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## **ONE SHOT<sup>®</sup>C Reduces Supermarket Power Consumption**

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ICOR International, Inc. – Case Study File  
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As the price of R-22 continues to skyrocket refrigerant users and equipment owners are ramping up their system change out and or refrigerant conversion efforts. For some, depending upon the specific application, moving away from R-22 can mean **substantial energy savings**. When replacing R-22 with ICOR's ONE SHOT<sup>®</sup>C (R-422C), in a low or medium temp refrigeration application, equipment owners are experiencing a dramatic drop in energy use. Along with rendering their systems non-ozone depleting, the equipment owner can save dollars on their power bills and lower their facilities carbon footprint. For the food storage and distribution industry (grocers) who operate traditionally and on very slim margins, the dollar savings is a welcome side benefit to going green.

Recently, the owner of a Midwestern grocery, a SUPERVALU<sup>®</sup> affiliate, discovered how much converting just one of their rack systems to ONE SHOT could mean to their bottom line. The system was a Hussman manufactured Mod#S41GCRSSK that incorporated (2) NRA-0500 and (2) 9RJ1-0765 Copeland compressors. Prior to converting the system from R-22 to ONE SHOT, the operating conditions were recorded, the existing R-22 refrigerant was recovered to EPA guidelines, and the power elements on the TXVs were changed to ONE SHOT rated elements. The original system lubricant was **mineral oil** and no unnecessary oil change was required.



After converting the system to ONE SHOT, while closely following ICOR's conversion guidelines, the operating conditions were recorded and compared to the pre-conversion data. The individual compressors show an increase in capacity and efficiency at all condensing temperatures calculated. The increases in capacity and efficiency are the same for both compressors respectively. The additional capacity allowed one 5 HP compressor to idle **saving around 5000 watts continuously** and at the lower condensing temperatures the total of the 3 remaining compressors with ONE SHOT exceeds the total of 4 with R-22, so reaching set point will occur quicker, contributing to increased energy savings. The systems overall performance was more than favorable and all parties involved consider the conversion a total success.

Currently there are a number of non-ozone depleting refrigerants on the market to choose from, many of which are capable of replacing R-22 in applications similar to the example above. However, users and equipment owners are discovering that most of the R-22 replacements require an inordinate amount of system modification and or preparation. While well known replacements like R-404A and R-507A do provide capacities comparable to ONE SHOT, they both require converting the systems lubricant to POE oil, an expensive product and process. And even though some of the newer replacements like R-407A and R-407C do not require any modification to the metering device, they still require a full POE oil change and do not offer the same energy savings compared to ONE SHOT.

The return on investment in the form of power savings an equipment owner will enjoy by converting their low or medium temp R-22 system to ONE SHOT far out weighs the additional cost of replacing the power element. And for those companies truly striving to be good stewards, the environmental benefits also make ONE SHOT the most attractive replacement option available.

To read more comprehensive ONE SHOT case studies or for additional information on ICOR International's products and services, go to [www.icorinternational.com](http://www.icorinternational.com) or call our popular **Tech-2-Tech hotline at (866) 433-TECH (8324)**.

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