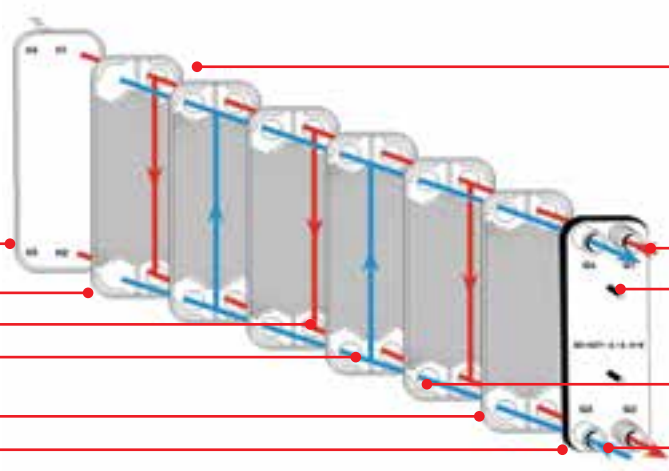


BPHE, Brazed plate heat exchanger

A brazed plate heat exchanger, consists of a series of thin, corrugated metal plates that are brazed together to improve heat transfer efficiency. The plates are compressed together in a rigid frame to create an arrangement of parallel flow channels. BPHE provides the

ability to remove and transfer heat from one medium to another, brazed plate heat exchangers are a cost-saving alternative to conventional condensers and evaporators. BPHE work with water, brine and oil etc.



Plates:
metal plate is corrugated to improve heat transfer efficiency.
Flow channels:
to be formed between any two adjacent plates, which can be of the same type or combined.

Facts

Application:

- The brazed plate heat exchanger is the ideal choice for chillers, heat pumps, economizers, desuperheaters and can be used for numerous other applications
- Applicable to R410A, R134a, R407C, R407A, R407F, R448A, R452A, R513A, R290, etc.

Features

- Compact design
- Low fouling
- High corrosion resistance
- Easy to service
- NPT or BSP connection of water / brine side

- Design temperature: -196 / 200 °C
- Standard design pressure: 30 bar
- High design pressure: 45 bar
- Standard plate material: AISI 316L
- Brazing material: copper
- Approval: PED, UL

Technical data and ordering

BPHE - Brazed plate heat exchanger

Rated capacity

Type	Model	Rated capacity / Water side pressure drop, Evaporator						Rated capacity / Water side pressure drop, Condenser					
		R22		R134a		R407C		R22		R134a		R407C	
		[kW]	[kPa]	[kW]	[kPa]	[kW]	[kPa]	[kW]	[kPa]	[kW]	[kPa]	[kW]	[kPa]
PHE B3-030	B3-030-10-3.0-HQ	3.5	47	2.5	25	3.5	47	5	82	4.4	65	2.6	25
PHE B-3030	B3-030-20-3.0-HQ	7	47	5.5	31	7	47	11	98	9	68	5.4	27
PHE B3-030	B3-030-30-3.0-HQ	10.5	47	8.5	33	10.5	47	16.5	99	13.2	66	8	26
PHE B3-030	B3-030-50-3.0-HQ	17.5	49	15	37	17.5	49	27	98	18.5	49	13	26
PHE B3-030	B3-030-70-3.0-HQ	26.3	57	21.5	40	25	52	37	98	30	66	18.2	27
PHE B3-052	B3-052-54-3.0-HQ	35	46	31	36	33.5	42	38	55	29	32	18.5	14
PHE B3-052	B3-052-70-3.0-HQ	43.8	44	38	34	42	41	48	54	37	32	24	14
PHE B3-052	B3-052-88-3.0-HQ	52.5	42	45.5	32	50	39	61	58	47	35	30	15
PHE B3-095	B3-095-44-3.0-HQ	52.5	31	44	22	52.5	31	56	33	44	21	29	10
PHE B3-095	B3-095-60-3.0-HQ	70	30	60	23	70	30	75	33	59	21	39	10
PHE B3-095	B3-095-74-3.0-HQ	87.5	31	73	24	87.5	31	92	33	72	21	48	10
PHE B3-095	B3-095-92-3.0-HQ	105	31	94	25	105	31	114	34	89	22	59	10
PHE B3-095	B3-095-122-3.0-HQ	140	33	125	27	140	33	148	36	116	23	78	11
PHE B3-210	B3-210-74-3.0-HQ	175	35	165	32	168	33	190	42	152	27	100	12
PHE B3-210	B3-210-90-3.0-HQ	210	36	200	32	205	34	235	44	188	28	122	12

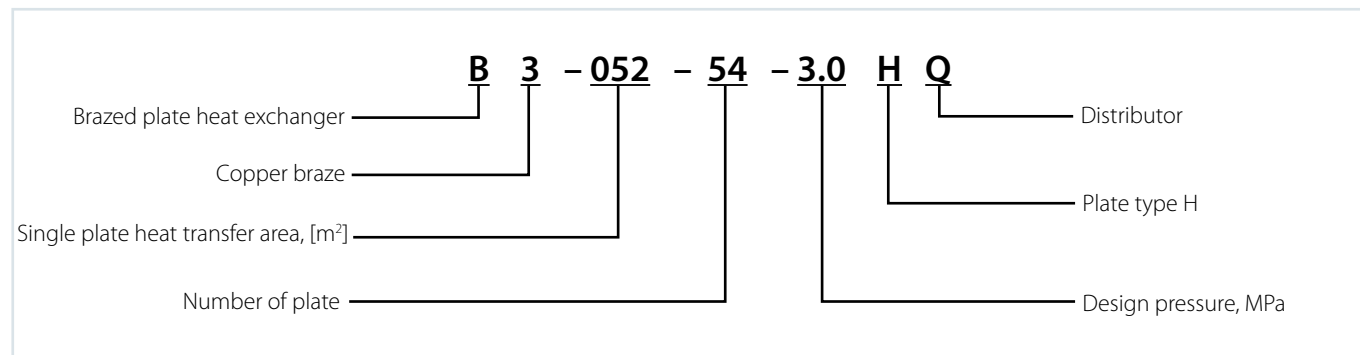
BPHE - Brazed plate heat exchanger

Rated conditions

Refrigerant	Evaporator						Condenser			
	Evaporating temperature [°C]	Super heat [K]	Condensing temperature [°C]	Sub cool [K]	Water-in temperature [°C]	Water-out temperature [°C]	Hot gas temperature [°C]	Condensing temperature [°C]	Water-in temperature [°C]	Water-out temperature [°C]
R22	2	5	40	5	12	7	85	50	40	45
R134a	2	5	40	5	12	7	85	50	40	45
R407C	4.5	5	40	5	12	7	85	50	40	45

Nomenclature and Dimensions

Nomenclature



BPHE - Brazed plate heat exchanger

Ordering

Model	Connection type 1			Code no.	Connection type 2			Code no.
	Ref. in [in]	Ref. out [in]	Water / brine [in]		Ref. in [in]	Ref. out [in]	Water / brine [in]	
B3-030-10-3.0-HQ	H 1/2	H 7/8	G 3/4	021B2060	H 1/2	H 7/8	NPT 3/4	021B2055
B3-030-20-3.0-HQ	H 1/2	H 7/8	G 3/4	021B2061	H 1/2	H 7/8	NPT 3/4	021B2056
B3-030-30-3.0-HQ	H 1/2	H 7/8	G 3/4	021B2062	H 1/2	H 7/8	NPT 3/4	021B2057
B3-030-50-3.0-HQ	H 5/8	H1 1/8	G 3/4	021B2063	H 5/8	H1 1/8	NPT 3/4	021B2058
B3-030-70-3.0-HQ	H 5/8	H1 1/8	G 3/4	021B2064	H 5/8	H1 1/8	NPT 3/4	021B2059
B3-052-54-3.0-HQ	H 5/8	H1 1/8	G1 1/4	021B3706	H 5/8	H1 1/8	NPT1	021B3709
B3-052-70-3.0-HQ	H 5/8	H1 1/8	G1 1/4	021B3707	H 5/8	H1 1/8	NPT1	021B3710
B3-052-88-3.0-HQ	H 5/8	H1 1/8	G1 1/4	021B3708	-	-	-	-
B3-095-44-3.0-HQ	-	-	-	-	H 7/8	H1 3/8	NPT2	021B6352
B3-095-60-3.0-HQ	H 7/8	H1 3/8	G2	021B6321	H 7/8	H1 3/8	NPT2	021B6324
B3-095-74-3.0-HQ	H 7/8	H1 3/8	G2	021B6322	H 7/8	H1 3/8	NPT2	021B6325
B3-095-92-3.0-HQ	H 7/8	H1 3/8	G2	021B6323	H 7/8	H1 3/8	NPT2	021B6326
B3-095-122-3.0-HQ	-	-	-	-	H1 1/8	H2 1/8	NPT2	021B6358
B3-210-74-3.0-HQ	-	-	-	-	H1 1/8	H2" 1/8	NPT2	021B7595
B3-210-90-3.0-HQ	-	-	-	-	H1 1/8	H2" 1/8	NPT2	021B7596

Danfoss offers customized products to meet your requirements. Please contact Danfoss for more information.

Media: R407C, R22, R134a, R404A, R407F, R513A, R1234ze, R452A. For applications with flammable refrigerants, please contact your Danfoss sales representative.

Use only for system in compliance with ATEX. Ignition risk is evaluated in accordance to ATEX. BPHE can be applied on systems with R290 and R600a as the working fluid. For countries where safety standards are not an indispensable part of the safety system Danfoss recommend the installer to get a third party approval of the system containing flammable refrigerant.

Note: Please follow specific selection criteria stated in the data sheet for these particular refrigerants.

