For Future Energy & Environment -

World Energy

High Efficiency

Absorption Chiller
Absorption Chiller & Heater
Absorption Heat Pump

High Efficiency series

World Energy

About World Energy

World Energy has developed and sold various types of heat recovery products.

The core product is the Absorption Chiller, which is driven by heat sources like hot water, gas & oil firing, steam, and exhaust gas. World Energy has a wide range of Absorption Chillers and Heat Pumps that can be adapted to the specific needs of customers worldwide.

With its technology in development and manufacture of absorption machines meeting international standards, World Energy has provided products for domestic and global markets.

World Energy has offered energy efficient products to help Korean industrial area resolve energy challenges, by utilizing the exhaust heat. In cooperation with KDHC (Korean District Heating Corporation) and KARSE (Korean Association of Air Conditioning, Refrigerating and Sanitary Engineers), World Energy has contributed to Korean district cooling and heating industry for the technology development and the introduction of new certification programs.

World Energy also has supplied products to major players of fuel cell and cogeneration system industry in America, Asia, Europe and Oceania.

World Energy makes every effort to satisfy customers with improving customers' business interest by offering energy-saving and environmentally friendly products.

World Energy Certificate

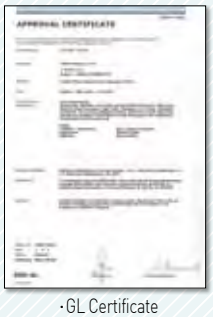

· Quality Management System Certificate


· Environmental Management System Certificate

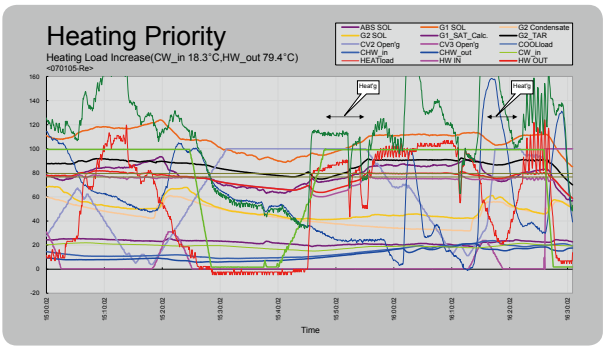

· R&D Center Certificate


· Underwriters Laboratories


· Certificate of Designation of Excellent Product


· GL Certificate

Research & Development



▲ Simultaneous Absorption Chiller & Heater

▲ 1st Generation Single Effect Double Lift Hot Water Driven Absorption Chiller

▲ Heat Exchanger Customized to Fuel Cell

▲ Maritime Absorption Chiller

▲ High COP Single Effect 2-Lift Hot Water Driven Absorption Chiller

Company History

- **Nov. 2004.** Development of Standard COP Absorption Chillers (DW, SW, HAWR-L, S Series)
- **May. 2005.** Developement of 1st Generation Single Effect 2-Lift Hot Water Driven Absorption Chiller (2AB Series)
- **Jan. 2007.** Development of Exhaust Gas Driven Simultaneous Absorption Chiller&Heater
- **Mar. 2007.** UL Listed (Hot Water Driven Absorption Chiller)
- **Jan. 2008.** Development of Heating Cycle of Single Effect 2-Lift Hot Water Driven Absorption Chiller
- **Oct. 2008.** Established Certification of 2-Life Hot Water Driven Absorption Chiller for Korea District Heating Networt Application
- **Sep. 2009.** Cycle upgrade of 1st Generation Single Effect 2-Lift Hot Water Driven Absorption Chiller (2AB Series:75~1300RT)
- **Jul. 2010.** Development of Heat Exchanger for Fuel cell
- **Dac. 2010.** Complete Development of High COP Absorption Chillers
  (DWH Series:50~1,500RT)
  (SWH Series:100~1,500RT)
  (HWAR-LH Series:30~1,00RT)
- **Jan. 2012.** Establishment of World Energy Europe Ltd.
- **Jun. 2012.** Development of Maritime Absorption Chiller
- **Ouc. 2013.** Development of Double Effect 2-Lift Heat Pump for Waste Heat recovery from Sewage
- **Mar. 2014.** Complete Development of 2AB Generation Single Effect 2-Lift Hot Water Driven Absorption Chiller (2ABH Series:30~1,300RT)

Line up World Energy Absorption Chiller

⟶→

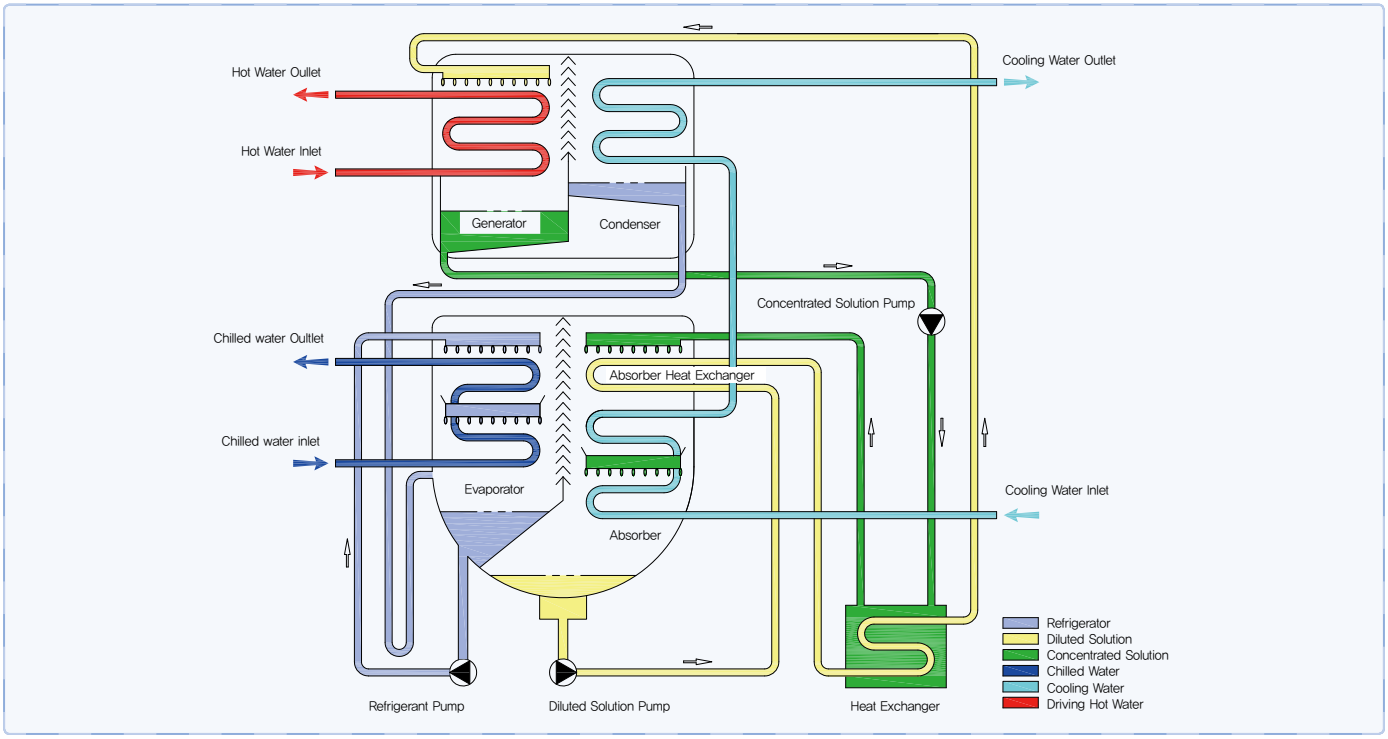
Heat source	Model No.	Type	Mode	Capacity						COP	Page
				usRT	20~50	60~80	100~150	560~1500	1600~2000		
				kW	70~175	210~281	351~527	1969~5274	5626~7033		
Hot water	HWAR-L *** HH 	Single effect Super High Efficiency	Cooling	30RT ~ 1300RT						0.83	p.6
	HWAR-L *** H 	Signle effect High efficiency	Cooling	30RT ~ 1300RT						0.8	p.8
	2ABH *** 	Signle effect Double lift High Efficiency	Cooling	30RT ~ 1300RT						0.71	p.12
	2AB *** 	Single effect Double lift	Cooling	75RT ~ 1300RT						0.64	p.14
	2AA *** 	Waste heat recovery Single effect	Cooling	75RT ~ 1300RT						0.41	p.18
GAS OIL	DW *** HH 	Double effect Direct fired type Super High Efficiency	Cooling Heating	50RT ~ 1500RT						1.32	p.22
	DW *** H 	Double effect Direct fired type High Efficiency	Cooling Heating	50RT ~ 1500RT						1.22	p.24
	DW *** 	Double effect Direct fired type	Cooling Heating	50RT ~ 1500RT						1.00	p.26
	HPD ***	Heat pump	Heating	576Mcal/h~4030Mcal/h						1.65	p.50

World Energy Absorption Chiller Line up

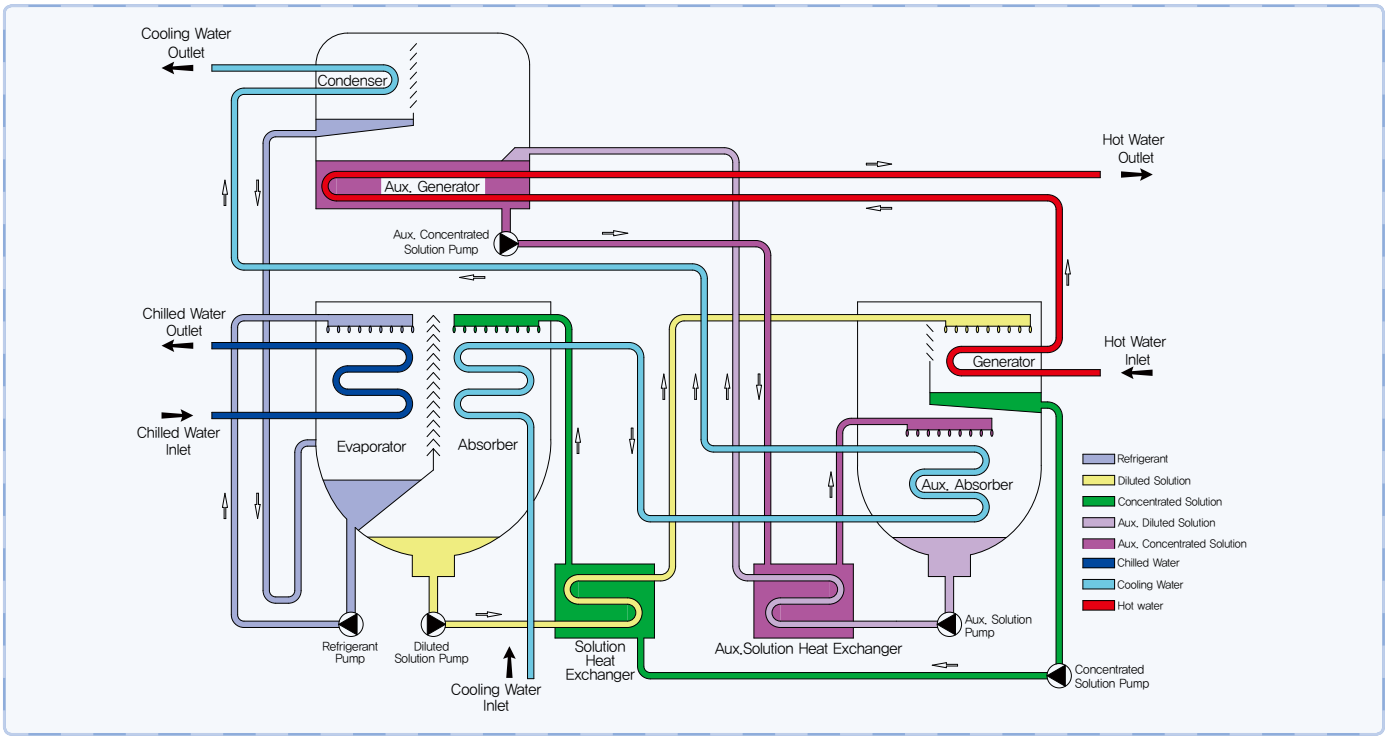
Heat source	Model No.	Type	Mode	Capacity					COP	Page
				usRT	20~50	60~80	100~150	560~1500	1600~2000	
				kW	70~175	210~281	351~527	1969~5274	5626~7033	
Steam	SWHH *** 	Double effect Super High Efficiency	Cooling				100RT		2000RT	1.48	p.30
	SWH *** 	Double effect	Cooling				100RT		1600RT	1.36	p.32
	S *** HH 	Single effect Super High Efficiency	Cooling			50RT			2000RT	0.81	p.34
	SWM *** 	Double effect Marine chiller	Cooling			50RT		1100RT		1.21	p.36
	HPS ***	Heat pump	Heating			576Mcal/h~4030Mcal/h				1.8	p.50
Exhaust gas	CHP *** H 	Double effect High Efficiency	Cooling Heating			50RT			1500RT	1.36	p.40
	CHP *** 	Double effect	Cooling Heating			50RT			1500RT	1.2	p.42
Hot water & Exhaust gas	CHPL *** H 	Hybrid chiller	Cooling				374RT ~1248RT			1.1 ~ 1.23	p.46

Single Effect Hot Water Driven Absorption Chiller

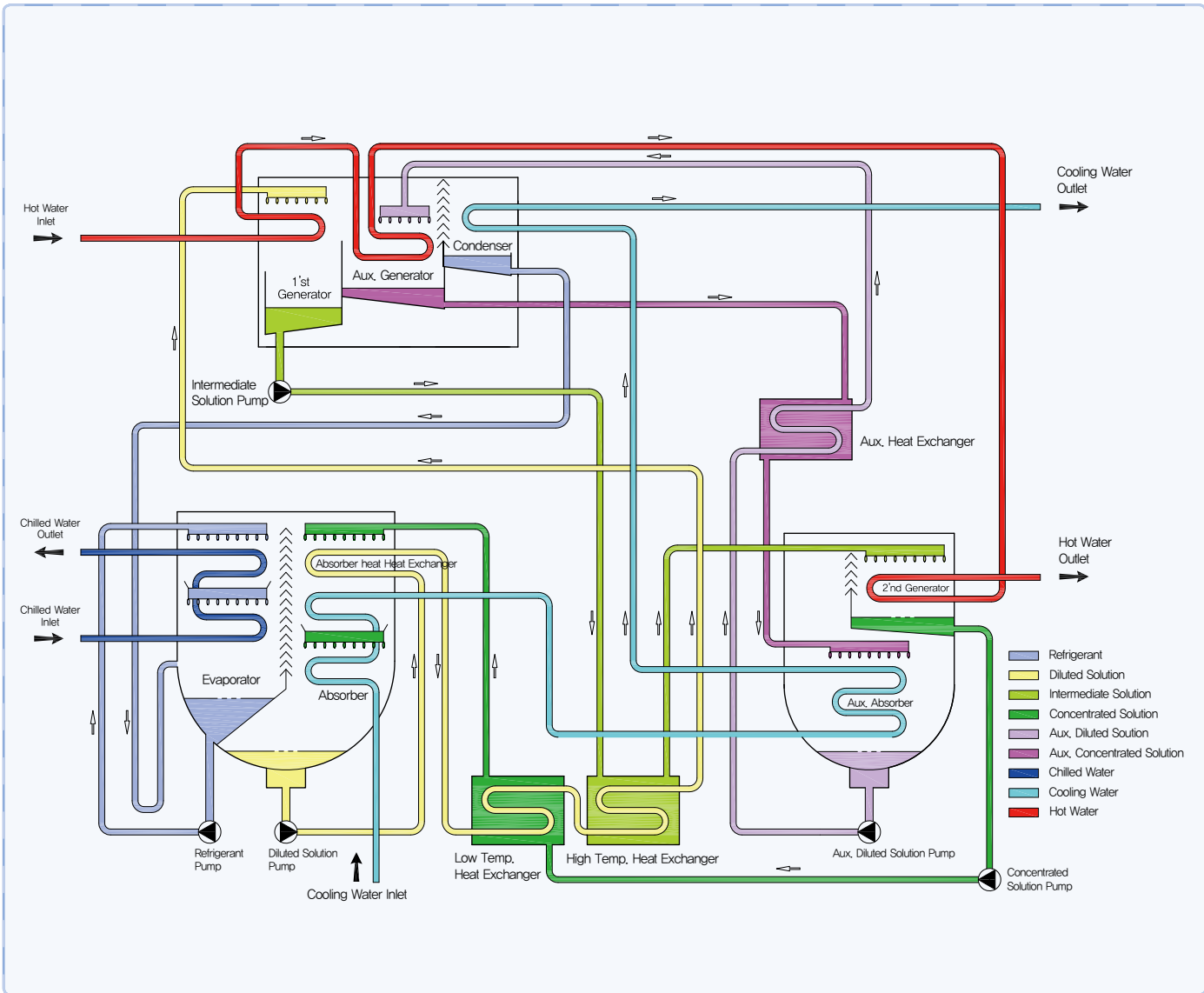
HWAR-LHH Series



2AA series



2ABH series



2-Lift Hot water driven absorption chiller has a main cycle and an aux. cycle
The chilled water is cooled down twice by refrigerant from double tray in the evaporator and the vaporized refrigerant is absorbed into concentrated solution which is coming from 2nd generator. The quantity of Vapor that can be absorbed in the absorber is increased by double tray system.
The concentrated solution becomes diluted solution and the heat is absorbed into cooling water.
The diluted solution in absorber flows to 1st generator through low temp. heat exchanger and high temp. heat exchanger, and 95°C hot water heats up the diluted solution and refrigerant is vaporized. absorbent solution becomes intermediate solution in 1st generator and it flows to 2nd generator through high temp. heat exchanger.
The intermediated solution in 2nd generator is heated by hot water and refrigerant is vaporized in 2nd generator. The vapor is absorbed into absorbent solution in aux. absorber to become aux. diluted solution.
The aux. diluted solution is delivered to aux. generator through aux. heat exchanger, and the solution is heated by hot water coming from 1st generator and becomes aux. concentrated solution. The aux. concentrated solution is delivered to aux. absorber through aux. heat exchanger.
The refrigerant vapors which are generated in the 1st generator and aux. generator are condensed in condenser and then flow into evaporator, and the heat in condenser is absorbed by cooling water.

Single Effect Hot Water Driven Absorption Chiller

COP 0.827

Performance Data

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Model			Unit	L30HH	L40HH	L50HH	L60HH	L75HH	L90HH	L110HH	L135HH	L155HH	L180HH	L210HH	L240HH	L270HH	L300HH
Cooling Capacity			kW	105	141	176	211	264	316	387	475	545	633	738	844	949	1,055
			usRT	30	40	50	60	75	90	110	135	155	180	210	240	270	300
Chilled Water	Inlet Temp./Outlet Temp.		℃	13 / 8													
	Flow rate		m^3/h	18.1	24.2	30.2	36.3	45.4	54.4	66.5	81.6	93.7	109	127	145	163	181
	P. Drop		mH_2O	4.6	5.2	5.9	6.5	6.7	6.9	4.6	4.9	4.5	4.5	9.9	9.7	10.2	10.2
	Connection		mm	65		80		80		100		125				150	
Cooling Water	Inlet Temp./Outlet Temp.		℃	31 / 36.5													
	Flow rate		m^3/h	36.6	48.9	61.1	73.3	91.6	110	134	165	189	220	256	293	330	366
	P. Drop		mH_2O	4.2	4.2	6.2	6.5	6.2	6.6	8.2	8.9	8.8	8.7	7.1	6.8	6.9	7.0
	Connection		mm	100				125		150				200			
Hot Water	Inlet Temp./Outlet Temp.		℃	95 / 80													
	Flow rate		ton/h	7.3	9.8	12.2	14.6	18.3	21.9	26.8	32.9	37.8	43.9	51.2	58.5	65.8	73.1
			m^3/h	7.6	10.1	12.7	15.2	19.0	22.8	27.9	34.2	39.3	45.6	53.2	60.8	68.4	76.0
	P.Drop	Shell	mH_2O	2.2	2.8	3.1	4.0	2.0	2.3	4.8	5.4	2.3	2.6	4.1	4.1	3.9	4.1
		Control Valve	mH_2O	2.2	2.8	2.5	2.4	3.7	2.1	3.2	1.9	2.5	3.4	2.8	2.4	3.0	2.2
	Connection		mm	50				65		80				100			
	Control Valve		mm	40	40		50		65		80				100		
Electric	Power source		-	3PH 400V, 50Hz													
	Abs. Pumps		kW(A)	1.5(5.4)								1.8(6.2)		1.9(6.2)		2.4(7.9)	
	Ref. Pump		kW(A)	0.2(1.1)								0.3(1.4)					
	Purge Pump		kW(A)	0.4 (1.4)													
	Control Panel		kW(A)	0.2 (0.5)													
	Total kW		kW	2.3								2.7		2.8		3.3	
	Total Ampere @400V		A	8.4								9.5		9.5		11.2	
Size	Length (L)		mm	2110		2610		2658		3678		3728		4748		4854	
	Width (W)		mm	1,112								1,250				1,363	
	Height (H)		mm	2,091				2,473				2,705				2,781	
Weight	Rigging		ton	2.1	2.2	2.6	2.7	3.6	3.7	4.6	4.8	5.5	5.8	6.8	7.1	8.8	9.2
	Operation		ton	2.3	2.5	2.9	3.1	4.1	4.2	5.2	5.5	6.4	6.8	7.9	8.4	10.4	10.9
Space for Tube Replacement			mm	1,900		2,400				3,400				4,600			
Water Volume of Machine	Chilled Water Side		ℓ	60	67	77	80	111	123	142	159	216	237	258	286	324	348
	Cooling Water Side		ℓ	167	188	218	228	315	343	404	446	579	632	714	785	959	1,026
	Hot Water Side		ℓ	60	68	79	83	107	117	137	153	181	199	221	245	305	326

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 m².hr.˚C/Kcal for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5˚C
4. Min. allowable inlet temp. of cooling water: 20˚C.
5. Controllable range shall be 0~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

LHH Series

Single Effect Hot Water Driven Absorption Chiller

Performance Data

Model			Unit	L340HH	L375HH	L420HH	L470HH	L525HH	L580HH	L630HH	L750HH	L820HH	L900HH	L975HH	L1050HH	L1125HH	L1300HH
Cooling Capacity			kW	1,196	1,319	1,477	1,653	1,846	2,039	2,215	2,637	2,883	3,165	3,428	3,692	3,956	4,571
			usRT	340	375	420	470	525	580	630	750	820	900	975	1,050	1,125	1,300
Chilled Water	Inlet Temp./Outlet Temp.		℃	13 / 8													
	Flow rate		m^3/h	206	227	254	284	318	351	381	454	496	544	590	635	680	786
	P. Drop		mH_2O	9.2	9.7	4.4	5.9	5.6	7.4	9.2	7.1	9.1	6.9	8.6	5.2	6.4	9.5
	Connection		mm	200							250		300				
Cooling Water	Inlet Temp./Outlet Temp.		℃	31 / 36.5													
	Flow rate		m^3/h	415	458	513	574	641	708	769	916	1001	1099	1191	1282	1374	1588
	P. Drop		mH_2O	7.1	7.1	6.1	8.2	6.6	8.6	10.8	8.7	11.0	8.3	10.3	7.1	8.7	10.4
	Connection		mm	250				300			350		400				
Hot Water	Inlet Temp./Outlet Temp.		℃	95 / 80													
	Flow rate		ton/h	82.9	91.4	102	115	128	141	154	183	200	219	238	256	274	317
			m^3/h	86.2	95.0	106	119	133	147	160	190	208	228	247	266	285	329
	P.Drop	Shell	mH_2O	3.9	4.0	2.7	3.6	3.5	4.5	5.7	1.8	2.3	3.7	4.7	3.6	4.4	2.5
		Control Valve	mH_2O	2.9	2.2	2.8	3.5	2.8	2.4	2.8	3.6	4.3	1.7	2.0	2.3	2.7	3.6
	Connection		mm	125				150					200				
	Control Valve		mm	100	125				150				200				
Electric	Power source		-	3PH 400V, 50Hz													
	Abs. Pumps		kW(A)	2.4(8.0)		2.8(8.5)		4.5(12.3)			4.5(13.3)		5(15.2)		6.7(20)		
	Ref. Pump		kW(A)	0.4(1.4)							1.5(4.0)						
	Purge Pump		kW(A)	0.4(1.4)								0.75(2.2)					
	Control Panel		kW(A)	0.2 (0.5)													
	Total kW		kW	3.4		3.8		5.5			6.6	7.0	7.5		9.2		
	Total Ampere @400V		A	11.3		11.8		15.6			19.2	20.0	21.9		26.7		
Size	Length (L)		mm	4872		5414	5912	6012	6537	7037	6639	7139	6749	7249	6966	7466	8466
	Width (W)		mm	1,561		1,583		1,833			2,272		2,548		2,930		
	Height (H)		mm	2,947				3,168			3,474		3,937		4,000		
Weight	Rigging		ton	10.5	10.9	12.3	13.7	17.2	19.0	20.6	23.9	26.0	28.5	30.8	33.1	35.4	40.0
	Operation		ton	12.5	13.1	14.8	16.4	20.8	22.9	24.9	29.0	31.6	34.6	37.5	40.3	43.2	49.0
Space for Tube Replacement			mm	4,600		5,200	5,700		6,200	6,700	6,200	6,700	6,200	6,700	6,300	6,800	7,800
Water Volume of Machine	Chilled Water Side		ℓ	465	485	526	563	656	701	744	1,004	1,060	1,355	1,423	1,795	1,890	2,079
	Cooling Water Side		ℓ	1,289	1,363	1,462	1,554	2,024	2,147	2,264	2,841	2,993	3,732	3,915	5,664	5,893	6,350
	Hot Water Side		ℓ	375	400	438	473	559	599	637	825	878	1,023	1,089	1,317	1,397	1,586

Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

Single Effect Hot Water Driven Absorption Chiller

COP 0.8

Performance Data

Model			Unit	L30H	L40H	L50H	L60H	L75H	L90H	L110H	L135H	L155H	L180H	L210H	L240H	L270H	L300H
Cooling Capacity			kW	105	141	176	211	264	316	387	475	545	633	738	844	949	1,055
			usRT	30	40	50	60	75	90	110	135	155	180	210	240	270	300
Chilled Water	Inlet Temp./Outlet Temp.		℃	13 / 8													
	Flow rate		m^3/h	18.1	24.2	30.2	36.3	45.4	54.4	66.5	81.6	93.7	109	127	145	163	181
	P. Drop		mH_2O	4.9	5.5	6.2	7.5	6.4	6.8	9.6	10.6	9.5	10.2	9.7	10.1	10.3	10.6
	Connection		mm	65		80				100		125				150	
Cooling Water	Inlet Temp./Outlet Temp.		℃	31 / 36.5													
	Flow rate		m^3/h	37.3	49.8	62.2	74.6	93.3	112	137	168	193	224	261	299	336	373
	P. Drop		mH_2O	4.1	4.4	6.6	8.4	6.7	7.0	3.4	3.8	3.9	4.1	7.8	7.7	7.8	7.7
	Connection		mm	100				125		150				200			
Hot Water	Inlet Temp./Outlet Temp.		℃	95 / 80													
	Flow rate		ton/h	7.6	10.1	12.6	15.1	18.9	22.7	27.7	34.0	39.1	45.4	52.9	60.5	68.0	75.6
			m^3/h	7.9	10.5	13.1	15.7	19.6	23.6	28.8	35.4	40.6	47.2	55.0	62.9	70.7	78.6
	P.Drop	Shell	mH_2O	0.2	0.4	0.6	0.8	0.3	0.4	0.6	0.7	0.7	0.8	1.3	1.3	1.3	1.3
		Control Valve	mH_2O	2.4	3.0	1.8	2.6	4.0	2.3	3.5	2.1	2.7	3.7	2.0	2.6	3.3	4.0
	Connection		mm	50				65		80				100			
	Control Valve		mm	40		50			65		80			100			
Electric	Power source		-	3PH 400V, 50Hz													
	Abs. Pumps		kW(A)	1.4(5.2)				1.6(5.1)		1.6(5.3)		1.9(6.2)		1.9(6.3)		2.4(8.0)	
	Ref. Pump		kW(A)	0.2(1.1)						0.3(1.4)				0.4(1.4)			
	Purge Pump		kW(A)	0.4 (1.4)													
	Control Panel		kW(A)	0.2 (0.5)													
	Total kW		kW	2.2				2.4		2.5		2.8		2.9		3.4	
	Total Ampere @400V		A	8.2				8.1		8.6		9.5		9.6		11.3	
Size	Length (L)		mm	2095		2600		2634		3680		3728		4748		4788	
	Width (W)		mm	1,062		1,095		1,229				1,472				1,480	
	Height (H)		mm	1,880				2,255				2,257				2,540	
Weight	Rigging		ton	2.1	2.2	2.6	2.7	3.6	3.7	4.6	4.8	5.5	5.8	6.8	7.1	8.8	9.2
	Operation		ton	2.3	2.5	2.9	3.1	4.1	4.2	5.2	5.5	6.4	6.8	7.9	8.4	10.4	10.9
Space for Tube Replacement			mm	1,900		2,400				3,400				4,600			
Water Volume of Machine	Chilled Water Side		ℓ	49	56	66	69	106	116	138	153	210	225	253	274	316	337
	Cooling Water Side		ℓ	140	162	188	198	313	345	433	480	644	698	715	787	915	993
	Hot Water Side		ℓ	51	62	71	79	98	107	127	142	170	189	214	239	278	303

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 m².hr.˚C/Kcal for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5˚C
4. Min. allowable inlet temp. of cooling water: 20˚C.
5. Controllable range shall be 0~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

LH Series

Single Effect Hot Water Driven Absorption Chiller

Performance Data

Model			Unit	L340H	L375H	L420H	L470H	L525H	L600H	L675H	L750H	L825H	L900H	L975H	L1050H	L1125H	L1300H
Cooling Capacity			kW	1,196	1,319	1,477	1,653	1,846	2,039	2,215	2,637	2,883	3,165	3,428	3,692	3,956	4,571
			usRT	340	375	420	470	525	580	630	750	820	900	975	1,050	1,125	1,300
Chilled Water	Inlet Temp./Outlet Temp.		℃	13 / 8													
	Flow rate		m^3/h	206	227	254	284	318	351	381	454	496	544	590	635	680	786
	P. Drop		mH_2O	9.4	9.8	9.5	4.3	5.8	3.4	4.6	6.1	5.5	7.0	8.8	5.2	6.4	9.5
	Connection		mm	200					250			300			350		
Cooling Water	Inlet Temp./Outlet Temp.		℃	31 / 36.5													
	Flow rate		m^3/h	423	466	522	585	653	746	840	933	1026	1120	1213	1306	1399	1617
	P. Drop		mH_2O	7.5	7.6	6.6	9.0	12.1	4.2	5.6	7.4	6.3	8.1	10.0	6.7	8.2	10.9
	Connection		mm	250		300			350			400					
Hot Water	Inlet Temp./Outlet Temp.		℃	95 / 80													
	Flow rate		ton/h	85.7	94.5	106	118	132	151	170	189	208	227	246	265	284	328
			m^3/h	89.1	98.2	110	123	138	157	177	196	216	236	255	275	295	341
	P.Drop	Shell	mH_2O	1.3	1.3	1.4	1.8	2.5	1.6	2.1	2.8	2.1	2.7	3.4	2.8	3.5	5.2
		Control Valve	mH_2O	2.0	2.4	3.0	2.4	3.0	2.7	3.2	3.9	1.6	1.8	2.2	2.5	2.9	3.9
	Connection		mm	125					150			200					
	Control Valve		mm	125					150			200					
Electric	Power source		-	3PH 400V, 50Hz													
	Abs. Pumps		kW(A)	2.4(8.0)		3.7(11.0)			4.2(12.9)			5.2(16.2)			7.5(23.3)		
	Ref. Pump		kW(A)	0.4(1.4)					1.5(4.0)						1.5(4.3)		
	Purge Pump		kW(A)	0.4(1.4)								0.75(2.2)					
	Control Panel		kW(A)	0.2 (0.5)													
	Total kW		kW	3.4		4.7			6.3			7.7			10.0		
	Total Ampere @400V		A	11.3		14.3			18.8			22.9			30.3		
Size	Length (L)		mm	4876		4998	5540	6038	5644	6142	6667	6246	6771	7271	6860	7360	8360
	Width (W)		mm	1,597		1,836			2,208			2,379			2,929		
	Height (H)		mm	2,832		3,174			3,600			3,867			4,000		
Weight	Rigging		ton	10.5	10.9	14.7	16.0	17.2	19.3	21.6	23.9	26.2	28.5	30.8	33.1	35.4	40.0
	Operation		ton	12.5	13.1	17.8	19.4	20.8	23.3	26.1	29.0	31.8	34.6	37.5	40.3	43.2	49.0
Space for Tube Replacement			mm	4,600			5,200	5,700	5,200	5,700	6,200	5,700	6,200	6,700	6,300	6,800	7,800
Water Volume of Machine	Chilled Water Side		ℓ	456	479	553	599	642	946	1,008	1,074	1,136	1,241	1,313	1,381	1,767	1,862
	Cooling Water Side		ℓ	1,291	1,370	1,871	2,006	2,131	2,763	2,932	3,111	3,280	3,735	3,939	4,134	5,741	5,988
	Hot Water Side		ℓ	334	365	407	448	485	677	729	784	837	806	870	932	1,067	1,138

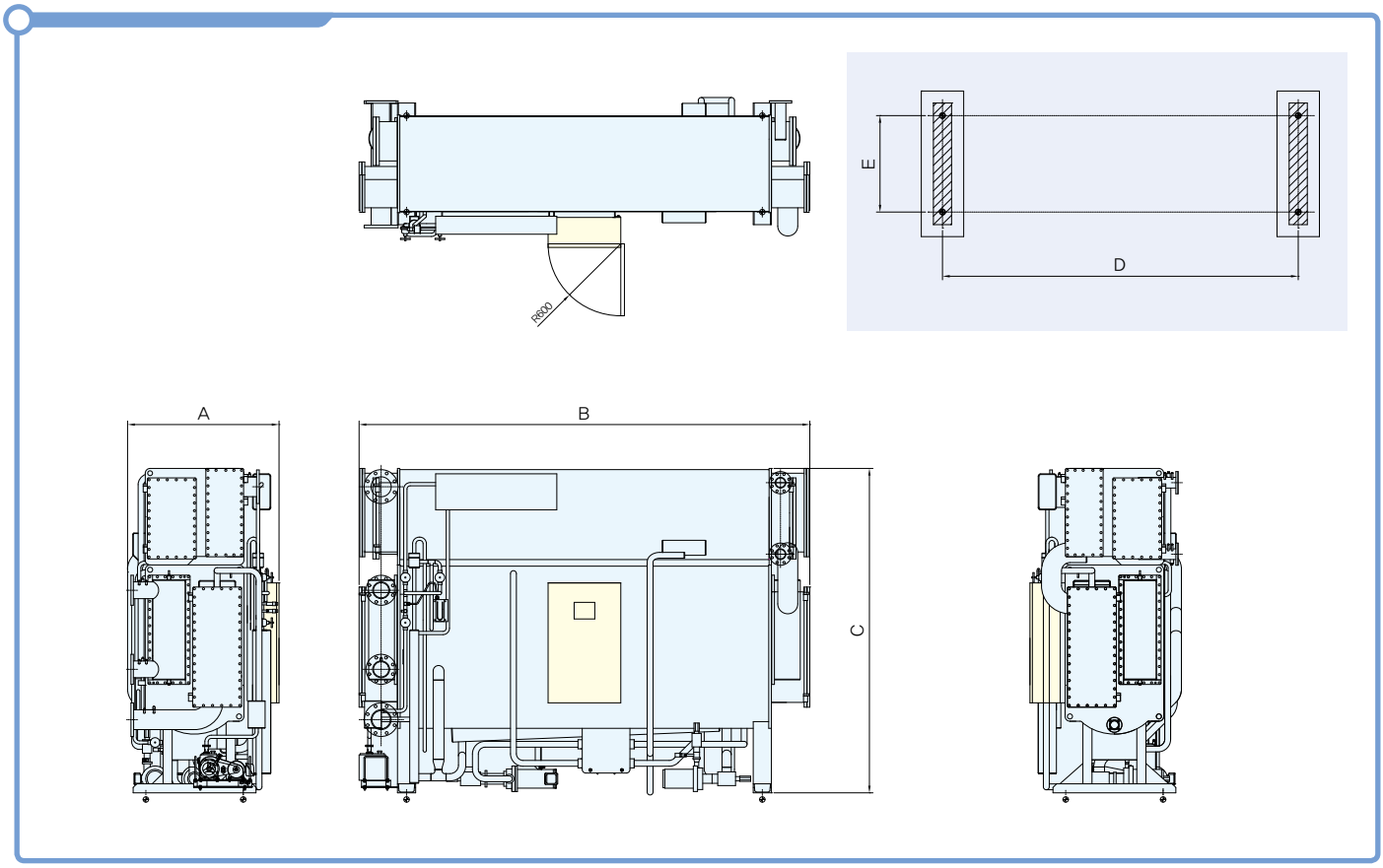
Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

Single Effect Hot Water Driven Absorption Chiller

COP 0.827

Outline_Foundation



	L30HH	L40HH	L50HH	L60HH	L75HH	L90HH	L110HH	L135HH	L155HH	L180HH	L210HH	L240HH	L270HH	L300HH
A	1.076				1.112				1.250				1.363	
B	2.095		2.600		2.648		3.668		3.720		4.740		4.866	
C	2.091				2.473				2.705				2.781	
D	1.421		1.921		1.941		2.961		2.936		3.956		3.906	
E	740				650				804				890	

	L340HH	L375HH	L420HH	L470HH	L525HH	L580HH	L630HH	L750HH	L820HH	L900H	L975HH	L1050HH	L1125HH	L1300HH
A	1.561		1.659		1.833			2.272		2.548		2.930		
B	4.872		5.508	6.006	6.012	6.617	7.117	6.639	7.139	6.771	7.271	7.010	7.510	8.510
C	2.947				3.168			3.474		3.937		4.000		
D	3.906		3.856	4.398	4.896	4.328	4.826	5.351	4.846	5.371	5.871	4.200	4.700	5.700
E	990				1.140			1.540		1.790		2.490		

LHH Series

Single Effect Hot Water Driven Absorption Chiller

Thermal Insulation

1. Use only Non-inflammable or flame retardant insulation materials.
2. Do not insulate motor of refrigerant pump.
3. Total insulation area is including pipings.
4. Do not cover components such as service valves, diaphragm valves, sight glass, control valves, thermometers or sensor.
5. Use the standard insulation material and thickness as the recommendation
6. For the information of insulation area, please refer to the Table below.
7. The water box sections should be worked to be disassembled for the cleaning or repairing.

Note

HOT Surface insulation

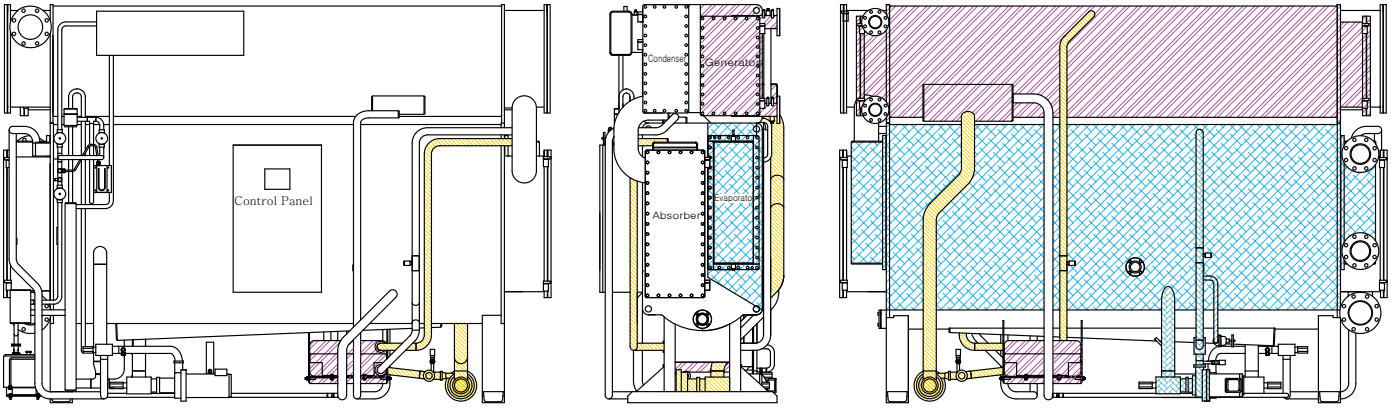
- Material of insulation : Inflammable polymer sponge usable at 120°C
- Thickness of insulation : 19mm (3/4 inch), 10mm (3/8 inch) when polymer sponge is used

Model	Hot Surface(m^2)		Cold Surface(m^2)	
	19(mm)	10(mm)	19(mm)	10(mm)
L30HH	3.7	0.9	3.6	0.4
L40HH	3.7	0.9	3.6	0.4
L50HH	4.4	0.9	4.2	0.5
L60HH	4.4	1.0	4.2	0.5
L75HH	4.6	1.1	4.3	0.5
L90HH	4.6	1.1	4.3	0.5
L110HH	6.2	1.2	5.8	0.5
L135HH	6.2	1.3	5.8	0.5
L155HH	6.5	1.6	6.6	0.7
L180HH	6.5	1.7	6.6	0.9
L210HH	8.3	1.8	8.0	0.9
L240HH	8.5	1.9	8.2	0.9
L270HH	9.8	2.1	8.9	0.9
L300HH	9.8	2.1	8.9	0.9

COLD Surface insulation

- Material of insulation : Closed cell type Inflammable polymer sponge
- Thickness of insulation : 19mm (3/4 inch), 10mm (3/8 inch)

Model	Hot Surface(m^2)		Cold Surface(m^2)	
	19(mm)	10(mm)	19(mm)	10(mm)
L340HH	10.9	2.1	10.6	0.9
L375HH	10.9	2.2	10.6	0.9
L420HH	12.2	2.6	14.6	1.1
L470HH	13.5	2.7	16.2	1.2
L525HH	15.0	2.8	17.3	1.2
L580HH	20.3	3.4	17.6	2.1
L630HH	21.9	3.5	19.3	2.1
L750HH	23.7	3.6	21.0	2.1
L820HH	24.2	3.8	21.1	2.3
L900HH	26.0	3.9	22.9	2.3
L975HH	27.6	4.0	27.8	2.3
L1050HH	35.8	5.3	12.4	2.6
L1125HH	37.5	5.4	13.1	2.6
L1300HH	40.6	5.5	14.4	2.6



Hot Surfaces
- 19mm (3/4 in) : Generator with Water Box
- 10mm (3/8 in) : Heat Exchanger Body with Piping

Cold Surfaces
- 19mm (3/4 in) : Evaporator Body with Water Box
- 10mm (3/8 in) : Inlet and Outlet Piping of Refrigerant Pump

Single Effect Hot Water Driven Absorption Chiller

COP 0.701

Performance Data

→→

Model			Unit	2ABH30	2ABH40	2ABH50	2ABH60	2ABH75	2ABH90	2ABH110	2ABH135	2ABH155	2ABH180	2ABH210	2ABH240	2ABH270	2ABH300
Cooling Capacity			kW	105	141	176	211	264	316	387	475	545	633	738	844	949	1,055
			usRT	30	40	50	60	75	90	110	135	155	180	210	240	270	300
Chilled Water	Inlet Temp./Outlet Temp.		℃	13 / 8													
	Flow rate		m^3/h	18.1	24.2	30.2	36.3	45.4	54.4	66.5	81.6	93.7	109	127	145	163	181
	P. Drop		mH_2O	4.6	5.2	5.9	6.5	6.7	6.9	4.6	4.9	4.5	4.5	9.9	9.7	10.2	10.2
	Connection		mm	65		80				100		125				150	
Cooling Water	Inlet Temp./Outlet Temp.		℃	31 / 36.5													
	Flow rate		m^3/h	40.2	53.7	67.1	80.5	101	121	148	181	208	241	282	322	362	402
	P. Drop		mH_2O	5.2	5.3	8.0	8.4	7.9	8.4	5.1	5.7	5.7	6.0	11.0	10.8	10.4	10.4
	Connection		mm	100				125		150				200		250	
Hot Water	Inlet Temp./Outlet Temp.		℃	95 / 55													
	Flow rate		ton/h	3.2	4.3	5.4	6.5	8.1	9.7	11.9	14.6	16.7	19.4	22.7	25.9	29.1	32.4
			m^3/h	3.4	4.5	5.6	6.7	8.4	10.1	12.3	15.1	17.4	20.2	23.5	26.9	30.3	33.6
	P.Drop	Shell	mH_2O	1.2	1.5	2.7	3.3	2.2	2.3	2.7	3.1	2.8	2.9	5.1	5.1	4.7	4.7
		Control Valve	mH_2O	2.0	2.0	2.2	3.1	2.8	2.8	2.4	2.4	3.1	2.5	2.3	3.0	2.3	1.9
	Connection		mm	50				65				80				100	
	Control Valve		mm	25		40				50				65			80
Electric	Power source		-	3PH, 400V, 50Hz													
	Abs. Pumps		kW(A)	2.1 (8.2)								2.4 (9.0)		2.6 (9.0)		3.1 (10.7)	
	Ref. Pump		kW(A)	0.2 (1.1)								0.3 (1.4)					
	Purge Pump		kW(A)	0.4 (1.4)													
	Control Panel		kW(A)	0.2 (0.5)													
	Total kW		kW	2.9								3.3		3.5		4.0	
	Total Ampere @400V		A	11.2								12.3		12.3		14.0	
Size	Length (L)		mm	2110		2610		2658		3678		3728		4748		4854	
	Width (W)		mm	1594				1594				1732				2048	
	Height (H)		mm	2091				2473				2705				2781	
Weight	Rigging		ton	2.7	2.8	3.3	3.4	4.5	4.7	5.9	6.2	7.4	7.7	9.1	9.5	11.6	12.2
	Operation		ton	2.9	3.2	3.7	4.0	5.3	5.5	6.8	7.2	8.7	9.2	10.7	11.2	13.8	14.5
Space for Tube Replacement			mm	1,900		2,400				3,400				4,600			
Water Volume of Machine	Chilled Water Side		ℓ	60	67	77	80	111	123	142	159	216	237	258	286	324	348
	Cooling Water Side		ℓ	287	315	354	369	433	469	553	606	803	871	995	1,086	1,358	1,450
	Hot Water Side		ℓ	126	141	162	172	221	244	282	317	374	414	454	507	621	670

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 m².hr.˚C/Kcal for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5˚C
4. Min. allowable inlet temp. of cooling water: 20˚C.
5. Controllable range shall be 0~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

2ABH Series

Single Effect Hot Water Driven Absorption Chiller

Performance Data

Model			Unit	2ABH340	2ABH375	2ABH420	2ABH470	2ABH525	2ABH580	2ABH630	2ABH750	2ABH820	2ABH900	2ABH975	2ABH1050	2ABH1125	2ABH1300
Cooling Capacity			kW	1,196	1,319	1,477	1,653	1,846	2,039	2,215	2,637	2,883	3,165	3,428	3,692	3,956	4,571
			usRT	340	375	420	470	525	580	630	750	820	900	975	1,050	1,125	1,300
Chilled Water	Inlet Temp./Outlet Temp.		℃	13 / 8													
	Flow rate		m^3/h	206	227	254	284	318	351	381	454	496	544	590	635	680	786
	P. Drop		mH_2O	9.2	9.7	4.4	5.9	5.6	7.4	9.2	7.1	9.1	6.9	8.6	5.2	6.4	9.5
	Connection		mm	200							250		300				
Cooling Water	Inlet Temp./Outlet Temp.		℃	31 / 36.5													
	Flow rate		m^3/h	456	503	563	631	704	778	845	1,006	1,100	1,207	1,308	1,409	1,509	1,744
	P. Drop		mH_2O	11.2	11.4	6.7	8.9	6.8	8.8	11.0	9.1	11.4	8.4	10.5	2.6	3.1	4.5
	Connection		mm	250				300			350		400		450		
Hot Water	Inlet Temp./Outlet Temp.		℃	95 / 55													
	Flow rate		ton/h	36.7	40.5	45.3	50.7	56.6	62.6	68.0	80.9	88.5	97.1	105	113	121	140
			m^3/h	38.1	42.0	47.1	52.7	58.9	65.0	70.6	84.1	91.9	101	109	118	126	146
	P.Drop	Shell	mH_2O	4.6	4.7	3.0	4.0	4.4	5.1	5.2	4.0	5.1	4.1	5.1	3.5	4.3	6.2
		Control Valve	mH_2O	2.4	2.9	2.2	2.8	2.3	2.7	1.9	2.8	2.1	2.5	3.0	3.5	2.5	2.4
	Connection		mm	100							125				150		
	Control Valve		mm	80				100				125					150
Electric	Power source		-	3PH, 400V, 50Hz													
	Abs. Pumps		kW(A)	3.2 (11.0)		3.6 (11.5)		6.4 (18.1)			7.5 (21.9)		8.5 (25.7)		10.9 (32.9)		
	Ref. Pump		kW(A)	0.4 (1.4)							1.5 (4.0)						
	Purge Pump		kW(A)	0.4 (1.4)							0.75 (2.2)						
	Control Panel		kW(A)	0.2 (0.5)													
	Total kW		kW	4.2		4.6		7.4			9.6	10.0	11.0		13.4		
	Total Ampere @400V		A	14.3		14.8		21.4			27.8	28.6	32.4		39.6		
Size	Length (L)		mm	4872		5414	5912	6012	6537	7037	6639	7139	6749	7249	6966	7466	8466
	Width (W)		mm	2310		2332		2588			3179		3691		4508		
	Height (H)		mm	2947				3168			3474		3937		4000		
Weight	Rigging		ton	13.9	14.4	16.3	18.1	22.9	25.2	27.4	31.6	34.4	39.6	42.0	44.4	47.5	54.7
	Operation		ton	16.7	17.4	19.7	21.8	27.7	30.5	33.2	37.4	40.7	46.9	49.7	54.0	57.8	66.0
Space for Tube Replacement			mm	4,600		5,200	5,700		6,200	6,700	6,200	6,700	6,200	6,700	6,300	6,800	7,800
Water Volume of Machine	Chilled Water Side		ℓ	465	485	526	563	656	701	744	1,004	1,060	1,355	1,423	1,795	1,890	2,079
	Cooling Water Side		ℓ	1,755	1,844	1,979	2,102	2,707	2,870	3,026	3,865	4,066	5,182	5,427	7,684	7,991	8,607
	Hot Water Side		ℓ	786	844	922	994	1,129	1,211	1,289	1,642	1,745	2,011	2,140	2,648	2,806	3,120

Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

Single Effect Hot Water Driven Absorption Chiller

COP 0.64

Performance Data

→→

Model			Unit	2AB75	2AB90	2AB110	2AB135	2AB155	2AB180	2AB210	2AB240	2AB270	2AB300	2AB340	2AB375
Cooling Capacity			kW	264	316	387	475	545	633	738	844	949	1,055	1,196	1,319
			usRT	75	90	110	135	155	180	210	240	270	300	340	375
Chilled Water	Inlet Temp./Outlet Temp.		℃	13 / 8											
	Flow rate		m^3/h	45.4	54.4	66.5	81.6	93.7	109	127	145	163	181	206	227
	P. Drop		mH_2O	3.7	3.8	10.0	10.5	9.4	10.1	9.6	10.0	10.2	10.5	9.3	9.7
	Connection		mm	80		100		125				150		200	
Cooling Water	Inlet Temp./Outlet Temp.		℃	31 / 36.5											
	Flow rate		m^3/h	106	128	156	191	220	255	298	340	383	425	482	531
	P. Drop		mH_2O	7.5	8.0	5.1	5.7	5.9	6.2	11.2	11.1	10.7	10.4	10.8	11.1
	Connection		mm	125		150				200		250			
Hot Water	Inlet Temp./Outlet Temp.		℃	95 / 55											
	Flow rate		ton/h	8.9	10.6	13.0	15.9	18.3	21.3	24.8	28.3	31.9	35.4	40.2	44.3
			m^3/h	9.2	11.1	13.5	16.6	19.0	22.1	25.8	29.5	33.2	36.8	41.7	46.0
	P.Drop	Shell	mH_2O	0.8	0.9	2.0	2.5	2.0	2.2	4.3	4.6	4.0	4.1	3.9	4.0
		Control Valve	mH_2O	2.3	3.4	2.9	2.9	3.8	3.1	1.7	2.2	2.8	2.2	2.9	2.1
	Connection		mm	65				80				100			
	Control Valve		mm	40			50			65			80		
Electric	Power source		-	3PH, 400V, 50Hz											
	Abs. Pumps		kW(A)	2.3 (7.7)		2.3 (8.3)		2.6 (9.1)		2.6 (9.2)		3.2 (11)			
	Ref. Pump		kW(A)	0.2 (1.1)		0.3 (1.4)				0.4 (1.4)					
	Purge Pump		kW(A)	0.4 (1.4)											
	Control Panel		kW(A)	0.2 (0.5)											
	Total kW		kW	3.1		3.2		3.5		3.6		4.2			
	Total Ampere @400V		A	10.7		11.6		12.4		12.5		14.3			
Size	Length (L)		mm	2,658		3,678		3,728		4,748		4,872		4,882	
	Width (W)		mm	1,834				2,109				2,248		2,430	
	Height (H)		mm	2,084				2,257				2,519		2,787	
Weight	Rigging		ton	4.4	4.6	5.7	6.0	7.2	7.5	8.8	9.2	11.3	11.8	13.5	14.0
	Operation		ton	5.1	5.3	6.6	7.0	8.4	8.9	10.4	10.9	13.4	14.1	16.2	16.9
Space for Tube Replacement			mm	2,400		3,400				4,600					
Water Volume of Machine	Chilled Water Side		ℓ	105	117	136	154	210	225	253	274	316	337	456	479
	Cooling Water Side		ℓ	425	466	549	610	779	853	911	1009	1353	1461	1730	1827
	Hot Water Side		ℓ	212	230	273	300	367	401	444	490	600	651	772	830

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 m².hr.˚C/Kcal for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5˚C
4. Min. allowable inlet temp. of cooling water: 20˚C.
5. Controllable range shall be 0~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

2AB Series

Single Effect Hot Water Driven Absorption Chiller

Performance Data

Model			Unit	2AB420	2AB470	2AB525	2AB600	2AB675	2AB750	2AB825	2AB900	2AB975	2AB1050	2AB1125	2AB1300
Cooling Capacity			kW	1,477	1,653	1,846	2,110	2,373	2,637	2,901	3,165	3,428	3,692	3,956	4,571
			usRT	420	470	525	600	675	750	825	900	975	1,050	1,125	1,300
Chilled Water	Inlet Temp./Outlet Temp.		℃	13 / 8											
	Flow rate		m^3/h	254	284	318	363	408	454	499	544	590	635	680	786
	P. Drop		mH_2O	9.4	12.8	5.7	4.1	5.5	7.2	5.4	6.9	8.6	5.2	6.3	9.4
	Connection		mm	200			250			300					
Cooling Water	Inlet Temp./Outlet Temp.		℃	31 / 36.5											
	Flow rate		m^3/h	595	666	744	850	956	1,063	1,169	1,275	1,382	1,488	1,594	1,842
	P. Drop		mH_2O	4.2	5.7	7.6	5.7	7.6	10.0	7.6	9.7	11.4	3.2	3.9	5.7
	Connection		mm	300			350			400			450		
Hot Water	Inlet Temp./Outlet Temp.		℃	95 / 55											
	Flow rate		ton/h	49.6	55.5	62.0	70.9	79.7	88.6	97.4	106	115	124	133	154
			m^3/h	51.6	57.7	64.5	73.7	82.9	92.1	101	111	120	129	138	160
	P.Drop	Shell	mH_2O	3.3	4.5	3.0	1.9	2.5	3.2	2.8	3.5	4.3	2.9	3.5	5.1
		Control Valve	mH_2O	2.7	2.2	2.7	2.1	2.7	2.1	2.6	3.1	2.3	2.7	3.1	2.8
	Connection		mm	100			125						150		
	Control Valve		mm	80	100				125						150
Electric	Power source		-	3PH, 400V, 50Hz											
	Abs. Pumps		kW(A)	5.6 (16.8)			7.7 (23.4)			9.4 (29.1)			12.7 (39.2)		
	Ref. Pump		kW(A)	0.4 (1.4)			1.5 (4.0)						1.5 (4.3)		
	Purge Pump		kW(A)	0.4 (1.4)						0.75 (2.2)					
	Control Panel		kW(A)	0.2 (0.5)											
	Total kW		kW	6.6			9.8			11.9			15.2		
	Total Ampere @400V		A	20.1			29.3			35.8			46.2		
Size	Length (L)		mm	4,992	5,534	6,032	5,637	6,135	6,660	6,246	6,771	7,271	7,010	7,510	8,510
	Width (W)		mm	2,788			3,140			3,531			4,430		
	Height (H)		mm	3,036			3,471			3,837			4,000		
Weight	Rigging		ton	19.0	20.7	22.2	26.7	28.7	30.7	36.4	38.4	40.8	43.4	46.1	53.1
	Operation		ton	23.0	25.0	26.9	31.6	34.0	36.3	43.1	45.5	48.3	52.5	55.7	64.1
Space for Tube Replacement			mm	4,600	5,200	5,700	5,200	5,700	6,200	5,700	6,200	6,700	6,300	6,800	7,800
Water Volume of Machine	Chilled Water Side		ℓ	553	599	642	873	928	987	1241	1313	1381	1767	1862	2052
	Cooling Water Side		ℓ	2448	2626	2789	3567	3776	3997	4938	5206	5462	7868	8193	8845
	Hot Water Side		ℓ	901	984	1060	1340	1439	1543	1735	1865	1989	2409	2558	2856

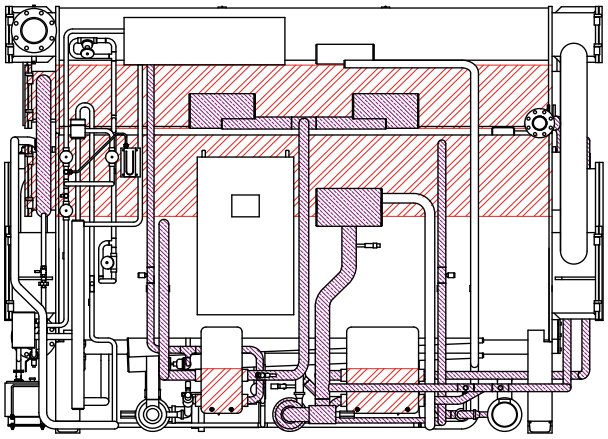
Option

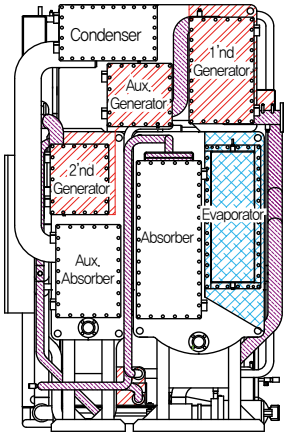
1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

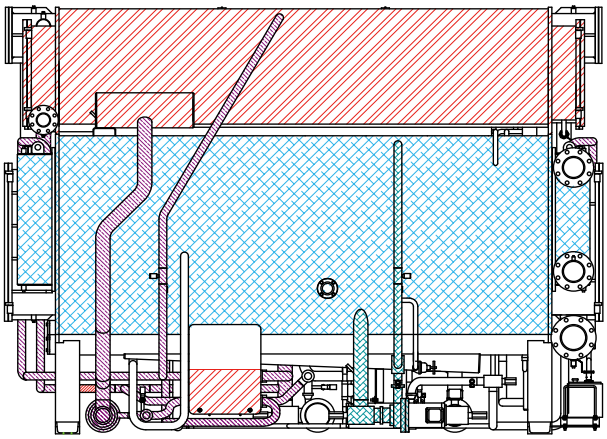
Single Effect Hot Water Driven Absorption Chiller

COP 0.71

Thermal Insulation







HOT Surface insulation

- Material of insulation : Inflammable polymer sponge usable at 120°C
- Thickness of insulation : 19mm (3/4 inch), 10mm (3/8 inch) when polymer sponge is used

COLD Surface insulation

- Material of insulation : Closed cell type Non-inflammable polymer sponge
- Thickness of insulation : 19mm (3/4 inch), 10mm (3/8 inch)

Hot Surface

- 19mm : 1st Generator with water box, 2nd Generator with water box, Aux. Generator with water box, Heat Exchanger body
- 10mm : Pipes of High temperature's parts

Cold Surface

- 19mm : Evaporator with water box
- 10mm : Inlet and outlet pipes of refrigerant pump

Note

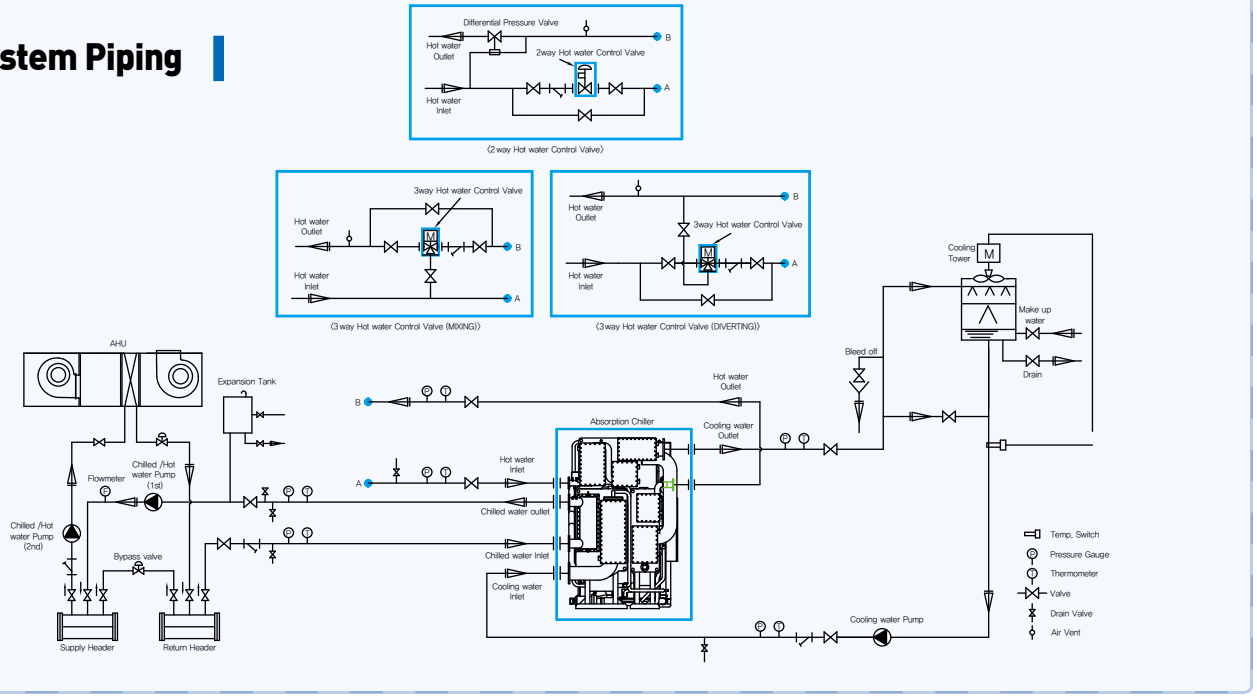
1. Use only Non-inflammable or flame retardants insulatio materials.
2. Do not insulate motor of refrigerant pump.
3. Total insulation area is including pipings.
4. Do not cover components such as service valves, diaphragm valves, sight glass, control valves, thermometers or sensor.
5. Use the standard insulation material and thickness as the recommendation.

Model	Hot Surface(m^2)		Cold Surface(m^2)	
	19(mm)	10(mm)	19(mm)	10(mm)
2ABH**75**	8.5	6.0	4.2	0.7
2ABH**90**	8.5	6.0	4.2	0.7
2ABH**110**	11.4	6.0	5.7	0.7
2ABH**135**	11.4	6.0	5.7	0.7
2ABH**155**	13.1	6.4	6.2	0.9
2ABH**180**	13.1	6.4	6.2	0.9
2ABH**210**	16.6	6.8	7.8	1.0
2ABH**240**	16.6	6.8	7.8	1.0
2ABH**270**	18.6	9.0	8.6	1.1
2ABH**300**	18.6	9.0	8.6	1.1
2ABH**340**	21.7	10.6	10.3	1.1
2ABH**375**	21.7	10.6	10.3	1.1
2ABH**420**	25.2	12.5	14.2	1.3
2ABH**470**	27.4	12.5	15.8	1.4
2ABH**525**	29.5	12.5	16.9	1.4
2ABH**580**	32.9	14.7	17.2	2.3
2ABH**630**	35.1	14.7	18.8	2.3
2ABH**750**	37.2	14.7	20.4	2.3
2ABH**820**	40.7	16.0	20.6	2.5
2ABH**900**	42.9	16.0	22.3	2.5
2ABH**975**	45.0	16.0	27.1	2.5
2ABH**1050**	47.2	16.9	28.5	2.7
2ABH**1125**	49.6	16.9	29.9	2.7
2ABH**1300**	52.1	16.9	31.4	2.7

2ABH Series

Single Effect 2-Lift Hot water Driven Absorption Chiller

System Piping



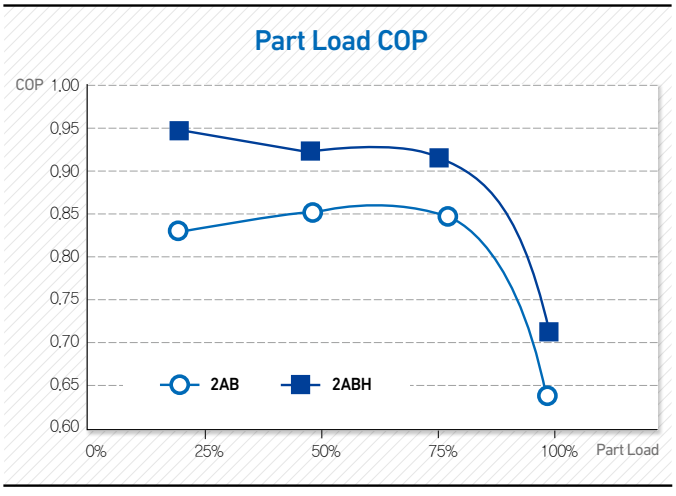
1) All external equipment out of the blue line is the customer's scope.
2) Refer to outline drawing and specification data sheet to figure our the external dimensions of the machine, the location & the diameter of water pipe connection and etc.
3) Driving hot water must be maintained as the designed temperature.
4) It is strongly recommended to install shut-off valves at hot water inlet and outlet pipe.
5) The locations of chilled water pumps, cooling water pumps and expansion tanks shall be determined in consideration of the hydrostatic head of pumps and the height of building. And the Machine shall not be subjected to a pressure higher than the designed pressure at any water header.
6) For cooling water quality control, it is recommended to install cooling water bleed-off device on the inlet pipe line of cooling towers.
7) Around 10 meshes of strainers are recommended to be installed in the cooling water line.
8) For the maintenance and the inspection of the machine, the following equipments shall be installed on each chilled water and cooling water inlet/outlet lines as well as stop valve.
   - Thermometers and pressure gauges shall be installed at chilled and cooling water inlet/outlet.
   - Air relief valves shall be installed on each chilled and cooling water lines at higher points than each water header.
   - Drain valves shall be installed at the lowest position between the shut off valves of chilled and cooling water and the Machine and the drain valve shall be piped to the drain ditch.
9) There shall be a sufficient clearance for access to the absorber, evaporator, condenser, and generator to facilitate inspection and cleaning work.

Advantage of 2ABH Series

* 14% Less operational cost
* 20% Less foot print
* 8% Smaller sized Cooling water pump & Cooling tower
* Higher COP at Full load & Part load

	CW In (˚C)	Cooling Capacity(%)	HW out (˚C)	Aux. cycle Operation	COP	Part Load rate	IPLV
2ABH	31.0	100%	55.0	ON	0.71	0.01	0.01
	29.8	75%	48.3	OFF	0.85	0.42	
	28.8	50%	43.0	OFF	0.86	0.45	
	28.0	25%	38.3	OFF	0.89	0.12	
2AB	31.0	100%	55.0	ON	0.64	0.01	0.83
	29.8	75%	47.9	OFF	0.83	0.42	
	28.8	50%	42.8	OFF	0.83	0.45	
	28.0	25%	38.5	OFF	0.81	0.12	

1) CHW Outlet is maintained as 8˚C and HW inlet as 95˚C
2) WB temperature : 27˚C
3) Part load rate is according to ARI560-222



Single Effect Hot Water Driven Absorption Chiller

COP 0.41

Performance Data

Model			Unit	2AA75	2AA90	2AA110	2AA135	2AA155	2AA180	2AA210	2AA240	2AA270	2AA300	2AA340	2AA375
Cooling Capacity			kW	264	316	387	475	545	633	738	844	949	1,055	1,196	1,319
			usRT	75	90	110	135	155	180	210	240	270	300	340	375
Chilled Water	Inlet Temp./Outlet Temp.		℃												
	Flow rate		m^3/h	45.4	54.4	66.5	81.6	93.7	109	127	145	163	181	206	227
	P. Drop		mH_2O	6.7	6.9	4.6	4.9	4.5	4.5	9.9	9.7	10.2	10.2	9.2	9.7
	Connection		mm	80		100		125				150		200	
Cooling Water	Inlet Temp./Outlet Temp.		℃												
	Flow rate		m^3/h	156	188	229	281	323	375	438	500	563	625	709	782
	P. Drop		mH_2O	5.2	5.5	7.1	7.7	7.7	7.6	7.6	7.3	7.6	7.5	7.8	7.7
	Connection		mm	150		200				250				300	
Hot Water	Inlet Temp./Outlet Temp.		℃												
	Flow rate		ton/h	55.1	66.1	80.7	99.1	114	132	154	176	198	220	250	275
			m^3/h	56.3	67.6	82.6	101	116	135	158	180	203	225	255	282
	P.Drop	Shell	mH_2O	1.7	2.1	4.4	5.4	4.4	4.9	3.8	3.9	3.9	4.1	3.6	3.8
		Control Valve	mH_2O	2.1	3.0	2.7	4.0	3.4	2.9	2.8	3.3	4.1	5.1	2.2	2.6
	Connection		mm	100				125		150				200	
	Control Valve		mm	100				125		150				200	
Electric	Power source		-	3PH, 400V, 50Hz											
	Abs. Pumps		kW(A)	3.0 (10.8)				3.6 (12.4)		3.8 (12.4)		4.8 (14.8)		4.8 (16)	
	Ref. Pump		kW(A)	0.2 (1.1)				0.3 (1.4)						0.4 (1.4)	
	Purge Pump		kW(A)	0.4 (1.4)											
	Control Panel		kW(A)	0.2 (0.5)											
	Total kW		kW	3.8				4.5		4.7		5.7		5.8	
	Total Ampere @400V		A	13.8				15.7		15.7		18.1		19.3	
Size	Length (L)		mm	2972		3992		4129		5149		5266		5368	
	Width (W)		mm	1801		1887		2080		2168		2360		2718	
	Height (H)		mm	2545				2777				2853		3019	
Weight	Rigging		ton	4.8	5.1	6.3	6.6	7.9	8.3	9.7	10.1	12.4	13.0	14.9	15.4
	Operation		ton	5.6	5.8	7.3	7.7	9.2	9.8	11.4	12.0	14.7	15.5	17.8	18.6
Space for Tube Replacement			mm	2,400		3,400				4,600					
Water Volume of Machine	Chilled Water Side		ℓ	111	123	142	159	216	237	258	286	324	348	465	485
	Cooling Water Side		ℓ	499	546	636	706	933	1,027	1,135	1,260	1,616	1,725	2,071	2,195
	Hot Water Side		ℓ	213	234	274	305	363	399	442	490	611	652	750	800

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 m².hr.˚C/Kcal for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5˚C
4. Min. allowable inlet temp. of cooling water: 20˚C.
5. Controllable range shall be 0~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

2AA Series

Single Effect 2-Lift Waste Heat Recovery Driven Absorption Chiller

Performance Data

Model			Unit	2AA420	2AA470	2AA525	2AA580	2AA630	2AA750	2AA820	2AA900	2AA975	2AA1050	2AA1125	2AA1300
Cooling Capacity			kW	1,477	1,653	1,846	2,039	2,215	2,637	2,883	3,165	3,428	3,692	3,956	4,571
			usRT	420	470	525	580	630	750	820	900	975	1,050	1,125	1,300
Chilled Water	Inlet Temp./Outlet Temp.		℃												
	Flow rate		m^3/h	254	284	318	351	381	454	496	544	590	635	680	786
	P. Drop		mH_2O	4.4	5.9	5.6	7.3	9.1	7.1	5.3	6.9	8.6	5.2	6.4	9.5
	Connection		mm	200					250		300				
Cooling Water	Inlet Temp./Outlet Temp.		℃												
	Flow rate		m^3/h	875	979	1094	1209	1313	1563	1709	1876	2032	2188	2345	2709
	P. Drop		mH_2O	7.7	10.3	11.3	5.7	7.2	6.0	6.2	5.9	7.3	5.6	6.8	10.0
	Connection		mm	350			400			450			500		
Hot Water	Inlet Temp./Outlet Temp.		℃												
	Flow rate		ton/h	308	345	385	426	462	551	602	661	716	771	826	954
			m^3/h	315	353	394	436	473	563	616	676	732	789	845	976
	P.Drop	Shell	mH_2O	2.0	2.7	2.9	3.1	3.9	3.1	3.4	2.8	3.4	2.8	3.4	4.9
		Control Valve	mH_2O	3.3	4.1	5.2	1.9	2.2	3.2	3.8	4.6	5.4	2.4	2.8	3.7
	Connection		mm	200			250				300				
	Control Valve		mm	200			250						300		
Electric	Power source		-	3PH, 400V, 50Hz											
	Abs. Pumps		kW(A)	5.6(17)		9.0(24.6)			9.0(16.6)		10.0(30.4)		13.4(40)		
	Ref. Pump		kW(A)	0.4 (1.4)					1.5 (4.0)						
	Purge Pump		kW(A)	0.4 (1.4)						0.75 (2.2)					
	Control Panel		kW(A)	0.2 (0.5)											
	Total kW		kW	6.6		10.0			11.1	11.5	12.5		15.9		
	Total Ampere @400V		A	20.3		27.9			22.5	23.3	37.1		46.7		
Size	Length (L)		mm	5910	6408	6633	7158	7658	7366	7866	7378	7878	7866	8166	9166
	Width (W)		mm	2815		2995	3072		3657	3746	4150		5052		
	Height (H)		mm	3019		3240			3546		3929		4000		
Weight	Rigging		ton	20.9	22.8	24.4	26.9	29.3	33.8	40.0	42.2	44.9	47.4	50.7	58.4
	Operation		ton	25.3	27.5	29.6	32.6	35.5	39.9	47.4	50.1	53.1	57.7	61.7	70.5
Space for Tube Replacement			mm	5,200	5,700		6,200	6,700	6,200	6,700	6,200	6,700	6,300	6,800	7,800
Water Volume of Machine	Chilled Water Side		ℓ	526	563	656	701	744	1,004	1,060	1,355	1,423	1,795	1,890	2,079
	Cooling Water Side		ℓ	2,358	2,506	3,123	3,314	3,495	4,561	4,796	6,070	6,356	8,266	8,632	9,363
	Hot Water Side		ℓ	876	946	1,117	1,198	1,274	1,650	1,757	2,047	2,179	2,634	2,794	3,172

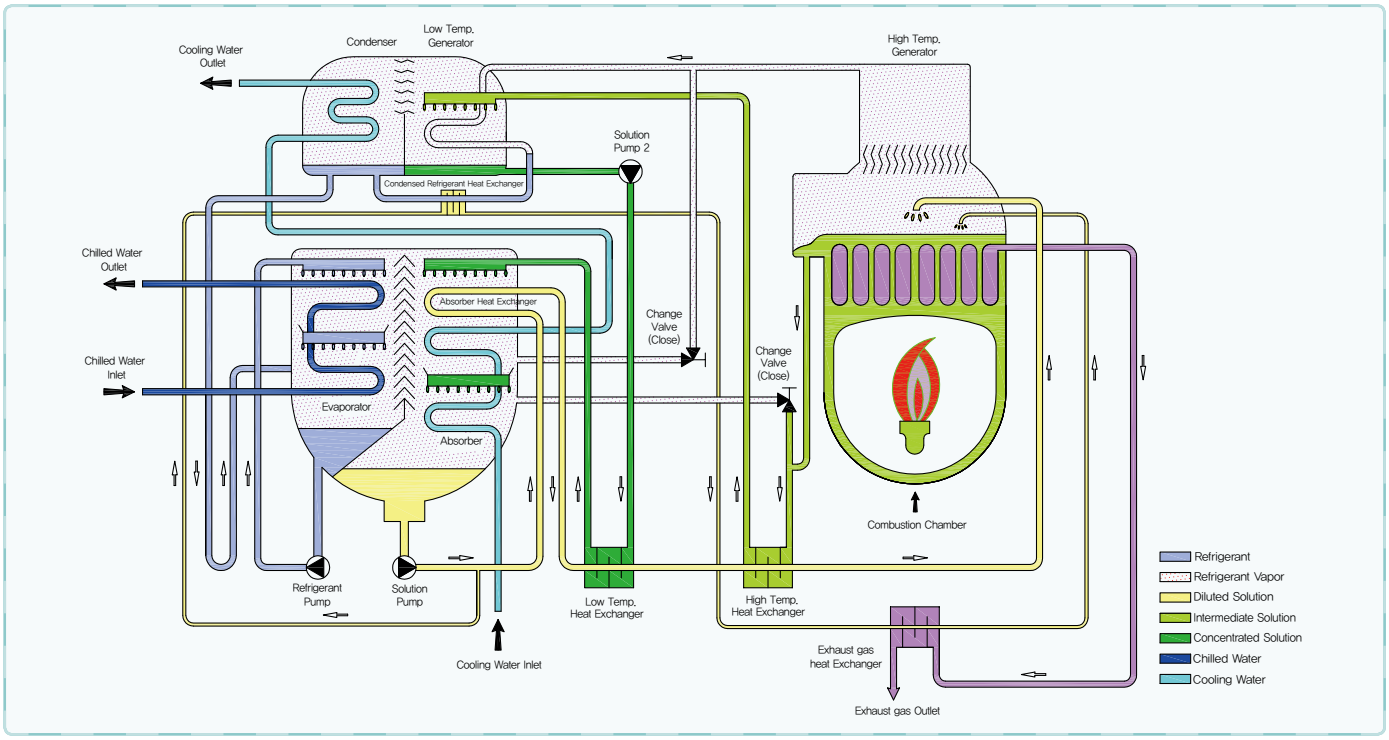
Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

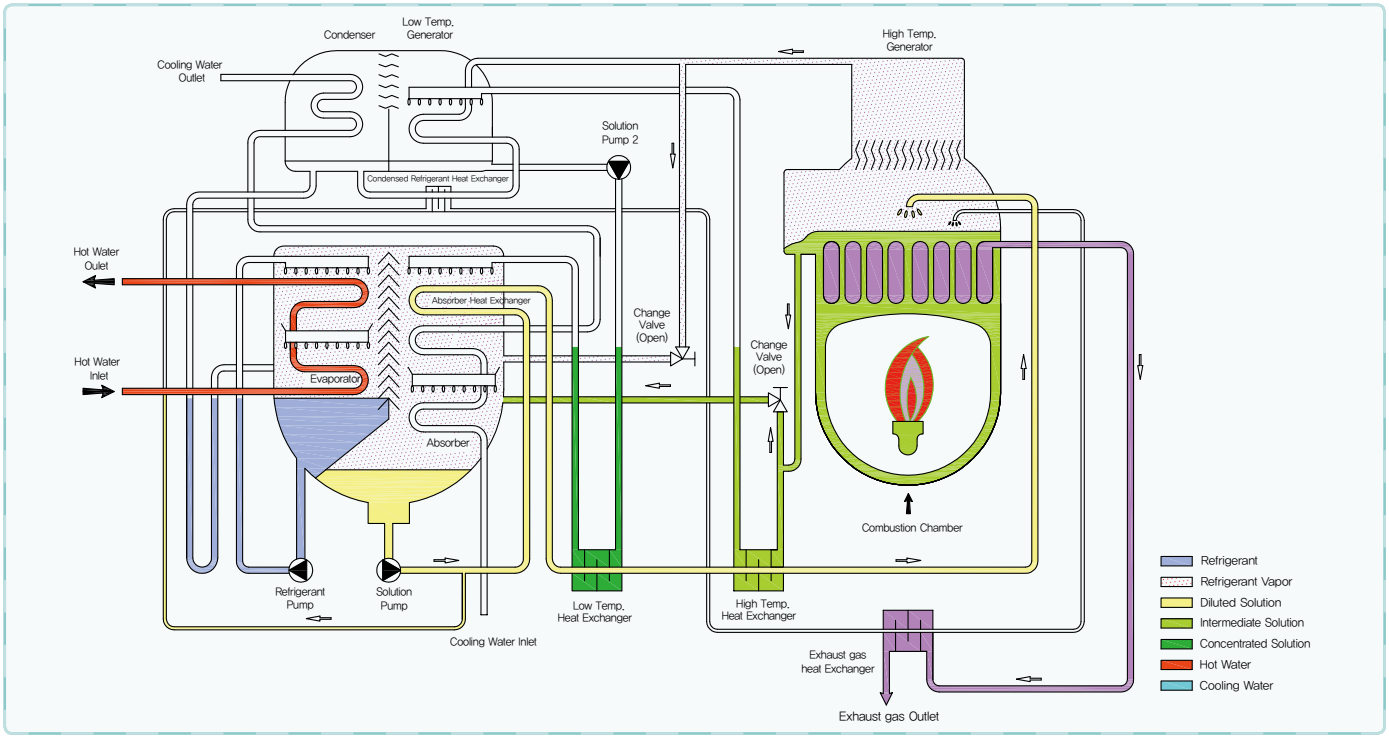
Double Effect Direct Fired Absorption Chiller & Heater

DWHH Series

- **Cooling** Cycle

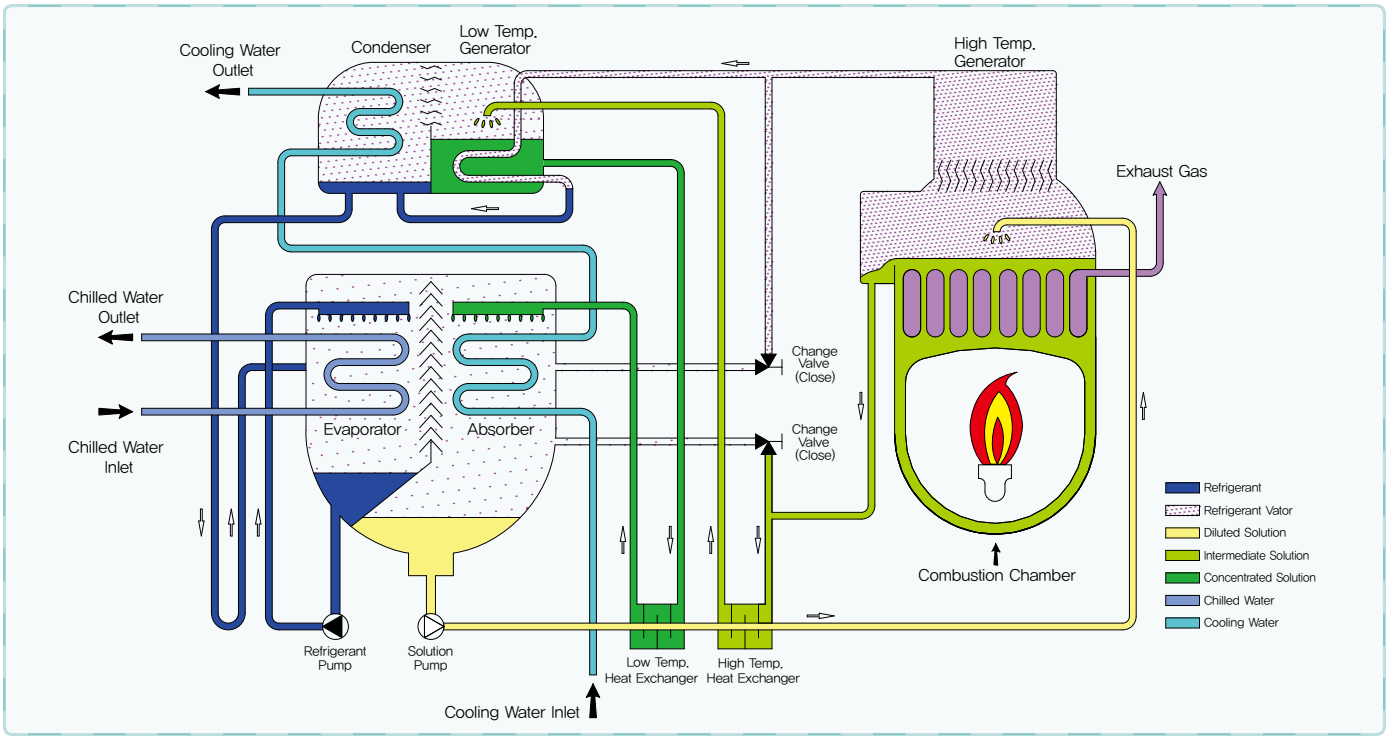


- **Heating** Cycle

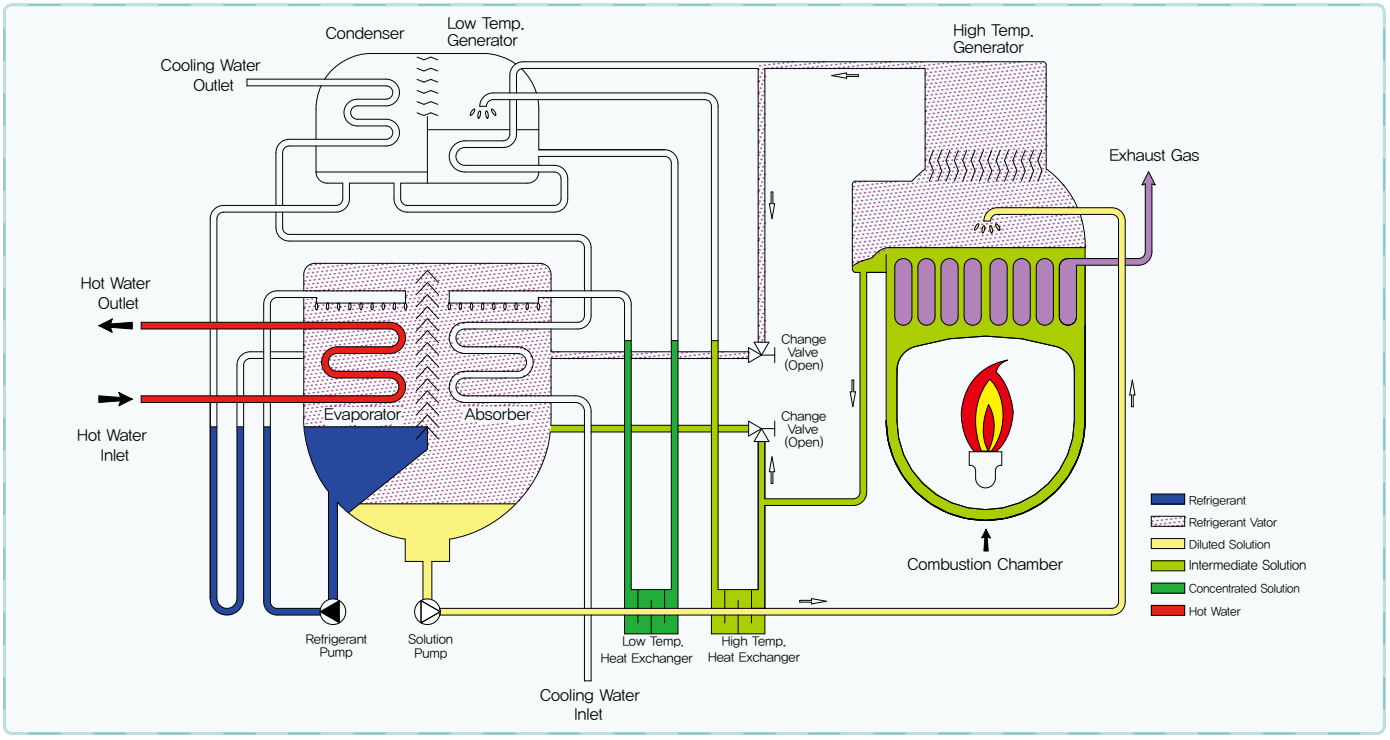


DW Series

- **Cooling Cycle**



- **Heating Cycle**



Double Effect Direct Fired Absorption Chiller & Heater

COP 1.32

Performance Data

→→

Model		Unit	DWHH50	DWHH60	DWHH70	DWHH80	DWHH100	DWHH120	DWHH150	DWHH180	DWHH210	DWHH240	DWHH280	DWHH320	DWHH360
Cooling Capacity		kW	176	211	246	281	352	422	527	633	738	844	985	1,125	1,266
		usRT	50	60	70	80	100	120	150	180	210	240	280	320	360
Heating Capacity		kW	116	139	162	185	232	278	348	417	487	556	649	742	834
		Mcal/h	100	120	140	159	199	239	299	359	419	478	558	638	718
Chilled Water	Inlet/Outlet Temp.	℃	12 /7												
	Flow rate	m^3/h	30.2	36.3	42.3	48.4	60.5	72.6	90.7	108.9	127.0	145.2	169.3	193.5	217.7
	P. Drop	mH_2O	7.5	6.9	6.3	6.9	5.9	6.1	8.0	8.2	7.6	7.5	5.4	5.3	5.7
	Connection	mm	80				100				125		150		
Hot Water	Inlet/Outlet Temp.	℃	56.4 / 60												
	Flow rate	m^3/h	30.2	36.3	42.3	48.4	60.5	72.6	90.7	108.9	127.0	145.2	169.3	193.5	217.7
	Pressure Drop	mH_2O	7.5	6.9	6.3	6.9	5.9	6.1	8.0	8.2	7.6	7.5	5.4	5.3	5.7
	Connection	mm	80				100				125		150		
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37.1												
	Flow rate	m^3/h	50	60	70	80	100	120	150	180	210	240	280	320	360
	P. Drop	mH_2O	7.3	6.1	8.0	7.6	7.3	7.7	9.9	10.4	11.5	10.2	8.3	7.9	8.1
	Connection	mm	100				125		150				200		
Gas	High Heating Value	$kcal/Nm^3$	10,400												
	Flow rate	Nm^3/h	11.0	13.2	15.4	17.6	22.0	26.4	33.0	39.7	46.3	52.9	61.7	70	79
	Inlet Pressure	mmAq	200			4000									
	Connection	mm	50 (200mmAq)			40 (4000mmAq)						50 (4000mmAq)			
	Exhaust gas	mm	190x110	270x150		232x400				290x600				360x310	
Electric	Power source	-	3PH, 400V, 50Hz												
	Ref. Pump	kW	0.2(1.1)								0.3(1.5)				
	Abs. Pump1	kW	1.5				2.0				2.4				3.2
	Abs. Pump2	kW	0.2				0.3				0.4				
	Purge Pump	kW	0.4												
	Burner	kW	0.4				0.7		1.1				2.2		
	Control Pane	kW	0.2												
	Total Ampere	kW	2.9				3.9		4.3		4.8		6.0		6.8
	Total Current @380V	A	9.7				13.0		15.2		15.7		17.3		19.4
Size	Length (L)	mm	2,245	2,748		2,747	2,771		3,804		3,869		4,919		5,077
	Width (W)	mm	1,477	1,615		1,810	1,697		1,792		1,902				2,200
	Height (H)	mm	1,760			2,085	2,473				2,705				2,781
Weight	Rigging	ton	2.7	2.9	3.4	3.6	4.5	4.8	5.7	6.2	7.2	7.6	8.8	9.3	11.5
	Operation	ton	2.9	3.1	3.7	3.9	5.0	5.3	6.3	6.8	8.0	8.5	9.8	10.4	12.8
Space for Tube Replacement		mm	1,900	2,400					3,400				4,600		

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 m².hr.˚C/Kcal for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5˚C
4. Min. allowable inlet temp. of cooling water: 20˚C.
5. Controllable range shall be 25~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

DWHH Series

Double Effect Direct Fired Absorption chiller & Heater

Performance Data

Model		Unit	DWHH400	DWHH450	DWHH500	DWHH560	DWHH630	DWHH700	DWHH800	DWHH900	DWHH1000	DWHH1100	DWHH1200	DWHH1300	DWHH1400	DWHH1500
Cooling Capacity		kW	1,407	1,582	1,758	1,969	2,215	2,461	2,813	3,165	3,516	3,868	4,220	4,571	4,923	5,274
		usRT	400	450	500	560	630	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
Heating Capacity		kW	927	1,043	1,159	1,298	1,460	1,622	1,854	2,086	2,318	2,549	2,781	3,013	3,245	3,476
		Mcal/h	797	897	997	1,116	1,256	1,395	1,594	1,794	1,993	2,192	2,392	2,591	2,790	2,990
Chilled Water	Inlet/Outlet Temp.	℃	12/7													
	Flow rate	m^3/h	241.9	272.2	302.4	338.7	381.0	423.4	483.8	544.3	604.8	665.3	725.8	786.2	846.7	907.2
	P. Drop	mH_2O	5.8	5.0	5.3	7.3	9.9	9.4	12.8	17.0	11.9	15.1	11.4	14.3	8.6	10.6
	Connection	mm	150	200					250			300			350	
Hot Water	Inlet/Outlet Temp.	℃	56.4 / 60													
	Flow rate	m^3/h	241.9	272.2	302.4	338.7	381.0	423.4	483.8	544.3	604.8	665.3	725.8	786.2	846.7	907.2
	Pressure Drop	mH_2O	5.8	5.0	5.3	7.3	9.9	9.4	12.8	17.0	11.9	15.1	11.4	14.3	8.6	10.6
	Connection	mm	150	200					250			300			350	
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37.1													
	Flow rate	m^3/h	400	450	500	560	630	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
	P. Drop	mH_2O	8.2	8.2	8.3	11.3	15.3	11.9	14.3	15.8	14.8	15.8	14.1	13.4	13.6	14.1
	Connection	mm	200	250				300			350		400		450	
Gas	High Heating Value	$kcal/Nm^3$	10,400													
	Flow rate	Nm^3/h	88	99	110	123	139	154	176	198	220	242	264	286	308	330
	Inlet Pressure	mmAq	4000													
	Connection	mm	50 (4000mmAq)								65 (4000mmAq)					
	Exhaust gas	mm	410x310		412x670			400x620			400x900					
Electric	Power source	-	3PH, 400V,50Hz													
	Ref. Pump	kW	0.3(1.5)	0.4 (1.5)							1.5 (4.0)					
	Abs. Pump1	kW	3.2	3.2				5.5				7.5				
	Abs. Pump2	kW	0.4	0.4				2.2					4.5			
	Purge Pump	kW	0.4								0.75					
	Burner	kW	4.0	4.0				7.5				11.0				
	Control Pane	kW	0.2													
	Total Ampere	kW	8.6			12.7		16.2	17.3			19.7	23.2		25.5	
	Total Current @380V	A	23.0			34.1		40.0	42.6			52.4	58.7		68.2	
Size	Length (L)	mm	5077			5,739	6,219	6,231	6,836	7,336	6,829	7,449	6,920	7,420	7,197	7,697
	Width (W)	mm	2,200	2,510		2,760		2,410	3,281	3,281	3,290	3,880			4,420	
	Height (H)	mm	2,781	2,950				3,068			3,500		3,940		4,000	
Weight	Rigging	ton	12.1	14.1	14.8	19.6	21.2	22.7	28.7	30.6	32.9	40.4	43.4	46.0	50.1	52.7
	Operation	ton	13.5	15.8	16.6	22.2	24.0	25.7	32.0	34.4	37.1	45.1	48.5	51.5	56.1	59.1
Space for Tube Replacement		mm	4600			5,200	5,700		6,700	6,700	6,300	6,700	6,300	6,700	6,300	6,700

Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

Double Effect Direct Fired Absorption Chiller & Heater

COP 1.22

Performance Data

Model		Unit	DWH50	DWH60	DWH70	DWH80	DWH100	DWH120	DWH150	DWH180	DWH210	DWH240	DWH280	DWH320	DWH360	DWH400
Cooling Capacity		kW	176	211	246	281	352	422	527	633	738	844	985	1,125	1,266	1,407
		usRT	50	60	70	80	100	120	150	180	210	240	280	320	360	400
Heating Capacity		kW	121	145	170	194	242	291	363	436	509	581	678	775	872	969
		kcal/h	104	125	146	167	208	250	313	375	438	500	583	667	750	833
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7													
	Flow rate	m^3/h	30.2	36.3	42.3	48.4	60.5	72.6	90.7	108.9	127.0	145.2	169.3	193.5	217.7	241.9
	Pressure Drop	mH_20	4.0	3.7	6.2	6.9	5.6	5.9	7.6	8.1	7.5	7.4	5.4	5.3	5.8	6.0
	Connection	mm	80				100				125		150			
Hot Water	Inlet/Outlet Temp.	℃	56.3 / 60													
	Flow rate	m^3/h	30.2	36.3	42.3	48.4	60.5	72.6	90.7	108.9	127.0	145.2	169.3	193.5	217.7	241.9
	Pressure Drop	mH_20	4.0	3.7	6.2	6.9	5.6	5.9	7.6	8.1	7.5	7.4	5.4	5.3	5.8	6.0
	Connection	mm	80				100				125		150			
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37.1													
	Flow rate	m^3/h	50	60	70	80	100	120	150	180	210	240	280	320	360	400
	Pressure Drop	mH_20	7.0	6.1	10.2	10.0	8.9	9.1	10.4	10.8	10.7	11.2	8.9	8.6	8.8	8.7
	Connection	m	100				125		150				200			
Gas	High Heating Value	$kcal/Nm^3$	10,400													
	Flow rate	Nm^3/h	12.1	14.5	17.0	19.4	24.2	29.1	36.3	43.6	50.9	58.2	67.8	77.5	87.2	96.9
	Inlet Pressure	mmAq	200				4,000									
	Connection	mm	50(200mmAq)				40(4,000mmAq)						50(4,000mmAq)			
	Exhaust gas	mm	180 x 110		270 x 150		280 x 210				310 x 310				360 x 310	
Electric	Power source	–	3PH, 400V, 50Hz													
	Ref. Pump	kW	0.2				0.3				0.4					
	Abs. Pump1	kW	1.5				2.0				2.4				3.2	
	Abs. Pump2	kW	0.2				0.3				0.4					
	Purge Pump	kW	0.4													
	Burner	kW	0.4				0.7		1.1				2.2			4.0
	Control Panel	kW	0.2													
	Total kW	kW	2.9				3.9		4.3		4.8		6.0		6.8	8.6
	Tatal Amp.	A	9.7				13.0		15.2		15.7		17.3		19.4	23.0
Size	Length (L)	mm	2,095		2,598		2,597		3,680		3,708		4,734		4,776	
	Width (W)	mm	1,477		1,615		1,810		1,920		2,117		2,137		2,270	
	Height (H)	mm	1,760				2,090				2,122				2,385	
Weight	Rigging	ton	2.7	2.9	3.4	3.6	4.5	4.8	5.7	6.2	7.2	7.6	8.8	9.3	11.5	12.1
	Operation	ton	2.9	3.1	3.7	3.9	5.0	5.3	6.3	6.8	8.0	8.5	9.8	10.4	12.8	13.5
Space for Tube Replacement		mm	1,900		2,400				3,400				4,500			

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 m².hr.˚C/Kcal for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5˚C
4. Min. allowable inlet temp. of cooling water: 20˚C.
5. Controllable range shall be 25~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

DWH Series

Double Effect Direct Fired Absorption chiller & Heater

Performance Data

Model		Unit	DWH450	DWH500	DWH560	DWH630	DWH700	DWH800	DWH900	DWH1000	DWH1100	DWH1200	DWH1300	DWH1400	DWH1500
Cooling Capacity		kW	1,582	1,758	1,969	2,215	2,461	2,813	3,165	3,516	3,868	4,220	4,571	4,923	5,274
		usRT	450	500	560	630	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
Heating Capacity		kW	1,090	1,211	1,357	1,526	1,696	1,938	2,181	2,423	2,665	2,907	3,510	3,392	3,634
		kcal/h	937	1,041	1,167	1,312	1,459	1,667	1,876	2,084	2,292	2,500	3,019	2,917	3,125
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7												
	Flow rate	m^3/h	272.2	302.4	338.7	381.0	423.4	483.8	544.3	604.8	665.3	725.8	786.2	846.7	907.2
	Pressure Drop	mH_20	5.1	5.4	4.2	5.8	7.7	5.7	7.7	10.1	6.7	8.6	10.7	8.7	10.6
	Connection	mm	200					250			300			350	
Hot Water	Inlet/Outlet Temp.	℃	56.3 / 60												
	Flow rate	m^3/h	272.2	302.4	338.7	381.0	423.4	483.8	544.3	604.8	665.3	725.8	786.2	846.7	907.2
	Pressure Drop	mH_20	5.1	5.4	4.2	5.8	7.7	5.7	7.7	10.1	6.7	8.6	10.7	8.7	10.6
	Connection	mm	200					250			300			350	
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37.1												
	Flow rate	m^3/h	450	500	560	630	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
	Pressure Drop	mH_20	8.4	8.6	6.8	9.3	12.4	8.8	12.0	15.8	11.1	14.1	17.6	14.0	16.8
	Connection	m	250		300			350			400			450	
Gas	High Heating Value	$kcal/Nm^3$	10,400												
	Flow rate	Nm^3/h	109.0	121.2	135.7	152.7	169.6	193.8	218.1	242.3	266.5	290.8	315.0	339.2	363.5
	Inlet Pressure	mmAq	4,000												
	Connection	mm	50 (4,000mmAq)								65 (4,000mmAq)				
	Exhaust gas	mm	410 x 310		350 x 500			400 x 620			400 x 900				
Electric	Power source	–	3PH, 400V, 50Hz												
	Ref. Pump	kW	0.4					1.5							
	Abs. Pump1	kW	3.2		5.5						7.5				
	Abs. Pump2	kW	0.4		2.2									4.5	
	Purge Pump	kW	0.4								0.75				
	Burner	kW	4.0				7.5				11.0				
	Control Panel	kW	0.2												
	Total kW	kW	8.6		12.7		16.2	17.3			19.7	23.2		25.5	
	Tatal Amp.	A	23.0		34.1		40.0	42.6			52.4	58.7		68.2	
Size	Length (L)	mm	4,880		4,998	5,540	6,038	5,644	6,142	6,667	6,293	6,818	7,318	6,860	7,360
	Width (W)	mm	2,469		2,935			3,330			3,929			4,460	
	Height (H)	mm	2,633		2,962			3,310			3,500			3,700	
Weight	Rigging	ton	14.1	14.8	19.6	21.2	22.7	28.7	30.6	32.9	40.4	43.4	46.0	50.1	52.7
	Operation	ton	15.8	16.6	22.2	24.0	25.7	32.0	34.4	37.1	45.1	48.5	51.5	56.1	59.1
Space for Tube Replacement		mm	4,500			5,200	5,700	5,200	5,700	6,200	5,700	6,200	6,700	6,200	6,700

Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

Double Effect Direct Fired Absorption Chiller & Heater

COP 1.00

Performance Data

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모 델		단 위	DW50	DW60	DW70	DW80	DW100	DW120	DW150	DW180	DW210	DW240	DW280	DW320	DW360	DW400
Cooling Capacity		kW	176	211	246	281	352	422	527	633	738	844	985	1,125	1,266	1,407
		usRT	50	60	70	80	100	120	150	180	210	240	280	320	360	400
Heating Capacity		kW	147	176	205	235	293	352	440	528	616	704	822	939	1,056	1,174
		Mcal/h	126	151	176	202	252	303	378	454	530	605	707	808	908	1,010
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7													
	Flow rate	m^3/h	30.2	36.3	42.3	48.4	60.5	72.6	90.7	108.9	127.0	145.2	169.3	193.5	217.7	241.9
	P. Drop	mH_20	4.0	3.7	6.2	6.9	5.6	5.9	7.6	8.1	7.5	7.4	5.4	5.3	5.8	6.0
	Connection	mm	80				100				125		150			
Hot Water	Inlet/Outlet Temp.	℃	55.8 / 60													
	Flow rate	m^3/h	30.2	36.3	42.3	48.4	60.5	72.6	90.7	108.9	127.0	145.2	169.3	193.5	217.7	241.9
	Pressure Drop	mH_20	4.0	3.7	6.2	6.9	5.6	5.9	7.6	8.1	7.5		5.4	5.3	5.8	6.0
	Connection	mm	80				100				125		150			
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37.5													
	Flow rate	m^3/h	50	60	70	80	100	120	150	180	210	240	280	320	360	400
	P. Drop	mH_20	7.0	6.1	10.2	10.0	8.9	9.1	10.4	10.8	10.7	11.2	8.9	8.6	8.8	8.7
	Connection	mm	100				125		150				200			
Gas	High Heating Value	$kcal/Nm^3$	10,400													
	Flow rate	Nm^3/h	14.5	17.3	20.2	23.1	28.9	34.7	43.4	52.0	60.7	69.4	80.9	92.5	104.1	115.6
	Inlet Pressure	mmAq	200				4,000									
	Connection	mm	50(200mmAq)				40(4,000mmAq)						50(4,000mmAq)			
	Exhaust gas	mm	190 X 110		270 X 150		280 X 210				310 X 310				360 X 310	
Electric	Power source	–	3PH, 400V, 50Hz													
	Ref. Pump	kW	0.2				0.3				0.4					
	Abs. Pump	kW	1.5				2.0				2.4				3.2	
	Purge Pump	kW	0.4													
	Burner	kW	0.4		0.7			1.1				2.2			4.0	
	Control Pane	kW	0.2													
	Total Ampere	kW	2.7		3.0		3.6	4.0			4.5	5.5	5.6		8.2	
	Total Current @380V	A	8.7		10.0		11.6	13.8			14.3	15.7	15.9		21.6	
Size	Length (L)	mm	2,095		2,598		2,597		3,680		3,708		4,734		4,776	
	Width (W)	mm	1,477		1,615		1,810		1,920		2,100		2,200		2,290	
	Height (H)	mm	1,760				2,090				2,122				2,385	
Weight	Rigging	ton	2.6	2.7	3.2	3.3	4.6	4.9	5.8	6..2	7.3	7.7	8.9	9.4	11.6	12.2
	Operation	ton	2.8	3.0	3.5	3.7	5.0	5.3	6.3	6.8	8.0	8.5	9.8	10.4	12.8	13.5
Space for Tube Replacement		mm	1,900		2,400				3,400				4,500			
Diesel Boiler	High Heating Value	kcal/ℓ	10,550													
	Flow Rate	ℓ/h	16.7	20.0	23.3	26.6	33.3	40.0	50.0	59.9	69.9	79.9	93.2	107	120	133
	Oil piping connection size	A	15A*2										20A*2			
	Exhaust gas	mm	190 X 110		270 X150		280 X 210				310 X 310				360 X 310	

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 m².hr.˚C/Kcal for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5˚C
4. Min. allowable inlet temp. of cooling water: 20˚C.
5. Controllable range shall be 25~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

DW Series

Double Effect Direct Fired Absorption chiller & Heater

Performance Data

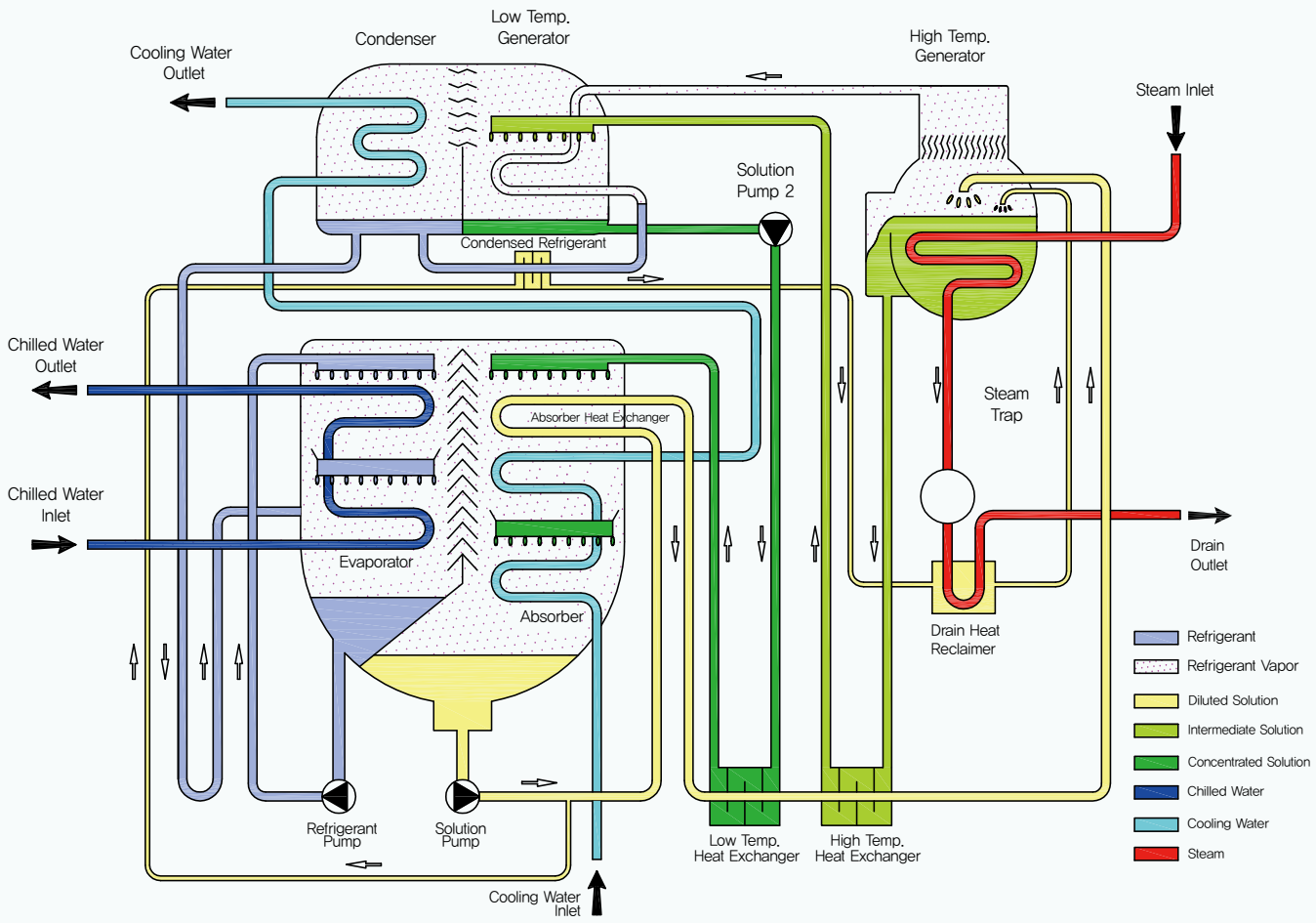
Model		Unit	DW450	DW500	DW560	DW630	DW700	DW800	DW900	DW1000	DW1100	DW1200	DW1300	DW1400	DW1500
Cooling Capacity		kW	1,582	1,758	1,969	2,215	2,461	2,813	3,165	3,516	3,868	4,220	4,571	4,923	5,274
		usRT	450	500	560	630	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
Heating Capacity		kW	1,320	1,467	1,643	1,848	2,054	2,347	2,641	2,934	3,227	3,521	3,814	4,108	4,401
		Mcal/h	1,135	1,262	1,413	1,590	1,766	2,019	2,523	2,271	2,523	2,776	3,280	3,532	3,785
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7												
	Flow rate	m^3/h	272.2	302.4	338.7	381.0	423.4	483.8	544.3	604.8	665.3	725.8	786.2	846.7	907.2
	P. Drop	mH_20	5.1	5.4	4.2	5.8	7.7	5.7	7.7	10.1	6.7	8.6	10.7	8.7	10.6
	Connection	mm	200					250			300			350	
Hot Water	Inlet/Outlet Temp.	℃	56.3 / 60												
	Flow rate	m^3/h	272.2	302.4	338.7	381.0	423.4	483.8	544.3	604.8	665.3	725.8	786.2	846.7	907.2
	Pressure Drop	mH_20	5.1	5.4	4.2	5.8	7.7	5.7	7.7	10.1	6.7	8.6	10.7	8.7	10.6
	Connection	mm	200					250			300			350	
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37.5												
	Flow rate	m^3/h	450	500	560	630	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
	P. Drop	mH_20	8.4	8.6	6.8	9.3	12.4	8.8	12.0	15.8	11.1	14.1	17.6	14.0	16.8
	Connection	mm	250		300			350			400			450	
Gas	High Heating Value	$kcal/Nm^3$	10,400												
	Flow rate	Nm^3/h	130.1	144.5	161.9	182.1	202.3	231.2	260.1	289.0	318.0	346.9	375.8	404.7	433.6
	Inlet Pressure	mmAq	4,000												
	Connection	mm	50(4,000mmAq)								65(4,000mmAq)				
	Exhaust gas	mm	410 X 310		350 X 500			400 X 620			400 X 900				
Electric	Power source	–	3PH, 400V, 50Hz												
	Ref. Pump	kW	0.4					1.5							
	Abs. Pump	kW	3.2		5.5						7.5				
	Purge Pump	kW	0.4								0.75				
	Burner	kW	4.0			7.5				11.0				15.0	
	Control Pane	kW	0.2												
	Total Ampere	kW	8.2		10.5	14.0		15.1		18.6	21.0			25.0	
	Total Current @380V	A	21.6		28.4	33.5		36.1		42.4	52.2			58.8	
Size	Length (L)	mm	4,880		4,998	5,540	6,038	5,644	6,142	6,667	6,293	6,818	7,318	6,860	7,360
	Width (W)	mm	2,490		3,055			3,330			3,738			4,460	
	Height (H)	mm	2,633		2,962			3,310			3,500			3,700	
Weight	Rigging	ton	14.2	14.9	19.5	21.1	22.7	27.9	30.4	32.8	40.0	43.0	45.8	49.7	52.3
	Operation	ton	15.8	16.6	22.2	24.0	25.7	32.0	34.4	37.1	45.1	48.5	51.5	56.1	59.1
Space for Tube Replacement		mm	4,500			5,200	5,700	5,200	5,700	6,200	5,700	6,200	6,700	6,200	6,700
Diesel Boiler	High Heating Value	kcal/ℓ	10,550												
	Flow Rate	ℓ/h	150	167	186	210	233	266	300	333	366	400	433	466	500
	Oil piping connection size	A	20A*2		25A*2							32A*2			
	Exhaust gas	mm	410 X 310		350 X 500			400 X 620			400 X 900				

Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

Steam Driven Absorption Chiller

SWHH Series



explain

Absorption chiller is composed of evaporator, absorber, condenser, low/ high temp. generator, low/ high tem. heat exchanger, solution pump #1&2, refrigerant pump, Drain Heat Reclaimer.

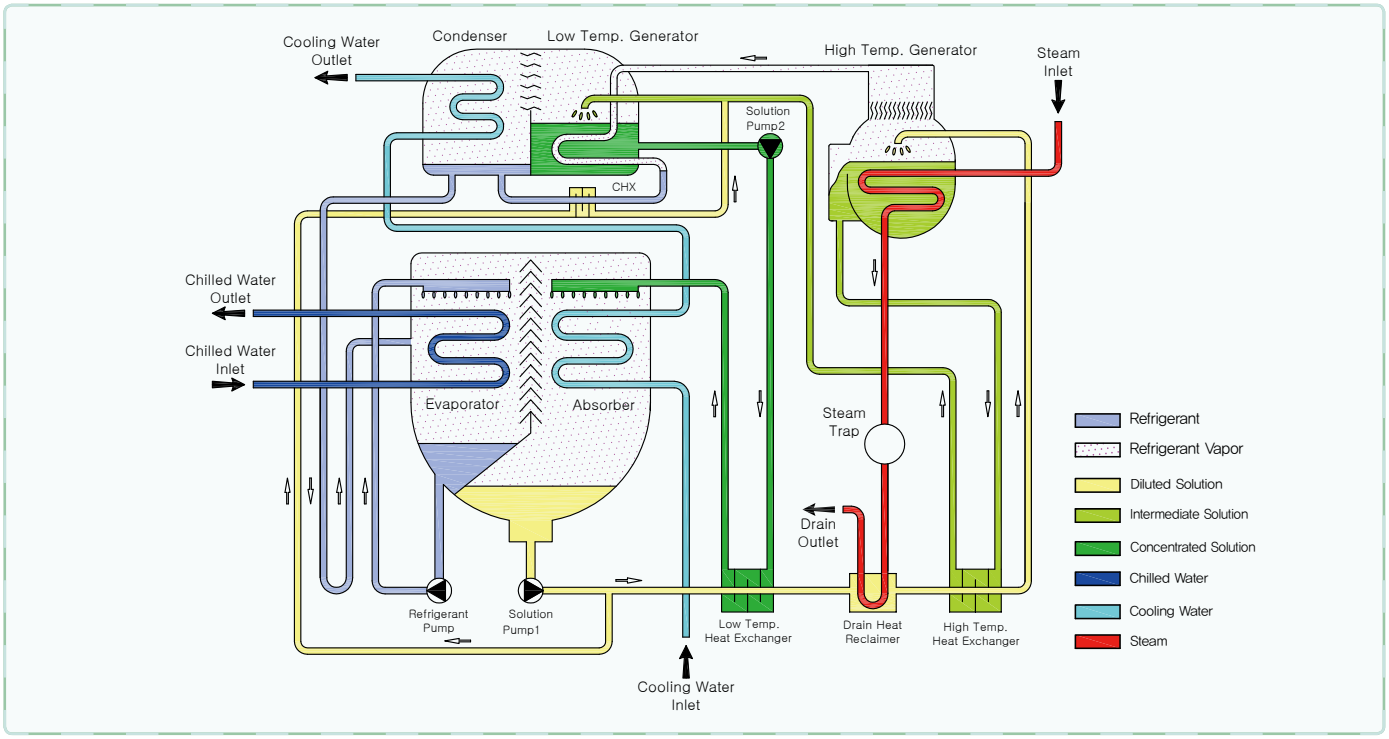
Chilled water temp. goes down in the evaporator and steam from evaporator is absorbed into the concentrated solution in absorber.

Diluted solution in absorber flows into the High Temp. Generator by solution pump through low temp./high temp. heat exchanger and it is heated by steam to become intermediated solution.

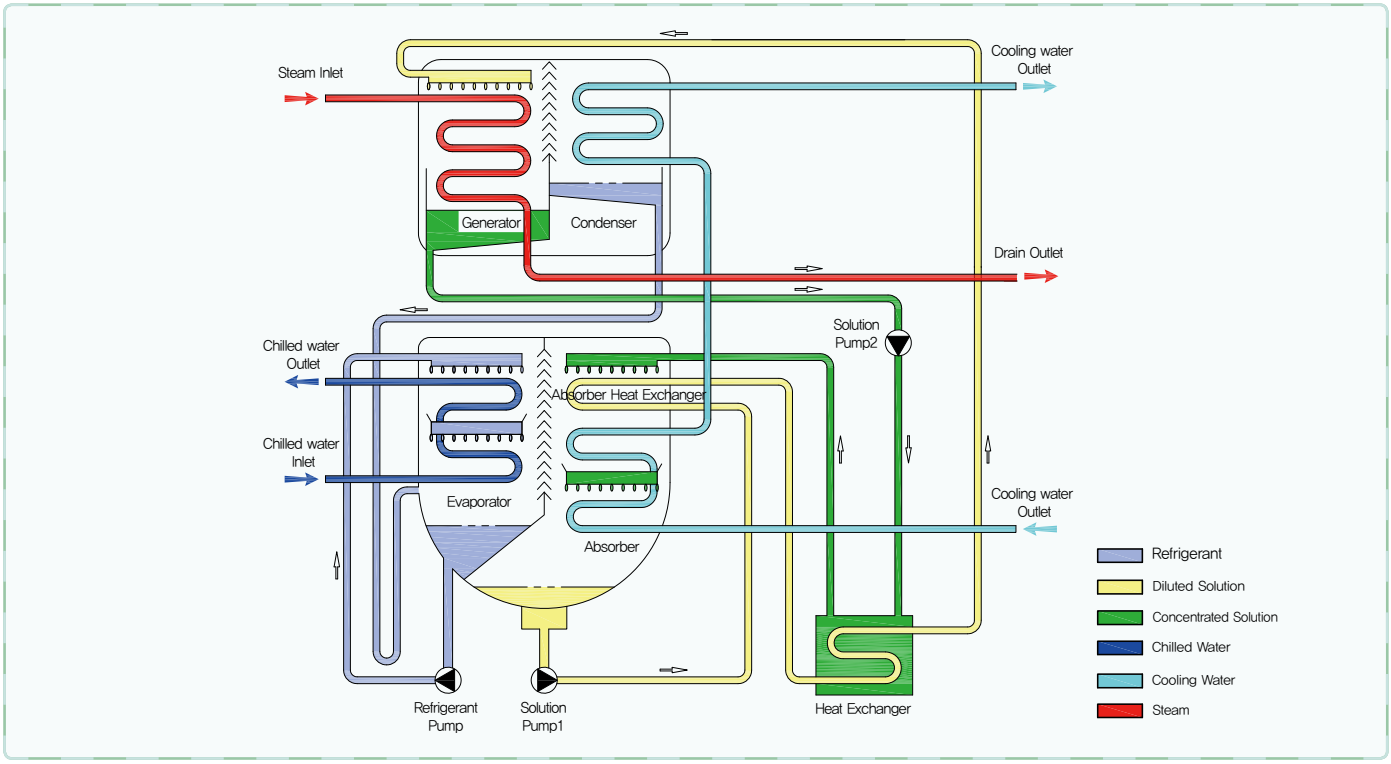
Concentrated Intermediate solution in the low temp. generator exchanges it's heat in the low/high heat exchanger, low temp. solution flow back to absorber and repeat the process.

Steam in the high temp. generator exchanges It's heat twice in the chiller, firstly in the high temp. generator and secondly in Drain Heat reclaimer, therefore high temp. steam drains out at low temp. like 95°C. This Process can increase heat recovery rate and chiller capacity

SWH Series



SHH Series



Steam Driven Absorption Chiller

COP 1.48

Performance Data

→→

Model		Unit	SWHH100	SWHH120	SWHH150	SWHH180	SWHH210	SWHH240	SWHH280	SWHH320	SWHH360	SWHH400	SWHH450	SWHH500
Cooling Capacity		kW	352	422	527	633	738	844	985	1,125	1,266	1,407	1,582	1,758
		usRT	100	120	150	180	210	240	280	320	360	400	450	500
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7											
	Flow rate	m^3/h	60.5	72.6	90.7	108.9	127.0	145.2	169.3	193.5	217.7	241.9	272.2	302.4
	P. Drop	mH_2O	5.9	6.1	8.0	8.2	7.6	7.5	5.4	5.3	5.7	5.8	5.0	5.7
	Connection	mm	100				125		150				200	
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37.1											
	Flow rate	m^3/h	100	120	150	180	210	240	280	320	360	400	450	500
	P. Drop	mH_2O	7.3	7.7	9.9	10.4	11.5	10.2	8.3	7.9	8.1	8.2	8.2	8.3
	Connection	mm	125		150				200				250	
Steam	Inlet Pressure	MPa	0.8											
	Flow rate	Kg/h	359	431	539	646	754	862	1,005	1,149	1,292	1,436	1,616	1,795
	Inlet Connection	mm	50				65				80			
	Drain Connection	mm	25								40			
	Control Valve	mm	40				50							
Electric	Power source	-	3PH, 400V, 50Hz											
	Ref. Pump	kW	0.2(1.1)				0.3(1.5)						0.4 (1.5)	
	Abs. Pump1	kW	2.0				2.4				3.2			
	Abs. Pump2	kW	0.3				0.4							
	Purge Pump	kW	0.4											
	Control Panel	kW	0.2											
	Total Ampere	kW	3.2				3.7		3.8		4.6			
	Total Current	A	10.9				11.4		11.6		13.7			
Size	Length (L)	mm	2,771		3,816		3,869		4,940		5,069		5,074	
	Width (W)	mm	1,490				1,652				2,004		1,990	
	Height (H)	mm	2,473		2,473		2,705				2,781		2,947	
Weight	Rigging	ton	4.0	4.1	5.1	5.2	5.9	6.1	7.3	7.6	9.6	9.9	11.5	11.9
	Operation	ton	4.4	4.6	5.7	5.8	6.7	7.0	8.3	8.7	10.9	11.3	13.2	13.7
Space for Tube Replacement		mm	2,400		3,400				4,600					

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 $m^2.hr.°C/Kcal$ for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5°C
4. Min. allowable inlet temp. of cooling water: 20°C.
5. Controllable range shall be 0~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

SWHH Series

Steam Driven Absorption Chiller

Performance Data

Model		Unit	SWHH560	SWHH630	SWHH700	SWHH800	SWHH900	SWHH1000	SWHH1100	SWHH1200	SWHH1300	SWHH1400	SWHH1500
Cooling Capacity		kW	1,969	2,215	2,461	2,813	3,165	3,516	3,868	4,220	4,571	4,923	5,274
		usRT	560	630	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7										
	Flow rate	m^3/h	338.7	381.0	423.4	483.8	544.3	604.8	665.3	725.8	786.2	846.7	907.2
	P. Drop	mH_2O	7.3	9.9	9.4	12.8	17.0	11.9	15.1	11.4	14.3	8.6	10.6
	Connection	mm	200			250			300			350	
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37.1										
	Flow rate	m^3/h	560	630	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
	P. Drop	mH_2O	11.3	15.3	11.9	14.3	15.8	14.8	15.8	14.1	13.4	13.6	14.1
	Connection	mm	250		300			350		400		450	
Steam	Inlet Pressure	MPa	0.8										
	Flow rate	Kg/h	2,010	2,262	2,513	2,872	3,231	3,590	3,949	4,308	4,667	5,026	5,385
	Inlet Connection	mm	100			125			150				
	Drain Connection	mm	50			65			80				
	Control Valve	mm	65			80			100				
Electric	Power source	-	3PH, 400V, 50Hz										
	Ref. Pump	kW	0.4					1.5					
	Abs. Pump1	kW	5.5						7.5				
	Abs. Pump2	kW	2.2									4.5	
	Purge Pump	kW	0.4						0.75				
	Control Panel	kW	0.2										
	Total Ampere	kW	8.7			9.8			12.2			14.5	
	Total Current	A	24.8			27.4			37.2			46.7	
Size	Length (L)	mm	5,717	6,215	6,231	6,833	7,333	6,849	7,449	6,967	7,467	7,192	7,697
	Width (W)	mm	2,180		2,403	2,475		2,751	3,161			3,505	
	Height (H)	mm	2,950		3,068	3,350		3,471	3,474		3,937	4,000	
Weight	Rigging	ton	16.1	17.5	18.9	21.1	23.7	26.2	28.7	31.3	33.8	36.4	38.9
	Operation	ton	18.7	20.3	21.8	24.5	27.4	30.4	33.4	36.4	39.4	42.3	45.3
Space for Tube Replacement		mm	5,200	5,700	5,700	6,300	6,700	6,300	6,700	6,300	6,700	6,300	6,700

Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

Steam Driven Absorption Chiller

COP 1.36

Performance Data

Model		Unit	SWH100	SWH120	SWH150	SWH180	SWH210	SWH240	SWH280	SWH320	SWH360	SWH400	SWH450	SWH500
Cooling Capacity		kW	352	422	527	633	738	844	985	1,125	1,266	1,407	1,582	1,758
		usRT	100	120	150	180	210	240	280	320	360	400	450	500
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7											
	Flow rate	m^3/h	60.5	72.6	90.7	108.9	127.0	145.2	169.3	193.5	217.7	241.9	272.2	302.4
	Pressure Drop	mH_20	5.6	5.9	7.6	8.1	7.5	7.4	5.4	5.3	5.8	6.0	5.1	5.4
	Connection	mm	100				125		150				200	
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37.2											
	Flow rate	m^3/h	100	120	150	180	210	240	280	320	360	400	450	500
	Pressure Drop	mH_20	8.9	9.1	10.4	10.8	10.7	11.2	8.9	8.6	8.8	8.7	8.4	8.6
	Connection	mm	125		150				200				250	
Steam	Inlet Pressure	MPa	0.8											
	Flow rate	kg/h	390	468	585	702	819	936	1,092	1,248	1,404	1,560	1,755	1,950
	Inlet Connection	mm	50				65				80			
	Drain Connection	mm	25								40			
	Control Valve	mm	40					50				65		
Electric	Power source	–	3PH / 400V / 50Hz											
	Ref. Pump	kW	0.3				0.4							
	Abs. Pump1	kW	2.0				2.4				3.2			
	Abs. Pump2	kW	0.3				0.4							
	Purge Pump	kW	0.4											
	Control Panel	kW	0.2											
	Total kW	kW	3.2				3.7		3.8		4.6			
	Tatal Amp.	A	10.9				11.4		11.6		13.7			
Size	Length (L)	mm	2,597		3,680		3,708		4,734		4,776		4,880	
	Width (W)	mm	1,420				1,652				1,735		1,954	
	Height (H)	mm	2,200				2,250				2,450		2,600	
Weight	Rigging	ton	4.0	4.1	5.1	5.2	5.9	6.1	7.3	7.6	9.6	9.9	11.5	11.9
	Operation	ton	4.4	4.6	5.7	5.8	6.7	7.0	8.3	8.7	10.9	11.3	13.2	13.7
Space for Tube Replacement		mm	2,400		3,400				4,500					

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 $m^2.hr.°C/Kcal$ for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5°C
4. Min. allowable inlet temp. of cooling water: 20°C.
5. Controllable range shall be 0~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

SWH Series

Steam Driven Absorption Chiller

Performance Data

Model		Unit	SWH560	SWH630	SWH700	SWH800	SWH900	SWH1000	SWH1100	SWH1200	SWH1300	SWH1400	SWH1500
Cooling Capacity		kW	1,969	2,215	2,461	2,813	3,465	3,516	3,868	4,220	4,571	4,923	5,274
		usRT	560	630	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7										
	Flow rate	m^3/h	338.7	381.0	423.4	483.8	544.3	604.8	665.3	725.8	786.2	846.7	907.2
	Pressure Drop	mH_20	4.2	5.8	7.7	5.7	7.7	10.1	6.7	8.6	10.7	8.7	10.6
	Connection	mm	200			250			300			350	
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37.2										
	Flow rate	m^3/h	560	630	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500
	Pressure Drop	mH_20	6.8	9.3	12.4	8.8	12.0	15.8	11.1	14.1	17.6	14.0	16.8
	Connection	m	300			350			400			450	
Steam	Inlet Pressure	MPa	0.8										
	Flow rate	kg/h	2,184	2,457	2,730	3,120	3,510	3,900	4,290	4,680	5,070	5,460	5,850
	Inlet Connection	mm	100			125			150				
	Drain Connection	mm	50			65			80				
	Control Valve	mm	65	80				100					
Electric	Power source	–	3PH / 400V / 50Hz										
	Ref. Pump	kW	0.4			1.5							
	Abs. Pump1	kW	5.5						7.5				
	Abs. Pump2	kW	2.2									4.5	
	Purge Pump	kW	0.4						0.75				
	Control Panel	kW	0.2										
	Total kW	kW	8.7			9.8			12.2			14.5	
	Tatal Amp.	A	24.8			27.4			37.2			46.7	
Size	Length (L)	mm	4,998	5,540	6,038	5,644	6,142	6,667	6,293	6,818	7,318	6,860	7,360
	Width (W)	mm	2,180			2,606			3,000			3,250	
	Height (H)	mm	2,900			3,350			3,450			3,650	
Weight	Rigging	ton	16.1	17.5	18.9	21.1	23.7	26.2	28.7	31.3	33.8	36.4	38.9
	Operation	ton	18.7	20.3	21.8	24.5	27.4	30.4	33.4	36.4	39.4	42.3	45.3
Space for Tube Replacement		mm	4,500	5,200	5,700	5,200	5,700	6,200	5,700	6,200	6,700	6,200	6,700

Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

Steam Driven Absorption Chiller

COP 0.81

Performance Data

→→

Model		Unit	S50HH	S60HH	S70HH	S80HH	S100HH	S120HH	S150HH	S180HH	S210HH	S240HH	S280HH	S320HH	S360HH	S400HH
Cooling Capacity		kW	176	211	246	281	352	422	527	633	738	844	985	1,125	1,266	1,407
		usRT	50	60	70	80	100	120	150	180	210	240	280	320	360	400
Chilled Water	Inlet Temp./Outlet Temp.	℃	12 / 7													
	Flow rate	m^3/h	30.2	36.3	42.3	48.4	60.5	72.6	90.7	109	127	145	169	194	218	242
	P. Drop	mH_2O	6.8	6.4	5.8	6.0	5.9	6.1	8.0	8.2	7.6	7.5	5.4	5.3	5.7	5.8
	Connection	mm	80				100				125		150			
Cooling Water	Inlet Temp./Outlet Temp.	℃	32 / 38.8													
	Flow rate	m^3/h	50	60	70	80	100	120	150	180	210	240	280	320	360	400
	P. Drop	mH_2O	7.3	6.1	8.0	7.6	7.3	7.7	9.9	10.4	10.6	10.2	8.3	7.9	8.1	8.2
	Connection	mm	100				125		150				200			
Steam	Inlet Pressure	MPa	0.15													
	Flow rate	kg/h	337	404	471	538	673	808	1,010	1,211	1,413	1,615	1,884	2,154	2,423	2,692
	Inlet Connection	mm	100				125				150		200			
	Drain Connection	mm	25				40								50	
	Control Valve	mm	40		50		65			80		100				125
Electric	Power source	-	3PH 400V, 50Hz													
	Abs. Pumps	kW(A)	1.5 (5.4)								1.8 (6.2)		1.9 (6.2)		2.4 (7.9)	
	Ref. Pump	kW(A)	0.2 (1.1)								0.3 (1.4)					
	Purge Pump	kW(A)	0.4 (1.4)													
	Control Panel	kW(A)	0.2 (0.5)													
	Total kW	kW	2.3								2.7		2.8		3.3	
	Total Ampere @400V	A	8.4								9.5		9.5		11.2	
Size	Length (L)	mm	2110		2610		2658		3678		3728		4748		4754	
	Width (W)	mm	1112				1151				1222				1395	
	Height (H)	mm	2241				2372				2640				2677	
Weight	Rigging	ton	2.1	2.2	2.6	2.7	3.6	3.7	4.6	4.8	5.5	5.8	6.8	7.1	8.8	9.2
	Operation	ton	2.3	2.5	2.9	3.1	4.1	4.2	5.2	5.5	6.4	6.8	7.9	8.4	10.4	10.9
Space for Tube Replacement		mm	1,900		2,400				3,400				4,600			
Water Volume of Machine	Chilled Water Side	ℓ	60	67	77	80	111	123	142	159	216	237	258	286	324	348
	Cooling Water Side	ℓ	167	188	218	228	315	343	404	446	579	632	714	785	959	1,026
	Hot Water Side	ℓ	46	56	64	64	81	90	103	116	145	163	181	205	234	260

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 $m^2.hr.^\circ C/Kcal$ for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5°C
4. Min. allowable inlet temp. of cooling water: 20°C.
5. Controllable range shall be 0~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

SHH Series

Steam Driven Absorption Chiller

Performance Data

Model		Unit	S450HH	S500HH	S560HH	S630HH	S700HH	S770HH	S840HH	S1000HH	S1100HH	S1200HH	S1300HH	S1400HH	S1500HH
Cooling Capacity		kW	1,582	1,758	1,969	2,215	2,461	2,708	2,954	3,516	3,868	4,220	4,571	4,923	5,274
		usRT	450	500	560	630	700	770	840	1000	1100	1200	1300	1400	1500
Chilled Water	Inlet Temp./Outlet Temp.	℃	12 / 7												
	Flow rate	m^3/h	272	302	339	381	423	466	508	605	665	726	786	847	907
	P. Drop	mH_2O	5.0	5.3	7.3	9.9	9.2	9.6	10.6	10.1	10.6	8.6	10.7	8.6	10.6
	Connection	mm	200				250					300		350	
Cooling Water	Inlet Temp./Outlet Temp.	℃	32 / 38.8												
	Flow rate	m^3/h	450	500	560	630	700	770	840	1,000	1,100	1,200	1,300	1,400	1,500
	P. Drop	mH_2O	8.2	8.3	7.2	9.7	7.8	10.0	10.1	10.2	10.5	9.7	9.7	8.3	10.1
	Connection	mm	250				300			350		400			
Steam	Inlet Pressure	MPa	0.15												
	Flow rate	kg/h	3,029	3,365	3,769	4,240	4,711	5,182	5,653	6,730	7,403	8,076	8,749	9,422	10,095
	Inlet Connection	mm	200		250			300			350			400	
	Drain Connection	mm	65					80			100				
	Control Valve	mm	125			150				200					
Electric	Power source	-	3PH 400V, 50Hz												
	Abs. Pumps	kW(A)	2.4 (8.0)		2.8 (8.5)		4.5 (12.3)			4.5 (13.3)		5 (15.2)		6.7 (20)	
	Ref. Pump	kW(A)	0.4 (1.4)							1.5 (4.0)					
	Purge Pump	kW(A)	0.4 (1.4)								0.75 (2.2)				
	Control Panel	kW(A)	0.2 (0.5)												
	Total kW	kW	3.4		3.8		5.5			6.6	7.0	7.5		9.2	
	Total Ampere @400V	A	11.3		11.8		15.6			19.2	20.0	21.9		26.7	
Size	Length (L)	mm	4872		5414	5912	6012	6617	7117	6639	7139	6749	7249	6966	7466
	Width (W)	mm	1557		1557		1786			2177		2467		3180	
	Height (H)	mm	2880		2880		3160			3461		3874		4000	
Weight	Rigging	ton	10.5	10.9	12.3	13.7	17.2	19.0	20.6	23.9	26.0	28.5	30.8	33.1	35.4
	Operation	ton	12.5	13.1	14.8	16.4	20.8	22.9	24.9	29.0	31.6	34.6	37.5	40.3	43.2
Space for Tube Replacement		mm	4,600		5,200	5,700		6,200	6,700	6,200	6,700	6,200	6,700	6,300	6,800
Water Volume of Machine	Chilled Water Side	ℓ	465	485	526	563	656	701	744	1,004	1,060	1,355	1,423	1,795	1,890
	Cooling Water Side	ℓ	1,289	1,363	1,462	1,554	2,024	2,147	2,264	2,841	2,993	3,732	3,915	5,664	5,893
	Hot Water Side	ℓ	279	311	341	373	402	540	578	618	752	643	691	832	864

Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

Double Effect Steam Fired Maritime Absorption chiller

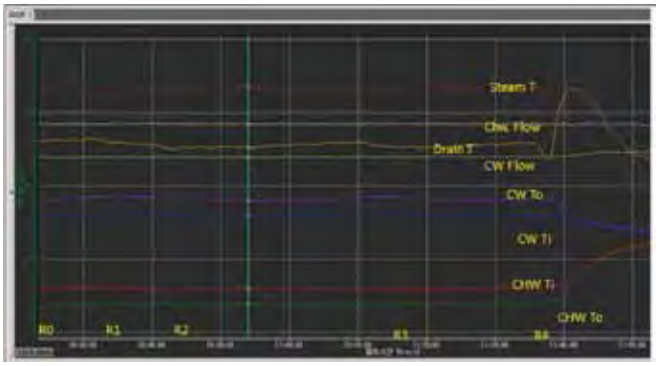
COP 1.21

World Energy Absorption Chiller is certified for seaworthiness at seagoing condition

Capacity : 50~1,100usRT **Service Condition :** Chilled water 12/7c **Cooling water :** 32/37c **Driving Heat source :** 6bar
Refrigerant : Distilled water, **Absorbent :** LiBr Solution

Ship Movement Test

・Rolling condition test



Chiller Temperature Variation

・·Stabilized Temperature at Rolling and Pitching condition

Performance Data

Model		Unit	SWM60	SWM70	SWM80	SWM100	SWM120	SWM150	SWM180	SWM210	SWM240	SWM280	SWM320	SWM360
Cooling Capacity		kW	176	211	246	281	352	422	527	633	738	844	985	1,125
		usRT	50	60	70	80	100	120	150	180	210	240	280	320
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7											
	Flow rate	m^3/h	30	36	42	48	60	73	91	109	127	145	169	194
	P. Drop	mH_2O	2.7	4.7	5.4	3.7	4.2	5.1	5.8	5.7	5.8	4.1	4.2	4.7
	Connection	mm	80			100				125		150		
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37											
	Flow rate	m^3/h	55	66	77	88	110	132	165	198	231	265	309	353
	P. Drop	mH_2O	4.6	8.1	8.2	6.2	6.9	7.3	8.1	8.5	9.2	7.1	7.1	7.4
	Connection	mm	100			125		150				200		
Steam	Inlet Pressure	MPa	0.6											
	Flow rate	kg/h	216	259	303	346	432	519	649	778	908	1,038	1,211	1,384
	Inlet Connection	mm	40			50				65				80
	Drain Connection	mm	25											40
	Control Valve	mm	32			40			50					65
Electric	Power source	-	3PH, 440V, 60Hz											
	Abs. Pumps	kW	0.2			0.3				0.4				
	Ref. Pump	kW	1.5			1.8				2.4				3.2
	Purge Pump	kW	0.4											
	Control Panel	kW	0.2											
	Total Ampere	kW	2.3			2.7				3.4				4.2
	Total Current	A	6.9			8.0				10.2				12.3
Size	Length (L)	mm	2600			2,716		3,680		3,717		4,734		4,872
	Width (W)	mm	1400			1,506				1,700				1,920
	Height (H)	mm	1877			2,166				2,147				2,399
Weight	Rigging	ton	3.5	3.6	3.7	3.8	3.9	4.9	5.2	5.9	6.4	7.4	7.8	9.6
	Operation	ton	3.9	4	4.1	4.2	4.4	5.5	5.8	6.7	7.2	8.4	8.9	10.9
Space for Tube Replacement		mm	1900	2400		2,400		3,400				4,500		

SWM Series

Double Effect Steam Fired Maritime Absorption chiller

GL Certificate & Patent of Maritime Absorption chiller

Development

- The absorption chiller has been used for many years as an onshore applications. World energy succeeded in developing Maritime absorption chiller which runs safely under seagoing conditions.

Energy saving

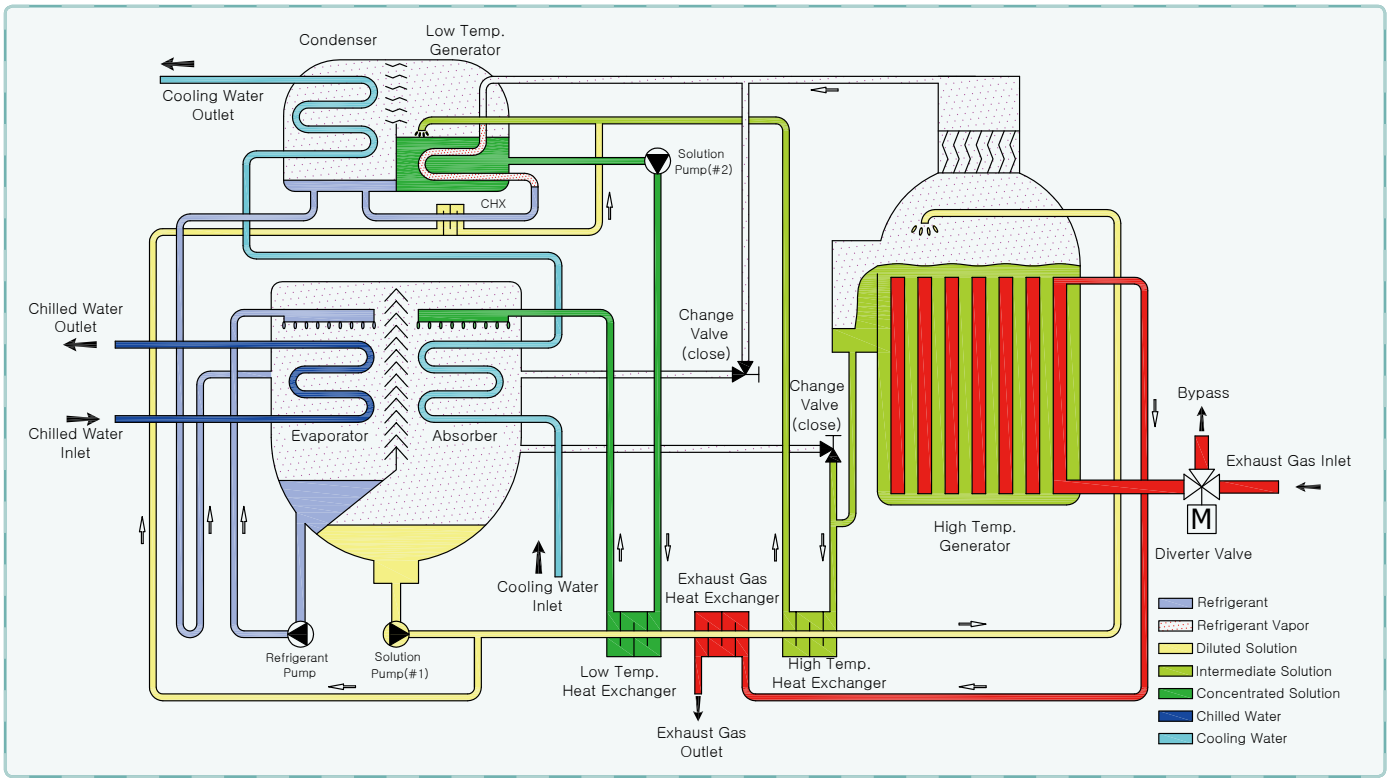
- Maritime absorption chiller is recovering surplus heat of the vessel so will save approximately 80% electrical energy compared to conventional electrical chiller.
- Compared to the traditional refrigerant system, use of the absorption system will reduce CO_2 emission up to 800tons/year and also conventional refrigerant Freon gas is substituted by eco-friendly distilled water.

Model		Unit	SWM400	SWM450	SWM500	SWM560	SWM630	SWM700	SWM800	SWM900	SWM1000	SWM1100	SWM1200
Cooling Capacity		kW	1,266	1,407	1,582	1,758	1,969	2,215	2,461	2,813	3,165	3,516	3,868
		usRT	360	400	450	500	560	630	700	800	900	1,000	1,100
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7										
	Flow rate	m^3/h	218	242	272	302	339	381	423	484	544	605	665
	P. Drop	mH_2O	5.0	4.1	4.5	3.4	4.7	6.4	4.5	6.2	8.4	5.6	7.4
	Connection	mm	150	200					250			300	
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37										
	Flow rate	m^3/h	397	441	496	551	617	694	772	882	992	1,102	1,212
	P. Drop	mH_2O	7.5	7.1	7.4	5.8	7.9	10.7	7.2	10.1	13.7	9.8	12.6
	Connection	mm	200	250		300			350			400	
Steam	Inlet Pressure	MPa	0.6										
	Flow rate	kg/h	1,556	1,729	1,946	2,162	2,421	2,724	3,026	3,459	3,891	4,323	4,756
	Inlet Connection	mm	80			100			125			150	
	Drain Connection	mm	40			50			65			80	
	Control Valve	mm	65			80			100				
Electric	Power source	-	3PH, 440V, 60Hz										
	Abs. Pumps	kW	0.4						1.5				
	Ref. Pump	kW	3.2			5.5						7.5	
	Purge Pump	kW	0.4			0.75							
	Control Panel	kW	0.2										
	Total Ampere	kW	4.2			6.5			7.6			10.0	
	Total Current	A	12.3			18.3			20.9			30.7	
Size	Length (L)	mm	4,872	4,876		4,998	5,534	6,038	5,953	6,410	6,650	6,293	6,818
	Width (W)	mm	1,920	2,138		2,344			2,631			2,829	
	Height (H)	mm	2,399	2,667		2,860			3,176			3,450	
Weight	Rigging	ton	10.1	11.6	12.0	16.1	17.5	18.9	21.1	23.7	26.2	28.7	31.3
	Operation	ton	11.5	13.3	13.8	18.7	20.3	21.8	24.5	27.4	30.4	33.4	36.4
Space for Tube Replacement		mm	4,500				5,200	5,700	5,200	5,700	6,200	5,700	6,200

Double Effect Exhaust Gas Driven Absorption Chiller

CHP Series

• Cooling Cycle



The double-effect, exhaust-gas driven absorption machine is consisted of an evaporator, absorber, condenser, high/low temperature generators, solution heat exchangers, refrigerant & solution pumps, purge system, controls and accessories.

When the chiller is under cooling mode, water boils at a low temperature approximately at 4.4˚C (40˚F) because it is under vacuum condition. Thereby chilled water is cooled down through the tubes in evaporator by the evaporative latent heat. The process of this cycle is like below.
A refrigerant pump is used to spray the refrigerant(distilled water) over the evaporator tubes to improve heat transfer.

To make the cooling process continuous, the refrigerant (water) vapor flows into the absorber and it is absorbed in lithium bromide solution (which has a high affinity for water) As this process continues, the lithium bromide becomes diluted solution and reduce its absorption capacity.
A solution pump then transfers this diluted solution to the generators where it is re-concentrated in two stages (double-effect) to boil off the previously absorbed water.

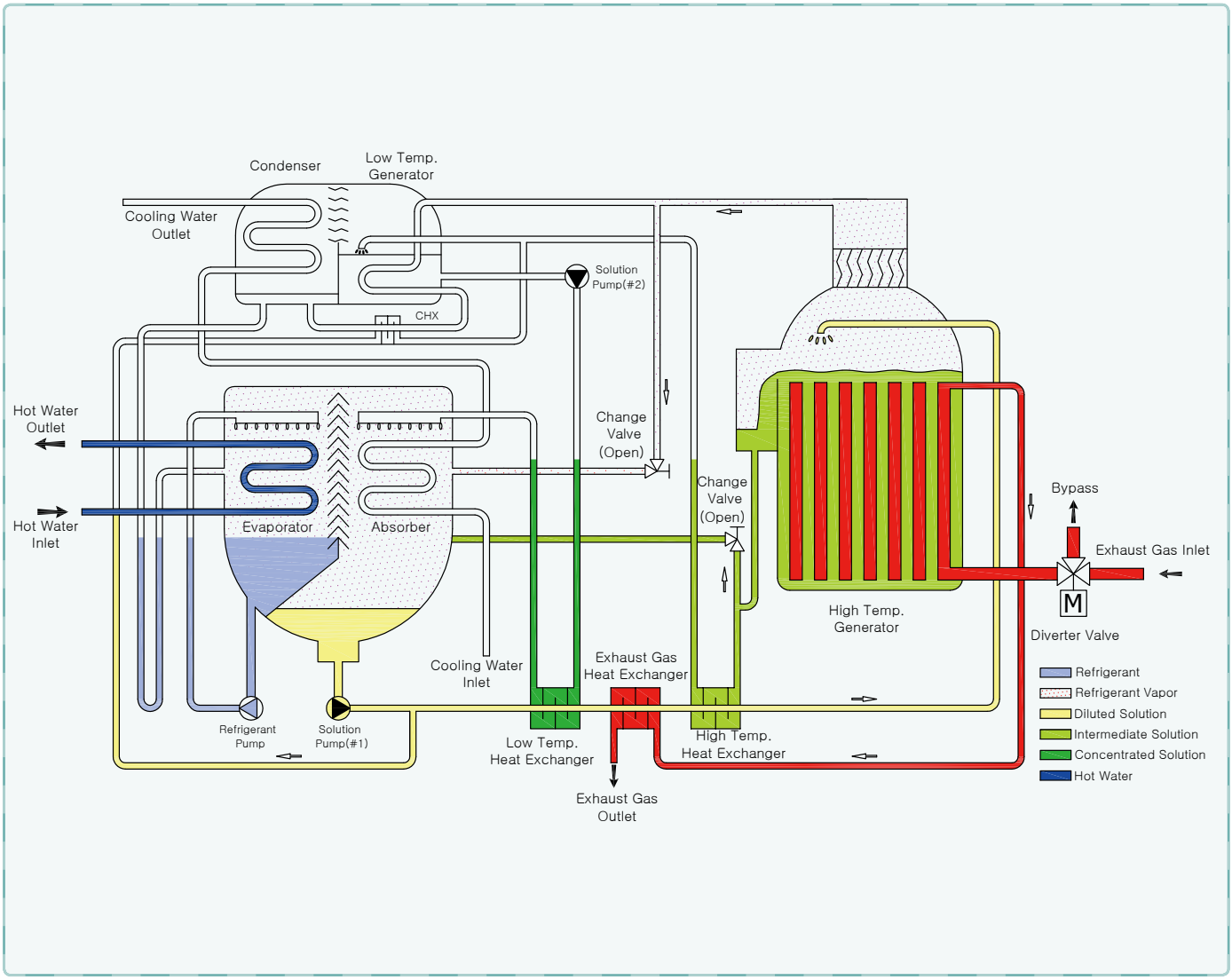
The diluted solution is pumped to the high-temperature generator where it is heated and re-concentrated to a medium concentration solution by the exhaust heat from the gas turbine or reciprocating engine exhaust gas. The intermediate solution from the high-temperature generator flows to the low-temperature generator where it is heated to become a concentrated solution by the high temperature water vapor released from the solution in the high temperature generator.

Since the low-stage generator acts as the condenser for the high-stage generator, the heat energy firstly applied in the high-stage generator is used again in the low-stage generator, thus reduced heat input is approximately 45% compared to an single-stage chiller.

Vapor released in the shell side of the low-stage generator enters the condenser to be cooled and return to a liquid state. The refrigerant water then returns to the evaporator to begin a new cycle.
To remove heat from the machine, cooling water from a cooling tower is firstly circulated through the tubes of the absorber to remove the heat of vaporization. The water is then circulated through the tubes of the condenser. The re-concentrated (strong) solution from the low temp. generator flows back to the absorber to begin a new cycle.

For efficiency purposes, the medium concentration solution from the high-temp. generator passes through the high-temperature solution heat exchanger to pre-heat the diluted (weak) solution, while pre-cooling the medium concentration solution. The re-concentrated (strong) solution from the low-temp. generator passes through the low temperature solution heat exchanger to pre-heat/cool the solution before being returned to the absorber.

- **Heating Cycle**



During heating mode, the absorber-condenser cooling water circuit is different from typical absorption process.
High temperature water vapor produced in the high-temperature generator section passes directly to the evaporator via the absorber and transfers its heat to the tube bundles and hot water is heated from 55°C to 60°C.
The Condensed water in evaporator flows to the absorber section and be mixed with the concentrated solution returning from the ightemperature generator.
The diluted solution is pumped back to the high temperature generator to repeat the vapor generation phase for the heating function.
To changeover the chiller mode from cooling to heating is simple.
Change the position of chiller mode in the control panel first and drain the absorber-condenser water circuit and put the machine into heating mode by switching the positions of change valve.
The hot water inlet temperatures is 60°C (140°F) as a standard and 80°C (176°F) as an option with the additional heat exchanger.

Double Effect Exhaust Gas Fired Absorption Chiller

COP 1.36

Performance Data

Model		Unit	CHP005H	CHP006H	CHP007H	CHP008H	CHP010H	CHP012H	CHP015H	CHP018H	CHP021H	CHP024H	CHP028H	CHP032H	CHP036H	CHP040H
Cooling Capacity		usRT	50	60	70	80	100	120	150	180	210	240	280	320	360	400
		kW	176	211	246	281	351	422	527	633	738	844	984	1125	1265	1406
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7													
	Flow rate	ton/h	30	36	42	48	60	73	91	109	127	145	169	194	218	242
	Pressure Drop	mAq	4.0	3.7	6.2	6.9	5.6	5.9	7.6	8.1	7.5	7.4	5.4	5.3	5.8	6.0
	Connection	mm	80				100				125		150			
Cooling Water	Inlet/Outlet Temp	℃	32 / 37.2													
	Flow rate	m³/h	50	60	70	80	100	120	150	180	210	240	280	320	360	400
	Pressure Drop	mAq	7.0	6.1	10.2	10.0	8.9	9.1	10.4	10.8	10.7	11.2	8.9	8.6	8.8	8.7
	Connection	mm	100				125		150				200			
Heating Capacity		Mcal/h	111	133	156	178	222	267	334	400	467	534	623	712	800	889
		kW	129	155	181	207	258	310	388	465	543	620	724	827	930	1034
Hot Water	Inlet/Outlet Temp	℃	55.3 / 60													
	Flow rate	ton/h	30	36	42	48	60	73	91	109	127	145	169	194	218	242
	Pressure Drop	mAq	4.0	3.7	6.2	6.9	5.6	5.9	7.6	8.1	7.5	7.4	5.4	5.3	5.8	6.0
	Connection	mm	80				100				125		150			
Exhaust Gas	Gas Flow rate	kg/sec	0.330	0.396	0.461	0.527	0.659	0.791	0.989	1.187	1.384	1.582	1.846	2.109	2.373	2.637
	Inlet/Outlet Temp @ Cooling	℃	450 / 120													
	Inlet/Outlet Temp @ Heating	℃	450 / 125													
	Pressure Drop	mmAq	44	44	55	53	55	58	57	77	81	103	109	135	99	124
	Inlet Connection	mm·mm	782*291	782*330	782*369	782*408	922*408	922*486	922*603	922*642	922*681	922*681	922*798	922*876	1376*720	1376*759
	Outlet Connection	mm	300				400				500				600	
	Diverter Valve	mm	300				400				500				600	
Electric	Power source	-	3PH, 400V, 50Hz													
	Absorbent Pump	kW	1.5 (4.7) + 0.2 (1.1)				2.0 (6.0) + 0.3 (1.6)				2.4 (7.0) + 0.4 (1.6)				3.2 (9.0) + 0.4 (1.6)	
	Refrigerant Pump	kW	0.2 (1.1)				0.3 (1.5)						0.4 (1.6)			
	Purge Pump	kW	0.4 (1.45)													
	Sealing Blower	kW	0.8 (5.2)													
	Control Panel	KVA	0.2 (0.5)													
	Ampere @ 400Vac	A	13.7				15.8				16.3		16.5		18.6	
External Dimension	Length (L)	mm	2100		2600		2,638		3,680		3,686		4,744		4,776	
	Width (W)	mm	1683	1722	1761	1800	1,857	1,935	2,052	2,091	2,230	2,230	2,347	2,425	2,270	2,309
	Height (H)	mm	1800				2,090				2,147				2,420	
Weight	Rigging	ton	3.0	3.2	3.7	3.9	5.0	5.3	6.4	6.8	7.9	8.5	9.8	10.3	12.8	13.2
	Operation	ton	3.2	3.5	4.0	4.3	5.4	5.8	7.0	7.4	8.6	9.3	10.7	11.3	14.0	14.6

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 m².hr.˚C/Kcal for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5˚C
4. Min. allowable inlet temp. of cooling water: 20˚C.
5. Controllable range shall be 0~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

CHPH Series

Double Effect Exhaust Gas Driven Absorption Chiller & Heater

Performance Data

Model		Unit	CHP045H	CHP050H	CHP056H	CHP063H	CHP070H	CHP080H	CHP090H	CHP100H	CHP110H	CHP120H	CHP130H	CHP140H	CHP150H
Cooling Capacity		usRT	450	500	560	630	700	800	900	1000	1100	1200	1300	1400	1500
		kW	1582	1757	1968	2214	2460	2812	3163	3515	3866	4218	4569	4921	5272
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7												
	Flow rate	ton/h	272	302	339	381	423	484	544	605	665	726	786	847	907
	Pressure Drop	mAq	5.1	5.4	4.2	5.8	7.7	5.7	7.7	10.1	6.7	8.6	10.7	8.7	10.6
	Connection	mm	200					250			300			350	
Cooling Water	Inlet/Outlet Temp	℃	32 / 37.2												
	Flow rate	m³/h	450	500	560	630	700	800	900	1000	1100	1200	1300	1400	1500
	Pressure Drop	mAq	8.4	8.6	6.8	9.3	12.4	8.8	12.0	15.8	11.1	14.1	17.6	14.0	16.8
	Connection	mm	250		300			350			400				
Heating Capacity		Mcal/h	1001	1112	1245	1401	1556	1779	2001	2224	2446	2668	2891	3113	3335
		kW	1163	1292	1447	1628	1809	2067	2326	2584	2843	3101	3360	3618	3876
Hot Water	Inlet/Outlet Temp	℃	55.3 / 60												
	Flow rate	ton/h	272	302	339	381	423	484	544	605	665	726	786	847	907
	Pressure Drop	mAq	5.1	5.4	4.2	5.8	7.7	5.7	7.7	10.1	6.7	8.6	10.7	8.7	10.6
	Connection	mm	200					250			300			350	
Exhaust Gas	Gas Flow rate	kg/sec	2.966	3.296	3.692	4.153	4.614	5.274	5.933	6.592	7.251	7.910	8.570	9.229	9.888
	Inlet/Outlet Temp @ Cooling	℃	450 / 120												
	Inlet/Outlet Temp @ Heating	℃	450 / 125												
	Pressure Drop	mmAq	128	123	113	100	113	105	117	120	165	165	160	156	139
	Inlet Connection	mm·mm	1376*837	1376*915	1376*1008	1376*1143	1376*1233	1376*1218	1376*1368	1376*1418	1376*1418	1376*1518	1376*1668	1376*1818	1376*2068
	Outlet Connection	mm	600		750						1000				
	Diverter Valve	mm	600		750						1000				
Electric	Power source	-	3PH, 400V, 50Hz												
	Absorbent Pump	kW	3.2 (9.0) + 0.4 (1.6)		5.5 (15.0) + 2.2 (6.5)						7.5 (24.0) + 2.2 (6.5)			7.5 (24.0) + 4.5 (16.0)	
	Refrigerant Pump	kW	0.4 (1.6)					1.5 (4.0)							
	Purge Pump	kW	0.4 (1.45)								0.75(2.3)				
	Sealing Blower	kW	0.8 (5.2)												
	Control Panel	KVA	0.2 (0.5)												
	Ampere @ 400Vac	A	18.6		29.7			32.3			42.1			51.6	
External Dimension	Length (L)	mm	4,954		4,998	5,540	6,038	5,644	6,142	6,667	6,293	6,818	7,318	6,974	7,475
	Width (W)	mm	2,491	2,569	2,934	3,069	3,159	3,330	3,480	3,530	4,348	4,448	4,598	4,932	5,182
	Height (H)	mm	2,633		2,962			3,380			3,500			3,700	
Weight	Rigging	ton	15.7	16.5	21.2	23.1	24.6	31.0	33.6	35.6	41.1	43.4	46.4	50.2	54.1
	Operation	ton	17.2	18.1	23.7	25.8	27.5	34.8	37.6	39.9	46.2	48.8	52.1	56.5	60.8

Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

Double Effect Exhaust Gas Fired Absorption Chiller

COP 1.2

Performance Data

Model		Unit	CHP005	CHP006	CHP007	CHP008	CHP010	CHP012	CHP015	CHP018	CHP021	CHP024	CHP028	CHP032	CHP036	CHP040
Cooling Capacity		usRT	50	60	70	80	100	120	150	180	210	240	280	320	360	400
		kW	176	211	246	281	351	422	527	633	738	844	984	1125	1265	1406
Chilled Water	Inlet/Outlet Temp.	℃	12 / 7													
	Flow rate	m^3/h	30.2	36.3	42.3	48.4	60.5	72.6	90.7	109	127	145	169	194	218	242
	P. Drop	mAq	4.0	3.7	6.2	5.6	4.8	5.1	6.6	7.0	6.4	6.3	4.6	4.5	5.0	5.1
	Connection	mm	80				100				125		150			
Cooling Water	Inlet/Outlet Temp.	℃	32 / 37.5													
	Flow rate	m^3/h	50	60	70	80	100	120	150	180	210	240	280	320	360	400
	P. Drop	mAq	7.0	6.1	10.2	9.6	11.1	11.3	11.5	11.8	11.8	12.1	11.2	10.7	11.1	10.8
	Connection	mm	100				125		150				200			
Heating Capacity		Mcal/h	142	170	198	227	283	340	425	510	595	680	793	906	1019	1133
		kW	165	197	230	263	329	395	494	592	691	790	922	1053	1185	1317
Hot Water	Inlet/Outlet Temp.	℃	55.3 / 60													
	Flow rate	ton/h	30	36	42	48	60.5	72.6	90.7	109	127	145	169	194	218	242
	P. Drop	mAq	4.0	3.7	6.2	5.6	4.8	5.1	6.6	7.0	6.4	6.3	4.6	4.5	5.0	5.1
	Connection	mm	80				100				125		150			
Exhaust Gas	Flow rate	kg/sec	0.439	0.527	0.615	0.703	0.88	1.05	1.32	1.58	1.84	2.11	2.46	2.81	3.16	3.51
	Temp. Cooling	℃	450 / 165													
	Temp. Heating	℃	450 / 125													
	Pressure Drop	mmAq	58	58	74	71	77	82	79	92	97	113	129	131	123	131
	Inlet Conn.	mm*mm	782*291	782*330	782*369	782*408	922*408	922*486	922*603	922*642	922*681	922*681	922*798	922*876	1376*720	1376*759
	Outlet Conn	mm	300				400				500				600	
	Diverter Valve	mm	300				400				500				600	
Electric	Power source	kW	3ø, 400V, 50Hz													
	Abs. Pump	kW [A]	1.5 (5.5)				2.0 (6.4)				2.4 (6.9)				3.2 (9.0)	
	Ref. Pump	kW [A]	0.2 (1.0)				0.3 (1.2)				0.4 (1.4)					
	Purge Pump	kW [A]	0.4 (1.4)													
	Sealing Blower	kW [A]	0.4 (2.5)													
	Control Panel	kW [A]	0.2 (0.5)													
	Amp.(400Vac)	A	10.8				11.9				12.6				14.7	
Size	Length (L)	mm	2100		2600		2,638		3,680		3,717		4,742		4,872	
	Width (W)	mm	1,683	1,722	1,761	1,800	1,857	1,935	2,052	2,091	2,194	2,194	2,310	2,349	2,349	2,349
	Height (H)	mm	1800				2,090				2,147				2,399	
Weight	Rigging	ton	3.0	3.2	3.7	3.9	5.0	5.3	6.4	6.8	7.9	8.5	9.8	10.3	12.8	13.2
	Operation	ton	3.2	3.5	4.0	4.3	5.4	5.8	7.0	7.4	8.6	9.3	10.7	11.3	14.0	14.6

Note

1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 m².hr.˚C/Kcal for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5˚C
4. Min. allowable inlet temp. of cooling water: 20˚C.
5. Controllable range shall be 0~100%.
6. Standard Power source is 3ph, 400V, 50Hz and available 220, 380, 440V and 460V power source.
7. Each water flow can be adjusted within 50~120%.

CHP Series

Double Effect Exhaust Gas Driven Absorption Chiller & Heater

Performance Data

Model			Unit	CHP045	CHP050	CHP056	CHP063	CHP070	CHP080	CHP090	CHP100	CHP110	CHP120	CHP130	CHP140	CHP150
Cooling Capacity			usRT	450	500	560	630	700	800	900	1000	1100	1200	1300	1400	1500
			kW	1582	1757	1968	2214	2460	2812	3163	3515	3866	4218	4569	4921	5272
Chilled Water	Inlet/Outlet Temp.		℃	12 / 7												
	Flow rate		m^3/h	272	302	339	381	423	484	544	605	665	726	786	847	907
	P. Drop		mAq	4.4	3.9	3.6	5.0	6.6	4.7	6.4	8.5	7.2	9.2	11.5	8.3	10.2
	Connection		mm	200					250			300			350	
Cooling Water	Inlet/Outlet Temp.		℃	32 / 37.5												
	Flow rate		m^3/h	450	500	560	630	700	800	900	1000	1100	1200	1300	1400	1500
	P. Drop		mAq	10.7	10.8	7.7	10.6	14.0	8.7	11.8	15.6	3.0	3.8	4.8	4.0	4.8
	Connection		mm	250		300			350			400				
Heating Capacity			Mcal/h	1274	1416	1586	1784	1982	2266	2549	2832	3115	3398	3682	3965	4248
			kW	1481	1646	1843	2074	2304	2633	2962	3291	3621	3950	4279	4608	4937
Hot Water	Inlet/Outlet Temp.		℃	55.3 / 60												
	Flow rate		ton/h	272	302	339	381	423	484	544	605	665	726	786	847	907
	P. Drop		mAq	4.4	3.9	3.6	5.0	6.6	4.7	6.4	8.5	7.2	9.2	11.5	8.3	10.2
	Connection		mm	200					250			300			350	
Exhaust Gas	Flow rate		kg/sec	3.95	4.39	4.92	5.53	6.15	7.03	7.91	8.78	9.66	10.54	11.42	12.30	13.18
	Temp.	Cooling	℃	450 / 165												
		Heating	℃	450 / 125												
	Pressure Drop		mmAq	133	134	143	133	146	155	153	176	213	221	212	206	184
	Inlet Conn.		mm*mm	1376*837	1376*915	1376*1008	1376*1143	1376*1233	1376*1218	1376*1368	1376*1418	1376*1418	1376*1518	1376*1668	1376*1818	1376*2068
	Outlet Conn		mm	600		750						1000				
	Diverter Valve		mm	600		750						1000				
Electric	Power source		kW	3ø, 400V, 50Hz												
	Abs. Pump		kW [A]	3.2 (9.0)		5.5 (15.0)						7.5 (24.0)				
	Ref. Pump		kW [A]	0.3 (1.2)					1.5 (4.0)							
	Purge Pump		kW [A]	0.4 (1.4)								0.75 (2.2)				
	Sealing Blower		kW [A]	0.4 (2.5)												
	Control Panel		kW [A]	0.2 (0.5)												
	Amp.(400Vac)		A	14.7		20.7			23.3			33.1				
Size	Length (L)		mm	4,954		4,998	5,540	6,038	5,644	6,142	6,667	6,293	6,818	7,318	6,974	7,475
	Width (W)		mm	2,491	2,569	2,934	3,069	3,159	3,330	3,480	3,530	4,348	4,448	4,598	4,932	5,182
	Height (H)		mm	2,633		2,962			3,380			3,500			3,700	
Weight	Rigging		ton	15.7	16.5	21.2	23.1	24.6	31.0	33.6	35.6	41.1	43.4	46.4	50.2	54.1
	Operation		ton	17.2	18.1	23.7	25.8	27.5	34.8	37.6	39.9	46.2	48.8	52.1	56.5	60.8

Option

1. Non-standard cooling capacity.
2. Higher working pressure (230psig = 1.6MPa, 300psig = 2.0MPa)
3. Special tubes (material) & thickness.
4. Various temp. conditions (CHW, CW, HW)
5. Outdoor installation.
6. The specifications above are subject to change without prior notice for an improvement of the chiller.

Double Effect Exhaust Gas Driven Absorption Chiller

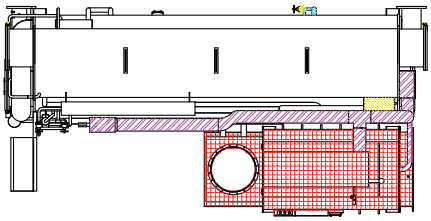
Thermal Insulation

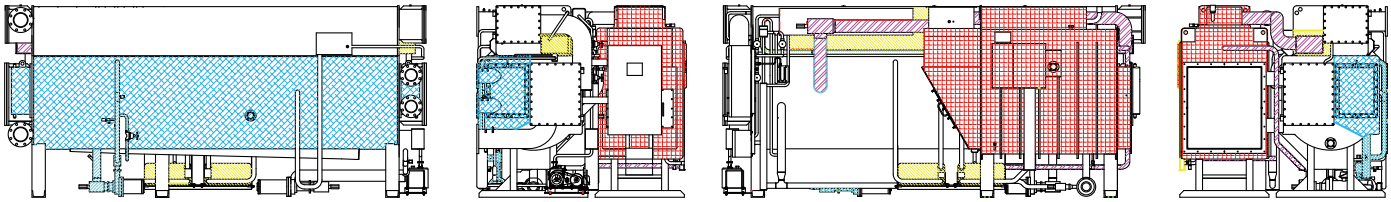
INSULATION FOR HOT SURFACES

- 75mm(3inch) : High Temp. Generator
- 50mm(2inch) : Steam Pipings, Box of Low Temp. Generator, Pipings of High Temp. Generator(Inlet, Outlet), Boxes of High Temp. Heat Exchanger
- 19mm(3/4inch) : Low Temp. Generator Body and Outlet Box(ABSO), High & Low Temp. Heat Exchanger Body and Box of Heat
- 10mm(3/8inch) : Inlet & Outlet Pipings of Low Temp. Generator.

INSULATION FOR COLD SURFACES

- 19mm(3/4inch) : Evaporator Body and It's Water Box.
- 10mm(3/8inch) : Piping of Refrigerant Pump(Inlet, Outlet). Generator(Inlet, Outlet), Boxes of High Temp. Heat Exchanger





Note

1. Use only Non-inflammable or flame retardant insulation materials.
2. Do not insulate motor of refrigerant pump.
3. Total insulation area is including pipings.
4. Do not cover components such as service valves, diaphragm valves, sight glass, control valves, thermometers or sensor.
5. Use the standard insulation material and thickness as the recommendation

HOT Surface insulation

- Material of insulation : Glass wool, Thermal Conductivity 0.04kcal/m·h·℃
- Thickness of insulation : 50mm (2 inch), 75mm (3 inch)
- Material of insulation : Closed cell type Non-inflammable polymer sponge
- Thickness of insulation : 19mm (3/4inch), 10mm (3/8inch)

COLD Surface insulation

- Material of insulation : Closed cell type Non-inflammable polymer sponge
- Thickness of insulation : 19mm (3/4 inch), 10mm (3/8 inch)

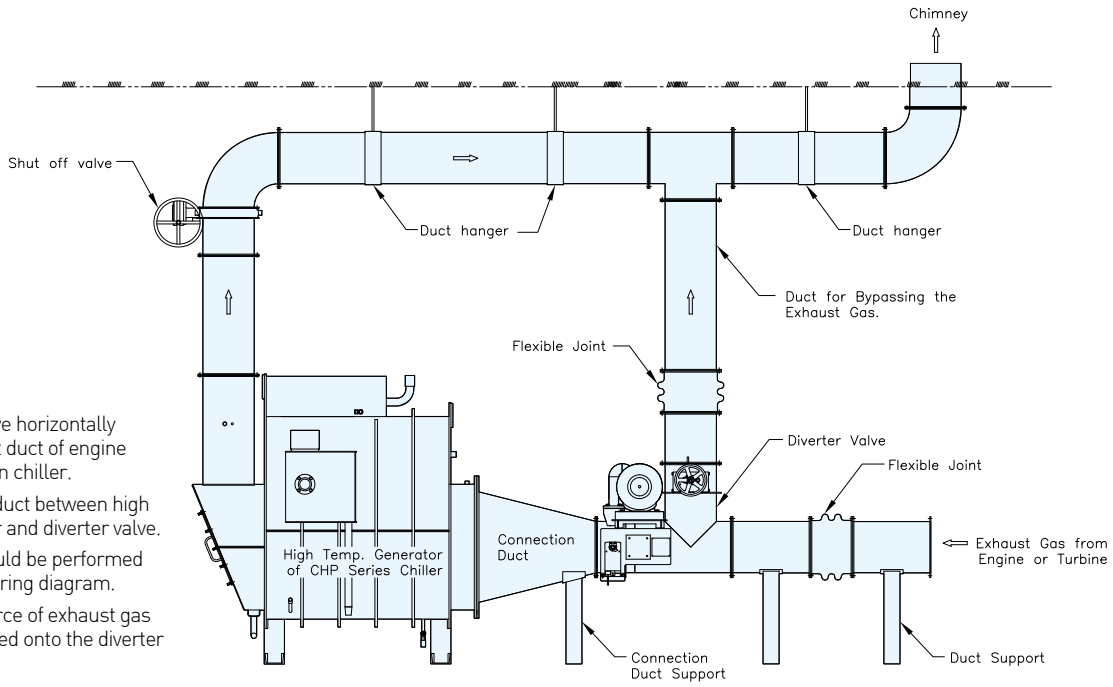
Wrapping Material when Glass wool is used.

- Insulated parts on body : Colored galvanized steel with 0.45mm thickness or over
- Insulated parts on pipes : Colored galvanized steel with 0.30mm thickness or over

Model	Hot Surface (m²)				Cold Surface (m²)	
	75mm	50mm	19mm	10mm	19mm	10mm
CHP005	8.2	0.9	2.7	0.4	2.6	0.3
CHP006	8.2	0.9	2.7	0.4	2.6	0.3
CHP007	8.2	0.9	3.4	0.4	2.6	0.3
CHP008	8.2	1.1	3.4	0.4	2.6	0.3
CHP010	9.5	1.8	4.2	0.7	3.6	0.3
CHP012	10.4	1.8	4.3	0.7	3.6	0.3
CHP015	11.2	2.2	6.3	0.7	4.8	0.3
CHP018	11.4	2.2	6.3	0.7	4.8	0.3
CHP021	12.8	2.2	7.1	0.9	5.8	0.3
CHP024	13.6	2.2	7.1	0.9	5.8	0.4
CHP028	14.1	2.5	8.3	1.1	7.1	0.4
CHP032	18.2	2.5	8.3	1.1	7.1	0.4
CHP036	18.4	3.0	9.1	1.2	7.9	0.4
CHP040	18.4	3.0	9.1	1.2	7.9	0.4

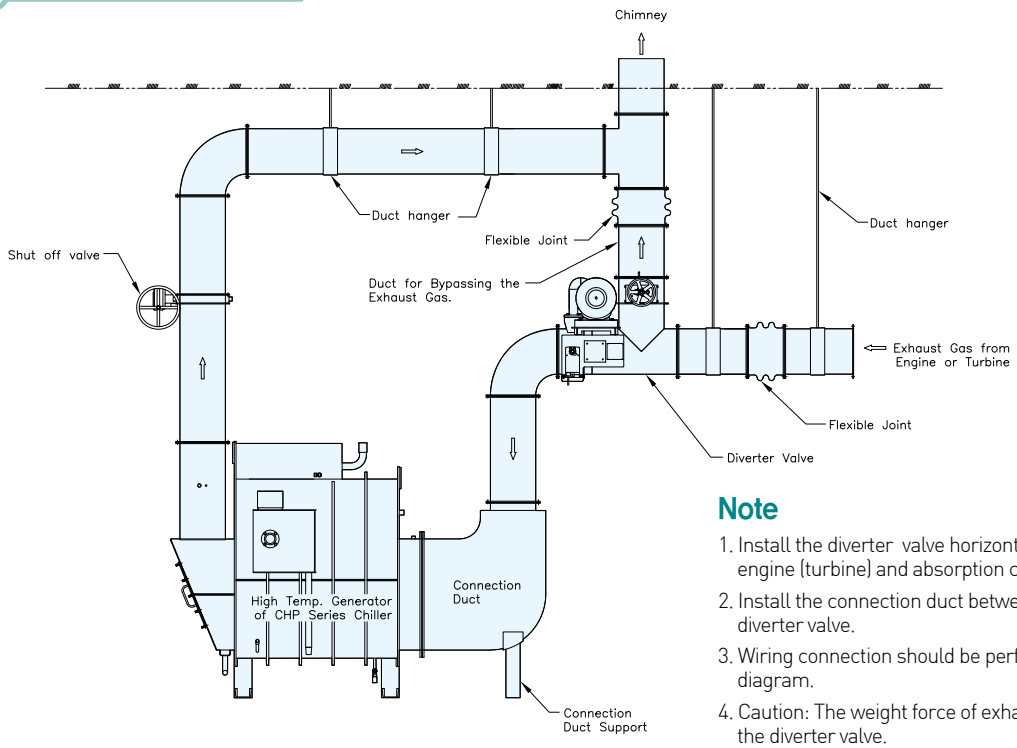
Model	Hot Surface (m²)				Cold Surface (m²)	
	75mm	50mm	19mm	10mm	19mm	10mm
CHP045	20.6	3.1	10.1	1.2	7.9	0.4
CHP050	21.3	3.1	10.1	1.2	11	0.4
CHP056	23.4	7.5	11.4	1.4	13.5	0.6
CHP063	24.7	8.3	12.2	1.4	15	0.7
CHP070	25.3	9.2	13.0	1.5	16	0.7
CHP080	32.1	10.5	13.9	1.6	17	1.1
CHP090	33.7	11.5	14.4	1.6	18.5	1.2
CHP100	34.2	13.0	14.9	1.7	20	1.2
CHP110	36.5	15.5	13.7	1.7	22.2	1.4
CHP120	37.6	16.8	14.0	1.7	22.5	1.4
CHP130	39.3	18.2	14.3	1.8	23.4	1.4
CHP140	41.1	18.1	14.6	1.8	26.6	1.5
CHP150	43.9	19.6	15.1	1.8	27.6	1.5

Diverter Valve Installation Guide



Note

1. Install the diverter valve horizontally in between the exhaust duct of engine (turbine) and absorption chiller.
2. Install the connection duct between high temperature generator and diverter valve.
3. Wiring connection should be performed accordance with the wiring diagram.
4. Caution: The weight force of exhaust gas duct shouldn't be applied onto the diverter valve.



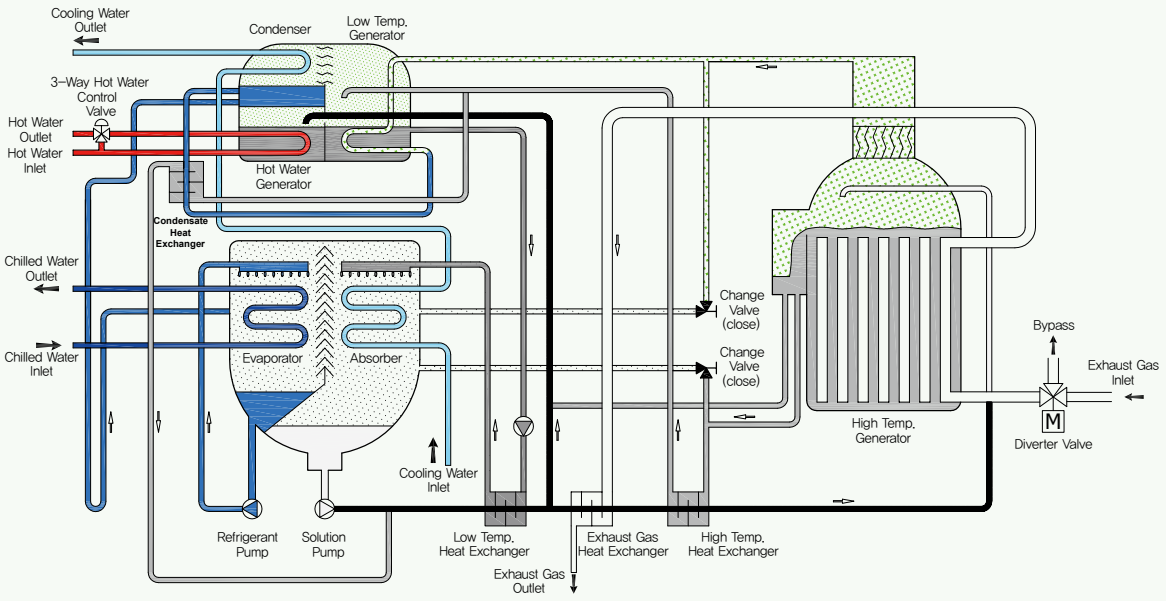
Note

1. Install the diverter valve horizontally in between the exhaust duct of engine (turbine) and absorption chiller.
2. Install the connection duct between high temperature generator and diverter valve.
3. Wiring connection should be performed accordance with the wiring diagram.
4. Caution: The weight force of exhaust gas duct shouldn't be applied onto the diverter valve.

Hybrid Absorption Chiller

COP 1.1-1.23

CHPL Series_Hybrid Type



Performance Data

Model		Unit	CHPL045H	CHPL050H	CHPL056H	CHPL063H	CHPL070H	CHPL080H	CHPL090H
Cooling Capacity		usRT	374	416	466	524	582	666	749
		kW	1,315	1,463	1,639	1,843	2,046	2,342	2,634
Chilled Water	Temp.	℃	12/ 7						
	Flow rate	m3/h	226	252	282	317	352	403	453
	P. Drop	mH_2O	3.7	4.2	4.6	4.6	6.9	4.9	5.2
	Connection	mm	200	200	200	200	200	250	250
Cooling Water	Temp.	℃	32 / 37.5						
	Flow rate	m^3/h	395	439	492	553	614	703	790
	P. Drop	mH_2O	6.4	7.1	7.4	8.7	12.6	7.5	8.2
	Connection	mm	250	250	250	250	300	300	300
Exhaust Gas Side	Temperature	℃	450 / 120						
	Flow rate	ton/h	5,989	6,655	7,468	8,404	9,316	10,672	12,003
	P. Drop	mH_2O	66	50	52	30	42	43	50
	Diverter Valve	mm	400	400	500	500	500	600	600
Hot Water Side	Temperature	℃	90 / 80						
	Flow rate	m3/h	51.3	57.2	63.8	71.7	99.7	91.2	102.6
	P. Drop	mH_2O	1.4	2.4	4.4	2.7	3.7	1.4	2.2
	Connection	mm	80	80	100	100	125	125	125
Elec. Power	Power Source	-	3P/380V/50Hz						
	Consumption	kW	5.4	5.9	6.3	7.4	7.4	8.5	5.4
	Total Amp.	A	19.4	21.2	22.4	24.6	24.6	26.7	29.7
Size	Length (L)	mm	4,876	4,876	5,213	5,534	6,032	5,644	6,032
	Width (W)	mm	2,570	2,670	2,726	2,726	2,799	3,188	3,188
	Height (H)	mm	2,657	2,657	2,860	2,860	2,860	3,380	3,380
Weight	Rigging	Ton	16.3	18.2	20.3	24.5	26.1	33.1	35.2
	Operation	Ton	14.9	16.9	18.9	21.9	23.4	29.5	33.5

CHPL Series

Double Effect Hybrid (Exhaust Gas + Hot Water) Absorption Chiller

Performance Data

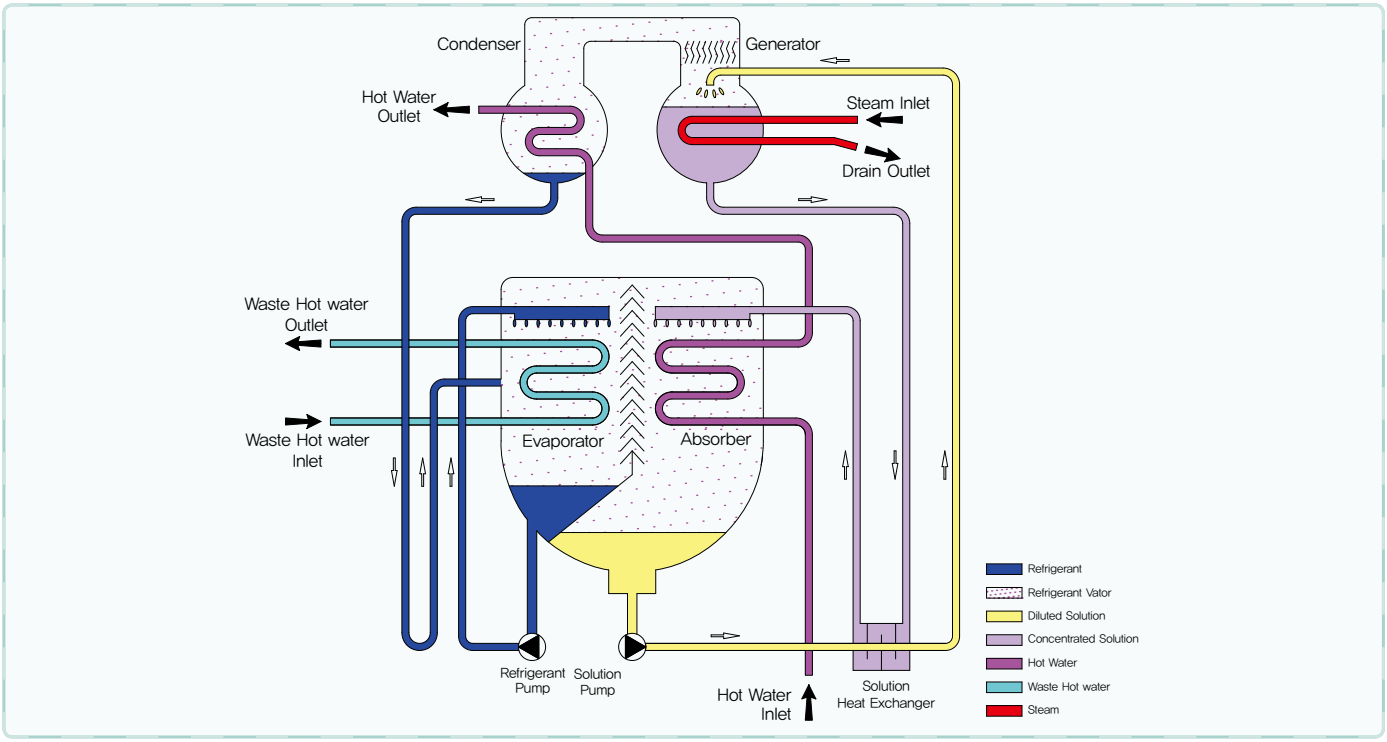
Model		Unit	CHPL100H	CHPL110H	CHPL120H	CHPL130H	CHPL140H	CHPL150H
Cooling Capacity		usRT	832	915	998	1,082	1,165	1,248
		kW	2,926	3,217	3,509	3,805	4,096	4,388
Chilled Water	Temp.	℃	12 / 7					
	Flow rate	m3/h	503	552	604	654	705	755
	P. Drop	mH_2O	8.0	8.3	8.0	7.3	7.8	8.2
	Connection	mm	250	250	300	300	200	300
Cooling Water	Temp.	℃	32 / 37.5					
	Flow rate	m^3/h	878	965	1053	1142	1229	1317
	P. Drop	mH_2O	8.9	9.2	10.0	13.7	11.3	10.5
	Connection	mm	350	350	400	400	400	400
Exhaust Gas Side	Temperature	℃	450 / 120					
	Flow rate	ton/h	12,934	14,225	15,516	16,807	18,098	19,389
	P. Drop	mH_2O	97	90	87	85	100	110
	Diverter Valve	mm	600	600	600	600	750	750
Hot Water Side	Temperature	℃	90 / 80					
	Flow rate	m3/h	142.2	125.3	136.7	185.2	159.8	171.1
	P. Drop	mH_2O	2.8	3.2	4.3	3.7	3.8	2.7
	Connection	mm	125	80	150	150	80	150
Elec. Power	Power Source	-	3P/380V/50Hz					
	Consumption	kW	8.5	12.4	14.5	14.5	15.0	16.0
	Total Amp.	A	26.7	32.4	46.2	46.2	51.3	56.6
Size	Length (L)	mm	5,644	6,212	6,818	7,318	7,318	7,475
	Width (W)	mm	3,188	3,840	4,161	4,411	4,834	5,182
	Height (H)	mm	3,380	3,380	3,500	3,500	3,600	3,700
Weight	Rigging	Ton	33.1	36.7	46.4	49.5	52.8	57.8
	Operation	Ton	29.5	31.5	41.2	44.1	49.7	51.4

Note

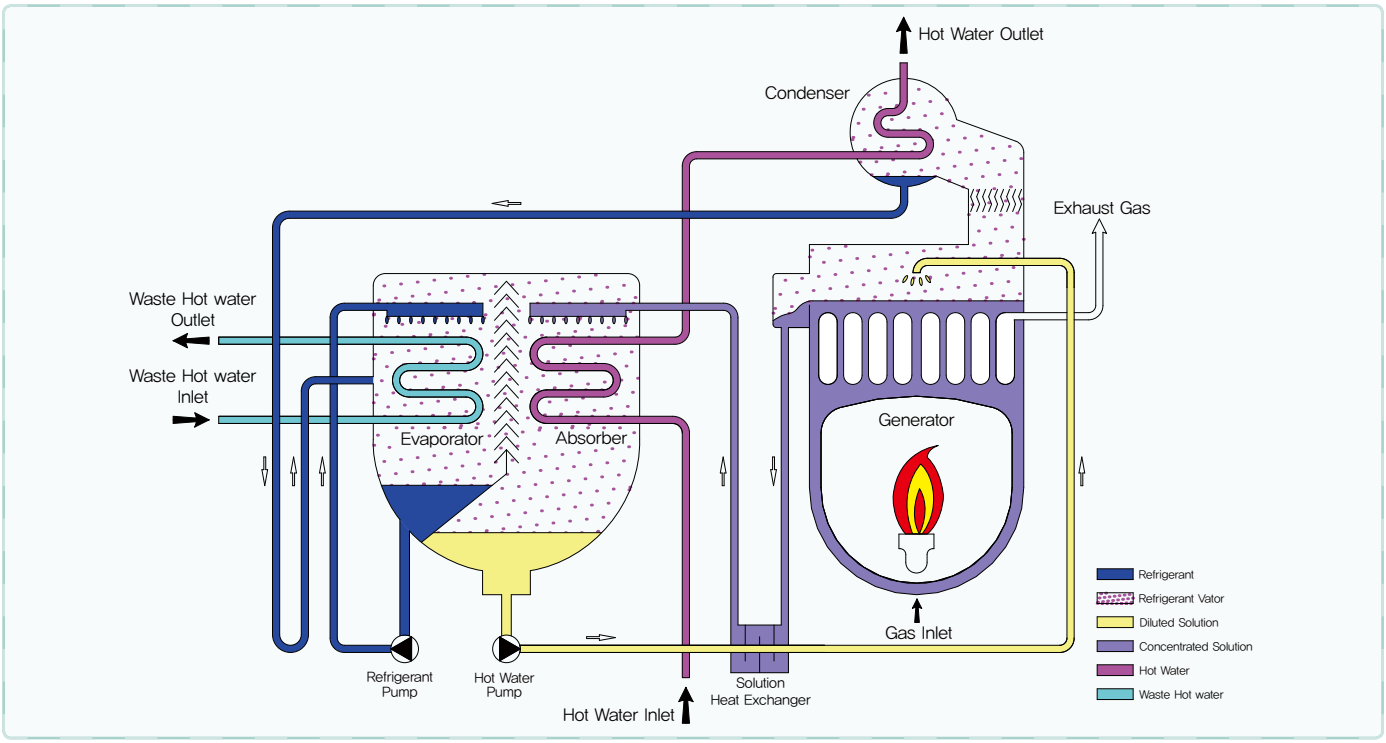
1. Working pressure of each water side is based on 1.0MPa (150psig)
2. Fouling factor 0.0001 m^2.hr.℃/Kcal for Absorber, Condenser and Evaporator.
3. Min. outlet temp. of chilled water: 5℃
4. Min. allowable inlet temp. of cooling water: 20℃.
5. Controllable range shall be 0~100%.
6. Available power sources (options): 220V, 380V, 440V and 460V with 50Hz or 60Hz.
7. Custom design is available with modifications of the standard specification
   - Cooling capacity
   - Chilled and Cooling water circuit with anti-freezing additives
   - Higher working pressure
   - Special tubes and thicker shell material
   - Various operational temp. conditions (CHW or/and CW)
   - Higher delta-T operation
   - Outdoor installation
8. The specifications above are subject to change without prior notice for an improvement of the chiller.

Absorption Heat Pump

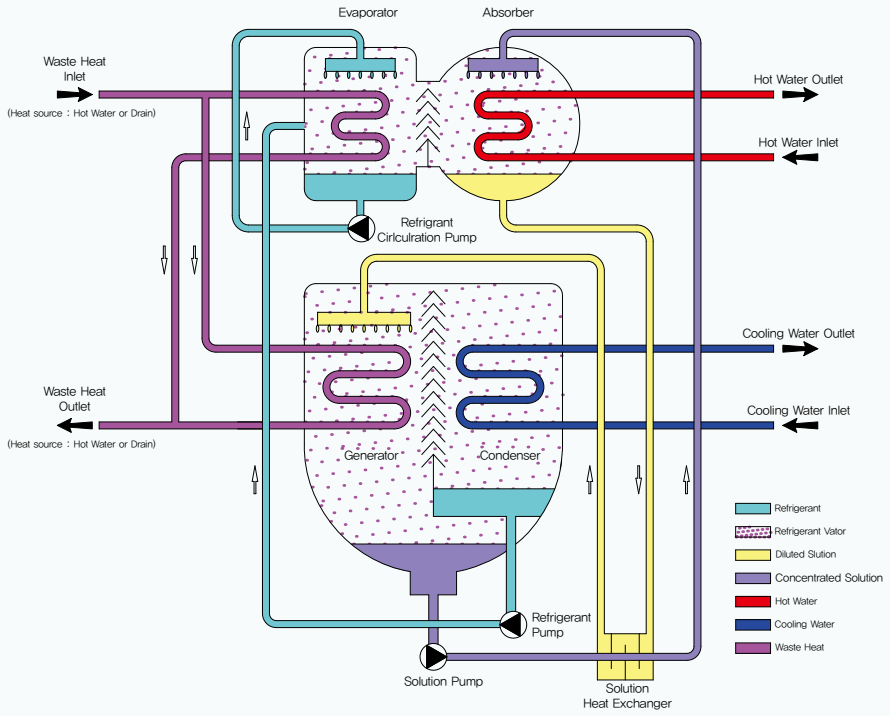
HPS Series_Steam Driven Type



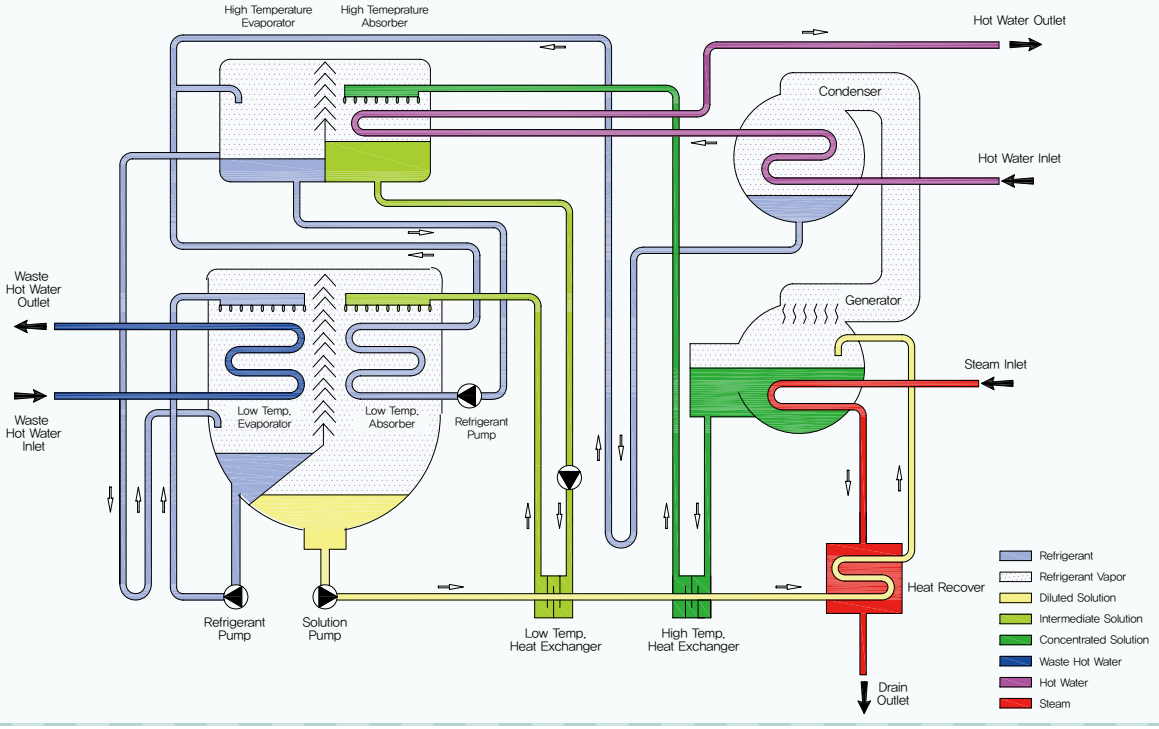
HPD Series_Direct Fired Type



AHT Series_Steam Generation Type



H2A Series_2-Lift Type



Absorption Heat Pump

Performance Data

• HPS Series

Steam Fired Type Absorption Heat Pump (670 ~ 4686kW)

Model		Unit	HPS010	HPS012	HPS015	HPS018	HPS021	HPS024	HPS028	HPS032	HPS036	HPS040	HPS045	HPS050	HPS056	HPS063	HPS070
Heating capacity		Mcal/h	576	691	864	1036	1209	1382	1612	1842	2073	2303	2591	2879	3224	3627	4030
Hot Water	Inlet/Outlet Temp.	℃	20 / 80														
	Flow rate	ton/h	9.6	11.5	14.4	17.3	20.2	23.0	26.9	30.7	34.5	38.4	43.2	48.0	53.7	60.5	67.2
	P. Drop	mAq	3.6	3.7	9.8	10.0	9.4	9.9	8.9	9.4	9.4	9.0	9.4	9.3	3.0	4.1	5.4
	Connection	mm	65A						80A				100A				
Recovery Heat Capacity		Mcal/h	227	272	340	408	476	544	635	726	816	907	1,021	1,134	1,270	1,429	1,588
Waste Hot Water	Inlet/Outlet Temp.	℃	30 / 20														
	Flow rate	m^3/h	22.7	27.2	34.0	40.8	47.6	54.4	63.5	72.6	81.6	90.7	102.1	113.4	127.0	142.9	158.8
	P. Drop	mAq	10.7	10.8	10.7	11.3	9.9	10.6	10.5	11.0	11.1	12.0	10.6	11.0	10.3	13.9	14.8
	Connection	A	80A				100A				125A				150A		
Steam side	Flow rate	kg/h	622.5	747.0	933.8	1120.5	1307.3	1494.0	1743.0	1992.0	2241.0	2490.0	2801.3	3112.5	3486.0	3921.8	4357.5
	Inlet Connection	mm	80				100				125		150				
	Drain Connection	mm	25				40				50				65		
	Valve Connection	mm	40		40		50				65		80				100
Electric	Power source	–	3ø, 400V, 50Hz														
	Absb. Pump	kW (A)	1.5 (5.4)		3.0 (7.5)				3.4 (10.2)						5.5 (15.0)		
	Ref. Pump	kW (A)	0.3 (1.5)						0.4 (1.6)						1.5 (4)		
	Purge Pump	kW (A)	0.4 (1.0)														
	Control Panel	kW (A)	0.3 (0.5)														
	Total Ampare	A	8.4		10.5				13.3						20.5		
Size	Length (L)	mm	2,436		3,456		3,506		4,526		4,606				4,666	5,208	5,706
	Width (W)	mm	1,335				1,495				1,558		1,689		1,861		
	Height (H)	mm	1,980				2,370				2,700				3,100		
Weight	Rigging	ton	3.3	3.4	4.1	4.3	5.2	5.5	6.2	6.6	7.9	8.5	10.0	10.4	14.4	15.6	16.4
	Operation	ton	4.5	4.8	5.8	6.2	7.5	8.0	9.0	9.7	11.5	12.3	14.5	15.2	20.0	21.8	23.1
	Max. Shipping	ton	3.3	3.4	4.1	4.3	5.2	5.5	6.2	6.6	7.9	8.5	10.0	10.4	12.4	13.4	14.0
	Shipment Type		One Body												Two Body		
Space for Tube Replacement		mm	2,400		3,400				4,500							5,200	5,700

• HPD Series

Steam Fired Type Absorption Heat Pump (670 ~ 4686kW)

Model		Unit	HPD010	HPD012	HPD015	HPD018	HPD021	HPD024	HPD028	HPD032	HPD036	HPD040	HPD045	HPD050	HPD056	HPD063	HPD070
Hot Water Outlet capacity		Mcal/h	576	691	864	1036	1209	1382	1612	1842	2073	2303	2591	2879	3224	3627	4030
Hot Water	Inlet/Outlet Temp.	℃	20 / 80														
	Flow rate	ton/h	9.6	11.5	14.4	17.3	20.2	23.0	26.9	30.7	34.5	38.4	43.2	48.0	53.7	60.5	67.2
	P. Drop	mAq	3.6	3.7	9.8	10.0	9.4	9.9	8.9	9.4	9.4	9.0	9.4	9.3	3.0	4.1	5.4
	Connection	mm	65A						80A				100A				
Waste Heat Capacity		Mcal/h	227	272	340	408	476	544	635	726	816	907	1,021	1,134	1,270	1,429	1,588
Waste Water	Inlet/Outlet Temp.	℃	30 / 20														
	Flow rate	m^3/h	22.7	27.2	34.0	40.8	47.6	54.4	63.5	72.6	81.6	90.7	102.1	113.4	127.0	142.9	158.8
	P. Drop	mAq	10.7	10.8	10.7	11.3	9.9	10.6	10.5	11.0	11.1	12.0	10.6	11.0	10.3	13.9	14.8
	Connection	mm	80A				100A				125A				150A		
fuel consumption	LNG(10,500kcal/Nm^2)	Nm^2/h	40.0	48.0	60.1	72.1	84.1	96.1	112.1	128.1	144.1	160.1	180.2	200.2	224.2	252.2	280.3
	LPG(12,000kcal/kg)	kg/h	35.0	42.0	52.5	63.1	73.6	84.1	96.1	112.1	126.1	140.1	157.6	175.2	196.2	220.7	245.2
	Supply pressure	mmAq	4,000														
	Gas connection	A	40A		50A												
	Kerosene(10,960kcal/l)	ℓ/h	39.3	47.2	59.0	70.7	82.5	94.3	110.1	125.8	141.5	157.2	176.9	196.5	220.1	247.6	275.1
	Diesel(11,100kcal/l)	ℓ/h	38.8	46.6	58.2	69.9	81.5	93.1	106.7	124.2	139.7	155.2	174.6	194.0	217.3	244.5	271.7
	Oil Connection	A	15A x 2									20A x 2					
Electric	Power source	–	3ø, 400V, 50Hz														
	Absb. Pump	kW (A)	1.5 (5.4)		3.0 (7.5)				3.4 (10.2)						5.5 (15.0)		
	Ref. Pump	kW (A)	0.3 (1.5)						0.4 (1.6)						1.5 (4)		
	Gas Burner	kW (A)	1.5 (3.5)			2.2 (5.0)			3.7 (8.1)			4.0 (10.5)		7.5 (18.6)			
	Oil Burner	kW (A)	1.5 (3.5)	2.2 (5.0)		3.7 (8.1)		6.3 (13.1)						8.6 (21.9)			
	Purge Pump	kW (A)	0.4 (1.0)														
	Control Panel	KVA	0.3 (0.5)														
	Total Ampare	A	11.9/11.9	11.9/13.4	14.0/15.5	15.5/23.1		15.5/23.1	21.4/26.4			23.8/26.4		31.9/35.2	39.1/42.4		
Size	Length (L)	mm	2,643	2,843	3,456		3,645		4,526		4,606				4,666	5,206	5,706
	Width (W)	mm	1,980		2,370		2,315	2,461	0	2,557	2,590	2,819	2,965		3,263		
	Height (H)	mm	1,930				2,370				2,700				3,100		
Weight	Rigging	ton	4.0	4.1	4.9	5.3	6.5	6.9	7.9	8.6	10.3	10.8	12.6	13.3	19.0	20.6	21.8
	Operation	ton	5.2	5.5	6.6	7.3	8.7	9.3	10.7	11.7	13.9	14.6	17.1	18.1	24.6	26.8	28.5
	Max. Shipping	ton	4.0	4.1	4.9	5.3	6.5	6.9	7.9	8.6	10.3	10.8	12.6	13.3	12.4	13.4	14.0
	Shipment Type	–	One Body												Two Body		
Exhaust Duct		mm	280*210		310*310			360*310		410*310		350*350			400*620		
Space for Tube Replacement		mm	2,400		3,400				4,500							5,200	5,700

HPS, HPD, AHT, H2A Series

Absorption Heat Pump

Performance Data

• AHT Series

Steam Fired Type Absorption Heat Pump (670 ~ 4686kW)

Model		Unit	AHT-560	AHT-1100	AHT-1650	AHT-2200	AHT-2250	AHT-3300	AHT-3800
Hot Water	Heating Capacity	kcal/h	300,000	600,000	900,000	1,200,000	1,500,000	1,800,000	2,100,000
	flow rate	ton	50	100	150	200	250	300	350
	Inlet Temp.	℃	127	127	127	127	127	127	127
	Outlet Temp.	℃	133	133	133	133	133	133	133
	Pre. Drop	mAq	5	5	5	5	5	5	5
	Connection	A	100	125	150	200	200	200	250
	Max. Working Pressure	kg/cm^{2}G	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Waste Steam	Waste Heat Capacity	kcal/h	625,000	1,250,000	1,875,000	2,500,000	3,125,000	3,750,000	4,375,000
	Temp.	℃	88	88	88	88	88	88	88
	Connection	A	150	200	200	250	250	300	300
	Drain Connection	A	50	80	100	125	125	125	150
	Max. Working Pre	kg/cm^{2}G	2	2	2	2	2	2	2
Cooling Water	Flow rate	ton/h	54	108	162	216	270	324	378
	Inlet Temp.	℃	26	26	26	26	26	26	26
	Outlet Temp.	℃	32	32	32	32	32	32	32
	Pre. Drop	mAq	7	7	7	7	7	7	7
	Connection	A	100	125	150	200	200	250	250
	Condition	–	Indurstrial Water						
	Max. Working	kg/cm^{2}G	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Electric	Power source	–	3ø, 400V, 50Hz						
	Abs. Pump	kW	1.5	2.2	3.7	3.7	5.5	5.5	5.5
	Ref. Pump-1	kW	0.75	0.75	0.75	0.75	0.75	0.75	0.75
	Ref. Pump-2	kW	0.75	0.75	0.75	0.75	0.75	1.5	1.5
	Purge Pump	kW	0.4	0.4	0.4	0.75	0.75	0.75	0.75
	Control Panel	VA	300	300	300	300	300	300	300
Size	Length (L)	mm	4,470	4,645	4,680	6,870	6,870	7,150	7,735
	Width (W)	mm	2,405	3,005	3,260	3,240	3,310	3,585	4,000
	Height (H)	mm	4,300	4,615	5,010	5,120	5,370	5,770	5,430
Operation		ton	16	27	36	48	52	59	63

• H2A Series

2-Lift Type Absorption Heat Pump

Model		Unit	H2A-100	H2A-200	H2A-300
Heating capacity		kW	1,000	2,000	3,000
		Mcal/h	860	1,720	2,580
Hot Water	Inlet/ Outlet Temp.	℃	50 / 70		
	Flow rate	m^3/h	43.6	87.1	130.7
	Pre. Drop	mAq	-	-	-
	Connection	mm	100A	125A	150A
Waste Hot Water	Inlet/ Outlet Temp.	℃	15 / 10		
	Flow rate	m^3/h	41.3	82.5	123.8
	Pre. Drop	mAq	-	-	-
	Connection	mm	100A	125A	150A
Steam Side	Steam Pressure	MPa(g)	0.3		
	Steam Flow rate	kg/h	1,168	2,337	3,505
	Steam Connection	mm	80A	125A	200A
	Drain Connection	mm	40A	50A	65A
	Control Valve	mm	65A	100A	125A
Electric	Power Source	-	3PH, 380V, 60Hz		
	Absb. Pump (Diluted)	kW	1.2(4.0)	2.4(7.0)	3.0(11.0)
	Absb. Pump (Concentrated)	kW	0.4(1.6)	1.2(4.0)	1.5(4.0)
	High Temp. Ref. Pump	kW	1.5(4.0)	3.0(5.8)	4.0(12.0)
	Low Temp. Ref. Pump	kW	0.3(1.5)	0.4(1.6)	0.4(1.6)
	Purge Pump	kW	0.4(1.5)		
	Control Panel	kW	0.2(0.5)		
	Total kW	kW	4.0	7.6	9.5
	Total Ampare	A	13.1	20.4	30.6
Size	Length (L)	mm	3,720	4,876	6,038
	Width (W)	mm	1,389	1,495	1,594
	Height (H)	mm	2,257	2,832	3,174
Weight	Rigging	ton	7.1	10.9	17.2
	Operation	ton	8.4	13.1	20.8
pace for Tube Replacement.		mm	3,400	4,500	5,700

Water Quality / Scope of Supply / Painting

Cooling Water Quality Control

The cooling water which is recycled by cooling tower is exposed into atmosphere and polluted as it is vaporized. If the cooling water gets polluted, it develops corrosion and also scale inside the tubes and absorption machine performance drops.

Therefore, it is recommended to control the water quality; the following table shows guideline for cooling water and make-up water. The tube cleaning method and interval depends on each water quality.

Items		Cooling Water	Make-up Water	Tendency	
				Corrosion	Scale
Standard	PH (25°C)	6.5 ~ 8.0	6.5 ~ 8.0	○	○
	Conductivity (25°C, s/cm)	Max. 800	Max. 200	○	○
	Chloride ion Cl (mg / cl / ℓ)	Max. 200	Max. 50	○	
	Sulfuric acid ion $SO_4$2-(mg $CaCo_3$ /ℓ)	Max. 200	Max. 50	○	
	Alkalinity pH4.8 (mg $CaCo_3$ /ℓ)	Max. 100	Max. 50		○
	Total hardness (mg $CaCO_3$ /ℓ)	Max. 200	Max. 50		○
Reference	Iron Fe (25°C)	Max. 1.0	Max. 0.3	○	
	Sulfides S^{2-} ion (ms S^{2-}/ℓ)	No trace	No trace	○	
	Ammonium ion NH_4+ (mg NH_4+/ℓ)	Max. 1.0	Max. 0.2	○	
	Silica SiO (mg SiO_2/ℓ)	Max. 50	Max. 30		○

Supply Scope (Standard)

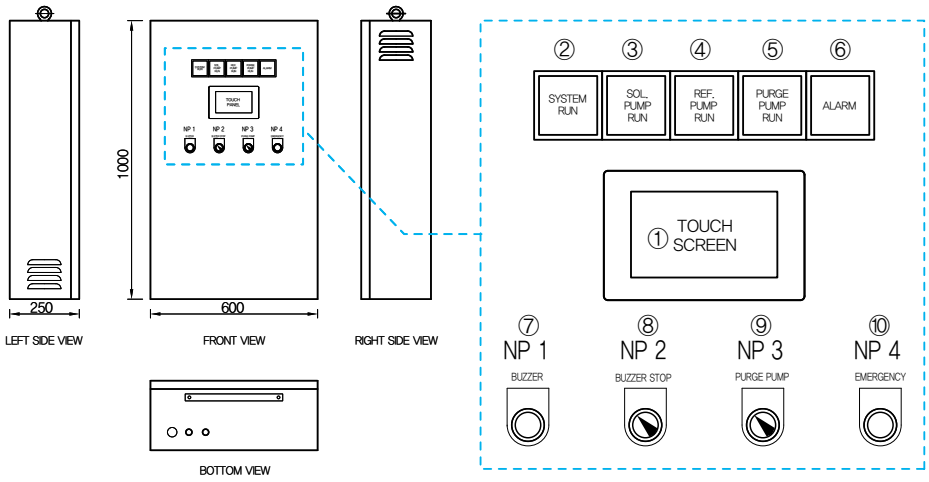
Item	Description	Scope
Chiller Assembly	1) Evaporator, Absorber, Condenser, Generators 2) Solution Heat Exchanger 3) Pumps - Solution pumps with isolation valves - Refrigerant pump with isolation valves - Purge pump 4) Control panel - Panel unit, Circuit Breakers - Switches (Operation, emergency, man/auto selector) - Relays, Controller, Touch screen 5) Locally mounted control instruments - Flow switch or D.P. switch - Temperature Sensors 6) Purge Unit - Storage tank, Manometer, Purge pump, Liquid trap, Diaphragm valves and PD cell(Option) 7) Interconnecting piping and wiring - Refrigerant and absorbent piping for internal mechanical components - Control & Power wiring for Internal electrical components	Vendor
Initial charge	Absorbent (Lithium bromide) with inhibitor Refrigerant (demineralized water), N-alcohol	Vendor
Painting	Painting for chiller assembly and control panel	Vendor
Insulation	Insulation on hot surface and cold surface of Absorption chiller	Option
Test & Inspection	1) Check of external dimensions 2) Hydraulic Pressure test for water Boxes 3) Leak Test (Vacuum side) 4) Function test for electric circuit and safety device	Vendor
Performance Test	Factory performance test, Commissioning & Start-up	Option
Installation	1. Foundation 2. Installation 3. External piping and wiring 4. Interlock wiring of chilled water pump and cooling water pump. 5. Installation and wiring of control valve.	Buyer

Painting

- Painting type : Prime and Epoxy Finish painting
- Color : Chiller body - Blue (Munsell No. 4.0 PB3.4/6.7)
  Control Panel - Grey (Munsell No.5Y 7/1)

Controls

Control Panel



Number	Model
①	Touch Screen
②	Chiller operating lamp
③	Solution pump operating lamp
④	Refrigerant pump operating lamp
⑤	Purge pump operating lamp
⑥	Alarm lamp
⑦	Buzzer
⑧	Buzzer stop switch
⑨	Purge pump ON/OFF switch
⑩	Emergency switch

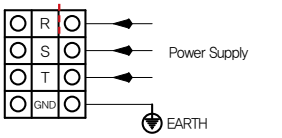

Control Panel


Controller

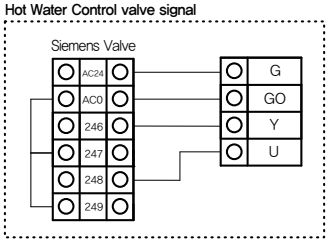

Touch Screen

User Interface Wiring

Vendor scope ◀▶ Buyer scope

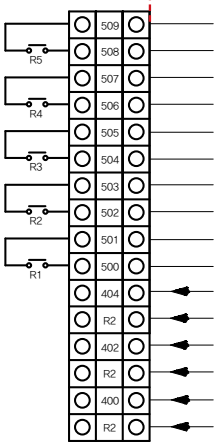


Hot Water Control valve signal



Refer to the provided User Interface Wiring manual for each project.

Vendor scope ◀▶ Buyer scope



Cooling Tower Fan ON/OFF Signal

Cooling water Pump ON/OFF Signal

Chilled Water Pump ON/OFF Signal

Alarm Signal

ON/OFF status

Cooling water Interlook

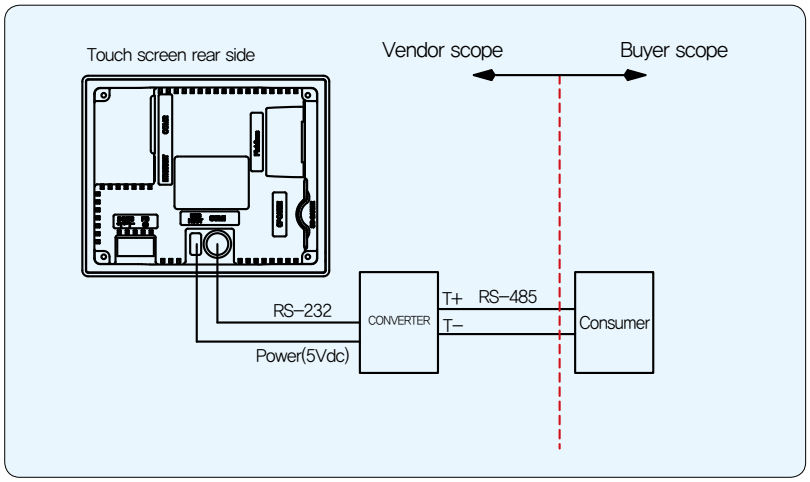
Chilled water Interlook

Remote Start / Stop

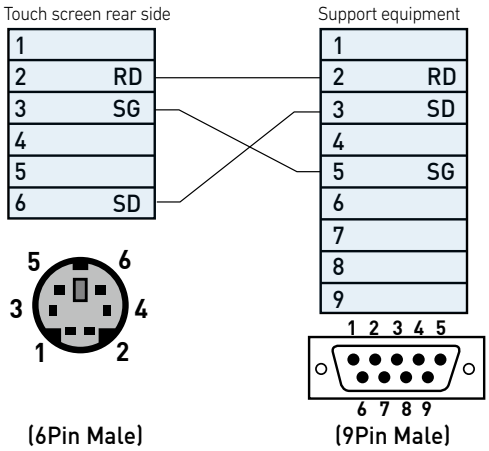
Controls

Communication Protocol

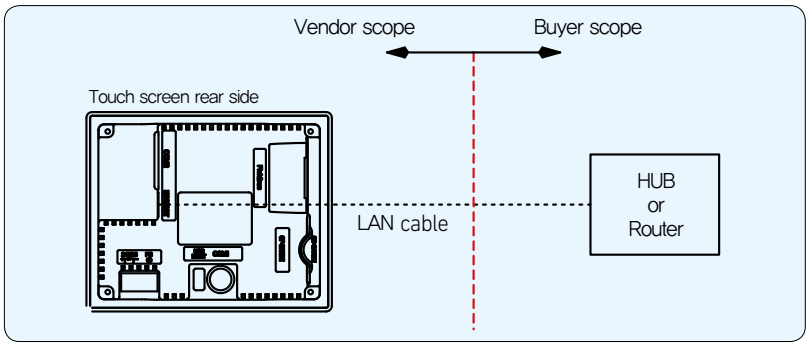
(1) MODBUS(RTU)



MODBUS(RTU) "RS-232" Cable



(2) MODBUS(TCP/IP)

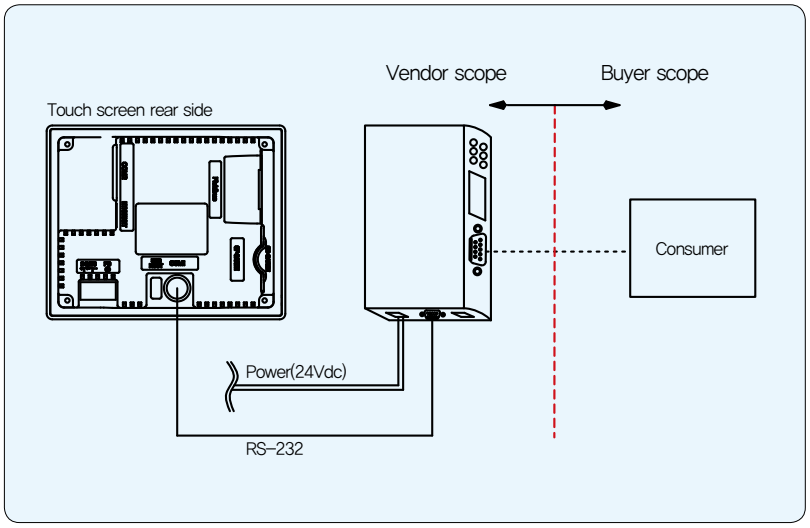


Connect "Ethernet port"of Touch screen and "HUB or Router" with LAN cable.

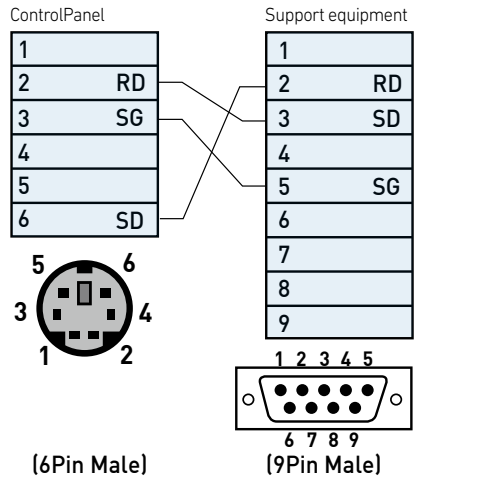
Caution

Use "Direct cable" for "HUB or Router"
If not, use "Cross cable".

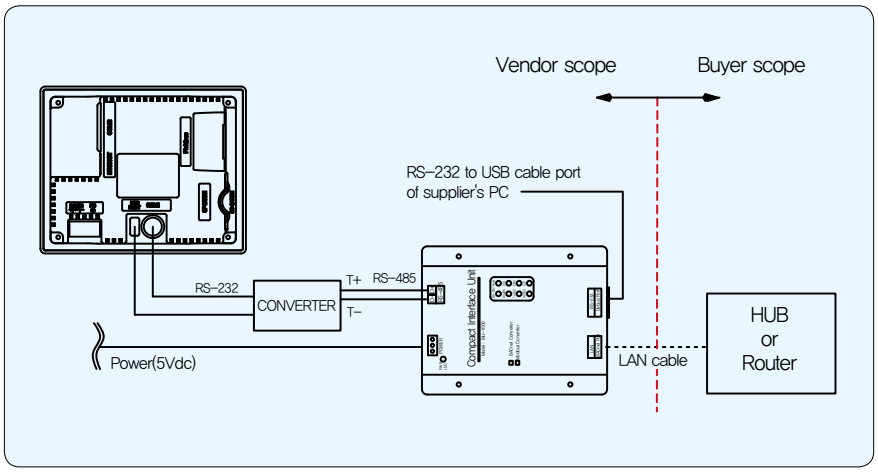
(3) PROFIBUS



PROFIBUS "RS-232" Cable



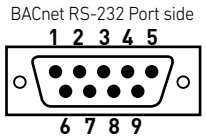
(4) BACnet



BACnet "Supplier's PC" Cable

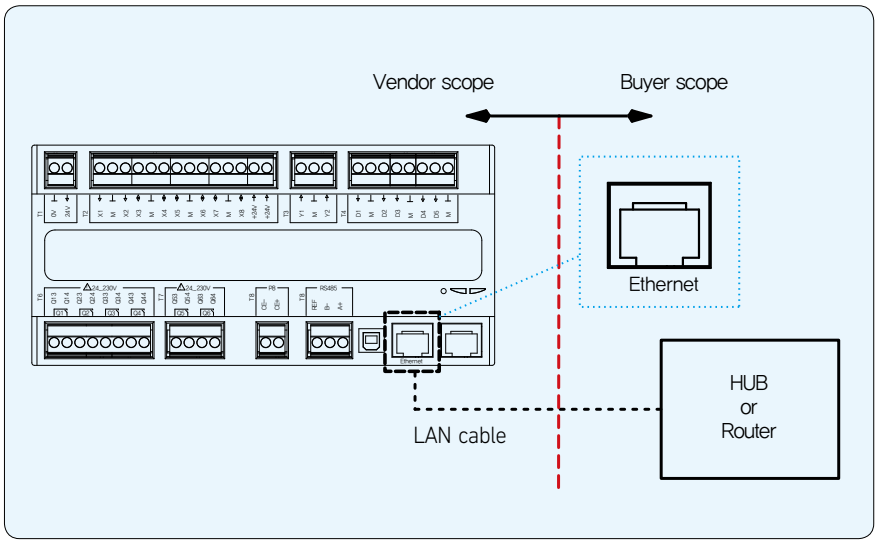
RS-232 to USB cable
port side of supplier's PC

PIN	Function
1	-
2	Transmit
3	Receive
4	-
5	GND
6	-
7	-
8	-
9	-



(9Pin Female)

(6) INTERNET(TCP/IP)



Caution

Use "Direct cable" for "HUB or Router"
If not, use "Cross cable".

Protocol Device

MODBUS(RTU) - Option

PROFIBUS - Option

BACnet - Option

INTERNET(TCP/IP) - Option

Installation Records

Single Effect Double Lift
Hot water Driven Type

2AB470, 2AB420, Total 2023 usRT
Location : Korea

Single Effect Double Lift
Hot water Driven Type

2AB470, Total 910 usRT
Location : Korea

Single Effect Double Lift
Hot water Driven Type

2AB135, Total 260 usRT
Location : Korea

Single Effect Double Lift
Hot water Driven Type

2AB75, 75 usRT
Location : Korea

Single Effect
Hot Water Driven Type

HWAR-L110, 110 usRT
Location : U.S.A.

Single Effect Double Lift
Hot water Driven Type

2AB155, 156 usRT
Location : Germany

Double Effect Direct Fired Type

28 units of DWH210, 210 usRT
Location : Iran

Heat Exchanger for Fuel Cell

HEX920, Capacity 400 kW
Location : U.S.A.

Single Effect Steam Fired
Absorption Chiller

S1300, S560, L750, Total 7,800 usRT
(Explotion Protection)
Location : Korea

Evaporating Condenser for MVR
(Mecanical Vapor Recompression System)

Steam Generating Capacity 5 ton/h
Location : Korea

Single Effect Steam Fired
Absorption Chiller

S500, 500 usRT
(Explotion Protection)
Location : Korea

Single Effect Double Lift
Hot water Driven Type

2AB, 240, 220 usRT
Location : Korea

Single Effect
Hot Water Driven Type

HWAR-L1125, 1422 usRT
(Explotion Protection)
Location : Korea

Single Effect Double Lift
Hot water Driven Type

2AB975, 2AB240, Total 1,036 usRT
Location : Taiwan

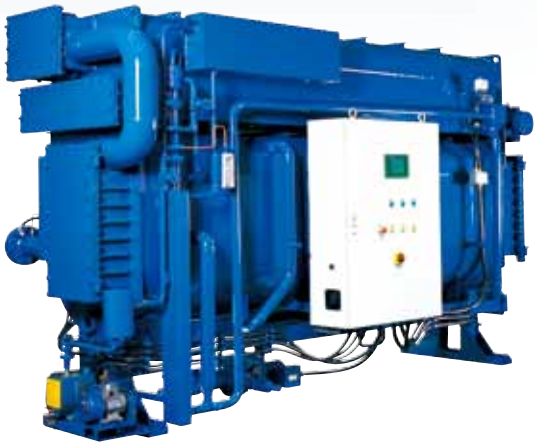
Single Effect Double Lift
Hot water Driven Type

2 units of 2AB825, 995 usRT
Location : Russia

Single Effect Double Lift
Hot water Driven Type

2AB240, 240 usRT
Location : Korea

For Future Energy & Environment -



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