World Energy

97, Gaeungongdan-gil, Gaeun-eup, Mungyeong-si, Gyeongsangbuk-do, Republic of Korea

TEL : 054-572-2601 / FAX : 054-572-2607 / email : rachelryu@worldenergy.co.kr / website: www.worldenergy.co.kr

SINGLE & DOUBLE LIFT
BRINE ABSORPTION CHILLER

FEATURES

Makes up the weakness of the conventional absorption chillers that their lowest chilled water supply temperature is 4℃.

Provide Brine at the temperature of -7℃.

MAKE UP FOR CONVENTIONAL ABSORPTION CHILLER

Absorption Chillers use demineralized water as refrigerant and lithium bromide solution as absorbent, which make the equipment environmentally friendly and harmless to human body. They also reduce energy consumption by utilizing waste heat to provide cooling. However, because of the fact that absorption chillers use water as their refrigerant, generally the minimum supply chilled water temperature they produce is limited to 4℃. Brine Absorption Chillers make up this point by providing brine in temperatures below zero. As a result, absorption chillers can be able to provide environmentally friendly solutions in a wider range of fields.

EXPAND APPLICATION AREA BY SUPPLYING BRINE OF -7℃

Brine Absorption Chillers use refrigerant mixed with water and lithium bromide solution, so that they can decrease the evaporative temperature of refrigerant to 0℃ or less. Brine can be supplied at -7℃, which is applicable not only to comfort cooling but also to cold storage and process cooling.

AUTOMATIC ABSORBENT CONCENTRATION CONTROL SYSTEM

Brine Absorption Chillers are equipped with an automatic absorbent control system which keeps the concentration level of lithium bromide in refrigerant at a certain level, even though the cooling load changes from 0 to 100%. It makes the outlet temperature of brine stay stable and prevents refrigerant from freezing.

VARIOUS FIELDS OF APPLICATION

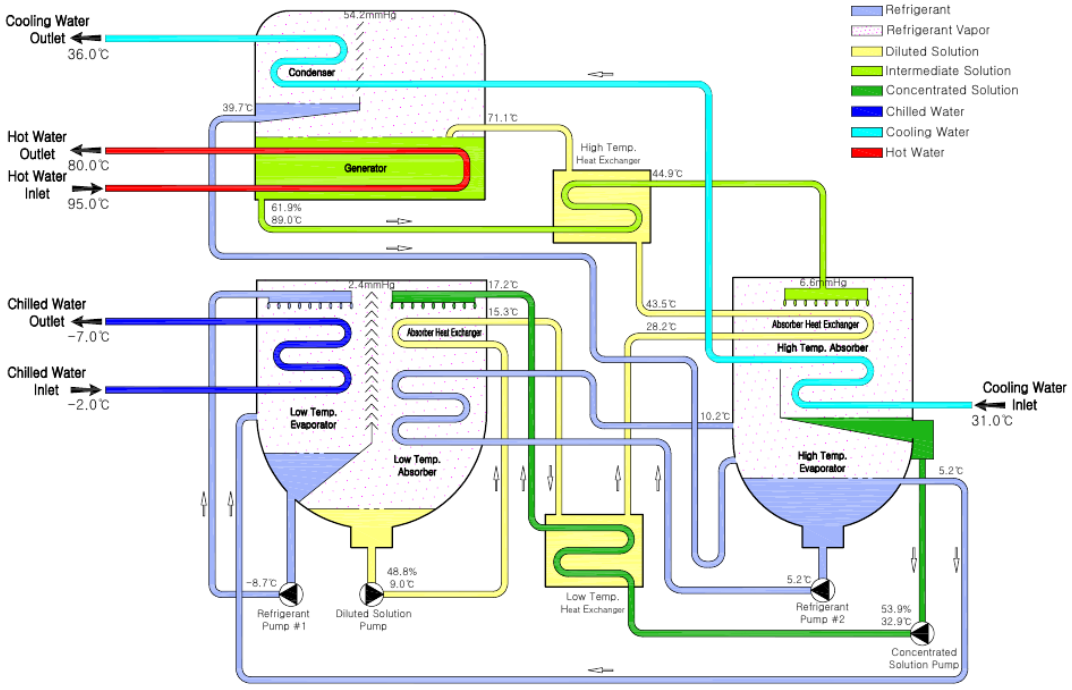
A wide range of heat sources such as hot water, steam, exhaust gas, or fossil fuel (gas & oil) can be utilized to drive Brine Absorption Chillers. Also, they can be installed on marine vessels or offshore plants where the chillers are continuously exposed to severe vibration and tilting during their operation. In this case they utilize waste heat from vessel engines.

DOUBLE LIFT TYPE BRINE ABSORPTION CHILLER

Double Lift Type Brine Absorption Chillers use the single effect double lift absorption refrigeration cycle combining two sets of evaporator and absorber, whereby the low temperature heat is pumped in two stages and achieve a large temperature difference. It allows the brine can be supplied at -7℃.

In absorption chillers, heat is pumped by using the saturation temperature difference between the refrigerant (demineralized water) and the absorbent (lithium bromide solution). Therefore, by increasing the concentration level of absorbent in the absorber, the temperature difference between air temperature and chilled water temperature can be widened. However, there is a limit to the concentration level because it also increases the risk of crystallization. Moreover, Brine Absorption chillers have little saturation temperature difference between refrigerant and absorbent, as the refrigerant is mixed with lithium bromide. For that reason, two sets of evaporator and absorber are installed in order to provide brine of -7℃. The COP is approximately 0.4.

REFRIGERATION CYCLE



Low Temperature Evaporator

Chilled water(brine) flows inside of the heat transfer tubes of Low Temperature Evaporator, the refrigerant solution flowing outside of the heat transfer tubes is evaporated by absorbing heat of the chilled water.

Low Temperature Absorber

The evaporated refrigerant vapor moves to Low Temperature Absorber is absorbed in the absorbent solution flowing down to the outside heat transfer tubes, besides, it heats up the refrigerant solution of High Temperature Evaporator flowing the inside heat transfer tubes of Absorber.

High Temperature Evaporator

This refrigerant solution flows to High Temperature Evaporator and is evaporated.

High Temperature Absorber

The evaporated refrigerant vapor from High Temperature Evaporator moves to upper part of High Temperature Absorber and is absorbed in the absorbent solution flowing outside of the heat transfer tubes of High Temperature Absorber. The absorption heat made by above process is rejected to the cooling water. The absorbent solution flowing outside heat transfer tubes of High Temperature Absorber is concentrated solution coming from Generator.

Generator

In Generator, the hot water makes the diluted solution from Absorber concentrated and generates the refrigerant vapor. The generated refrigerant vapor at this moment is about twice of the refrigerant amount that evaporated in Evaporator. The refrigerant vapor from Generator is condensed on the outside heat transfer tubes of Condenser.

High Temperature Evaporator

Then the refrigerant liquid flows down to High Temperature Evaporator, the cooling water flowing the inside heat transfer tubes absorbs the evaporation heat. Some parts of the condensed refrigerant coming down from Condenser to High Temperature Evaporator is heated up at Low Temperature Absorber and vaporizes.

The refrigerant vapor is absorbed in High Temperature Absorber.

Level & Concentration Support Device

The rest of refrigerant moves to Low Temperature Evaporator through the refrigerant level support device that adjusts the refrigerant supplying according to the mixed refrigerant level of Low Temperature Evaporator and become the mixed refrigerant by the concentration support device that mix a fixed amount of absorbent solution while going down to Low Temperature Evaporator.

Low Temperature Evaporator.

The refrigerant evaporates by absorbing the heat of brine after being collected in Low Temperature Evaporator.

PERFORMANCE (HOT WATER DRIVEN)

Model			unit	2L30HH-B	2L40HH-B	2L50HH-B	2L60HH-B	2L75HH-B	2L90HH-B	2L110HH-B	2L135HH-B	2L155HH-B	2L180HH-B	2L210HH-B	2L240HH-B	2L270HH-B	2L300HH-B	2L340HH-B	2L375HH-B	2L420HH-B	2L470HH-B	2L525HH-B	2L580HH-B	2L630HH-B	2L680HH-B	2L750HH-B	2L820HH-B	2L900HH-B	2L975HH-B	2L1050HH-B	2L1125HH-B	2L1300HH-B
Cooling Capacity			kW	53	71	89	107	134	160	196	241	276	321	374	428	481	535	606	668	748	838	936	1,034	1,123	1,212	1,336	1,461	1,604	1,737	1,871	2,005	2,317
			usRT	15	20	25	30	38	46	56	68	79	91	106	122	137	152	172	190	213	238	266	294	319	345	380	416	456	494	532	570	659
Chilled Water	Inlet/Outlet Temp.		℃	-2 / -7																											
	Flow rate		m^3/h	9.9	13.1	16.4	19.7	24.6	29.6	36.1	44.3	50.9	59.1	69.0	78.8	88.7	98.5	111.7	123.2	137.9	154.4	172.4	190.5	206.9	223.3	246.3	269.3	295.6	320.2	344.9	369.5	427.0
	P. Drop		mEG	1.5	2.6	4.9	5.5	5.7	8.2	6.3	6.7	6.1	6.1	7.3	7.2	7.5	7.6	6.8	7.2	9.8	6.0	5.8	7.4	9.3	5.6	7.3	9.2	7.1	8.9	7.1	8.7	4.3
			kPa	15.4	26.6	50.2	55.9	57.8	83.0	63.7	68.0	61.5	61.9	74.5	73.0	76.5	76.7	69.1	72.8	99.8	61.2	58.7	75.2	94.3	56.8	74.0	93.8	72.1	90.0	72.4	88.5	43.2
	Connection		mm	65					80			100				125		150					200									250
Cooling Water	Inlet/Outlet Temp.		℃	30 / 35																											
	Flow rate		m^3/h	32.2	42.9	53.6	64.4	80.5	96.5	118.0	144.8	166.3	193.1	225.3	257.5	289.6	321.8	364.7	402.3	450.5	504.2	563.2	622.2	675.8	729.5	804.5	879.6	965.5	1045.9	1126.4	1206.8	1394.5
	P. Drop		mH_2O	12.0	10.0	11.8	12.2	9.3	9.4	7.4	8.1	6.9	6.8	5.7	5.5	5.6	5.6	5.8	5.7	7.8	10.4	9.3	8.4	10.5	6.7	9.1	8.9	8.3	10.3	8.2	10.0	10.1
			kPa	117.5	97.2	115.5	118.8	91.1	91.6	72.1	79.1	67.2	66.3	56.1	53.4	54.8	54.8	56.3	56.0	76.3	101.8	90.3	81.9	102.2	65.2	88.4	86.5	81.2	100.7	80.3	97.8	99.0
	Connection		mm	80		100			125			150		200				250					300				350			400		
Hot Water	Inlet/Outlet Temp.		℃	95 / 80																											
	Flow rate		ton/h	7.7	10.2	12.8	15.3	19.2	23.0	28.1	34.5	39.6	46.0	53.6	61.3	69.0	76.6	86.8	95.8	107.3	120.0	134.1	148.1	160.9	173.7	191.6	209.4	229.9	249.0	268.2	287.3	332.0
			m^3/h	8.0	10.6	13.3	15.9	19.9	23.9	29.2	35.8	41.2	47.8	55.8	63.7	71.7	79.7	90.3	99.6	111.5	124.8	139.4	154.0	167.3	180.5	199.1	217.7	239.0	258.9	278.8	298.7	345.2
	Pressure Drop	Shell	mH_2O	0.3	1.0	1.9	2.9	3.0	4.0	5.1	3.5	3.3	3.5	2.0	4.2	4.0	4.1	4.1	4.1	2.8	3.7	3.7	4.4	2.1	3.4	4.4	1.8	3.8	1.8	1.6	4.8	2.7
			kPa	3.2	9.6	17.8	27.1	28.6	37.6	48.4	33.1	31.7	33.1	19.2	40.0	37.7	39.1	38.6	39.1	26.3	35.0	35.4	41.5	19.9	32.3	41.7	17.0	36.3	16.9	14.8	45.7	25.9
		Control Valve	mH_2O	2.5	4.4	2.8	4.1	4.0	3.6	2.1	3.2	4.3	3.6	4.9	4.1	3.3	4.1	3.2	3.9	4.9	3.9	4.9	3.8	4.5	3.3	4.0	4.8	3.6	4.2	4.9	3.6	4.8
			kPa	23.4	41.6	26.6	38.3	37.7	33.7	20.3	30.5	40.3	33.7	45.8	38.3	31.0	38.3	30.0	36.5	45.8	36.7	45.8	35.8	42.2	31.0	37.7	45.1	33.7	39.5	45.8	33.7	45.0
	Connection		mm	65					80			100						125					150				200					
	Control Valve		mm	32		40		50		65		80				100				125					150					200	
Electric	Power source		-	3Φ, 400V, 50Hz																											
	Abs. Pump		kW(A)	1.4(5.4)				1.5(5.4)				1.8(5.7)				1.9(5.7)		2.4(7.4)				3.2(10.5)			3.7(11.0)			4.5(13.8)		4.8(15.7)	
	Ref. Pump		kW(A)	0.2(1.2)								0.3(1.4)						0.4(1.4)							1.5(4.0)				1.8(6.2)	
	Purge Pump		kW(A)	0.4(1.1)																								0.75(1.9)			
	Control Panel		kW(A)	0.2(0.5)																											
	Total Power		kW	2.2				2.3				2.7				2.8		3.4				4.2			5.8			7.0		7.6	
	Total Ampere @400V		A	8.2								8.7						10.4				13.5			16.6			20.2		24.3	
Size	Length (L)		mm	2340		2840		2972		3992		4129		5149		5266		5368		5910	6408	6633	7158	7658	6841	7366	7866	7378	7878	7866	8166	9166
	Width (W)		mm	1729				1801		1887		2080		2168		2360		2718		2815		2995	3072		3657		3746	4150		5052		
	Height (H)		mm	2062		2282		2545				2777				2853		3019				3240			3546			3929		3880		
Weight	Rigging		ton	3.4	3.5	4.4	4.5	5.4	5.6	6.9	7.1	8.7	9.0	10.3	10.8	12.6	13.0	15.4	15.9	17.4	18.6	24.0	26.1	27.6	33.5	35.9	38.5	44.3	47.0	55.4	58.5	64.5
	Operation		ton	4.0	4.1	5.1	5.1	6.2	6.5	7.9	8.3	10.2	10.6	12.2	12.8	15.2	15.7	18.7	19.3	21.2	22.7	28.9	31.4	33.1	40.3	43.1	46.1	53.8	57.0	67.5	71.2	78.3

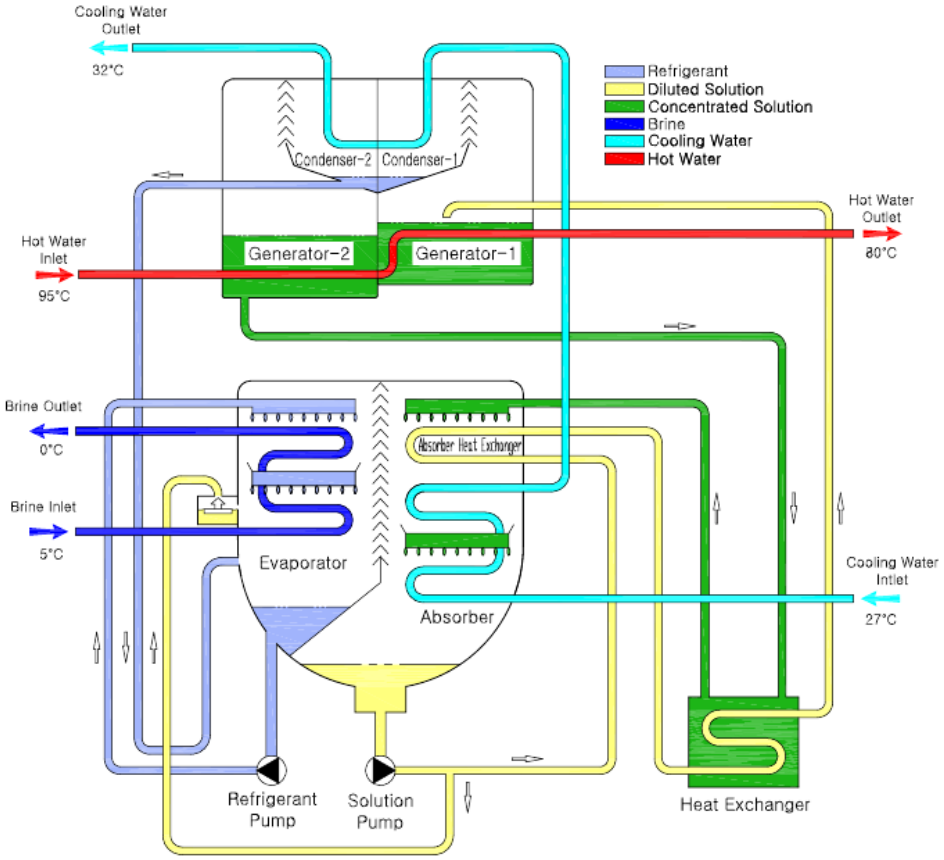
PERFORMANCE (STEAM DRIVEN)

Model		unit	2S50HH-B	2S60HH-B	2S70HH-B	2S80HH-B	2S100HH-B	2S120HH-B	2S150HH-B	2S180HH-B	2S210HH-B	2S240HH-B	2S280HH-B	2S320HH-B	2S360HH-B	2S400HH-B	2S450HH-B	2S500HH-B	2S560HH-B	2S630HH-B	2S700HH-B	2S770HH-B	2S840HH-B	2S900HH-B	2S1000HH-B	2S1100HH-B	2S1200HH-B	2S1300HH-B	2S1400HH-B	2S1500HH-B
Cooling Capacity		kW	89	107	125	143	178	214	267	321	374	428	499	570	642	713	802	891	998	1,123	1,247	1,372	1,497	1,604	1,782	1,960	2,138	2,317	2,495	2,673
		usRT	25	30	35	41	51	61	76	91	106	122	142	162	182	203	228	253	284	319	355	390	426	456	507	557	608	659	709	760
Chilled Water	Inlet/Outlet Temp.	℃	-2 / -7																										
	Flow rate	m^3/h	16.4	19.7	23.0	26.3	32.8	39.4	49.3	59.1	69.0	78.8	92.0	105.1	118.2	131.4	147.8	164.2	183.9	206.9	229.9	252.9	275.9	295.6	328.4	361.3	394.1	427.0	459.8	492.7
	P. Drop	mEG	3.8	5.4	5.9	5.9	6.1	6.2	5.8	5.9	5.7	5.6	5.5	5.4	5.7	5.8	5.1	5.5	7.5	3.3	3.1	4.1	5.1	3.1	4.1	5.1	3.9	4.8	3.9	4.8
		kPa	38.4	54.9	60.2	60.1	61.9	63.3	58.8	59.9	57.4	56.4	55.7	54.6	58.3	58.7	51.8	55.4	75.9	33.5	31.8	41.2	52.0	31.4	41.3	51.6	39.3	49.0	39.6	48.3
	Connection	mm	65			80			100				125				150			200						250				
Cooling Water	Inlet/Outlet Temp.	℃	30 / 35																										
	Flow rate	m^3/h	38.3	46.0	53.6	61.3	76.6	91.9	114.9	137.9	160.9	183.9	214.5	245.2	275.8	306.5	344.8	383.1	429.1	482.7	536.4	590.0	643.6	689.6	766.2	842.9	919.5	996.1	1,072.7	1,149.4
	P. Drop	mH_2O	7.6	7.2	7.6	7.0	8.3	8.6	7.2	7.5	7.4	7.1	7.2	6.8	7.1	6.9	7.2	7.1	9.7	13.1	9.6	8.1	9.7	6.1	8.3	10.0	7.8	9.7	8.0	9.4
		kPa	74.0	70.5	73.8	68.1	80.5	84.1	70.0	73.4	71.9	69.0	69.9	66.7	68.8	67.3	69.7	69.4	94.7	127.7	93.1	78.9	94.9	59.6	81.1	97.4	76.0	94.3	78.3	91.9
	Connection	mm	100			125				150			200				250						300				350			400
Steam	Inlet Pressure	MPa	0.15																										
	Flow rate	kg/h	346	415	484	553	692	830	1038	1245	1453	1660	1937	2214	2491	2767	3113	3459	3874	4359	4843	5327	5812	6227	6919	7611	8302	8994	9686	10378
	Inlet Connection	mm	100			125			150			200					250			300				350			400			450
	Drain Connection	mm	20			25			32			50					65			80						100				
	Control Valve	mm	32	40		50			65			80			100				125					150				200		
Electric	Power source	-	3Φ, 400V, 50Hz																										
	Abs. Pump	kW(A)	1.4(5.4)				1.5(5.4)			1.8(5.7)					1.9(5.7)		2.4(7.4)				3.2(10.5)			3.7(11.0)			4.5(13.8)		4.8(15.7)	
	Ref. Pump	kW(A)	0.2(1.2)							0.3(1.4)							0.4(1.4)								1.5(4.0)				1.8(6.2)	
	Purge Pump	kW(A)	0.4(1.1)																								0.75(1.9)			
	Control Panel	kW(A)	0.2(0.5)																										
	Total Power	kW	2.2				2.3			2.7					2.8		3.4				4.2			5.8			7.0		7.6	
	Total Ampere @400V	A	8.2							8.7							10.4				13.5			16.6			20.2		24.3	
Size	Length (L)	mm	2340		2840		2972		3992		4129		5149		5266		5368		5910	6408	6633	7158	7658	6841	7366	7866	7378	7878	7866	8166
	Width (W)	mm	1729				1801		1887		2080		2168		2360		2718		2815		2995	3072		3657		3746	4150		5052	
	Height (H)	mm	2062		2282		2545				2777				2853		3019				3240			3546			3929		3880	
Weight	Rigging	ton	3.4	3.5	4.4	4.5	5.4	5.6	6.9	7.1	8.7	9.0	10.3	10.8	12.6	13.0	15.4	15.9	17.4	18.6	24.0	26.1	27.6	33.5	35.9	38.5	44.3	47.0	55.4	58.5
	Operation	ton	4.0	4.1	5.1	5.1	6.2	6.5	7.9	8.3	10.2	10.6	12.2	12.8	15.2	15.7	18.7	19.3	21.2	22.7	28.9	31.4	33.1	40.3	43.1	46.1	53.8	57.0	67.5	71.2

SINGLE LIFT TYPE BRINE ABSORPTION CHILLER

Single Lift Brine Absorption Chillers use the single effect single lift absorption refrigeration cycle, supplying brine of -1~2℃. The COP is 0.8, higher than Double Lift Absorption Chillers.

REFRIGERATION CYCLE



Evaporator and Absorber

Mixed refrigerant is evaporated in Evaporator, brine flowing inside of the tube of Evaporator is cooled. The evaporated refrigerant moved to Absorber, is absorbed by concentrated solution. The concentrated solution absorbs the refrigerant vapor in Absorber and becomes the diluted solution. The absorption heat by diluting process is rejected to the cooling water.

Generator

The diluted solution from Absorber moves to Generator through the low temperature solution heat exchanger and the high temperature heat exchange. 95℃ hot water heats the diluted solution up to separate refrigerant vapor in Generator. The diluted solution becomes the intermediate solution in Generator, flows to High temp. Absorber through the high temp. heat exchanger.

Condenser

The separated refrigerant vapor in Generator is condensed the outside of heat transfer tubes in Condenser. The vapor moves down to Evaporator through the refrigerant level support device that adjusts the refrigerant supplying according to the mixed refrigerant level of Evaporator. The vapor is become the mixed refrigerant by the concentration support device that mix a fixed amount of absorbent solution while going down to Evaporator. The cooling water absorbs the emitted heat while condensing the refrigerant gas from the heat transfer tubes of Condenser.

PERFORMANCE (HOT WATER DRIVEN)

Model			unit	L30HH-B	L40HH-B	L50HH-B	L60HH-B	L75HH-B	L90HH-B	L110HH-B	L135HH-B	L155HH-B	L180HH-B	L210HH-B	L240HH-B	L270HH-B	L300HH-B	L340HH-B	L375HH-B	L420HH-B	L470HH-B	L525HH-B	L580HH-B	L630HH-B	L680HH-B	L750HH-B	L820HH-B	L900HH-B	L975HH-B	L1050HH-B	L1125HH-B	L1300HH-B
Cooling Capacity			kW	49	66	82	98	123	148	180	222	254	295	345	394	443	492	558	615	689	771	861	952	1,034	1,116	1,231	1,346	1,477	1,600	1,723	1,846	2,133
			usRT	14	19	23	28	35	42	51	63	72	84	98	112	126	140	159	175	196	219	245	271	294	317	350	383	420	455	490	525	607
Chilled Water	Inlet/Outlet Temp.		℃	5 / 0																											
	Flow rate		m^3/h	9.1	12.1	15.1	18.1	22.7	27.2	33.3	40.8	46.9	54.4	63.5	72.6	81.7	90.7	102.8	113.4	127.0	142.2	158.8	175.4	190.5	205.7	226.8	248.0	272.2	294.9	317.6	340.3	393.2
	P. Drop		mEG	1.3	2.3	4.3	4.8	4.8	7.1	5.4	5.8	5.2	5.3	6.3	6.2	6.5	6.5	5.9	6.2	8.5	5.2	5.0	6.4	8.0	4.8	6.3	8.0	6.1	7.7	6.2	7.5	3.7
			kPa	13.3	22.9	43.4	48.3	48.8	71.6	55.1	58.7	53.1	53.5	64.4	63.1	66.2	66.3	59.7	62.9	86.3	52.9	50.7	65.1	81.6	49.1	64.0	81.1	62.4	77.8	62.6	76.5	37.3
	Connection		mm	65				80				100				125		150					200									250
Cooling Water	Inlet/Outlet Temp.		℃	30 / 35																											
	Flow rate		m^3/h	19.0	25.4	31.7	38.0	47.6	57.1	69.8	85.6	98.3	114.1	133.2	152.2	171.2	190.2	215.6	237.8	266.3	298.1	332.9	367.8	399.5	431.2	475.6	520.0	570.7	618.3	665.9	713.4	824.4
	P. Drop		mH_2O	4.8	4.0	7.4	7.8	8.8	9.3	10.6	11.6	10.2	9.8	6.4	6.1	6.3	6.3	6.4	6.3	8.6	11.6	10.6	9.5	11.8	7.5	10.2	10.0	9.2	11.4	9.3	11.4	10.9
			kPa	47.0	39.1	72.7	75.7	86.3	90.3	103.3	112.9	99.0	96.1	62.7	59.7	61.1	61.5	62.2	61.9	84.4	112.8	103.3	92.4	115.4	72.8	99.2	98.0	89.5	111.4	91.0	110.9	106.7
	Connection		mm	80				100				150						200					250					300				350
Hot Water	Inlet/Outlet Temp.		℃	95 / 80																											
	Flow rate		ton/h	3.5	4.7	5.9	7.0	8.8	10.6	12.9	15.8	18.2	21.1	24.6	28.2	31.7	35.2	39.9	44.0	49.3	55.1	61.6	68.0	73.9	79.8	88.0	96.2	105.6	114.4	123.2	132.0	152.5
			m^3/h	3.7	4.9	6.1	7.3	9.1	11.0	13.4	16.5	18.9	21.9	25.6	29.3	32.9	36.6	41.5	45.7	51.2	57.3	64.0	70.7	76.8	82.9	91.5	100.0	109.7	118.9	128.0	137.2	158.5
	Pressure Drop	Shell	mH_2O	0.3	0.7	1.2	1.8	1.4	1.5	4.0	2.9	2.9	3.0	2.2	2.3	2.2	2.3	2.1	2.2	2.9	3.9	3.9	4.8	2.8	1.7	2.2	2.8	2.0	2.5	2.1	1.1	1.5
			kPa	2.5	6.4	11.5	17.3	13.5	13.9	37.7	27.2	27.1	28.3	21.1	21.9	21.0	22.0	20.2	20.4	27.8	37.1	36.9	45.0	26.6	16.4	21.2	26.6	19.3	23.9	20.1	10.0	14.4
		Control Valve	mH_2O	0.5	0.9	1.5	2.1	3.3	4.7	2.9	4.3	3.6	4.9	4.1	2.2	2.7	3.4	4.3	3.3	4.1	3.3	4.1	3.2	3.8	4.4	3.3	3.9	4.7	3.5	4.1	4.7	4.0
			kPa	4.9	8.8	13.7	19.7	30.8	44.4	27.2	40.9	34.0	45.8	38.7	20.4	25.8	31.8	40.9	30.8	38.7	31.0	38.7	30.2	35.6	41.5	30.8	36.8	44.4	33.3	38.7	44.4	37.9
	Connection		mm	50				65				80						100					125					150				
	Control Valve		mm	32				40				50			65			80					100					125				
Electric	Power source		-	3Φ, 400V, 50Hz																											
	Abs. Pump		kW(A)	1.4(5.4)				1.5(5.4)				1.8(5.7)				1.9(5.7)		2.4(7.4)				3.2(10.5)			3.7(11.0)			4.5(13.8)		4.8(15.7)		
	Ref. Pump		kW(A)	0.2(1.2)								0.3(1.4)						0.4(1.4)							1.5(4.0)				1.8(6.2)		
	Purge Pump		kW(A)	0.4(1.1)																								0.75(1.9)			
	Control Panel		kW(A)	0.2(0.5)																											
	Total Power		kW	2.2				2.3				2.7				2.8		3.4				4.2			5.8			7.0		7.6		
	Total Ampere @400V		A	8.2								8.7						10.4				13.5			16.6			20.2		24.3		
Size	Length (L)		mm	2110		2612		2665		3685		3728		4748		4860		4872		5414	5912	6024	6549	7049	6136	6661	7161	6769	7269	7446	7946	8946
	Width (W)		mm	1156				1267				1409				1451		1588				2031			2320			2479		3073		
	Height (H)		mm	1935		2053		2351				2660				2736		2904				3118			3362			3702		4000		
Weight	Rigging		ton	2.3	2.4	3.0	3.1	3.7	3.7	4.6	4.9	5.9	6.1	7.2	7.5	8.9	9.3	11.2	11.5	12.7	13.8	17.4	18.8	20.0	23.4	25.2	26.8	30.9	32.7	38.9	42.0	46.3
	Operation		ton	2.8	2.9	3.6	3.7	4.5	4.6	5.6	6.0	7.3	7.7	8.9	9.4	11.2	11.7	14.2	14.7	16.2	17.4	21.9	23.6	25.1	29.6	31.7	33.7	39.4	41.7	50.6	54.3	59.6

PERFORMANCE (STEAM DRIVEN)

Model		unit	S50HH-B	S60HH-B	S70HH-B	S80HH-B	S100HH-B	S120HH-B	S150HH-B	S180HH-B	S210HH-B	S240HH-B	S280HH-B	S320HH-B	S360HH-B	S400HH-B	S450HH-B	S500HH-B	S560HH-B	S630HH-B	S700HH-B	S770HH-B	S840HH-B	S900HH-B	S1000HH-B	S1100HH-B	S1200HH-B	S1300HH-B	S1400HH-B	S1500HH-B
Cooling Capacity		kW	98	117	137	156	195	234	293	351	410	468	546	624	702	780	878	975	1,092	1,229	1,365	1,502	1,638	1,755	1,950	2,145	2,340	2,535	2,730	2,925
		usRT	28	33	39	44	55	67	83	100	116	133	155	177	200	222	250	277	311	349	388	427	466	499	555	610	666	721	777	832
Chilled Water	Inlet/Outlet Temp.	℃	5 / 0																											
	Flow rate	m^3/h	18.0	21.6	25.2	28.8	35.9	43.1	53.9	64.7	75.5	86.3	100.7	115.0	129.4	143.8	161.8	179.7	201.3	226.5	251.6	276.8	302.0	323.5	359.5	395.4	431.4	467.3	503.3	539.2
	P. Drop	mEG	4.4	6.4	7.0	7.0	7.2	7.3	6.8	6.9	6.6	6.5	6.4	6.3	6.7	6.8	6.0	6.4	8.8	3.9	3.7	4.8	6.0	3.6	4.8	6.0	4.5	5.7	4.6	5.6
		kPa	45.2	64.5	70.8	70.6	72.7	74.4	69.0	70.3	67.4	66.2	65.3	64.0	68.4	68.9	60.8	65.0	89.0	39.3	37.3	48.3	60.9	36.8	48.5	60.5	46.2	57.5	46.4	56.7
	Connection	mm	65			80			100				125				150			200						250				
Cooling Water	Inlet/Outlet Temp.	℃	30 / 35																											
	Flow rate	m^3/h	27.0	32.4	37.8	43.2	54.0	64.8	81.0	97.2	113.4	129.6	151.2	172.8	194.4	216.0	242.9	269.9	302.3	340.1	377.9	415.7	453.5	485.9	539.9	593.9	647.9	701.8	755.8	809.8
	P. Drop	mH_2O	9.1	6.2	10.2	9.3	7.5	7.9	8.0	8.3	8.5	8.1	9.8	9.4	9.7	9.4	9.7	9.7	7.4	9.6	6.1	5.5	7.0	4.4	6.0	7.0	5.5	6.9	5.7	7.0
		kPa	88.2	60.7	99.5	90.2	72.9	76.5	77.9	80.8	82.5	79.0	95.9	91.6	94.2	91.6	94.5	94.5	71.8	93.5	59.0	54.0	67.8	43.2	58.1	68.4	54.0	66.9	55.9	67.8
	Connection	mm	80			100			125				150				200			250						300				
Steam	Inlet Pressure	MPa	0.15																											
	Flow rate	kg/h	190	228	266	304	380	455	569	683	797	911	1063	1215	1366	1518	1708	1898	2126	2391	2657	2923	3188	3416	3796	4175	4555	4934	5314	5694
	Inlet Connection	mm	65			80			100		125		150				200			250						300				
	Drain Connection	mm	15			20			25		32					50				65						80				
	Control Valve	mm	32					40		50			65			80					100					125				
Electric	Power source	-	3Φ, 400V, 50Hz																											
	Abs. Pump	kW(A)	1.4(5.4)				1.5(5.4)				1.8(5.7)				1.9(5.7)		2.4(7.4)				3.2(10.5)			3.7(11.0)			4.5(13.8)		4.8(15.7)	
	Ref. Pump	kW(A)	0.2(1.2)								0.3(1.4)						0.4(1.4)							1.5(4.0)				1.8(6.2)	
	Purge Pump	kW(A)	0.4(1.1)																								0.75(1.9)			
	Control Panel	kW(A)	0.2(0.5)																											
	Total Power	kW	2.2				2.3				2.7				2.8		3.4				4.2			5.8			7.0		7.6	
	Total Ampere @400V	A	8.2								8.7						10.4				13.5			16.6			20.2		24.3	
Size	Length (L)	mm	2110		2610		2658		3678		3728		4748		4854		4872		5414	5912	6012	6537	7037	6114	6639	7139	6749	7249	7522	8022
	Width (W)	mm	1072				1151				1222				1395		1557				1780			2177			2467		3000	
	Height (H)	mm	1925		2097		2372				2640				2677		2880				3140			3461			3750		3680	
Weight	Rigging	ton	2.1	2.1	2.7	2.7	3.5	3.5	4.2	4.5	5.4	5.7	6.5	6.8	8.2	8.5	9.9	11.5	13.1	14.9	15.9	17.1	18.1	22.4	22.7	25.6	27.2	28.7	35.2	37.1
	Operation	ton	2.4	2.5	3.0	3.1	4.0	4.1	4.9	5.2	6.4	6.8	7.7	8.1	9.7	10.2	12.1	13.8	15.5	17.5	19.2	20.6	21.8	26.8	27.3	30.5	33.3	35.1	43.6	45.9