



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					1185.4	1135.1	772.6	746.3	719.8	719.6	483.0	MBTUH	Cooling Capacity	
Condenser Water Flow	GPM					237.1	227.0	154.5	149.3	144.0	143.9	96.6	GPM	Evaporator Water Flow	
Evaporator Load	MBTUH					983.9	909.2	610.5	565.0	517.1	898.3	597.4	MBTUH	Condenser Load	
Evaporator Water Flow	GPM					196.8	181.8	122.1	113.0	103.4	179.7	119.5	GPM	Condenser Water Flow	
Power Input	kW					59.0	66.2	47.5	53.1	59.4	52.4	33.5	kW	Power Input	
COP	-					5.88	5.03	4.77	4.12	3.55	13.74	14.40	-	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					1235.1	1185.4	1135.1	772.6	746.3	719.8	770.7	508.9	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					247.0	237.1	227.0	154.5	149.3	144.0	154.1	101.8	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					1,055.3	983.9	909.2	610.5	565.0	517.1	929.7	611.8	MBTUH	Condenser Load
Evaporator Water Flow	GPM					211.1	196.8	181.8	122.1	113.0	103.4	185.9	122.4	GPM	Condenser Water Flow
Power Input	kW					62.7	59.0	66.2	47.5	53.1	59.4	46.6	30.2	kW	Power Input
COP	-					5.87	5.88	5.03	4.77	4.12	3.55	16.54	16.87	-	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					1185.1	1141.4	1096.7	1051.7	711.6	688.6	665.7	820.7	530.6	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					237.0	228.3	219.3	210.3	142.3	137.7	133.1	164.1	106.1	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					1025.9	962.0	895.7	826.4	550.1	508.1	463.9	960.1	624.4	MBTUH	Condenser Load
Evaporator Water Flow	GPM					205.2	192.4	179.1	165.3	110.0	101.6	92.8	192.0	124.9	GPM	Condenser Water Flow
Power Input	kW					46.6	52.6	58.9	66.0	47.3	52.9	59.1	40.9	27.5	kW	Power Input
COP	-					7.44	6.36	5.46	4.67	4.41	3.81	3.30	20.08	19.30	-	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					1042.5	1008.6	973.4	937.8	902.6	602.5	585.7	569.3			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					208.5	201.7	194.7	187.6	180.5	120.5	117.1	113.9			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					903.2	849.5	794.5	737.5	677.9	442.4	406.9	369.7			MBTUH	Condenser Load
Evaporator Water Flow	GPM					180.6	169.9	158.9	147.5	135.6	88.5	81.4	73.9			GPM	Condenser Water Flow
Power Input	kW					40.8	46.6	52.4	58.7	65.8	46.9	52.4	58.5			kW	Power Input
COP	-					7.48	6.34	5.44	4.68	4.02	3.77	3.28	2.85			-	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	909.4	883.7	856.6	828.8	801.5	775.3	509.2	498.0	487.6			MBTUH	Cooling Capacity	
Condenser Water Flow	GPM	181.9	176.7	171.3	165.8	160.3	155.1	101.8	99.6	97.5			GPM	Evaporator Water Flow	
Evaporator Load	MBTUH	790.3	744.2	697.6	650.2	601.3	550.4	350.9	321.2	290.2			MBTUH	Condenser Load	
Evaporator Water Flow	GPM	158.1	148.8	139.5	130.0	120.3	110.1	70.2	64.2	58.0			GPM	Condenser Water Flow	
Power Input	kW	34.9	40.9	46.6	52.3	58.6	65.9	46.4	51.8	57.8			kW	Power Input	
COP	-	7.63	6.33	5.39	4.64	4.00	3.45	3.22	2.82	2.47			-	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	768.0	747.5	726.2	705.1	685.0	666.9	430.1	423.9				MBTUH	Cooling Capacity	
Condenser Water Flow	GPM	153.6	149.5	145.2	141.0	137.0	133.4	86.0	84.8				GPM	Evaporator Water Flow	
Evaporator Load	MBTUH	648.5	608.0	567.5	526.6	484.7	441.2	273.8	249.3				MBTUH	Condenser Load	
Evaporator Water Flow	GPM	129.7	121.6	113.5	105.3	96.9	88.2	54.8	49.9				GPM	Condenser Water Flow	
Power Input	kW	35.0	40.9	46.5	52.3	58.7	66.1	45.8	51.2				kW	Power Input	
COP	-	6.43	5.36	4.58	3.95	3.42	2.95	2.75	2.43				-	EER	
Source Water Leaving Temp	°F	30	30	30	30	30	30	30	30				°F	Source Water Leaving Temp	

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FS 60 Data Sheet