

# METROPOLITAN NY CHAPTER Refrigeration Service Engineers Society

Continued Education for the HVAC/R Industry

**“Better Service Through Knowledge”**

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**December 2008**

**WWW.METRONYRSES.ORG**



## Shortcut Cooling Load Calculations

(Residential Only)

### TYPE 1: No Insulation (Barn Factor)

1st floor square foot x .75 = CFM

2nd floor square foot x 1.0 = CFM

### TYPE 2: Little Insulation (2" in Walls & 4" in Ceilings)

1st floor square foot x .50 = CFM

2nd floor square foot x .75 = CFM

### TYPE 3: Medium Insulation (3.5" in Walls & 6" in Ceiling)

1st floor square foot X .50 CFM

2nd floor square foot X .65 = CFM

### Type 4: Good Insulation (6" in Walls & 6" in Ceiling)

1st floor square foot x .50 = CFM

2nd floor square foot x .55 = CFM

### Basement (Below Grade)

No Cooling Load

Use .3 factor if cooling is required

### **Divide Total CFM By 400 = TONNAGE**

(for example 2000 CFM / 400 = 5 tons of cooling)

Ranch homes: Use second floor factors.

### Factors for Windows

North 12 BTU/square foot

South 104 BTU/square foot

East 47 BTU/square foot

As you have probably noticed, we now have a Metropolitan NY Chapter WEBSITE — [www.MetroNYRSES.org](http://www.MetroNYRSES.org). The website is constantly being updated with the latest up-to-date information about our chapter, as well as scheduling, seminars and meetings. Please consult this website for any last minute changes due to weather or other unforeseen situations. Visit us often, to see what's new and what you've got to look forward to.

 <p><b>HVAC/R</b> Parts Supplies Equipment</p> <p>27-01 BROOKLYN QUEENS EXPRESSWAY WEST WOODSIDE, NY 11377</p> <p>FAX (718) 274-4972</p> <p>Large Local Stock Free Catalogue</p> <p><b>718-545-4896</b> WHOLESALE ONLY</p>	 <p><b>SEALED UNIT PARTS CO., INC.</b></p> <p>P.O. BOX 21 2230 LANDMARK PLACE ALLENWOOD, NJ 08720 USA (732) 223-6644 FAX: (732) 223-1617</p>	 <p><i>Support Services for the HVAC Contractor</i></p> <p>HVAC Water Treatment</p> <p>Specialty Cleaning Pipe • Duct • Coil</p> <p>HVAC Antifreeze</p> <p>Lab Services</p> <p>Indoor Air Quality</p> <p><b>718-361-6666</b> www.csiontheweb.com</p>	 <p><b>UNITED REFRIGERATION INC.</b> Refrigeration, Air Condition- ing, Heating, Supplies, Equipment &amp; Parts</p> <p><b>Jim Herlinger</b> Branch Manager 51-05 59<sup>th</sup> Place Woodside, NY 11377-7408</p> <p>Tel: 718 476-2600 Fax: 718 476-2648 Branchv2@uri.com</p>	<p><b>HALSEY</b> SUPPLY CO. INC.</p> <p>FOR ALL YOUR</p> <ul style="list-style-type: none"> <li>AIR CONDITIONING</li> <li>REFRIGERATION</li> <li>EQUIPMENT</li> <li>PARTS SUPPLIES</li> </ul> <p>EPA-CERTIFICATION TESTING</p> <p>241 HALSEY STREET BROOKLYN, NY 11216</p> <p><b>(718) 574-4774</b> FAX (718) 574-4778</p>
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**HOLIDAY BUFFET— 6:30 pm**

**Wednesday December 10th, 2008 at 7:30pm**  
at  
**RICCARDO'S**  
21-01 24th Avenue, Astoria NY 11102

**Compressor Starting Problems  
and Solutions**

By  
**Dennis Morgan—KickStart, Inc.**

<p><b>SEE US 1<sup>st</sup></b></p>  <p><b>WHOLESALE DISTRIBUTORS</b> Refrigeration/AC/Heating</p> <p><b>BROOKLYN (718) 257-4039</b> 99-03 Foster Ave.</p> <p><b>JAMAICA (718) 526-0330</b> 139-29 Queens Blvd.</p> <p><b>MT. VERNON (914) 668-3631</b> 551 S. Columbus Ave.</p> 	<p><b>Fire Ice Mechanical Inc.</b></p> <p>HVAC/R Service Contractors</p> <p><b>KURT J. EGGERT</b></p> <p>Vogt Tube-Ice Authorized Dealer/ Sales &amp; Factory Certified Technicians Goldenrod Distributor;</p> <p>The Newest in Water Treatment Technology Air Conditioning &amp; Refrigeration</p> <p>Tel (718) 631-1503 Fax (718) 279-4686</p>	 <p><b>COMPRESSORS</b></p> <p><b>UNITED REBUILDERS, INC.</b> (URI)</p> <p>405-A Allentown Drive Allentown, PA 18109 (484) 223-3265 (800) 964-0888 FAX (484) 223-3260</p>	 <p>49-70 31st STREET L.I.C., NY 11101 Phone: 718-937-9000 Fax: 718-392-1296 1-800-937-9000</p>  <p><b>Suva</b></p>	 <p><b>WEDDINGS</b> <b>OUR SPECIALTY</b> Special Attention Given To Dinner Dances • Company Parties Cocktail Parties • Business Meetings Fund Raisers • Fashion Shows Engagement Parties • Christenings Special Discounts Given to Senior Citizens</p> <p><i>Riccardo's by the bridge</i></p> <p>21-01 24th Avenue, Astoria, NY 11102 718 721-7777 ANTHONY M. CORBISIERO RICHARD F. CORBISIERO</p>
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# Metro NY Chapter RSES HVAC Training Course

The Metropolitan New York Chapter RSES will offer the RSES Technical Institute Course – I on Tuesday & Thursday evenings, starting January 27th in Long Island City, New York



**Dates:** For 9 weeks on Tuesdays & Thursdays  
1/27 & 1/29    2/3 & 2/5    2/10 & 2/12  
2/17 & 2/19    2/24 & 2/26    3/3 & 3/5  
3/10 & 3/12    3/17 & 3/19    3/24 & 3/26

**Time:** 6:00 PM – 10:00 PM

**Location:** Long Island City High School  
14-30 Broadway  
Long Island City, NY 11106

**Instructor:** Nick Nuziale

**Cost:** \$899.00 for RSES members  
\$999.00 non RSES members  
(includes 1 year membership)

**Includes:** Technical Institute I course manual, course tuition, certificate of completion after passing final exam, 72 hours toward NATE Recertification, for those eligible.

## TRAINING COURSE OVERVIEW

This course begins with a comprehensive introduction to refrigeration and air conditioning. Topics covered include basic physics, major system components including hermetic, semi-hermetic and open compressors, condensers, evaporators and refrigerant metering devices. It also covers fundamental concepts of electricity and magnetism as they pertain to resistors, resistance, conductors, power supplies, circuit protection devices and transformers. A summary list of lessons is below and detailed lessons can be found at [www.MetroNYRSES.org](http://www.MetroNYRSES.org)

- Lesson 1: Intro to Refrigeration & A/C
- Lesson 2: Basic Physics
- Lesson 3: Major Component Functions
- Lesson 4 - 5: Gas Laws (Part 1-2)
- Lesson 6 - 7: Pressure/Temperature Relationship (Part 1-2)
- Lesson 8 - 10: Compression Refrigeration Cycle (Part 1-3)
- Lesson 11: Refrigerant Tables
- Lesson 12: Refrigerant Properties and Characteristics
- Lesson 13: Refrigerant Designations
- Lesson 14: Safe Practices and Public Relations
- Lesson 15: Compressors
- Lesson 16: Open-Type Compressors
- Lesson 17: Hermetic and Semi-Hermetic Compressors
- Lesson 18: Air-Cooled Condensers
- Lesson 19: Water-Cooled Condensers
- Lesson 20: Refrigeration Evaporators
- Lesson 21: Capillary Tubes
- Lesson 22 - 23: Thermostatic Exp. Valves (Part 1-2)
- Lesson 24: Oil in Refrigeration Systems
- Lesson 25: Recover, Recycle, Reclaim
- Lesson 26: Safe Handling of Refrigerants and Cylinders
- Lesson 27: Fundamental Concepts of Electricity
- Lesson 28: Fundamental Concepts of Magnetism
- Lesson 29: Voltage = EMF = Potential Difference
- Lesson 30: Resistors and Resistance
- Lesson 31: Conductors
- Lesson 32: Power Supplies
- Lesson 33: Circuit Protection Devices
- Lesson 34 - 36: Electricity for Service Techs (Part 1-3)

Register by January 20<sup>th</sup> online or by using the form below

FOR REGISTRATION AND/OR INFORMATION VISIT:

<http://www.metronyrses.org/id1.html>

email: [info@metronyrses.org](mailto:info@metronyrses.org)

PHONE: 516-309-3415 • FAX: 866-892-5374

MAIL: Metro NY Chapter RSES

c/o BP Consulting - 141 Oak St. Ballston Spa, NY 12020

--checks and charges welcome --

Please make checks payable to "Metro NY RSES"



----- RETURN THIS SECTION WITH PAYMENT - IF BY MAIL, BE SURE TO KEEP COPY OF FORM FOR YOUR OWN INFORMATION -----

REGISTER ONLINE TODAY AT <http://www.metronyrses.org/id1.html> or use the form below.

Name: \_\_\_\_\_ Company: \_\_\_\_\_  
Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Email: \_\_\_\_\_ Phone: \_\_\_\_\_  
Check / Credit -- Card Number: \_\_\_\_\_ Exp: \_\_\_\_\_  
Name on Credit Card: \_\_\_\_\_  
Are you an RSES Member: If Yes, RSES Membership Number: \_\_\_\_\_

Please register by January 20<sup>th</sup>, space is limited.

To register via phone or for questions about the course call 516-309-3415. To fax send this form to 866-892-5374

To email send this form to [registration@metronyrses.org](mailto:registration@metronyrses.org)

Register online at <http://www.metronyrses.org/id1.html>

Check or Credit Card Accepted for Payment

Make checks payable to Metro NY RSES and mail registrations to:

Metro NY RSES c/o BP Consulting, 141 Oak St. Ballston Spa, NY 12020

# METROPOLITAN NEW YORK CHAPTER, RSES

For Information Call: Stan Hollander, CMS (718) 232-6679

\*\*\*WE NOW HAVE OUR OWN WEBSITE: [WWW.METRONYRSES.ORG](http://WWW.METRONYRSES.ORG) CHECK IT OUT\*\*\*

### SAFETY TIP

Brazing and soldering alloys and fluxes may produce fumes that are hazardous to your health.

- ⇒ Keep your head out of the flames.
- ⇒ Use enough ventilation, exhaust at the flame, or both, to keep fumes and gases from your breathing zone and the general area.
- ⇒ Wear correct eye, ear and body protection.

### Common Terminal Identification for HVAC Thermostats:

- R (red)** - common heat/cool power supply  
(Note: some thermostats have an Rc terminal for cooling and an Rh for heating)
- W (white)** - heating control
- Y (yellow)** - cooling control
- G (green)** - fan control
- O (orange)** - cooling damper
- B (blue)** - heating damper

## COMING EVENTS

- Compressor Starting Issues
- Geothermal Heating & Cooling
- RSES eLearning On-Line Classes Primer
- Pricing Guidelines
- Scroll Compressors

PLACE LABEL HERE

