



DC-3 Installation Quick Guide

Safety warnings for end users, installation and maintenance personnel

DANGER - High Voltage

This refrigeration system contains electrical parts, isolate the power supply before working on this unit. All wiring must be carried out by a licensed electrical contractor and must be in accordance with the equipment specification, local and national codes.

DANGER - High Voltage

The inverter and compressor are always powered, even when compressor is not running. Ensure power is isolated for more than 5 minutes before removing any cables.

DANGER - Moving Machinery

This refrigeration system has moving parts which may start and stop without warning.

CAUTION - Auto Start

This refrigeration system and its moving parts can start automatically without warning.

CAUTION - High Pressure

This refrigeration system contains high pressure refrigerant and oil.

CAUTION - High and Low Temperature Surfaces

During normal operation and during fault conditions some components will reach high and/or low temperatures.

CAUTION - Sharp Edges

This refrigeration system contains parts with sharp edges, appropriate personal safety equipment must be worn.

Only fully qualified licensed personnel should install, service, carry out maintenance or decommission this refrigeration system.

Safety first

- All refrigeration and electrical work must be carried out by fully qualified and licensed personnel.
- Personal safety protection equipment must be worn when working with this refrigeration system.
- Refer to the safety warnings in “Section 1” of this instruction.

Initial inspection and transport damage check

This equipment must be inspected for damage ‘before’ installation and any damage found reported to the equipment supplier so appropriate action can be taken.

Installation and Commissioning Instruction

Read the ‘Installation and Operation Instruction’ before installing the DC3 smart refrigeration system.



SMART REFRIGERATION

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Installation Process

1

Confirm the application is to operate within the DC-3 smart refrigeration system published design limits before installing this unit. Ensure the refrigerant type matches the published data, 'flammable refrigerants or ammonia must not be used'. DC-3 is designed for R404A refrigerant.

2

Position the outdoor condensing unit, fix and level ensuring clear air flow and no condenser air recycling. Position the DC-3 room control where it can be seen and adjusted.

3

Position the indoor evaporator unit to cold room ceiling allowing adequate space for maintenance and clear air flow. Avoid placement over doors.

4

Run and bracket suction and liquid lines with regard to oil return and insulate the suction line as you go. Line sizing is listed in the Installation and Operation Instruction.

5

Pressure leak test all pipework including indoor and outdoor units to a maximum of 20.5 bar (suction side limit of compressor). If the compressor is isolated the remainder of the system can be tested to a maximum of 28 bar. Pressure relief valve is set at 31 bar.

6

Evacuate system from suction and liquid line Schrader valves to less than 300 microns, disconnect vacuum pump and check vacuum holds steady for 30 minutes.

7

Liquid charge correct mass of liquid into liquid line Schrader valve. Refrigerant charge [kg] is listed in DC-3 Installation and Operation Instruction.

8

Connect all power and data cables to units following the DC-3 Field Wiring Guide.

9

Check wiring, then power up and check voltages are OK.

10

Plug Carel service tool into DC-3 room control and complete the Wizard.

11

Plug Carel service tool into outdoor condensing unit and switch unit system on.

12

Monitor operation from outdoor unit using the Carel service tool or onboard display panel and fine tune the R404A refrigerant charge if required by adding small quantities of liquid into the suction Schrader valve while the compressor is running, under no circumstances should excessive liquid refrigerant enter the compressor.

13

Complete the commissioning and operation detail page of the Installation and Operation Instruction.

14

Hand over the system to the end user ensuring the 'Installation and Operation Instruction' is left in a safe place on site for future reference.

