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TECHNICAL MANUAL

KODIAK RECIRCULATING CHILLERS
MODELS RC070, RC100, RC130, RC160, RC250, RC350
SERIES L01 & P01

One Company, Many Solutions

ISO 9001 REGISTERED

Manual # 507850 Rev. S, 11/25/2019

Table of Contents

Introduction

Receiving your New Recirculating Chiller

Inspect your new chiller immediately upon receiving it. If the unit shows shipping damage, contact the transportation company and file a freight damage claim. Retain all cartons and packing material until the unit is operated and found to be in good condition. Your chiller has been fully tested at the Boyd factory with clean water. Although the system has been drained, some residual fluid may remain. This will not hinder the performance of the chiller.

About the Warranty

All units returned for warranty claims must have an RMA (Returned Material Authorization) number on the outside of the container. Call Boyd Customer Service at (781) 933-7300 for an RMA number. Refer to the end of manual for the chiller warranty. Units should be drained of all fluids and packaged in its original packaging.

Customer Service Support

Boyd is committed to servicing the customer, both during and after the sale. If you have any questions concerning the operation of your unit, contact System Department at (781) 933-7300. To facilitate your call, please have the **model number** and **serial number** of the unit (located on the rear of the chiller) for the Service Technician.

Email:
Boyd's service department can be reached by sending an e-mail to Service@boydcorp.com.

Service Hotline

Boyd has a 24-hour per day, 7 days per week service hotline to help you with questions on the startup and operation of your recirculating chiller. **(We recommend you review the troubleshooting guide on page before calling our service hotline.)** Boyd service can be reached by dialing (781) 933-7300. To facilitate your call please have the **model number** and **serial number** (located on rear of the chiller) of the unit for the Boyd Service Technician.

Safety Precautions

This system is designed to provide fluid cooling only as specified in this manual. If used in a manner other than as specified, the safety protection of the system may be impaired.

Warnings are posted throughout the manual. These warnings are printed in bold type. Read and follow these important instructions. Failure to observe these instructions or use other than specified may impair safety protection and can result in permanent damage to the unit, significant property damage, or personal injury or death.

Make sure you read and understand all instructions and safety precautions listed in this manual before operating your unit. If you have any questions concerning the operation of your unit or the information in this manual, please contact our Applications Engineering Department at (781) 933-7300.

1) **Do not operate the unit without water in the reservoir.**

2) **If the set point is 10° C or below, a freezing point depression additive such as ethylene glycol is required. This unit is equipped with a low flow switch, this feature will shut the compressor down during a low flow situation to prevent freezing.**

3) **DO NOT USE AUTOMOTIVE ANTI-FREEEZE IN THE CHILLER. The rust inhibitors in the automotive type will cause premature failure of the pump seals. Use of automotive anti-freeze in a Boyd chiller will void the warranty of the pump, and other components.**

4) **Never place the unit in a location above 40°C, 80% RH, or where corrosive materials are present.**

5) **It is the user's responsibility to assure that a ground connection is provided.**

6) **Never connect the SUPPLY or RETURN fitting to your building water supply or any pressurized source.**

7) **Performing installation, operation, or maintenance procedures other than those described in this manual may result in a hazardous situation and may void the manufacturer's warranty.**

8) **Transport the unit with care. Sudden jolts or drops can damage the plumbing lines.**

9) **Observe all warning labels. Never remove warning labels.**

10) **Never operate damaged or leaking equipment.**

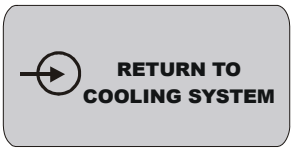
11) **Always turn the unit off and disconnect the power cord from the power source before performing service, maintenance, or moving the unit.**

12) **Never operate equipment with a damaged power cord.**

13) **Repairs should be performed only by a qualified technician.**

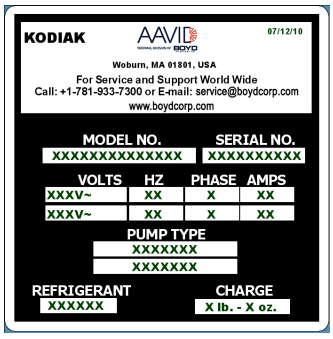
Labels and Silkscreen Marking

The symbol on Power Switch is used to signify the power mode of the rocker style switch on the AC main line; Power On (**I**), power Off (O).



The symbol on this label is used to identify the port where heated fluid returning from the customer's machine is connected.

The symbol on this label is used to identify the line containing cooled fluid supplied to the customer's machine is connected.

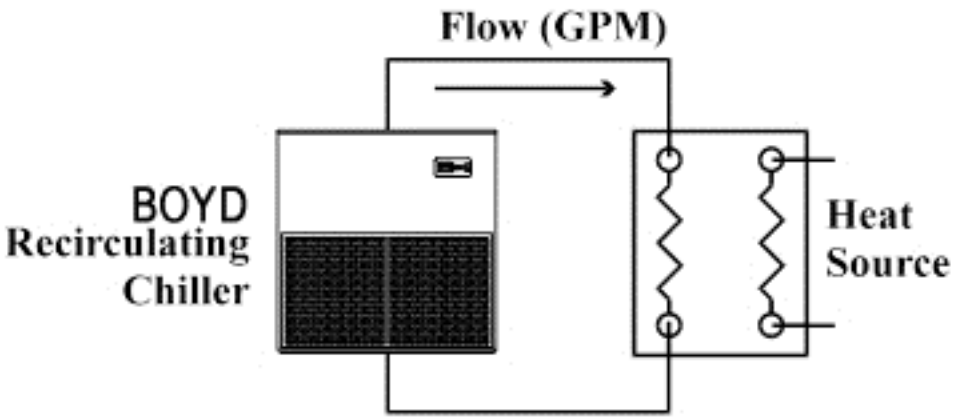


Label is placed on the back of the Chiller to identify the model#, serial number, refrigerant, charge and electrical information.

General Information

Chiller System Description

Turning the system switch to the "ON" position energizes the pump motor and system control circuit. The pump draws water from the internal reservoir, pumps it through the process fluid loop (removing heat), and returns it through the refrigeration system evaporator to the reservoir tank.



Process Fluid (flow control)

The RC models are designed to operate with continuous process fluid flow through a closed loop. This loop contains the system pump, temperature sensor, reservoir, internal & external plumbing lines and fittings, and the heat source. The external plumbing and the heat source are provided by the end user and are generally unique to the user's process and/or location. Some models are equipped with an internal flow bypass control. This control allows the user to maintain a particular flow rate through the process fluid loop.

Hot Gas Bypass

Starting and stopping can shorten a compressor's life much faster than steady running. For long life, our chillers use a refrigerant hot-gas bypass system. This provides capacity control by modulating refrigerant flow to the evaporator. This eliminates unnecessary on/off compressor cycling.

Specifications

		RC070	RC100	RC130	RC160	RC250	RC350
Unit Dimensions (no casters) Width x Depth x Height (in.)		36.25"x27.25"x37"		46.25"x30.5"x45"		46.75"x32"x60.9"	
Weight, lbs.		391	429	650	665	990	1260
Hose Connections		3/4" NPT					1" NPT
Reservoir Capacity, gallons		20	20	30	30	50	50
Input Power	L01	230V~ 60Hz 3ph					
	P01	460V~ 60Hz 3ph					
Current Draw, Amps	L01	12.5	18	21.5	25	34	46
	P01	6	8.5	10.5	11.5	18	23
Refrigerant Type		R22					
Thermal Capacity, Watts		6.8k	10k	13k	16k	25k	35k
Process Water Flow Rate, gpm	S	5	5	7	8	9	10
	O	6	6	8	9	10	
	O	7	7	9	10	-	-
	O	8	8	10	-	-	-
	O	9	9	-	-	-	-
	O	10	10	-	-	-	-
Process Water Delivery Pressure		80 psi maximum pressure					
Process water Temperature Range		5°C to 35°C					

S-Standard

O-Optional

Consult factory for operating in ambient temperature below 15°C.
This may require optional head pressure control.

Installation

Quick Reference Start-Up Procedure

1) Record Model Number and Serial Number of the Chiller unit on the front cover of this manual.

2) Air Flow is critical to optimal performance of the RC units. The front of the unit should be kept unobstructed and the two sides and rear should have a minimum of 30" around for air circulation. More clearance may be necessary for ambient temperatures above 25°C.

3) Remove plastic caps covering fluid ports.

4) Attach process fluid lines to the inlet and outlet ports on the rear panel.

5) Install the 5 micron cooling fluid filter by unscrewing the filter housing, inserting the filter and hand tightening the filter housing on the filter unit making sure the o-ring is seated.

6) Using a screw driver remove the access panel on top of the chiller unit and fill reservoir tank with clean water. Continue to add water until the system is filled within 2" from the top and the reservoir remains at a constant level. Standard RC units are not compatible with deionized water. Consult Boyd for deionized water applications.

7) Connect the building 3-phase to the chiller terminal block. To determine if the power phasing is correct after installation, turn the system on with reservoir cover removed; note the circulation in the reservoir tank. A strong flow of water into the tank should be evident. If this not the case reverse any two of the L1, L2, and L3 building input connections.

8) Turn on the chiller using the on/off switch located on the front panel.

9) Adjust the controller on the front display panel to the required output temperature. Press the "SET" button once to display the current set point value. Press the "UP" or "DOWN" button until the required output temperature appears on the LED display.

10) Check all external fittings and hoses for fluid leaks. If a leak exists, turn chiller off and take necessary action to repair the leak.

******CAUTION ******
DO NOT OPERATE CHILLER UNTIL LEAK IS REPAIRED.

Recording the Serial Number, Model Number and Features

Record the serial number and the date purchased on the front cover of this manual. This information will be required when contacting Boyd for technical service. The serial number is located on the rear panel of the chiller.

Selecting Proper Location

Locate the chiller in an area with 30" minimum clearance around sides and rear of the unit for air circulation and ventilation. More clearance may be necessary for ambient temperatures above 25°C. The front of the unit must be kept unobstructed. The chiller unit should be located as close as possible to the heat load to minimize pressure drop in the system. Cooling lines are best run at or near the same level as the cooling system, until reaching the equipment being cooling.

Plumbing to Process Fluid

The process fluid connections ports are located on the rear of the system and are labeled with the Supply  and Return  symbols. Connect the supply port to the input side of the heat load and the return port to the output of the heat load. The chiller process fluid supply and return ports are equipped with standard NPT fittings. When connecting fluid lines to the RC unit, use pipe sealant to ensure a leak-tight seal. Opaque lines should be used to retard algae growth if system is exposed to prolonged non-operating periods.

All lines should be routed away from sources of heat such as radiators, hot water pipes, etc. and should be as short as possible. Lines, which cannot be routed away from heat sources, should be protected with thermal insulating tape or other insulating material.

******CAUTION******

Never connect the SUPPLY or RETURN fitting to your building water supply or any pressurized source.

Flexible tubing, if used, should be of heavy wall or reinforced construction. All tubing should be rated for a working pressure above 80 psig at $\pm 30^{o}$ C. Make sure all tubing connections are securely clamped.

It is recommended to use tubing the same size as the mating connection on the rear of the unit. Tubing should be straight, without bends or diameter reductions. If substantial lengths of cooling lines are required, they should be pre-filled with cooling fluid before connecting them to the unit.

Fluid

Boyd recommends using clean water in the chiller unit. Positive displacement pumps are susceptible to damage from abrasive materials in the process fluid.

1) DO NOT USE AUTOMOTIVE ANTI-FREEEZE IN THE CHILLER. The rust inhibitors in the automotive type will cause premature failure of the pump seals. Use of automotive anti-freeze in a Boyd chiller will void the warranty of the pump, and other components.

2) If the set point is 10° C or below, a freezing point depression additive such as ethylene glycol is required. This unit is equipped with a low flow switch, this feature will shut the compressor down during a low flow situation to prevent freezing.

3) Avoid using local water with high mineral content.

4) Standard RC units are not compatible with deionized water. Consult Boyd for deionized water applications.

Allowance should be made for the internal volume of cooling lines between the chiller and the equipment. The tank (reservoir) can be accessed by using a screwdriver to remove the access panel on the top cover. Fill the tank within 2 inches of the top and check level after operating for a short period of time. It may be necessary to add fluid if the level has dropped substantially.

******CAUTION******

If the fluid is exposed to sunlight, add an algaecide to the fluid to control organic growth in lines.

Electrical Requirements

Refer to the Specification section, and to the product label on the rear of the unit for the specific electrical requirements of your unit.

- **It is the user's responsibility to ensure a ground connection is provided through the use of a properly grounded outlet.**

Operating Instructions the Controller

Adjusting the Set Point:

1) Turn chiller on and allow to run for 1-2 minutes.
2) Press the "SET" key on the controller for 3 seconds or more. The value of the set point and ☼will blink.
3) Using ▲ or ▼ keys, adjust the temperature to desired coolant temperature.
4) To store the set point into memory, press the SET key again, or wait 15 seconds.

How to unlock the Keyboard:

1) Keep the "UP" and "DOWN" arrow button pressed down for three or more seconds. This will display the "POn".

Programming the Controller

How to change the Parameter:

1) Press the "SET" and "DOWN" key for three seconds. "HY" will appear on the Controller.
2) Use the "UP" and "DOWN" arrows to select the parameter.
3) Press the "SET" button to display the value of the parameter.
4) Use the "UP" and DOWN" arrows to change the value.
5) Press "SET" to store the value in memory.
6) The Controller will operate with the new settings without touching the Controller in 15 seconds.

Controller Settings:

PARAMETER	DESCRIPTION	VALUE DEG "F"	VALUE DEG "C"
SET	Set Point	**68**	**20**
LS	Minimum Set Point	**40**	**5**
US	Maximum Set Point	**95**	**35**
CF	Temp Measured Unit	**"F"**	**"C"**
ALC	Temp Alarm Config	**Ab**	**Ab**
ALU	Maximum Temp Alarm	**95**	**35**
ALL	Minimum Temp Alarm	**40**	**5**
ALd	Temperature Alarm Delay	**0**	**0**
daO	Delay of Temp Alarm	**0**	**0**
oA1	2^{nd} Relay Config	**ALR**	**ALR**
i1p	Digital Input Polarity	**OP**	**OP**
i1f	Digital Input Config	**AUS**	**AUS**
did	Digital Input Alarm Delay	**0**	**0**
PbC	Probe Selection	**Ptc**	**Ptc**

How to Lock the Keyboard:

1) Keep the "UP" and "DOWN" arrow button pressed down for three or more seconds. This will display the "POF". Controller is locked.

2) At this point, it will only be possible to see the Set Point, max, and min. temperature stored.

Standard System Features

Low Water Level Indicator

A switch mounted in the water tank illuminates a warning light on the front panel when the water level is low. This feature is enabled as long as the unit is connected to AC power.

Low Flow Shut-off

The compressor will shut down and an indicator lamp illuminates when a low flow condition occurs. A low flow alarm relay is provided with dry contacts for customer use.

Phase Loss Protection

All three-phase-power chillers include phase-loss protection. If one phase is lost, the unit automatically shuts down.

Optional System Features

Auto-Tank Refill

The Auto-Tank Refill option maintains reservoir fluid level. Fluid makeup takes place on demand from a low-level float switch. Fluid makeup terminates on demand from a high-level float switch. These switches energize and de-energize the fluid solenoid valve to maintain the reservoir fluid level.

Deionization Package

The Deionization Package consists of a deionization cartridge and housing. The following steps should be followed when installing the cartridges:

(a) Place O-rings in the filter housing head assembly.
(b) Place the spring in the bottom of the canister.
(c) Place the cartridge in the canister with the small opening at the top.
(d) Connect the canister and the head assembly with the clamp (make sure the small hole in the cartridge slide over the hub on the head assembly).

It is up to the user to specify an acceptable ionization level and change the cartridge accordingly.

Over-Temp Indicator

A lamp on the front of the chiller will illuminate if the fluid temperature rises above the over temperature set point.

Operation:

Set: Push twice, the over temperature set point value will be displayed for 3 seconds (LED "out" blinks). The set point can be changed with the "UP" or "DOWN" button.

Up: Used to increase the over temperature set point value. When held down for a few seconds, the change rate accelerates.

Down: Same function as "UP", except to decrease value.

Water Cooled Condenser

Facility water source connection ports are provided to cool the condensing unit. Two 1/2" NPT connections are located at the rear of the unit for connection to the facility water source.

System Maintenance / Service

The RC unit has been designed to require minimal maintenance after the unit has be installed.

Unique operating conditions of each installation will influence the frequency of system inspections and/or scheduled maintenance. Suggested guidelines are as follows:

Weekly Inspections

Noise Level

Any abnormal sound or substantial increase in noise level since the last weekly inspection may indicate an impending pump or fan problem, which should be corrected.

Leakage

Observation of fluid on the floor surface coming out from under the system calls for a further check for possible leaks.

Fluid Level

Any significant drop in the coolant level since the previous weekly check should be investigated further. If there is no visual system leak, then the loss may be due to leakage elsewhere in the equipment.

Periodic Inspections

Water Filter

A dirty filter can lead to a decrease in system performance in a short period of time. It is recommended that the filter be replaced after the first month of operation on new systems to ensure that the system runs at maximum capacity. After this initial filter replacement the filter should be replaced every 6 months under normal operating conditions. More frequent filter changes may be required under severe conditions.

Reservoir

Periodically inspect the fluid inside the reservoir. The fluid should be clean and free of algae growth. If cleaning is necessary, flush the reservoir with a cleaning fluid compatible with the circulating system and the cooling fluid. It is important to flush, drain and refill every 6 months or each time the water filter is changed.

Algae

To restrict growth of algae in the reservoir, it is recommended that the reservoir cover be kept in place and that all circulation lines be opaque to ultraviolet. This will minimize the entrance of light, which is required for the growth of most common algae. Contact our Customer Support Department if algae becomes a problem.

Air Filter

It is recommended that a visual inspection of the filter fins be made monthly after initial installation. After several months, the frequency of replacement should be established. For proper operation, the unit needs to circulate substantial amounts of air. A build up of dust or debris on the air filter will lead to a loss of cooling capacity. The frequency of filter replacement depends on the operating environment.

Low Level Switch

The level switch indicates the user in the event of accidental loss of fluid. Since this switch is "passive" during normal operation, it is recommended to "exercise" it about once every 6 months, to make sure it is still functional and ready to alert the user.

Fan Assembly

The fan assembly requires no maintenance.

Pumps

As a precaution, the pump must be periodically replaced. This will avoid damaging the unit and the cost associated with excessive downtime. The replacement period depends on pump type.

Pump Model	Replacement Frequency
Positive Displacement	7,000 Hours
Centrifugal	28,000 Hours
Turbine	28,000 Hours

Note: Please contact Boyd for pump pricing and delivery.

Pump Motor Lubrication

The motor requires no maintenance.

Trouble Shooting Guide

Problem	Recommended Remedy
Unit will not start	Check line cord; make sure it is plugged in. Check power to each phase to determine if a phase loss exists. Verify that all three phases are secure to terminal block. Check the voltage on the power source. Make sure it is within the rated voltage ± 10%. Check that Power Switch is on and that the fuses have not blown.
Unit will not circulate fluid	Check the reservoir level. Fill, if necessary.
Inadequate Cooling Capacity	Check and verify the air intake and discharge are not impeded and the ambient temperature does not exceed + 40° C. It may be necessary to allow more space around unit for air circulation. Verify that the fans are working properly. Check and verify the air filter is free of dust and debris. Blow out condenser with compressed air if necessary. Verify pump is working properly.
For RC350 models	Check high / low cut off switch near the Condensing unit electrical box. Depress button to verify that it is reset.

Service Assistance

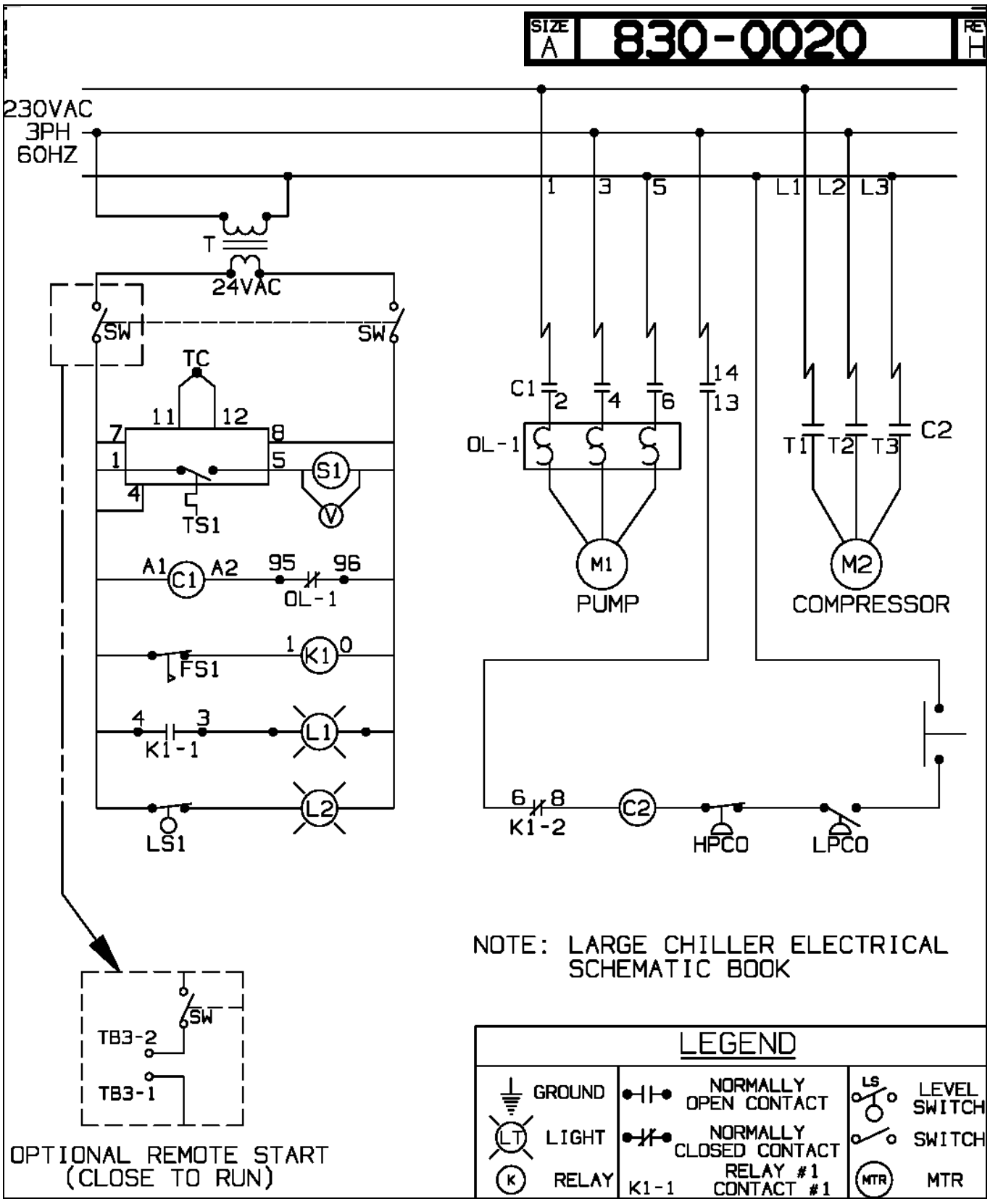
Technical service is available for all Boyd chillers if your unit fails to operate properly. Contact our System Service Department for assistance at (781) 933-7305.

Spare Parts List

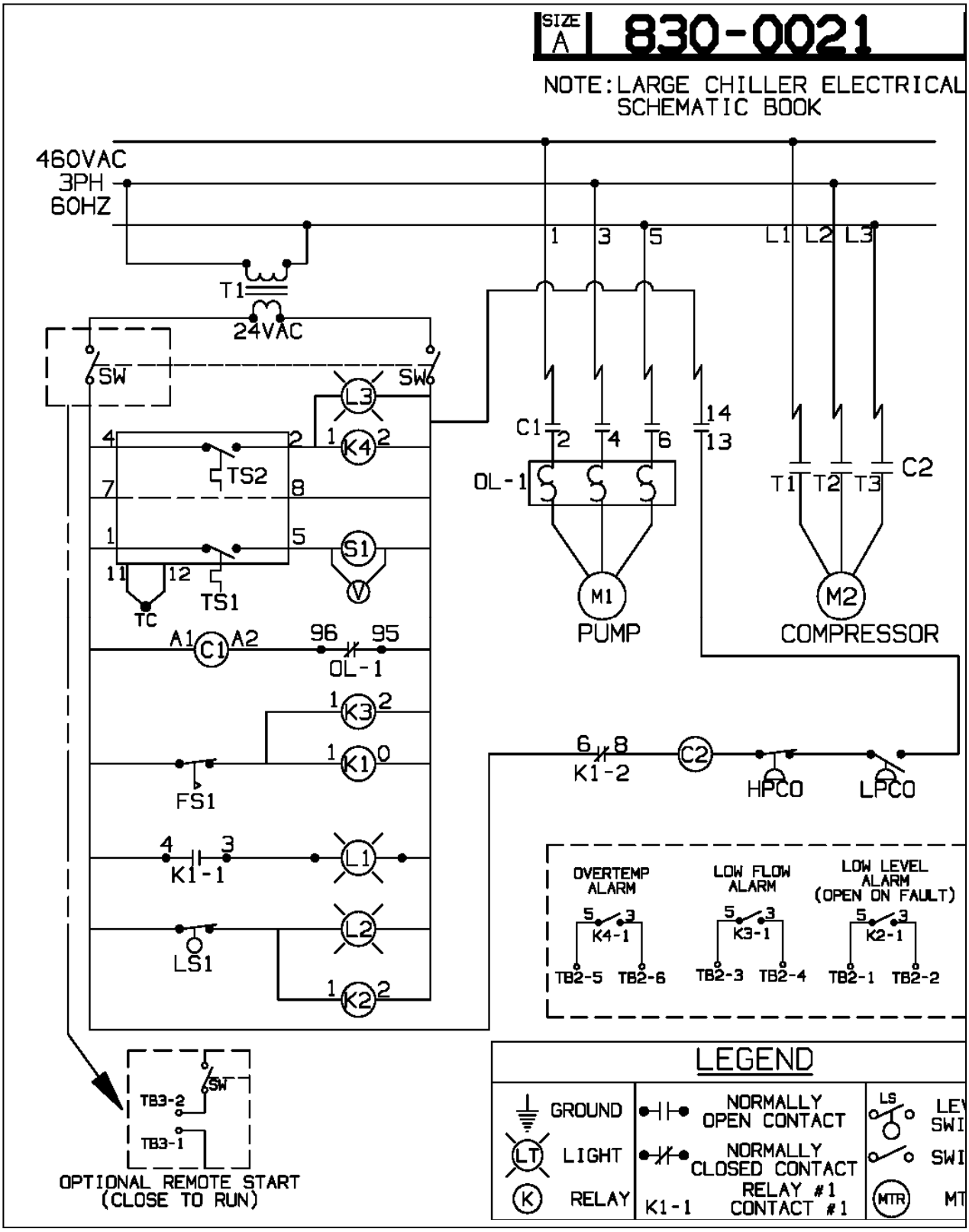
Item#	Description	RC070	RC100	RC130	RC160	RC250	RC350
	Positive Displacement Pumps						
1	5.3 GPM, Brass	410-0092	410-0092	-	-	-	-
2	5.3 GPM, Stainless Steel	410-0231	410-0231	-	-	-	-
3	5.7 GPM, Stainless Steel	410-0134	410-0134	-	-	-	-
4	6.8 GPM, Stainless Steel	410-0122	410-0122	410-0122	-	-	-
5	7.9 GPM, Stainless Steel	410-0104	410-0104	410-0104	410-0104	-	-
6	9.0 GPM, Stainless Steel	410-0105	410-0105	410-0105	410-0105	410-0105	-
7	10.1 GPM, Stainless Steel	410-0106-01	410-0106-01	410-0106-01	410-0106-01	410-0106-01	410-0106-01
	Motors						
8	5.3 GPM to 7.9 GPM	230-0443	230-0443	230-0443	230-0443	-	-
9	9.0 GPM to 10.1 GPM	230-0018	230-0018	230-0018	230-0018	230-0018	230-0018
	Centrifugal Pumps						
10	1 hp CP-55	410-0212	410-0212	410-0212	410-0212	410-0212	410-0212
11	2 hp CP-75	410-0214	410-0214	410-0214	410-0214	410-0214	410-0214
	Accessories						
12	Air Filter*	330-0682	330-0682	330-0695	330-0695	330-0693	330-0693
13	Water Filter*	330-0037	330-0037	330-0037	330-0037	330-0037	330-0037
14	DI Cartridge	440-0107	440-0107	440-0107	440-0107	440-0107	440-0107

***10 Piece Minimum Order Required**

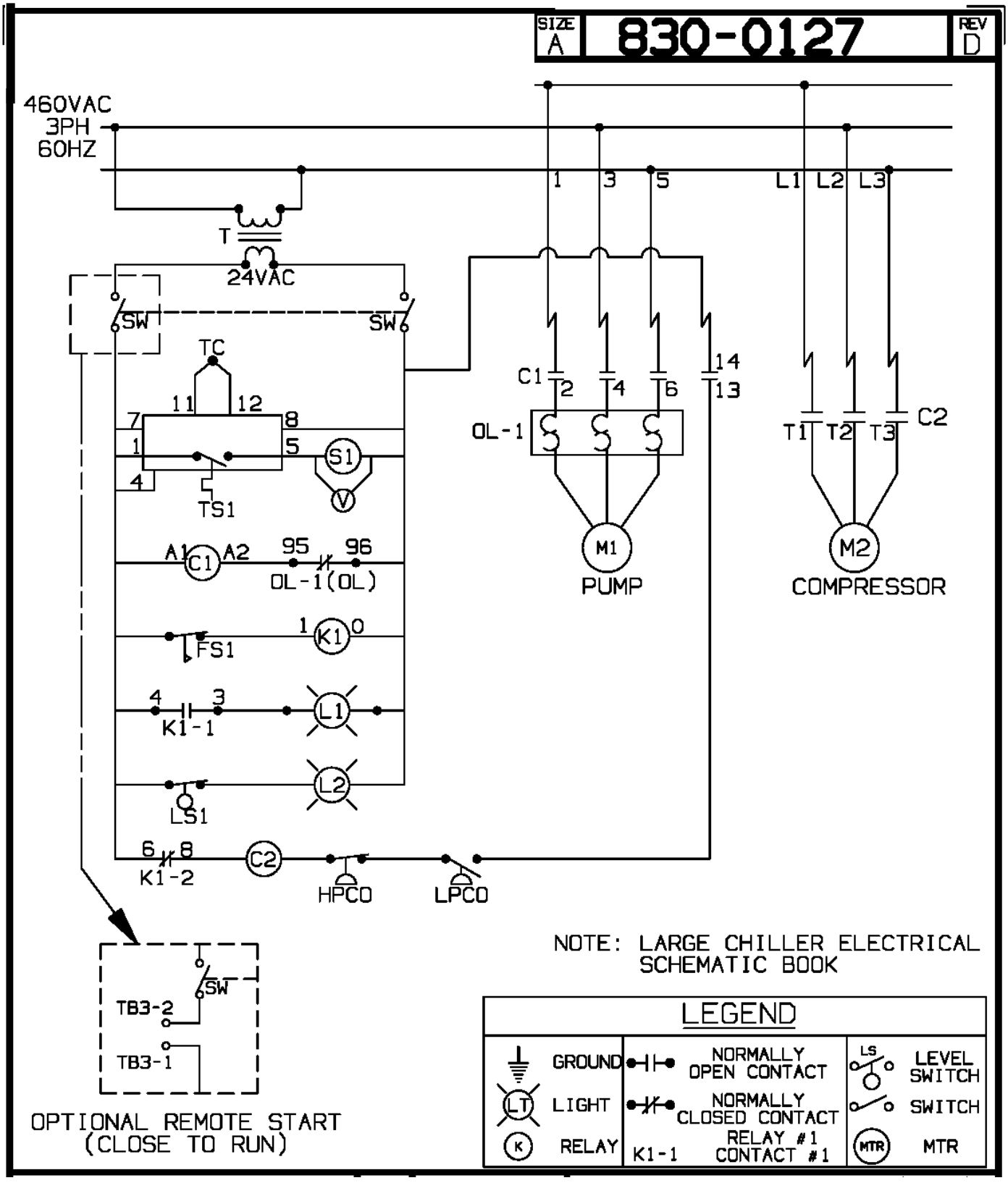
Electrical Schematic, (L01) Control Package 4 & 5



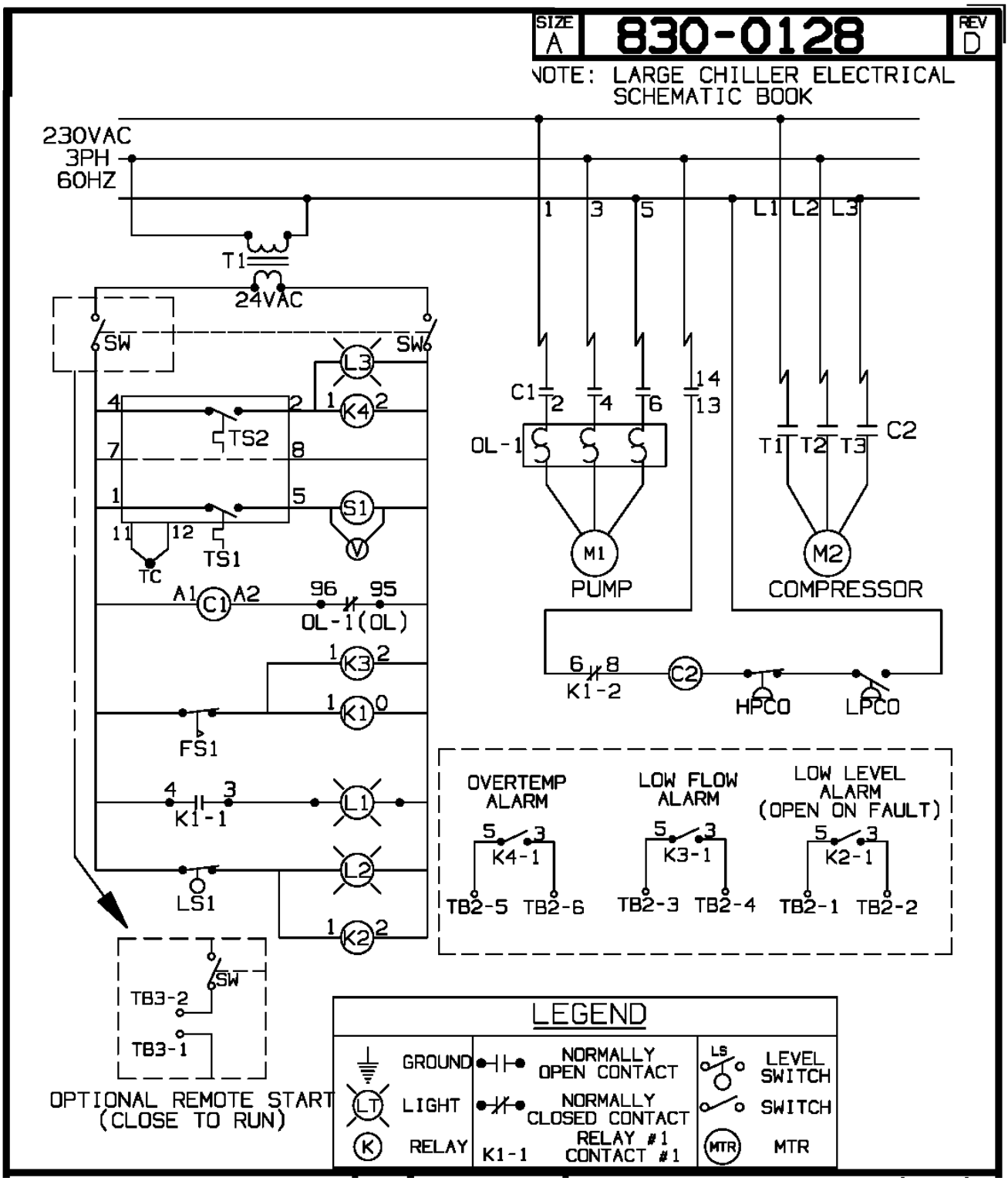
Electrical Schematic, (P01 Series) Control Package 6 & 7



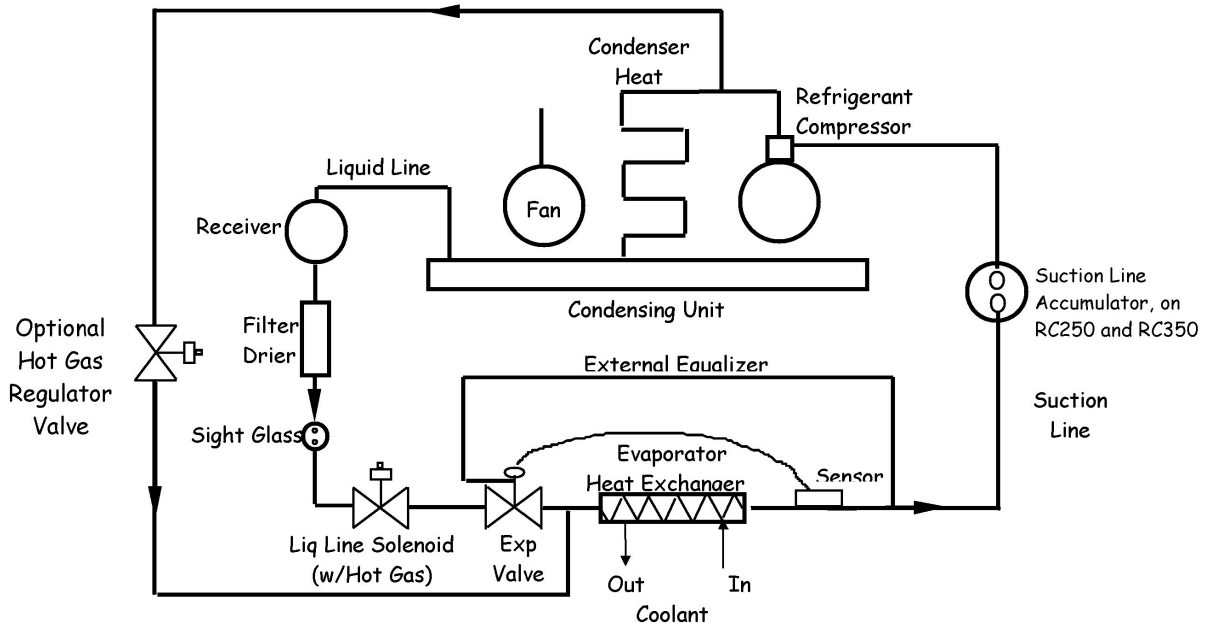
Electrical Schematic, (P01 Series) Control Package 4 & 5



Electrical Schematic, (L01 Series) Control Package 6 & 7



Refrigeration Diagram



Refrigeration Diagram

(RC070 thru RC350)

840-0022 Rev A ECN#S406 1/26/99

Boyd Cooling Systems Service Policy

Boyd's cooling systems are the product of over 50 years of thermal engineering and manufacturing experience. We designed them to provide superior reliability, easy maintenance, and worry-free operation. However, occasionally a system may need repair. To ensure your process is back up and running quickly, Boyd has implemented the following cooling system service policy.

Boyd's Standard Warranty
Lytron's warranty is set forth in the Terms and Conditions included with each system quotation and are available here https://www.lytron.com/product-support/Service-Warranty-Information.cfm

Diagnostic Consultation:
At no cost, Boyd will attempt to diagnose the problem over the phone. Our service department can be reached by calling 781-933-7305 and following the menu or contacting one of our regional Service-Depots. Service technicians are available 24 hours/7 days for consultation. Boyd strongly encourages customers to take advantage of this service before returning a cooling system to Boyd for evaluation. Often a problem with a system can be fixed quickly in-house or it is determined that it is an application problem. By utilizing our service hotline, you can avoid the downtime and expense associated with returning the system to our factory. Phone diagnosis can be difficult and may actually be a trial and error process. Boyd will not assume any liability for misdiagnosis when diagnosing over the phone.

Warranty and Non-warranty Returns:
To return a cooling system, a Boyd Return Material Authorization (RMA) number must be obtained from Boyd's service department which can be reached by calling 781-933-7300, or by completing the Request-for-RMA form and e-mailing it to service@boydcorp.com. Prior to calling Boyd, the system part number, serial number, and a detailed description of the problem must be collected, as this information is required to assign an RMA number.

A credit card or, for existing customers, a purchase order, (PO), is also required for the evaluation and repair charges if Boyd determines the system is not defective as defined by the warranty (see below for more details). The amount suggested will cover the evaluation fee and most repair charges for non-warranty repairs.

The RMA number should be indicated on the outside packaging of the returned unit. Systems must be returned clean, dry, and free from chemicals to Boyd's factory, shipping costs prepaid. Boyd is not responsible for any damage incurred in the return shipment. Coolant disposal fees may apply for returned units. Please contact your service representative for details.

Debit memos should not be issued for any repair, either warranty nor non-warranty repairs.

Boyd ordinarily will evaluate the unit within 2 or 3 business days of receipt. Boyd will use reasonable effort to repair the unit promptly, in most cases within one week of receiving all of the required parts. Boyd's warranty covers repair of the unit but Boyd's warranty does not cover cosmetic issues. If upon examination Boyd determines the system has not failed as defined by the warranty, an evaluation fee will be charged. The evaluation fee will be charged regardless of disposition (i.e.: scrap) and will be credited towards the total repair cost Once the unit has been evaluated by our Service Group, all work will be

quoted to the customer before proceeding with the repair. This quote will not cover the repair of cosmetic issues unless specifically requested to do so.

Repair warranty:
Boyd warranties the replacement parts and labor for 90 days from the repair date under the terms of our standard warranty or the balance of the original warranty, whichever is longer.

Product Specific, Defined Refurbishment Program:
Boyd warranties the replacement parts and labor per the specific quoted length of time from the refurbishment date under the terms of our standard warranty or the balance of the original warranty, whichever is longer. The refurbishment of the unit(s) must be quoted as such with a defined bill of material listing the items covered and the length of the extended warranty.

Return Shipments:
Boyd's warranty covers payment for standard, ground return shipment of warranted repairs. The incremental difference for expedited return shipments, if requested, are the responsibility of the customer. After non-warranty repair, Boyd will ship the system back using the customer's preferred shipping method.

Field Service/Commissioning Charges
Where available, Boyd can arrange field service for cooling system commissioning or repair. Under no circumstances does Boyd's warranty cover on-site service. All on-site service must be arranged through Boyd's service department. The charges for this service include an administrative fee, a change for on-site services provided, any related travel charges, and parts not covered under warranty.

All requests for On-Site Services require a PO or credit card authorization before services will be scheduled.

When using Boyd-arranged, on-site service, Boyd warranties the replacement parts and repair labor for 90 days from the repair date under the terms of our standard warranty or for the balance of the original warranty, whichever is longer. If non-authorized labor repairs the system or installs replacement parts, Boyd does not warranty the parts or work and this action potentially voids any remaining warranty.

Boyd is expanding its worldwide service presence. Please contact the Service Department for the latest areas where on-site service is available.

Replacement Parts:
Replacement parts can be ordered using a credit card or purchase order. Parts being returned from systems under warranty should be returned using a Boyd issued RMA number. If the parts are found to be defective and the claim is within the warranty period, credit will be issued for the price of the parts and one-way ground shipping charges. If the parts are not defective or indicate end user damage, no credit will be issued. Boyd will not cover the incremental cost of air shipment of replacement parts, regardless of warranty status.

In-stock parts will normally ship the next business day; non-stocked parts will be shipped as quickly as reasonably possible.

This policy is subject to change. Please check with Boyd's service department for the current policy.

Boyd Warranty

Boyd agrees that the apparatus manufactured by it will be free from defects in materials and workmanship for the warranty period under normal use and service and when properly installed. The warranty period for Kodiak® standard, RM, and XL recirculating chillers is two years from date of shipment of such apparatus to the original purchaser, maintenance items excluded, and one year from date of shipment of such apparatus to the original purchaser for all other products Boyd sells. See Boyd's Cooling System Service Policy (F7.02.25) for additional warranty details on systems. Boyd's obligation under this agreement is limited solely to repair or replacement, at its option, at its factories, of any part or parts thereof, returned to Boyd with transportation charges prepaid, which examination shall disclose to Boyd's satisfaction to have been defective. THE FOREGOING EXPRESS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. BOYD'S OBLIGATION UNDER THIS WARRANTY IS STRICTLY AND EXCLUSIVELY LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE COMPONENT PARTS AND BOYD DOES NOT ASSUME OR AUTHORIZE ANYONE TO ASSUME FOR IT ANY OTHER OBLIGATION. BOYD ASSUMES NO RESPONSIBILITY FOR INCIDENTAL, CONSEQUENTIAL, OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO LOSS OR DAMAGE TO PROPERTY, LOSS OF PROFITS OR REVENUE, LOSS OF THE UNIT, LOSS OF TIME, OR INCONVENIENCE. Boyd's liability does not include any labor charges for replacement of parts, adjustments, repairs, or any other work done outside its factories or service centers and its liability does not include any resulting damage to persons, property, equipment, goods or merchandise arising out of any defect in or failure of its apparatus. Boyd's obligation to repair or replace shall not apply to any apparatus which shall have been repaired or altered outside of its factory or service centers in any way, or which has been subject to negligence, to misuse, or to pressures in excess of stated limits. On parts not of Boyd's manufacture, such as motors, controls, etc., Boyd extends only those warranties given to Boyd, Corporation to the extent Boyd can do so. Boyd's agreement hereunder runs only to the immediate purchaser from Boyd, Corporation and does not extend, expressly or by implication, to any other person.

Form F7.02.18 Rev J Effective December 2, 2013