

INSTALLATION, OPERATION
AND MAINTENANCE
INSTRUCTIONS

DRY AIR COOLER

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 dry cooler should never be used as an earth for arc welding equipment.

Flushing & Cleaning

When flushing out welding debris and other foreign matter from the pipe work it is essential that steps are taken to prevent the debris from entering the heat exchanger coils. If it is not possible to totally isolate the dry air cooler from the pipe work during the flushing process a fine mesh strainer should be employed to catch any foreign bodies present.

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 gland plates should be removed and suitable corrosion prevention measures taken to limit the growth of rust.

The fans are wired to a terminal box for connection to the external controls.

Each fan should be controlled by a contactor and overload device incorporating single phasing protection. The starters should be protected by fuses or circuit breakers providing type 2 coordination as defined in IEC947-4.

Commissioning Preparation

System should be filled with water/glycol solution .

Air should be vented from the system.

Pumps should be run and the flow adjusted to give design flow rate.

All terminals within the terminal 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.

All circuit breakers should be switched to the ON position or fuses fitted.

Check direction of rotation of the fans

Commissioning

Apply cooling load to dry air cooler

Measure and record ambient temperature

Measure and record temperatures at which fans cycle on and off.

Measure and record fluid entering and leaving temperatures.

Adjust control system as necessary to obtain optimum performance.

Maintenance

All dry air coolers 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.

Safety

No work should be carried out on the dry air cooler 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.