

Optimal heat transfer

– EnFusion™ PHE B3-014 brazed plate heat exchanger

Introduction

PHE B3-014 brazed plate heat exchanger is the ideal choice for air driers and 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

Design pressure	10 bar (A type)	Design temperature	-196 ~ +200°C
	40 bar (B type)		Plate type
Testing pressure	15 bar (A type)	Heat load	~5 kW
	60 bar (B type)	Number of max plates	60

Approvals

- CE₀₀₃₅ certificate according (PED) 97/23/EC
- UL
- ISO 9000 1: 2000

Product Options

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

Material Specification

The standard plate material is stainless steel AISI 304. For other material (AISI 316L, SMO 254, Titanium) please contact your local sales organization.

Ordering

No. of plates	Connections		Ordering Code No.
	Q1, Q2	Q3, Q4	
10	G3/4 External Thread	H3/4" D Solder	021B0363
14	G3/4 External Thread	H3/4" D Solder	021B0364
20	G3/4 External Thread	H3/4" D Solder	021B0365
26	G3/4 External Thread	H3/4" D Solder	021B0366
30	G3/4 External Thread	H3/4" D Solder	021B0367
36	G3/4 External Thread	H3/4" D Solder	021B0368

Capacity

R22

Type	Evaporator		Condenser	
	Heat load kW	Pressure drop kPa	Heat Load kW	Pressure drop kPa
10	0.13	0.27	0.35	0.01
14	0.20	0.30	0.55	0.01
20	0.30	0.32	0.8	0.01
26	0.38	0.30	1.1	0.01
30	0.48	0.34	1.3	0.01
36	0.56	0.33	1.6	0.01

Conditions

Evap			Tc	
Te	-14 °C		1) T inlet	40 °C
Tc	40 °C		1) T outlet	32 °C
SH	5 K			38 °C
1) T inlet	-4 °C			
1) T outlet	-8 °C			

1) 30% propylen glycol

Capacity

R407C

No. of plates	Evaporator		Condenser		Condenser		Evaporator	
	Heat load kW	Pressure drop kPa	Heat Load kW	Pressure drop kPa	Heat Load kW	Pressure drop kPa	Heat Load kW	Pressure drop kPa
10	-	-	0.6	0.30	0.30	0.10	-	-
14	1.0	0.50	0.9	0.40	0.50	0.13	0.16	0.20
20	1.5	0.58	1.3	0.40	0.80	0.17	0.25	0.27
26	2.0	0.63	1.8	0.47	1.10	0.20	0.35	0.30
30	2.5	0.75	2.1	0.50	1.25	0.20	0.42	0.30
36	3.0	0.80	2.6	0.57	1.50	0.20	0.55	0.33

Conditions

Te	3 °C	Tc	50 °C	Tc	40 °C	Te	-7 °C
Tc	40 °C	water in	40 °C	water in	32 °C	Tc	40 °C
SH	5 K	water out	45 °C	water out	37 °C	SH	5 K
Water T inlet	12 °C					30% ethanol	0 °C
Water T outlet	7 °C					30% ethanol Tinlet	-3 °C

Capacity

R134a

No. of plates	Evaporator		Condenser		Condenser		Condenser		Evaporator		Condenser	
	Heat load kW	Pressure drop kPa/bar	Heat Load kW	Pressure drop kPa	Heat Load kW	Pressure drop kPa	Heat Load kW	Pressure drop kPa	Heat Load kW	Pressure drop kPa	Heat Load kW	Pressure drop kPa
10	-	-	0.7	0.44	0.5	0.24	0.30	0.02	0.15	0.30	0.25	0.14
14	1.0	0.50	1.0	0.46	0.7	0.24	0.45	0.02	0.25	0.38	0.40	0.14
20	1.5	0.58	1.6	0.60	1.1	0.30	0.70	0.03	0.37	0.40	0.65	0.14
26	2.0	0.63	2.2	0.70	1.5	0.34	1.00	0.04	0.50	0.40	0.85	0.14
30	2.5	0.75	2.6	0.76	1.8	0.38	1.20	0.05	0.00	0.44	1.00	0.14
36	3.0	0.80	3.0	0.75	2.2	0.42	1.40	0.05	0.75	0.46	1.25	0.14

Conditions

Te	2 °C	Tc	50 °C	Tc	40 °C	Tc	46 °C	Te	-14 °C	Tc	40 °C
Tc	40 °C	water in	40 °C	water in	32 °C	water in	35 °C	Tc	40 °C	1) T inlet	32 °C
SH	5 K	water out	45 °C	water out	37 °C	water out	45 °C	SH	5 K	1) T inlet	38 °C
Water T inlet	12 °C							1) T inlet	-4 °C		
Water T outlet	7 °C							1) T inlet	-8 °C		

1) 30% propylen glycol

Capacity

R404A

No. of plates	Evaporator		Condenser	
	Heat load kW	Pressure drop kPa	Heat Load kW	Pressure drop kPa
10	0.16	0.35	0.30	0.10
14	0.25	0.40	0.45	0.10
20	0.38	0.40	0.70	0.10
26	0.50	0.40	1.00	0.15
30	0.60	0.44	1.20	0.17
36	0.75	0.46	1.40	0.17

Conditions

Te	-14 °C	Tc	40 °C
Tc	40 °C	1) T inlet	32 °C
SH	5 K	1) T outlet	38 °C
1) T inlet	-4 °C		
1) T outlet	-8 °C		

1) 30% propylen glycol

Capacity

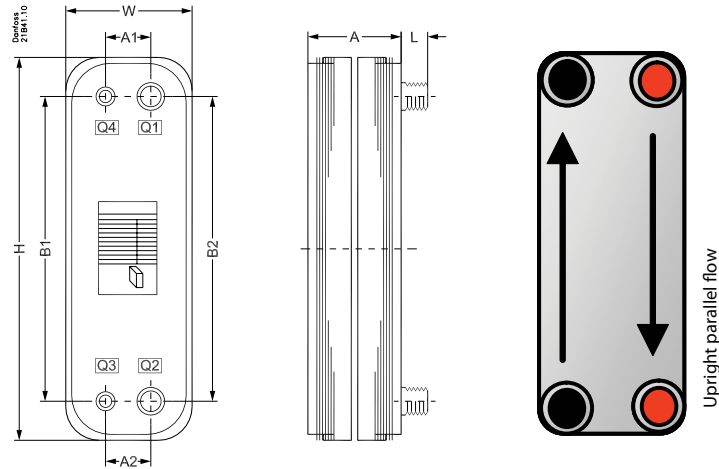
R410A

No. of plates	Evaporator		Condenser		Condenser	
	Heat load kW	Pressure drop kPa	Heat Load kW	Pressure drop kPa	Heat Load kW	Pressure drop kPa
10			1.0	0.80	0.7	0.44
14	1.0	0.50	1.5	1.00	1.0	0.47
20	1.5	0.58	2.2	1.10	1.6	0.60
26	2.0	0.63	3.0	1.26	2.1	0.64
30	2.5	0.75	3.7	1.49	2.5	0.70
36	3.0	0.80	4.5	1.63	3.0	0.75

Conditions

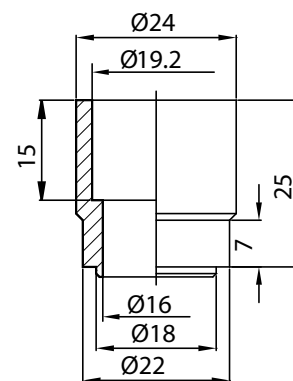
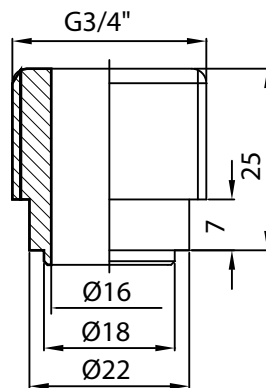
Te	2 °C	Tc	50 °C	Tc	40 °C
Tc	40 °C	water in	40 °C	water in	32 °C
SH	5 K	water out	45 °C	water out	37 °C
Water T inlet	12 °C				
Water T outlet	7 °C				

Dimensional Data



Dimensions and weight

Number of plates	A (mm)	Weight (kg)	Channel volume (L) Q1 Q2 side/ Q3 Q4side	Heat transfer area (m ²)
10	30.0	1.30	0.01 / 0.08	0.112
14	39.2	1.54	0.14 / 0.12	0.168
20	53.0	1.90	0.20 / 0.18	0.252
26	66.8	2.26	0.26 / 0.24	0.336
30	76.0	2.50	0.30 / 0.28	0.392
36	89.8	2.86	0.40 / 0.38	0.476





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