CBH16-CB300

Alfa Laval CB16-CB300 - 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
- Tapwater
- Oil cooling
- Airdryer
- 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

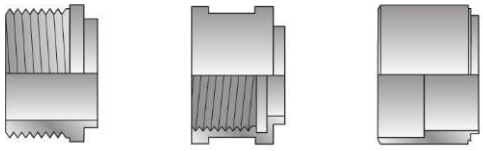
The plate pack is covered by cover plates. Connections are located in the front or rear cover plate. To improve the heat transfer design, the channel plates are corrugated.

Particulars required for quotation

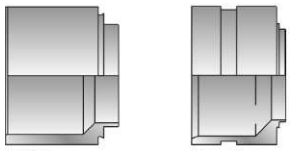
To enable Alfa Laval's representative to make a specific quotation, specify the following particulars in your enquiry:

- 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

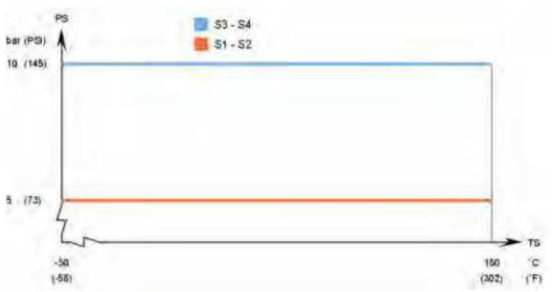


Welding | Vitaulic

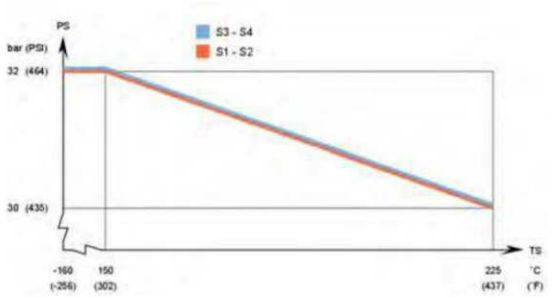
* More connections are available on request.

Technical data for CB16

CB16 - PED approval pressure/temperature graph*

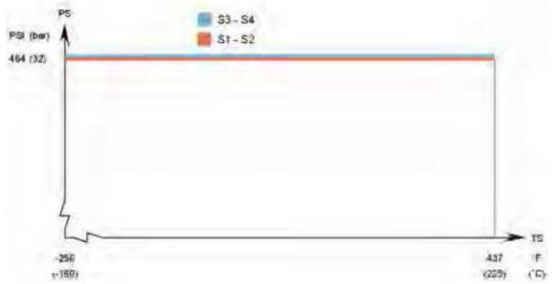


CBH16 - PED approval pressure/temperature graph*



CB16 - UL approval pressure/temperature graph*

CBH16 - UL approval pressure/temperature graph*



Standard dimensions and weight*

CB16		
A measure mm	=	7 + (2.16 * n) (+/-2 %)
A measure inch	=	0.28 +(0.09 * n) (+/-2 %)
Weight** kg	=	0.14 + (0.04 * n)
Weight** lb	=	0.3 + (0.09 * n)
CBH16		
A measure mm	=	8 + (2.16 * n) (+/-2 %)
A measure inch	=	0.31 + (0.09 * n) (+/-2 %)
Weight** kg	=	0.27 + (0.04 * n)
Weight** lb	=	0.59 + (0.09 * n)

(n = number of plates)

* Excluding connections

Standard data

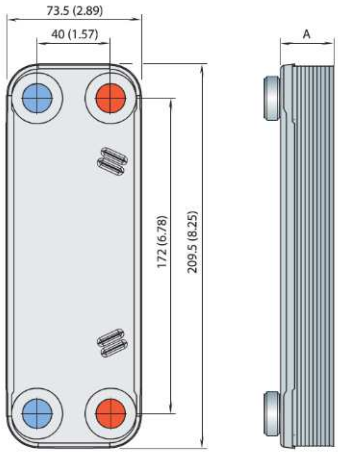
Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel H, litres (ga)	0.027 (0.0070)
Volume per channel A, litres (ga)	0.030 (0.0078) 0.024 (0.0063)
Max. flowrate* m3/h (gpm)	3.62 (15.93)
Min. nbr of plates	4
Max. nbr of plates	60
* 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

Standard dimensions

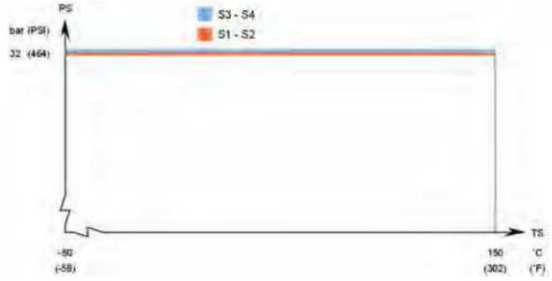


For exact values please contact your local Alfa Laval representative

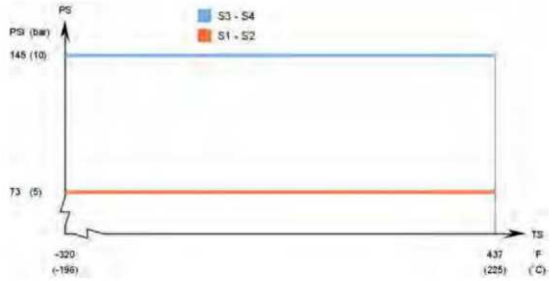
Technical data for CB18

CB18 - PED approval pressure/temperature graph* H, A

CBH18 - PED approval pressure/temperature graph* H



CB18 - UL approval pressure/temperature graph*



CB18 - UL approval pressure/temperature graph*

Standard dimensions and weight*

CB18		
A measure mm	=	7 + (2.16 * n) (+/-2 %)
A measure inch	=	0.28 + (0.09 * n) (+/-2 %)
Weight** kg	=	0.22 + (0.07 * n)
Weight** lb	=	0.48 + (0.15 * n)
CBH18		
A measure mm	=	8 + (2.16 * n) (+/-2 %)
A measure inch	=	0.31 + (0.09 * n) (+/-2 %)
Weight** kg	=	0.4 + (0.07 * n)
Weight** lb	=	0.88 + (0.15 * n)

(n = number of plates)

* Excluding connections

Standard data

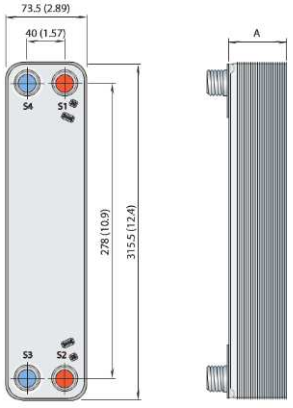
Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel H, litres (ga)	0.038 (0.010)
Volume per channel A, litres (ga)	0.042 (0.011) 0.035 (0.009)
Max. particle size mm (inch)	1.1 (0.04)
Max. flowrate* m^3/h (gpm)	3.62 (15.93)
Min. nbr of plates	4
Max. nbr of plates	60

* 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

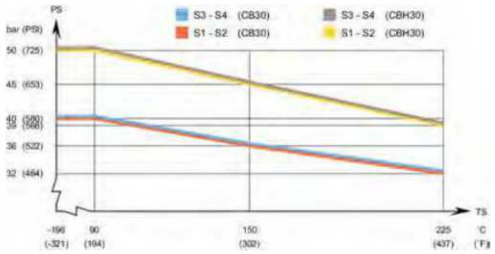
Standard dimensions
mm (inch)



For exact values please contact your local Alfa Laval representative

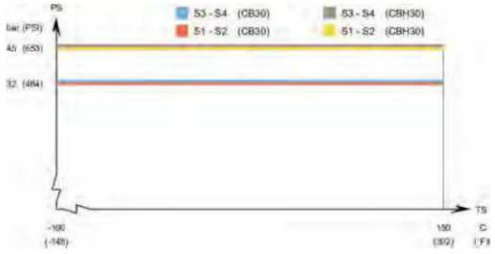
Technical data for CB30

CB30 / CBH30 - PED approval pressure/temperature graph

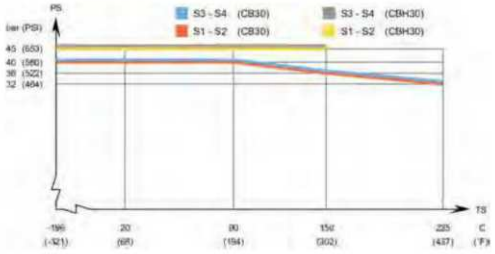


CB30 / CBH30 - UL approval pressure/temperature graph

CB30 / CBH30 - KHK and KRA approval pressure/temperature graph



CB30 / CBH30 -CRN approval pressure/temperature graph



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)	0.054 (0.014)
Max. particle size mm (inch)	1 (0.04)
Max. flowrate* m3/h (gpm)	14 (61.6)
Min. nbr of plates	4
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 filler	Copper

Standard dimensions and weight

CB30

A measure mm	=	13 + (2.31 * n) (±2 mm or ±1.5 %)
A measure inch	=	0.51 + (0.09 * n) (±0.08 inch or ±1.5 %)
Weight** kg	=	1.2 + (0.11 * n)
Weight** lb	=	2.65 + (0.24 * n)

CBH30

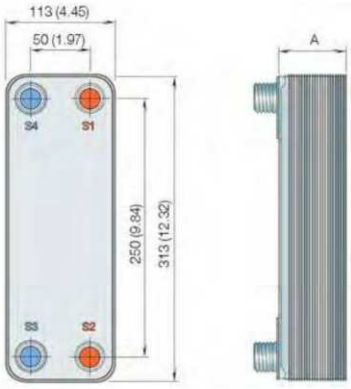
A measure mm	=	15 + (2.31 * n) ±1.5 %
A measure inch	=	0.59 + (0.09 * n) ±0.06 %
Weight** kg	=	1.35 + (0.11 * n)
Weight** lb	=	2.98 + (0.24 * n)

(n = number of plates)

** Excluding connections

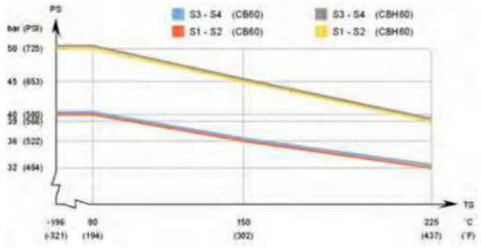
Standard dimensions

mm (inch) for exact values please contact your local Alfa laval representive

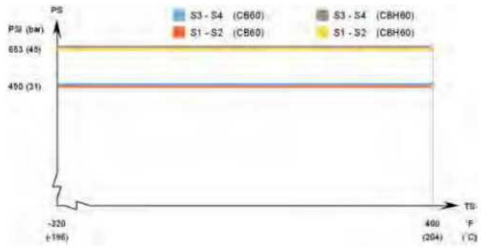


Technical data for CB60

CB60 and CBH60 - PED approval pressure/temperature graph*

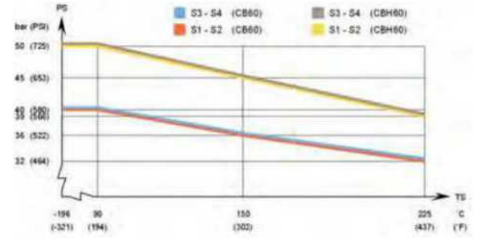


CB60 and CBH60 - UL approval pressure/temperature graph*



CB60 / CBH60 - KHK and KRA approval pressure/temperature graph*

CB60 / CBH60 - CRN approval pressure/temperature graph*



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)	0.10 (0.027)
Max. particle size mm (inch)	1 (0.04)
Max. flowrate* m3/h (gpm)	14.5 (63.7)
Min. nbr of plates	4
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 filler	Copper

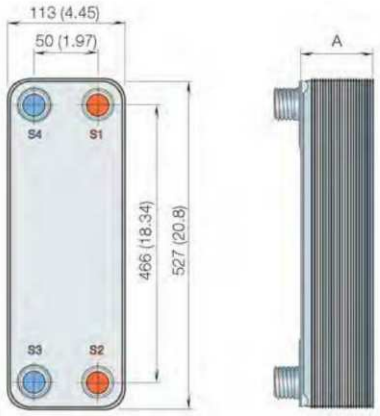
Standard dimensions and weight*

A measure mm	=	13 + (2.35 * n) (+/-1.5 %)
A measure inch	=	0.51 + (0.09 * n) (+/-1.5 %)
Weight** kg	=	2.1 + (0.18 * n)
Weight** lb	=	4.63 + (0.4 * n)

(n = number of plates)

* Excluding connections

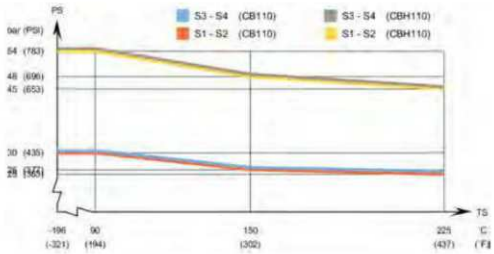
Standard dimensions
mm (inch)



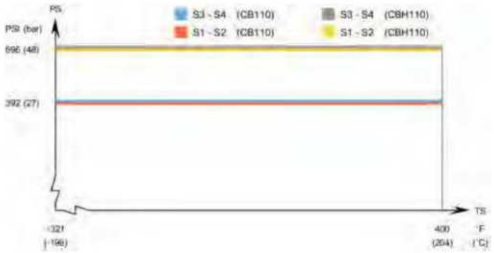
For exact values please contact your local Alfa Laval representative

Technical data for CB110

CB110 / CBH110- PED approval pressure/temperature graph



CB110 / CBH110- UL approval pressure/temperature graph



Standard dimensions and weight*

CB110		
A measure mm	=	15 + (2.56 * n) (±2 mm or ±1.5 %)
A measure inch	=	0.59 + (0.1 * n) (±0.08 inch or ±1.5 %)
Weight* kg	=	4.82 + (0.32 * n)
Weight* lb	=	10.63 + (0.71 * n)
CBH110		
A measure mm	=	15 + (2.56 * n) (±2 mm or ±1.5 %)
A measure mm	=	0.59 + (0.1 * n) (±0.08 inch or ±1.5 %)
Weight* kg	=	5.68 + (0.32 * n)
Weight* lb	=	12.52 + (0.71 * n)

(n = number of plates)

* Excluding connections

Standard data

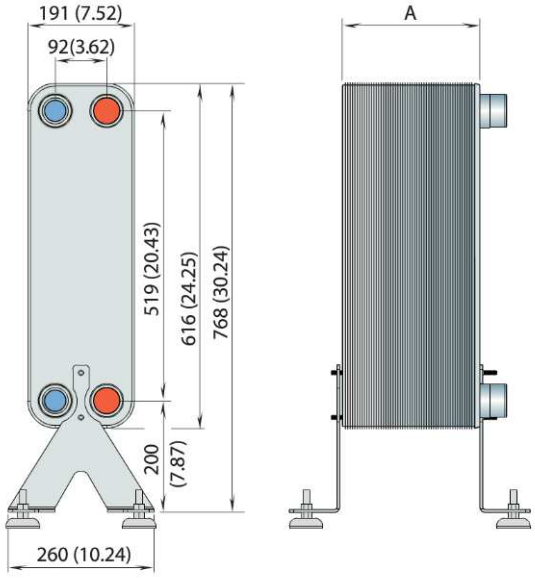
Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel H, L, M, litres (ga)	0.21 (0.05)
Max. particle size mm (inch)	1.2 (0.05)
Max. flowrate* m3/h (gpm)	51 (224)
Min. nbr of plates	10
Max. nbr of plates	240

* 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)

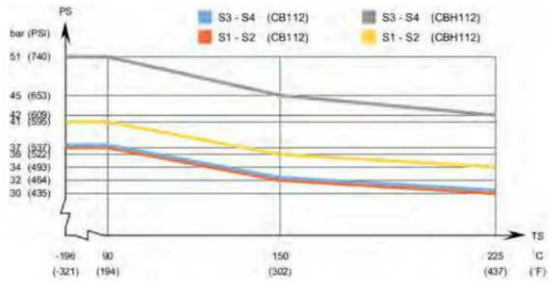


For exact values please contact your local Alfa Laval representative

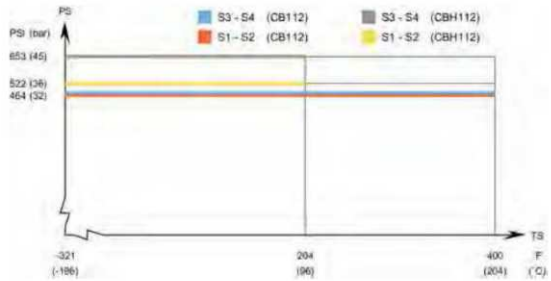
Marine approvals
CBM110 can be delivered with marine classification certificate (ABS, BV, CCS, Class NK, DNV, GL, LR, RINA, RMRS).

Technical data for CB112

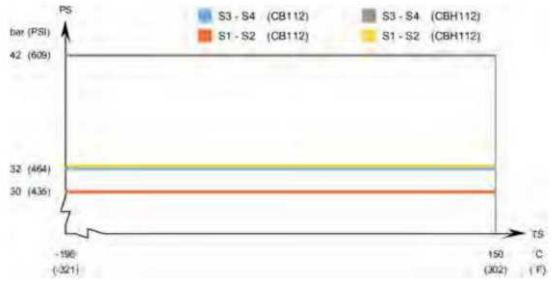
CB112 / CBH112 - PED approval pressure/temperature graph



CB112 / CBH112 - UL approval pressure/temperature graph



CB112 / CBH112 - KHK approval pressure/temperature graph



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

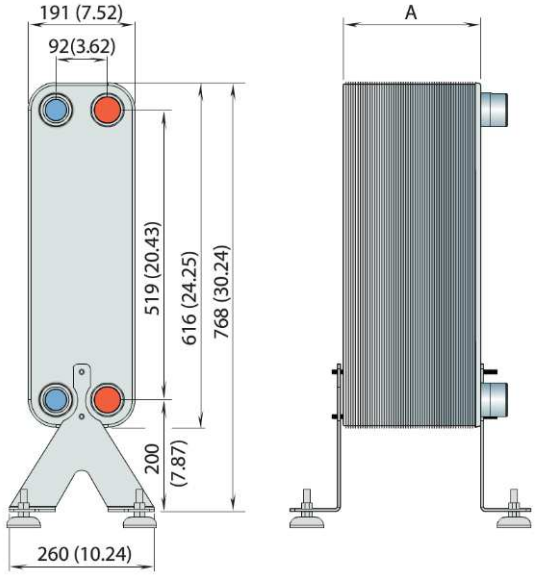
Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel H, L, M, litres (ga)	0.18 (0.046)
Volume per channel AH, AM, litres (ga)	0.20 (0.052)
	0.16 (0.041)
Max. particle size mm (inch)	1 (0.04)
Max. flowrate* m3/h (gpm)	51 (224.4)
Min. nbr of plates	10
Max. nbr of plates	300

* 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

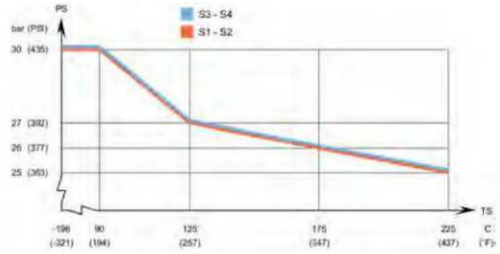
Standard dimensions
mm (inch)



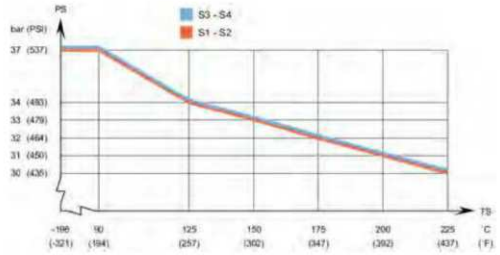
For exact values please contact your local Alfa Laval representative

Technical data for CB200

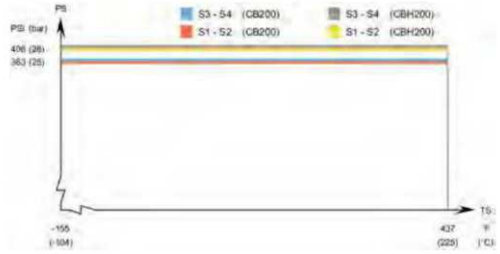
CB200 - PED approval pressure/temperature graph*



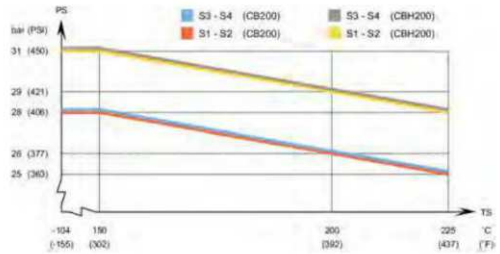
CBH200 - PED approval pressure/temperature graph*



CB200 / CBH200 - ASME approval pressure/temperature graph*



CB200 / CBH200 - CRN approval pressure/temperature graph*



Standard dimensions and weight*

CB200

A measure mm	=	11 + (2.7 * n) (+/-10 mm)
A measure inch	=	0.43 + (0.11 * n) (+/-0.39 inch)
Weight* kg	=	12 + (0.6 * n)
Weight* lb	=	26.46 + (1.32 * n)

CBH200

A measure mm	=	14 + (2.7 * n) (+/-10 mm)
A measure inch	=	0.55 + (0.11 * n) (+/-0.39 inch)
Weight* kg	=	14 + (0.6 * n)
Weight* lb	=	30.86 + (1.32 * n)

(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)	0.51 (0.13)
Max. particle size mm (inch)	1.8 (0.07)
Max. flowrate* m3/h (gpm)	128 (561)
Min. nbr of plates	10
Max. nbr of plates	230

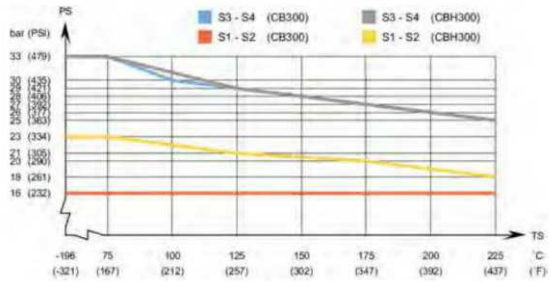
* Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard materials

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

Technical data for CB300

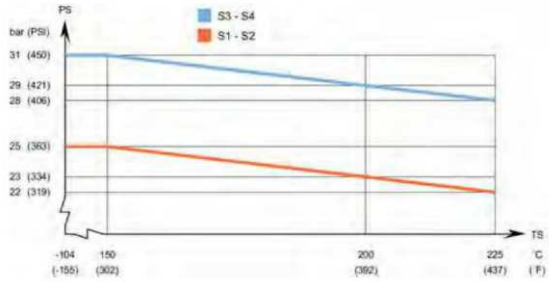
CB300 / CBH300 - PED approval pressure/temperature graph*



CB300 - ASME approval pressure/temperature graph*

CB300 - UL approval pressure/temperature graph*

CB300 - CRN approval pressure/temperature graph*



Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel S1/S2, litres (ga)	0.69 (0.18)
Volume per channel S3/S4, litres (ga)	0.58 (0.15)
Max. particle size mm (inch)	1.8 (0.07)
Max. flowrate S1/S2 m3/h (gpm)*	200 (881)
Min. nbr of plates	10
Max. nbr of plates	250

* 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

Standard dimensions and weight*

A measure mm	=	11 + (2.62 * n) (+/-10 mm)
A measure inch	=	0.43 + (0.1 * n) (+/-0.39 inch)
Weight* kg	=	21 + (1.26 * n)
Weight* lb	=	46.3 + (2.78 * n)

(n = number of plates)

* Excluding connections

Standard dimensions
mm (inch)