

# ammonia / CO<sub>2</sub> / glycol refrigeration plant

case study / Exeter / Food Distribution



**INTEGRAL**

refrigeration

# 200,000ft<sup>2</sup> of chilled/frozen storage capacity...

SITE REFERENCE:	<b>Regional Distribution Centre</b>
SITE LOCATION:	<b>Exeter</b>
BUSINESS SECTOR:	<b>Food Distribution</b>
CONSTRUCTION PERIOD:	<b>9 Months</b>

## SCOPE OF WORKS:

- Industrial ammonia / CO<sub>2</sub> / glycol refrigeration plant
- Variable speed reciprocating compressors
- Evaporative condensers with floating head pressure control
- Ammonia / CO<sub>2</sub> cascade spray cooler
- CO<sub>2</sub> surge drum
- Pump separator packages with auto oil recovery each including duty standby pumps
- Air coolers serving a total of 4.2MW (+1°C chill areas; +4°C Fruit and veg; +18°C chocolate storage; -24°C freezer cold store; -28°C blast chambers; +14°C fruit and veg with humidification system)
- Warm glycol defrost system
- 1MW heat recovery for heating using waste heat from refrigeration plant
- Leak detection system
- Plant room safety equipment and ventilation
- Remote dial in/out access
- Commissioning
- 10 year comprehensive maintenance agreement

## PROJECT DESCRIPTION:

The new regional distribution centre provided our client with over 200,000ft<sup>2</sup> of chilled / frozen storage capacity to enhance its logistical capabilities in the region. The refrigeration solution was based around 3.2MW of chilled and 1MW of freezer storage capacity (inc blast freezing chambers) provided by an ammonia to CO<sub>2</sub> cascade plant. With the ammonia confined to the plant room only, CO<sub>2</sub> and glycol were used as pumped refrigerants to serve the facility air coolers. The plant was handed over to the end user in July 2017 and such was the success of the project, Integral has since been awarded with the refrigeration contracts (each with 10 year maintenance agreements) for their next three RDC installations across the UK.



Contact: [alan.selby@integral.co.uk](mailto:alan.selby@integral.co.uk)  
 Integral Industrial Refrigeration: **0116 2670 600**



**INTEGRAL**

**refrigeration**

delivering engineering excellence



## refrigeration

**retail & commercial  
industrial**

**lokold (products & fabrication)**

**spirals / edge drive / tunnels etc.**

0116 2670 600 [refrigeration@integral.co.uk](mailto:refrigeration@integral.co.uk)

0116 2670 600 [industrial.refrigeration@integral.co.uk](mailto:industrial.refrigeration@integral.co.uk)

01473 461704 [patrick.mullins@integral.co.uk](mailto:patrick.mullins@integral.co.uk)

07714 098555 [spirals@integral.co.uk](mailto:spirals@integral.co.uk)

Head office: Integral UK Ltd. 1290 Aztec West, Almondsbury, Bristol BS32 4SG

Registered Office

JLL, 30 Warwick Street, London W1B 5NH

Company Registration No. 5307588



**INTEGRAL**

**refrigeration**