



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													
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			

Note: In View of Continuous Product Improvements, design and specification are subject to change without notice. HHS can accept no responsibility for possible errors in catalogs, brochures and other printed material.



Customer:
Project:
Sales Rep:
Date: AUGUST 2008 Brochure No 801
COPYRIGHT 2011 HHS. INC. ALL RIGHTS RESERVED.

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					3643.3	4177.4	2399.7	2317.0	2238.1	2211.6	1498.8	MBTUH	Cooling Capacity	
Condenser Water Flow	GPM					728.7	835.5	479.9	463.4	447.6	442.3	299.8	GPM	Evaporator Water Flow	
Evaporator Load	MBTUH					3,011.7	3,475.0	1903.7	1766.4	1626.5	2769.4	1869.0	MBTUH	Condenser Load	
Evaporator Water Flow	GPM					602.3	695.0	380.7	353.3	325.3	553.9	373.8	GPM	Condenser Water Flow	
Power Input	kW					185.1	205.8	145.3	161.3	179.2	163.5	108.5	kW	Power Input	
COP	-					5.77	5.95	4.84	4.21	3.66	13.53	13.82	-	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					3805.4	3643.3	3475.0	2399.7	2317.0	2238.1	2361.7	1583.9	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					761.1	728.7	695.0	479.9	463.4	447.6	472.3	316.8	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					3,234.7	3,011.7	2,772.6	1903.7	1766.4	1626.5	2,864.4	1,920.8	MBTUH	Condenser Load
Evaporator Water Flow	GPM					646.9	602.3	554.5	380.7	353.3	325.3	572.9	384.2	GPM	Condenser Water Flow
Power Input	kW					167.2	185.1	205.8	145.3	161.3	179.2	147.3	98.7	kW	Power Input
COP	-					6.67	5.77	4.95	4.84	4.21	3.66	16.04	16.04	-	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					3655.5	3517.0	3372.2	3222.3	2207.4	2135.9	2068.3	2499.4	1658.1	MBTUH	Cooling Capacity
Condenser Water Flow	GPM					731.1	703.4	674.4	644.5	441.5	427.2	413.7	499.9	331.6	GPM	Evaporator Water Flow
Evaporator Load	MBTUH					3141.8	2950.5	2744.0	2522.4	1714.3	1588.3	1459.9	2954.4	1968.4	MBTUH	Condenser Load
Evaporator Water Flow	GPM					628.4	590.1	548.8	504.5	342.9	317.7	292.0	590.9	393.7	GPM	Condenser Water Flow
Power Input	kW					150.5	166.0	184.1	205.1	144.5	160.4	178.3	133.3	90.9	kW	Power Input
COP	-					7.12	6.21	5.37	4.60	4.48	3.90	3.40	18.75	18.24	-	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					3211.3	3108.5	3000.0	2887.1	2770.9	1866.2	1815.0	1767.8			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					642.3	621.7	600.0	577.4	554.2	373.2	363.0	353.6			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					2752.4	2602.9	2439.8	2263.7	2074.8	1379.2	1274.0	1166.8			MBTUH	Condenser Load
Evaporator Water Flow	GPM					555.0	520.6	488.0	452.7	415.0	275.8	254.8	233.4			GPM	Condenser Water Flow
Power Input	kW					134.5	148.1	164.1	182.7	203.9	142.7	158.5	176.1			kW	Power Input
COP	-					7.00	6.15	5.36	4.63	3.98	3.83	3.36	2.94			-	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					2789.6	2716.7	2638.4	2556.2	2471.4	2385.3	1577.3	1543.6	1514.1			MBTUH	Cooling Capacity
Condenser Water Flow	GPM					557.9	543.3	527.7	511.2	494.3	477.1	315.5	308.7	302.8			GPM	Evaporator Water Flow
Evaporator Load	MBTUH					2379.5	2264.9	2138.3	2000.2	1851.3	1692.0	1097.3	1010.4	922.0			MBTUH	Condenser Load
Evaporator Water Flow	GPM					475.9	453.0	427.7	400.0	370.3	338.4	219.5	202.1	184.4			GPM	Condenser Water Flow
Power Input	kW					120.2	132.4	146.5	162.9	181.7	203.1	140.7	156.2	173.5			kW	Power Input
COP	-					6.80	6.01	5.28	4.60	3.99	3.44	3.29	2.90	2.56			-	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					2347.9	2294.2	2236.9	2177.4	2117.1	2057.3	1333.4	1314.3			MBTUH	Cooling Capacity	
Condenser Water Flow	GPM					469.6	458.8	447.4	435.5	423.4	411.5	266.7	262.9			GPM	Evaporator Water Flow	
Evaporator Load	MBTUH					1944.0	1847.2	1740.4	1624.4	1499.6	1366.5	861.6	790.6			MBTUH	Condenser Load	
Evaporator Water Flow	GPM					388.8	369.4	348.1	324.9	299.9	273.3	172.3	158.1			GPM	Condenser Water Flow	
Power Input	kW					118.3	131.0	145.5	162.0	180.9	202.4	138.3	153.4			kW	Power Input	
COP	-					5.81	5.13	4.51	3.94	3.43	2.98	2.83	2.51			-	EER	
Source Water Leaving Temp	°F					30	30	30	30	30	30	30	30			°F	Source Water Leaving Temp	

Note: In View of Continuous Product Improvements, design and specification are subject to change without notice. HHS can accept no responsibility for possible errors in catalogues, brochures and other printed material.



H H Systems, INC.
Water-to-Water Heat Pumps
XS 180 Data Sheet