



# AXP52

## Brazed plate heat exchanger

### General information

Alfa Laval introduced its first brazed plate heat exchanger (BHE) in 1977 and has since continuously developed and optimized its performance and reliability.

AXP52 is a brazed heat exchanger with external frames in carbon steel that withstands operating pressures of 130 bar. AXP52 is specially designed to fulfill the need when using CO<sub>2</sub> as refrigerant in subcritical and transcritical applications. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. The plate design guarantees the longest possible life.

The design options of the brazed heat exchanger are extensive. Different plate patterns are available for various duties and performance specifications. You can choose a standard configuration BHE, or a unit designed according to your own specific needs. The choice is entirely yours.

### Typical applications

- HVAC heating/cooling
- Refrigeration
- Industrial heating/cooling
- Oil cooling

### CO<sub>2</sub> refrigerant applications

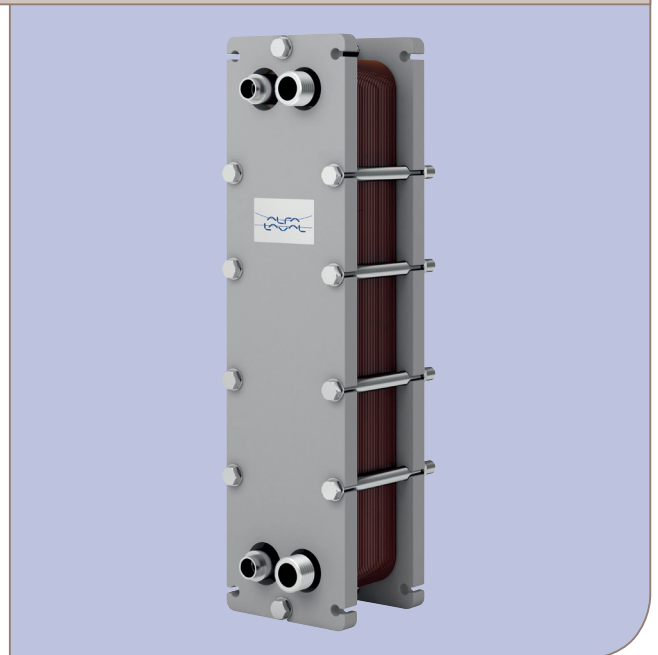
- Suction gas heating
- Oil cooling
- Evaporating
- Economizing
- Sub cooling
- Condensing

### Working principles

The heating surface consists of thin corrugated metal plates stacked on top of each other. Channels are formed between the plates and corner ports are arranged so that the two media flow through alternate channels, usually in countercurrent flow for the most efficient heat transfer process.

### Standard design

The plate pack is covered by cover plates. Connections are located in the front or rear cover plate. To improve the heat transfer design, the channel plates are corrugated.

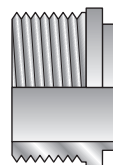


### Particulars required for quotation

To enable Alfa Laval's representative to make a specific quotation, specify the following particulars in your enquiry:

- required flow rates or heat load
- temperature program
- physical properties of liquids in question
- desired working pressure
- maximum permitted pressure drop

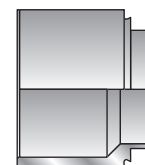
### Examples of connections



External threaded

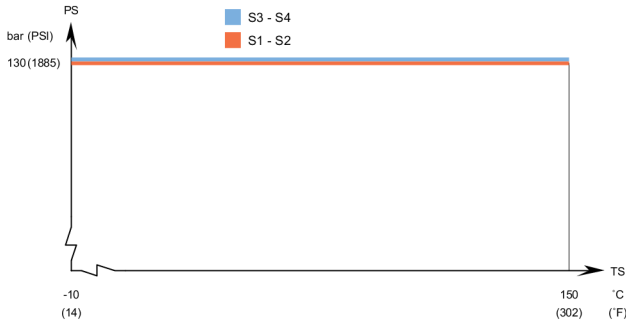


Soldering

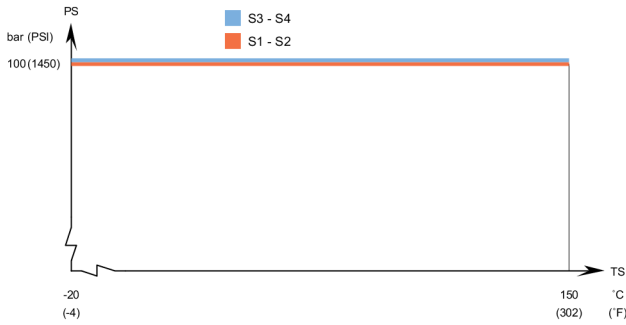


Welding

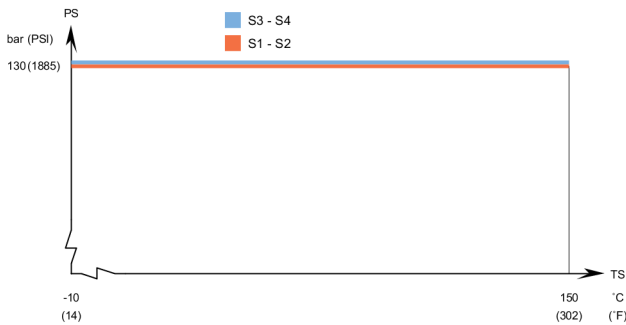
**AXP52 - PED approval pressure/temperature graph**



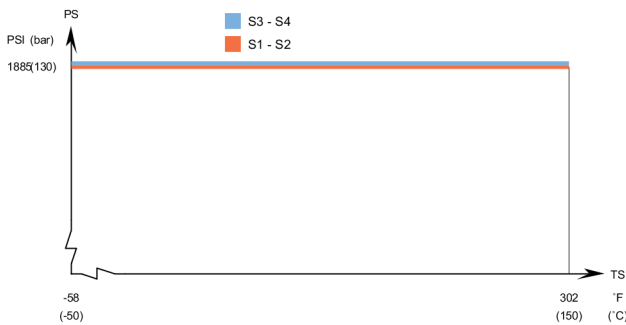
**AXP52 - KHK approval pressure/temperature graph**



**AXP52 - CRN approval pressure/temperature graph**



**AXP52 - UL approval pressure/temperature graph**



**Standard dimensions and weight\***

- A measure mm = 14 + (2.37 \* n) ±3 mm
- A measure inch = 0.55 + (0.09 \* n) ±0.12 inch
- Weight\* kg <40 plates = 35.1 + (n x 0.22)
- Weight\* kg 41-80 plates = 36.5 + (n x 0.22)
- Weight\* kg 81-120 plates = 37.8 + (n x 0.22)
- Weight\* kg 121-150 plates = 40.8+ (n x 0.22)
- Weight\* lb <40 plates = 77.4 + (n x 0.49)
- Weight\* lb 41-80 plates = 80.5 + (n x 0.49)
- Weight\* lb 81-120 plates = 83.4 + (n x 0.49)
- Weight\* lb 121-150 plates = 90.0+ (n x 0.49)
- (n = number of plates)
- \* Excluding connections

**Standard data**

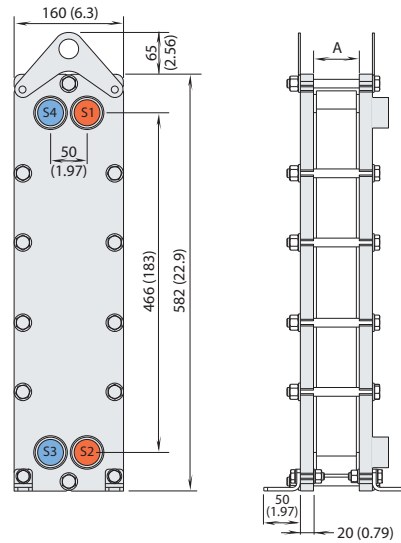
Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel, litres (ga)	0.095 (0.025)
Max. particle size mm (inch)	1.2 (0.05)
Max. flowrate* m <sup>3</sup> /h (gpm)	14 (61.6)
Min. nbr of plates	6
Max. nbr of plates	150

\* Water at 5 m/s (16.4 ft/s) (connection velocity)

**Standard materials**

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing material	Copper
External frames	Carbon steel

**Standard dimensions mm (inch)**



For exact values please contact your local Alfa Laval representative

**How to contact Alfa Laval**

Up-to-date AlfaLaval contact details for all countries are always available on our website on [www.alfalaval.com](http://www.alfalaval.com)