



Compressor	HP	60				80				100			
		208-230 V		460 V		208-230 V		460 V		208-230 V		460 V	
Voltage	V/3/60Hz	410A	134a	410A	134a	410A	134a	410A	134a	410A	134a	410A	134a
Refrigerant		410A	134a	410A	134a	410A	134a	410A	134a	410A	134a	410A	134a
RLA	Amps	55.7	43.5	26.0	22.3	75	60.0	36.4	27.8	94.3	71.5	46.4	39.6
LRA	Amps	320	420	160	175	485	460	215	215	560	560	260	220
MCA	Amps	236.7	184.9	110.5	94.8	318.8	254.9	154.7	118.2	400.8	304.0	197.2	168.3
MOCP	Amps	278.5	217.5	130.0	111.5	375.0	299.9	182.0	139.0	471.5	357.7	232.0	198.0
Dry Weight	lbs	2590				3180				3250			

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Customer:
Project:
Sales Rep:
Date: AUGUST 2008 Brochure No 801
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H H Systems, INC

SERIES: FS 60/80/100

Water-to-Water Heat Pumps

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 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 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 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	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	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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FS 80 Data Sheet