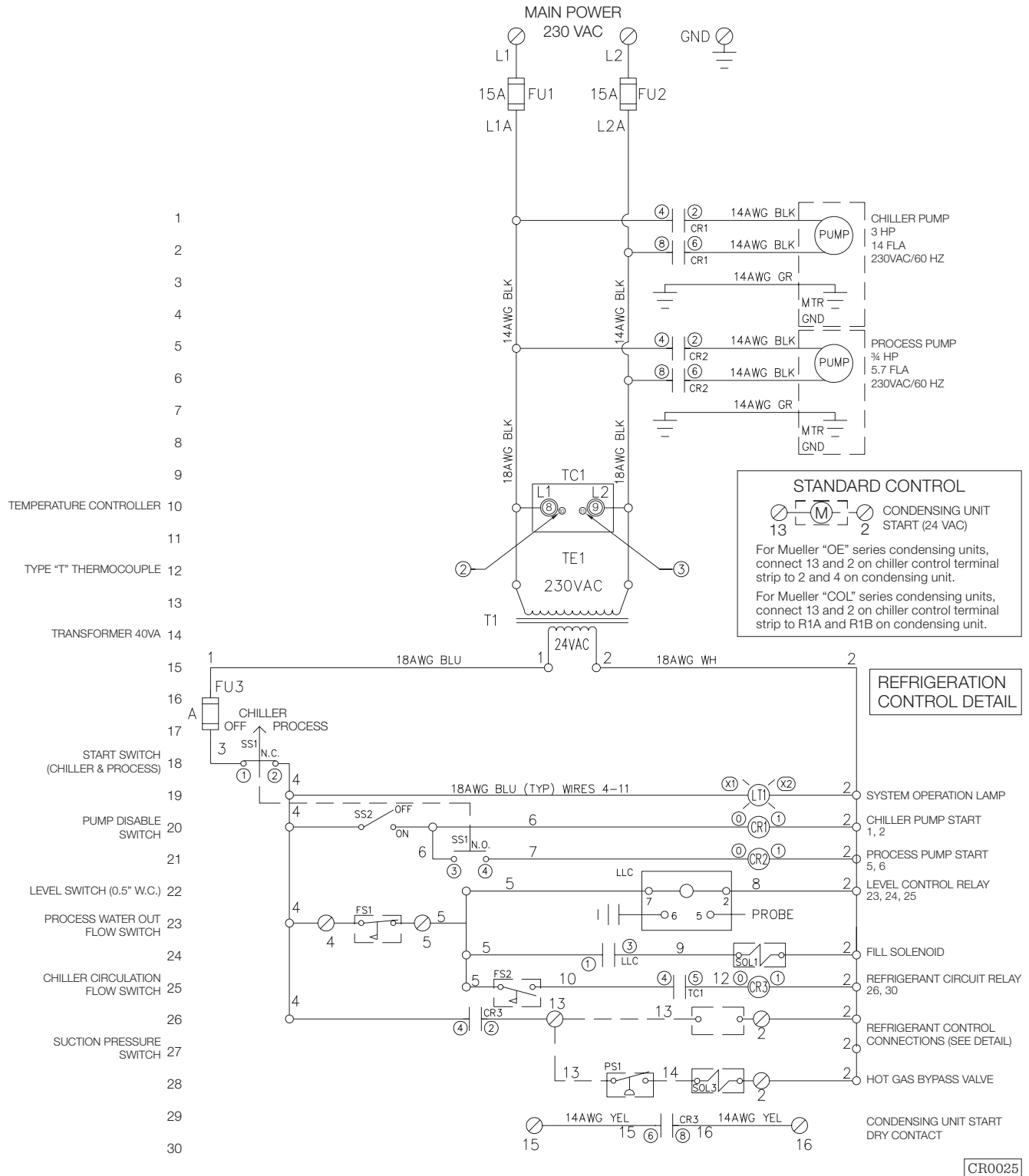
IMPORTANT: Once the display has been changed to the desired unit of measure, either “F” for Fahrenheit or “C” for Celsius, the temperature setpoint must also be changed to match the units (e.g., 36°F or 2.2°C). Please contact Paul Mueller Company for assistance.

1. Unlock the controller as in Section 4.2, step 2.
2. Press and hold the “SEL” key for seven seconds until “P-F” is displayed.
3. Press the “SEL” key once to display the current temperature unit of measure, either “F” for Fahrenheit or “C” for Celsius.
4. Press the “↑” up key or the “↓” down key until either “F” or “C” is displayed.
5. Press the “SEL” key to save the change made. The controller will once again display “P-F.”
6. Press and hold the “SEL” key for five seconds until the setpoint value is displayed, indicated by a small “SV” illuminating in the upper left corner of the controller.
7. Press the “SEL” key to display the current tank temperature.

NOTE: If the “SEL” key is not pressed within approximately 25 seconds, the controller will time out and return to the current temperature, storing the new setpoint or any changes made.

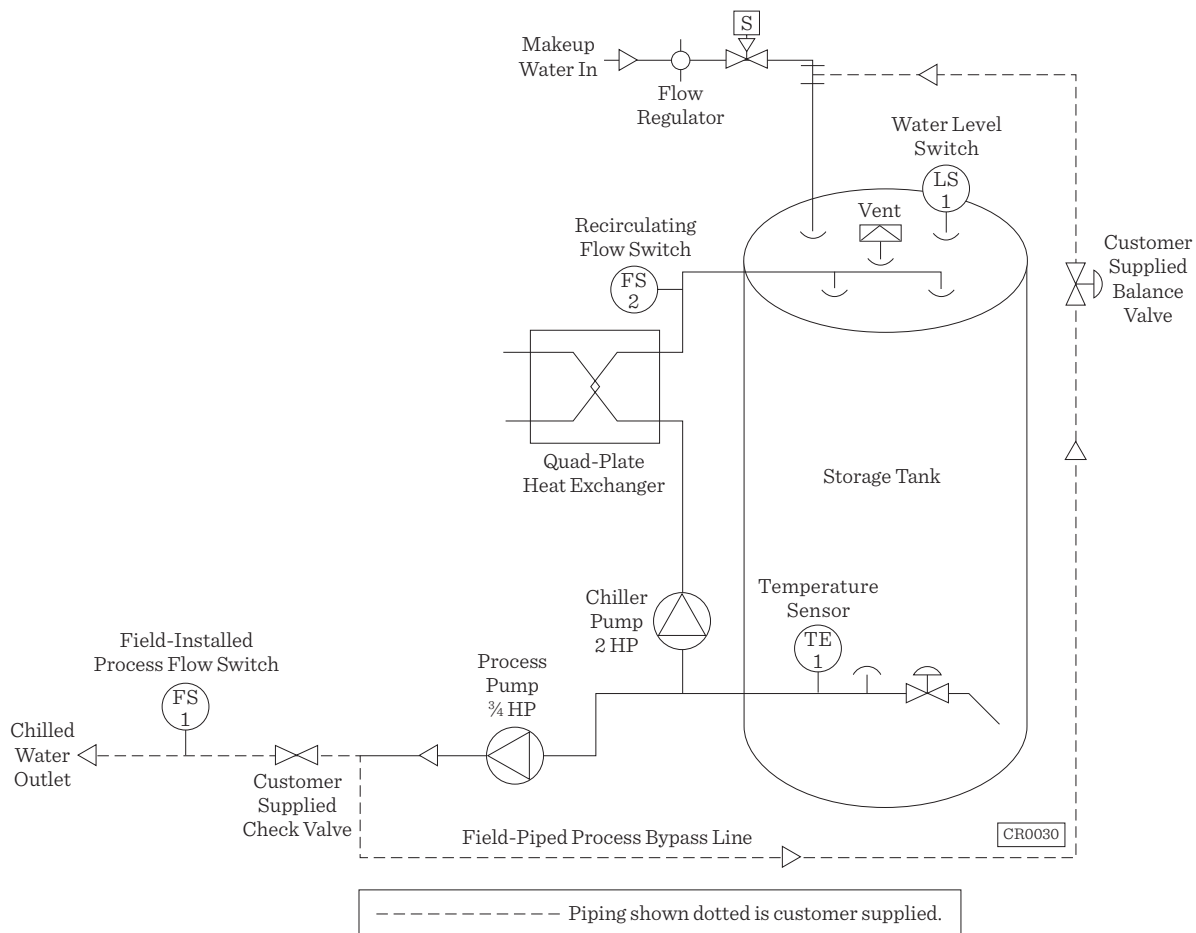
Section 5.0 – Diagrams

5.1 WIRING SCHEMATIC, PART NO. 9842327



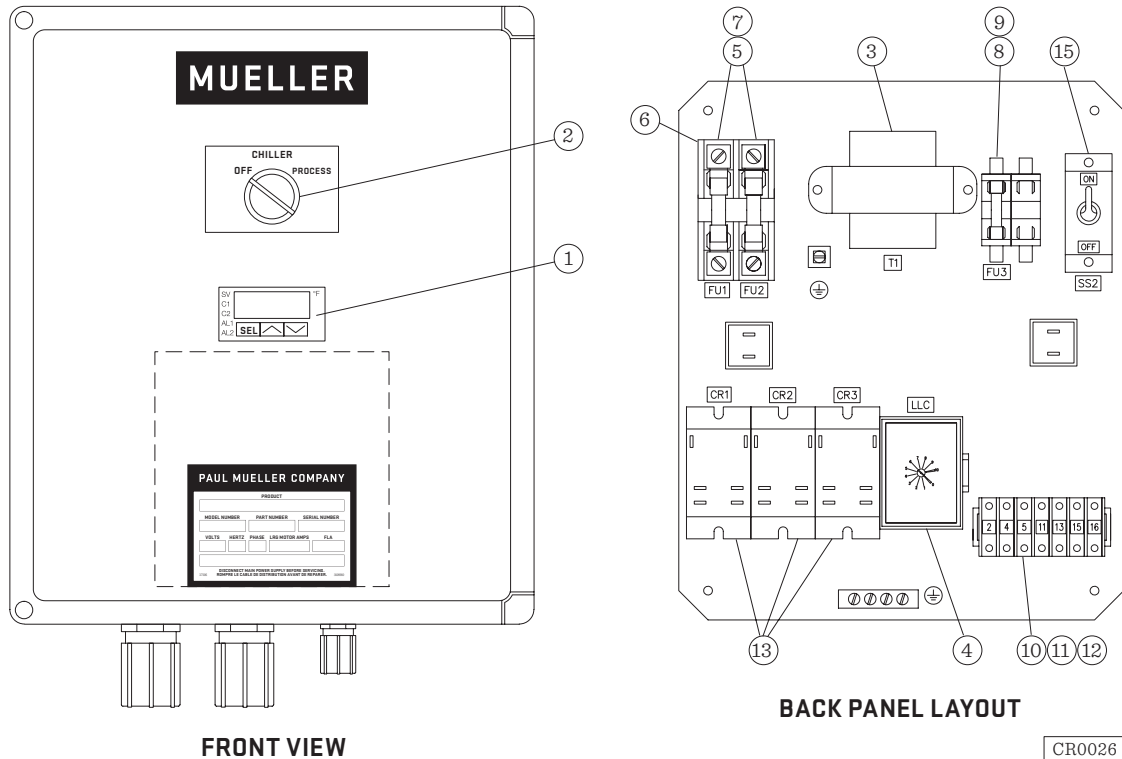
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FIGURE 3: FLOW DIAGRAM



Section 6.0 – Parts Illustrations

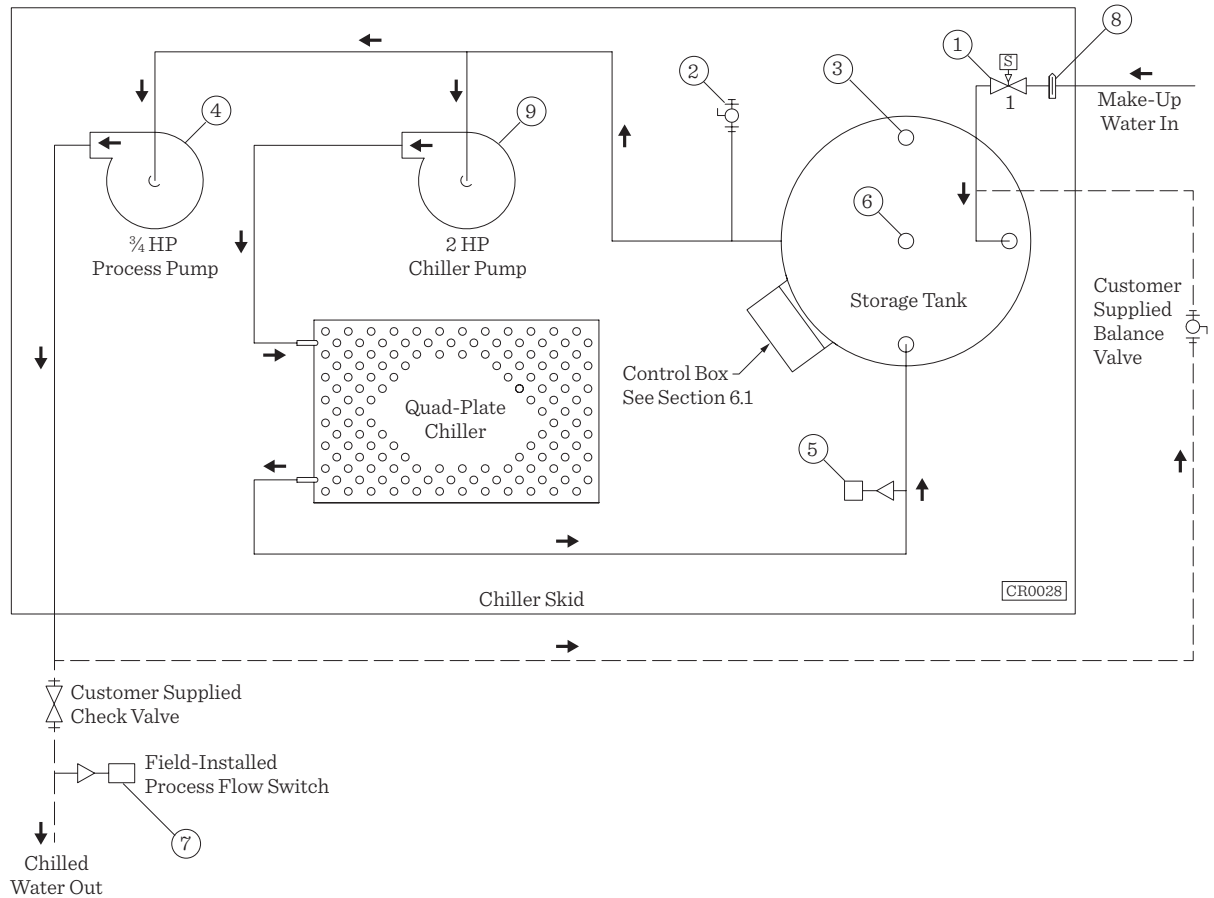
6.1 CONTROL BOX



6.2 CONTROL BOX PARTS LIST

| Item No. | No. Required | Part No. | Description |
|----------|--------------|----------|---|
| 1 | 1 | 9844261 | Controller, Temperature, 1/2 DIN |
| 2 | 1 | 9842325 | Switch, Selector, Three Position |
| 3 | 1 | 9844577 | Transformer, 208–240 V, Primary 24 V, 75 VA |
| 4 | 1 | 9844317 | Module, Liquid Level Control |
| 5 | 2 | 9820091 | Fuse Block, 30 Ampere, Class CC |
| 6 | 1 | 505793 | Fuse Block, End Barrier |
| 7 | 2 | 9820112 | Fuse, Cartridge, 15 Ampere, 600 V |
| 8 | 2 | 8820703 | Fuse, Block, 30 Ampere, 300 V, 10 Pole |
| 9 | 1 | 8806523 | Fuse, Cartridge, 2 Ampere, 250 V |
| 10 | 7 | 8805635 | Terminal, Block |
| 11 | 1 | 8805636 | Barrier, Elec. End |
| 12 | 2 | 8805226 | Clip, Retainer |
| 13 | 3 | 8820240 | Relay Switch, DPST, 24 VAC |
| 14 | 1 | 8820165 | Thermocouple, Sensor, Type “T” |
| 15 | 1 | 30853 | Switch, Toggle, DPST |

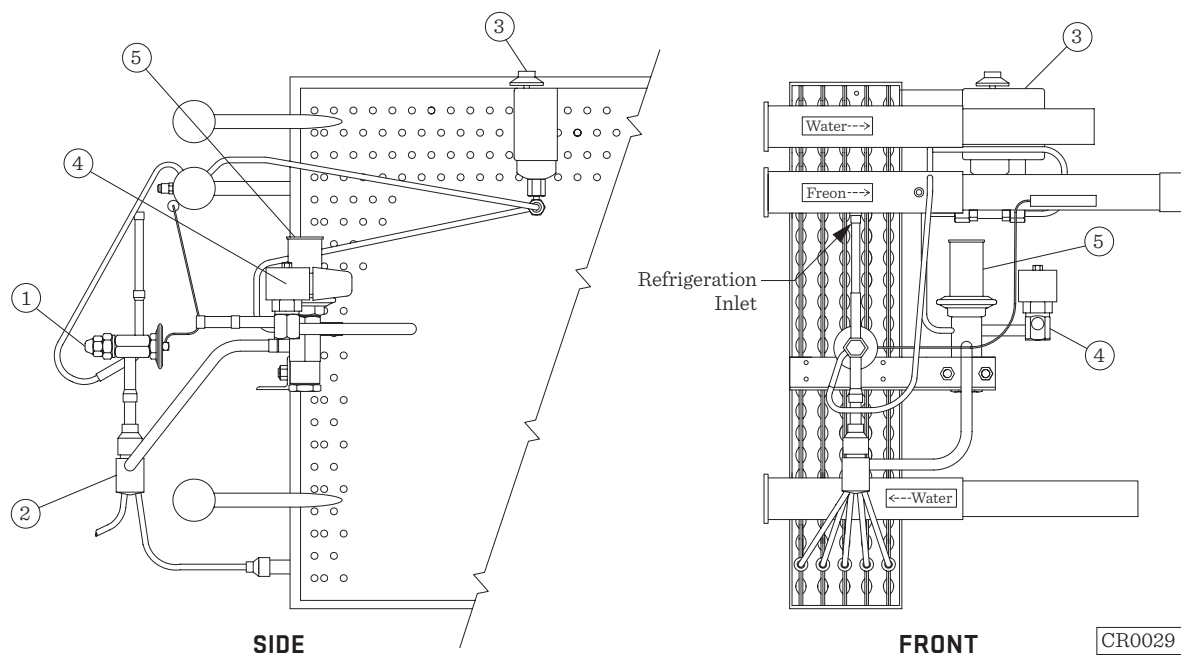
6.3 WATER PIPING ASSEMBLY



6.4 WATER PIPING ASSEMBLY PARTS LIST

| Item No. | No. Required | Part No. | Description |
|----------|--------------|----------|---|
| 1 | 1 | 9841357 | Solenoid Valve, 1" NPT, Two-Way NC |
| 2 | 1 | 8807153 | Ball Valve, .5" NPT, Brass |
| 3 | 1 | 9844320 | Level Probe, 24 VAC |
| 4 | 1 | 9844345 | Process Pump, .75 HP |
| 5 | 1 | 9841768 | Chiller Circulation Flow Switch, Magnetic |
| 6A | 2 | 9844350 | Vent Breather, Low Profile |
| 6B | 1 | 9844550 | Tee Brass, LF, .75" FPT |
| 7 | 1 | 9843081 | Process Flow Switch, Non-Magnetic |
| 8 | 1 | 9843188 | Flow Regulator, 1", 20 GPM |
| 9 | 1 | 9842261 | Chiller Pump, 2 HP |

6.5 REFRIGERATION PIPING ASSEMBLY



6.6 REFRIGERATION PIPING ASSEMBLY PARTS LIST

| Item No. | No. Required | Part No. | Model | Refrigerant | Description |
|----------|--------------|----------|---------|-------------|-----------------------------------|
| 1A | 1 | 9843711 | QPC-005 | R-507 | Valve Expansion, 4 Ton |
| 1B | 1 | 8826195 | QPC-008 | R-507 | Valve Expansion, 6 Ton |
| 1C | 1 | 8825850 | QPC-010 | R-507 | Valve Expansion, 7.5 Ton |
| 2A | 1 | 9843181 | QPC-005 | R-507 | Distributor, .875" ODF, #1653R-5 |
| 2B | 1 | 8820580 | QPC-008 | R-507 | Distributor, .875" ODF, #1653R-8 |
| 2C | 1 | 9843147 | QPC-010 | R-507 | Distributor, .875" ODF, #1655R-10 |
| 3 | 1 | 9813913 | - | - | Switch Pressure, Low Style 5 |
| 4 | 1 | 9841999 | - | - | Valve Solenoid, .5" ODS x .5" ODS |
| 5 | 1 | 9842000 | - | - | Valve Bypass, .5" ODF, Brass |

Section 7.0 – Condensing Units

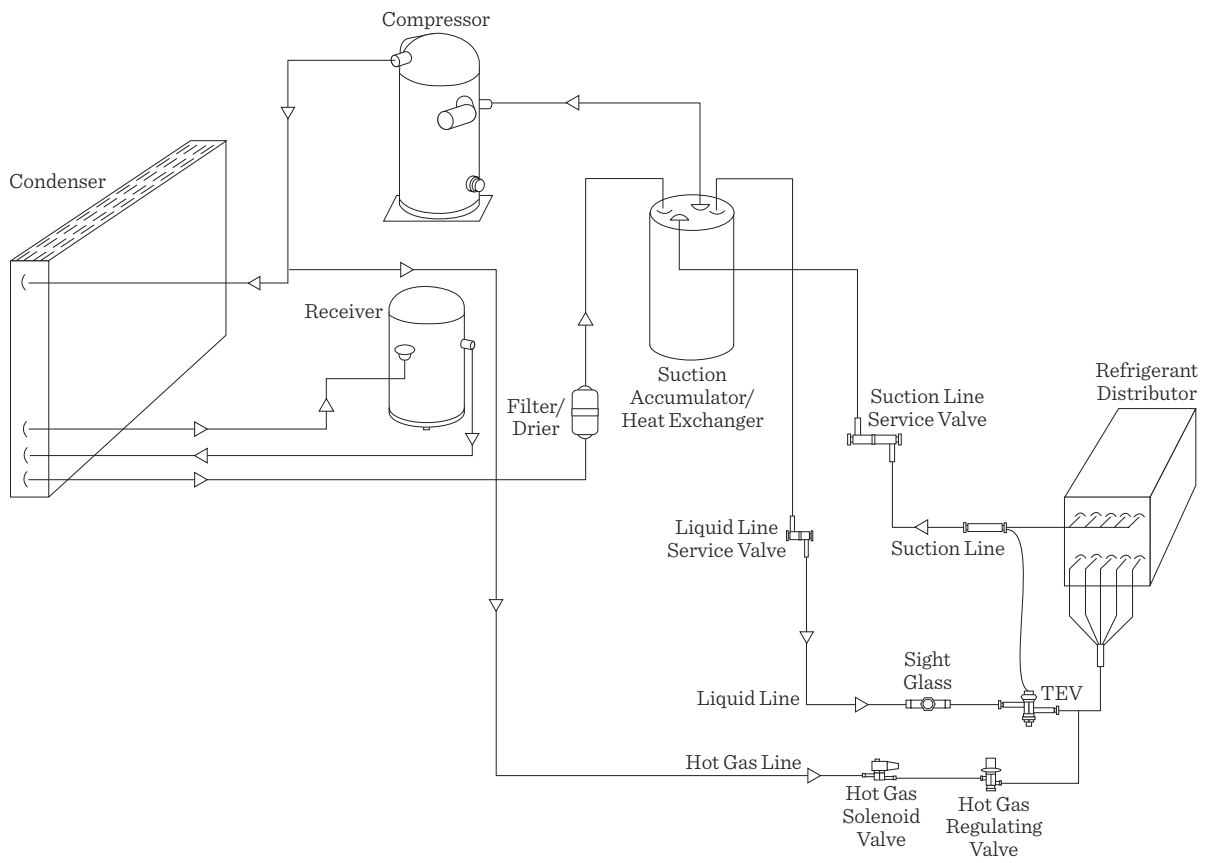
7.1 AIR-COOLED CONDENSING UNIT SPECIFICATIONS

| Model | Condensing Unit Model No. | Overall Dimensions | | | Liquid Line Valve | Suction Line Valve | Approximate Shipping Weight |
|--------|---------------------------|--------------------|-------|--------|-------------------|--------------------|-----------------------------|
| | | Length | Width | Height | | | |
| QPC-5 | OESE-A53, -A534 | 40.1" | 30.4" | 31.5" | ¾" SWT | ¾" SWT | 388 lb |
| QPC-8 | OESE-A753, -A7534 | 46.5" | 33.5" | 42.5" | ⅝" SWT | 1⅝" SWT | 450 lb |
| QPC-10 | OESE-A93, -A94 | 46.5" | 33.5" | 42.5" | ⅝" SWT | 1⅝" SWT | 450 lb |

7.2 AIR-COOLED CONDENSING UNIT ELECTRICAL DATA

| Part No. | Condensing Unit Model No. | 208-230/3/60 | | Part No. | Condensing Unit Model No. | 480/3/60 | |
|----------|---------------------------|-----------------------|--------------|----------|---------------------------|-----------------------|--------------|
| | | Min. Circuit Ampacity | Maximum Fuse | | | Min. Circuit Ampacity | Maximum Fuse |
| 8825318 | OESE-A53-HFC | 30 | 50 | 8825319 | OESE-A534-HFC | 13.2 | 20 |
| 8827001 | OESE-A753-HFC | 46.8 | 80 | 8827002 | OESE-A7534-HFC | 20.7 | 35 |
| 8827003 | OESE-A93-HFC | 53 | 90 | 8827004 | OESE-A94-HFC | 23.3 | 40 |

FIGURE 4: REFRIGERATION CYCLE DIAGRAM



7.3 EPA REFRIGERANT REGULATIONS*

Mueller quad-plate chillers are designed to operate with R-507 refrigerant, a Class II HFC refrigerant. R-507 refrigerant is an HFC binary mixture of 50% R-125 (pentafluoroethane) and 50% R-143a (1, 1, 1-trifluoroethane). R-507 refrigerant is specified by ASHRAE Standard 34 Safety Classification as an “A-1” refrigerants with low flame propagation and low toxicity.

EPA regulations require that any technician performing refrigerant installation or service on a high-pressure appliance be certified as a Type II or universal technician in accordance with Section 608 of the Clean Air Act.

An authorized Mueller service technician who has the proper certification and training to install and service Mueller equipment should perform installation and service. For assistance in locating an authorized Mueller service technician, contact Paul Mueller Company at 1-800-MUELLER (683-5537).

**As adopted for the United States and Canada. These regulations may change or differ for your locality. It is the responsibility of the technician performing the refrigerant service and/or installation to abide by all regulatory requirements for the installation locality, state, and country.*

7.4 REFRIGERANT CHARGING

Refrigerant charge amounts are a starting charge and vary with line length and weather conditions.

| Model | R-507 (lb) |
|--------|------------|
| QPC-5 | 13 |
| QPC-8 | 18 |
| QPC-10 | 23 |

Ensure that the proper procedures are followed and the TEV superheat adjustment is made. Refer to Section 7.6, “Thermal Expansion Valve (TEV) Superheat Adjustment.”

After the refrigerant sight glass is clear and the superheat adjustment is made, record the system refrigerant charge in Section 9.0.

7.5 RGE ELECTRONIC FAN PRESSURE CONTROL SETPOINT ADJUSTMENT

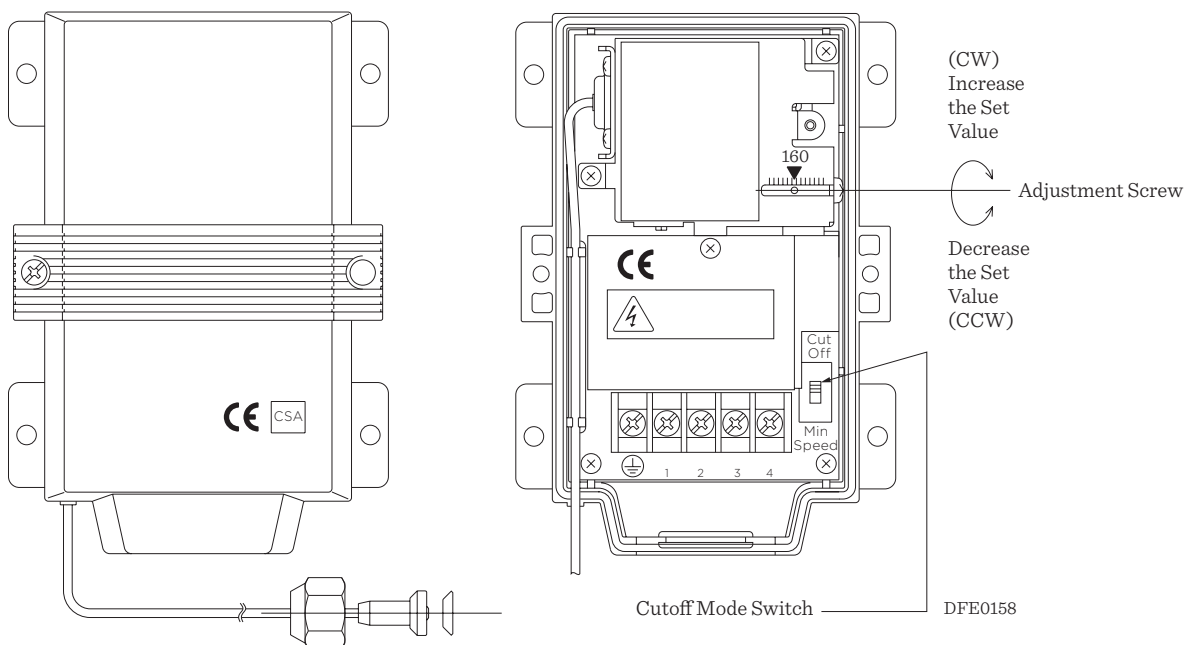
For R-507 units, the RGE is factory set to energize the fan at minimum speed when the high-side pressure rises above 190–200 psig. The fan motor should operate at full speed (1,075 rpm) when the high-side pressure rises above 230–240 psig. This setting should be verified on initial startup.

To verify RGE operation, connect the high side of a manifold gauge to the liquid line service valve (P6). Energize the condensing unit and monitor the fan operation in accordance with the high side pressure.

In low-ambient conditions, the condenser may have to be partially blocked to increase head pressure.

To adjust the pressure range, remove the RGE cover and locate the adjustment screw (see Figure 6). To increase the pressure range, turn the adjustment screw clockwise. To lower pressure range, turn the adjustment screw counter clockwise. One turn of the adjustment screw will change the range by approximately 15 psig.

FIGURE 6: RGE ELECTRONIC FAN PRESSURE CONTROL



7.6 THERMAL EXPANSION VALVE SUPERHEAT ADJUSTMENT

Take the following readings with the water storage tank full of water at a temperature below 40°F.

1. Take an accurate suction pressure at the evaporator outlet.



IMPORTANT: The suction pressure must be taken at the evaporator outlet, rather than the suction service valve, due to unknown pressure drop in the refrigerant line between the evaporator and compressor. The technician should also make certain the system is charged with refrigerant, as described in Sections 2.5 and 7.4.

2. Take an actual suction line temperature near the thermal expansion valve (TEV) sensing bulb using an accurate electronic thermometer.
3. Utilizing the pressure temperature chart for the appropriate refrigerant, convert the suction pressure reading from Step 1 to saturation temperature.
4. The superheat value is found by subtracting the saturation temperature determined in Step 3 from the actual suction line temperature taken in Step 2.
5. If the superheat is not in the range of 8 to 10°F, at conditions described above, adjust the TEV.
6. If the superheat is below 8°F, turn the TEV's adjustment stem clockwise $\frac{1}{8}$ to $\frac{1}{4}$ of a turn. Allow the system to operate for five minutes before repeating test.

7.6 THERMAL EXPANSION VALVE SUPERHEAT ADJUSTMENT (CONTINUED)

7. If the superheat is above 10°F, turn the TEV's adjustment stem counterclockwise $\frac{1}{8}$ to $\frac{1}{4}$ of a turn. Allow the system to operate for five minutes before repeating test.
8. Any time adjustment is made to the TEV, the refrigerant charge should be checked. If refrigerant must be added, care must be taken to meter the liquid refrigerant into the system slowly to avoid introducing liquid into the compressor.



IMPORTANT: Damage to the compressor may occur if liquid refrigerant reaches the compressor.

9. Check the superheat setting and make final adjustments at a product temperature near the setpoint for the best performance.

7.7 HOT GAS BYPASS PRESSURE SWITCH ADJUSTMENT

The hot gas bypass pressure switch is located on the quad-plate evaporator assembly. This pressure switch will open the hot gas solenoid valve, if required, to eliminate the possibility of evaporator freeze-up. The pressure switch settings should be checked and reset prior to startup.

| | Pressure Switch Setting |
|-------------|-------------------------|
| Refrigerant | R-507 |
| Cut In | 64 psig |
| Cut Out | 67 psig |

The hot gas bypass valve [ADRP(E)-3] has an operational range of 0–80 psig. This valve is factory set at 60 psig. The valve must be adjusted to operate at the cut in and cut out settings listed above. To do this, screw the adjustment screw in (clockwise) until it starts bypassing hot gas at higher pressures than 67 psig.

Section 8.0 – Equipment Markings

8.1 LABEL NO. 30890, CONTROL BOX DATA PLATE

PAUL MUELLER COMPANY

PRODUCT

MODEL NUMBER

PART NUMBER

SERIAL NUMBER

VOLTS

HERTZ

PHASE

LRG MOTOR AMPS

FLA

DISCONNECT MAIN POWER SUPPLY BEFORE SERVICING.
ROMPRE LE CABLE DE DISTRIBUTION AVANT DE REPARER.

170630890

8.2 LABEL NO. 8823374, ATTENTION: USE COPPER SUPPLY WIRE

ATTENTION

Use copper supply wire
or equivalent.

99088823374

8.3 LABEL NO. 8820677, GROUND SYMBOL



8.4 LABEL NO. 9819919, CAUTION: DRY NITROGEN GAS

⚠ CAUTION

MUELLER

Unit has holding charge of
dry nitrogen gas. Release
pressure before removal
of caps and flanges.

18059819919

Section 9.0 – Warranty

Quad-Plate Chiller Warranty

ONE-YEAR PARTS WARRANTY

Paul Mueller Company (hereafter referred to as *Company*) will repair or (at the *Company's* option) replace any part or portion of a Mueller® quad-plate chiller found to be defective in workmanship or material under normal use, service, and installation procedures, for a period of one (1) year from the date of installation by the original purchaser-user, or eighteen (18) months from the date of shipment from the *Company's* factory, whichever occurs first. This warranty covers replacement of parts or repair of the equipment only. (See General Provisions.)

CLAIM PROCEDURES FOR ONE-YEAR PARTS WARRANTY

All defective parts covered by the one-year parts warranty must be approved for return prior to shipment and be returned to the *Company* transportation cost prepaid with an attached Return Goods Authorization (RGA) number. Current instructions for return procedures, provided by the *Company's* Refrigeration Products Department, must be followed to receive warranty.

FIVE-YEAR STRUCTURAL WARRANTY

The *Company* warrants to the original purchaser-user that the Mueller quad-plate chiller evaporator (cooling plate) and water storage tank will remain free from defects in material and workmanship under normal use, service, and installation procedures for a period of five (5) years from the date of installation by the original purchaser-user or sixty-six (66) months from date of shipment from the *Company's* factory, whichever occurs first. Under this warranty, the *Company's* obligation shall be limited to the repair or, at the *Company's* option, the replacement of the Mueller quad-plate chiller evaporator or water storage tank. Damage caused by freezing is not covered by this warranty. (Please see General Provisions.)

CLAIM PROCEDURES FOR FIVE-YEAR WARRANTY

A return goods authorization number must be obtained from the *Company's* Refrigeration Products Department prior to returning a Mueller quad-plate chiller evaporator or water storage tank. Current instructions for return procedures, provided by the *Company's* Refrigeration Products Department, must be followed to receive warranty.

GENERAL PROVISIONS

This warranty does not cover items such as refrigerant, transportation, mileage, freight, product loss, cost of substitute storage facilities, parts and labor charged by others, or consumable items such as filter driers, rubber goods, or glass. Transportation and inspection cost incurred by the *Company* will be charged to the purchaser/user if returned material is not found to be defective. The above will constitute the *Company's* total responsibility. The above warranties will not apply in the event of abuse, misuse, negligence, improper installation procedures, alterations by unauthorized service, damage by flood, fire, windstorm, lightning, or acts of God. Oral statements made by employees' or representatives' of the *Company* will not constitute warranties. The above warranties apply only to the original purchaser-user and original installation location and are not transferable.

This warranty is effective on equipment purchased from the *Company* within the continental United States and Canada. Contact the *Company's* Refrigeration Products Department for warranty provisions and policies outside the continental United States and Canada.

Section 10.0 – Installation and Service Notes

Customer Name:

Address:

Telephone: _____

Email:

Dealer Name:

Address:

Telephone: _____

Email: _____

Chiller Model:

Compressor Model:

Condensing Unit Model:

Date of Installation: _____

Serial No.:

Serial No.:

Serial No.:

Notes:

**PAUL
MUELLER
COMPANY**

1600 West Phelps Street | Springfield, Missouri 65802, U.S.A.

Service: 1-800-756-5991 | DFETechService@paulmueller.com

1-800-MUELLER | WWW.PAULMUELLER.COM

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