

# EnFusion™ brazed plate heat exchanger BPHE

Danfoss offers a wide range of heat exchangers in a modular system based on a platform of high quality components. You can define both the capacity and the connections you need for your specific application. The heat exchangers are compact and space saving.



## Dear Customer

Danfoss is a worldwide leading manufacturer of refrigeration & air conditioning controls and compressors. We have extended our product portfolio to include EnFusion™ brazed plate heat exchangers BPHE, designed for a wide range of applications.

Our range of EnFusion™ brazed plate heat exchangers BPHE incorporates the following key features:

- Compact size
- Reduced internal hold-up volumes
- Superior efficiency
- Closer approach temperatures
- Higher working pressures
- Reduced fouling
- Highly flexible design for manufacturing
- Cost effective
- Available in different materials
- Wide variety of connection styles and sizes
- High technology manufacturing

EnFusion™ brazed plate heat exchangers BPHE can be customized to your specific application requirements. These reliable products offer the same high quality you have come to expect from Danfoss, and they are backed by our industry leading sales and support organization.

The selection data in this catalogue will help you choose the right model for your needs. Please consult your local Danfoss sales manager for more information about this highly efficient and reliable product program.

### **Danfoss A/S**

December 2014

Heat exchangers are used in refrigeration plants as condensers, evaporators or with other specific function.

**Technical data – Select the type that fits your application**

EnFusion™ BPHE Data	B3-012	B3-014	B3-018	B3-020	B3-027
Cooling Capacity/Heat Load (kW) (Max)	0.5 - 4	0.5 -5	2-10	2-10	5-15
Heat exchange area (m2)	(n-2) x 0.012	(n-2) x 0.014	(n-2) x 0.018	(n-2) x 0.022	(n-2) x 0.026
Design temperature ( °C)	-196/+200	-196/+200	-196/+200	-196/+200	-196/+200
Standard Design pressure Q1-Q2/Q3-Q4 (bar)	10	30	30	30	30
High Design pressure Q1-Q2/Q3-Q4 (bar)	30	45	45	40	45
Test pressure standard (bar)	15/45	45/65	45/65	45/60	45/65
Distribution			-	-	-
Dual circuit		-	-	-	-
Channel pattern	H	H,L,M	H	H,L,M	H,L,M
Max. number of plates	50	60	60	60	150
Height/Width (mm) <sup>1)</sup>	186/72	207/77	231/90	314/72	311/111
Weight (kg), empty (n=number of plates)	0.6+0.044n	0.365+0.05n	1.1+0.055n	0.44+0.076n	1.2+0.13n
Max. size of solder connection <sup>2)</sup>	7/8 in.	7/8 in.	7/8 in.	7/8 in.	1 3/8 in.
Max. size of thread connection <sup>2)</sup>	3/4 in.	3/4 in.	3/4 in.	3/4 in.	1 1/4 in.
Standard plate material <sup>3)</sup>	AISI 304	AISI 304	AISI 316L	AISI 304	AISI 316L/AISI 304L

EnFusion™ BPHE Data	B3-030	B3-052	B3-095	B3-095B
Cooling Capacity/Heat Load (kW) (Max)	3-30	10-60	30-200	30-200
Heat exchange area (m2)	(n-2) x 0.023	(n-2) x 0.050	(n-2) x 0.095	(n-2) x 0.095
Design temperature ( °C)	-196/+200	-196/+200	-196/+200	-196/+200
Standard Design pressure Q1-Q2/Q3-Q4 (bar)	30	30	30	30
High Design pressure Q1-Q2/Q3-Q4 (bar)	45	45	45	-
Test pressure standard (bar)	45/65	45/65	45/65	45
Distribution	Q	Q	Q	-
Dual circuit	-	-	-	-
Channel pattern	H	H,L,M	H,L,M	H,L,M
Max. number of plates	150	150	250	250
Height/Width (mm) <sup>1)</sup>	325/95	527/111	615/188	615/188
Weight (kg), empty (n=number of plates)	1+0.09n	1.8+0.23n	5.64+0.4n	5.64+0.41n
Max. size of solder connection <sup>2)</sup>	1 1/8 in.	1 3/8 in.	2 1/8 in.	2 1/8 in.
Max. size of thread connection <sup>2)</sup>	1 in.	1 1/4 in.	2 in.	2 in.
Standard plate material <sup>3)</sup>	AISI 316L/AISI 304L	AISI 316L/AISI 304L	AISI 316L/AISI 304L	AISI 316L/AISI 304L

EnFusion™ BPHE Data	B3-113	B3-136	B3-210	B3-260B
Cooling Capacity/Heat Load (kW) (Max)	60-200	60-200	150-450	150-500
Heat exchange area (m2)	(n-2) x 0.097	(n-2) x 0.092	(n-2) x 0.21	(n-2) x 0.237
Design temperature ( °C)	-196/+200	-196/+200	-196/+200	-196/+200
Standard Design pressure Q1-Q2/Q3-Q4 (bar)	30	30	30	20
High Design pressure Q1-Q2/Q3-Q4 (bar)	45	-	45	-
Test pressure standard (bar)	45/65	45	45/65	30
Distribution	Q	-	Q	-
Dual circuit	D	-	D	-
Channel pattern	H	H	H	H
Max. number of plates	200	200	250	250
Height/Width (mm) <sup>1)</sup>	490/250	492/252	739/322	796/363
Weight (kg), empty (n=number of plates)	6.5+0.38n	6.5+0.38n	13+0.8n	20 + 0.97n
Max. size of solder connection <sup>2)</sup>	2 1/8 in.	2 5/8 in.	3 1/8 in.	5 in.
Max. size of thread connection <sup>2)</sup>	2 in.	3 in.	3 1/8 in. clamp	5 in. clamp
Standard plate material <sup>3)</sup>	AISI 316L	AISI 316L	AISI 316L	AISI 316L

<sup>1)</sup> Look for all dimensions and drawings in data sheet

<sup>2)</sup> Find various thread and solder connections in data sheet

<sup>3)</sup> AISI 304L or AISI 316L Steel plates on demand

## Heat Exchanger plates and channels

BPHE type B is available with 2 different types of plates and 3 types of channels, that are responsible for the thermal characteristics of the heat exchanger.

**The H type plate** has obtuse angles that result in higher heat transfer efficiency by increasing the turbulence of the fluid.

**The L type plate** has acute angles. This reduces the pressure drop and reduces the turbulence and lowers heat transfer efficiency.

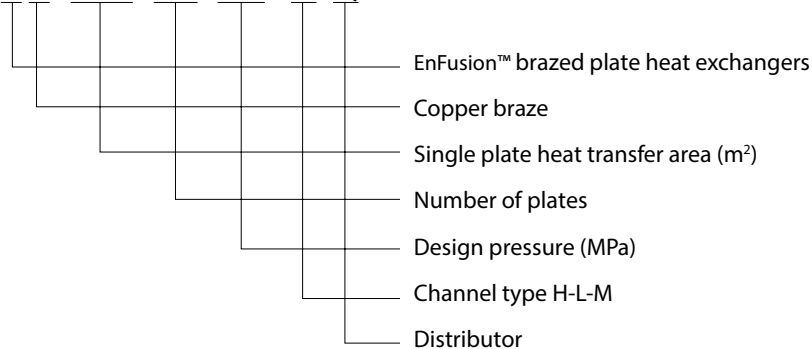
**The H channel** is made by two H plates, with high heat transfer coefficient and high pressure drop

**The L channel** is made by two L plates, with lower heat transfer coefficient and lower pressure drop

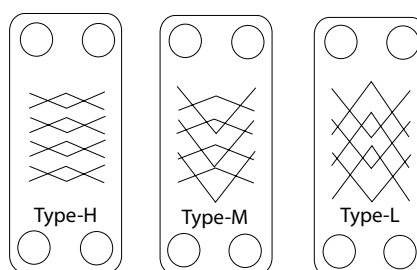
**The M channel** is made by one H plate and one L plate, with both medium of pressure drop and heat transfer coefficient.

## Expression of Type of BPHE

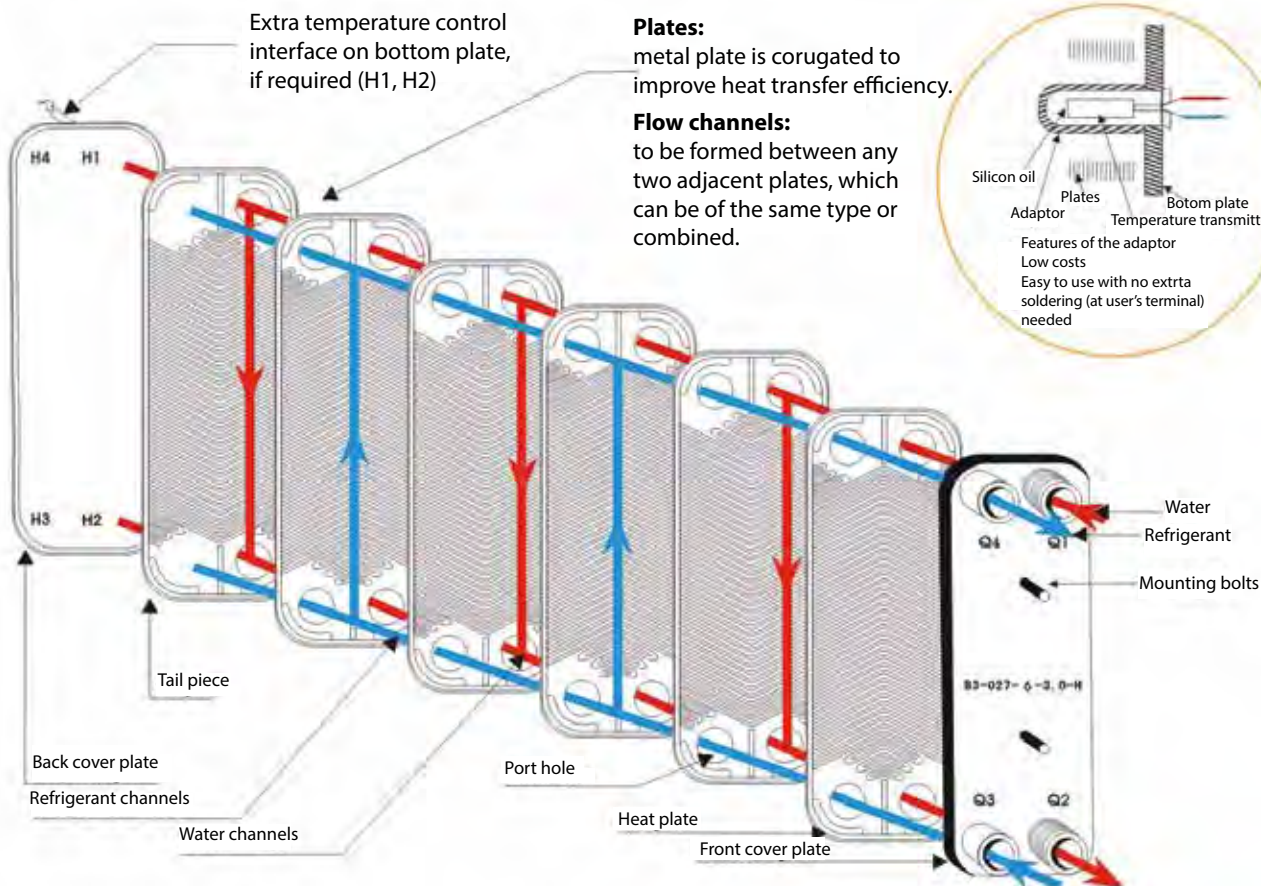
**B3-052-50-3.0-H Q**



## Channel Type H-L-M









## Structure of BPHE




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## Product Options

-  **Distributor**  
Optimized BPHE for evaporator duties. Inlets at the refrigerant side are equipped with devices that evenly distribute the refrigerant in each channel.
  
-  **Adapter / Temperature**  
One or two temperature sensor ports enable easy installation of temperature sensors for accurate system control.
  
-  **High Pressure**  
Danfoss can offer a wide “High Pressure” range to meet the design requirements of new environmental friendly refrigerants (e.g: R410a), “HP” BPHE are design to withstand up to 45 bar of design pressure.
  
-  **Nickel Brazed**  
For deionized water, ammonia solvents and other fluids not compatible with copper.
  
-  **Dual Circuit**  
The real Dual Circuit connects two independent refrigerants circuit with the entire water circuit. This allows lower water-outlet temperatures and means full heat transfer at any load.
  
-  **Back to Back**  
Danfoss “BB” type BPHE consists of back to back refrigerant circuits and handle two compressors at the same time.

## Special Application

-  **Air Drier**  
Designed specially for air driers application. BPHE for air driers available. All models deliver dry, high-quality air with a very low dew point

## Connections data

Connection Type	Connection Size (inch)	Factory Code	Max External Diameter (mm)	External Diameter (mm)	Internal Diameter (mm)	Length (mm)	B3-012 B3-014 B3-020	B3-018	B3-030	B3-027 B3-052	B3-095 B3-095B	B3-113	B3-136	B3-210	B3-260B	
BSP-male	G1/2	J304L-018	24	G1/2	12	29		X	X	X						
	G1/2	J304L-073	G1/2	G1/2	15,5	15	X									
	G3/4	J304L-019	26,5	G3/4	16	29		X	X	X						
	G3/4	J304L-061	G3/4	G3/4	16	25	X									
	G3/4	J304L-076	G3/4	G3/4	20	15	X									
	G1	J304L-021	33,5	G1	23	29			X	X	X					
	G1 1/4	J304L-023	42	G1"1/4	30	29				X	X	X	X			
	G1 1/2	J304L-024	48,3	G1"1/2	36	29				X	X	X	X			
	G2	J304L-079	60,3	G2	49	48				X	X	X	X	X	X	X
	G2 1/2	J304L-164	75,2	G2"1/2	62	52							-	X	X	X
G3	J304L-192	89	G3	78	52								X	X	X	
BSP-female	G1/2	J304L-025	27	G1/2	G1/2	29		X	X	X	X	X	X	X	X	
	G3/4	J304L-028	33	G3/4	G3/4	29			X	X	X	X	X	X	X	
	G1	J304L-029	40	G1	G1	29			X	X	X	X	X	X	X	
	NG1 1/4	J304L-114	52	NG1"1/4	NG1"1/4	49					X	X	X	X	X	
DIN-male	R1/2	J304L-084	21	R1/2	15,5	15	X									
	R3/4	J304L-030	26,5	R3/4	16	29		X	X	X						
	R3/4	J304L-093	26,5	R3/4	20	15	X									
	R3/4	J304L-160	26,5	R3/4	19,2	25	X									
	R1	J304L-031	33,5	R1	23	29			X	X	X					
	R1 1/4	J304L-033	42	R1"1/4	30	29				X	X	X	X			
	R1 1/2	J304L-034	46	R1"1/2	36	29					X	X	X			
	R2	J304L-071	60,3	R2	49	48					X	X	X	X	X	X
	R2 1/2	J304L-165	75,2	R2"1/2	62	52							-	X	X	X
R3	J304L-200	89	R3	78	52								X	X	X	
DIN-female	R1/2	J304L-035	27	R1/2	R1/2	29		X	X	X						
	R3/4	J304L-043	30	R3/4	R3/4	29		X	X	X						
	R1	J304L-109	40	R1	R1	29				X	X	X	X			
NPT	R1 1/2	J304L-138	61	R1"1/2	R1"1/2	49					X	X	X			
	3/4	J304L-037	26,5	NPT3/4	NPT3/4	16	29	X	X	X						
	3/4	J304L-089	27	NPT3/4	NPT3/4	16	20	X								
	1	J304L-038	33,5	NPT1	NPT1	23	29		X	X						
	1 1/4	J304L-137	42	NPT1"1/4	NPT1"1/4	30	29				X	X	X			
	1 1/2	J304L-039	48	NPT1"1/2	NPT1"1/2	36	29				X	X	X			
FPT	2	J304L-099	60,3	NPT2	NPT2	49	48				X	X	X	X	X	
	2 1/2	J304L-240	75,2	NPT2"1/2	NPT2"1/2	62	52					X	X	X	X	
	3	J304L-199	89	NPT3"	NPT3"	78	52						X	X	X	
	1/4	J304L-108	20	NNPT1/4	NNPT1/4	29		X								
	1/2	J304L-103	27	NPT1/2	NPT1/2	25	29	X	X	X	X	X	X			
	3/4	J304L-041	30	NPT3/4	NPT3/4	29		X	X	X	X					
	1	J304L-124	40	NPT1	NPT1	29				X	X	X	X			
	1/4	J304L-086	14,5	11	6,5	25	25	X								
	3/8	J304L-063	20	14	9,8	25	25	X	X	X	X					
	1/2	J304L-078	20	17	12,8	25	25	X	X	X	X					
SWT	5/8	J304L-085	24	20	16,2	25	25	X	X	X	X					
	3/4	J304L-058	24	24	19,2	29		X	X	X	X	X	X			
	7/8	J304L-006	31	28	22,3	29		X	X	X	X	X	X			
	7/8	J304L-100	27	27	22,3	20	20	X								
	1	J304L-188	31	31	25,1	29			X	X	X	X	X			
	1 1/8	J304L-010	33	33	28,7	29			X	X	X	X	X	X		
	1 3/8	J304L-012	40	40	35,3	29				X	X	X	X			
	1 3/8	J304L-193	52	40	35,3	40									X	
	1 5/8	J304L-194	54	47	42,1	40									X	
	1 5/8	J304L-016	47	47	41,5	29					X	X	X			
	1 5/8	J304L-017	47	47	42,1	29					X	X	X			
	2 1/8	J304L-072	60	60	54,1	40					X	X	X			
	2 1/8	J304L-195	66	60	54,1	40									X	
	2 1/8	J304L-187	70,3	60	54,1	40									X	
	2 5/8	J304L-190	89	73	67	52									X	
	2 5/8	J304L-197	73	73	67	52							-	X		
	2 3/4	J304L-196	89	78	70	52									X	
	3 1/8	J304L-201	89	85	78	52									X	
	3 1/8	J304L-202	89	89	79,5	52									X	
	Victaulic	4	J304L-134	112	112	102	52									X
5		J304L-215	138	133	125	52									X	
2		J304L-123	60,3	60,3	49	48					X	X	X	X	X	
2 1/2		J304L-251	73	73	63,5	45						X	X	X	X	
3		J304L-189	88,9	88,9	78	52									X	
HB	4	J304L-134	112	112	102	52									X	
	5	J304L-215	138	133	125	52									X	
	1/4	J304L-271	9,5	8,5	5,5	40	X									
	1/2	J304L-230	22	18	12,8	29			X	X						
	5/8	J304L-264	20	14	11	40			X	X	X	-	-			
SAE O-Ring	1	J304L-227	27	25,5	16,2	29			X	X	X	X	X	X		
	1 1/4	J304L-228	33	31,5	23	29				X	X	X	X	X		
	1/2	J304L-234	27	27	3/4-16UNF	20	X									
	3/4	J304L-235	33	33	1 1/16-12UN	25		X								
	1	J304L-236	41	41	1 5/16-12UN	29				X	X	X	X	X		
37 in. Flare	1 1/4	J304L-237	50	50	1 5/8-12UN	40					X	X	X	X		
	1 1/2	J304L-238	55	55	1 7/8-12UN	40					X	X	X	X		
	3/4	J304L-232	1 1/16-12UN	1 1/16-12UN	16,2	29			X	X	X	X	X	X		
1	J304L-233	1 5/16-12UN	1 5/16-12UN	22,3	29			X	X	X	X	X	X			

Note: The list above does not include all connections available, but part of connections in use.

Introduction

B3-012 EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings.  
Capacity: 0.5-4k W



Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or threaded
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- UL
- ISO 9000 1: 2000

Product Options

- Adapter/Temperature Monitoring
- Nickel Brazed

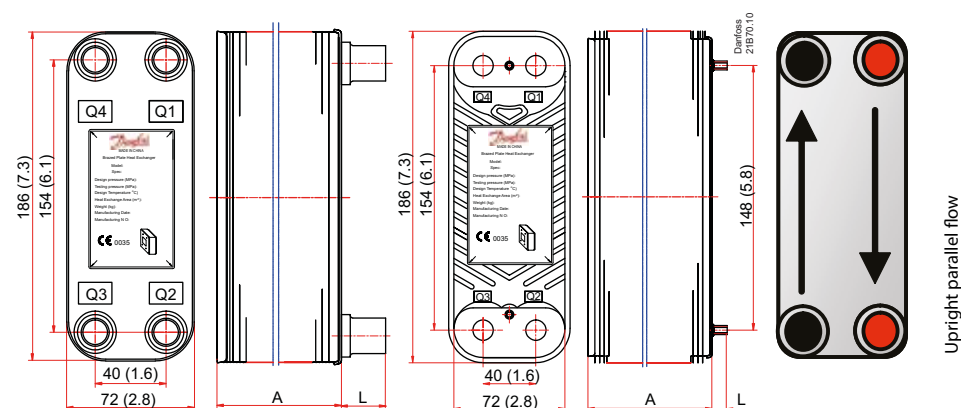
Material Specification

The standard plate material is stainless steel AISI 304.

Dimensional Data

Flat front/cover plate

Corrugated front/cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q2 side/ Q3 Q4 side	Heat transfer area (m <sup>2</sup> )
n	7 + 2.26n	0.6 + 0.044n	0.018 n/2/ 0.018 × (n-2)/2	(n - 2) 0.012

Technical Data

<b>Design pressure</b>	10 bar ( A type )	<b>Design temperature</b>	-196 ~ + 200°C
	30 bar ( B type )		<b>Plate type</b>
<b>Testing pressure</b>	15 bar ( A type )	<b>Heat load</b>	~4 kW
	45 bar ( B type )	<b>Number of max plates</b>	50

Introduction

B3-014 EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for air driers, chillers, heat pump, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings. Capacity: 0.5-5 kW



Features

- Compact design
- High efficiency
- Low internal hold-up volume
- Flexible design
- Solder and threaded connection types
- Wide variety of connections styles and sizes
- 100% inspected

Approvals

- CE certificate according (PED) 97/23/EC
- UL
- ISO 9000 1: 2000

Product Options

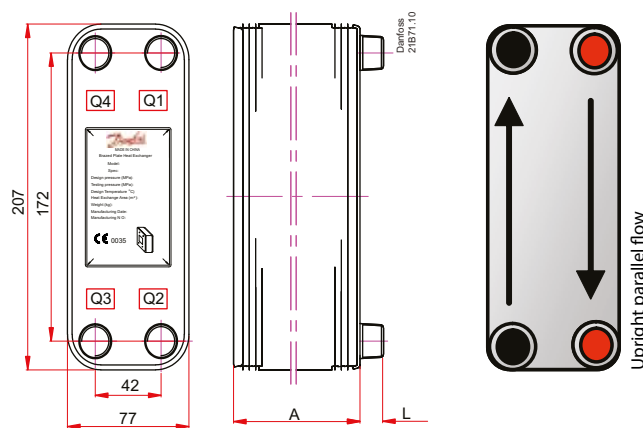
- A Adapter/Temperature Monitoring
- BB Back to Back
- HP High Pressure
- AD Air Drier
- Ni Nickel Brazed

Material Specification

The standard plate material is stainless steel AISI 304.

Dimensional Data

Flat front cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q2 side/ Q3 Q4 side	Heat transfer area (m <sup>2</sup> )
n	7 + 2.3n	0.365+0.05n	0.02 x n/2 / 0.02 x (n-2)/2	(n - 2) 0.014

Technical Data

<b>Design pressure</b>	30 bar ( A type )	<b>Design temperature</b>	-196 ~ + 200°C
	45 bar ( B type )		<b>Plate type</b>
<b>Testing pressure</b>	45 bar ( A type )	<b>Heat load</b>	~5 kW
	65 bar ( B type )	<b>Number of max plates</b>	60

Introduction

B3-018 EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings.  
Capacity: 2-10 kW



Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or threaded
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- UL
- ISO 9000 1: 2000

Product Options

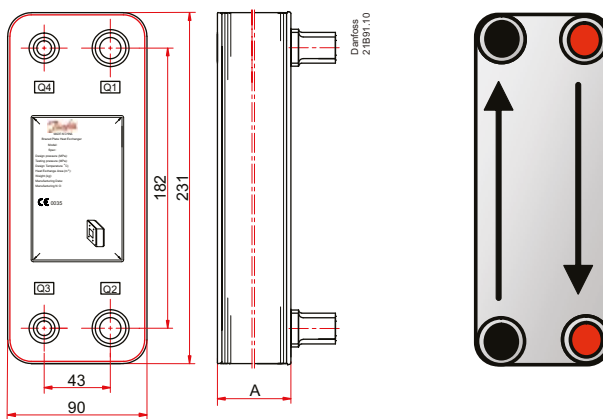
- A** Adapter/Temperature Monitoring
- HP** High Pressure
- Ni** Nickel Brazed

Material Specification

The standard plate material is stainless steel AISI 316L.

Dimensional Data

Flat front cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q2 side/ Q3 Q4 side	Heat transfer area (m <sup>2</sup> )
n	10 + 2.26n	1.1 + 0.055n	0.036 × n/2/ 0.036 × (n-2)/2	(n-2) × 0.018

Technical Data

<b>Design pressure</b>	30 bar ( A type )	<b>Design temperature</b>	-196 ~ + 200°C
	45 bar ( B type )		<b>Plate type</b>
<b>Testing pressure</b>	45 bar ( A type )	<b>Heat load</b>	2 ~10 kW
	65 bar ( B type )	<b>Number of max plates</b>	60

Introduction

B3-020 EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for boilers and chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings.  
Capacity: 2-10 kW



Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or threaded
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- UL
- ISO 9000 1: 2000

Product Options

- Adapter/Temperature Monitoring
- High Pressure
- Nickel Brazed
- Back to Back

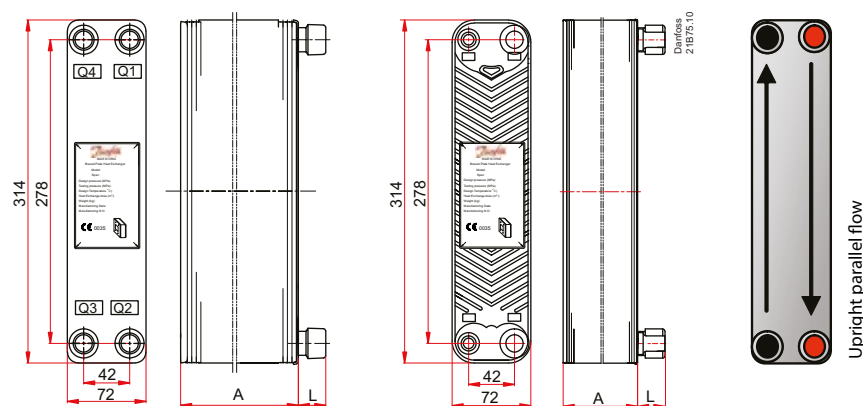
Material Specification

The standard plate material is stainless steel AISI 304.

Dimensional Data

Flat front cover plate

Corrugated front cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q2 side/ Q3 Q4 side	Heat transfer area (m <sup>2</sup> )
n	7 + 2.26n	0.44 + 0.076n	0.04 x n/2 / 0.04 x (n-2)/2	(n - 2) 0.022

Technical Data

<b>Design pressure</b>	30 bar ( A type )	<b>Design temperature</b>	-196 ~ + 200°C
	40 bar ( B type )		<b>Plate type</b>
<b>Testing pressure</b>	45 bar ( A type )	<b>Heat load</b>	2-10 kW
	60 bar ( B type )	<b>Number of max plates</b>	60

Introduction

B3-027 EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for air driers and chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings.  
Capacity: 5-15 kW



Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or threaded
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- UL
- ISO 9000 1: 2000

Product Options

- A Adapter/Temperature Monitoring
- Ni Nickel Brazed
- HP High Pressure
- BB Back to Back
- AD Air Drier

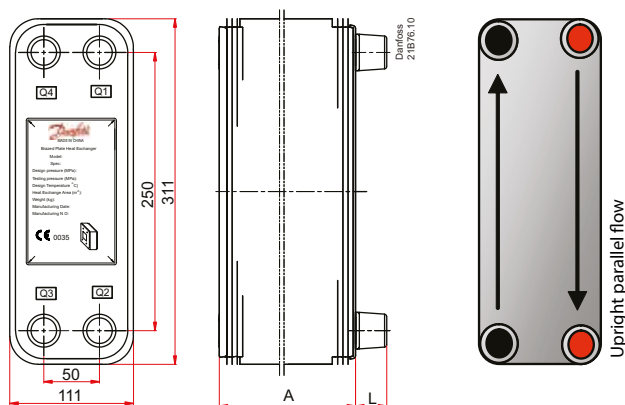
Material Specification

The standard plate material is stainless steel AISI 316L.

For other material (AISI 304L) please contact your local sales organization.

Dimensional Data

Flat front cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q2 side/ Q3 Q4 side	Heat transfer area (m <sup>2</sup> )
n	9 + 2.36n	1.2 + 0.13n	0.05 × n/2/ 0.05 × (n-2)/2	(n - 2) 0.026

Technical Data

<b>Design pressure</b>	30 bar ( A type )	<b>Design temperature</b>	-196 ~ + 200°C
	45 bar ( B type )		<b>Plate type</b>
<b>Testing pressure</b>	45 bar ( A type )	<b>Heat load</b>	5-15 kW
	65 bar ( B type )	<b>Number of max plates</b>	150

Introduction

B3-030 EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings.  
Capacity: 3-30 kW



Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or flare
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- UL
- ISO 9000 1: 2000

Product Options

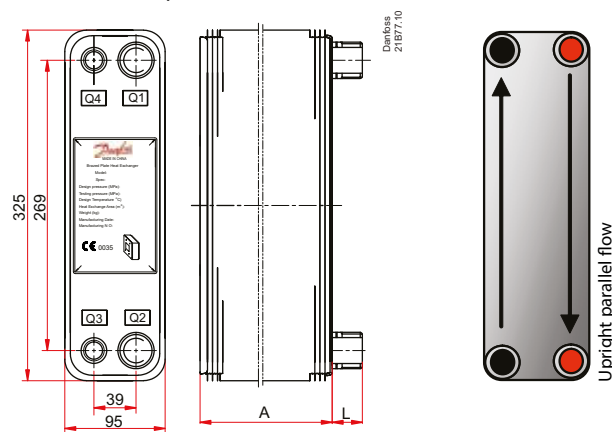
- Distributor
- Adapter/Temperature
- High Pressure
- Back to Back

Material specification

The standard plate material is stainless steel AISI 316L. For other material (AISI 304L) please contact your local sales organization.

Dimensional Data

Flat front cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q2 side/ Q3 Q4 side	Heat transfer area (m <sup>2</sup> )
n	9 + 1.5n	1 + 0.09n	0.028 × n/2/ 0.028 × (n-2)/2	(n-2) × 0.023

Technical Data

<b>Design pressure</b>	30 bar (A type)	<b>Design temperature</b>	-196 ~ + 200°C
	45 bar (B type)		<b>Plate type</b>
<b>Testing pressure</b>	45 bar (A type)	<b>Heat load</b>	3-30 kW
	65 bar (B type)	<b>Number of max plates</b>	150

Introduction

B3-052 EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings.  
Capacity: 10-60 kW



Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or threaded
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- UL
- ISO 9000 1: 2000

Product Options

- Distributor
- Adapter/Temperature Monitoring
- High Pressure
- Nickel Brazed
- Back to Back

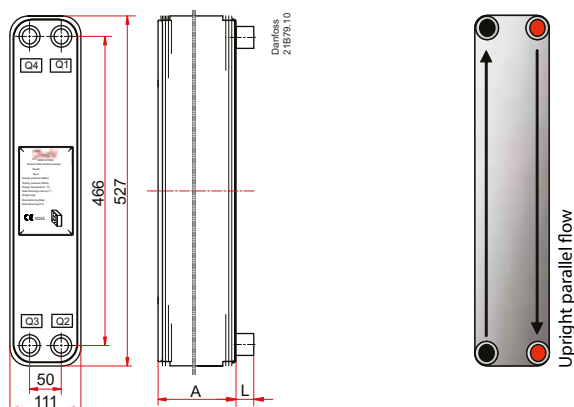
Material Specification

The standard plate material is stainless steel AISI 316L.

For other material (AISI 304L) please contact your local sales organization.

Dimensional Data

Flat front cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q2 side/ Q3 Q4 side	Heat transfer area (m <sup>2</sup> )
n	9 + 2.36n	1.8 + 0.23n	0.094 x n/2 / 0.094 x (n-2)/2	(n - 2) 0.050

Technical Data

<b>Design pressure</b>	30 bar ( A type )	<b>Design temperature</b>	-196 ~ + 200°C
	45 bar ( B type )		<b>Plate type</b>
<b>Testing pressure</b>	45 bar ( A type )	<b>Heat load</b>	10-60 kW
	65 bar ( B type )	<b>Number of max plates</b>	150

Introduction

B3-095 EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings.  
Capacity: 30-200 kW

Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or threaded
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- UL
- ISO 9000 1: 2000



Product Options

- Distributor
- High Pressure
- Adapter/Temperature Monitoring
- Back to Back

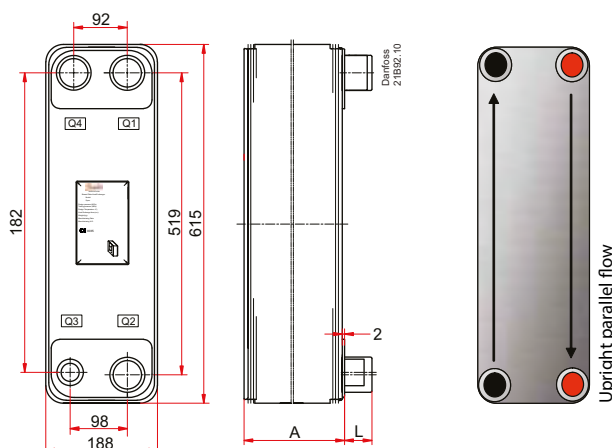
Material Specification

The standard plate material is stainless steel AISI 316L.

For other material ((AISI 304L) please contact your local sales organization.

Dimensional Data

Flat front cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q2 side/ Q3 Q4 side	Heat transfer area (m <sup>2</sup> )
n	12 + 2.36n	5.64 + 0.41n	0.21 × n/2 / 0.21 × (n-2)/2	(n - 2) 0.095

Technical Data

<b>Design pressure</b>	30 bar ( A type )	<b>Design temperature</b>	-196 ~ + 200°C
	45 bar ( B type )		<b>Plate type</b>
<b>Testing pressure</b>	45 bar ( A type )	<b>Heat load</b>	30-200 kW
	65 bar ( B type )	<b>Number of max plates</b>	250

Introduction

B3-095B EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings.  
Capacity: 30-200 kW



Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or threaded
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- ISO 9000 1: 2000

Product Options

**A** Adapter/Temperature Monitoring

**BB** Back to Back

**HP** High Pressure

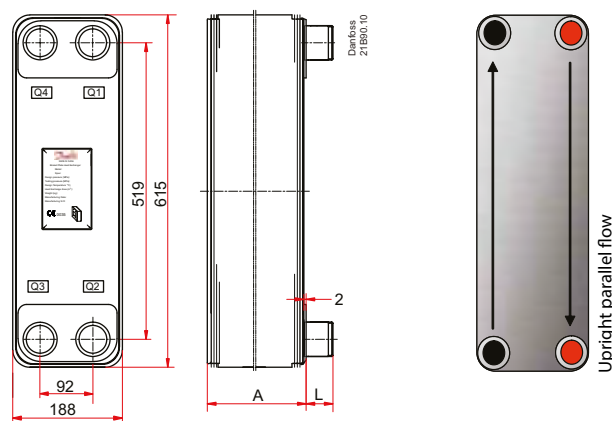
Material Specification

The standard plate material is stainless steel AISI 316L.

For other material (AISI 304L), please contact your local sales organization.

Dimensional Data

Flat front cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q2 side/ Q3 Q4 side	Heat transfer area (m <sup>2</sup> )
n	12 + 2.76n	5.64 + 0.41n	0.25 × n/2 / 0.25 × (n-2)/2	(n - 2) 0.095

Technical Data

<b>Design pressure</b>	30 bar ( A type )	<b>Design temperature</b>	-196 ~ + 200°C
	45 bar ( B type )		<b>Plate type</b>
<b>Testing pressure</b>	45 bar ( A type )	<b>Heat load</b>	30-200 kW
	65 bar ( B type )	<b>Number of max plates</b>	250

Introduction

B3-113 EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings.  
Capacity: 60-200 kW



Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or threaded
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- UL
- ISO 9000 1: 2000

Product Options

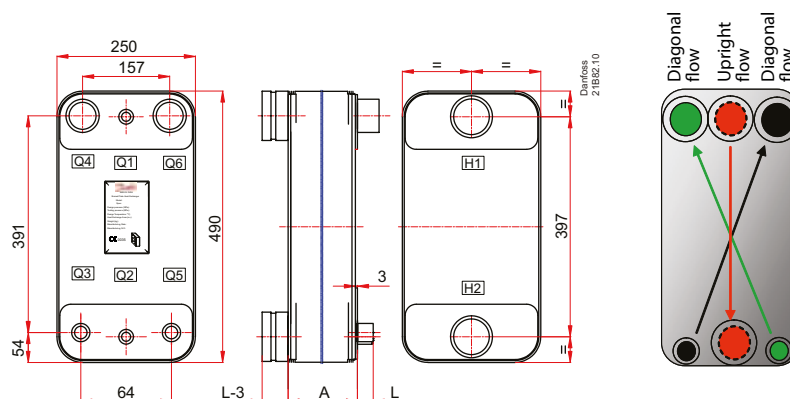
- Distributor
- Adapter/Temperature Monitoring
- High Pressure
- Dual Circuit

Material Specification

The standard plate material is stainless steel AISI 316L.

Dimensional Data

Flat front/back cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L)	Heat transfer area (m <sup>2</sup> )
n	10 + 2.26n	6.5 + 0.38n	Q1 Q2 side: 0.16 × n/2 Q3 Q6 side = Q4 Q5 side: 0.16 × (n-2)/4	(n - 2) 0.097

Technical Data

<b>Design pressure</b>	30 bar ( A type )	<b>Design temperature</b>	-196 ~ + 200°C
	45 bar ( B type )		<b>Plate type</b>
<b>Testing pressure</b>	45 bar ( A type )	<b>Heat load</b>	60-200 kW
	65 bar ( B type )	<b>Number of max plates</b>	200

Introduction

B3-136 EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for air driers and chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings.

Capacity: 60-200 kW

Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or threaded
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- ISO 9000 1: 2000



Product Options

**A** Adapter/Temperature Monitoring

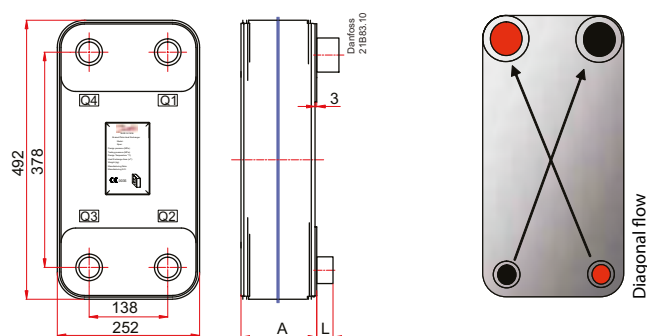
Material Specification

The standard plate material is stainless steel AISI 316.

For other material (AISI 304L), please contact your local sales organization.

Dimensional Data

Flat front cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q3 side/ Q2 Q4 side	Heat transfer area (m <sup>2</sup> )
n	11 + 2.82n	6.5 + 0.38n	0.194 x n/2 0.194x (n-2)/2	(n - 2) 0.092

Technical Data

Design pressure	30 bar ( A type )	Design temperature	-196 ~ + 200°C
	40 bar ( B type )		Plate type
Testing pressure	45 bar ( A type )	Heat load	60-200 kW
	65 bar ( B type )	Number of max plates	200

Introduction

B3-210 EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications. The heat exchanger is designed to combine high thermal efficiency with energy savings.  
Capacity: 150-450 kW



Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or threaded
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- UL
- ISO 9000 1: 2000

Product Options

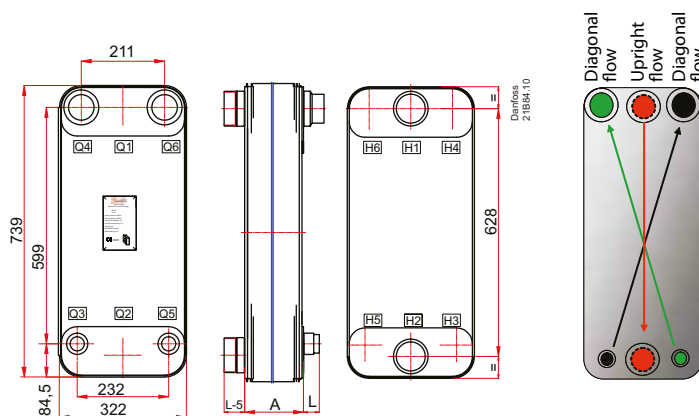
- Distributor
- Adapter/Temperature Monitoring
- High Pressure
- Dual Circuit

Material Specification

The standard plate material is stainless steel AISI 316L.

Dimensional Data

Flat front / back cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L)	Heat transfer area (m <sup>2</sup> )
n	13 + 2.76n	20 + 0.8n	Q1 Q2 side: 0.4 × n/2 Q3 Q6 side = Q4 Q5 side: 0.4 × (n-2)/4	(n-2) 0.21

Technical Data

<b>Design pressure</b>	30 bar ( A type )	<b>Design temperature</b>	-196 ~ + 200°C
	45 bar ( B type )		<b>Plate type</b>
<b>Testing pressure</b>	45 bar ( A type )	<b>Heat load</b>	150-450 kW
	65 bar ( B type )	<b>Number of max plates</b>	250

Introduction

B3-260B EnFusion™ brazed plate heat exchanger BPHE is the ideal choice for fluid to fluid applications such as oil cooling. The heat exchanger is designed to combine high thermal efficiency with energy savings.  
Capacity: 150-500 kW



Features

- Compact design
- High efficiency
- Flexible in size
- Connection in solder or clamp
- Flexible connection programme
- 100 % inspected

Approvals

- CE certificate according (PED) 97/23/EC
- ISO 9000 1: 2000

Product Options

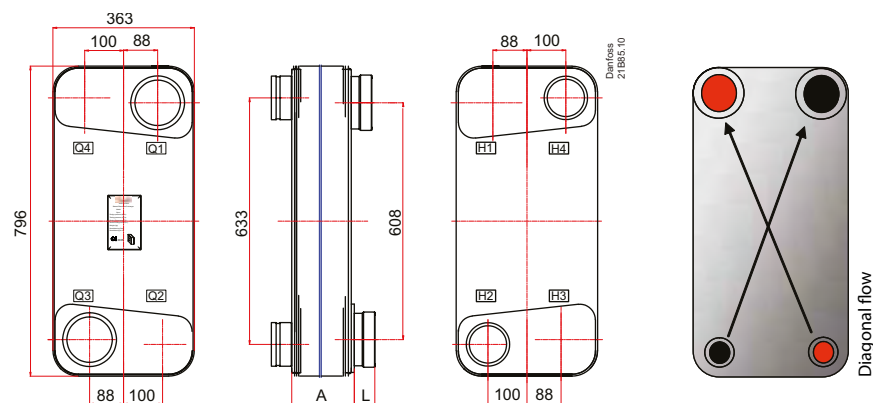
**A** Adapter/Temperature Monitoring

Material Specification

The standard plate material is stainless steel AISI 316L .

Dimensional Data

Flat front/back cover plate



Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q3 side/ Q2 Q4 side	Heat transfer area (m <sup>2</sup> )
n	17 + 2.76n	20 + 0.97n	0.6 x n/2 / 0.6x (n-2)/2	(n-2) x 0.237

Technical Data

<b>Design pressure</b>	20 bar ( A type )	<b>Design temperature</b>	-196 ~ + 200°C
<b>Testing pressure</b>	30 bar ( A type )	<b>Plate type</b>	H
		<b>Heat load</b>	150-500 kW
		<b>Number of max plates</b>	250









## The Danfoss product range for the refrigeration and air conditioning industry

Danfoss Refrigeration & Air Conditioning is a worldwide manufacturer with a leading position in industrial, commercial and supermarket refrigeration as well as air conditioning and climate solutions.

We focus on our core business of making quality products, components and systems that enhance performance and reduce total life cycle costs – the key to major savings.



We are offering a single source for one of the widest ranges of innovative refrigeration and air conditioning components and systems in the world. And, we back technical solutions with business solutions to help your company reduce costs, streamline processes and achieve your business goals.

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