

ABX – Brazed Plate Heat Exchangers – Selection Charts

Armstrong’s ABX brazed plate heat exchangers are designed to facilitate heat transfer between two media of different temperatures without allowing them to mix. The high heat transfer rates allow for a compact design, and the stainless steel construction combined with copper brazing creates a robust and corrosion resistant unit. The design and construction conform to ASME code.

Armstrong also offers the following options:

- Nickle Brazed
- Double wall
- SMO 254 Plates
- Mounting Studs

Standard Construction:

- Copper Brazed
- 316 SS plates
- 316 SS Sweat or NPT Connections
- Single Wall

Operating Limits (Standard Construction)

Design Pressure: 450 psig (3103 kPa)
 Max. Operating Temp.: 385°F (196°C)

Submittals and installation & operating manuals are available at www.armstrongpumps.com.

<u>Models</u>	<u>Lead Time</u>
Stock	→ 2 weeks
Not in-Stock	→ Contact your nearest Armstrong Representative

For quantities of more than 2 of one model size, please confirm delivery with the factory.

Radiant Heat Applications						
OPTIMAL MODEL	STOCK MODEL	BTUH	180° F - 150° F BOILER LOOP		80° F - 100° F FLOOR LOOP	
			Flow	Pressure Drop	Flow	Pressure Drop
SB1 -8	SB1 -10	20,000	1.3 (0.08)	0.7 (0.13)	2.0 (0.13)	0.9 (6.21)
SB1 -8	SB1 -10	40,000	2.7 (0.17)	2.7 (18.62)	4.0 (0.25)	3.5 (24.13)
SB1 -8	SB1 -10	60,000	4.0 (0.25)	5.8 (39.99)	6.0 (0.38)	7.6 (52.40)
SB1 -14	SB1 -20	90,000	6.0 (0.38)	3.4 (23.44)	9.0 (0.57)	5.8 (39.99)
SB3 -10	SB1 -20	120,000	8.0 (0.50)	5.0 (34.47)	12.0 (0.76)	7.4 (51.02)
SB3 -14	SB1 -20	150,000	10.0 (0.63)	3.6 (24.82)	15.0 (0.95)	6.0 (41.37)
SB3 -20	SB3 -20	180,000	12.0 (0.76)	2.4 (16.55)	18.0 (1.14)	4.4 (30.34)
SB3 -20	SB3 -20	220,000	14.7 (0.93)	3.5 (24.13)	22.0 (1.39)	6.5 (44.82)
SB3 -24	SB3 -30	260,000	17.3 (1.09)	3.3 (22.75)	26.0 (1.64)	6.4 (44.13)
SB3 -30	SB3 -30	300,000	20.0 (1.26)	2.8 (19.31)	30.0 (1.89)	5.7 (39.30)
SB3 -30	SB3 -30	350,000	23.3 (1.47)	3.8 (26.20)	35.0 (2.21)	7.6 (52.40)
SB3 -40	SB4 -50	400,000	26.7 (1.68)	2.9 (19.99)	40.0 (2.52)	6.0 (41.37)
SB3 -40	SB7M -40	450,000	30.0 (1.89)	3.7 (25.51)	45.0 (2.84)	7.6 (52.40)
SB3 -50	SB7M -40	500,000	33.3 (2.10)	3.1 (21.37)	50.0 (3.15)	6.6 (45.51)
SB3 -60	SB7M -40	600,000	40.0 (2.52)	3.4 (23.44)	60.0 (3.75)	7.3 (50.33)
SB7L -30	SB7L -40	700,000	46.7 (2.94)	3.3 (22.75)	70.0 (4.42)	6.5 (44.82)
SB7L -34	SB7L -40	800,000	53.3 (3.36)	3.3 (22.75)	80.0 (5.05)	6.7 (46.19)
SB7L -40	SB7L -40	900,000	60.0 (3.79)	3.1 (21.37)	90.0 (5.68)	6.4 (44.13)
SB7L -44	SB7L -40	1,000,000	66.7 (4.21)	3.3 (22.75)	100.0 (6.31)	6.8 (46.88)
SB7L -60	SB7L -40	1,200,000	80.0 (5.05)	3.3 (22.75)	120.0 (7.57)	6.2 (42.75)
SB7L -70	SB7L -40	1,400,000	93.3 (5.89)	3.2 (22.06)	140.0 (8.83)	7.0 (48.26)
SB8 -70		1,600,000	106.7 (6.73)	3.2 (22.06)	160.0 (10.09)	6.8 (46.88)
SB8 -80		1,800,000	120.0 (7.57)	3.2 (22.06)	180.0 (11.36)	7.0 (48.26)
SB8 -90		2,000,000	133.3 (8.41)	3.3 (22.75)	200.0 (12.62)	7.2 (49.64)
SB8 -130		2,500,000	166.7 (10.52)	3.3 (22.75)	250.0 (15.77)	7.3 (50.33)
SB10 -160		3,000,000	200.0 (12.62)	3.1 (21.37)	300.0 (18.93)	6.8 (46.88)
SB10 -180		3,500,000	233.3 (14.72)	3.4 (23.44)	350.0 (22.08)	7.4 (51.02)
SB10 -210		4,000,000	266.7 (16.82)	3.3 (22.75)	400.0 (25.24)	7.3 (50.33)

Based on the following conditions: **Boiler Side (Side 1) - Water**
Radiant Heat Side (Side 2) – Water

Note: All Flows in USgpm (L/s) and Pressure Drops in psi (kPa)



Radiant Heat Applications

OPTIMAL MODEL	STOCK MODEL	BTUH	180° F - 150° F BOILER LOOP		120° F - 140° F FLOOR LOOP	
			Flow	Pressure Drop	Flow	Pressure Drop
SB1 -8	SB1 -10	20,000	1.3 (0.08)	0.70 (4.83)	2.0 (0.13)	0.90 (6.21)
SB1 -8	SB1 -10	40,000	2.7 (0.17)	2.70 (18.62)	4.0 (0.25)	3.50 (24.13)
SB1 -10	SB1 -10	60,000	4.0 (0.25)	3.40 (23.44)	6.0 (0.38)	4.90 (33.78)
SB1 -14	SB1 -20	90,000	6.0 (0.38)	3.40 (23.44)	9.0 (0.57)	5.80 (39.99)
SB1 -20	SB1 -20	120,000	8.0 (0.50)	2.90 (19.99)	12.0 (0.76)	5.30 (36.54)
SB1 -24	SB1 -20	150,000	10.0 (0.63)	3.10 (21.37)	15.0 (0.95)	6.00 (41.37)
SB1 -30	SB3 -20	180,000	12.0 (0.76)	3.00 (20.68)	18.0 (1.14)	6.00 (41.37)
SB2 -30	SB3 -20	220,000	14.7 (0.93)	3.90 (26.89)	22.0 (1.39)	7.60 (52.40)
SB3 -40	SB3 -30	260,000	17.3(1.09)	1.30 (8.96)	26.0 (1.64)	2.60 (17.93)
SB3 -44	SB3 -30	300,000	20.0 (1.26)	1.40 (9.65)	30.0 (1.89)	2.90 (19.99)
SB3 -50	SB3 -30	350,000	23.3 (1.47)	1.60 (11.03)	35.0 (2.21)	3.30 (22.75)
SB4 -60	SB4 -50	400,000	26.7 (1.68)	2.90 (19.99)	40.0 (2.52)	6.00 (41.37)
SB4 -60	SB7M -40	450,000	30.0 (1.89)	3.60 (24.82)	45.0 (2.84)	7.50 (51.71)
SB4 -70	SB7M -40	500,000	33.3 (2.10)	3.40 (23.44)	50.0 (3.15)	7.30 (50.33)
SB4 -90	SB7M -40	600,000	40.0 (2.52)	3.40 (23.44)	60.0 (3.75)	7.30 (50.33)
SB7L -30	SB7L -40	700,000	46.7 (2.94)	3.30 (22.75)	70.0 (4.42)	6.50 (44.82)
SB7L -34	SB7L -40	800,000	53.3 (3.36)	3.30 (22.75)	80.0 (5.05)	6.70 (46.19)
SB7L -40	SB7L -40	900,000	60.0 (3.79)	3.10 (21.37)	90.0 (5.68)	6.40 (44.13)
SB7L -44	SB7L -40	1,000,000	66.7 (4.21)	3.30 (22.75)	100.0 (6.31)	6.80 (46.88)
SB7L -60	SB7L -40	1,200,000	80.0 (5.05)	3.30 (22.75)	120.0 (7.57)	6.20 (42.75)
SB7L -70	SB7L -40	1,400,000	93.3 (5.89)	3.20 (22.06)	140.0 (8.83)	7.00 (48.26)
SB8 -70		1,600,000	106.7 (6.73)	3.20 (22.06)	160.0 (10.09)	6.80 (46.88)
SB8 -80		1,800,000	120.0 (7.57)	3.20 (22.06)	180.0 (11.36)	7.00 (48.26)
SB8 -90		2,000,000	133.3 (8.41)	3.30 (22.75)	200.0 (12.62)	7.20 (49.64)
SB8 -130		2,500,000	166.7 (10.52)	3.30 (22.75)	250.0 (15.77)	7.30 (50.33)
SB10 -160		3,000,000	200.0 (12.62)	3.10 (21.37)	300.0 (18.93)	6.80 (46.88)
SB10 -180		3,500,000	233.3 (14.72)	3.40 (23.44)	350.0 (22.08)	7.40 (51.02)
SB10 -210		4,000,000	266.7 (16.82)	3.30 (22.75)	400.0 (25.24)	7.30 (50.33)

Based on the following conditions: **Boiler Side (Side 1) - Water**
Radiant Heat Side (Side 2) - Water

Domestic Hot Water Applications

OPTIMAL MODEL	STOCK MODEL	BTUH	180° F - 140° F BOILER		50° F - 130° F DOMESTIC WATER	
			Flow	Pressure Drop	Flow	Pressure Drop
SB1 -10	SB1 -10	25,000	1.3 (0.08)	0.35 (2.42)	0.6 (0.04)	0.07 (0.48)
SB1 -10	SB1 -10	30,000	1.5 (0.09)	0.49 (3.38)	0.8 (0.05)	0.09 (0.63)
SB1 -10	SB1 -10	40,000	2.0 (0.13)	0.84 (5.80)	1.0 (0.06)	0.16 (1.11)
SB1 -10	SB1 -10	50,000	2.5 (0.16)	1.31 (9.03)	1.3 (0.08)	0.25 (1.73)
SB1 -14	SB1 -20	80,000	4.0 (0.25)	3.20 (22.03)	2.0 (0.13)	0.61 (4.21)
SB1 -14	SB1 -20	100,000	5.0 (0.32)	2.29 (15.81)	2.5 (0.16)	0.51 (3.53)
SB1 -14	SB1 -20	130,000	6.5 (0.41)	3.79 (26.15)	3.3 (0.21)	0.83 (5.74)
SB1 -20	SB1 -20	150,000	7.5 (0.47)	2.39 (16.50)	3.8 (0.24)	0.58 (4.01)
SB1 -20	SB1 -20	200,000	10.0 (0.63)	4.14 (28.52)	5.0 (0.32)	1.00 (6.90)
SB1 -30	SB4 -20	300,000	15.0 (0.95)	4.30 (29.62)	7.5 (0.47)	1.10 (7.59)
SB2 -40	SB4 -40	400,000	20.0 (1.26)	3.88 (26.72)	10.0 (0.63)	1.03 (7.11)
SB2 -40	SB4 -40	500,000	25.0 (1.58)	5.93 (40.86)	12.5 (0.79)	1.57 (10.85)
SB2 -44	SB4 -40	600,000	30.0 (1.89)	7.51 (51.80)	15.0 (0.95)	1.90 (13.09)
SB2 -50	SB4 -40	700,000	35.0 (2.21)	8.12 (55.98)	17.5 (1.10)	2.06 (14.20)
SB2 -50	SB4 -50	800,000	40.0 (2.52)	10.00 (68.96)	20.0 (1.26)	2.67 (18.41)
SB4 -60	SB4 -50	900,000	45.0 (2.84)	7.82 (53.92)	22.5 (1.42)	2.00 (13.78)
SB4 -60	SB5 -70	1,000,000	50.0 (3.15)	9.56 (65.91)	25.0 (1.58)	2.45 (16.89)

Based on the following conditions: **Boiler Side (Side 1) - Water**
Radiant Heat Side (Side 2) - Water

Note: All Flows in USgpm (L/s) and Pressure Drops in psi (kPa)



Snow Melt Applications

OPTIMAL MODEL	STOCK MODEL	BTUH	180° F - 150° F BOILER LOOP		100° F - 130° F SNOW MELT	
			Flow	Pressure Drop	Flow	Pressure Drop
SB1 -10	SB1 -10	30,000	2.0 (0.13)	0.9 (6.21)	2.1 (0.13)	0.75 (5.17)
SB1 -10	SB1 -10	50,000	3.3 (0.21)	2.4 (16.55)	3.6 (0.23)	2.0 (13.79)
SB1 -14	SB1 -20	75,000	5.0 (0.32)	2.4 (16.55)	5.4 (0.34)	2.3 (15.86)
SB1 -14	SB1 -20	100,000	6.7 (0.42)	4.2 (28.96)	7.1 (0.45)	4.0 (27.58)
SB1-20	SB1 -20	125,000	8.3 (0.52)	3.1 (21.37)	8.9 (0.56)	3.3 (22.75)
SB1-20	SB1 -20	150,000	10.0 (0.63)	4.4 (30.34)	10.7 (0.68)	4.6 (31.72)
SB1-20	SB1 -20	175,000	11.7 (0.74)	5.9 (40.68)	12.5 (0.79)	6.2 (42.75)
SB1-30	SB4 -20	200,000	13.4 (0.85)	3.7 (25.51)	14.3 (0.90)	4.1 (28.27)
SB1-30	SB4 -40	250,000	16.7 (1.05)	5.6 (38.61)	17.8 (1.12)	6.3 (43.44)
SB2-40	SB4 -40	300,000	20.0 (1.26)	4.1 (28.27)	21.4 (1.35)	4.8 (33.09)
SB2-40	SB4 -40	350,000	23.4 (1.48)	5.5 (37.92)	25.0 (1.58)	6.4 (44.13)
SB2-50	SB2 -40	400,000	26.7 (1.68)	4.9 (33.78)	28.6 (1.80)	5.7 (39.30)
SB2-50	SB4 -50	450,000	30.0 (1.89)	6.1 (42.06)	32.1 (2.03)	7.2 (49.64)
SB4-50	SB4 -50	500,000	33.4 (2.11)	6.1 (42.06)	35.7 (2.25)	7.2 (49.64)
SB4-60	SB7L -20	600,000	40.0 (2.52)	6.3 (43.44)	42.8 (2.70)	7.5 (51.71)
SB4-80	SB7L -20	700,000	46.7 (2.95)	5.4 (37.23)	50.0 (3.15)	6.4 (44.13)
SB7L-20	SB7L -20	700,000	46.7 (2.95)	7.1 (48.95)	50.0 (3.15)	7.6 (52.40)
SB4-90	SB7M -40	800,000	53.4 (3.37)	5.9 (40.68)	57.1 (3.60)	7.1 (48.95)
SB7L-24	SB7M -40	800,000	53.4 (3.37)	6.4 (44.13)	57.1 (3.60)	7.0 (48.26)
SB7L-30	SB7M -40	900,000	60.0 (3.79)	5.2 (35.85)	64.2 (4.05)	5.9 (40.68)
SB7L-30	SB7L -40	1,000,000	66.8 (4.21)	6.4 (44.13)	71.4 (4.50)	7.2 (49.64)

Based on the following conditions: **Boiler Side** (Side 1) - Water 180°F/150°F (82°C/66°C)
Snow Melt Side (Side 2) - 40% PG 100°F/130°F (38°C/54°C)

Swimming Pool Applications

OPTIMAL MODEL	STOCK MODEL	BTUH	180° F - 150° F BOILER LOOP		80° F - 109° F SWIMMINGPOOL	
			Flow	Pressure Drop	Flow	Pressure Drop
SB1 -8	SB1 -10	30,000	2.0 (0.13)	1.5 (10.34)	2.0 (0.13)	0.90 (6.21)
SB1 -10	SB1 -10	60,000	4.0 (0.25)	3.2 (22.06)	4.0 (0.25)	2.3 (15.86)
SB1 -10	SB1 -10	75,000	5.0 (0.32)	4.9 (33.78)	5.0 (0.32)	3.5 (24.13)
SB1 -12	SB1 -20	90,000	6.0 (0.38)	4.6 (31.72)	6.0 (0.38)	3.5 (24.13)
SB1-14	SB1 -20	105,000	7.0 (0.44)	4.4 (30.34)	7.0 (0.44)	3.6 (24.82)
SB3-10	SB1 -20	120,000	8.0 (0.50)	4.8 (33.09)	8.0 (0.50)	3.4 (23.44)
SB1-20	SB1 -20	150,000	10.0 (0.63)	4.2 (28.96)	10.0 (0.63)	3.7 (25.51)
SB3-14	SB3 -20	175,000	12.0 (0.76)	4.8 (33.09)	12.0 (0.76)	3.9 (26.89)
SB1-30	SB3 -20	220,000	15.0 (0.95)	4.3 (29.65)	15.0 (0.95)	4.2 (28.96)
SB3-20	SB3 -20	265,000	18.0 (1.14)	4.9 (33.78)	15.0 (0.95)	4.4 (30.34)
SB3-24	SB3 -30	300,000	20.0 (1.26)	4.2 (28.96)	20.0 (1.26)	3.8 (26.20)
SB3-30	SB3 -30	365,000	25.0 (1.58)	4.1 (28.27)	25.0 (1.58)	3.9 (26.89)
SB3-34	SB4-50	440,000	30.0 (1.89)	4.6 (31.72)	30.0 (1.89)	4.5 (31.03)
SB3-40	SB5-60	515,000	35.0 (2.21)	4.7 (32.41)	35.0 (2.21)	4.6 (31.72)
SB3-50	SB5-60	585,000	40.0 (2.52)	4.2 (28.96)	40.0 (2.52)	4.2 (28.96)
SB3-34	SB5-60	660,000	45.0 (2.84)	10.0 (68.95)	45.0 (2.84)	9.7 (66.88)
SB3-40	SB7M-40	730,000	50.0 (3.15)	9.2 (63.43)	50.0 (3.15)	9.1 (62.74)
SB3-44	SB7M-40	805,000	55.0 (3.47)	9.4 (64.81)	55.0 (3.47)	9.4 (64.81)
SB3-50	SB7M-40	880,000	60.0 (3.79)	9.1 (62.74)	60.0 (3.79)	9.1 (62.74)
SB4-80	SB7M-40	950,000	65.0 (4.10)	9.5 (65.50)	65.0 (4.10)	9.8 (67.57)
SB4-90	SB7M-40	1,025,000	70.0 (4.42)	9.3 (64.12)	70.0 (4.42)	9.6 (66.19)
SB4-100	SB7M-40	1,100,000	75.0 (4.73)	9.3 (64.12)	75.0 (4.73)	9.6 (66.19)
SB7L-30	SB7L-40	1,180,000	80.0 (5.05)	8.6 (59.29)	80.0 (5.05)	8.2 (56.54)
SB7L-34	SB7L-40	1,320,000	90.0 (5.68)	8.6 (59.29)	90.0 (5.68)	8.3 (57.23)
SB7L-40	SB7L-40	1,480,000	100.0 (6.31)	8.0 (55.16)	100.0 (6.31)	7.9 (54.47)
SB7L-44	SB7L-60	1,830,000	125.0 (7.89)	10.0 (68.95)	125.0 (7.89)	10.0 (68.95)
SB7L-60	SB7L-60	2,200,000	150.0 (9.46)	9.1 (62.74)	150.0 (9.46)	9.3 (64.12)
SB8-60		2,560,000	175.0 (11.04)	10.0 (68.95)	175.0 (11.04)	10.0 (68.95)
SB8-70		2,925,000	200.0 (12.62)	10.0 (68.95)	200.0 (12.62)	10.0 (68.95)

Based on the following conditions: **Boiler Side** (Side 1) - Water 180°F/150°F (82°C/66°C)
Swimming Pool Side (Side 2) - Water 80°F/109°F (27°C/43°C)

Maximum 10 psi pressure drop for USgpm > 45. Maximum 5 psi pressure drop for USgpm < 45.
 *Recommend using SMO 254 stainless steel because of chlorinated water.

Note: All Flows in USgpm (L/s) and Pressure Drops in psi (kPa)



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