

Customer Service Training Schedule



SYSTEM	INFO	SETTINGS	SERVICE
MaxLoad (HLL), amps			400.0
MinLoad			
User Setpoint (TL), ft			44100.0
Index Accumulator, ft			0.0
Process Setpoint, ft			44100.0
Surge Index Increment, ft			100.0
<input checked="" type="checkbox"/> Surge Absorber Enabled			
Surge Sensitivity			9.0
Loaded			Load Selected
			Remote 2/10



2009

Course

C302 Customer Basic Rotary Compressor Class

Duration 3 Days

Language English

Cost \$1800/per person

Description This course is designed for operation or maintenance personnel and focuses on rotary compressors and their control systems. Upon completion of this course the student will understand the principles of air compressor systems, the components and accessories included in the rotary compressor system, maintenance and diagnostic procedures, and operation of the control panel. 40% of this course is hands-on.

Agenda

- **Day One**
 - Introduction to compressed air systems
 - Identification of Compressor
 - Overview of rotary compressor components
 - Overview of Air & Oil flow circuit
 - Rotary Compressor Operation
- **Day Two**
 - Operation of the SE/SG & S3 Intellisys controller
- **Day Three**
 - Maintenance and Diagnostics
 - Compressed air system accessories

Course Offering Dates

March 30 - April 1

Oct 28 - 30



Course

C313 Customer Sierra Oil-Free Rotary Class

Duration 3 Days

Language English

Cost \$1800/per person

Description This program is designed to prepare maintenance and service providers to properly maintain and service their Ingersoll Rand "Oil-Free" air compressors (Sierra and Nirvana). Students will gain theoretical and practical knowledge of the design and operation of the equipment through classroom studies and hands-on demonstrations.

Agenda

- **Day One**
 - Compressor Overview and Principles of Operation
 - Identification of Compressor
 - Mechanical & Electrical components
 - Electrical System
- **Day Two**
 - Operation of the SE/SG & S3 Intellisys controller
- **Day Three**
 - Airend & Motor Servicing
 - Service, Maintenance & Diagnostics
 - Troubleshooting

Course Offering Dates

May 11 – 14

Aug 24 – 27



Course**C400 (3 Day) Customer Basic Centrifugal Class****Duration** 3 Days**Language** English**Cost** \$1800/per person**Description** This course is designed to provide maintenance, engineering and operations personnel with an overview of the (Centac) centrifugal compressor.**Agenda**

- **Day One**
 - Introduction/Safety Videos
 - Basic Compressor Principles
 - Principles of Operation of Centrifugal Compressors
 - Airflow & Hydraulic Flow
 - Identification of Centrifugal Mechanical & Electrical parts
 - Control Panel with Amperage Software
- **Day Two**
 - Class and hands on lab factory procedures to disassemble, assemble and calibration of rotor assemblies (Type 1-2-3 & 6) following factory procedures.
 - Routine Service & maintenance
 - Basic Troubleshooting techniques
- **Day Three**
 - Lab calibration of rotor assemblies
 - Class review of calibration procedures
 - End of class review

Offering Dates

July 15-17



Course C401 (5 Day) Customer Advanced Centrifugal Class

Duration 5 Days

Language English

Cost \$2500/ per person

Description This course is designed to provide maintenance, engineering and operations personnel with an in-depth overview of the (Centac) centrifugal compressor.

Agenda

- **Day One**
 - Introduction/Safety Videos
 - Basic Compressor Principles
 - Principles of Operation of Centrifugal Compressors
 - Identification of Centac Compressor Mechanical & Electrical parts
 - Control Panel with Amperage Software
- **Day Two**
 - Class and hands on lab factory procedures to disassemble the complete Centac airend and evaluate components. Verification of running gear system, installation, setting of rotor clearances on rotors assemblies (Type 1-2-3 & 6)
 - Routing Service & maintenance
 - Basic Troubleshooting techniques
 -
- **Day Three**
 - Class review of assembly procedures
 - Lab exercises – installation and assembly of running gear
 - Installation of rotor assembly components
- **Day Four & Part of day Five**
 - Rotary assembly components calibration
- **Day Five**
 - Centrifugal assembly & disassembly review

Course Offering Dates April 13 -17

Nov 2 - 6



Course

C451 – Customer Centac MicroController (CMC)

Duration 5 Days

Language English

Cost Days 1—3 **\$1,450 /per person**

Recommended for customers that have the Standard CMC Software.

Days 1—4 **\$1,950/per person**

Recommended for customers that have the Advanced CMC Software.

*Day 5 **+ \$500 (Day 5 Only is also an option)/per person**

Recommended for customers that have the CMC Service Tools software.

***Attendees for Day 5 - Customer must have purchased a licensed copy of the CMC Service Tool software**

Description This course is designed to introduce Technicians and engineers to Centac Controls and the CMC Service Tools Software while teaching operation, maintenance, tuning and troubleshooting basics.

CMC Service Tools Software classroom topics covered are:

Agenda **Day 1- CMC Control Basics:** Centac Principles of Operation, Centac Performance Curve, CMC Control Methodologies

Day 2 - CMC Hardware, User Interface Data and Settings for Limit Amp Control

Day 3 - PID Control Loops and Tuning

Day 4 - Ambient Control: Parallel Valve Logic, Additional Advanced Features

Day 5 - CMC Service Tools Software:** Installation, Software Structure, Downloading/Changing Programs, Tuning and Troubleshooting Tools, Additional Features only accessible through the Service Tools Software

Requirements ***Participants are responsible for bringing laptop computers for the CMC Service Tools Software Training. A minimum of one computer per every two people is required.*

Course Offering Dates **Available Upon Request Only**

SYSTEM	INFO	SETTINGS	SERVICE
MaxLoad (HLL), amps			400.0
MinLoad			
User Setpoint (TL), ft			44100.0
Index Accumulator, ft			0.0
Process Setpoint, ft			44100.0
Surge Index Increment, ft			100.0
<input checked="" type="checkbox"/> Surge Absorber Enabled			
Surge Sensitivity			9.0
Loaded			Load Selected
			Remote 2/10

Enrollment Details

Course Registration

You may request additional enrollment forms by telephone or email. Please enroll in your selected course early as the most popular courses fill up rapidly.

Service Training Center contact information:

Service Training Center
800-C Beaty Street
Davidson, NC 28036

Phone: 704-655-5019
Fax: 704-655-4812
Email: Lynne_Watson@irco.com

Travel

Please note that you are responsible for all travel, accommodation and visa costs, including cancellation or late arrival charges.

When to Arrive

Training begins at 8:00 AM the first day of class. Plan to arrive the day before to ensure you are in the classroom on time. All training is held at the Davidson, North Carolina campus, in Building C, The Education Center.

Hotel Accommodations

The Service Training Center works with an area hotel to hold a block of rooms until 14 days before the training start date.

Please note that due to local tourist activities such as NASCAR, the PGA tour, and college events, rooms can fill-up months in advance. The recommended hotel for 2007 is Comfort Inn; the nightly rate is \$60.00 + tax, for a single room.

Comfort Inn and Suites
19521 Liverpool Parkway
Cornelius, NC 28031
Phone: 704-896-7622

Local Transportation

You are responsible for making your own local transportation arrangements. We do not provide a shuttle to or from the campus.

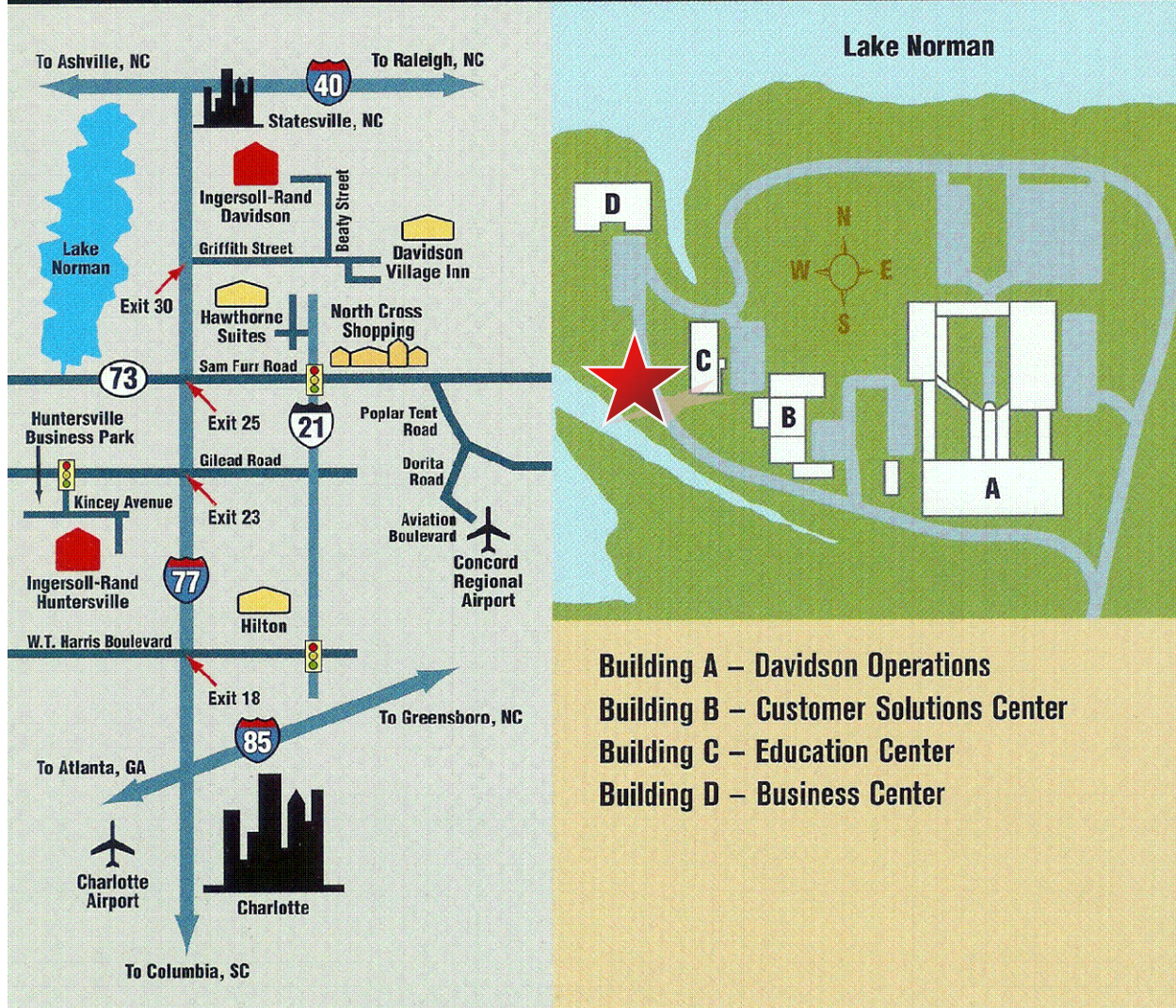
The Charlotte airport is approximately 20 miles from the hotel, all major car rental agencies have counters in the baggage claim area.

What to Wear

Service work uniform or business casual is most appropriate for our environment. Students will perform practical lab exercises and may come into contact with lubricants and oils.

Students who come to the Training Center with inappropriate clothing and/or without safety shoes will be removed from the class and will not be allowed to return until they have complied with these requirements.

Map of the Davidson Campus



Customer Enrollment Application

Attendee Information

Company: _____

Address: _____

City, State ZIP _____

Attendee Name: _____

Title: _____

Phone: _____

Fax: _____

E-mail: _____

This information must be provided in order to reserve a seat in the class.

Payment Information: Please circle one: PO Mastercard Visa Check

PO or Credit Card Number: _____ Exp. Date: _____

Name on Card: _____

Which class would you like to attend?

C302 – Basic Rotary Compressor

C313 – Sierra Oil-Free Rotary

C400 – Basic Centac Mechanical

C401 – Advanced Centac Mechanical

C451 – CMC Control System

*AVAILABLE UPON REQUEST ONLY

Course: _____

Date: _____

Days _____

Please complete the following items to allow us to serve your training needs most successfully.

Serial number(s) of your compressor(s). _____

What controllers are in your facility?

Intellisys

MP3

CMC

If not controlling Ingersoll-Rand compressors, what are they controlling? Please list below.

Are any of your controllers monitored from a control room or remote computer?

Yes

No

The following information can be found on your compressor's name plate and motor name plate.

Intake capacity: _____

Voltage: _____

Discharge Pressure: _____

Kilowatts or _____

Horsepower: _____

Questions below are related to CMC controllers only.

Do any of your CMCs use Ambient (Head) Control?

Yes

No

Do you have the CMC Service Tool Software?

Yes

No