



# CB112 / CBH112

## 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.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates. 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
- Industrial heating/cooling
- Condensing
- Tap water
- Oil cooling
- Air dryer
- Solar heating

### 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.

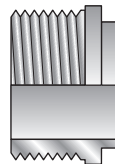
### Particulars required for quotation

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

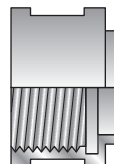
- Required flow rates or heat load
- Temperature program
- Physical properties of liquids in question
- Desired working pressure
- Maximum permitted pressure drop



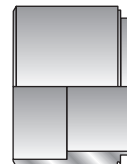
### Examples of connections\*



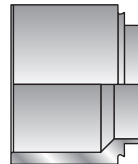
External threaded



Internal threaded



Soldering



Welding

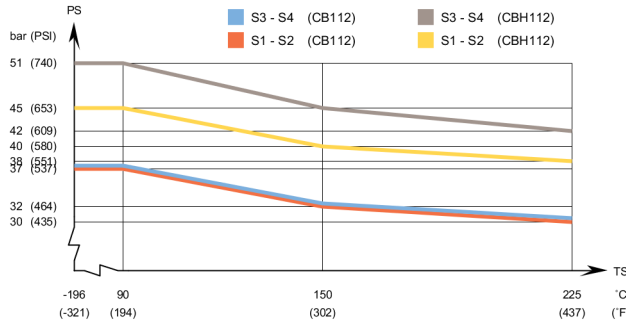


Vitaulic

\* More connections are available on request.

## CB112 / CBH112 - max. allowed design pressure

### CB112 / CBH112 - PED approval pressure/temperature graph



PV code	Model	Min temperature bar (psi) / °C (°F)	Max temperature bar (psi) / °C (°F)	Channel
UL	CB	32(464) / -196(-321)	32(464) / 204(400)	S1-S2, S3-S4
	CBH	36(522) / -196(-321)	36(522) / 96(204)	S1-S2, S3-S4
		45(653) / -196(-321)	45(653) / 96(204)	
CRN	CB	32(464) / -196(-321)	32(464) / 150(302)	S1-S2, S3-S4
	CBH	36(522) / -196(-321)	36(522) / 150(302)	S1-S2
		45(653) / -196(-321)	45(653) / 150(302)	S3-S4
KRA	CB	32(464) / -100(-148)	32(464) / 150(302)	S1-S2, S3-S4
	CBH	45(653) / -100(-148)	45(653) / 150(302)	S1-S2, S3-S4
KHK	CB	30(435) / -196(-321)	30(435) / 150(302)	S1-S2
		32(464) / -196(-321)	32(464) / 150(302)	S3-S4
	CBH	32(464) / -196(-321)	32(464) / 150(302)	S1-S2
		42(609) / -196(-321)	42(609) / 150(302)	S3-S4
ASME	CB	34(493) / -104(-155)	34(493) / 150(302)	S1-S2, S3-S4
	CB	31(450) / -104(-155)	31(450) / 225(437)	S1-S2, S3-S4
	CBH	36(522) / -104(-155)	36(522) / 150(302)	S1-S2
	CBH	45(653) / -104(-155)	45(653) / 150(302)	S3-S4
	CBH	34(493) / -104(-155)	34(493) / 225(437)	S1-S2
	CBH	42(609) / -104(-155)	42(609) / 225(437)	S3-S4

### Standard dimensions and weight\*

#### CB112

A measure mm	=	16 + (2.07 * n) (±3 mm or ±1.5 %)
A measure inch	=	0.63 + (0.08 * n) (±0.12 inch or ±1.5 %)
Weight* kg	=	4.82 + (0.35 * n)
Weight* lb	=	10.63 + (0.77 * n)

#### CBH112

A measure mm	=	16 + (2.07 * n) (±3 mm or ±1.5 %)
A measure inch	=	0.63 + (0.08 * n) (±0.12 inch or ±1.5 %)
Weight* kg	=	5.68 + (0.35 * n)
Weight* lb	=	12.52 + (0.77 * n)

(n = number of plates)

\* Excluding connections and reinforcements

### Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel H, L, M, litres (ga)	0.18 (0.046)
	0.20 (0.052)
Volume per channel AH, AM, litres (ga)	0.16 (0.041)
Max. particle size mm (inch)	1 (0.04)
Max. flowrate* m <sup>3</sup> /h (gpm)	51 (224.4)
Min. nbr of plates	10
Max. nbr of plates	300
Flow direction	Parallel

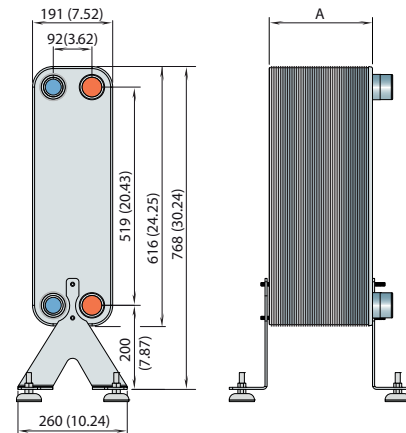
\* Water at 5 m/s (16.4 ft/s) (connection velocity)

### Standard materials

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

### 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)