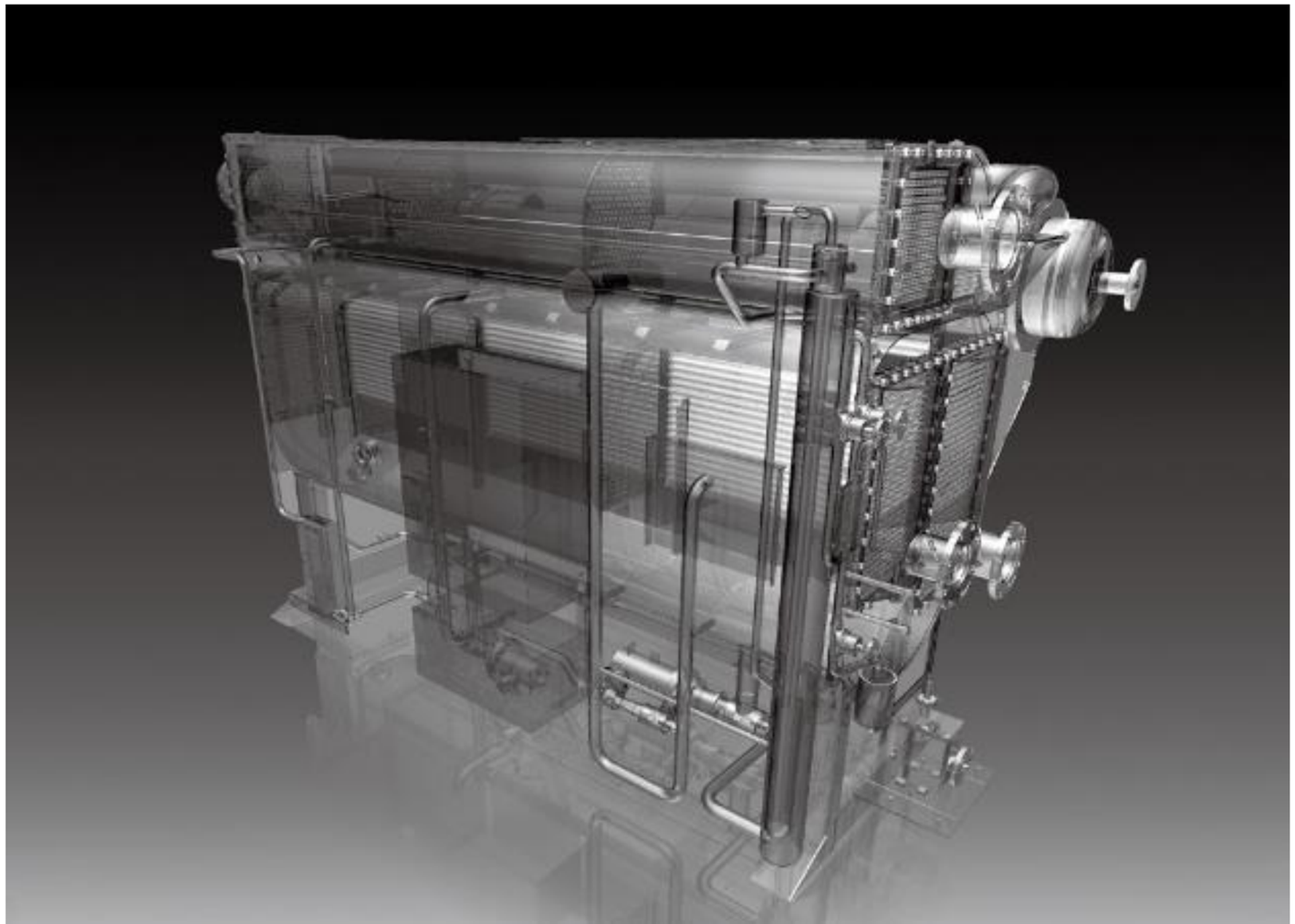
MMC HVAC SoLution

Steam Fired abSorption Chiller



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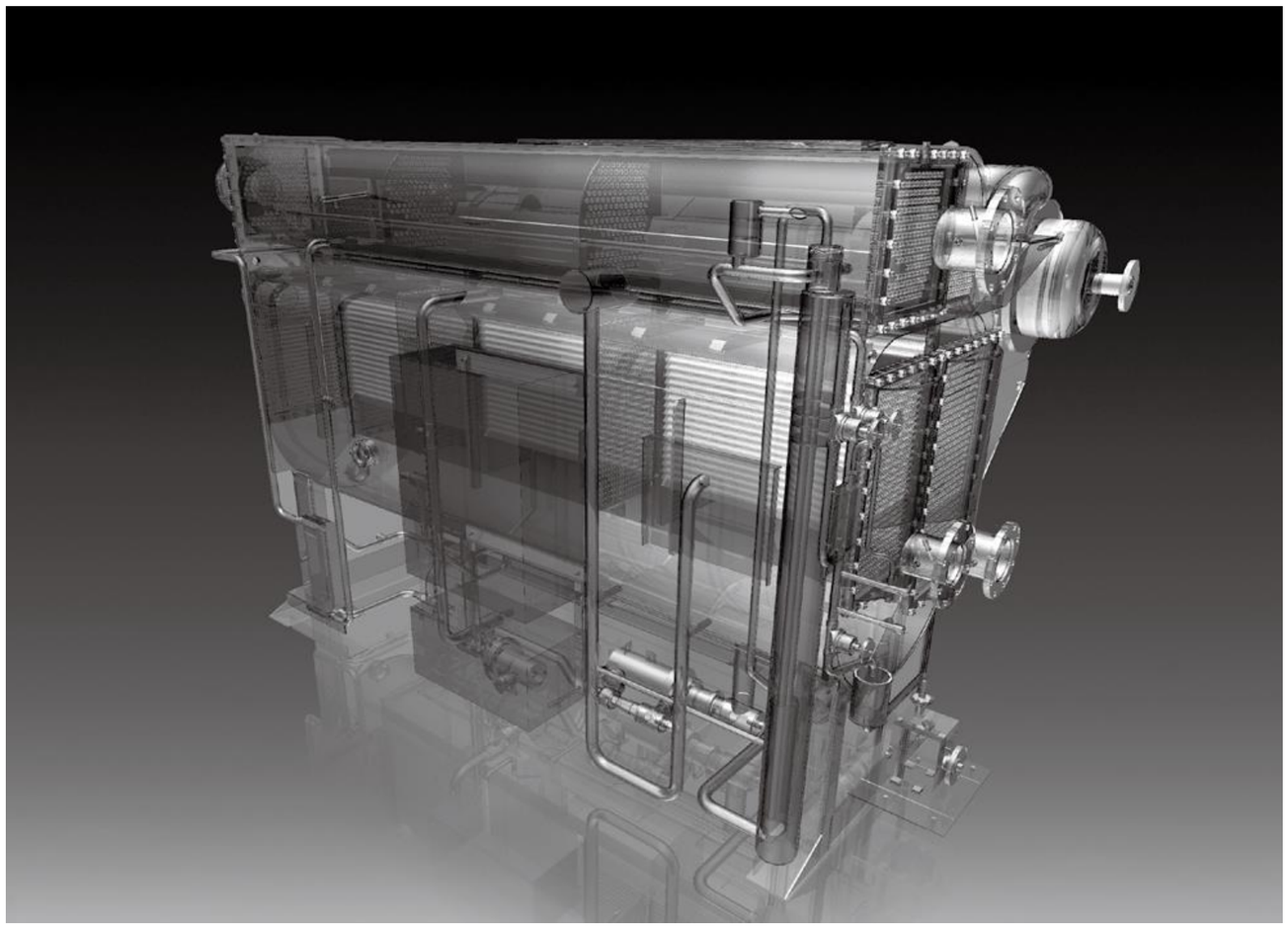

Contents

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Water Quality Management

Key Features

Key Features

- Solution pump with automatic variable frequency adjustment conserves much more power in the partial load condition.
- Keep the solution concentration the best status which cut down the time the chiller takes to stop.
- Double-purging system by automatic injector makes purging convenient and thorough.
- The compact-optimized structural design with smaller dimension and weight.
- The most advanced PID control system realizes the high precision of temperature control in the range of ±0.1℃, which can reduce the time reaching the rated refrigerating capacity and save energy sharply.
- The WIDE LCD technology makes running data visualized for users.
- Support for BMS intelligent building management system.

Model Label

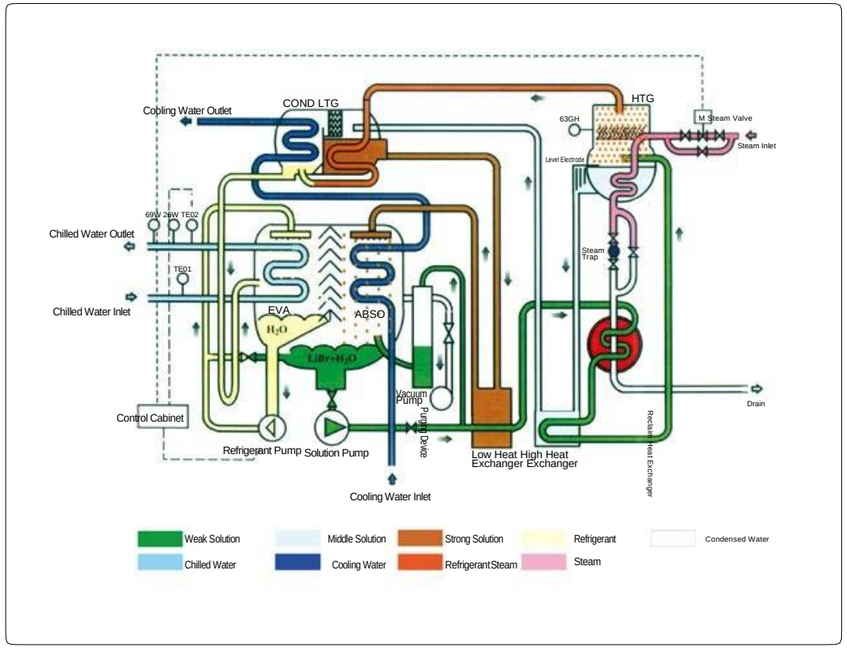
L S H – 1 0 0 E

- **Model Type**
  E:E-TYPE H:H-TYPE
  R:R-TYPE U:U-TYPE (Chemical Special)
- **Cooling Capacity**
- **Model Series**
  SH: Steam Fired (8Kg/cm²G)
  SM: Steam Fired (6Kg/cm²G)
  SG: Steam Fired (4Kg/cm²G)
- **LG LiBr Absorption Chiller**

principle of operation

Operating Principle of Cooling

The body of chiller consists of the lower shell assembly, upper shell assembly, high temp generator(HTG) , heat exchanger, solution pump, refrigerant pump and purging system. The lower shell assembly includes evaporator(EVAP) and absorber(ABSO); the upper shell assembly includes condenser(COND) and low temp generator(LTG).
When the chiller is running, the whole body is in a vacuum state. In EVAP, the low temp refrigerant from COND will absorb the heat of the chilled water from user, and at the same time, the refrigerant gets evaporated and turns to refrigerant steam . In ABSO, the strong solution will absorb the refrigerant steam from EVAP and turns to weak solution. The weak solution will be sent to HTG being heated after the heat exchanger. In HTG, the weak solution will turn to high temp middle solution after being heated the steam and at the same time a great deal of high temp refrigerant steam emerges. The middle solution then will enter the LTG after heat exchange with the weak solution from ABSO, and then turn to strong solution after being heated by the high temp refrigerant steam from HTG. The strong solution then exchanges heat with the low temp weak solution from ABSO, and finally enters ABSO.
In the meantime, the refrigerant steam turns to high temp refrigerant liquid after releasing heat in LTG and enters COND combined with the new produced steam, finally both the steam and the liquid will be cooled and turn to low temp refrigerant liquid. The refrigerant liquid then returns EVAP after throttling and so a completed circulation is finished.



product Specification table

Steam Pressure:

Model		UNIT	LSH-030E	LSH-035E	LSH-045E	LSH-055E	LSH-065E	LSH-075E	LSH-085E	LSH-100E	LSH-115E	LSH-125E	LSH-135E	LSH-150E
Cooling Capacity		USRT	99	116	149	182	215	248	281	331	380	413	446	496
		10^4Kcal/h	30	35	45	55	65	75	85	100	115	125	135	150
		kW	348	408	524	640	756	872	988	1164	1336	1452	1569	1744
Chilled Water Data	Temperature	℃	12→7											
	Water Flow rate	m^3/h	60	70	90	110	130	150	170	200	230	250	270	300
	Pressure Drop	mAq	6.1	5.9	8.2	9.0	7.7	8.8	5.6	6.3	7.0	7.1	5.7	5.1
	Connection size	A	100				125		150				200	
Cooling Water Data	Temperature	℃	32→37.5											
	Water Flow rate	m^3/h	96	112	144	176	208	240	272	320	367	399	431	479
	Pressure Drop	mAq	8.0	8.0	5.9	7.2	5.4	6.2	10.3	12.1	8.5	9.4	9.2	9.9
	Connection size	A	125				150		200				250	
Power Supply	Voltage	V	3Φ380V 50Hz											
	Total Current	A	9.7						16.5		18.7			
	Wire Size	mm^2	4.0											
	Power Capacity	kVA	6.4						10.9		12.3			
Rated Power	NO.1 Absorbent Pump	kW(A)	2.5(6.8)						3.4(9.1)					
	NO.2 Absorbent Pump	kW(A)	*********						1.3(4)		2.2(6.2)			
	Refrigerant Pump	kW(A)	0.2(1.3)						0.4(1.8)					
	Purge Pump	kW(A)	0.4(1.1)											
Dimension	Length	mm	2650		3670		3730		4750		4850			
	Width	mm	1800				2030				2100		2340	
	Height	mm	2150				2300				2550		2840	
Weight	Operating	ton	4.2	4.4	5.5	5.7	6.8	7.1	8.4	8.8	10.8	11.2	13.2	13.6
	Total Shipping	ton	3.8	4.0	5.0	5.1	6.1	6.3	7.5	7.8	9.6	9.9	11.6	11.9
	Transport Form	–	Whole Transport											
Steam	Steam Consumption	kg/h	401	469	603	736	870	1003	1137	1339	1538	1671	1805	2007
	Steam inlet connection size	A	50				65				80			
	Steam water outlet connection size	A	25								40			
	Steam control valve connection size	A	25		32		40				50			
Clearance For Tube Removal		mm	2400		3400				4500					

NOTE: 1.1USRT=3024kcal/h=3.517kW, 1mAq=9.8KPa。

2.Standard chilled water inlet/outlet TEMP is 12℃→7℃ 3.Standard cooling water inlet/outlet TEMP is 32℃→37.5℃

4. Standard chilled water, cooling water system: The highest pressure is 8kg/cm^2G

product Specification table

LSH-170E	LSH-200E	LSH-225E	LSH-250E	LSH-280E	LSH-310E	LSH-335E	LSH-365E	LSH-390E	LSH-420E	LSH-455E	LSH-500E	LSH-600E	LSH-800E	LSH-1000E	LSH-1200E	LSH-1600E
562	661	744	827	926	1025	1108	1207	1290	1389	1505	1654	1985	2646	3308	3970	5292
170	200	225	250	280	310	335	365	390	420	455	500	600	800	1000	1200	1600
1976	2325	2617	2908	3257	3605	3897	4245	4537	4885	5293	5814	6977	9302	11630	13956	18604
12→7																
340	400	450	500	560	620	670	730	780	840	910	1000	1200	1600	2000	2400	3200
4.6	6.8	9.1	7.1	9.4	12.3	8.6	10.9	13.7	10.9	14.0	16	6	15	22.4	6	15
200			250			300			350			400	500		400*2	500*2
32→37.5																
543	639	719	799	895	991	1071	1166	1247	1342	1454	1598	1917	2556	3196	3835	5113
6.3	9.2	11.6	7.4	9.7	11.7	5.9	6.9	8.4	7.5	9.1	9.5	15	12	28.4	15	12
300			350			400						500	600		500*2	600*2
3Φ380V 50Hz																
23.8		24.8	32.8			41.3					63.6	78.0	116.8	138.2	78.0*2	122.4*2
6			10			16					25	35	50	70	35*2	50*2
15.7		16.3	21.3			27.2					41.7	51.3	76.9	90.76	51.3*2	80.6*2
5.5(15.0)			7.5(23.0)								17(42)	22(51)	17(42)*2	17(42)*2	22(51)*2	17(42)*4
1.8(5.4)			1.8(6.4)			3.7(12.0)					3.7(12)	5.5(16.4)	7.5(23)	15(39)	7.5(27.8)*2	
0.4(1.8)						1.1(3.9)					1.8(6.4)	2.2(7.4)		3.7(12)	2.2(7.4)*2	
0.4(1.1)						0.75(1.9)									0.75(1.9)*2	
5060	5600	6100	5710	6210	6730	6170	6690	7180	6830	7330	8400	9400	8900	10800	9400	8900
2500			2825			3000			3250			3500	4500		7500	9500
3255			3490			3700			3850		4000	4000	5200		4000	5200
18.8	20.4	21.9	28.1	30.1	32.2	35.7	38.0	40.1	44.4	46.8	52.7	55.7	78	96.6	111.4	156
16.3	17.7	19.0	24.2	25.9	27.8	31.4	33.4	35.3	39.0	41.2	46.7	49.5	65.8	76.9	99	131.6
Whole Transport											Fission Transport					
2274	2674	3010	3346	3747	4147	4483	4884	5219	5620	6089	6690	8028	10704	13380	16056	21408
100			125			150					200		250		200*2	250*2
50			65			80					80		100		80*2	100*2
65			80					100			100		125	150	100*2	125*2
4600	5200	5700	5200	5700	6200	5800	6300	6800	6300	6800	7900	8900	8200	9700	8900	8200

5. Currents & Electricity Consumptions are based on 3Φ 380V 50Hz

6.Water-side fouling factor:0.086m^2K/kW

7.Total Shipping weight = REF.weight + SOLUTION weight + UNIT weight 8.The specifications are subject to change without prior notice

product Specification table

Steam Pressure:

Model		UNIT	LSM-030E	LSM-040E	LSM-050E	LSM-055E	LSM-065E	LSM-075E	LSM-085E	LSM-100E	LSM-115E	LSM-125E	LSM-135E	LSM-150E
Cooling Capacity		USRT	99	132	165	182	215	248	281	331	380	413	446	496
		10^4Kcal/h	30	40	50	55	65	75	85	100	115	125	135	150
		kW	348	464	580	640	756	872	988	1164	1336	1452	1569	1744
Chilled Water Data	Temperature	℃	12→7											
	Water Flow rate	m^3/h	60	80	100	110	130	150	170	200	230	250	270	300
	Pressure Drop	mAq	6.1	8.1	9.2	9.0	7.7	8.8	5.6	6.3	7.0	7.1	5.7	5.1
	Connection size	A	100				125		150				200	
Cooling Water Data	Temperature	℃	32→37.5											
	Water Flow rate	m^3/h	96	128	159	176	208	240	272	320	367	399	431	479
	Pressure Drop	mAq	8.0	5.0	6.3	7.2	5.4	6.2	10.3	12.1	8.5	9.4	9.2	9.9
	Connection size	A	125				150		200				250	
Power Supply	Voltage	V	3Φ 380V 50Hz											
	Total Current	A	9.7						16.5		18.7			
	Wire Size	mm^2	4.0											
	Power Capacity	kVA	6.4						10.9		12.3			
Rated Power	NO.1 Absorbent Pump	kW(A)	2.5(6.8)						3.4(9.1)					
	NO.2 Absorbent Pump	kW(A)	*********						1.3(4)		2.2(6.2)			
	Refrigerant Pump	kW(A)	0.2(1.3)						0.4(1.8)					
	Purge Pump	kW(A)	0.4(1.1)											
Dimension	Length	mm	2650	3670			3730		4750		4850			
	Width	mm	1800				2030				2100		2340	
	Height	mm	2150				2300				2550		2840	
Weight	Operating	ton	4.3	5.5	5.7	5.8	6.9	7.2	8.5	8.9	10.9	11.3	13.3	13.7
	Total Shipping	ton	3.9	5.0	5.1	5.2	6.2	6.4	7.6	7.9	9.7	10.0	11.7	12.0
	Transport Form	–	Whole Transport											
Steam	Steam Consumption	kg/h	401	534	668	736	870	1003	1137	1339	1538	1671	1805	2007
	Steam inlet connection size	A	50				65				80			
	Steam water outlet connection size	A	25								40			
	Steam control valve connection size	A	32	40			50			65				80
Clearance For Tube Removal		mm	2400	3400					4500					

NOTE: 1.1USRT=3024kcal/h=3.517kW, 1mAq=9.8KPa。

2.Standard chilled water inlet/outlet TEMP is 12℃→7℃ 3.Standard cooling water inlet/outlet TEMP is 32℃→37.5℃

4. Standard chilled water, cooling water system: The highest pressure is 8kg/cm^2G

product Specification table

LSM-170E	LSM-200E	LSM-225E	LSM-250E	LSM-280E	LSM-310E	LSM-335E	LSM-365E	LSM-390E	LSM-420E	LSM-455E	LSM-500E	LSM-600E	LSM-750E	LSM-930E	LSM-1200E	LSM-1500E
562	661	744	827	926	1025	1108	1207	1290	1389	1505	1654	1985	2480	3075	3970	4960
170	200	225	250	280	310	335	365	390	420	455	500	600	750	930	1200	1500
1976	2325	2617	2908	3257	3605	3897	4245	4537	4885	5293	5814	6977	8723	10816	13956	17445
12→7																
340	400	450	500	560	620	670	730	780	840	910	1000	1200	1500	1860	2400	3000
4.6	6.8	9.1	7.1	9.4	12.3	8.6	10.9	13.7	10.9	14.0	16	6	15.5	16.1	6	15.5
200			250			300			350			400		500	400*2	500*2
32→37.5																
543	639	719	799	895	991	1071	1166	1247	1342	1454	1598	1918	2397	2972	3835	4793
6.3	9.2	11.6	7.4	9.7	11.7	5.9	6.9	8.4	7.5	9.1	9.5	14	10	20.7	14	10
300			350			400						500		600	500*2	600*2
3Φ 380V 50Hz																
23.8		24.8	32.8			41.3					63.6	78.0	116.8	138.2	78.0*2	122.4*2
6			10			16					25	35	50	70	35*2	50*2
15.7		16.3	21.3			27.2					41.7	51.3	76.9	90.76	51.3*2	80.6*2
5.5(15.0)			7.5(23.0)								17(42)	22(51)	17(42)*2	17(42)*2	22(51)*2	17(42)*4
1.8(5.4)		1.8(6.4)			3.7(12.0)						3.7(12)	5.5(16.4)	7.5(23)	15(39)	7.5(27.8)*2	
0.4(1.8)					1.1(3.9)						1.8(6.4)	2.2(7.4)		3.7(12)	2.2(7.4)*2	
					0.75(1.9)										0.75(1.9)*2	
5060	5600	6100	5710	6210	6730	6170	6690	7180	6830	7330	8400	9400	8900	10800	9400	8900
2500			2825			3000			3250		3500	3500	4700		7500	9500
3255			3490			3700			3850		4000	4000	5400		4000	5200
18.9	20.5	22.0	28.3	30.3	32.4	35.9	38.2	40.3	44.6	47.0	48.5	56.0	78.3	95.8	112.0	156.6
16.4	17.8	19.1	24.4	26.1	28.0	31.6	33.6	35.5	39.2	41.4	42.5	49.8	66.1	77.2	99.6	132.2
Whole Transport											Fission Transport					
2274	2674	3010	3346	3747	4147	4483	4884	5219	5620	6089	6690	8028	10704	13380	16056	21408
100			125			150					200		250		200*2	250*2
50			65			80					80		100		80*2	100*2
80			100			125					150		125*2		150*2	150*2
4600	5200	5700	5200	5700	6200	5800	6300	6800	6300	6800	7900	8900	8200	9700	8900	8200

5. Currents & Electricity Consumptions are based on 3Φ 380V 50Hz

6.Water-side fouling factor:0.086m^2K/kW

7.Total Shipping weight = REF.weight + SOLUTION weight + UNIT weight 8.The specifications are subject to change without prior notice

product Specification table

Steam Pressure:

Model		UNIT	LSG-025E	LSG-030E	LSG-037E	LSG-045E	LSG-052E	LSG-060E	LSG-070E	LSG-080E	LSG-090E	LSG-100E	LSG-110E	LSG-125E
Cooling Capacity		USRT	83	99	122	149	172	198	231	265	298	331	364	413
		10^4Kcal/h	25	30	37	45	52	60	70	80	90	100	110	125
		kW	291	349	430	523	605	698	814	930	1047	1163	1279	1454
Chilled Water Data	Temperature	℃	12→7											
	Water Flow rate	m^3/h	50	60	74	90	104	120	140	160	180	200	220	250
	Pressure Drop	mAq	5.1	5.2	6.5	7.0	6.2	6.6	4.7	4.9	5.2	5.4	4.7	4.4
	Connection size	A	100				125		150				200	
Cooling Water Data	Temperature	℃	32→37											
	Water Flow rate	m^3/h	88	106	131	159	184	212	248	283	318	354	389	442
	Pressure Drop	mAq	3.9	4.4	6.0	7.0	5.3	6.0	9.9	10.9	8.2	8.6	8.8	9.7
	Connection size	A	125				150		200				250	
Power Supply	Voltage	V	3Φ 380V 50Hz											
	Total Current	A	9.7						16.5		18.7			
	Wire Size	mm^2	4.0											
	Power Capacity	kVA	6.4						10.9		12.3			
Rated Power	NO.1 Absorbent Pump	kW(A)	2.5(6.8)						3.4(9.1)					
	NO.2 Absorbent Pump	kW(A)	*********						1.3(4)		2.2(6.2)			
	Refrigerant Pump	kW(A)	0.2(1.3)						0.4(1.8)					
	Purge Pump	kW(A)	0.4(1.1)											
Dimension	Length	mm	2650		3670		3730		4750		4850			
	Width	mm	1950				2150				2300		2500	
	Height	mm	2200				2500				2610		2900	
Weight	Operating	ton	4.4	4.6	5.7	5.9	7.0	7.3	8.6	9.0	11.0	11.4	13.4	13.8
	Total Shipping	ton	4.0	4.2	5.2	5.3	6.3	6.5	7.7	7.0	9.8	10.1	11.8	12.1
	Transport Form	–	Whole Transport											
Steam	Steam Consumption	kg/h	343	412	508	618	714	823	961	1098	1235	1372	1510	1715
	Steam inlet connection size	A	65				80				100			
	Steam water outlet connection size	A	25				25				40			
	Steam control valve connection size	A	32		40			50			65			
Clearance For Tube Removal		mm	2400		3400				4500					

NOTE: 1.1USRT=3024kcal/h=3.517kW, 1mAq=9.8KPa。

2.Standard chilled water inlet/outlet TEMP is 12℃→7℃ 3.Standard cooling water inlet/outlet TEMP is 32℃→37.5℃

4. Standard chilled water, cooling water system: The highest pressure is 8kg/cm^2G

product Specification table

LSG-140E	LSG-155E	LSG-175E	LSG-200E	LSG-225E	LSG-250E	LSG-275E	LSG-300E	LSG-325E	LSG-350E	LSG-375E	LSG-410E	LSG-490E	LSG-650E	LSG-810E	LSG-980E	LSG-1300E
463	513	579	661	744	827	909	992	1075	1157	1240	1356	1620	2149	2679	3241	4299
140	155	175	200	225	250	275	300	325	350	375	410	490	650	810	980	1300
1628	1803	2035	2326	2617	2907	3198	3489	3780	4070	4361	4768	5699	7559	9420	11397	15119
12→7																
280	310	350	400	450	500	550	600	650	700	750	820	980	1300	1620	1960	2600
4.0	5.0	6.5	5.5	7.1	9.0	6.8	8.4	10.5	8.6	10.3	11.5	16.0	10.6	18.4	16.0	10.6
200			250			300			350		400		500		400*2	500*2
32→37																
495	548	619	708	796	885	973	1062	1150	1238	1327	1451	1734	2300	2866	3468	4600
6.4	8.0	10.4	8.9	11.5	14.7	5.5	6.7	8.0	7.4	8.6	8.1	11.5	8.9	21.0	11.5	8.9
300			350			400					500		600		500*2	600*2
3Φ 380V 50Hz											Φ3 220/380/440(50Hz/60Hz)					
24.6		25.6	33.6		41.6						63.6	78	116.8	138.2	78.0x2	112.4x2
6			10		16						25	35	50	70	35x2	50x2
16.2		16.8	22.1		27.4						41.7	51.3	76.9	90.76	51.3x2	80.6x2
5.5(15.0)			7.5(23.0)								17(42)	22(51)	17(42)x2	17(42)x2	22(51)x2	17（42）x4
1.8(5.4)			1.8(6.4)			3.7(12.0)					3.7(12)	5.5（16.4）	7.5(23)	15(39)	7.5(27.8)x2	7.5(27.8)x2
0.4(1.8)						1.1(3.9)					1.8(6.4)	2.2(7.4)		3.7(12)	2.2(7.4)x2	2.2(7.4)x2
0.75(1.9)											0.75(1.9)				0.75(1.9)x2	
5060	5600	6100	5710	6210	6730	6170	6690	7180	6830	7330	8400	9400	8900	10800	9400	8900
2500			2950			3100			3350		3500	3650	4700	4700	7500	9700
3255			3665			3840			4000		4050	4100	5400	5400	4100	5400
18.9	20.5	22.0	29.1	31.1	33.2	36.9	39.2	41.3	45.9	48.3	53.3	56.4	79.6	96.1	112.8	159.2
16.4	17.8	19.1	25.2	26.9	28.8	32.6	34.6	36.5	40.5	42.7	47.3	50.2	67.4	77.5	100.4	134.8
Whole Transport											Fission Transport					
1921	2127	2402	2745	3088	3431	3774	4117	4460	4803	5146	5627	6725	8920	11116	13449	17841
125			150			200							250		200x2	250x2
50			65			80							100		80x2	100x2
65	80				100						125		150		125x2	150x2
4600	5200	5700	5200	5700	6200	5800	6300	6800	6300	6800	7900	8900	8200	9700	8900	8200

5. Currents & Electricity Consumptions are based on 3Φ 380V 50Hz

6.Water-side fouling factor:0.086m^2K/kW

7. Total Shipping weight = REF.weight + SOLUTION weight + UNIT weight

8.The specifications are subject to change without prior notice

Foundation parameter

MODEL	A	B	C	D	E	F	G
LSH-030E	420	220	1360	1160	1426	2.1	–
LSH-035E	420	220	1360	1160	1426	2.2	–
LSH-045E	420	220	1360	1160	2446	2.8	–
LSH-055E	420	220	1360	1160	2446	2.9	–
LSH-065E	470	270	1660	1460	2346	3.4	–
LSH-075E	470	270	1660	1460	2346	3.6	–
LSH-085E	470	270	1660	1460	3366	4.2	–
LSH-100E	470	270	1660	1460	3366	4.4	–
LSH-115E	470	270	1760	1560	3366	5.4	–
LSH-125E	470	270	1760	1560	3366	5.6	–
LSH-135E	470	270	1860	1660	3366	6.6	–
LSH-150E	470	270	1860	1660	3366	6.8	–
LSH-170E	470	270	2060	1860	3366	9.4	–
LSH-200E	470	270	2060	1860	3908	10.2	–
LSH-225E	470	270	2060	1860	4406	11.0	–
LSH-250E	520	320	2300	2100	3808	14.1	–
LSH-280E	520	320	2300	2100	4306	15.1	–
LSH-310E	520	320	2300	2100	4831	16.1	–
LSH-335E	520	320	2500	2300	3906	17.9	–
LSH-365E	520	320	2500	2300	4431	19.0	–
LSH-390E	520	320	2500	2300	4931	20.1	–
LSH-420E	520	320	2700	2500	4431	22.2	–
LSH-455E	520	320	2700	2500	4931	23.4	–
LSH-500E	520	320	2700	2500	2731	17.6	–
LSH-600E	520	320	2700	2500	3220	18.6	–
LSH-800E	600	400	3400	3200	2898	26.0	–
LSH-1000E	600	400	3400	3200	3730	32.2	–
LSH-1200E	520	320	2700	2500	3220	18.6	1430
LSH-1600E	600	400	3400	3200	2798	26.0	1660

Foundation parameter

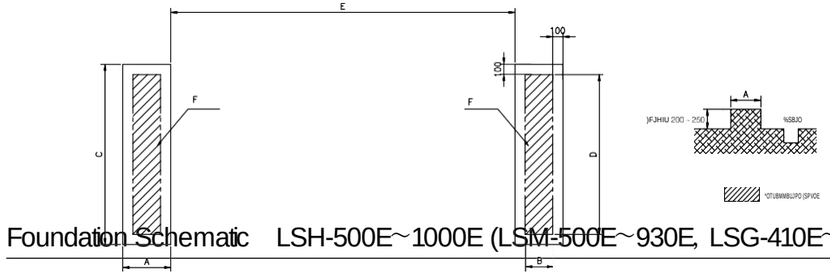
MODEL	A	B	C	D	E	F	G
LSM-030E	420	220	1360	1160	1426	2.2	–
LSM-040E	420	220	1360	1160	2446	2.8	–
LSM-050E	420	220	1360	1160	2446	2.9	–
LSM-055E	420	220	1360	1160	2446	2.9	–
LSM-065E	470	270	1660	1460	2346	3.5	–
LSM-075E	470	270	1660	1460	2346	3.6	–
LSM-085E	470	270	1660	1460	3366	4.3	–
LSM-100E	470	270	1660	1460	3366	4.5	–
LSM-115E	470	270	1760	1560	3366	5.5	–
LSM-125E	470	270	1760	1560	3366	5.7	–
LSM-135E	470	270	1860	1660	3366	6.7	–
LSM-150E	470	270	1860	1660	3366	6.9	–
LSM-170E	470	270	2060	1860	3366	9.5	–
LSM-200E	470	270	2060	1860	3908	10.3	–
LSM-225E	470	270	2060	1860	4406	11.0	–
LSM-250E	520	320	2300	2100	3808	14.2	–
LSM-280E	520	320	2300	2100	4306	15.2	–
LSM-310E	520	320	2300	2100	4831	16.2	–
LSM-335E	520	320	2500	2300	3906	18.0	–
LSM-365E	520	320	2500	2300	4431	19.1	–
LSM-390E	520	320	2500	2300	4931	20.2	–
LSM-420E	520	320	2700	2500	4431	22.3	–
LSM-455E	520	320	2700	2500	4931	23.5	–
LSM-500E	520	320	2700	2500	2731	17.7	–
LSM-600E	520	320	2700	2500	3220	18.7	–
LSM-750E	600	400	3400	3200	2798	26.1	–
LSM-930E	600	400	3400	3200	3730	32.0	–
LSM-1200E	520	320	2700	2500	3220	18.7	1430
LSM-1500E	600	400	3400	3200	2798	26.1	1660

Foundation parameter

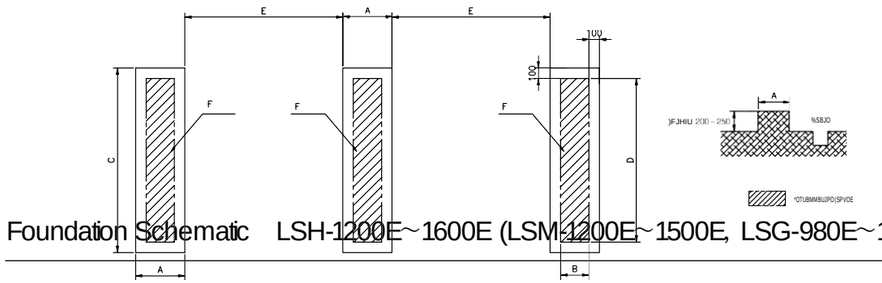
MODEL	A	B	C	D	E	F	G
LSG-025E	420	220	1360	1160	1426	2.2	–
LSG-030E	420	220	1360	1160	1426	2.3	–
LSG-037E	420	220	1360	1160	2446	2.9	–
LSG-045E	420	220	1360	1160	2446	3.0	–
LSG-052E	470	270	1660	1460	2346	3.5	–
LSG-060E	470	270	1660	1460	2346	3.7	–
LSG-070E	470	270	1660	1460	3366	4.3	–
LSG-080E	470	270	1660	1460	3366	4.4	–
LSG-090E	470	270	1760	1560	3366	5.5	–
LSG-100E	470	270	1760	1560	3366	5.7	–
LSG-110E	470	270	1860	1660	3366	6.7	–
LSG-125E	470	270	1860	1660	3366	6.9	–
LSG-140E	470	270	2060	1860	3366	9.5	–
LSG-155E	470	270	2060	1860	3908	10.3	–
LSG-175E	470	270	2060	1860	4406	11.0	–
LSG-200E	520	320	2300	2100	3808	14.6	–
LSG-225E	520	320	2300	2100	4306	15.6	–
LSG-250E	520	320	2300	2100	4831	16.6	–
LSG-275E	520	320	2500	2300	3906	18.5	–
LSG-300E	520	320	2500	2300	4431	19.6	–
LSG-325E	520	320	2500	2300	4931	20.7	–
LSG-350E	520	320	2700	2500	4431	23.0	–
LSG-375E	520	320	2700	2500	4931	24.2	–
LSG-410E	520	320	2700	2500	2731	17.7	–
LSG-490E	520	320	2700	2500	3220	18.8	–
LSG-650E	500	400	3400	3200	2898	26.6	–
LSG-810E	500	400	3400	3200	3830	32.1	–
LSG-980E	520	320	2700	2500	3220	18.8	1430
LSG-1300E	500	400	3400	3200	2898	26.6	1660

Foundation Schematic

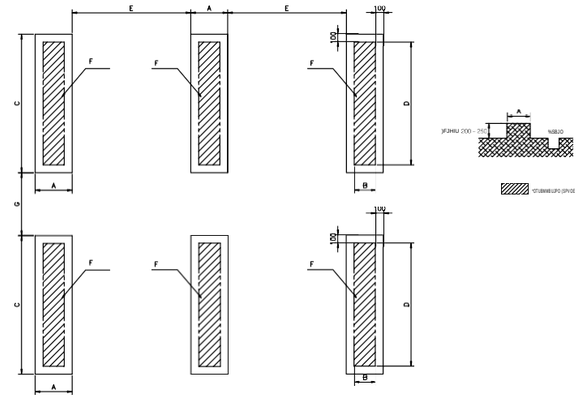
Foundation Schematic LSH-030E～455E (LSM-030E～455E, LSG-027E～375E)



Foundation Schematic LSH-500E～1000E (LSM-500E～930E, LSG-410E～810E)



Foundation Schematic LSH-1200E～1600E (LSM-1200E～1500E, LSG-980E～1300E)



NOTE: 1. Please dig the drain around the chiller.
2. In order to protect the chiller, the ground should be waterproof.
3. The surface of the foundation should be level. (Levelness within 2/1000)

delivery and Construction

Contents		Delivery and Construction: Our Company	Delivery and Construction: Customer	Note
Chiller	Absorption Chiller	○		Refer to the second introduction
Transportation and Installation	Packing and Delivery	○		
	Construction Site Removal		○	
	Installation	△	○	
	Unit Commissioning	△	○	
	Operating Instruction	△	○	
Electric Engineering	Exterior Wiring		○	Please connect the wire to the control cabinet
Other Engineering	Foundation Engineering		○	
	Exterior Pipe Connection		○	
	Prevention of Pipe Freeze		○	Especially in winter, take measures to prevent freeze in pipe
	Steam valve stallation Engineering		○	Supplied by LG
	Cooling Water Quality Management		○	Please install cleansing device
	Insulation for Heating		○	
	Insulation for Cooling	○		
Paint	First Coat of Chiller Body	○		Please brush anti-rust paint
	Control Cabinet Paint	○		MUNSELL NO.10B 7/1.5
Others	LiBr Solution	○		

...r installation and test for free like water, electricity, mortar, fuel and so on.

...COND, heat exchanger and pump.

b) Purge Device
c) Microcomputer
d) Steam valve
e) Safety Device
f) Control Panel
g) Absorption Solution and Refrigerant
h) Interior Pipe and Wire Connection

3. Attachment

Operating Manual…… One Piece

△ If customer requires this item, the cost shall be calculated separately.

Water Quality management

Management method for the cooling water quality

The cooling water will be concentrated after evaporating in the cooling tower, and then the quality turns bad. The low quality of the cooling water will cause erosion and fouling, so please install the cleansing device. Besides, the cooling water quality may be much better if treatment chemical is added. Please refer to the table on the right : the water quality standard for general air conditioners.

Key points for cooling water temperature control

1. Temperature control method: By the cooling tower
2. Cooling tower fan control by frequency conversion

Make-up water quality standard（reference value）

Item	Standard Value
PH(25℃)	6.0-8.0
Electrical Conductivity (25℃)(us/cm)	＜200
Cl^-(mg/ℓ)	＜50
SO_4^{2-}(mg/ℓ)	＜50
Acid Consumption (PH4.8)(mg/ℓ)	＜50
Hardness(mg/ℓ)	＜50
Fe(mg/ℓ)	＜0.3
S^{2-}(mg/ℓ)	Undetected
NH_4^+(mg/ℓ)	＜0.2
SiO_2(mg/ℓ)	＜30

Management standard for the cooling water quality

Item	Standard Value	Trend: Erosion	Trend: Fouling
PH(25℃)	6.5–8.0	○	○
Electrical Conductivity (25℃)(us/cm)	＜800	○	○
Cl^-(mg/ℓ)	＜200	○	
SO_4^{2-}(mg/ℓ)	＜200	○	
Acid Consumption (PH4.8)(mg/ℓ)	＜100		○
Hardness(mg/ℓ)	＜200		○
Fe(mg/ℓ)	＜1.0	○	○
S^{2-}(mg/ℓ)	Undetected	○	
NH_4^+(mg/ℓ)	＜1.0	○	
SiO_2(mg/ℓ)	[illegible]		○

Note：○——factors related to the trend of erosion and fouling