Brazed plate heat exchangers

Greater efficiency. Longer lifecycle.
Compact condensers, evaporators, economizers/subcoolers, desuperheaters and oil coolers.

About Alfa Laval

Global strength. Local commitment.

Alfa Laval is the world leader in heat transfer, separation and fluid handling. Since 1883, we've been committed to serving our customers with product innovations that create better everyday conditions for people.

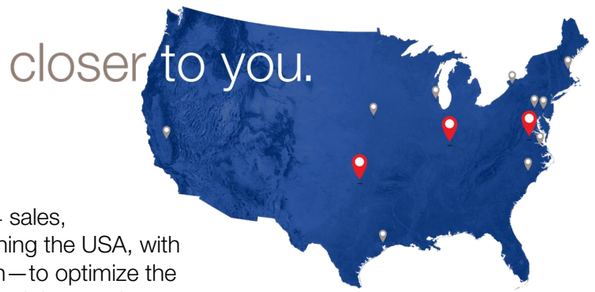
- 17,000 employees
- More than 40 major production units
- Supporting customers in nearly 100 countries

Alfa Laval in the USA

For more than 130 years, Alfa Laval in the USA has been dedicated to bringing our global innovations to the local market.

- Separation technology since 1885
- Heat transfer technology added in the 1930's
- Fluid handling technology included in the 1960's

Today, Alfa Laval is closer to you than ever with 14 sales, manufacturing, service and distribution sites spanning the USA, with 1,055 employees dedicated to fulfilling our mission—to optimize the performance of our customers' processes. Time and time again.



New production facility in Richmond, Virginia

By expanding our Richmond factory in 2019, we're now producing brazed heat exchangers in the United States. You benefit with:

- Enhanced and streamlined supply chain—stable and predictable
- Faster service and order fulfillment—rapid response for urgent demands

Watch the BHE factory grand opening video!

Click here (digital catalog) or scan the QR code to watch the grand opening event video.

Brazed plate heat exchangers

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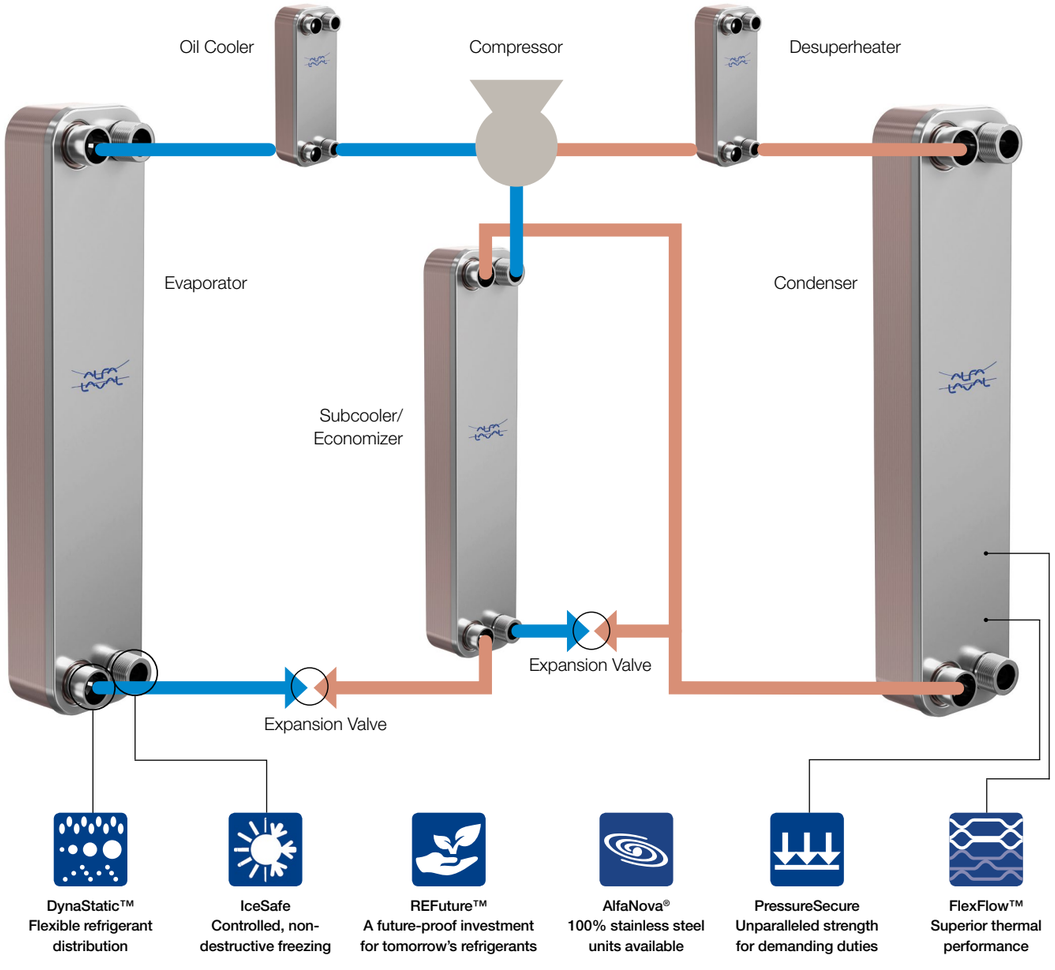


Alfa Laval advantage

Innovative product features

PressureSecure

Unparalleled strength for demanding duties
Our innovative plate designs support the widest range of high-temperature and high-pressure applications. Units can run using thinner plates and fewer plates, which translates to less raw material, lower energy consumption, reduced refrigerant charge and a longer equipment lifecycle.

IceSafe

Controlled, non-destructive freezing
For applications that require it, Alfa Laval can supply plate heat exchangers designed to allow ice crystals to form under certain operating conditions, but displaced from sensitive areas. This ensures both reliable performance and a long product life.

DynaStatic™

Flexible refrigerant distribution
This breakthrough production method makes it possible to fully tailor the placement, size and number of inlets to fit the specific application, ensuring the optimal refrigerant distribution system for the product. The result is higher efficiency with the flexibility to use low-GWP refrigerants.

FlexFlow™

Superior thermal performance
Alfa Laval's patented asymmetrical plate design is one of the many unique innovations that gives improved thermal efficiency thanks to optimized pressure drop and increased turbulence. In addition to cutting energy consumption, that means reducing refrigerant volumes and raw materials.

AlfaNova®

100% stainless steel
Built with 100% stainless steel, AlfaNova® is a solution that Alfa Laval offers for applications that use media not compatible with traditional heat exchanger materials. Not only is this advanced design optimized for use with natural refrigerants, it's also completely recyclable.

REFuture

A future-proof investment for tomorrow's refrigerants
As an innovative drive to the development of solutions for natural refrigerants, Alfa Laval brings years of experience with products that enable the use of new-generation and low-GWP refrigerants to help meet sustainability goals and legislative requirements.

Innovation that boosts performance

Alfa Laval brazed plate heat exchangers (BHEs) feature the Equalancer system and Dualaced technology – patented innovations which ensure high heat transfer performance. There are numerous design options to choose from.

Alfa Laval R&D has developed innovative solutions for the refrigerant fluid distribution inside a BHE. These have been laboratory tested using HCFC and HFC refrigerants with excellent results.

Equalancer system “EQ”

The two phase flow coming into the evaporators is mixed by the patented Equalancer distribution system “EQ”, which stabilizes the flow and increases performance.

Using the Equalancer it is possible to obtain a double mixing of refrigerant into two successive volumes. This ensures a more balanced distribution system through all the plate channels, reducing fluctuations in the super-heating effect.

Pressed into the plate, the Equalancer system guarantees high quality and repeatability of plate design and performance.

The Equalancer system does not have an adverse effect on the BHE operating as condenser since the pressure drop is negligible.

Dualaced technology “DQ”

The real dual circuit patented by Alfa Laval is a solution with diagonal flow.

BHEs using Dualaced technology have two independent refrigerant circuits. The special design ensures that each refrigerant circuit is in contact with the entire water flow. The main advantage is that at partial load (only one compressor running) water cooling is uniform and performance is maximized.

Why choose Alfa Laval Brazed plate heat exchangers?

- Compact, durable designs with consistently high quality; ease of installation.
- Extensive range of BHE models providing cooling capacities from 0.5 to 600 kW.
- Equalancer system provides a substantial saving in heat transfer surface compared to BHEs with traditional distribution system.
- Cost efficient: space savings due to the compact design of BHEs compared to shell-and-tube heat exchangers.
- Rapid response to temperature changes due to small hold-up volume and lower refrigerant charge.
- Optimized design for every duty with customized BHE configuration to customer’s own specifications.
- All widely recognized pressure vessel codes available as standard.
- Every BHE is pressure and leak tested before delivery, ensuring top quality products.
- Alfa Laval offers first-class manufacturing facilities, global presence and high product availability.
- Alfa Laval’s continuous investments in R&D ensure the most competitive solutions.

Construction of a brazed plate heat exchanger

The first Alfa Laval brazed plate heat exchangers (BHEs) were developed in the seventies. Today they are well-established components in refrigeration systems due to their compactness, durable designs, ease of installation and cost efficient operation.

Material

The brazed plate heat exchanger (BHE) consists of thin corrugated stainless steel plates vacuum brazed together using copper as the brazing material.

Design

Brazing the stainless steel plates together eliminates the need for sealing gaskets and thick frame plates. As well as holding the plates together at their contact points, the brazing material seals the package. Alfa Laval’s BHEs are brazed at all contact points, ensuring optimal heat transfer efficiency and pressure resistance. The plates are designed to provide the longest possible lifetime.

Since virtually all surfaces of the brazed plate heat exchanger actively contribute to heat transfer, the BHE is very compact in size, and it has a low weight and a low hold-up volume.

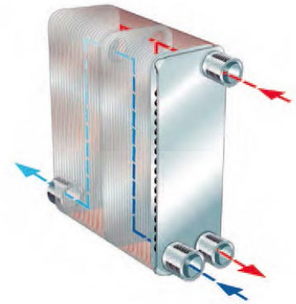
Alfa Laval offers a wide range of standard heat exchanger models and sizes, tailor-made for a wide scope including refrigeration applications. Standard configurations are available from stock and customer-specific designs are available on request.

Flow principle

The basic flow principle in a brazed plate heat exchanger for refrigeration applications is parallel or diagonal flow to achieve the most efficient heat transfer process.

In a single pass design, all connections are located on one side of the heat exchanger, making installation very easy.

Multipass design and different types of connections are available. Optionally, the location of connections can be chosen.



Evaporator, showing flow principle.

Flow principle in Evaporator design The channels formed between the corrugated plates and corners are arranged so that the two media flow through alternate channels, always in opposite directions (counter current flow).

The two phase refrigerant (vapour and liquid) enters the bottom left of the exchanger with a vapour quality depending on the operating condition of the plant. Evaporation of the liquid phase takes place inside the channels and some degrees of superheat are always requested, which is the reason why the process is called “dry expansion”.

In the illustration of an evaporator the dark and light blue arrows show the location of the refrigerant connections. The water (brine) to be cooled flows counter current in the opposite channel; the dark and light red arrows show the location of the water (brine) connections.

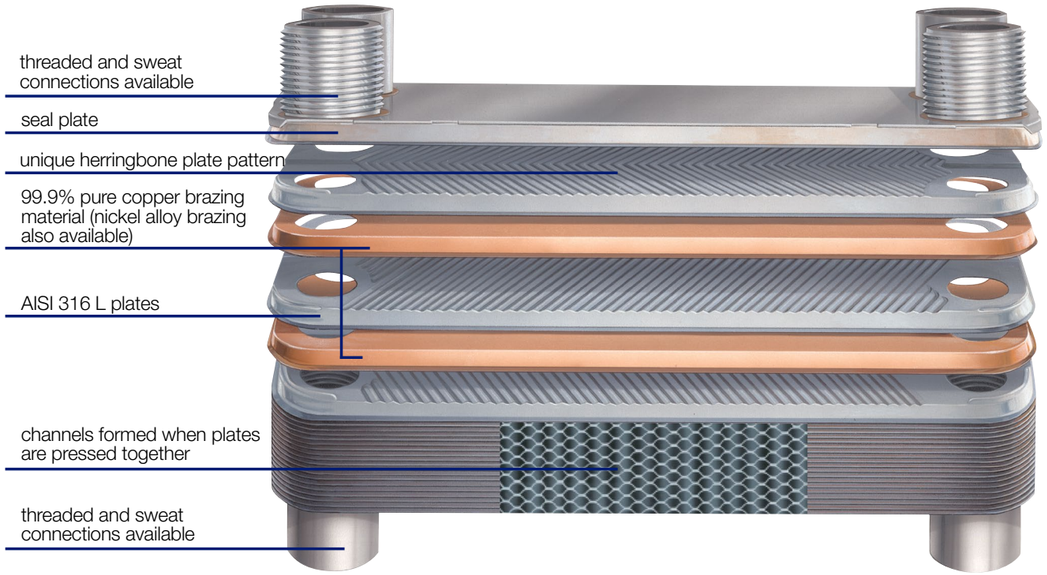
Flow principle in Condenser design

The main components are the same as for the evaporator. The refrigerant enters at top left of the exchanger as hot gas and starts to condense on the surface of the channels until fully condensed, and is then slightly subcooled. The process is called “free condensation”.

In the illustration of a condenser the light and dark blue arrows show the location of the brine connections.

The refrigerant flows counter current in the opposite channel and is cooled. The light and dark red arrows indicate the locations of the refrigerant connections.

The brazed heat exchanger – less is more



The brazed plate heat exchanger is the most compact heat exchanger on the market today. Its high heat transfer efficiency in combination with its compact design equals a compact heat exchanger for a wide range of heating, cooling, evaporating and condensing duties.

The brazed heat exchanger consists of thin corrugated stainless steel plates brazed together with copper to form a self-contained unit. Brazing the plates together eliminates the need for a frame, gaskets, bolts and the carrying bar. The result is a heat exchanger that costs less, weighs less, holds less refrigerant and takes up less space.

How to read Alfa Laval part numbers

Example: Part # CB30-44HX2 S52

Model Series	# of Plates	Channel Type	Special Features	# of Passes or Circuits	Connection Types	Connection Combinations
CB30	44	H	X	2	S	52

Brazing Material:
"AC" = Copper Brazed (AlfaChill™)
"CB" = Coper Brazed
"AN" = Alfa Nova

Model type indicated by the numbers 14, 27, 30, 50, 52, 70, 76, 80, 120, 130, 250, 350

A = Combination Extra High and High Theta
E = Extra High Theta
H = High Theta
L = Low Theta
M = Medium Theta (combination High and Low Theta

A = ASME "UM" certification (DB52 and CB76 models only)
B = Frame & Press Plate Stud Bolt Mounting with Integral Distributor
C = Fram & Press Plate Stud Bolt Mounting without Integral Distributor
Q = Equalancer™ Regrigerant Distribution System
S = Fram Plate Stud Bolt Mounting without Integral Distributor
T = Pressure Plate Stud Bolt Mounting without Integral Distributor
U = Without Integral Distributor and without Mounting Feet
X = Integral Distributor for Evaporative Duties
Y = Frame Plate Stud Bolt Mounting with Integral Distributor
Z = Pressure Plate Stud Bolt Mounting with Integral Distributor

# of Passes:
(Denoted by Letters)

D = Dual Pass
M = Multi-pass (3 or more)

# of Circuits:
(Denoted by Numbers)

2 = Two Refrigerant Circuits with plate packs equally split between circuits
3 = Two Regrigerant Circuits with plate packs uneuqally split between circuits

	Side S3, S4	Side S1, S2
C =	Sweat	MNPT
D =	MNPT	Sweat
S =	Sweat	Sweat
T =	MNPT	MNPT
V =	Sweat	Victaulic®

***Customer-specific connections available including flange, Roto Lock™, weld neck, FNPT.**

This number refers to a specific combination of connections.

Manufacturer cross reference

CAUTION:

Please note that Alfa Laval's product offering is not identical to other manufacturers portfolio, but in most cases can be used as a suitable drop in replacement. Dimensional size, capacity rating and connection sizes may differ. Check product specifications for suitability prior to installation. If you need assistance, please contact our factory and we will gladly assist you in making a product selection.

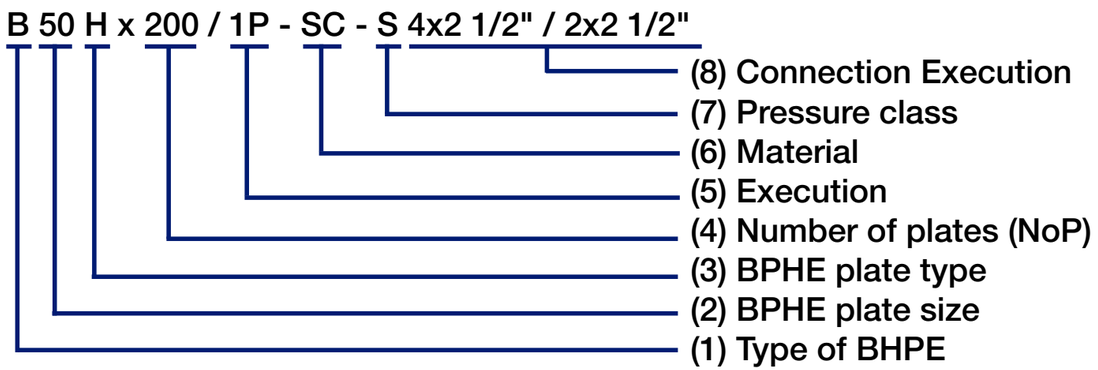
SWEP Model	Alfa Laval Model	Data Sheet page	Application
B5	ACH16	PDS-1	Condenser
B8T	ACH18	PDS-3	
BX8T	ACH18	PDS-3	
B12	CBH30	PDS-29	
B28	CBH60	PDS-31	
B57	ACH500EQ	PDS-13	
DB200	ACH232DQ	PDS-9	Evap Dual Circuit
D300	ACH232DQ	PDS-9	
DB400	ACH502DQ	PDS-9	
B10T	ACH30	PDS-7	Evap Single Circuit
B25T	ACH70X	PDS-7	
B80	ACH70X	PDS-7	
B400T	ACH500EQ	PDS-13	
B427	ACH500EQ	PDS-13	

Note: To use cross reference table, match the SWEP model to the corresponding Alfa Laval model shown to to the right of table. Plate counts are to be matched like for like. If the plate count can't be matched like for like, go to the next largest plate count size.

Example: B5 crosses to an Alfa Laval ACH16. If the plate count of the unit being replaced was 10, the appropriate Alfa Laval model would be ACH16-10H-F. If the plate count was 12, the appropriate Alfa Laval model would be ACH16-14-F. Refer to the corresponding application data tables (Evaporator & Condenser) to locate specific model number with the the closest plate count to that of the unit being replaced.

SWEP Denomination

A BPHE should, in principle, always be denominated as shown in figure 1.
The different groups (1) to (8) are explained below.



Manufacturer cross reference

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Example: To cross to an Alfa Laval model, use the table to match the appropriate manufacturers model (column furthest to the left of table), to the Alfa Laval Model (center column). For instance, a CH1/2AG crosses to an Alfa Laval ACH18-10H-F

FlatPlate Model	Alfa Laval Model	Data Sheet page	Application
C1/2AG	ACH16-14H-F	PDS-1	Condenser Single Circuit
C3/4AG	ACH18-10H-F	PDS-3	
C1AG	CBH30-12H	PDS-29	
C1-1/2AG	CBH30-18H	PDS-29	
C2AG	CBH30-24H	PDS-29	
C2-1/2AG	CBH30-24H	PDS-29	
C3AG	CBH30-24H	PDS-29	
C3-1/2AG	CBH30-34H	PDS-29	
C4AG	CBH30-34H	PDS-29	
C5AG	CBH30-44H	PDS-29	
C6G	CBH30-54H	PDS-29	
C7-1/2AG	CBH30-64H	PDS-29	
C10G	CBH60-48H-F	PDS-31	
C12G	CBH60-62H-F	PDS-31	
C15G	CBH110-34H	PDS-33	
C20G	CBH110-44H	PDS-33	
C25G	CBH110-56H	PDS-33	
C30G	CBH110-66H	PDS-33	
C35G	CBH110-66H	PDS-33	
C40G	CBH110-84H	PDS-33	
C50G	CBH110-104H	PDS-33	
C60G	ACH-500EQ-80H-F	PDS-13	
C70G	ACH-500EQ-80H-F	PDS-13	
C80G	ACH-500EQ-100H-F	PDS-13	
C40-2C	ACH240DQ-42AH-F	PDS-11	Condenser Dual Circuit
C50-2C	ACH240DQ-70AH-F	PDS-11	
C60-2C	ACH240DQ-90AH-F	PDS-11	
C70-2C	ACH240DQ-110AH-F	PDS-11	
C80-2C	ACH240DQ-110AH-F	PDS-11	

FlatPlate Model	Alfa Laval Model	Data Sheet page	Application
CH1/2AG	ACH18-10H-F	PDS-3	Evap Single Circuit
CH3/4AG	ACH-30EQ-10H-F	PDS-5	
CH1AG	ACH-30EQ-10H-F	PDS-5	
CH1-1/2AG	ACH-30EQ-20H-F	PDS-5	
CH2AG	ACH-30EQ-20H-F	PDS-5	
CH2-1/2AG	ACH-30EQ-30H-F	PDS-5	
CH3AG	ACH-30EQ-30H-F	PDS-5	
CH3-1/2AG	ACH-30EQ-30H-F	PDS-5	
CH4AG	ACH-30EQ-40H-F	PDS-5	
CH5AG	ACH-30EQ-40H-F	PDS-5	
CH6G	ACH-30EQ-50H-F	PDS-5	
CH7-1/2AG	ACH-30EQ-60H-F	PDS-5	
CH10G	ACH-30EQ-100H-F	PDS-5	
CH12G	ACH-70X-42M-F	PDS-7	
CH15G	ACH-70X-62M-F	PDS-7	
CH20G	ACH-70X-90M-F	PDS-7	
CH25G	ACH220EQ-44AM-F	PDS-15	
CH30G	ACH220EQ-56AM-F	PDS-15	
CH35G	ACH220EQ-70AM-F	PDS-15	
CH40G	ACH220EQ-86AM-F	PDS-15	
CH50G	ACH220EQ-86AM-F	PDS-15	
CH60G	ACH220EQ-116AM-F	PDS-15	
CH70G	ACH-500EQ-100H-F	PDS-13	
CH80G	ACH-500EQ-130H-F	PDS-13	
CH8-2C	ACH232DQ-30H-F	PDS-9	Evap Dual Circuit
CH10-2C	ACH232DQ-30H-F	PDS-9	
CH12-2C	ACH232DQ-30H-F	PDS-9	
CH15-2C	ACH232DQ-50H-F	PDS-9	
CH20-2C	ACH232DQ-50H-F	PDS-9	
CH25-2C	ACH232DQ-50H-F	PDS-9	
CH30-2C	ACH232DQ-70H-F	PDS-9	
CH35-2C	ACH232DQ-70H-F	PDS-9	
CH40-2C	ACH232DQ-70H-F	PDS-9	
CH50-2C	ACH232DQ-90H-F	PDS-9	
CH60-2C	ACH232DQ-110H-F	PDS-9	
CH70-2C	ACH232DQ-138H-F	PDS-9	
CH80-2C	ACH232DQ-170H-F	PDS-9	

Basic refrigeration cycle

The function of the refrigeration plant is to remove heat from a process fluid or air at a low temperature and transfer to a recipient fluid such as water or air.

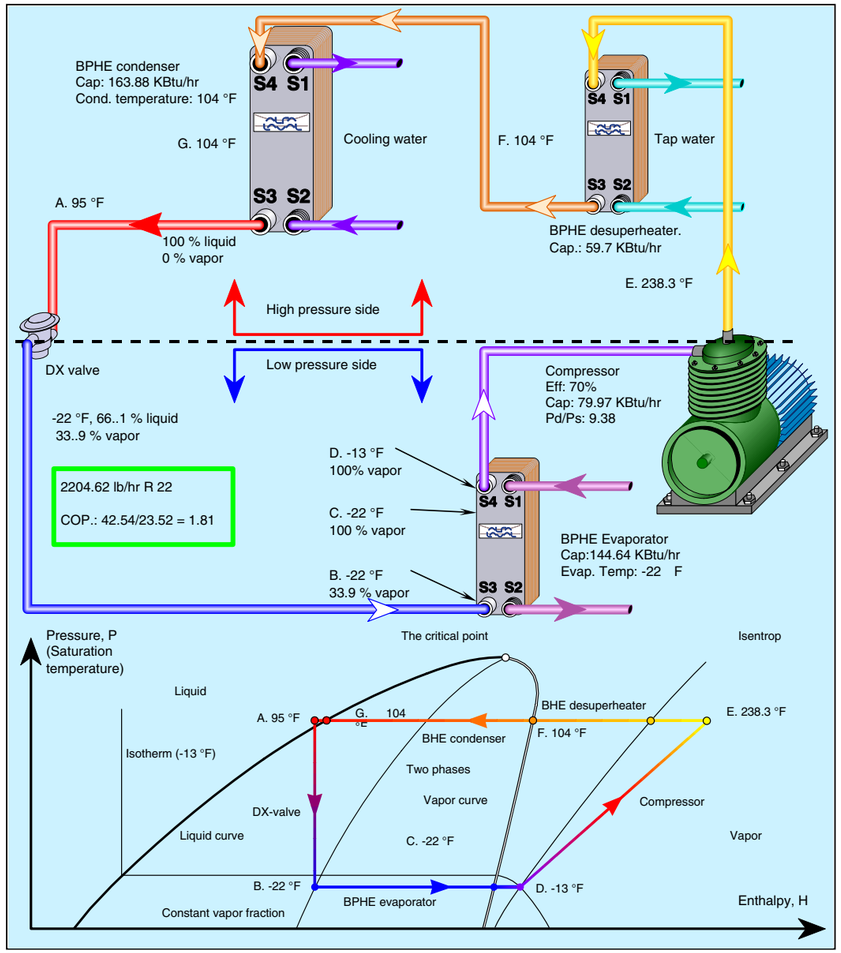
The figure shows a schematic cooling plant, composed of an evaporator, a compressor, a condenser, an expansion device and connecting pipes. These are the minimum components necessary in the basic compression refrigeration cycle.

The pressure is shown as a function of the enthalpies of liquid and vapor. To the left of the liquid line is liquid and to the right of the vapor line, vapor. Between the two lines is a two-phase area. The lines meet at the critical point.

Other properties can then be plotted as parameters, e.g. isotherms, lines of constant temperature. In the figure, the -13 °F isotherm is shown. It is almost vertical in the liquid area, mirroring the fact that the liquid specific heat is little pressure dependent. In the vapor area it is curved and inclined, i.e. the vapor specific heat is strongly pressure (and temperature) dependent.

The figure also shows an isentrop, a line expressing a change of state, but where no heat energy is exchanged between the fluid and the surroundings. An ideal compression would follow this line (D - E'), but because of the inevitably released friction energy, a real compression is (D - E), i.e. to a higher final temperature.

DX Evaporators/Chillers



DX Evaporators/Chillers - single circuit

Agency Code Approval: UL, CRN
Product Specification: Refer to Product Data Sheet section for details
Construction: Stainless Steel Plates & Connections
Installation & Maintenance: Refer to Installation section, page 37, for details
Selection Notes: Units sized based on the following conditions of service

- Nominal tons: 12,000 BTUH/ton
- 54°F Entering Water Temperature (EWT)
- 44°F Leaving Water Temperature (LWT)
- 35°F Evaporating Temperature
- 8°F Superheat
- 24 GPM/ton

Nominal Tons (R410A)	Nominal Tons (R22)	Denomination	Part Number	Ref Inlet/Outlet (S3,S4)		Fluid Inlet/Outlet (S1,S2)	Plate Width (in.)	Plate Height (in.)	Plate Pack Depth (in.)	Stud Bolt / Mtg Feet	Data Sheet page
0.75	0.5	ACH18-10H-F	3287130117	3/8" Sweat	5/8" Sweat	5/8" Sweat	2.89	12.4	0.85	Stud bolts	PDS-3
1	1	ACH-30EQ-10H-F	3287084893	3/8" Sweat	7/8" Sweat	7/8" Sweat	3.7	12.8	0.95	Stud bolts	PDS-5
2	2	ACH-30EQ-20H-F	3287084894	3/8" Sweat	7/8" Sweat	7/8" Sweat	3.7	12.8	1.55	Stud bolts	PDS-5
4	3.5	ACH-30EQ-30H-F	3287084895	1/2" Sweat	7/8" Sweat	7/8" Sweat	3.7	12.8	2.1	Stud bolts	PDS-5
5	5	ACH-30EQ-40H-F	3287084896	1/2" Sweat	7/8" Sweat	7/8" Sweat	3.7	12.8	2.7	Stud bolts	PDS-5
6	6	ACH-30EQ-50H-F	3287084897	5/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	3.7	12.8	3.3	Stud bolts	PDS-5
7.5	7	ACH-30EQ-60H-F	3287084898	5/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	3.7	12.8	3.9	Stud bolts	PDS-5
8	7.5	ACH-30EQ-70H-F	3075028542	5/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	3.7	12.8	4.54	Stud bolts	PDS-5
9	8	ACH-30EQ-80H-F	3075028543	5/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	3.7	12.8	5.14	Stud bolts	PDS-5
10	9	ACH-30EQ-100H-F	3075028544	5/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	3.7	12.8	6.34	Stud bolts	PDS-5
3.5	3	ACH-70X-14M-F	3287126488	5/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	1.7	Stud bolts	PDS-7
5	4	ACH-70X-18M-F	3287126487	5/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	2.1	Stud bolts	PDS-7
6	5	ACH-70X-22M-F	3287083717	5/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	2.4	Stud bolts	PDS-7
7	6	ACH-70X-26M-F	3287083718	5/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	2.8	Stud bolts	PDS-7
8	7	ACH-70X-32M-F	3287083719	5/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	3.3	Stud bolts	PDS-7
10	9	ACH-70X-42M-F	3287083720	5/8" Sweat	1-3/8" Sweat	1-1/8" Sweat	4.4	20.7	4.2	Stud bolts	PDS-7
10	9	ACH-70X-42M-F	3287141325	5/8" Sweat	1-5/8" Sweat	1-5/8" Sweat	4.4	20.7	4.2	Stud bolts	PDS-7
12	10	ACH-70X-50M-F	3287083721	5/8" Sweat	1-3/8" Sweat	1-1/8" Sweat	4.4	20.7	5	Stud bolts	PDS-7
15	12.5	ACH-70X-62M-F	3287083723	5/8" Sweat	1-3/8" Sweat	1-3/8" Sweat	4.4	20.7	6.1	Stud bolts	PDS-7
15	12.5	ACH-70X-62M-F	3287141326	5/8" Sweat	1-5/8" Sweat	1-5/8" Sweat	4.4	20.7	6.1	Stud bolts	PDS-7
18	15	ACH-70X-78M-F	3287083725	7/8" Sweat	1-3/8" Sweat	1-3/8" Sweat	4.4	20.7	7.5	Stud bolts	PDS-7
22	16.5	ACH-70X-90M-F	3287083726	7/8" Sweat	1-3/8" Sweat	1-3/8" Sweat	4.4	20.7	8.6	Stud bolts	PDS-7
25	18	ACH-70X-100M-F	3287083727	7/8" Sweat	1-3/8" Sweat	1-3/8" Sweat	4.4	20.7	10.4	Stud bolts	PDS-7
25	18	ACH-70X-100M-F	3287141327	7/8" Sweat	1-5/8" Sweat	1-5/8" Sweat	4.4	20.7	10.4	Stud bolts	PDS-7
16	10.5	ACH220EQ-30AM-F	3287155302	1-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	3.06	Stud bolts	PDS-15
25	17	ACH220EQ-44AM-F	3287155306	1-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	4.2	Stud bolts	PDS-15
30	20	ACH220EQ-56AM-F	3287156485	1-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	5.17	Stud bolts	PDS-15
40	25	ACH220EQ-70AM-F	3287155309	1-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	6.31	Stud bolts	PDS-15
50	30	ACH220EQ-86AM-F	3287155310	1-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	7.61	Stud bolts	PDS-15
55	35	ACH220EQ-100AM-F	3287155311	1-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	8.74	Stud bolts	PDS-15
65	42	ACH220EQ-116AM-F	3287155312	1-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	10	Stud bolts	PDS-15
75	50	ACH220EQ-140AM-F	3287155313	1-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	11.98	Stud bolts	PDS-15
80	55	ACH220EQ-168AM-F	3287155314	1-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	14.25	Stud bolts	PDS-15
50	50	ACH-500EQ-70H-F	3287084411	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.7	29.1	7.7	Feet	PDS-13
60	60	ACH-500EQ-80H-F	3287084412	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.7	29.1	8.7	Feet	PDS-13
75	75	ACH-500EQ-100H-F	3287084414	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.7	29.1	10.8	Feet	PDS-13
100	80	ACH-500EQ-130H-F	3287084415	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.7	29.1	13.8	Feet	PDS-13

***** If your conditions vary significantly from these listed above, please consult factory for product sizing and selection. *****

DX Evaporators/Chillers - dual circuit

Agency Code Approval: UL, CRN

Product Specification: Refer to Product Data Sheet section for details

Construction: Stainless Steel Plates & Connections

Installation & Maintenance: Refer to Installation section, page 37, for details

Selection Notes:
Units sized based on the following conditions of service except for model ***ACH24D0DQ-"X-"AH-F*** which was rated at 39°F Evaporating Temperature

- Nominal tons: 12,000 BTUH/ton
- 54°F Entering Water Temperature (EWT)
- 44°F Leaving Water Temperature (LWT)
- 35°F Evaporating Temperature
- 8°F Superheat
- 24 GPM/ton

Nominal Tons (R410A)	Nominal Tons (R22)	Denomination	Part Number	Ref Inlet/Outlet (S3,S4)		Fluid Inlet/Outlet (S1,S2)	Plate Width (in.)	Plate Height (in.)	Plate Pack Depth (in.)	Stud Bolt / Mtg Feet	Data Sheet page
15	8	ACH232DQ-30H-F	3075019821	7/8" Sweat	1-1/8" Sweat	2" Victualic Clamp	9.8	19.3	3.04	Stud bolts	PDS-9
25	15	ACH232DQ-50H-F	3075019823	7/8" Sweat	1-3/8" Sweat	2" Victualic Clamp	9.8	19.3	4.72	Stud bolts	PDS-9
40	25	ACH232DQ-70H-F	3075019824	7/8" Sweat	1-3/8" Sweat	2" Victualic Clamp	9.8	19.3	6.4	Stud bolts	PDS-9
50	33	ACH232DQ-90H-F	3075019820	7/8" Sweat	1-5/8" Sweat	2-½" Victualic Clamp	9.8	19.3	8	Stud bolts	PDS-9
60	40	ACH232DQ-110H-F	3075019825	1-1/8" Sweat	1-5/8" Sweat	2-½" Victualic Clamp	9.8	19.3	9.77	Stud bolts	PDS-9
70	55	ACH232DQ-138H-F	3075019826	1-1/8" Sweat	2-1/8" Sweat	2-½" Victualic Clamp	9.8	19.3	12.1	Stud bolts	PDS-9
80	68	ACH232DQ-170H-F	3075019827	1-1/8" Sweat	2-1/8" Sweat	2-½" Victualic Clamp	9.8	19.3	14.8	Stud bolts	PDS-9
85	80	ACH232DQ-202H-F	3075019828	1-1/8" Sweat	2-1/8" Sweat	2-½" Victualic Clamp	9.8	19.3	17.5	Stud bolts	PDS-9
15	N/A	***ACH-240DQ-42AH-F***	3075004364	5/8" Sweat	1-3/8" Sweat	2" Victualic Clamp	11.3	20.7	4	Stud bolts	PDS-11
20	N/A	***ACH-240DQ-50AH-F***	3075004365	5/8" Sweat	1-3/8" Sweat	2" Victualic Clamp	11.3	20.7	4.68	Stud bolts	PDS-11
30	N/A	***ACH-240DQ-70AH-F***	3075004366	5/8" Sweat	1-3/8" Sweat	2" Victualic Clamp	11.3	20.7	6.36	Stud bolts	PDS-11
38	N/A	***ACH-240DQ-90AH-F***	3075004368	5/8" Sweat	1-5/8" Sweat	2-½" Victualic Clamp	11.3	20.7	8	Stud bolts	PDS-11
45	N/A	***ACH-240DQ-110AH-F***	3075004369	5/8" Sweat	1-5/8" Sweat	2-½" Victualic Clamp	11.3	20.7	9.72	Stud bolts	PDS-11
55	N/A	***ACH-240DQ-138AH-F***	3075004370	5/8" Sweat	2-1/8" Sweat	2-½" Victualic Clamp	11.3	20.7	12	Stud bolts	PDS-11
70	N/A	***ACH-240DQ-170AH-F***	3075004371	5/8" Sweat	2-1/8" Sweat	2-½" Victualic Clamp	11.3	20.7	14.75	Stud bolts	PDS-11
85	N/A	***ACH-240DQ-202AH-F***	3075004372	5/8" Sweat	2-1/8" Sweat	2-½" Victualic Clamp	11.3	20.7	17.4	Stud bolts	PDS-11
115	65	ACH502DQ-102AH-F	3075015516	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	10.59	Feet	PDS-17
140	80	ACH502DQ-126AH-F	3075015517	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	12.97	Feet	PDS-17
165	100	ACH502DQ-150AH-F	3075015518	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	15.35	Feet	PDS-17
185	115	ACH502DQ-170AH-F	3075015519	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	17.3	Feet	PDS-17
200	130	ACH502DQ-190AH-F	3075015522	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	19.3	Feet	PDS-17
210	145	ACH502DQ-222AH-F	3075015521	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	22.5	Feet	PDS-17
140	80	ACH502DQ-126AH-F	3075015517	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	12.97	Feet	PDS-17
165	100	ACH502DQ-150AH-F	3075015518	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	15.35	Feet	PDS-17
185	115	ACH502DQ-170AH-F	3075015519	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	17.3	Feet	PDS-17
200	130	ACH502DQ-190AH-F	3075015522	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	19.3	Feet	PDS-17
210	145	ACH502DQ-222AH-F	3075015521	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	22.5	Feet	PDS-17

***** If your conditions vary significantly from these listed above, please consult factory for product sizing and selection. *****

Basic refrigeration cycle

The function of the refrigeration plant is to remove heat from a process fluid or air at a low temperature and transfer to a recipient fluid such as water or air.

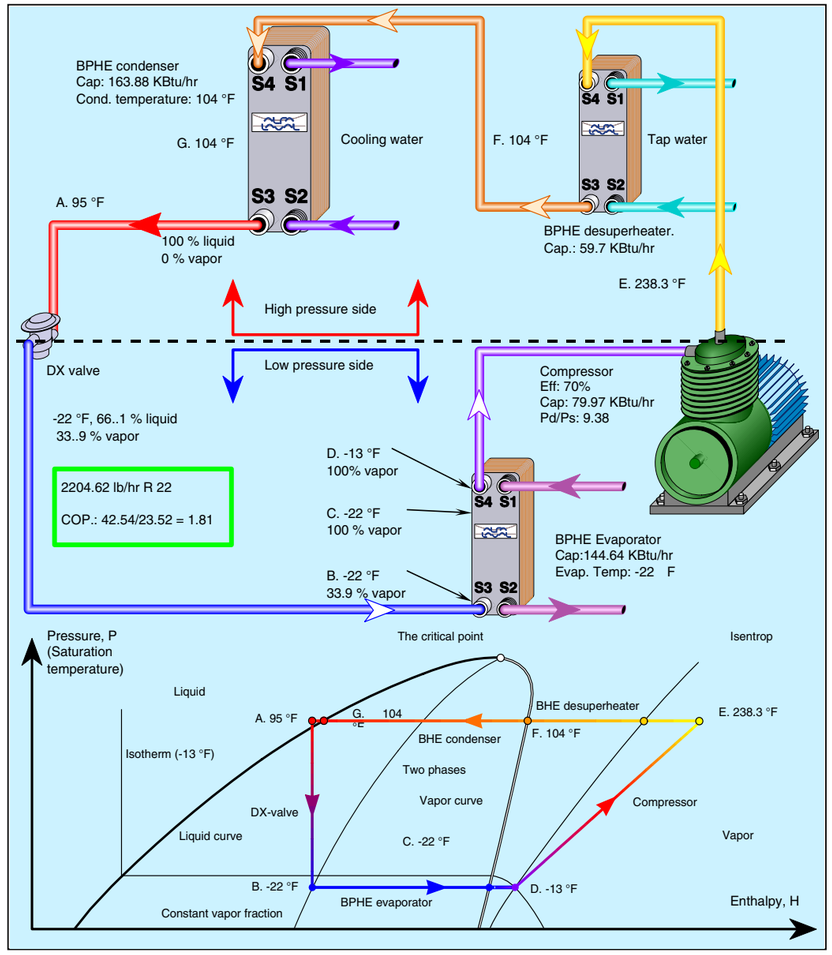
The figure shows a schematic cooling plant, composed of an evaporator, a compressor, a condenser, an expansion device and connecting pipes. These are the minimum components necessary in the basic compression refrigeration cycle.

The pressure is shown as a function of the enthalpies of liquid and vapor. To the left of the liquid line is liquid and to the right of the vapor line, vapor. Between the two lines is a two-phase area. The lines meet at the critical point.

Other properties can then be plotted as parameters, e.g. isotherms, lines of constant temperature. In the figure, the -13 °F isotherm is shown. It is almost vertical in the liquid area, mirroring the fact that the liquid specific heat is little pressure dependent. In the vapor area it is curved and inclined, i.e. the vapor specific heat is strongly pressure (and temperature) dependent.

The figure also shows an isentrop, a line expressing a change of state, but where no heat energy is exchanged between the fluid and the surroundings. An ideal compression would follow this line (D - E'), but because of the inevitably released friction energy, a real compression is (D - E), i.e. to a higher final temperature.

Water-cooled condensers



Water-cooled condensers - single circuit

Agency Code Approval: UL, CRN
Product Specification: Refer to Product Data Sheet section for details
Construction: Stainless Steel Plates & Connections
Installation and Maintenance: Refer to Installation section, page 37, for details

Selection Notes:
Units sized based on the following conditions of service

- Nominal tons: 15,000 BTUH/ton
- 85°F Entering Water Temperature (EWT) If EWT is 75°F, multiply the capacity of the selected unit
- 95°F Leaving Water Temperature (LWT)
- 105°F Evaporating Temperature
- 5°F Superheat
- 3 gpm/ton

Nominal Tons (R410A)	Nominal Tons (R22)	Denomination	Part Number	Ref Inlet/Outlet (S3,S4)		Fluid Inlet/Outlet (S1,S2)	Plate Width (in.)	Plate Height (in.)	Plate Pack Depth (in.)	Stud Bolt / Mtg Feet	Data Sheet page
0.25	0.25	ACH16-10H-F	3287133204	5/8" Sweat	5/8" Sweat	5/8" Sweat	2.89	8.25	0.85	Stud bolts	PDS-1
0.4	0.4	ACH16-14H-F	3287133205	5/8" Sweat	5/8" Sweat	5/8" Sweat	2.89	8.25	1.19	Stud bolts	PDS-1
1	0.5	ACH18-10H-F	3287130117	3/8" Sweat	5/8" Sweat	5/8" Sweat	2.89	12.4	0.85	Stud bolts	PDS-3
1	0.75	CBH30-12H	3075018618	5/8" Sweat	5/8" Sweat	5/8" Sweat	4.4	12.3	1.6	Stud bolts	PDS-29
1.5	1.5	CBH30-18H	3075018619	7/8" Sweat	7/8" Sweat	7/8" Sweat	4.4	12.3	2.14	Stud bolts	PDS-29
3	2.5	CBH30-24H	3075018620	7/8" Sweat	7/8" Sweat	7/8" Sweat	4.4	12.3	2.69	Stud bolts	PDS-29
4.5	4	CBH30-34H	3287144642	1-1/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	12.3	3.6	Stud bolts	PDS-29
5	5	CBH30-44H	3287144643	1-1/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	12.3	4.51	Stud bolts	PDS-29
7	6	CBH30-54H	3287144644	1-1/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	12.3	5.42	Stud bolts	PDS-29
8	6.5	CBH30-64H	3287144645	1-1/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	12.3	6.33	Stud bolts	PDS-29
4	4	CBH60-16H-F	3287103910	1-1/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	1.97	Stud bolts	PDS-31
6	6	CBH60-24H-F	3287103911	1-1/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	2.7	Stud bolts	PDS-31
7	7	CBH60-30H-F	3287103912	1-1/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	3.25	Stud bolts	PDS-31
9	9	CBH60-40H-F	3287103913	1-1/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	4.17	Stud bolts	PDS-31
11	11	CBH60-48H-F	3287103914	1-1/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	4.9	Stud bolts	PDS-31
13	13	CBH60-62H-F	3287103915	1-1/8" Sweat	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	6.17	Stud bolts	PDS-31
13	10	CBH110-24H	3287133774	2-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	3	Stud bolts	PDS-33
18	15	CBH110-34H	3287133775	2-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	4.02	Stud bolts	PDS-33
24	20	CBH110-44H	3287133776	2-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	5.02	Stud bolts	PDS-33
31	25	CBH110-56H	3287133777	2-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	6.24	Stud bolts	PDS-33
36	30	CBH110-66H	3287133778	2-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	7.24	Stud bolts	PDS-33
45	42	CBH110-84H	3287133779	2-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	9.06	Stud bolts	PDS-33
54	54	CBH110-104H	3287133780	2-1/8" Sweat	2-1/8" Sweat	2-1/8" Sweat	7.5	24.3	11.1	Stud bolts	PDS-33
65	50	ACH-500EQ-70H-F	3287084411	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.7	29.1	7.7	Feet	PDS-13
70	60	ACH-500EQ-80H-F	3287084412	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.7	29.1	8.7	Feet	PDS-13
90	75	ACH-500EQ-100H-F	3287084414	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.7	29.1	10.8	Feet	PDS-13
110	100	ACH-500EQ-130H-F	3287084415	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.7	29.1	13.8	Feet	PDS-13

***** If your conditions vary significantly from these listed above, please consult factory for product sizing and selection. *****

Water-cooled condensers - dual circuit

Agency Code Approval: UL, CRN
Product Specification: Refer to Product Data Sheet section for details
Construction: Stainless Steel Plates & Connections
Installation and Maintenance: Refer to Installation section, page 37, for details

Selection Notes:
Units sized based on the following conditions of service

- Nominal tons: 15,000 BTUH/ton
- 85°F Entering Water Temperature (EWT) If EWT is 75°F, multiply the capacity of the selected unit
- 95°F Leaving Water Temperature (LWT)
- 105°F Evaporating Temperature
- 5°F Superheat
- 3 gpm/ton

Nominal Tons (R410A)	Nominal Tons (R22)	Denomination	Part Number	Ref Inlet/Outlet (S3,S4)		Fluid Inlet/Outlet (S1,S2)	Plate Width (in.)	Plate Height (in.)	Plate Pack Depth (in.)	Stud Bolt / Mtg Feet	Data Sheet page
40	N/A	ACH240DQ-42AH-F	3075004364	5/8" Sweat	1-3/8" Sweat	2" Victualic Clamp	11.3	20.7	4	Stud bolts	PDS-11
45	N/A	ACH240DQ-50AH-F	3075004365	5/8" Sweat	1-3/8" Sweat	2" Victualic Clamp	11.3	20.7	4.68	Stud bolts	PDS-11
50	N/A	ACH240DQ-70AH-F	3075004366	5/8" Sweat	1-3/8" Sweat	2" Victualic Clamp	11.3	20.7	6.36	Stud bolts	PDS-11
65	N/A	ACH240DQ-90AH-F	3075004368	5/8" Sweat	1-5/8" Sweat	2-½" Victualic Clamp	11.3	20.7	8	Stud bolts	PDS-11
85	N/A	ACH240DQ-110AH-F	3075004369	5/8" Sweat	1-5/8" Sweat	2-½" Victualic Clamp	11.3	20.7	9.72	Stud bolts	PDS-11
90	N/A	ACH240DQ-138AH-F	3075004370	5/8" Sweat	2-1/8" Sweat	2-½" Victualic Clamp	11.3	20.7	12	Stud bolts	PDS-11
120	120	ACH502DQ-126AH-F	3075015517	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	12.97	Feet	PDS-17
140	140	ACH502DQ-150AH-F	3075015518	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	15.35	Feet	PDS-17
150	150	ACH502DQ-170AH-F	3075015519	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	17.3	Feet	PDS-17
160	160	ACH502DQ-190AH-F	3075015522	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	19.3	Feet	PDS-17
170	170	ACH502DQ-222AH-F	3075015521	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	22.5	Feet	PDS-17
160	160	ACH502DQ-190AH-F	3075015522	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	19.3	Feet	PDS-17
170	170	ACH502DQ-222AH-F	3075015521	1-3/8" Sweat	2-5/8" Sweat	3" Victualic Clamp	12.68	29.09	22.5	Feet	PDS-17

***** If your conditions vary significantly from these listed above, please consult factory for product sizing and selection. *****

100% Stainless Steel AlfaNova

Agency Code Approval: Varies by model, consult factory or refer to product leaflet
Product Specification: Refer to Product Data Sheet section for details
Construction: Stainless Steel Plates & Connections
Installation and Maintenance: Refer to Installation section, page 37, for details

Denomination	Part Number	Inlet/Outlet (S1,S2)	Inlet/Outlet (S3,S4)	Plate Width (in.)	Plate Height (in.)	Plate Pack Depth (in.)	Stud Bolt / Mtg Feet	Data Sheet page
AlfaNova 14-10H	3287050860	3/4" Male NPT	3/4" Male NPT	3	8.2	1.29	no	PDS-21
AlfaNova 14-20H	3287050861	3/4" Male NPT	3/4" Male NPT	3	8.2	2.27	no	PDS-21
AlfaNova 14-30H	3287050862	3/4" Male NPT	3/4" Male NPT	3	8.2	3.24	no	PDS-21
AlfaNova 14-40H	3287050863	3/4" Male NPT	3/4" Male NPT	3	8.2	4.22	no	PDS-21
AlfaNova 27-20H	3287000874	1" Male NPT	1" Male NPT	4.4	12.2	2.34	no	PDS-19
AlfaNova 27-30H	3287000875	1" Male NPT	1" Male NPT	4.4	12.2	3.29	no	PDS-19
AlfaNova 27-40H	3287000876	1" Male NPT	1" Male NPT	4.4	12.2	4.24	no	PDS-19
AlfaNova 27-50H	3287000877	1" Male NPT	1" Male NPT	4.4	12.2	5.2	no	PDS-19
AlfaNova 27-70H	3287000878	1" Male NPT	1" Male NPT	4.4	12.2	7.1	no	PDS-19
AlfaNova 27-100H	3287000879	1" Male NPT	1" Male NPT	4.4	12.2	9.96	no	PDS-19
AlfaNova 27-20H	3287000880	1-1/8" Sweat	1-1/8" Sweat	4.4	12.2	2.34	no	PDS-19
AlfaNova 27-30H	3287000882	1-1/8" Sweat	1-1/8" Sweat	4.4	12.2	3.29	no	PDS-19
AlfaNova 27-40H	3287000884	1-1/8" Sweat	1-1/8" Sweat	4.4	12.2	4.24	no	PDS-19
AlfaNova 27-50H	3287000885	1-1/8" Sweat	1-1/8" Sweat	4.4	12.2	5.2	no	PDS-19
AlfaNova 27-60H	3287000998	1-1/8" Sweat	1-1/8" Sweat	4.4	12.2	6.15	no	PDS-19
AlfaNova 27-70H	3287000999	1-1/8" Sweat	1-1/8" Sweat	4.4	12.2	7.1	no	PDS-19
AlfaNova 27-80H	3287001000	1-1/8" Sweat	1-1/8" Sweat	4.4	12.2	8.06	no	PDS-19
AlfaNova 52-20H	3287000896	1" Male NPT	1" Male NPT	4.4	20.7	2.39	no	PDS-23
AlfaNova 52-30H	3287000897	1" Male NPT	1" Male NPT	4.4	20.7	3.36	no	PDS-23
AlfaNova 52-40H	3287000898	1" Male NPT	1" Male NPT	4.4	20.7	4.34	no	PDS-23
AlfaNova 52-50H	3287000899	1" Male NPT	1" Male NPT	4.4	20.7	5.31	no	PDS-23
AlfaNova 52-70H	3287000900	1" Male NPT	1" Male NPT	4.4	20.7	7.27	no	PDS-23
AlfaNova 52-100H	3287000901	1" Male NPT	1" Male NPT	4.4	20.7	10.2	no	PDS-23
AlfaNova 52-20H	3287000902	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	2.39	no	PDS-23
AlfaNova 52-30H	3287000904	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	3.36	no	PDS-23
AlfaNova 52-40H	3287000906	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	4.34	no	PDS-23
AlfaNova 52-50H	3287000907	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	5.31	no	PDS-23
AlfaNova 52-60H	3287001003	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	6.29	no	PDS-23

***** Please consult factory for product sizing and selection. *****

Continued

100% Stainless Steel AlfaNova Continued

Denomination	Part Number	Inlet/Outlet (S1,S2)	Inlet/Outlet (S3,S4)	Plate Width (in.)	Plate Height (in.)	Plate Pack Depth (in.)	Stud Bolt / Mtg Feet	Data Sheet page
AlfaNova 52-70H	3287001004	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	7.27	no	PDS-23
AlfaNova 52-80H	3287001005	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	8.24	no	PDS-23
AlfaNova 52-90H	3287001006	1-1/8" Sweat	1-1/8" Sweat	4.4	20.7	9.22	no	PDS-23
AlfaNova 76-20H	3287000886	2" Male NPT	2" Male NPT	7.5	24.3	2.68	**Mtg Studs for feet	PDS-25
AlfaNova 76-30H	3287000887	2" Male NPT	2" Male NPT	7.5	24.3	3.8	**Mtg Studs for feet	PDS-25
AlfaNova 76-40H	3287000888	2" Male NPT	2" Male NPT	7.5	24.3	4.92	**Mtg Studs for feet	PDS-25
AlfaNova 76-50H	3287000889	2" Male NPT	2" Male NPT	7.5	24.3	6.04	**Mtg Studs for feet	PDS-25
AlfaNova 76-60H	3287000890	2" Male NPT	2" Male NPT	7.5	24.3	7.17	**Mtg Studs for feet	PDS-25
AlfaNova 76-70H	3287000891	2" Male NPT	2" Male NPT	7.5	24.3	8.29	**Mtg Studs for feet	PDS-25
AlfaNova 76-80H	3287000892	2" Male NPT	2" Male NPT	7.5	24.3	9.41	**Mtg Studs for feet	PDS-25
AlfaNova 76-90H	3287000893	2" Male NPT	2" Male NPT	7.5	24.3	10.5	**Mtg Studs for feet	PDS-25
AlfaNova 76-100H	3287000894	2" Male NPT	2" Male NPT	7.5	24.3	11.7	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-30H	3287000916	2" Welded	2" Welded	7.5	24.3	3.96	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-40H	3287000917	2" Welded	2" Welded	7.5	24.3	5.08	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-50H	3287000918	2" Welded	2" Welded	7.5	24.3	6.2	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-60H	3287000919	2" Welded	2" Welded	7.5	24.3	7.32	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-80H	3287000921	2" Welded	2" Welded	7.5	24.3	9.57	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-90H	3287000922	2" Welded	2" Welded	7.5	24.3	10.7	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-100H	3287000923	2" Welded	2" Welded	7.5	24.3	11.8	**Mtg Studs for feet	PDS-25
AlfaNova 76L-40L	3287082938	2" Welded	2" Welded	7.5	24.3	5	**Mtg Studs for feet	PDS-25
AlfaNova 76L-60L	3287082939	2" Welded	2" Welded	7.5	24.3	7.24	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-20H	3287132651	2" Welded	2" Welded	7.5	24.3	2.83	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-40H	3287132652	2" Welded	2" Welded	7.5	24.3	5.07	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-60H	3287132653	2" Welded	2" Welded	7.5	24.3	7.32	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-80H	3287132654	2" Welded	2" Welded	7.5	24.3	9.56	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-100H	3287132655	2" Welded	2" Welded	7.5	24.3	11.8	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-120H	3287132656	2" Welded	2" Welded	7.5	24.3	14	**Mtg Studs for feet	PDS-25
AlfaNova HP 76-140H	3287132657	2" Welded	2" Welded	7.5	24.3	16.2	**Mtg Studs for feet	PDS-25

****Mounting feet kit AN76 can be ordered under item number 3456544501**
***** Please consult factory for product sizing and selection. *****

Alfa Laval in brief
Alfa Laval is a leading global provider of specialized products and engineering solutions.

Our equipment, systems and services are dedicated to helping customers to optimize the performance of their processes. Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.

Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

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