



**WATER CHILLER CONDENSERLESS**  
IT CAN BE COUPLED WITH REMOTE  
CONDENSER CLIVET SERIES CEM

**MSE-2** 2.200-2.230-2.260-2.280-2.300-2.360-  
2.400-2.440-3.450-3.540-3.580-3.620-3.660

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## REFRIGERANT PIPES

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### CAUTION

EVAPORATING UNIT CHARGED WITH PRESSURISED NITROGEN.

The cocks on the liquid outlet line are SEALED OPEN; before performing any operations to remove the caps welded onto the compression line, EMPTY THE UNIT. Do not leave the compression lines open for extended periods, to prevent the risk of the oil in the compressor absorbing moisture.

#### 1.0 - REFRIGERANT PIPES

The sizing of the refrigerant lines between the evaporator and remote condenser are of primary importance. The diameter must be calculated using the related documents or our bulletin **SIZING THE REFRIGERANT LINES IN SYSTEMS WITH TWO SECTIONS**.

Only use copper pipes for refrigeration..

##### 1.1 - OUTLET PIPES

All sizes use welded joints. The pipes have special copper caps.

- Prepare the connection pipes to the terminal unit.
- All the pipes must be perfectly clean (clean using - nitrogen or dry air before connecting the pipes to the two units) and free of moisture for optimal emptying.
- Unweld the copper cap.

- Weld the joints, making sure not to damage the pipe support brackets.
- Fit suitable antivibration supports on all the connection pipes to the remote condenser.

##### 1.2 - LIQUID PIPES

- The shut-off valve on the liquid line is positioned directly on the receiver.
- For the connections, repeat all the operations described above.

**Once having completed the connections between the evaporating unit and the remote condenser, open the cocks on the liquid lines, located on the evaporating unit.**

## 2.0 - CHECKING FOR LEAKS

2.0.1 - Connect the pressure gauge with the service fittings (to be added by the customer to the high pressure pipes).

2.0.2 - Pressurise with R-407C to 250KPa.

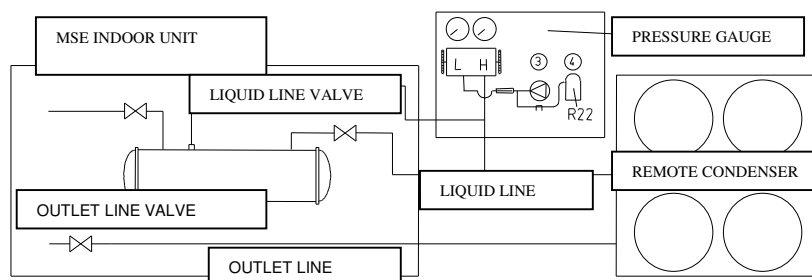
2.0.3 - Close the valves on the pressure gauge assembly, then disconnect the R-407C freon bottle and subsequently connect the nitrogen bottle.

2.0.4 - Open the valves on the pressure gauge.

2.0.5 - Pressurise the system with nitrogen to 1200KPa.

2.0.6 - Carefully check all the pipes using a leak detector or other electronic instrument, with special attention to the welds and joints in general.

If the necessary equipment is not available, make sure any parts that may give rise to refrigerant leaks (welds, joints etc.) are accessible



## 3.0 - INSTRUCTIONS FOR CORRECT CONNECTION

### 3.0.1 - OUTLET PIPES

- Slope this towards the gas flow in the horizontal sections (0.5 %) to ensure the return of oil to the compressor even under minimum load conditions.

- Isolate only to avoid burns due to accidental contact.

- If the evaporator is positioned lower than the remote condenser, install a drain trap at the same height as the compressor, so as to prevent, when the unit is off, the return of condensed refrigerant to the compressor.

- Use wide-radius curves (no elbows).

- Carefully avoid choking the pipes.

### 3.0.2 - LIQUID PIPES

- If exposed to the sun or passing through areas where the temperature is higher than the outside temperature, they must be insulated, otherwise they can be free.

- Avoid excessive diameters so as to prevent an excess refrigerant charge.