

Instructions to Repairing and Handling Isobutane R600a

Refrigeration Systems

Technical Data:

R600a is a colorless and flammable gas with a slight odor.

Chemical formula: C₄H₁₀

Boiling point: 10.9°F

Vapor pressure: 31 psig at 70°F

Explosion limits with air: 1.3 % vol. to 8.5 % vol.

Storing R600a:

R600a containers must not be exposed to heat in excess of 50 °C by sunlight or other heat sources. !

R600a containers must not be stored in corridors, entrances, staircases or attics. !

R600a containers must not be stored with fireworks. !

Storage areas must be sufficiently ventilated, either naturally or artificially. !

Storage areas must be located such that they can be quickly and safely evacuated in case of an emergency. !

Storage areas must have a fire extinguisher located at each exit. !

Handling R600a:

The surrounding room is well ventilated. !

Naked flames and smoking are strictly forbidden. !

A fire extinguisher must be ready for use. !

Safety glasses and gloves must be worn. !

R600a is not collected but released into the atmosphere. !

Repairing R600a Systems

Only qualified personnel in handling R600a refrigerant may perform repairs on refrigeration systems.

1-Install a piercing valve on the compressor process tube. Open the valve to release R600a to the atmosphere through a hose.

2-Connect a R600a manifold to the piercing valve and connect a vacuum to the manifold.

3-Start the vacuum pump and open the manifold to evacuate the refrigeration system

4-Run the vacuum pump for minimum 15 min to release R600a soluble in the compressor lubricant to the atmosphere.

5-Open the manifold and the vacuum pump, disconnect the manifold and vacuum pump. !

6-Purge the refrigeration system using 150 psig nitrogen. !

7-Use tubing cutters to remove compressor, drier, evaporator, evaporator or disconnect capillary tube !

8-Prepare new components including an access valve. !

If you use all mechanical connectors without brazing, please skip 9-11 and go to 12!

9-Solder the components while flowing nitrogen below 5 psig

10-Leave the drier as last component to solder. !

11-Solder the drier without flowing nitrogen. !

12- Connect a R600a manifold to the access valve. !

13-Perform leak test using 150 psig nitrogen !

14-Connect a vacuum to the manifold. !

15-Start the vacuum pump and open the manifold to evacuate the refrigeration ! system. !

16-Run the vacuum pump for minimum 30 min. !

17-Charge the refrigeration system using the amount specified on the nameplate. !

18-Close the manifold and access valve. !

19-Disconnect the manifold. !