
Risk Element

- Refrigerant leakage to atmosphere;
- Explosion.

Precautions to Eliminate/Reduce Risk

- Check and make sure pressure relief valves are fitted to liquid receiver and are calibrated / checked;
- Check operation of high pressure Switch / Safety device and high pressure control;
- Fit discharge gauge;
- Wear correct personal protective equipment;
- Engineer must be trained, competent and authorised to conduct the work;
- Review the site / task specific risk assessment prior to commencing work;
- Works to be carried out in conjunction with J & E Hall IOM section 5.

Safe Working Method

Before a component can be replaced in a refrigeration system, the plant, in most instances, will need to be pumped down.

Process

The cut out pressure is usually set at approximately 0.1 barg to avoid the system operating at a pressure below atmospheric pressure.

- Fit suction and discharge gauges;
- In liquid chiller, keep cooled liquid (secondary refrigerant) flowing or otherwise ensure that liquid cannot be frozen;
- Close off the shut off valve at the outlet of the liquid receiver/condenser;
- Monitor suction pressure gauge against low pressure switch setting of 0.1 barg. Monitor discharge pressure gauge against high pressure control setting;
- Compressor trips automatically at 0.0 barg, if not complete a manual trip calibrating the low pressure control to the required trip setting. Check discharge pressure gauge for excessive discharge pressure;
- If suction gauge/pressure rises above 0.1 barg repeat process 4-5 until suction gauge reading is static at 0.1 barg;
- Close compressor suction valve;
- Isolate system electrically;
- Close compressor discharge shut off valve;
- When plant is put back into operation (Normal), do not forget to re-adjust low pressure switch setting to correct operating safety value;
- Complete all documentation.