
Risk Element

- Asphyxiation;
- Refrigerant burns;
- Injury when moving cylinders and plant;
- Environmental damage.

Precautions to Eliminate/Reduce Risk

- Wear correct personal protective equipment;
- Always use correct tools and equipment for the purpose of charging;
- Use mechanical handling equipment for cylinders when possible;
- Check Ventilate area before commencement of task;
- Trained personnel only;
- Labels prominently displayed to state refrigerant in system and warning against charging any other gas into system. Where a polyester lubricant is being used, this should be clearly indicated;
- Works to be carried out in conjunction with COSHH and J & E Hall Technical information section 5.

Safe Working Method

Transfer of refrigerants from storage cylinder to plant:

- Check for correct refrigerant;
- Check plant has been evacuated or holds a positive pressure of the same refrigerant;
- Connect manifold to storage cylinder and to high and low side of plant;
- No refrigerant must be allowed to escape into the atmosphere. A decanting machine must be used when evacuating part of/or the whole system;
- Check system control circuit and safety devices;
- Check system is ready to run;
- Ensure air and moisture in charging line is kept to an absolute minimum;
- Charge the system with refrigerant, running the system as required;
- Leak test;
- Fixed charged systems: The charge must be weighed in using suitable scales;
- Certain refrigerants are mixtures and as such will need to be charged in liquid form;
- When charging with new refrigerants or blends the correct lubricant should be used in accordance with compressor manufacturer/supplier's recommendations;
- Ensure components are compatible, e.g. filter drier/expansion valve when using new refrigerants or blends;
- Do not mix refrigerants;
- For charging plant on retrofits, depending upon the refrigerant or blend that is used, checks must be made with manufacturer in connection with the acceptable level of residual quantities of the original oil within the system;
- Due to the molecular structure of the new blends, leakage is more prevalent, therefore, mechanical joints should be kept to an absolute minimum.