

# CO<sub>2</sub> R744 LIQUID CHARGING KIT

## HVAC-R RANGE

### INSTRUCTION

#### INSTRUCTION SHEET

Part Number: TECK01

The Tesuco R744 liquid CO<sub>2</sub> charging kit comes complete with needle valve, safety relief valve, purge valve, pressure gauges and 5M hose assembly. It is packaged in a plastic case with foam insert for protection of the equipment when not in use.

This equipment can only be used on CO<sub>2</sub> cylinders with a dip tube that allows for liquid CO<sub>2</sub> to be withdrawn. These cylinders have a black stripe length ways on the outside of the cylinder.

#### DO NOT USE ON CO<sub>2</sub> CYLINDERS WITHOUT A DIP TUBE

Only use this equipment for high speed charging on LOW PRESSURE Cascade systems.



**MAXIMUM DESIGN PRESSURE**  
**40 BAR**

**HIGH SPEED LIQUID CHARGING ON LOW  
PRESSURE CASCADE SYSTEMS ONLY!**

**NOT SUITABLE FOR USE ON  
TRANSCRITICAL SYSTEMS!  
OR  
CASCADE SYSTEMS WITH A DESIGN  
PRESSURE ABOVE 40 BAR**

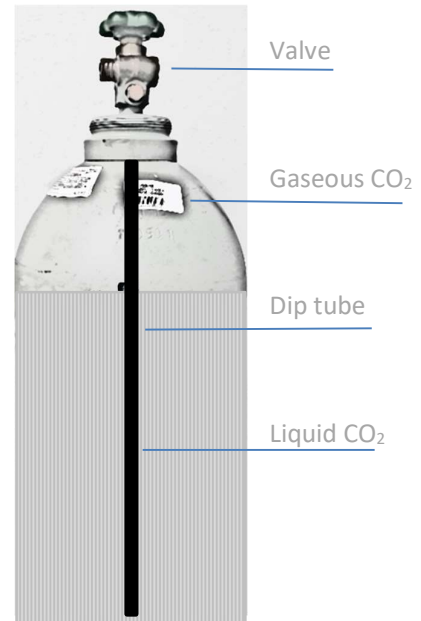
**QUALIFIED PERSONS ONLY USING  
APPROPRIATE PPE!**



**LIQUID CO<sub>2</sub> CAN CAUSE COLD BURNS**



**ENSURE AREA IS WELL VENTILATED  
CO<sub>2</sub> IS AN ASPHYXIAN**



**NOTE:** This instruction is to be used as a guide only and does not override any normal standard operating procedures. Each system is different, please consult the operating manual before using this equipment.

## PRE – CHARGING THE EQUIPMENT

Before charging the system with liquid using this equipment, the unit must be charged with gaseous CO<sub>2</sub> to 550 kPa using a standard CO<sub>2</sub> regulator and hose connected to a gaseous draw off CO<sub>2</sub> cylinder.

RC1SCD10 CO<sub>2</sub> Regulator 0 – 1,000 kPa

GWSWIG3F 3M Inert gas hose 5/8-18 to 1/4 SAE Flare



## CONNECTING THE EQUIPMENT

Unpack the charging assembly and the hose from the case.



Connect the T30 inlet connection to the cylinder and tighten using a spanner.



Connect the hose to the 1/4 SAE flare fitting on the outlet of the charging assembly.



Connect the other end of the hose to the rack or unit to be charged at the correct inlet port.

Ensure that at this stage the needle control valve and the purge valve are closed and no pressure is reading on the gauges.



## PURGING THE EQUIPMENT

Start by purging the air between the cylinder and the needle valve. Do this by slowly opening the CO<sub>2</sub> cylinder valve, the pressure gauge will go up indicating the cylinder pressure.



Then, open the purge valve. After doing that open the needle valve slowly allowing a small amount of CO<sub>2</sub> to vent through the purge valve. You will know it is venting as a white vapour will be released.



Close the needle valve and then the purge valve and then close the cylinder valve. The area between the cylinder valve and the needle valve is now charged with liquid CO<sub>2</sub>.

Now purge the air from the hose.

The delivery gauge should be reading zero.



At the unit or rack side open the ball valve with a shifter.

This will charge the hose with the system pressure, which can be confirmed by the delivery (left side) pressure gauge showing system pressure.



Open the purge valve and allow the gas to vent for a few seconds.

Close the purge valve. The hose will now be purged of any air and filled with gaseous CO<sub>2</sub>.

The left gauge should be reading system pressure and the cylinder gauge reading cylinder pressure.



## CHARGING THE UNIT WITH LIQUID CO<sub>2</sub>

To charge the rack system with liquid CO<sub>2</sub> follow the following steps.

Open the CO<sub>2</sub> cylinder valve.

Open the needle valve very slowly



Caution: Opening the valve too quickly  
may cause the Safety Relief Valve to vent

The refrigeration unit is now charging.



Cylinder scales can be used to measure the weight of the CO<sub>2</sub> being transferred.



CO<sub>2</sub> being transferred. Consult the manual to determine the amount to charge the unit with.

## FINISHING AND DE-PRESSURISING THE SYSTEM

Close the cylinder valve.

Wait around 30 seconds, this allows any liquid to be drawn into the rack.

Then close the ball valve on the rack.

There will still be pressure reading on the gauges, to release this pressure and purge the equipment of liquid and gaseous CO<sub>2</sub> open the purge valve until both the pressure gauges drop to zero.

Close the purge valve, close the needle valve.

Remove the hose from the rack and the charging unit and then remove the charging unit from the cylinder.

Re-Pack the charging unit and hose back into the case.