



Compressor	HP	120				150				180			
		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	75	60.0	36.4	27.8	94.3	71.5	46.4	39.6	107.1	N/A	56.4	44.0
LRA	Amps	485	460	215	215	560	560	260	220	680	N/A	320	320
MCA	Amps	468.8	374.9	227.5	173.8	589.4	447.1	290.0	247.5	669.4	N/A	352.5	275.0
MOCP	Amps	562.5	449.9	273.0	208.5	707.3	536.5	348.0	297.0	803.3	N/A	423.0	330.0
Dry Weight	lbs	4430				4550				5100			

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Customer:
Project:
Sales Rep:
Date: AUGUST 2008 Brochure No 801
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H H Systems, INC
SERIES: XS 120/150/180
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					2415.9	2311.7	1582.3	1529.1	1478.0	1479.4	979.1	MBTUH	Cooling Capacity	
Condenser Water Flow	GPM					483.2	462.3	316.5	305.8	295.6	295.9	195.8	GPM	Evaporator Water Flow	
Evaporator Load	MBTUH					2,004.8	1,849.0	1243.4	1153.4	1061.4	1840.8	1220.0	MBTUH	Condenser Load	
Evaporator Water Flow	GPM					401.0	369.8	248.7	230.7	212.3	368.2	244.0	GPM	Condenser Water Flow	
Power Input	kW					120.4	135.6	99.3	110.1	122.1	105.9	70.6	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					2518.0	2415.9	2311.7	1582.3	1529.1	1478.0	1579.0	1035.9	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					503.6	483.2	462.3	316.5	305.8	295.6	315.8	207.2	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					2,151.4	2,004.8	1,849.0	1243.4	1153.4	1061.4	1,900.2	1,253.4	MBTUH	Condenser Load
Evaporator Water Flow	GPM					430.3	401.0	369.8	248.7	230.7	212.3	380.0	250.7	GPM	Condenser Water Flow
Power Input	kW					107.4	120.4	135.6	99.3	110.1	122.1	94.1	63.7	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					2520.9	2329.8	2239.3	2147.1	1454.1	1408.0	1364.3	1672.4	1085.5	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					504.2	466.0	447.9	429.4	290.8	281.6	272.9	334.5	217.1	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					2092.6	1965.2	1829.6	1685.3	1118.1	1035.5	951.1	1958.7	1283.6	MBTUH	Condenser Load
Evaporator Water Flow	GPM					418.5	393.0	365.9	337.1	223.6	207.1	190.2	391.7	256.7	GPM	Condenser Water Flow
Power Input	kW					125.5	106.8	120.1	135.3	98.5	109.2	121.1	83.9	58.1	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					2127.5	2060.4	1991.9	1922.4	1852.2	1226.8	1193.8	1163.5			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					425.5	412.1	398.4	384.5	370.4	245.4	238.8	232.7			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					1839.5	1738.0	1629.7	1514.4	1391.7	896.2	827.2	756.9			MBTUH	Condenser Load
Evaporator Water Flow	GPM					367.9	347.6	325.9	302.9	278.3	179.2	165.4	151.4			GPM	Condenser Water Flow
Power Input	kW					84.4	94.5	106.1	119.5	134.9	96.9	107.4	119.1			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	1851.6	1802.2	1751.7	1700.7	1649.5	1598.6	1034.9	1013.3	994.7			MBTUH	Cooling Capacity	
Condenser Water Flow	GPM	370.3	360.4	350.3	340.1	329.9	319.7	207.0	202.7	198.9			GPM	Evaporator Water Flow	
Evaporator Load	MBTUH	1597.6	1517.3	1431.4	1340.0	1242.7	1139.3	709.3	652.3	594.2			MBTUH	Condenser Load	
Evaporator Water Flow	GPM	319.5	303.5	286.3	268.0	248.5	227.9	141.9	130.5	118.8			GPM	Condenser Water Flow	
Power Input	kW	74.4	83.5	93.8	105.7	119.2	134.6	95.4	105.8	117.3			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	1559.6	1523.4	1487.0	1450.8	1415.4	1381.1	873.8	862.0				MBTUH	Cooling Capacity	
Condenser Water Flow	GPM	311.9	304.7	297.4	290.2	283.1	276.2	174.8	172.4				GPM	Evaporator Water Flow	
Evaporator Load	MBTUH	1308.2	1240.3	1168.0	1091.3	1009.8	923.5	552.9	506.1				MBTUH	Condenser Load	
Evaporator Water Flow	GPM	261.6	248.1	233.6	218.3	202.0	184.7	110.6	101.2				GPM	Condenser Water Flow	
Power Input	kW	73.7	83.0	93.5	105.4	118.8	134.1	94.0	104.3				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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 XS 120 Data Sheet