

INSTALLATION, OPERATION
AND MAINTENANCE
INSTRUCTIONS

AIR COOLED CONDENSER

Installation, Operation And Maintenance

Location

The unit should not be located on roofs finished with asphalt. When this is unavoidable a suitable oil resistant barrier should be employed.

Piping

Pipe work should be installed so as to place no strain on the headers and connections.

The condenser should never be used as an earth for arc welding equipment. Discharge pipes should be over trapped at the inlet with a purge valve fitted to the highest point.

Liquid drains should be sized to give a velocity of 100 feet/minute and free drain to the liquid receiver.

Wiring

All wiring should comply with the 16th edition of the IEE regulations and any other relevant local codes or specifications.

All swarf caused by drilling the control box should be removed.

The condenser has all the internal wiring completed and requires only a 400v three phase and neutral supply to complete the installation.

Commissioning Preparation

Pipework should be pressure tested in accordance with the pressure equipment directive using oxygen free nitrogen.

System should be evacuated to a level of 2 Torr or less.

System should be charged with refrigerant.

All terminals within the control box should be tested to ensure no loose connections are present.

All thermal overloads should be set for the full load current of the motors.

Check direction of rotation of the fans.

Commissioning

Run refrigeration system

Measure and record entering gas temperature

Measure and record entering gas pressure

Measure and record leaving liquid temperature.

Measure and record motor currents.

Set pressure switches to the control settings which are required.

Pressure switches should be set as follows:-

The required differential should be set on the “diff” scale. This should be sufficiently wide to allow all stages to be active before stages start to cycle off. Generally differentials should be in the region of 60 psig. The pressure settings on the range scale should now correspond with the required pressures at which the fans turn on. These range settings should be set to give progressive staging between fans across the desired proportional band.

Maintenance

All condensers are designed to operate under automatic control with the minimum of attention. However, in order to ensure reliable service, regular maintenance should be carried out.

Items which should be given special attention are listed below.

Electrical terminals should be checked to ensure no loose connections are present.

Coil surfaces should be kept clean and free from foreign matter.

All mechanical parts should be checked for security of attachment at regular intervals.

Motor running current should be measured and recorded to detect any abnormalities in operation.

Motors should be checked for bearing damage.

Pressure switch calibration should be tested periodically

Safety

No work should be carried out on the condenser without isolating the circuit involved as automatic starting of the fans could lead to danger.

On completion of any works, unit should be returned to normal operating condition. Fans should not be run with the guards removed under any circumstances.