



## Brazed plate heat exchangers – HP serie

### High pressure BHE



#### Caring about our environment

The need to increase the efficiency of refrigeration plants in order to reduce green house gas emissions is a major issue currently facing suppliers of refrigeration and air conditioning equipment. The use of high pressure refrigerants as R410A or CO<sub>2</sub> is a step in this direction since these refrigerants increase the efficiency and reduce the energy consumption of the machinery.

Alfa Laval is introducing a complete range of high pressure units which is designed to meet the new market demands for environmentally safe technology. The High Pressure BHE series benefit from a design pressure of 45 bar and is complying with all widely accepted pressure vessel codes.

#### Air conditioning applications

Air conditioning systems using R410A (cooling capacity: 4-500 kW) have shown considerable potential for total system improvement. Much of this improvement is recognised from increased heat transfer efficiency in the heat exchangers. The heat transfer coefficient with R410A is approximately 30% higher than R407C and R22.

Tests performed in Alfa Laval laboratories show that by using same components and switching from R407C to R410A, the COP (coefficient of performance) increases by more than 10%. The cooling capacity is seen to be improved as well. The superior efficiency can also be used to reduce the size of components, and thus reduce the investment cost.

## Commercial refrigeration applications

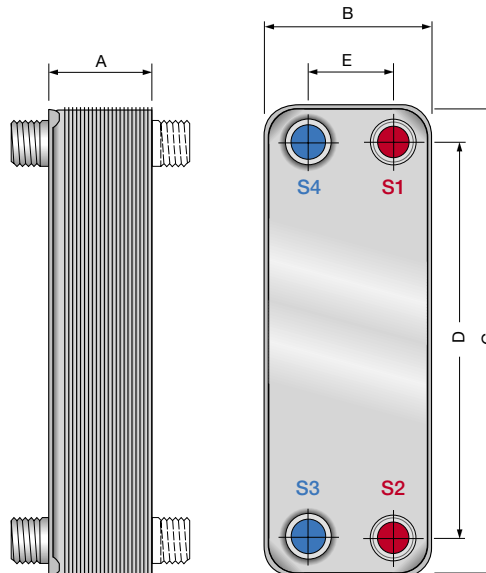
Supermarket systems usually have a substantial impact on the GWP (global warming potential) due to the long refrigerant pipes. Cascade systems using CO<sub>2</sub> as the low temperature or secondary refrigerant offer the possibility to reduce green house emissions without the disadvantage of higher energy consumption.

In a cascade heat exchanger, the high temperature refrigerant, normally R404A or R507, is evaporating on one side while the CO<sub>2</sub> gas condenses to liquid phase on the other. Today's traditional synthetic refrigerants have 3,000-4,000 times larger impact the global warming than CO<sub>2</sub>.

		Cooling capacity range (kW) *)	Channel type	Design pressure (S1-S2/S3-S4) (barg) (Ref/Brine)	Design temperature (S3 S4) (°C)	Height C (mm)	Width B (mm)	D (mm)	E (mm)	A dimension (mm)
Single circuit Evaporator – Condenser – Economizer	CBH27	4 - 20	H - M - L	49/49	-160/175	311	112	250	50	9+2.4*np
	ACH30	4 - 30	EQ	45/45	-160/175	325	93	269	39	9+1.5*np
	CBH52	10 - 30	H - M - L	49/49	-160/175	526	112	466	50	10+2.4*np
	ACH50	10 - 60	HX - MX - LX	46/46	-196/150	526	112	466	50	10+2.4*np
	CBH76 **)	30 - 220	H - A - E	45/45	-196/130	617	192	519	92	10+2.85*np
	ACH120	40 - 250	EQ	45/43	-196/120	617	192	519	92	11+2.35*np
	ACH250	150 - 300	EQ	45/45	-160/150	741	324	628	211	13.5+2.82*np
	ACH350	250 - 400	EQ	45/45	-160/150	741	324	628	211	13.5+2.82*np
Dual circuit Evaporator – Condenser	ACH80	30 - 80	DQ	42/42	-50/150	390	195	296	121	12+1.96*np
	ACH130	60 - 250	DQ	45/45	-160/200	487	247	397	157	8+2.2*np
	ACH250	150 - 350	DQ	45/45	-160/150	741	324	628	211	13.5+2.82*np
	ACH350	300 - 500	DQ	45/45	-160/150	741	324	628	211	13.5+2.82*np
Oil cooler Desuper- heater	CBH27	3 - 40	H - M - L	49/49	-160/175	311	112	250	50	9+2.4*np
	CBH76	30 - 220	H	45/45	-196/130	617	192	519	92	10+2.85*np

\*) Standard air conditioning duty

\*\*) A dimension valid for H model



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### How to contact Alfa Laval

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