

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					4102.9	3915.7	2613.8	2530.0	2449.5	2499.1	1603.9	MBTUH	Cooling Capacity	
Condenser Water Flow	GPM					820.6	783.1	522.8	506.0	489.9	499.8	320.8	GPM	Evaporator Water Flow	
Evaporator Load	MBTUH					3,398.1	3,130.3	2037.4	1890.8	1741.6	3128.1	2010.3	MBTUH	Condenser Load	
Evaporator Water Flow	GPM					679.6	626.1	407.5	378.2	348.3	625.6	402.1	GPM	Condenser Water Flow	
Power Input	kW					206.5	230.1	168.9	187.3	207.4	184.3	119.1	kW	Power Input	
COP	-					5.82	4.99	4.53	3.96	3.46	13.56	13.47	-	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					4282.4	4102.9	3915.7	2613.8	2530.0	2449.5	2666.6	1698.5	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					856.5	820.6	783.1	522.8	506.0	489.9	533.3	339.7	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					3,647.4	3,398.1	3,130.3	2037.4	1890.8	1741.6	3,232.0	2,062.7	MBTUH	Condenser Load
Evaporator Water Flow	GPM					729.5	679.6	626.1	407.5	378.2	348.3	646.4	412.5	GPM	Condenser Water Flow
Power Input	kW					186.0	206.5	230.1	168.9	187.3	207.4	165.7	106.7	kW	Power Input
COP	-					6.74	5.82	4.99	4.53	3.96	3.46	16.10	15.92	-	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					4114.1	3962.2	3802.1	3635.5	2402.6	2330.3	2261.6	2820.7	1781.6	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					822.8	792.4	760.4	727.1	480.5	466.1	452.3	564.1	356.3	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					3543.0	3329.2	3098.3	2850.4	1830.5	1696.1	1559.4	3329.5	2110.7	MBTUH	Condenser Load
Evaporator Water Flow	GPM					708.6	665.8	619.7	570.1	366.1	339.2	311.9	665.9	422.1	GPM	Condenser Water Flow
Power Input	kW					167.4	185.5	206.2	230.0	167.6	185.8	205.8	149.1	96.4	kW	Power Input
COP	-					7.20	6.26	5.40	4.63	4.20	3.67	3.22	18.92	18.48	-	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					3616.1	3504.9	3386.1	3261.5	3132.7	2029.3	1978.1	1931.0			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					723.2	701.0	677.2	652.3	626.5	405.9	395.6	386.2			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					3105.3	2937.9	2755.9	2559.3	2348.2	1466.9	1354.9	1241.3			MBTUH	Condenser Load
Evaporator Water Flow	GPM					621.1	587.6	551.2	511.9	469.6	293.4	271.0	248.3			GPM	Condenser Water Flow
Power Input	kW					149.7	166.1	184.6	205.7	229.9	164.8	182.6	202.1			kW	Power Input
COP	-					7.08	6.18	5.37	4.64	3.99	3.61	3.17	2.80			-	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					3140.9	3063.5	2978.8	2888.8	2795.4	2700.2	1715.1	1682.1	1653.7			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					628.2	612.7	595.8	577.8	559.1	540.0	343.0	336.4	330.7			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					2685.5	2556.4	2414.8	2260.8	2094.7	1916.6	1163.8	1071.8	978.9			MBTUH	Condenser Load
Evaporator Water Flow	GPM					537.1	511.3	483.0	452.2	418.9	383.3	232.8	214.4	195.8			GPM	Condenser Water Flow
Power Input	kW					133.4	148.6	165.3	184.0	205.3	229.6	161.5	178.8	197.7			kW	Power Input
COP	-					6.90	6.04	5.28	4.60	3.99	3.45	3.11	2.76	2.45			-	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					2646.1	2589.0	2526.8	2461.5	2397.2	2325.1	1451.3	1433.9			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					529.2	517.8	505.4	492.3	479.4	465.0	290.3	286.8			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					2194.1	2084.8	1965.2	1835.8	1696.6	1547.8	913.6	839.2			MBTUH	Condenser Load
Evaporator Water Flow	GPM					438.8	417.0	393.0	367.2	339.3	309.6	182.7	167.8			GPM	Condenser Water Flow
Power Input	kW					132.4	147.7	164.5	183.3	205.3	227.8	157.5	174.3			kW	Power Input
COP	-					5.85	5.13	4.50	3.93	3.42	2.99	2.70	2.41			-	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 ES 200 Data Sheet

