

Alfa Laval AC540DQ

Brazed plate heat exchanger for air conditioning and refrigeration

Introduction

Alfa Laval AC brazed plate heat exchangers provide efficient heat transfer with a small footprint. They are specifically designed to work in air conditioning and refrigeration applications as evaporators and condensers in chillers and heat pumps.

Applications

- Evaporator
- Condenser
- Cascade systems

Benefits

- Compact
- Easy to install
- Self-cleaning
- Low level of service and maintenance is required
- All units are pressure and leak tested
- Gasket free

Branded Features



DynaStatic™

Flexible refrigerant distribution



FlexFlow™

Superior thermal performance



IceSafe

Controlled, non-destructive freezing



PressureSecure

Unparalleled strength for demanding duties



REFuture

A future-proof investment for tomorrow's refrigerants



ValuePlus

Total support – with value-adding options to fit your needs

Design

The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. Using advanced design technologies and extensive verification guarantees the highest performance and longest possible service life.

Different pressure ratings are available for different needs.



The True dual-circuit design provides a higher freezing resistance compared to back-to-back solutions.

Asymmetric channels provide optimal efficiency in the most compact design. This results in low refrigerant charge or lower pressure drop on the water or brine side, reducing the CO₂ footprint.

The asymmetry guarantees the best performance in both full- and partial-load conditions.

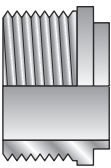
Designed for high-efficiency applications, such as those applications with high evaporation temperature and low water/ brine pressure drop. This results in reduced environmental impact and lower costs.

The integrated distribution system ensures an even distribution of the refrigerant throughout the plate package.

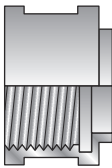
Based on standard components and a modular concept, including symmetric and asymmetric channels, each unit is custom-built to meet the specific requirements of each individual installation.

Suitable with most HFC, HFO and natural refrigerants.

Examples of connections



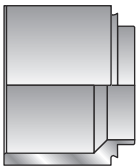
External thread



Internal thread



Soldering



Welding

Technical Data

Standard materials

| | |
|----------------|-----------------|
| Cover plates | Stainless steel |
| Connections | Stainless steel |
| Plates | Stainless steel |
| Brazing filler | Copper |

Dimensions and weight ¹

| | |
|--------------------------|----------------------|
| A measure (mm) | $16 + (2.64 * n)$ |
| A measure (inches) | $0.63 + (0.10 * n)$ |
| Weight (kg) ² | $16.6 + (0.99 * n)$ |
| Weight (lb) ² | $36.60 + (2.18 * n)$ |

¹ n = number of plates

² Excluding connections

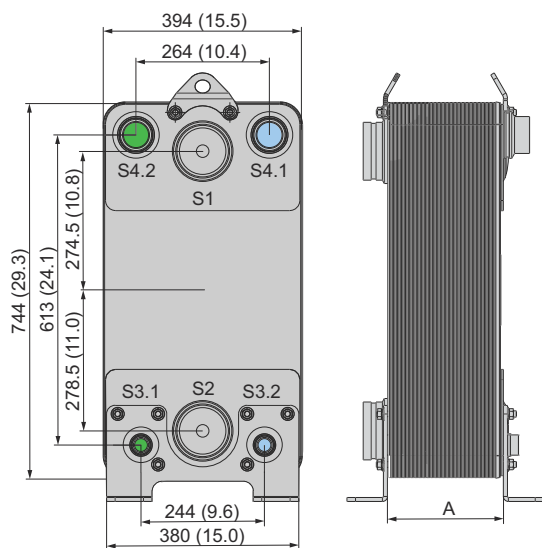
Standard data

| | |
|--|---|
| Volume per channel, litres (gal) | (S1-S2) 0.73 (0.1928) (S3-S4) 0.56 (0.1479) |
| Max. particle size, mm (inch) | 1 (0.039) |
| Max. flowrate ¹ m ³ /h (gpm) | 280 (1232.8) |
| Flow direction | Parallel |
| Min. number of plates | 10 |
| Max. number of plates | 330 |

¹ Water at 7 m/s (23.0 ft/s) (connection velocity)

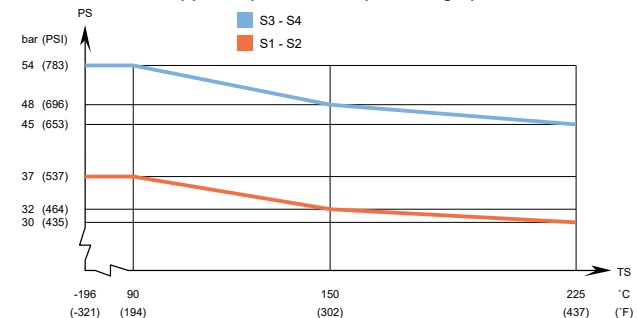
Dimensional drawing

Measurements in mm (inches)

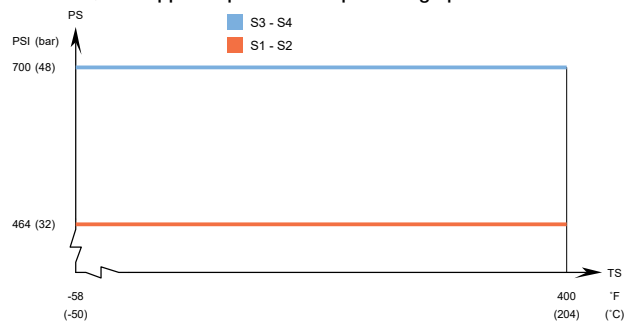


Design pressure and temperature

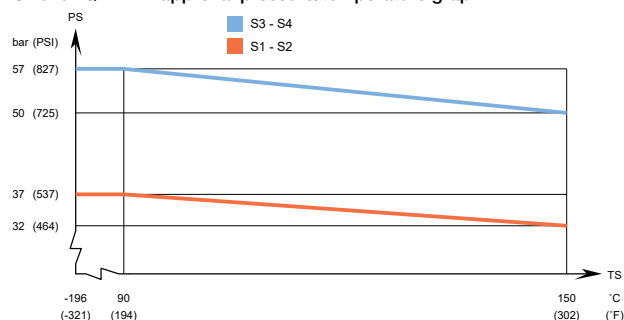
ACH540DQ – PED approval pressure/temperature graph



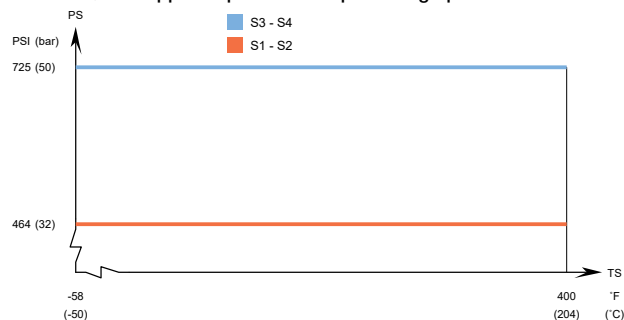
ACH540DQ – UL approval pressure/temperature graph



ACK540DQ – PED approval pressure/temperature graph



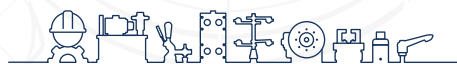
ACK540DQ – UL approval pressure/temperature graph



Designed for full vacuum.

Alfa Laval plate heat exchangers are available with a wide range of pressure vessel approvals. Please contact your Alfa Laval representative for more information.

NOTE: Values above are to be used as an indication. For exact values, please use the drawing generated by the Alfa Laval configurator or contact your local Alfa Laval representative.



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