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TECHNICAL MANUAL

MODULAR COOLING SYSTEM MODELS MCS10, 20 & 30 SERIES G01 & H01



One Company, Many Solutions



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INTRODUCTION

Receiving your New Modular Cooling System

Inspect your new Modular Cooling System immediately upon receiving it. If the unit shows shipping damage, contact the transportation company and file freight damage claim. Retain all cartons and packing material until the unit is operated and found to be in good condition. Your unit 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 (Return Material Authorization) number on the outside of the container. Call Boyd Customer Service at +1-781- 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 our Application Engineering Department at +1-781- 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 Boyd Applications Engineer.

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 day per week service hotline to help you with questions on the startup and operation of your Modular Cooling System. **(We recommend you review the troubleshooting guide before calling our service hotline.)** Boyd service can be reached by dialing +1-781- 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 you use this system in a manner other than as specified, the safety protection of the system may be impaired.

Warnings are posted throughout the manual. Read and follow these important instructions. Failure to observe these instructions or use the chiller other than as specified may impair safety protection, void the warranty, and can result in permanent damage to the unit, significant property damage, personal injury and/or death.

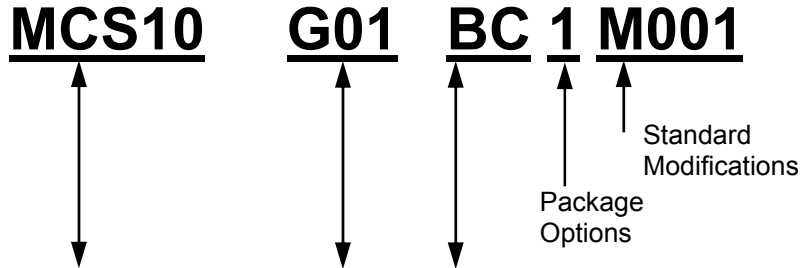
Make sure you read, understand, and follow all instructions and safety precautions listed in this manual before operating your unit. If you have any questions concerning the operation of your unit or the information in this manual, please contact our Applications Engineering Department at +1-781- 933-7300.

1. Do not operate the unit without fluid in the reservoir.
2. Never place the unit in a location where excessive heat, moisture, or corrosive materials are present.
3. The unit must be plugged into a properly grounded power source.
4. Do not connect the Coolant In or Coolant Out to your building water supply or any pressurized source.
5. Do not use or maintain the unit outdoors. These units were not designed to withstand outdoor weather conditions.
6. Performance of installation, operation or maintenance procedures other than those described in this manual may result in a hazardous situation and may void the Boyd warranty.
7. Transport the unit with care. Sudden jolts or drops can damage the unit.
8. Observe all warning labels. Never remove warning labels.
9. Do not operate damaged or leaking equipment.
10. Always turn the unit "OFF" and disconnect the power cord from the power source before performing any service, maintenance procedures or before moving the unit.
11. Do not operate equipment with damaged power cords.
12. A qualified technician should perform service and repairs.

MODEL NUMBER DESCRIPTION

Example of Model# MCS10G01BC1M001

Basic Model Number	Electrical Configurations	Pump Options
<p>MCS10 = 500 Watts</p> <p>MCS20 = 1,300 Watts</p> <p>MCS30 = 2,100 Watts</p>	<p>G01 = 115V~ 60Hz 1ph</p> <p>H01 = 230V~ 50/60Hz 1ph</p>	<p>BB (CB†) = 1.3 gpm Positive Displacement Pump</p> <p>BC (CC†) = 1.8 gpm Positive Displacement Pump</p> <p>BE (CE†) = 2.3 gpm Positive Displacement Pump</p> <p>AB† = 1/16 hp Centrifugal Pump</p> <p>DA† = ¼ hp Centrifugal Pump</p> <p>Notes:</p> <p>† Indicates high purity compatible pump.</p>



NOTE: Refer to the product ID label on the rear of your chiller for the configuration you have purchased. The table above refers to Boyd's standard product offering for the MCS 10, 20 & 30 Series.

SPECIFICATIONS

MODEL NUMBERS		MCS10	MCS20	MCS30
Cooling Capacity Using water, 25°C ITD	Watts	500	1,300	2,100
	BTU/Hr	1,700	4,450	7,150
Case Dimensions	Width-In	17.3		
	mm	439		
	Depth-In	15.1		
	mm	384		
	Height-In	13.3		
	mm	338		
Fluid Connections	Inlet	1/2" FNPT	1/2" FNPT	1/2" FNPT
	Outlet	1/2" FNPT	1/2" FNPT	1/2" FNPT
Reservoir Capacity	Gallons (liters)	0.75 (2.8)		
Max Liquid Temperature		131°F (55°C)		
Full load Amps for Centrifugal Pumps	115V~ 60 Hz 1ph	3.1	3.3	3.3
	230V~ 50/60 Hz 1ph	2.0	2.0	2.0
Full load Amps for Positive Displacement Pumps	115V~ 60 Hz 1ph	5.1	5.3	5.3
	230V~ 50/60 Hz 1ph	2.5	2.5	2.5
Approximate Dry weight	lb	33	35	37
	kg	15	16	17
Recommended Coolant		Water	Water	Oil, EGW
Fuse Type		* T2AL250V		

***NOTE: CHECK FUSE AMPERAGE ON FUSE FOR PROPER REPLACEMENT.**

LABELS AND SILKSCREEN MARKING



Refer to manual for important information.



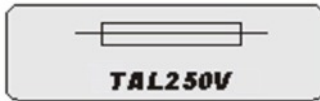
To warn service technicians to disconnect power before servicing.



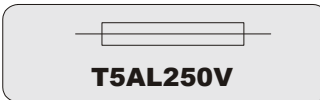
Type B Equipment: Equipment providing a particular degree of protection against electric shock, particularly regarding: allowable leakage current and reliability of protective earth connection.



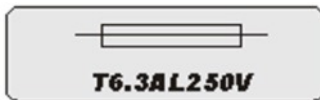
This symbol cautions against the risk of electrical shock. This label is mounted on the terminal board cover to warn of main voltages (230 VAC) on the terminals underneath the cover.



This label is affixed to identify the type of fuse 2AMP/250V~ Time Lag Fuses, 5 x 20mm



This label is affixed to identify the type of fuse 5AMP/250V~ Time Lag Fuses, 5 x 20mm



This label is affixed to identify the type of fuse 6.3AMP/250V~ Time Lag Fuses, 5 x 20mm



Indicates location of the reservoir access panel, where to add water.



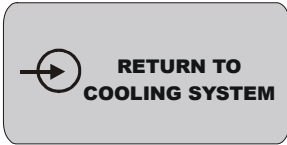
Indicates the coolant level is low.

LOW LEVEL



Indicates the flow of coolant is low.

LOW FLOW



Identifies the port where heated fluid returning from the customer's machine is connected.



Identifies the connection where chilled fluid is supplied to the user's machine.



Protective earth (ground) terminal.



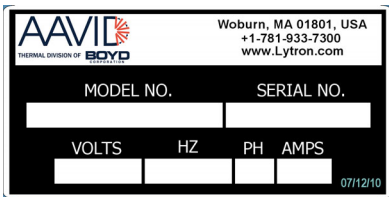
Certifies that conformity to the UL standard 61010A-1 and is certified to CAN/CSA STDC22.2 No. 1010.1



The symbol on this label identifies that the equipment has been certified to regulations of the European Community.



The crossed out wheeled bin label requires that the product be disposed of or recycled with the requirements of local law.



The Product ID label identifies the model number, serial number and electrical information.

INSTALLATION AND OPERATION INSTRUCTIONS

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

STEP 1: REMOVE FROM SHIPPING CONTAINER

Using the finger-grips on each side of the system cover, lift the MCS Cooling System straight up and out of the shipping container. Remove any protective Styrofoam or cardboard.

STEP 2: COOLANT LINE INSTALLATION

Length of runs should be as short as possible to reduce pressure drop losses. Lines are best run at or near the same level as the cooling system, until reaching the equipment to be cooled.

Both supply and return lines (which deliver coolant to and from the equipment being cooled) should be nominally 1/2" ID hose. The COOLANT OUT and COOLANT IN ports are both located on the back of the MCS.

STEP 3: COOLING AIRFLOW INSTRUCTIONS

Avoid potential airflow obstructions to the MCS Cooling System. Make sure that there are no obstructions to air flow from under the enclosure openings for at least 6" along both sides and the back of the unit.

STEP 4: CONNECTING ELECTRICAL POWER

NOTICE If pump and fan motors start, immediately disconnect power. Recheck to make sure the power has not yet been energized. Running the system dry for even a short time will damage the pump.

Connect power cord with an IEC 320 Type connector to the power inlet module. Connect power cord to standard power source and proper ground.

Now repeat the previous step until the power plug has been connected, without either the pump or fan motor running.

STEP 5: INITIAL FILLING OF RESERVOIR

Fill the reservoir with coolant to the FULL mark on the front panel. **Note:** Boyd recommends using clean water for coolant.

STEP 6: PRIMING PUMP

It is now safe to apply power and to quickly "jog" the pump "ON-and-OFF". The fan will also turn "on-and-off" simultaneously. This is normal. We are now "priming" the pump. Continue to do this several times, while watching the coolant level indicator on the front panel until the coolant level in the reservoir has dropped down to the ADD mark on the front panel. Now turn off the system.

STEP 7: FILLING SYSTEM

Refill the reservoir to the FULL mark on the front panel.

Now repeat this "jogging" and refilling process until the system is totally full and coolant begins to return back into the reservoir. This will be confirmed when the decrease in coolant level begins to slow down.

The coolant level will eventually become stable when all the liquid passages have become full, and as much coolant is being pumped out of the reservoir as is being returned to it.

The reason for the slow filling procedure is to slowly push the air out of the passages, back into the reservoir and out the filler opening. The slower the better, so that air won't become "entrained", recirculating with the coolant and causing it to become "frothy."

STEP 8: "DRAIN-DOWN"

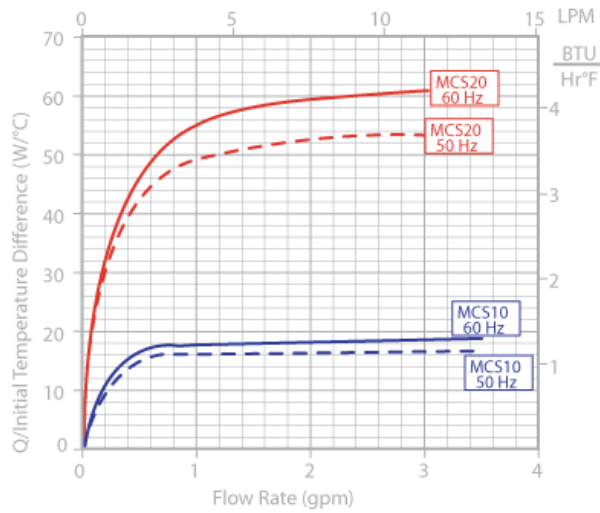
After the level has become stable (while still continuously jogging on and off), turn the pump off and observe the coolant level. If the level remains the same, all is well. However, if the level slowly begins to rise, it means coolant at a higher level is draining back down into the reservoir.

In this event, turn the pump back on again to return the tank to a steady level. Raise the MCS to a higher position, to see if this will temporarily correct the problem.

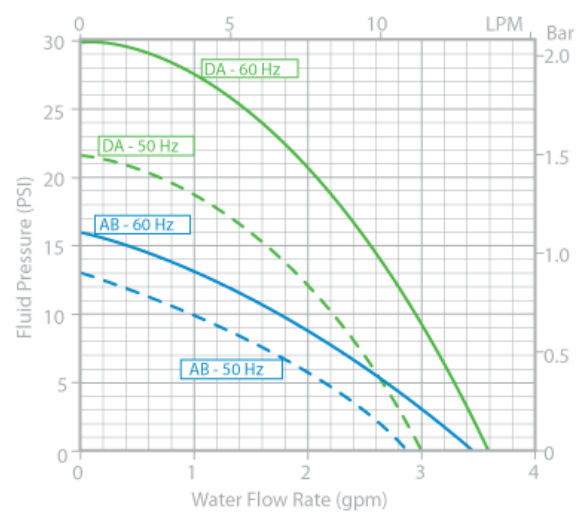
This "drain-down" problem can be permanently corrected by (1) either installing a shutoff valve in the return line (either manual or automatic); or (2) by using a non-vented cap on the reservoir (during shutdown only).

PERFORMANCE GRAPHS

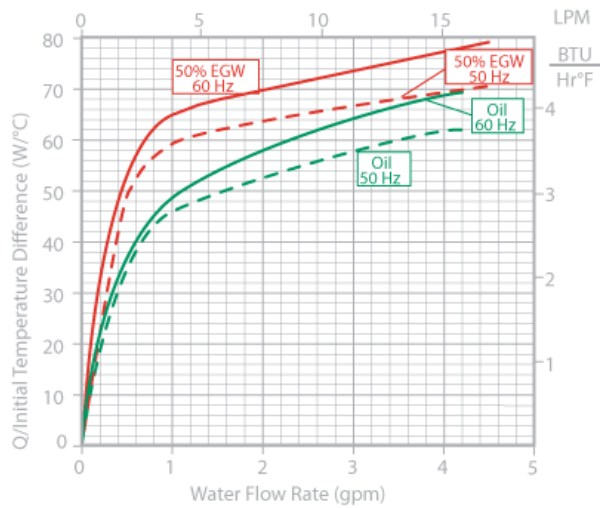
MCS10 and MCS20 Thermal Performance



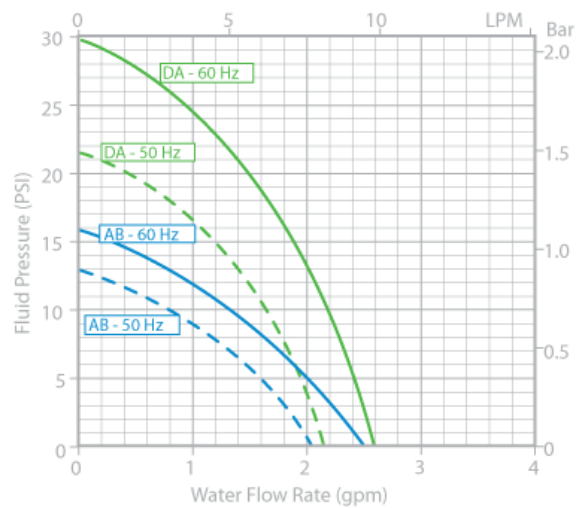
MCS10 Centrifugal Pumps



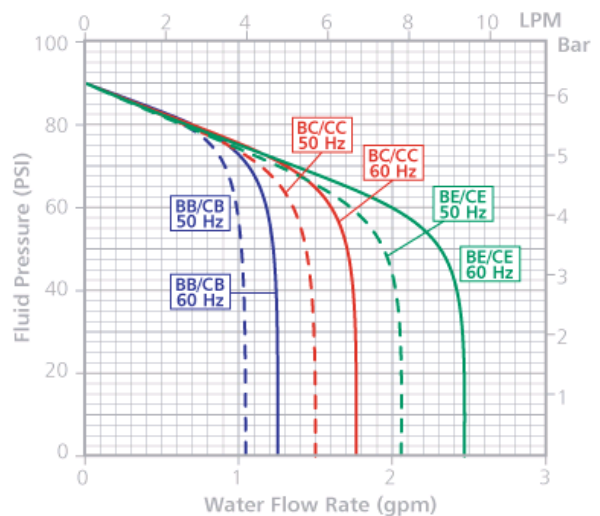
MCS30 Thermal Performance



MCS20 Centrifugal Pumps



MCS Positive Displacement Pumps



¹Oil @ 70°F, 50/50 EGW ²Includes pressure drop through system.

SYSTEM MAINTENANCE / SERVICE

(A) Scheduled Maintenance

Routine system maintenance should be very minimal once the MCS Cooling System has been initially installed, filled, primed and is up and running. Maintenance instructions for changing and maintaining coolant level not covered in the installation and operating instructions will be covered here under **SYSTEM MAINTENANCE**.

Operating experience with each unique equipment installation will dictate reasonable frequency of system inspections and/or scheduled maintenance. Suggested guidelines are presented under the following Sections (B), (C) and (E).

(B) Weekly Inspections

Noise Level: Any abnormal sound or substantial increase in noise level since the last weekly inspection may indicate an impending pump, fan or line blockage problem, which should be further investigated.

Leakage: The weekly visual check does not require removal of the top cover. However, observation of coolant on the floor surface, coming out from under the system, calls for a further check for possible new leaks.

Coolant Level: Any significant drop in the coolant level on the front panel 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. See Section (D) for instructions on maintaining coolant level in the reservoir.

Pump and Fan Assemblies: With upwards of 10,000 hours continuous duty life expectancy on the pump and 20,000 hours on the fan, both of these components should check OK, on a week-after-week basis.

Coolant Temperature: With no temperature monitor in the system, checking each week by placing a hand on top of the cover, will determine if relative operating temperature level is consistently the same as the week before (normal temp level checks OK). Any substantial increase in temperature level should be further investigated (i.e., airflow obstruction, filter blockage).

(C) Coolant Life

Periodically inspect the coolant inside the reservoir. If the coolant appears dirty, flush the reservoir and replace coolant.

(D) Maintaining Coolant Level

If any of the previous observations require coolant level to be brought back up to normal, procedure is as follows:

- Remove cover plate (two 1/4-turn screws) from top of cover; remove cap from reservoir.
- Add coolant into the reservoir, up to the FULL mark on the front panel. Replace the cap and cover plate. See Appendix (J) for replacement parts and instructions.

(E) Changing Coolant

Disconnect Main Power: Disconnect main power to assure there is no live voltage on the unit while changing coolant.

Remove System Cover: First remove cover-attaching hardware. There are (12) #8-32 Phillips Pan Head screws with a flat washer and split locking washer on each screw.

After removing all attaching hardware, grasp the "finger-grip" on each side and lift the cover straight up until it is clear of the system.

Drain Coolant from System: The sighttube provides the dual function of also being a drain line.

Remove the reservoir cap; disconnect the top end of the "sight-glass" tube from the small fitting elbow on the top of the reservoir; and drop the open end of this tubing into an open container for draining.

Reconnect the small drain tube to the top of the reservoir after draining. Make sure this tube is still in a good position, lined up with the sighting slot on the front panel.

The rest of the system supply and return hoses; and equipment coolant passages can best be drained by disconnecting the system supply and return barbed connections.

Reconnect Hoses: Reconnect system coolant supply and return hoses, making sure the hose clamps are on tight. Also check any other equipment lines that may have been disconnected for draining.

Reconnect Power Plug: Plug should be reapplied with electrical power to the plug OFF.

NOTICE Running the pump without fluid in the reservoir will damage the pump.. If pump starts, quickly check to make sure system power to the unit is OFF (fan not running), before proceeding.

Coolant Refill: Now perform Steps 5, 6 & 7 of the previous Installation and Operational Instructions for initial refilling procedure.

Restart Cooling System: After the coolant level has become stable for several minutes and has been topped off again to the FULL mark, the system can now be turned on again to full operation.

Replace System Cover: Before replacing the system cover, carefully recheck a final time for any new leaks.

Reposition system cover and secure by replacing the 12 screws, flat washers and lock washers previously removed.

(F) Operating Conditions

Temperature Range: 60-80°F (15.6-26.7°C), ≤80% RH non-condensing.

Location: Building interior only, machinery or storage room.

(G) Storage Conditions (Dry)

Temperature Range: 5-40°C, ≤90% RH non-condensing.

Location: Building interior only, machinery or storage room.

(H) Special Shipping Instructions

Shipping conditions **are not** a controlled environment; temperatures during winter months may well be much lower than the operation and storage conditions as specified. To prevent freeze-up during shipment, the following observations and special instructions should be noted.

From the Factory: The MCS cooling system is shipped dry from the factory - no problem here.

After Initial Filling: For any subsequent shipments anytime after the unit has once been filled for operations, the following applies:

- Drain the Cooling System using normal draining procedures found in Maintenance Section (E). The system reservoir will be drained empty during this procedure.

NOTICE Failing to completely drain the system prior to shipping or storage could result in freezing of the fluid and damage to the system. Ensure the system is completely drained prior to shipment or storage.

(I) Fuse Replacement

Disconnect Main Power: Disconnect main power to assure there is no live voltage on the unit while changing the fuses.

Remove the fuse drawer from the power inlet module, located on the rear of the unit. Replace the blown equivalent amperage rating. Reinstall the fuse draw and reconnect power to the system.

TROUBLE SHOOTING GUIDE

Problem	Recommend Remedy
Unit will not start	Check the line cord; make sure it is plugged in. Check the voltage on the power source. Make sure it is within the rated voltage of the unit \pm 10%. Check that the Power Switch is on and that the fuses have not blown.
Unit will not circulate fluid	Check the reservoir level. Fill, if necessary. Check for blockage.

Service Assistance

If, after following these trouble shooting steps, your unit fails to operate properly, contact Boyd for assistance.

REPLACEMENT PARTS

Available replacement parts are as follows:

PART DESCRIPTION	BOYD P/N
"AB" Pump/Motor Spare Parts Kit, 115V~ Centrifugal	507022
"AB" Pump/Motor Spare Parts Kit, 230V~ Centrifugal	507023
"DA" Pump/Motor Spare Parts Kit, 115V~ Centrifugal	506840
"DA" Pump/Motor Spare Parts Kit, 230V~ Centrifugal	101733-03
Separator	
Fan Spare Parts Kit MCS 10, 115V~	507526
Fan Spare Parts Kit MCS 10, 230V~	507527
Fan Spare Parts Kit MCS 20/30, 115V~	507528
Fan Spare Parts Kit MCS 20/30, 230V~	507529
Separator	
FUSE, 6.3A 250V~	101722-03
FUSE, 1 A 250V	101722-05
FUSE, 1.6 A 250V	101722-06
FUSE, 2.5 A 250V	101722-07
FUSE, 3.15 A 250V	101722-08
FUSE, 4 A 250V	101722-09
Separator	
Motor – 115V~ ¼ hp, for PD Pumps	230-0202
Motor – 230V~ ¼ hp, for PD Pumps	230-0214
Separator	
Pump, Brass "BB" 1.3 gpm	205-0004
Pump, Brass "BC" 1.8 gpm	205-0005
Pump, Brass "BE" 2.3 gpm	205-0006
Pump, Stainless Steel "CB" 1.3 gpm	205-0009
Pump, Stainless Steel "CC" 1.8 gpm	205-0010
Pump, Stainless Steel "CE" 2.3 gpm	205-0011

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 charge 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 STANDARD 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