



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					2051.5	1957.9	1306.9	1265.0	1224.7	1249.5	802.0	MBTUH	Cooling Capacity	
Condenser Water Flow	GPM					410.3	391.6	261.4	253.0	244.9	249.9	160.4	GPM	Evaporator Water Flow	
Evaporator Load	MBTUH					1,699.0	1,565.2	1018.7	945.4	870.8	1564.1	1005.2	MBTUH	Condenser Load	
Evaporator Water Flow	GPM					339.8	313.0	203.7	189.1	174.2	312.8	201.0	GPM	Condenser Water Flow	
Power Input	kW					103.3	115.1	84.5	93.6	103.7	92.2	59.5	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					2141.2	2051.5	1957.9	1306.9	1265.0	1224.7	1333.3	849.3	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					428.2	410.3	391.6	261.4	253.0	244.9	266.7	169.9	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					1,823.7	1,699.0	1,565.2	1018.7	945.4	870.8	1,616.0	1,031.4	MBTUH	Condenser Load
Evaporator Water Flow	GPM					364.7	339.8	313.0	203.7	189.1	174.2	323.2	206.3	GPM	Condenser Water Flow
Power Input	kW					93.0	103.3	115.1	84.5	93.6	103.7	82.8	53.4	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					2057.1	1981.1	1901.1	1817.7	1201.3	1165.1	1130.8	1410.3	890.8	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					411.4	396.2	380.2	363.5	240.3	233.0	226.2	282.1	178.2	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					1771.5	1664.6	1549.2	1425.2	915.3	848.0	779.7	1664.7	1055.3	MBTUH	Condenser Load
Evaporator Water Flow	GPM					354.3	332.9	309.8	285.0	183.1	169.6	155.9	332.9	211.1	GPM	Condenser Water Flow
Power Input	kW					83.7	92.7	103.1	115.0	83.8	92.9	102.9	74.5	48.2	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					1808.1	1752.5	1693.0	1630.7	1566.4	1014.7	989.1	965.5			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					361.6	350.5	338.6	326.1	313.3	202.9	197.8	193.1			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					1552.6	1469.0	1377.9	1279.7	1174.1	733.4	677.5	620.7			MBTUH	Condenser Load
Evaporator Water Flow	GPM					310.5	293.8	275.6	255.9	234.8	146.7	135.5	124.1			GPM	Condenser Water Flow
Power Input	kW					74.8	83.1	92.3	102.9	114.9	82.4	91.3	101.0			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					1570.4	1531.7	1489.4	1444.4	1397.7	1350.1	857.5	841.1	826.9			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					314.1	306.3	297.9	288.9	279.5	270.0	171.5	168.2	165.4			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					1342.8	1278.2	1207.4	1130.4	1047.4	958.3	581.9	535.9	489.4			MBTUH	Condenser Load
Evaporator Water Flow	GPM					268.6	255.6	241.5	226.1	209.5	191.7	116.4	107.2	97.9			GPM	Condenser Water Flow
Power Input	kW					66.7	74.3	82.6	92.0	102.6	114.8	80.8	89.4	98.9			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	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					1323.1	1294.5	1263.4	1230.7	1198.6	1162.6	725.7	717.0			MBTUH	Cooling Capacity	
Condenser Water Flow	GPM					264.6	258.9	252.7	246.1	239.7	232.5	145.1	143.4			GPM	Evaporator Water Flow	
Evaporator Load	MBTUH					1097.0	1042.4	982.6	917.9	848.3	773.9	456.8	419.6			MBTUH	Condenser Load	
Evaporator Water Flow	GPM					219.4	208.5	196.5	183.6	169.7	154.8	91.4	83.9			GPM	Condenser Water Flow	
Power Input	kW					66.2	73.9	82.3	91.7	102.6	113.9	78.8	87.1			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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**FS 100 Data Sheet**