

The BPHE concept

The compact brazed plate heat exchanger (BPHE) is constructed as a plate package of corrugated channel plates with a filler material between each plate. During the vacuum brazing process, the filler material forms a brazed joint at every contact point between the plates, creating complex channels. The BPHE allows medias at different temperatures to come into close proximity, separated only by channel plates that enable heat from one media to be transferred to the other with very high efficiency. The concept is similar to the older plate and frame technology, but without the gaskets and frame parts.

The channel plates form separate circuits for each media. The number, type, and configuration of the channel plates are easy to vary to provide the thermal characteristics required.

Efficient and reliable

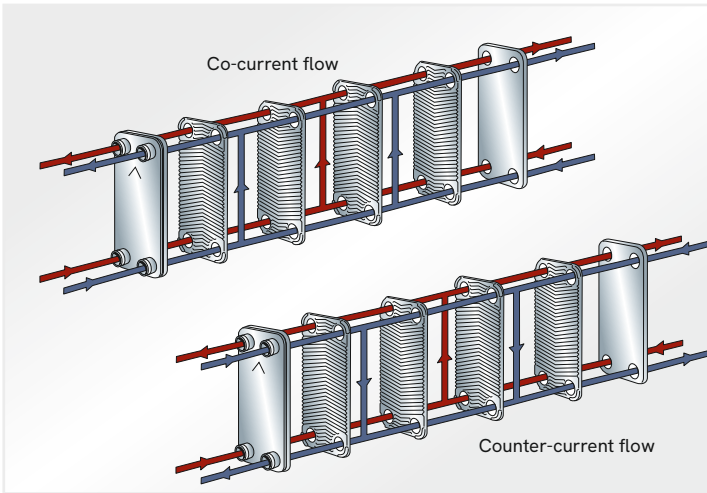
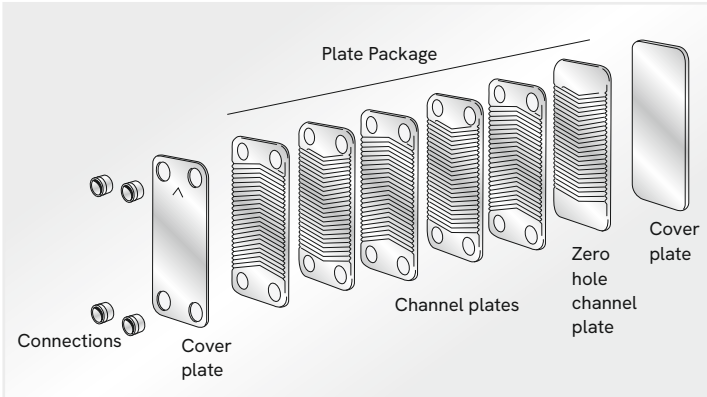
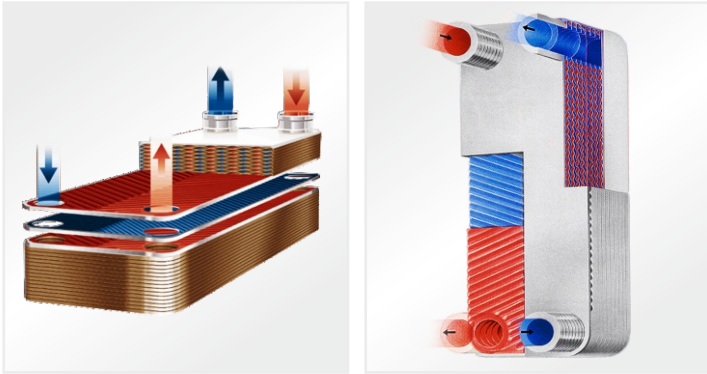
More and more people are discovering the advantages of brazed technology. Energy efficiency is higher because 95% of the material is used for heat transfer. No gaskets are required, which increases operational reliability, minimizes maintenance, and eliminates the risk of leakage. You get efficient, stable, and reliable performance in a robust and easily handled unit.

Reduced costs

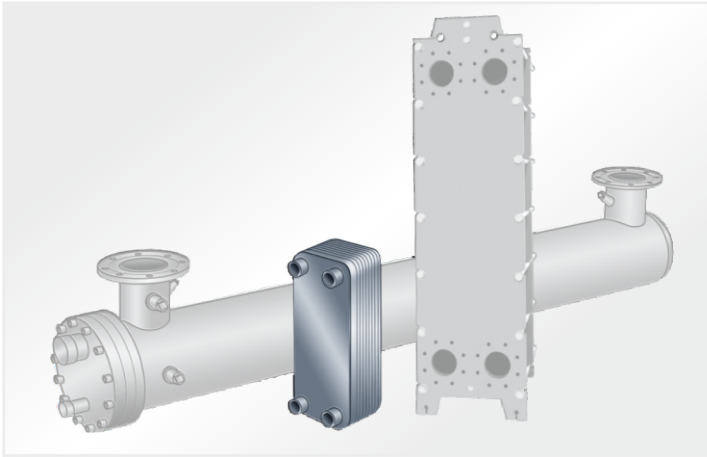
You save money in every area: energy consumption, maintenance, spare parts, space, transportation, and installation. The life cycle cost over a period of 15-20 years can often be halved compared with gasketed solutions.

Easy installation

Our BPHEs are extremely compact compared with other technologies. The footprint can be as little as one tenth that of a shell & tube heat exchanger or half that of a gasket PHE. The compact design gives you greater freedom and more efficient use of space when you are designing your system. Our modular concept enables you to perform major installations unit by unit, using standard doors and elevators.



The fluids can pass through the heat exchanger in different ways. For parallel flow BPHEs, there are two different flow configurations: co-current or counter-current.



At SWEP, we believe our future rests on giving more energy than we take – from our planet and our people. That’s why we pour our energy into leading the conversion to sustainable energy usage in heat transfer. Over three decades, the SWEP brand has become synonymous with challenging efficiency.

SWEP is a world-leading supplier of brazed plate heat exchangers for HVAC and industrial applications. With over 1,100 dedicated employees, carefully selected business partners, global presence with production, sales and heartfelt service, we bring a level of expertise and customer intimacy that’s redefining competitive edge for a more sustainable future. SWEP is part of Dover Corporation, a multi-billion-dollar, diversified manufacturer of a wide range of proprietary products and components for industrial and commercial use.



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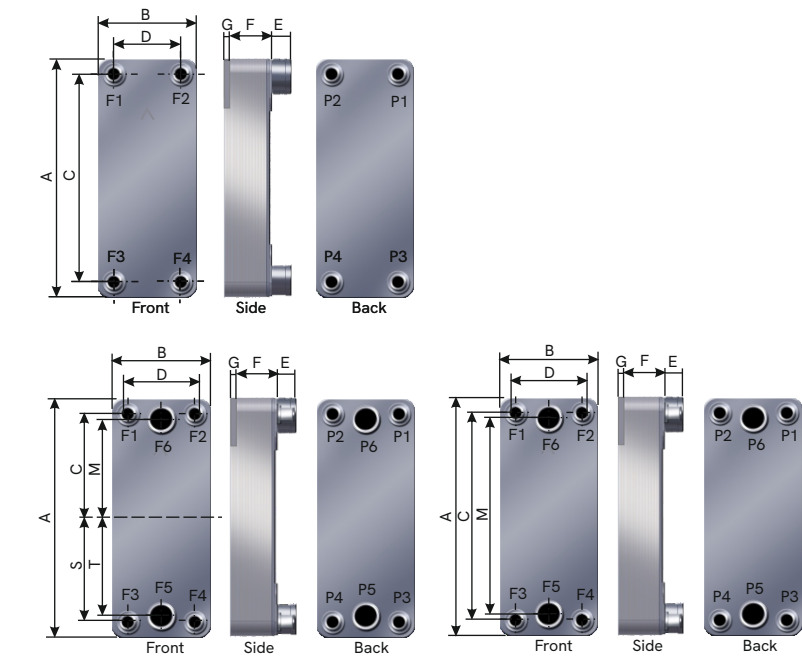
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SWEP products



Technical specifications for SWEP BPHEs



Small units

BPHE Model	X3T	4T	X4T	5T	5AS	6T	8T	X8T	9LAS	8AS	8DW	15T
A (mm) (in)	119,5 4.7	194,5 7.66	192,6 7.58	187,5 7.38	193 7.6	210 8.27	317 12.48	315 12.4	317,7 12.51	315 12.4	318 12.52	468 18.43
B (mm) (in)	54,4 2.14	76,9 3.03	75 2.95	72,5 2.85	76 2.99	73 2.87	76 2.99	73 2.87	76,2 3	74 2.91	76,5 3.01	76 2.99
C (mm) (in)	91 3.58	154 6.06	154 6.06	154 6.06	154 6.06	172 6.78	278 10.94	278 10.94	278 10.94	278 10.94	278 10.94	432 17.01
D (mm) (in)	26 1.02	40 1.57	40 1.57	40 1.57	40 1.57	40 1.57	40 1.57	40 1.57	40 1.57	40 1.57	40 1.57	40 1.57
E (mm) (in)	12/20 0.47/0.79	20 0.79	20 0.79	20 0.79	20 0.79	20/45 0.79/1.77	12/20 0.47/0.79	20 0.79	20/45 0.79/1.77	20/45 0.79/1.77	20 0.79	20/45 0.79/1.77
F (mm) (in)	2+1,22×(NoP-2) 0.079+0.048×(NoP-2)	8+1,06×NoP 0.315+0.042×NoP	2+1,06×(NoP-2) 0.079+0.042×(NoP-2)	4,3+2,31×NoP 0.169+0.091×NoP	4+2,17×NoP 0.157+0.085×NoP	2+2,24×(NoP-2) 0.08+0.088×(NoP-2)	4+2,24×NoP 0.157+0.088×NoP	2+2,24×(NoP-2) 0.079+0.088×(NoP-2)	4+1,32×NoP 0.157+0.052×NoP	2,2+2,1×(NoP-2) 0.08+0.08×(NoP-2)	4+1,57×NoP 0.157+0.062×NoP	4+2,24×NoP 0.157+0.088×NoP
G (mm) (in)	4 0.24	6 0.16	4 0.24	7 0.28	6,2 0.24	7 0.28	7 0.28	7 0.28	6,3 0.25	7 0.28	5,6 0.22	7 0.28
M (mm) (in)	-	-	-	-	-	-	-	-	-	-	-	-
Evaporator distributor types	-	-	-	-	-	-	-	-	-	-	-	-
Max number of plates (NoP)	60	100	100	60	60	40	60	60	70	42	70	60
Max flow capacity water m³/h gpm	1,6 7.0	1,2 5.3	1,2 5.2	4 17.6	4 17.6	4 17.6	4 17.6	4 17.6	4 17.6	4 17.6	4 17.6	4 17.6
Standard connection size (in)	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"

E units

BPHE Model	E5P	E5T	E5AS	E6T	EBLAS	E8AS	E8T
A (mm) (in)	190,5 7.5	192 7.56	192 7.56	210 8.27	316 12.44	315 12.4	315 12.4
B (mm) (in)	73 2.87	73 2.87	73 2.87	73 2.87	74 2.91	74 2.91	73 2.87
C (mm) (in)	154 6.06	154 6.06	154 6.06	172 6.77	278 10.94	278 10.94	278 10.94
D (mm) (in)	40 1.57	40 1.57	40 1.57	40 1.57	40 1.57	40 1.57	40 1.57
E (mm) (in)	-	12/20 0.47/0.79	12 0.47	12/20 0.47/0.79	12/20 0.47/0.79	12/20 0.47/0.79	12/20 0.47/0.79
F (mm) (in)	1,6+2,06×(NoP-2) 0.063+0.081×(NoP-2)	2+2,24×(NoP-2) 0.079+0.088×(NoP-2)	2+2,17×(NoP-2) 0.079+0.085×(NoP-2)	2+2,24×(NoP-2) 0.079+0.088×(NoP-2)	2+1,32×(NoP-2) 0.079+0.052×(NoP-2)	2,2+2,1×(NoP-2) 0.087+0.083×(NoP-2)	2+2,24×(NoP-2) 0.079+0.088×(NoP-2)
G (mm) (in)	5,9 0.23	7 0.28	7 0.28	7 0.28	7 0.28	7 0.28	7 0.28
M (mm) (in)	-	-	-	-	-	-	-
Evaporator distributor types	-	-	-	-	-	-	-
Max number of plates (NoP)	40	40	40	40	70	46	40
Max flow capacity water m³/h gpm	3 13.2	4 17.6	4 17.6	4 17.6	4 17.6	4 17.6	4 17.6
Standard connection size (in)	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"

All-Stainless (SPS) units

BPHE Model	4TS	5T	10TS	15T	80S	85S	221/222
A (mm) (in)	195,5 7.70	192,8 7.56	289 11.38	468 18.43	526 20.71	526 20.71	529 20.83
B (mm) (in)	78 3.07	75,4 2.97	119 4.69	76 2.99	119 4.69	119 4.69	271 10.67
C (mm) (in)	154 6.06	154 6.06	243 9.57	432 17.01	470 18.5	470 18.5	444 17.48
D (mm) (in)	40 1.57	40 1.57	72 2.83	40 1.57	63 2.48	63 2.48	184 7.24
E (mm) (in)	20 0.79	20/45 0.79/1.78	20/27 0.79/1.06	20 0.79	27 1.06	27/45/20 1.06/1.78/0.79	30/40 1.18/1.57
F (mm) (in)	8+1,18×NoP 0.314+0.046×NoP	3+2,3×NoP 0.118+0.091×NoP	4+2,39×NoP 0.157+0.094×NoP	4+2,24×NoP 0.157+0.088×NoP	4+2,39×NoP 0.157+0.094×NoP	4+1,99×NoP 0.157+0.08×NoP	18,4+2,4×NoP 0.724+0.094×NoP
G (mm) (in)	4 0.16	7,4 0.29	6 0.24	7 0.28	6 0.24	6 0.24	0
M (mm) (in)	-	-	-	-	-	-	-
Evaporator distributor types	-	-	V	-	-	-	-
Max number of plates (NoP)	100	60	140	60	90/140	160	150
Max flow capacity water m³/h gpm	1,2 5.3	4 17.6	9 39.6	4 17.6	17 74.8	17 74.8	27 118.8
Standard connection size (in)	3/4"	3/4"	1"	3/4"	1 1/4"	1 1/4"	2"

True-dual units

BPHE Model	D300	D310	D400	D500	D650
A (mm) (in)	525 20.67	525 20.67	694 27.32	980 38.58	744,6 29.31
B (mm) (in)	243 9.57	243 9.57	304 11.97	304 11.97	365,6 14.39
C (mm) (in)	221 8.7	221 8.7	604 23.78	866 34.09	324 12.76
D (mm) (in)	160 6.3	160 6.3	216 8.50	191 7.52	269 10.59
E (mm) (in)	27/54 1.06/2.13	27/54 1.06/2.13	54 2.13	27/54 1.06/2.13	54 2.13
F (mm) (in)	10+1,89×NoP 0.394+0.074×NoP	10+1,91×NoP 0.394+0.075×NoP	12+2,39×NoP 0.472+0.094×NoP	12+2,29×NoP 0.472+0.09×NoP	14+2,43×NoP 0.551+0.096×NoP
G (mm) (in)	4 0.16	4 0.16	1,5 0.06	6 0.24	2 0.08
M (mm) (in)	180 7.09	180 7.09	590 23.23	836 32.91	595 23.43
S (mm) (inch)	228 8.98	228 8.98	-	-	337 13.26
T (mm) (inch)	210 8.27	210 8.27	-	-	-
Evaporator distributor types	V, P, F	F, P	V, P, F, S	S	F
Max number of plates (NoP)	346	350	282	298	346
Max flow capacity water m³/h gpm	60 264	60 264	76 334.4	83 365.2	140 616
Standard connection size (in)	2 1/2"	2 1/2"	3"	3"	4"

Medium units

BPHE Model	10T	12	16	16DW	18	20	22AS	25T	26	28	80	80AS	85	85AS	86
A (mm) (in)	289 11.38	287 11.3	376 14.8	377 14.84	377 14.84	324 12.76	362 14.25	526 20.71	376 14.80	526 20.71	526 20.71	526 20.71	526 20.71	526 20.71	526 20.71
B (mm) (in)	119 4.69	117 4.60	119 4.69	119,5 4.70	119,5 4.70	94 3.7	92 3.62	119 4.69	119 4.69	119 4.69	119 4.69	119 4.69	119 4.69	119 4.69	119 4.69
C (mm) (in)	243 9.57	234 9.21	320 12.6	329 12.95	329 12.95	268,2 10.56	318 12.52	479 18.86	329 12.95	470 18.5	470 18.5	470 18.5	470 18.5	470 18.5	470 18.5
D (mm) (in)	72 2.83	63 2.48	63 2.48	72 2.83	72 2.83	39 1.54	48 1.89	72 2.83	63 2.48	63 2.48	63 2.48	63 2.48	63 2.48	63 2.48	63 2.48
E (mm) (in)	20/45 0.79/1.77	27/45 1.06/1.77	27/45 1.06/1.77	20 0.79	45/81 1.77/3.19	20 0.79	20/45 0.79	20/45 0.79/1.77	20/45 0.79/1.77	20/45 1.06/1.77	20/45 1.06/1.77	20/45 1.06/1.77	20/45/20 1.06/1.77/0.79	20/45/20 1.06/1.77/0.79	20/45/20 0.79/1.77/1.06
F (mm) (in)	4+2,24×NoP 0.157+0.088×NoP	4,4+2,34×NoP 0.173+0.092×NoP	4+2,24×NoP 0.157+0.088×NoP	4+2,01×NoP 0.157+0.079×NoP	12+2×NoP 0.472+0.079×NoP	6+1,46×NoP 0.236+0.057×NoP	6+1,32×NoP 0.236+0.052×NoP	4+2,25×NoP 0.157+0.088×NoP	4+1,61×NoP 0.157+0.063×NoP	4+2,31×NoP 0.157+0.091×NoP	4+2,24×NoP 0.157+0.088×NoP	4+2,24×NoP 0.157+0.088×NoP	4+1,84×NoP 0.157+0.072×NoP	4+1,84×NoP 0.157+0.072×NoP	4+1,68×NoP 0.157+0.066×NoP
G (mm) (in)	6 0.24	6 0.24	6 0.24	6 0.24	2 0.08	5 0.2	5 0.2	6 0.24	6 0.24	6 0.24	6 0.24	6 0.24	6 0.24	6 0.24	6 0.24
M (mm) (in)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Evaporator distributor types	V	-	-	-	-	-	FI	V	V	-	V, P, F, Q	F, P, Q	F, Q	F, Q	-
Max number of plates (NoP)	140	140	140	140	140	140	140	140	160	140	140	140	160	160	160
Max flow capacity water m³/h gpm	9 39.6	16,9 74.4	16,9 74.4	11,3 49.7	9 39.6	9,7 42.7	9,7 42.7	9 39.6	11,3 49.7	16,9 74.4	17 74.8	17 74.8	17 74.8	17 74.8	9 39.6
Standard connection size (in)	1"	1 1/4"	1 1/4"	1"	1"	1"	1"	1"	1"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1"

Large units

BPHE Model	30	35T*	35TDW	56	185	120T	190	200T	220	224	TW250AS	250AS	315	320HT	320LT	327
A (mm) (in)	243,5 9.59	393 15.47	393 15.47	525 20.67	425,2 16.74	525 20.67	524,5 20.65	525 20.67	524 20.62	620 24.41	620 24.41	620 24.41	392,5 15.45	525 20.67	525 20.67	693 27.28
B (mm) (in)	243,5 9.59	243 9.57	243 9.57	243 9.57	203,2 8	243 9.57	243 9.57	243 9.57	202 7.95	202 7.95	202 7.95	202 7.95	242,5 9.55	243 9.57	243 9.57	243 9.57
C (mm) (in)	173,7 6.84	324 12.76	309 12.17	430 16.93	354 13.94	456 17.95	460 18.11	448,5 17.66	442 17.4	530 20.87	543 21.38	538 21.18	298 11.73	441 17.36	430 16.93	598 23.54
D (mm) (in)	174 6.85	174 6.85	159 6.26	148 5.83	126 4.96	174 6.85	136 5.35	163,5 6.44	120 4.72	112 4.41	116 4.57	112 4.41	148 5.83	159 6.26	148 5.83	148 5.83
E (mm) (in)	27/54 1.06/2.13	27/54 1.06/2.13	27/54 1.06/2.13	54 2.13	45 1.78	27/54 1.06/2.13	27 1.06	27/54 1.06/2.13	27/54 1.06/2.13	27/54 1.06/2.13	27/54/30 1.06/2.13/1.18	27/54 1.06/2.13	27/54 2.13/1.06	54/112/27 2.13/4.41/1.06	54/20 2.13/0.79	54/27 1.06/2.13/1.18
F (mm) (in)	6+2,12×NoP 0.236+0.083×NoP	10+2,26×NoP 0.394+0.089×NoP	18+2,53×NoP 0.71+0.10×NoP	14+2,44×NoP 0.55+0.096×NoP	18+2×NoP 0.709+0.079×NoP	10+2,29×NoP 0.394+0.09×NoP	10+1,91×NoP 0.394+0.075×NoP	10+2,29×NoP 0.394+0.09×NoP	6+1,73×NoP 0.23+0.07×NoP	10+1,91×NoP 0.39+0.07×NoP	14+2,11×NoP 0.551+0.083×NoP	14+1,91×NoP 0.551+0.075×NoP	10+2,86×NoP 0.394+0.113×NoP	14+1,98×NoP 0.551+0.078×NoP	14+2,57×NoP 0.551+0.101×NoP	10+1,91×NoP 0.394+0.075×NoP
G (mm) (in)	6 0.24	4 0.16	0	3 0.12	0	4 0.16	2 0.08	4 0.16	2 0.08	0	0	0	4 0.16	2 0.08	2 0.08	4 0.16
M (mm) (in)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Evaporator distributor types	-	V	V	-	-	V, P, F	FI, PI	V, P, F	-	-	F	P, F	-	-	-	-
Max number of plates (NoP)	300	260	260	280	180	250	140	250	300	300	250	300	200	300	260	260
Max flow capacity water m³/h gpm	27 118.8	27 118.8	58 255.2	76,2 335.3	38,8 170.7	27,4 120.6	28 123.2	43,7 192.3	39 153	62 272.8	62 272.8	62 272.8	76,2 335.3	61,7 271.5	76,2 335.3	83 365.4
Standard connection size (in)	2"	1 1/2" 2 1/2"	1 1/2" 2 1/2"	3"	1 1/2" 2"	1 1/2"	2"	2"	2"	2 1/2"	3"	3"	3"	2 1/2"	2 1/2"	2 1/2"

* 35T SC-M F(mm): 22+2,26×NoP (inch