



**CLADE**

**UNIVERSAL //**





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This range is designed to be operated on CO<sub>2</sub> and is offered with heat recovery options to supply store heating or hot water production.

The range features the latest technology, manufactured in the UK and includes a two year parts warranty. The inverter controls compressor speed based on refrigeration demand with EC Fans on the gas cooler meaning further efficiency.

Multiple configurations such as single rack reach in or dual pack walk in housings across three noise ratings are available.

The refrigeration units are the future-proof choice for the following applications:

- Retail supermarket applications
- Small commercial applications



Duty range is 40-220kW and is offered as a dual temperature solution.



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### Key benefits

- Meets a broad range of MT / LT Configurations
- Proven to be highly efficient with low energy usage
- Highly efficient through inverter controlled compressors
- Heat recovery option available
- Optional control system
- Integrated and split skid options
- CO<sub>2</sub> leak emergency extract
- Simple to operate, maintainer friendly
- Meets a broad range of MT / LT Configurations

### Design Overview

- R744 plant – ‘Reach in’ housing integrated Gas Cooler all on single skid or twin rack housed option
- Designed to 35°C
- Wide evaporating temperature range from -40°C to +10°C
- Bitzer compressors favoured – Emerson and Dorin optional
- Carel or RDM control – Danfoss optional
- Integrated Bitzer inverter for lead compressor
- 60 bar suction
- 60 bar liquid
- Dual PRV stations
- K65 Pipe work throughout

### Construction

- Single or skid configuration
- Heavy duty welded PFC pack frames
- Reach in weatherproof housing
- 33, 38 or 45dBA noise rated options @ 10M

### Mechanical options and overview

The Universal pack has been developed to offer the optimum in space saving for stores where space is at a premium. The range can be configured in a number of housing to gas cooler configurations, this whilst maintaining a service friendly environment.

- Design pressures up-to 90 bar for liquid and suction networks
- Liquid injection feature
- Hot gas bypass feature
- LT De-superheater
- Flash gas interchangers
- Low vibration AV mounts optional
- Back up MPV & HPV valves
- Frame lifting eyes
- Full range of liquid receiver volumes up-to 450 litres
- Integrated suction line accumulators
- Three-way PRV change over valves



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### Sustainable Heating

This simplified, intelligent heating system has been developed with extensive knowledge and experience of using CO<sub>2</sub> as the heating medium.

Heating efficiency is at the forefront of our design philosophy. Using our specifically developed PLC program, we dynamically control water flow conditions to extract as much heat as possible from the CO<sub>2</sub>, whilst maintaining constant store conditions. Compressor discharge pressures are constantly optimised to reduce running costs.

Gas Cooler bypass arrangements are used to recover all the heat when required, whilst a heat pump scavenge evaporator is employed to utilise spare winter compressor capacity, thus providing a highly effective heat pump mode.

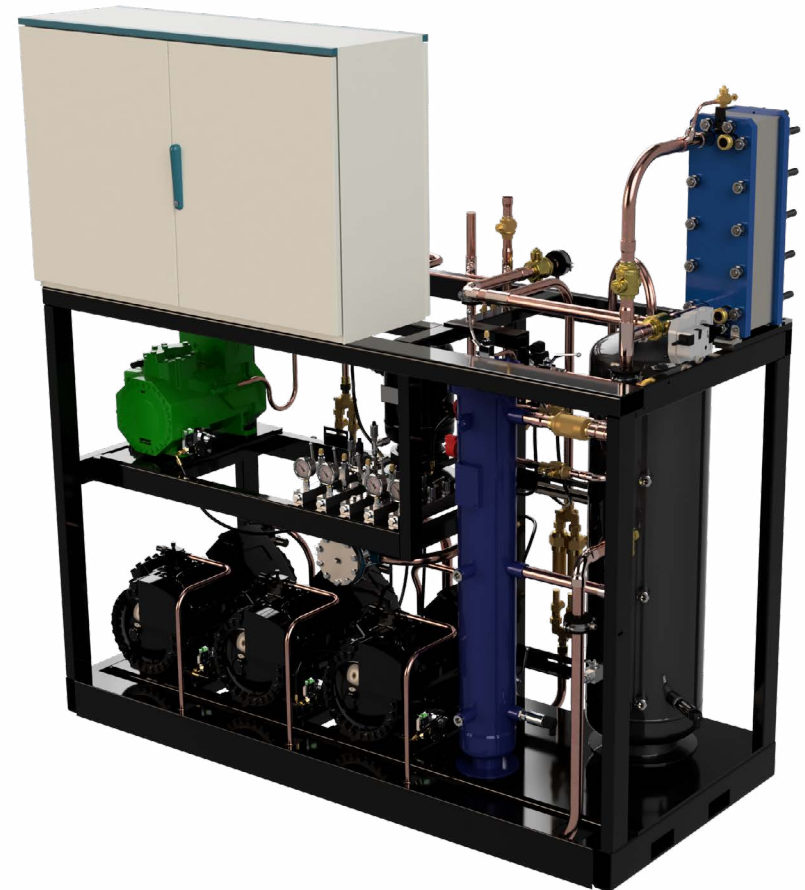
CLADE Engineering Systems Integrated heating system now incorporates a 'Low Ambient Mode' to ensure heating performance is maintained during cold snaps.

### Heat Recovery option:

- Space heating
- Stainless steel plate heat exchanger
- Three-way heat recovery bypass valve and three-way gas cooler bypass valve
- PLC optimizing control

### Heat Pump Mode:

- High utilised capacity
- Scavenge evaporator
- Full and integrated PLC control





**CONTACT US //**



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