

Using Solstice® L40X (R-455A) in a system

1. Refrigerant charging

- a. Small self-contained equipment are typically critical charged systems (no liquid receiver).
- b. Charge optimization procedure is highly recommended to maximize capacity and efficiency.

2. Orientation of evaporator and condenser in the system

- a. Because of the glide, both condenser and evaporator should be oriented as counter-flow.
- b. Pinching is possible in the condenser if system is charged to match sub-cooling (overcharged).
- c. In the condenser, exit tubes should face incoming air.
- d. In the evaporator, exit tubes should face return air.
- e. Evaporating and condensing temps should be the average of bubble and dew points.

3. Capillary tube systems

- a. Expect slightly more restrictive (longer) capillary tube vs R-404A, although the same capillary tube might work if the sub-cooling was initially high with R-404A. One may start with the current capillary tube (for R-404A) and do a charge determination for proper superheat (dew superheat should be about 3K lower than R-404A, the lower the better, unless one starts flooding evaporator).
- b. Recommend to try 10-20% longer and shorter capillary tubes, with proper charge determination for each length, until one gets the best performance. Proper charge and capillary tube determination is critical for L40X performance. An optimum length should be determined experimentally together with the charge optimization.

4. Expansion valve systems

- a. TXV should be adjusted (closed) for proper superheat and to avoid possible flooding of evaporator.
- b. Superheat should be set to about 2...4K based on the dew point, high superheat greatly penalize capacity and efficiency of L40X.
- c. If working superheat is in range 2...4K use additional Liquid-line/Suction-line heat exchanger to vaporize residual droplets of liquid in suction vapor.
- d. If TXV is non-adjustable, a new smaller-size valve should be used.
- e. In case of EXVs, a new p-t chart should be uploaded.

5. Plugin LT and water loop systems

- a. Same guidelines as above, as long as the units work with evaporator TD^(*) 8K or higher.
- b. Cabinets working with low TD 5K or lower (f.i. storing fruits, vegetables, flowers, or display fresh meat, everywhere where low dehumidification in evaporator is required) may exhibit short of capacity while just retrofitted with L40X.

Ask your Honeywell contact for further support.

^(*) Temperature Difference is defined as difference between inlet air temperature and mean evaporation temperature.