

Source Water Entering Temp = 90°F	HEATING MODE										COOLING MODE				
	Units	R-410A					R-134a					R-410A	R-134a	Units	
Building Water Entering Temp	°F					100	110	120	130	140	55	55	°F	Building Water Entering Temp	
Building Water Leaving Temp	°F					110	120	130	140	150	45	45	°F	Building Water Leaving Temp	
Heating Capacity	MBTUH					1610.6	1541.1	1054.9	1019.4	985.3	986.3	652.7	MBTUH	Cooling Capacity	
Condenser Water Flow	GPM					322.1	308.2	211.0	203.9	197.1	197.3	130.5	GPM	Evaporator Water Flow	
Evaporator Load	MBTUH					1,336.6	1,232.6	829.0	768.9	707.6	1227.2	813.4	MBTUH	Condenser Load	
Evaporator Water Flow	GPM					267.3	246.5	165.8	153.8	141.5	245.4	162.7	GPM	Condenser Water Flow	
Power Input	kW					80.3	90.4	66.2	73.4	81.4	70.6	47.1	kW	Power Input	
COP	-					5.88	5.00	4.67	4.07	3.55	13.97	13.87	-	EER	
Source Water Leaving Temp	°F					80	80	80	80	80	100	100	°F	Source Water Leaving Temp	

Source Water Entering Temp = 80°F	HEATING MODE										COOLING MODE				
	Units	R-410A					R-134a					R-410A	R-134a	Units	
Building Water Entering Temp	°F					90	100	110	120	130	140	55	55	°F	Building Water Entering Temp
Building Water Leaving Temp	°F					100	110	120	130	140	150	45	45	°F	Building Water Leaving Temp
Heating Capacity	MBTUH					1678.6	1610.6	1541.1	1054.9	1019.4	985.3	1052.7	690.6	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					335.7	322.1	308.2	211.0	203.9	197.1	210.5	138.1	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					1,434.3	1,336.6	1,232.6	829.0	768.9	707.6	1,266.8	835.6	MBTUH	Condenser Load
Evaporator Water Flow	GPM					286.9	267.3	246.5	165.8	153.8	141.5	253.4	167.1	GPM	Condenser Water Flow
Power Input	kW					71.6	80.3	90.4	66.2	73.4	81.4	62.7	42.5	kW	Power Input
COP	-					6.87	5.88	5.00	4.67	4.07	3.55	16.78	16.26	-	EER
Source Water Leaving Temp	°F					70	70	70	70	70	70	90	90	°F	Source Water Leaving Temp

Source Water Entering Temp = 70°F	HEATING MODE										COOLING MODE					
	Units	R-410A					R-134a					R-410A	R-134a	Units		
Building Water Entering Temp	°F					80	90	100	110	120	130	140	55	55	°F	Building Water Entering Temp
Building Water Leaving Temp	°F					90	100	110	120	130	140	150	45	45	°F	Building Water Leaving Temp
Heating Capacity	MBTUH					1680.6	1553.2	1492.9	1431.4	969.4	938.7	909.5	1115.0	723.7	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					336.1	310.6	298.6	286.3	193.9	187.7	181.9	223.0	144.7	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					1395.0	1310.1	1219.7	1123.6	745.4	690.3	634.1	1305.8	855.8	MBTUH	Condenser Load
Evaporator Water Flow	GPM					279.0	262.0	243.9	224.7	149.1	138.1	126.8	261.2	171.2	GPM	Condenser Water Flow
Power Input	kW					83.7	71.2	80.0	90.2	65.6	72.8	80.7	55.9	38.7	kW	Power Input
COP	-					5.88	6.39	5.47	4.65	4.33	3.78	3.30	19.94	18.70	-	EER
Source Water Leaving Temp	°F					60	60	60	60	60	60	60	80	80	°F	Source Water Leaving Temp

Source Water Entering Temp = 60°F	HEATING MODE										COOLING MODE						
	Units	R-410A					R-134a					R-410A	R-134a	Units			
Building Water Entering Temp	°F					70	80	90	100	110	120	130	140			°F	Building Water Entering Temp
Building Water Leaving Temp	°F					80	90	100	110	120	130	140	150			°F	Building Water Leaving Temp
Heating Capacity	MBTUH					1418.3	1373.6	1327.9	1281.6	1234.8	817.9	795.9	775.7			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					283.7	274.7	265.6	256.3	247.0	163.6	159.2	155.1			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					1226.4	1158.7	1086.5	1009.6	927.8	597.5	551.5	504.6			MBTUH	Condenser Load
Evaporator Water Flow	GPM					245.3	231.7	217.3	201.9	185.6	119.5	110.3	100.9			GPM	Condenser Water Flow
Power Input	kW					56.2	63.0	70.7	79.7	89.9	64.6	71.6	79.4			kW	Power Input
COP	-					7.39	6.39	5.50	4.71	4.02	3.71	3.26	2.86			-	EER
Source Water Leaving Temp	°F					50	50	50	50	50	50	50	50			°F	Source Water Leaving Temp

Source Water Entering Temp = 50°F	HEATING MODE										COOLING MODE							
	Units	R-410A					R-134a					R-410A	R-134a	Units				
Building Water Entering Temp	°F					60	70	80	90	100	110	120	130	140			°F	Building Water Entering Temp
Building Water Leaving Temp	°F					70	80	90	100	110	120	130	140	150			°F	Building Water Leaving Temp
Heating Capacity	MBTUH					1234.4	1201.5	1167.8	1133.8	1099.7	1065.7	689.9	675.5	663.2			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					246.9	240.3	233.6	226.8	219.9	213.1	138.0	135.1	132.6			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					1065.1	1011.5	954.3	893.3	828.5	759.6	472.9	434.8	396.2			MBTUH	Condenser Load
Evaporator Water Flow	GPM					213.0	202.3	190.9	178.7	165.7	151.9	94.6	87.0	79.2			GPM	Condenser Water Flow
Power Input	kW					49.6	55.7	62.6	70.5	79.5	89.7	63.6	70.5	78.2			kW	Power Input
COP	-					7.29	6.33	5.47	4.71	4.05	3.48	3.18	2.81	2.48			-	EER
Source Water Leaving Temp	°F					40	40	40	40	40	40	40	40	40			°F	Source Water Leaving Temp

Source Water Entering Temp = 40°F	HEATING MODE										COOLING MODE						
	Units	R-410A					R-134a					R-410A	R-134a	Units			
Building Water Entering Temp	°F					60	70	80	90	100	110	120	130			°F	Building Water Entering Temp
Building Water Leaving Temp	°F					70	80	90	100	110	120	130	140			°F	Building Water Leaving Temp
Heating Capacity	MBTUH					1039.7	1015.6	991.3	967.2	943.6	920.7	582.5	574.7			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					207.9	203.1	198.3	193.4	188.7	184.1	116.5	114.9			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					872.1	826.8	778.7	727.5	673.2	615.7	368.6	337.4			MBTUH	Condenser Load
Evaporator Water Flow	GPM					174.4	165.4	155.7	145.5	134.6	123.1	73.7	67.5			GPM	Condenser Water Flow
Power Input	kW					49.1	55.3	62.3	70.2	79.2	89.4	62.7	69.5			kW	Power Input
COP	-					6.20	5.38	4.66	4.03	3.49	3.02	2.72	2.42			-	EER
Source Water Leaving Temp	°F					30	30	30	30	30	30	30	30			°F	Source Water Leaving Temp

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ENVIRONMENTALLY ENGINEERED EQUIPMENT, INC.

Water-to-Water Heat Pumps FS 80 Data Sheet

