

METROPOLITAN NY CHAPTER
Refrigeration Service Engineers Society

Continuing Education for the HVAC/R Industry

"Better Service Through Knowledge"

October 2025



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Metro NY RSES



EDUCATIONAL MEETING

WEDNESDAY, October 8th, 2025

Dinner at 6:00pm

At *TAVERNA KOS* 41-19 23rd Ave., Astoria

Heat Pump Water Heaters and
Heat Pump HVAC

- **Advantages and Opportunities**
- **Applications**

Hydronic Solutions from Bosch

- **Combi boilers**

Presented by:

Tim Warnecke, Technical Lead
Platsky HVAC

A MESSAGE FROM OUR CHAPTER PRESIDENT

We have a short amount of time to prepare for the changes to how we do business. Effective January 1, 2026 distributors cannot sell and contractors cannot sell nor install complete R410A systems. You can continue to service and repair them. Be careful, when quoting condenser or evaporator replacements, that they are still available. Your distributor is not able to restock R410A units, so if he sells his last unit he might be unable to get more. Who knows if the EPA will push back this effective date. That does not change the fact that R410A units have *not been produced* since January 1, 2025 and are becoming harder to obtain.

We continue to have our monthly meetings. Our next meeting is October 8th. Please try to be there to support our speakers and your chapter, *and probably learn something.*

Drew Garda

President, Metropolitan NY Chapter, RSES

ANSWERS TO TEST YOUR KNOWLEDGE
1.b 2.d 3.d 4.a 5.a 6.c 7.c 8.b 9.b 10.c

TEST YOUR KNOWLEDGE

1. A refrigeration effect of 12,000 Btu/hr. is:
 - a) sensible heat
 - b) a ton of refrigeration
 - c) latent heat
 - d) all of these
2. The function of the compressor is to:
 - a) compress the liquid refrigerant so it will vaporize
 - b) evaporate the refrigerant
 - c) only circulate the refrigerant
 - d) compress the refrigerant vapor above the condensing point and help circulate the refrigerant
3. Heat always travels:
 - a) from a warmer to a colder substance
 - b) from a colder to a warmer substance
 - c) upstream
 - d) none of these
4. In the operation of a thermostatic expansion valve, which is true:
 - a) the pressure of the bulb fluid acts to open the valve
 - b) the pressure of the refrigerant in the evaporator acts to open the valve
 - c) the spring in the valve acts to open the valve
 - d) the spring has no effect on the operation of the valve
5. Compression ratio is:
 - a) absolute discharge pressure divided by the absolute suction pressure
 - b) evaporator pressure divided by the condensing pressure
 - c) discharge pressure divided by the evaporator pressure
 - d) liquid line pressure divided by the suction pressure
6. The term "coefficient of performance" means:
 - a) performance of the system due to expansion
 - b) heat input as compared to the heat transfer
 - c) ratio of refrigeration produced to the work supplied
 - d) ration of the absolute discharge pressure to the absolute suction pressure
7. The temperature at which oil no longer flows is called the:
 - a) viscosity
 - b) floc point
 - c) pour point
 - d) dew point
8. The change of state of a substance directly from a solid to a gas is called:
 - a) condensation
 - b) sublimation
 - c) gasification
 - d) liquid crossover
9. Increasing the clearance volume of a compressor would result in:
 - a) no change in the volumetric efficiency
 - b) decrease in the volumetric efficiency
 - c) increase in the volumetric efficiency
 - d) none of these
10. To change a refrigerant liquid into a gas at its critical temperature and pressure:
 - a) latent heat is not absorbed
 - b) latent heat must be absorbed
 - c) it is impossible
 - d) sensible heat must be removed

Come Join Us- Come LEARN

YOU BE THE JUDGE

You are called to service a residential split system air conditioner. The customer's complaint is the unit is not cooling the house. The system is rated at 3 tons, using R-22 as its refrigerant. When you arrive at the house you notice that there is ice on the suction line all the way back to the compressor. The outdoor condensing unit is running and you install your gauges on the system. You find the suction pressure reading at 40 psig and the discharge pressure at 215 psig (the outdoor temperature is 80°F). You then examine the indoor blower and find the fan working. However, you notice very little airflow from several of the registers you checked.

What is the likely cause of the problem?

Determining the CFM Capacity of a Blower

Using the sensible heat equation the actual CFM delivery of a blower can be determined. This can only be used on systems where there is a sensible heat temperature rise across the system; for example, on an electric or gas-fired furnace and where the Btu capacity is known or can be calculated.

$$\text{CFM} = \frac{\text{BTU Capacity}(\text{load})}{1.1 \times \text{TD}}$$

BTU Capacity = is the actual capacity of the system in BTU/hr

TD = temperature difference across the system

RSES Feature of the Month

Learn safety from technicians just like yourself!! You can purchase the RSES safety video for only \$25.00. It has nine different light-hearted and funny safety tips. Each are 10-12 minutes long, about all things that we as service techs run into everyday. Order by phone, pay by credit card.

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