A Follow-up on a Heat Pump Sealed-system Repair

BY JIM JOHNSON

In this month’s troubleshooting problem, you have been called to check on the performance of a package unit heat pump after a recent sealed-system repair in which a leak was found and repaired and a new filter-drier was installed. The service ticket also reports that: a 500-micron vacuum was pulled and held prior to recharging the R-410A system; both the indoor and outdoor coils were cleaned; and the filter was replaced.

The customer’s complaint is that the system “runs too much” and that it seems to take longer than usual to bring the house up to a comfortable temperature.

When you arrive, the customer tells you that the system has been running for more than one hour, and you measure a 70°F db temperature entering the return-air grille. When you move outside, you record an ambient temperature of 35°F with a digital test device.

With your gauges attached to the true suction line and the discharge line, you read a low-side pressure of 74 psig and a high-side pressure of 328 psig, and you apply your gauge readings to the charging charts shown in Figures 1 and 2.

Your troubleshooting question is:

What is the next step you need to take to solve this problem?

The answer to this month’s problem will be published in the April 2014 issue of RSES Journal.

If you have the answer to this question submit your name, home address, a day and evening phone number, the month in which the question you are answering was published and your answer to: Jordan Brandes, Associate Editor, RSES Journal, 1911 Rohlwing Road, Suite A, Rolling Meadows, IL
The answer to the December 2013 Troubleshooting question, “An Uncomfortable Convenience Store,” is that the equipment is undersized for the store’s heat load. The winner of the December 2013 drawing is Steve Wright, Jr., of Brooks, GA. The winner of the October, November and December 2013 quarterly drawing is James Robinson of Houston, TX. Winners should call 520-625-6847 or e-mail Johnson to facilitate shipment of their prize. Drawings must be claimed by March 31, 2014.

Jim Johnson, Director of Training, Technical Training Associates, develops technician training workshops, DVDs, audio books and e-books, many of which are now available at the RSES online store. Two new videos, “A Heat Pump That Won’t Cool” and “A Heat Pump That’s Not Delivering Any Air,” are now available for $20 each or $30 for the pair. 40 minutes in length, the videos provide information on a specific approach to troubleshooting a particular problem. Also be sure to check out the new website at www.hvacrtroubleshooting.com, which focuses on equipment servicing and allows technicians and students to post comments and questions relative to specific troubleshooting situations detailed on the site. For more information, visit www.techtrainassoc.com, write HC 70, Box 3172, Sahuarita, AZ 85629 or e-mail jim@techtrainassoc.com.