

# Centrifugal Theory & Repair Course

## Schedule for 2010

April 26 – May 7, 2010  
December 6 – 17, 2010

Centrifugal Theory & Repair Courses are held at:

**McQuay International  
Staunton, VA**

McQuay International Training  
P.O. Box 2510  
Staunton, Virginia 24402-2510  
Phone: (540) 248-9646  
Fax: (763) 509-7663

*Specifically Designed  
for  
Servicing Contractors  
and  
Chiller Mechanics*

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for the latest training  
schedules

## Centrifugal Theory & Repair Training

### Who May Attend:

Subject to pre-qualification, any Mechanical Contractor doing installation, maintenance and repairs of centrifugal chillers is eligible to send qualified technicians to this course. The technician should have a good working knowledge of the refrigerant cycle, power and control circuitry, and be skilled in the use of standard service tools and electrical meters.

### Prerequisite:

The McQuay Centrifugal System Theory Course (CST) is the required prerequisite for the McQuay Centrifugal Compressor Repair Course. In addition to company pre-qualification, the technician must have attended this course within a year of the McQuay Centrifugal Compressor Repair Course and provide evidence that he or she has attended.

The Federal Government requires technicians to be EPA certified to work on the sealed refrigerant systems.

### Enrollment/Payment:

Enrollment is limited and will be accepted on a first-come, first-serve basis. To enroll, please register online at [www.mcquay.com](http://www.mcquay.com), on the Training Page or fill out the attached enrollment form. Confirmation of enrollment along with an information packet will be sent to the student within five working days after receipt of your paid application. Full payment is required in advance of the class. If payment is not received prior to the start of class, the student(s) will be denied entrance.

### Cancellation Policy:

For Cancellations made within 10 working days prior to course start date, the enrollee(s) will be charged the full course fee. Cancellations made less than four weeks prior to the course start date will be charged 50% of the course fee. An alternative person may use a confirmed space without penalty and substitutions may be made up until start of class.

**Motel:** A list of area motels will be provided with McQuay preferred rates.

**Transportation:** Students are responsible for their own transportation to and from the training center.

**Attire:** Dress is business casual. Students must pass through manufacturing areas daily. No open shoes are permitted. **Safety shoes are required for the Compressor Repair Course. Safety glasses will be supplied.**



**Course Fee:****\$4,800.00**

Per student payable to McQuay International

**Fee Includes:**

All instruction and work materials  
Daily lunches and coffee breaks  
Group Dinner (first night)

**Payment is due in advance.**

Application accompanied by payment should be submitted to:

**McQuay International  
Training Department  
Linda Custer  
P.O. Box 2510  
Staunton, VA 24402**

If other payment arrangements are necessary, direct all inquiries to:

Linda Custer  
Training Administrator  
Phone: (540) 248-9646  
Fax: (763) 509-7663

e-mail:  
[linda.custer@mcquay.com](mailto:linda.custer@mcquay.com)

**Investigate now and  
enroll your personnel  
for one of the next  
training sessions.**

**Course Outline:****Centrifugal System Theory (CST) - \$1,600.00**

This five-day course is designed to teach the service technician how to trouble-shoot and recognize McQuay centrifugal chiller system operating problems. This course is the required prerequisite for the Centrifugal Compressor Repair Course and is scheduled in the week preceding the Centrifugal Compressor Repair. This accommodates those students who will attend both courses.

**Week 1 Agenda Includes:**

Product Review  
Review of Chiller Theory, Centrifugal Compressor Theory and Operation  
Plant Tour  
MicroTech Control Systems  
Wye Delta Starters  
Solid State Starters  
VFD  
Troubleshooting/Programming/Monitor Program  
MicroTech Control Systems Hands-On  
MicroTech II<sup>®</sup> Control Systems Theory Hands-On  
\*CE Compressor Lubrication System and Performance  
Dual Compressor Operation, General Maintenance  
Lube Oil Box – Needle Valves, etc., unloading  
Dehydration  
Refrigeration Charging and Evacuation  
Hot gas By-Pass, Liquid Injection  
System Analysis  
Departure at noon

**Centrifugal Compressor Repair - \$3,200.00**

This five-day course is designed to teach the service technician how to disassemble and reassemble McQuay centrifugal compressors, how to fit and adjust internal operation parts and to understand normal compressor functions so as to be able to diagnose the cause of deviations from the norm.

**Week 2 Agenda Includes:**

Compressor Repair  
Class is divided into four small groups, each of whom then rotate between 4 repair stations:  
Station 1\* CE050 and Oil Pumps  
Station 2\* CE063 (Old and New Versions)  
Station 3\* CE079 and CE100  
Station 4\* CE087 and CE126  
Trouble Shooting Oil Loss  
Review, Discussion, Questions  
Departure at noon on Friday

\*CE = McQuay designation for Centrifugal Compressor

**Note: Safety Shoes are required for the Compressor Repair Course.**



## CONFIDENTIALITY AND RELEASE AGREEMENT

**WHEREAS,** \_\_\_\_\_ (hereinafter "the Receiving Company") has requested McQuay International (hereinafter "McQuay"), and McQuay has agreed to make available to the Receiving Company and/or certain of its employees certain information (either through employee-attendance at McQuay service training courses or seminars or through distribution of McQuay technical service literature) relating to the servicing of McQuay Centrifugal Air Conditioning equipment (hereinafter "Technical Information").

**NOW, THEREFORE,** for good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, Receiving Company agrees as follows:

The Receiving Company acknowledges that the Technical Information is proprietary to McQuay, is not generally known and provides a competitive advantage to those who possess it. Receiving Company agrees that neither it nor its employees will make copies of documents containing Technical Information or disclose the Technical Information to third parties without the advance written consent of McQuay. Receiving Company agrees that all of its employees who will be given access to the Technical Information will first be informed of Receiving Companies' obligation to protect the confidentiality of the Technical Information.

The Receiving Company does hereby release and forever discharge McQuay and all McQuay-appointed sales agents, divisions, affiliates, subsidiaries, parent organizations, directors, employees, service organizations, and parts outlets (hereinafter "McQuay-related entities") from any and all manner of claims, demands, damages, actions, and causes of actions, whether known or unknown, arising under any Federal or State antitrust law, or any other law relating to competition or monopolization, which the Receiving Company, its divisions, subsidiaries, affiliates, directors, agents, servants, employees, successors and assigns might now have, or have ever had, or might but for this Release have in the future, against McQuay and/or any McQuay-related entity, based in whole or in part on/or referring to any matter, cause or thing occurring in whole or in part prior to the date of this Agreement. Without limiting the generality of the foregoing, this release encompasses and releases all claims arising out of either (a) McQuay's and McQuay-related entities' past or existing programs, arrangements, system or methods for the sale of original equipment, the provision of warranty or post-warranty service on McQuay equipment, of the sales or repair and replacement parts, or (b) any past or existing relationships or agreements as between McQuay and the McQuay-related entities referred to above.

The Receiving Company agrees not to represent themselves as "certified", authorized", "endorsed", or use any terms implying McQuay endorsement of their competence and skills to perform service work on McQuay centrifugal refrigeration equipment.

The person executing this Agreement on behalf of the Receiving Company represents that he or she is authorized and empowered to execute this Agreement and to bind the Receiving Company thereto.

**IN WITNESS WHEREOF,** the Receiving Company, by its duly authorized officer, has executed this Agreement on this \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_\_\_\_.

\_\_\_\_\_  
(Company Name)

By: \_\_\_\_\_

Its: \_\_\_\_\_

Subscribed and sworn to before me

This \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_\_\_\_.

\_\_\_\_\_  
Notary Public