



Technical Publications

GEHC Deionization Kit - DVMR
Lytron Part Number: MN7519G1
GEHC Part Number: 5224090

Lytron Document Number: 820-0220

Service Manual



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1.0 Revision History

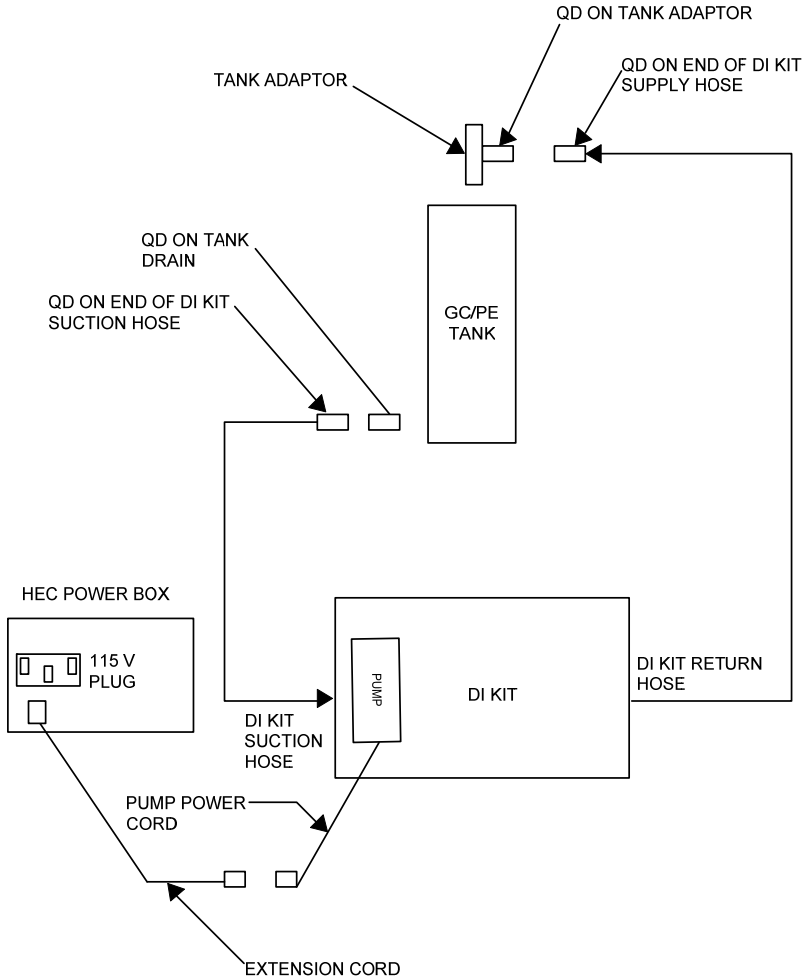
REV	DATE	REASON FOR CHANGE	APPROVED BY:
A	05/08/09	Initial Release	AJL
B	02/24/10	Removed GEHC Document Number reference from cover; added note to verify procedure revision within GE service documentation; added photographs within installation procedure.	KRG
C	08/05/13	Modified pump priming procedure and additional changes requested by customer.	HB

NOTE
 Prior to starting, check GE service documentation for the latest revision of this procedure.

2.0 Introduction

2.1 Overview

This procedure describes the process to deionize and filter the coolant for the Gradient Coil (GC) loop and Power Electronics (PE) loop. The Deionization Kit will hook-up to each of the cooling loops to increase the electrical resistivity level and to filter the coolant. Chemical additives will also be added back into each cooling loop. Deionization can be performed while other planned maintenance tasks are being done in parallel, since scanning is still allowed when the tool is hooked up and running.



Plumbing and Electrical Hook-up Schematic

2.2 Personnel Requirements

Required Persons	Preliminary Reqs	Procedure	Finalization
1	5 mins	90-180 mins, depending on initial resistivity value	10 mins

2.3 Receiving the DI kit

Inspect the DI kit immediately upon receiving it. If the unit shows shipping damage, contact the transportation company and file a freight damage claim. Although the system has been drained, some residual fluid may remain. This will not hinder the performance of the system.

The DI kit will ship by itself in its case. This case has been selected to protect the internal components from potential damage during transit. The internal components have been fastened to the case via metal mounting brackets.

2.4 About the Warranty

All units returned for warranty claims must have an RMA (Return Material Authorization) number on the outside of the container. Call Lytron Customer Service at 781 933-7300 for an RMA number. Refer to the end of manual for the DI kit warranty. The system should be drained of all fluids and packaged per section 0 of this manual prior to return shipment to Lytron.

2.5 Customer Service Support

Lytron is committed to servicing the customer, both during and after the sale. If there are questions concerning the operation of the system, contact our Application Engineering Department at 781 933-7300. To facilitate your call, please have the **model number** and **serial number** (located on the nameplate of the system) of the system for the Lytron Application Engineer.

Email:

Lytron's service department can be reached by sending an e-mail to Service@Lytron.com.

2.6 Service Hotline

Lytron has a 24 hour per day, 7 day per week service hotline to assist with questions on the startup and operation of the DI kit. Lytron service can be reached by dialing 781 933-7300. To facilitate your call please have the model number and serial number (located on the nameplate of the system) of the system for the Lytron Service Engineer.

3.0 Safety Precautions

This system is designed to provide fluid filtering only as specified in this manual. Using this system in a manner other than as specified may impair the safety protection of the system.

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

Prior to operating the system, be sure to read, understand, and follow all instructions and safety precautions listed in this manual. If there are questions concerning the operation of the system or the information in this manual, please contact Lytron's Applications Engineering Department at 781 933-7300.

1. Never place the system in a location where excessive heat, moisture, or corrosive materials are present.
2. The system is not suitable for use in the presence of flammable mixtures.
3. In the event of electromagnetic or other interference with nearby equipment, move the system an appropriate distance from the nearby equipment to eliminate the interference.
4. Do not connect the SUPPLY or RETURN to a building water supply or any pressurized source.
5. Do not use or maintain the system outdoors. This system was 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 Lytron warranty.
7. Transport the system with care. Sudden jolts or drops may result in damage the system.
8. Observe all warning labels. Never remove warning labels.
9. Do not operate damaged or leaking equipment.
10. Do not operate the unit without fluid in the LCS reservoirs.
11. Always disconnect the power source prior to performing any service, maintenance procedures or before moving the system.
12. Do not operate the system with damaged power cords.
13. A qualified technician should perform all system service and repairs.
14. Once the system has reached the end of its useful life, the system components should be recycled in accordance with the appropriate local code

4.0 Compliance Standards

The DVMR DI KIT is in agreement with the following standards:

US/CAN

Safety

US - UL 61010A-1 - Laboratory & Testing and Measurement Equipment

CAN - CSA 22.2, No. 1010.1 - Laboratory & Testing and Measurement Equipment

CE/EU

Safety

EN61010-1- Laboratory & Testing and Measurement Equipment



5.0 Lytron CE Declaration of Conformity DI KITG1



DECLARATION OF CONFORMITY

Product Description: Deionization Kit
Model Number: MN7519G1

We, Lytron Incorporated, 55 Dragon Court, Woburn, Massachusetts, 01801, USA, declare that the product described above is in conformity with Low voltage Directive 73/23/EEC – European Union (EU) using the relevant sections of the following standards and other normative documents:

EN 61010-1 – 2nd Edition
Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use Part 1: General Requirements

This product has been qualified in accordance with the requirements established in Low voltage Directive 73/23/EEC – European Union (EU) and is manufactured in compliance with Lytron's registered EN ISO 9001:2000; BS EN ISO 9001:2000; ANSI/ASQ Q9001:2000 Quality System.


Authorized Lytron Representative

05/07/09
Date

55 Dragon Court / Woburn, MA 01801 USA / Tel 781-933-7300 / Fax 781-935-4529 / www.lytron.com

F4.3.38 Rev A 04/24/09

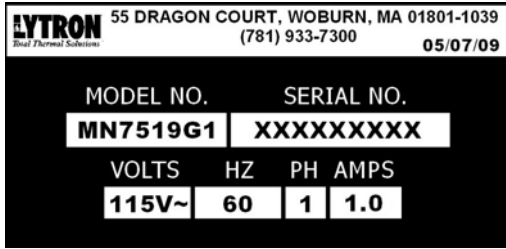


6.0 DI KIT Specifications

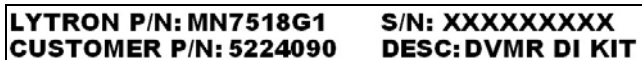
Subject	Specifications
Overall Dimensions	18" (45 cm) wide x 10" (25 cm) deep x 15" (38 cm) high
Shipping Crate Dimensions	18" (45 cm) wide x 10" (25 cm) deep x 15" (38 cm) high
Weight (empty, no fluid)	25 pounds (11 kg)
Shipping Weight (empty, no fluid)	25 pounds (11 kg)
Pump Capacity	1 GPM (3.7 L/min) @ 7 PSI (.5 bar) @ 60 Hz
DI kit Suction Fluid Connection (tank drain)	CPC# HFCD171035
DI kit Return Fluid Connection (tank fill port)	CPC# HFCD10835
Electrical Requirements	115V/60Hz/1Ph/2 Amps
Ambient Temperature – Non-Operating	-40 to 70°C with a maximum positive/negative rate of change of 20°C/hr
Humidity – Non-Operating	Between 0% to 100%, condensing, with a positive/negative rate of change of 30%/hr
Altitude – Non-Operating	30.5 m below sea level to 5200 m above sea level. Non-operating conditions cover air transport of the DI kit
Magnetic Field – Non-Operating	30 Gauss
Ambient Temperature – Operating	10 to 35°C with a maximum positive/negative rate of change of 10°C/hr. Maximum allowable temperatures may be reduced for high altitude operation (greater than sea level) by a factor of 1.5°C per 1000 m.
Humidity – Operating	Between 30% and 75%, non-condensing, with a maximum allowable positive/negative rate of change of 5%/hr
Altitude – Operating	30.5 m below sea level to 2600 m above sea level.
Magnetic Field – Operating	30 Gauss
Shock	Maximum 80G @ less than 3 rms half sine
Vibration	Maximum random 2.09G RMS Maximum swept sine 0.5G RMS (0-peak)

7.0 Product ID Nameplate and Safety Labeling

7.1 Product Identification Nameplate



The Product ID Label identifies the Lytron model number, Lytron serial number, and electrical information. This label is located on the inside of the DI kit case above the pump.



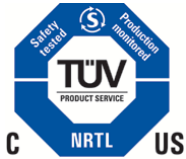
The Product ID Label identifies the Lytron model number, Lytron serial number, and GEHC part number. This label is located on the outside of the DI kit case near the handle.

7.2 Safety Labels and Markings



This symbol certifies that the chiller conforms to the CE Directive and all applicable directives at the time of marking.

Ce symbole certifie que le refroidisseur de liquide conforme a la directive CE et a tous directives a l'heure de l'inscription.



Agency compliance and approval product conforms to standards.

La conformite d'agence et l'approbation de produit se conforme aux normes



Attention: This symbol tells the user to consult accompanying documents before servicing equipment.

Ce symbole indique a l'utilisateur de consulter des documents d'accompagnement avant d'enteretenir l'equipment.



High Voltage:

Disconnect power before servicing.

Debrancher toute alimentation electrique avant entretien



This symbol certifies that the chiller conforms to the CE Directive 2002/96/EC.

Ce symbole certifie que le refroidisseur de liquide conforme a la directive CE 2002/96/EC.

NOTE

Prior to starting, check GE service documentation for the latest revision of this procedure.

8.0 Installation and Operation

8.1 Facility Requirements

8.1.1 Ambient Conditions and DI kit Location

8.1.1.1 Ambient Conditions: The local ambient temperature should be between 10 to 35°C with a maximum positive/negative rate of change of 10°C/hr. Maximum allowable temperatures might be reduced for high altitude operation (greater than sea level) by a factor of 1.5°C per 1000 m. The humidity level should be between 30% and 75%, non-condensing, with a maximum allowable positive/negative rate of change of 5%/hr. The LCS should not be operated at an elevation greater than 16.5 ft (5m) above or below the MR system.

8.1.1.2 Location: The DI KIT will be placed directly on the floor in front of the HEC cooling system. Before placing the DI kit in this position, make sure the HEC front-hinged door is fully open. The DI kit must operate below the GC and PE tanks to allow the DI kit pump to prime. Avoid placing the DI kit on a cart or table, which could elevate it at or above the GC and PE tanks.

8.1.2 Electrical Requirements

8.1.2.1 Power to the DI KIT shall be received from a 115V power receptacle located on the top of the HEC. The DI KIT requires 115V/60Hz/1Ph/1Amp power.

8.1.3 Plumbing

8.1.3.1 Refer to section 10.3 for a plumbing schematic.

8.2 Installation

ATTENTION

FRU #5264701 is required to operate the DI kit. FRU #5264701 comes with 1 pair of Nitrile gloves and safety goggles. It is required that this safety equipment be used during the installation and operation of the DI kit.

8.2.1 Tools Required:

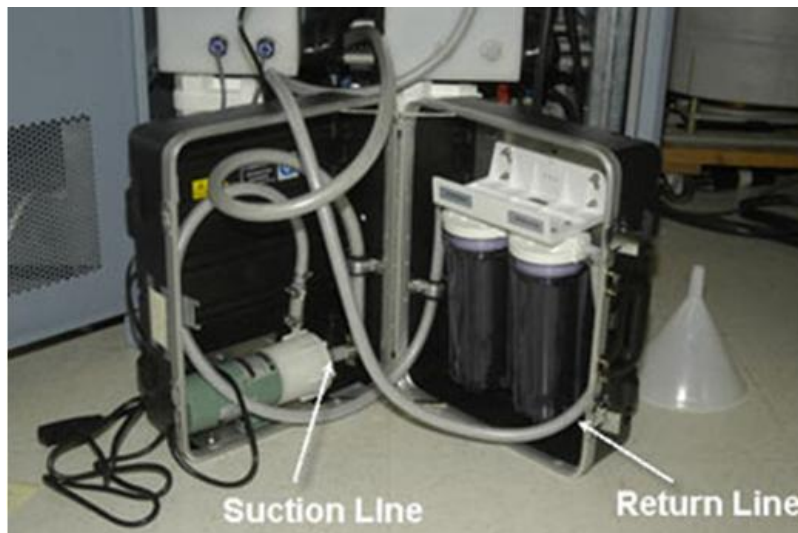
Item	Qty	Part#
DVMR Deionization Kit	1	5224090
Deionization Filter Cartridge Kit	1	5264701
5 gallon pail	1	2239133
Funnel (inside the HEC)	1	-
Water Removal Pump Kit (inside the HEC)	1	-

- 8.2.2 Before placing the DI KIT DI kit in to position, make sure the HEC front hinged door is fully open.
- 8.2.3 Place the DI KIT in front of the HEC cooling system, directly on the floor, 2-4” from the base of the cooling cabinet.

IMPORTANT

The DI kit must operate below the PE and GC tanks to allow the DI kit pump to prime. Avoid placing the DI kit on a cart or table, which could elevate it at or above the GC and PE tanks.

- 8.2.4 During operation, the case will be fully open standing up on end (18” dimension perpendicular to floor). Slowly open the case and position case so the pump is closest to the floor and horizontal to the floor (see photo below).



- 8.2.5 Remove all Velcro strapping from hose coils and extension cord coil.

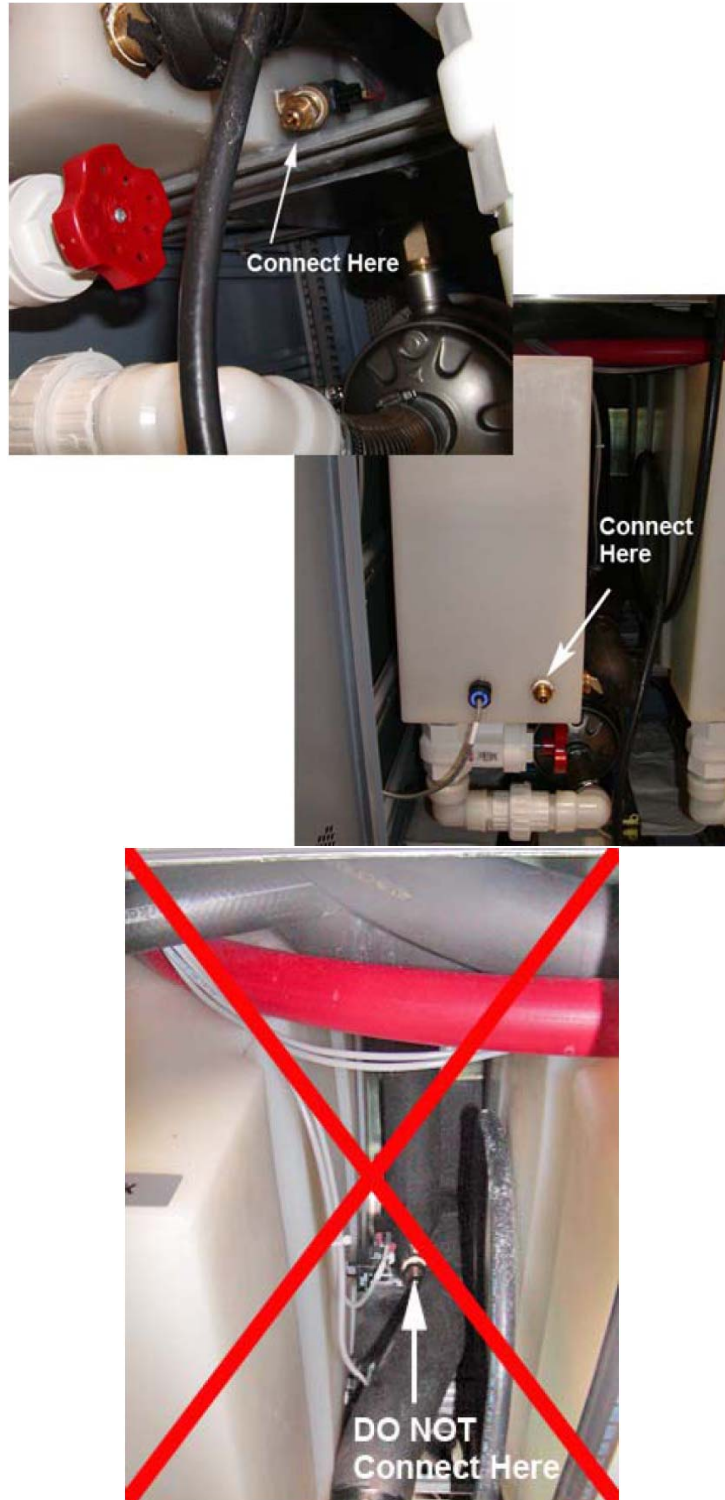
- 8.2.6 Uncoil and straighten the DI suction hose, DI return hose, and extension cord.
- 8.2.7 Using the white filter wrench provided with the kit, remove the filter housing and DI housing from the DI/Filter manifold. Each housing may need to be pull away from the case to fit the wrench behind.
- 8.2.8 Install the DI cartridge and the water filter element into the housings. Make sure the DI cartridge is to the left of the water filter. The DI/water filter bracket is labeled to indicate location of DI cartridge and water filter. (Filter and DI cartridge from FRU#5264701)
- 8.2.9 Install the DI housing w/ cartridge and water filter housing with element back onto the DI/Filter manifold. Make sure the DI cartridge is to the left of the water filter. The DI/water filter bracket is labeled to indicate location of DI cartridge and water filter. Do not fully tighten the DI housing at this time. Tighten the water filter housing.

8.3 GC Deionization and Chemical Additive

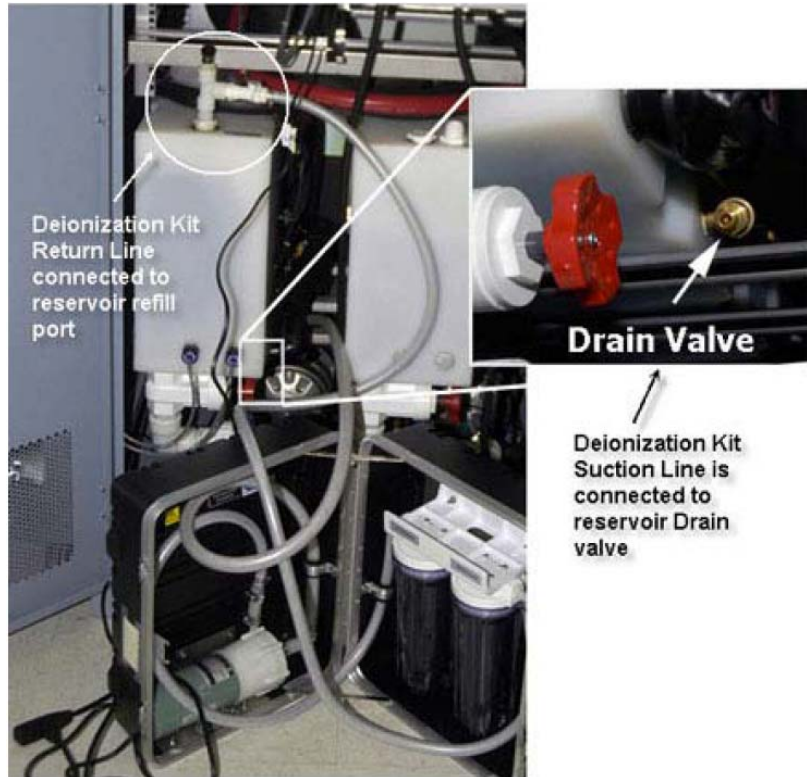
- 8.3.1 Remove the hex plug from the GC tank fill port and thread the DI tank adaptor into the GC tank fill port (no thread sealant required). Only turn the DI tank adaptor into the fill port two or three revolutions leaving the QD facing out of the LCS cooling cabinet. Make sure the breather vent on the top of the DI tank adapter is open to allow air to vent from the system (see photo below).



- 8.3.2 Connect the suction line QD to the QD on the GC tank drain (located on the right of each tank, see photos below).



8.3.3 Connect the return hose QD to the QD on the kit tank adaptor (see photo below).



IMPORTANT

Do not plug the 115V extension cord into outlet until instructed to do so.

- 8.3.4 Observe the DI cartridge housing. Water should be trickling into the housing. If water is observed in the DI cartridge housing, the pump is sufficiently primed. Water should be allowed to fill the DI cartridge housing approximately 3/4 full. If no water is observed in the housing, this could be an indication that the pump is not primed. **Do not** attempt to run the DI kit pump until the pump is primed.
- 8.3.5 When observed water level reaches approximately 3/4 full in the DI cartridge housing, tighten the housing using the white wrench. Verify both housings are tight.
- 8.3.6 Plug the extension power cord into the pump power cord. Plug the extension cord into the 115V outlet, labeled “DI KIT POWER”, located on the top of the electrical box.

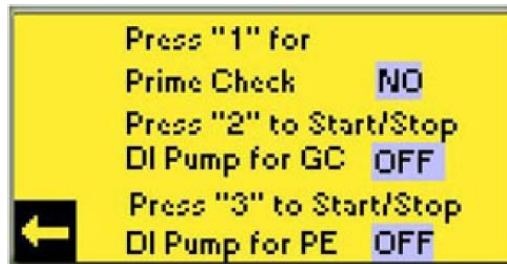
NOTE

This will not start the pump. See the start-up procedure to start the DI kit pump.

- 8.3.7 The DI kit is controlled by the PLC program. The PLC has been programmed to automatically shut off the DI kit for the GC fluid loop once the resistivity level reaches predetermined value

8.3.8 On the PLC screen, perform the following sequence to start the DI kit:

- Step #1 – Press “F4 Service.”
- Step #2 – On service screen press “F6 DI kit.”
- Step #3 – You must first confirm the pump has been primed. To confirm the pump has been primed press “1” (see photo below).
- Step #4 – To start DI pump for GC circuit, press “2” and the DI kit pump should start (see photo below).



NOTE

Briefly start the pump for 3 -5 seconds until it has caught prime. The pump must be primed to prevent damage. Verify flow by observing the coolant filling the DI and filter housings. If flow stops, stop pump, (press “2” on PLC) to prevent damage. Disconnect line from Reservoir. Remove Filter housing and drain.

- Verify Filter tool is on the floor below HEC tanks
- Verify hoses are not kinked
- Verify vent on Return hose is open
- Repeat procedure starting at operation 8.2.7

REMINDER

The DI kit will shut off when predetermined resistivity is reached and will take approximately 4 hours.

8.3.9 To check the current status of the GC deionizing process, perform the following sequence from the PLC Main Menu:

- Step #1 – Press “F3 Monitor.”
- Step #2 – On Monitor screen press “F2 Gradient Coil.”
- Step #3 – On the Gradient Coil screen press “F6 Next Screen.”
- Step #4 – To start DI pump for GC circuit, press “2” and the DI kit pump should start.

8.3.10 Once the deionizing of the GC circuit is complete, disconnect the suction line QD from

the QD on the GC tank drain (located on the right of each tank).

- 8.3.11 Disconnect the return hose QD from the QD on the kit tank adaptor.
- 8.3.12 Remove the tank adapter from the GC tank.
- 8.3.13 Install the fill funnel in the GC tank fill port. Empty the contents of the GC chemical additive to the GC tank in small amounts allowing the chemical to be slowly diluted into the fluid circuit. (GC chemical additive from FRU#5264701)
- 8.3.14 Once the entire contents of the chemical additive has been added to the GC fluid circuit, use the GC pump drain port to fill the container and rinse any remaining chemical in the container. This is done by slowly opening the ball valve on the bottom of the GC pump to allow fluid to flow into the container (see photo below). Close the valve and empty container contents into the GC tank. Perform this operation three times and dispose of the chemical container.



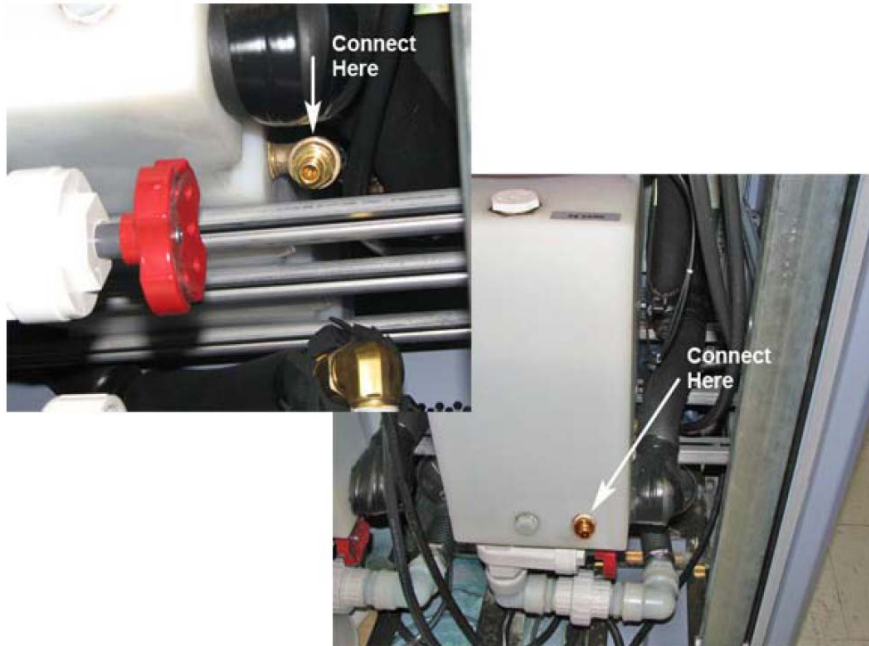
- 8.3.15 Remove the fill funnel from the GC tank and reinstall the hex plug in the GC tank fill port.

8.4 PE Filtering and Chemical Additive

- 8.4.1 Remove the hex plug from the PE tank fill port and thread the DI tank adaptor into the PE tank fill port (no thread sealant required). Only turn the DI tank adaptor into the fill port two or three revolutions leaving the QD facing out of the LCS cooling cabinet. Make sure the breather vent on the top of the DI tank adapter is open to allow air to vent from the system (see photo below).



8.4.2 Connect the suction line QD to the QD on the PE tank drain (located on the right of each tank, see photos below).





8.4.3 Connect the return hose QD to the QD on the kit tank adaptor. The DI kit pump will be primed from performing step 8.3, GC Deionization and Chemical Additive.

8.4.4 The DI kit is controlled by the PLC program. The PLC has been programmed to automatically shut off the DI kit for the PE fluid loop after a predetermined amount of time.

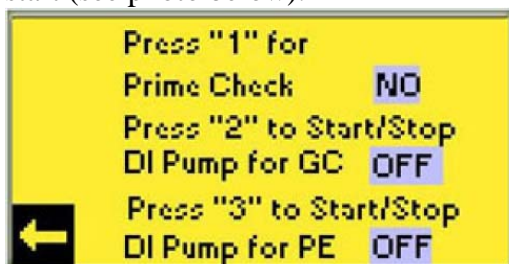
8.4.5 On the PLC Main Menu screen, perform the following sequence to start the DI kit:

Step #1 – Press “F4 Service.”

Step #2 – On service screen press “F6 DI kit.”

Step #3 – You must first confirm the pump has been primed. To confirm the pump has been primed press “1” (see photo below).

Step #4 – To start DI pump for PE circuit, press “2” and the DI kit pump should start (see photo below).



REMINDER

The DI kit will shut off after predetermined amount of time and will take approximately 30 minutes.

- 8.4.6 Once the filtering of the PE circuit is complete, disconnect the suction line QD from the QD on the PE tank drain (located on the right of each tank).
- 8.4.7 Disconnect the return hose QD from the QD on the kit tank adaptor.
- 8.4.8 Remove the tank adapter from the PE tank.
- 8.4.9 Install the fill funnel in the PE tank fill port. Empty the contents of the PE chemical additive to the PE tank in small amounts allowing the chemical to be slowly diluted into the fluid circuit. (PE chemical additive from FRU#5264701)
- 8.4.10 Once the entire contents of the chemical additive has been added to the PE fluid circuit, use the PE pump drain port to fill the container and rinse any remaining chemical in the container. This is done by slowly opening the ball valve on the bottom of the PE pump to allow fluid to flow into the container (see photo below). Close the valve and empty container contents into the PE tank. Perform this operation three times and dispose of the chemical container.



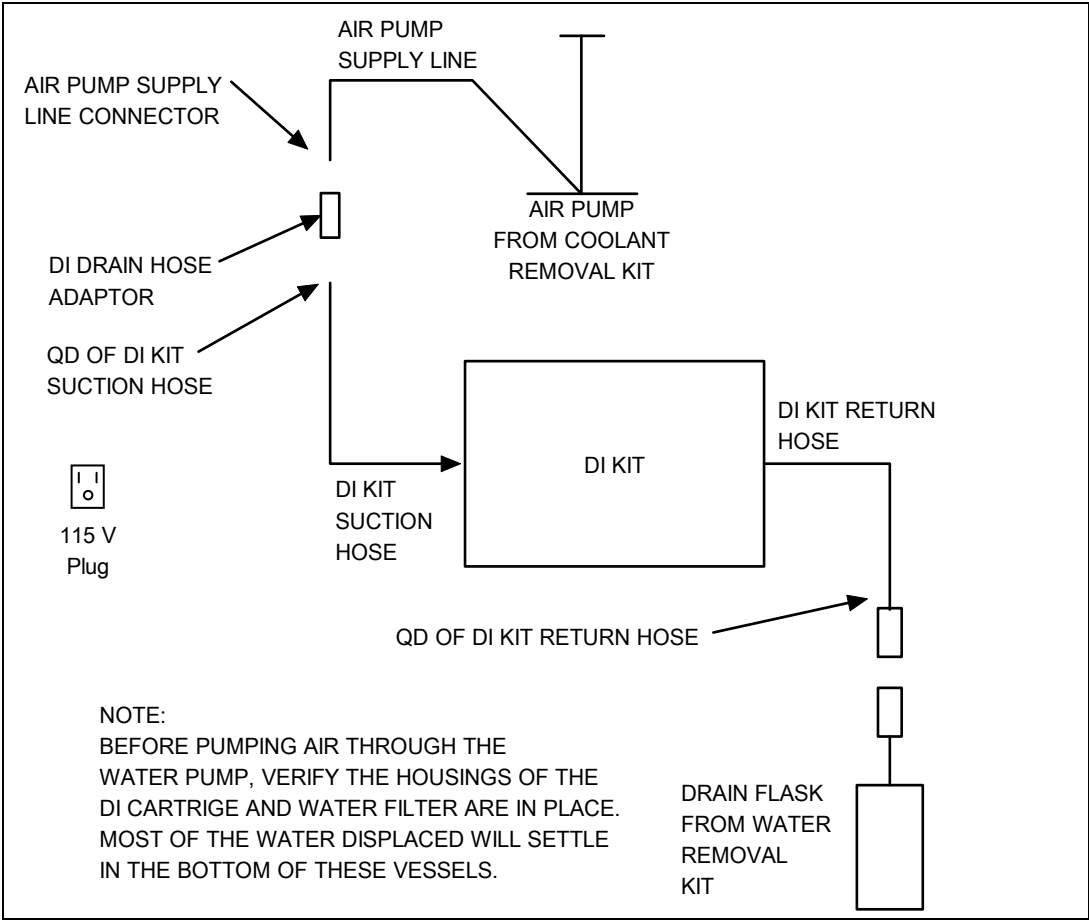
- 8.4.11 Remove the fill funnel from the PE tank and reinstall the hex plug in the PE tank fill port.
- 8.4.12 Disconnect the extension power cord from the 115V outlet located on the top of the electrical box.
- 8.4.13 Disconnect the extension power cord from the pump power cord.
- 8.4.14 Close hinged door to HEC.

NOTE
Prior to starting, check GE service documentation for the latest revision of this procedure.

9.0 Draining and Shipping Procedure

9.1 Draining Procedure

WARNING
Always disconnect power to DI kit when performing service.



9.1.1 The Coolant Removal Kit will be utilized to drain fluid from the DI kit. The Coolant removal kit is located on the floor of all HEC cabinets.

- 9.1.2 Attach the air pump supply line connector to the DI drain hose adaptor. Attach the drain hose adaptor to the QD of DI kit suction line (see photo below).



- 9.1.3 The fluid in the DI kit must be collected/disposed of. Provide a means to collecting approximately 1-2 gallons of coolant.

ATTENTION

Use the containment flask from the Air Removal Kit or have a container available to hold the fluid removed from the DI kit. This container should be labeled in accordance with OSHA rules and regulations concerning handling of the fluid being removed from the LCS.

ATTENTION

Reference the MSDS sheet for the fluid being removed from the DI kit for further handling, storage, and disposal instructions. Disposal of fluid removed from the DI kit should be in accordance with all Local and Federal disposal laws.

- 9.1.4 The QD plug at the end of the DI kit return hose should be mated to the QD coupling located at the end of the containment flask (see photo below).



- 9.1.5 Slowly begin to pump the air pump, forcing air into the DI kit. Water should begin to flow from the DI kit return hose. Continue pumping until air is observed flowing from the DI kit return line. Water should enter the DI housing and/or the water filter housing.
- 9.1.6 Using the white filter wrench provided with the kit, remove the filter housing and DI housing from the DI/Filter manifold. Decant the water from each housing.
- 9.1.7 Discard both the DI element and the filter element. These will not be reused.
- 9.1.8 Install the filter housing and DI housing back onto the DI/Filter manifold.
- 9.1.9 Pump the air pump 4-5 more times to remove remaining fluid from pump.
- 9.1.10 Using the white filter wrench provided with the kit, once again remove the filter housing and DI housing from the DI/Filter manifold. Decant the water from each housing.
- 9.1.11 Install the filter housing and DI housing back onto the DI/Filter manifold.
- 9.1.12 Disconnect the air pump supply line connector from DI drain hose adaptor and the DI drain hose adaptor from QD of DI kit suction hose.
- 9.1.13 See section 9.2 for packaging instructions.

9.2 Shipping

- 9.2.1 After use, follow the instructions detailed in section 9.1 to disconnect and drain the DI kit.

9.2.2 This kit has been designed to ship FedEx or UPS. It can ship without additional packaging.

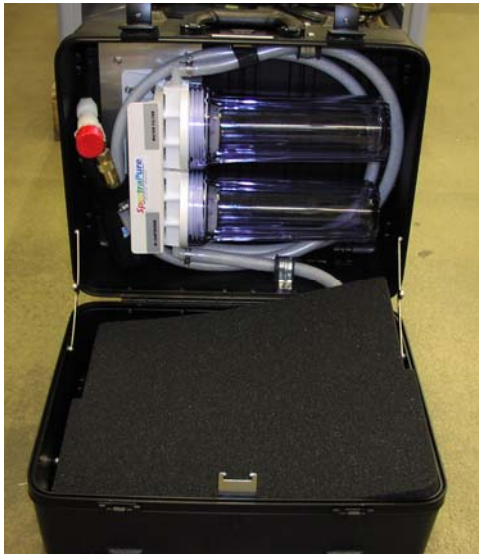
9.2.3 Packaging (refer to photo below for image of packaged DI kit)

9.2.3.1 Coil the power extension cord then place on top of the DI/Filter support bracket.

9.2.3.2 Coil DI kit supply hose under the DI/Filter housings and up around the DI/filter support bracket. Fasten the power cord and DI kit Supply hose to the top of the DI/Filter support bracket using long Velcro strap. Use smaller Velcro straps where necessary to contain hose coil.

9.2.3.3 Coil the DI kit suction hose in a 10-12" diameter coil. Use smaller Velcro straps where necessary to contain hose coil. Place coil just above pump.

9.2.3.4 Place foam-packing material between the two halves of the case and slowly close the case as shown below



Field Replaceable Units (FRUs) & Spare Parts

9.3 Spare Parts Table

<u>Lytron Part Number</u>	<u>GE Part Number</u>	<u>Description</u>
101710-02		Pump

9.4 FRU Assemblies

<u>Lytron Part Number</u>	<u>GE Part Number</u>	<u>Description</u>
205-0116	5264701	DI Filter Cartridges Kit

10.0 Schematics & Diagrams

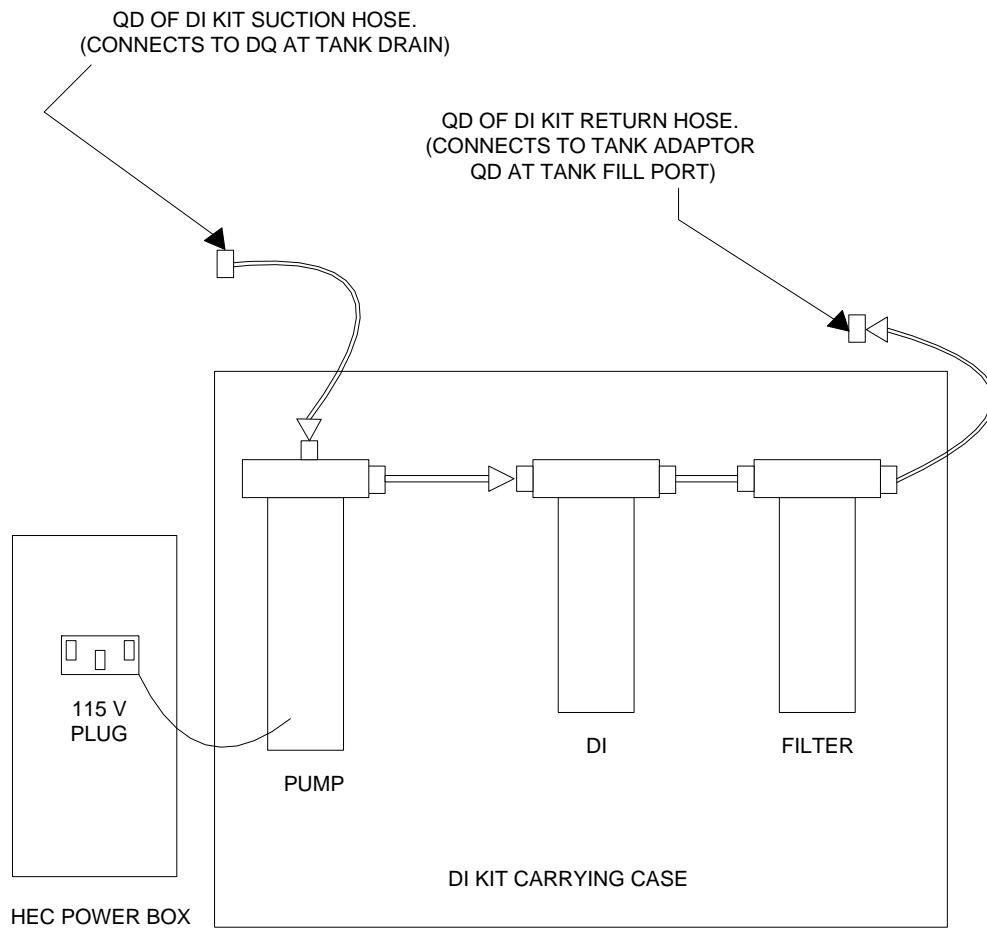
10.1 Electrical – Signal Box

*See HECG3 manual #820-0190 for drawing #830-0184

10.2 Electrical – Electrical Box

*See HECG3 manual #820-0190 for drawing #830-0185

10.3 Plumbing Schematic



11.0 Service Policy

Lytron'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, Lytron has implemented the following cooling system service policy.

11.1 Diagnostic Consultation:

At no cost, Lytron will attempt to diagnose the problem over the phone. Our service department can be reached by calling 781-933-7305 and following the menu. Service technicians are available 24 hours/7 days for consultation. Lytron strongly encourages customers to take advantage of this service before returning a cooling system to Lytron for evaluation. Often a problem with a system can be fixed quickly in-house or is an application problem. By working with Lytron's service department to troubleshoot a cooling system, you do not have the downtime and expense associated with returning the system to our factory.

11.2 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 Lytron 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. Lytron will not cover the incremental cost of air shipment of replacement parts, regardless of warranty status. In-stock parts normally will be shipped the next business day; non-stocked parts will be shipped as quickly as reasonably possible. This policy is subject to change. Please check with Lytron's service department for the current policy.

Ref. Form F4.3.25 Rev D, 7/21/04

12.0 Warranty

Lytron's Standard Warranty

Lytron 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 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 Lytron sells. Lytron'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 Lytron with transportation charges prepaid, which examination shall disclose to Lytron'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. LYTRON'S OBLIGATION UNDER THIS WARRANTY IS STRICTLY AND EXCLUSIVELY LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE COMPONENT PARTS AND LYTRON DOES NOT ASSUME OR AUTHORIZE ANYONE TO ASSUME FOR IT ANY OTHER OBLIGATION. LYTRON 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.** Lytron's liability does not include any labor charges for replacement of parts, adjustments, repairs, or any other work done outside its factories 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. Lytron's obligation to repair or replace shall not apply to any apparatus which shall have been repaired or altered outside of its factory in any way, or which has been subject to negligence, to misuse, or to pressures in excess of stated limits. On parts not of Lytron's manufacture, such as motors, controls, etc., Lytron extends only those warranties given to Lytron, Inc. to the extent Lytron can do so. Lytron's agreement hereunder runs only to the immediate purchaser from Lytron, Inc. and does not extend, expressly or by implication, to any other person.

Ref. Form F4.3.18 Rev. E Effective June 6, 2003



GE Healthcare

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