



Compressor	HP	20				30				40				50			
		208-230 V		460 V		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	410A	134a	410A	134a
Refrigerant																	
RLA	Amps	47.9	33.2	20.7	14.9	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	267	265	130	120	320	420	160	175	485	460	215	215	560	560	260	220
MCA	Amps	107.8	74.7	46.6	33.5	125.3	97.9	58.5	50.2	168.8	135.0	81.9	62.6	212.2	160.9	104.4	89.1
MOCP	Amps	119.8	83.0	51.8	37.3	139.3	108.8	65.0	55.8	187.5	150.0	91.0	69.5	235.8	178.8	116.0	99.0
Dry Weight	lbs	1170				1320				1690				1820			

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

SERIES: DS 20/30/40/50

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						805.3	770.6	527.4	509.7	492.7	493.1	326.4	MBTUH	Cooling Capacity
Condenser Water Flow	GPM						161.1	154.1	105.5	101.9	98.5	98.6	65.3	GPM	Evaporator Water Flow
Evaporator Load	MBTUH						668.3	616.3	414.5	384.5	353.8	613.6	406.7	MBTUH	Condenser Load
Evaporator Water Flow	GPM						133.7	123.3	82.9	76.9	70.8	122.7	81.3	GPM	Condenser Water Flow
Power Input	kW						40.1	45.2	33.1	36.7	40.7	35.3	23.5	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 = 60°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						839.3	805.3	770.6	527.4	509.7	492.7	526.3	345.3	MBTUH	Cooling Capacity
Condenser Water Flow	GPM						167.9	161.1	154.1	105.5	101.9	98.5	105.3	69.1	GPM	Evaporator Water Flow
Evaporator Load	MBTUH						717.1	668.3	616.3	414.5	384.5	353.8	633.4	417.8	MBTUH	Condenser Load
Evaporator Water Flow	GPM						143.4	133.7	123.3	82.9	76.9	70.8	126.7	83.6	GPM	Condenser Water Flow
Power Input	kW						35.8	40.1	45.2	33.1	36.7	40.7	31.4	21.2	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						840.3	776.6	746.4	715.7	484.7	469.3	454.8	557.5	361.8	MBTUH	Cooling Capacity
Condenser Water Flow	GPM						168.1	155.3	149.3	143.1	96.9	93.9	91.0	111.5	72.4	GPM	Evaporator Water Flow
Evaporator Load	MBTUH						697.5	655.1	609.9	561.8	372.7	345.2	317.0	652.9	427.9	MBTUH	Condenser Load
Evaporator Water Flow	GPM						139.5	131.0	122.0	112.4	74.5	69.0	63.4	130.6	85.6	GPM	Condenser Water Flow
Power Input	kW						41.8	35.6	40.0	45.1	32.8	36.4	40.4	28.0	19.4	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						709.2	686.8	664.0	640.8	617.4	408.9	397.9	387.8			MBTUH	Cooling Capacity
Condenser Water Flow	GPM						141.8	137.4	132.8	128.2	123.5	81.8	79.6	77.6			GPM	Evaporator Water Flow
Evaporator Load	MBTUH						613.2	579.3	543.2	504.8	463.9	298.7	275.7	252.3			MBTUH	Condenser Load
Evaporator Water Flow	GPM						122.6	115.9	108.6	101.0	92.8	59.7	55.1	50.5			GPM	Condenser Water Flow
Power Input	kW						28.1	31.5	35.4	39.8	45.0	32.3	35.8	39.7			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						617.2	600.7	583.9	566.9	549.8	532.9	345.0	337.8	331.6			MBTUH	Cooling Capacity
Condenser Water Flow	GPM						123.4	120.1	116.8	113.4	110.0	106.6	69.0	67.6	66.3			GPM	Evaporator Water Flow
Evaporator Load	MBTUH						532.5	505.8	477.1	446.7	414.2	379.8	236.4	217.4	198.1			MBTUH	Condenser Load
Evaporator Water Flow	GPM						106.5	101.2	95.4	89.3	82.8	76.0	47.3	43.5	39.6			GPM	Condenser Water Flow
Power Input	kW						24.8	27.8	31.3	35.2	39.7	44.9	31.8	35.3	39.1			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						519.9	507.8	495.7	483.6	471.8	460.4	291.3	287.3			MBTUH	Cooling Capacity
Condenser Water Flow	GPM						104.0	101.6	99.1	96.7	94.4	92.1	58.3	57.5			GPM	Evaporator Water Flow
Evaporator Load	MBTUH						436.1	413.4	389.3	363.8	336.6	307.8	184.3	168.7			MBTUH	Condenser Load
Evaporator Water Flow	GPM						87.2	82.7	77.9	72.8	67.3	61.6	36.9	33.7			GPM	Condenser Water Flow
Power Input	kW						24.6	27.7	31.2	35.1	39.6	44.7	31.3	34.8			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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DS 40 Data Sheet