SL-LG | Integrated Water-Cooled Screw Chiller

Technical Parameters（R22 Dual Compressors）

Model SL-LG2-***MB-AY			560	660	820	900	1080	1230	1320	1440
Cooling Capacity		Ton	159	188	233	257	307	350	375	409
		kW	560	662	820	904	1080	1232	1320	1438
Total Input Power		kW	121.5	142.9	173.4	184.4	226.6	260.1	274.1	292.3
Compressor	Type		Semi-hermetic screw							
	Number	Units	2	2	2	2	2	2	2	2
	Cooling Input Power	kW	95	109	136	147	175	198	212	228
	Energy Regulation		12.5%~100%							
Evaporator	Type		High-Efficiency flooded evaporator							
	Water Flow Rate	m^3/h	96	114	141	155	186	212	227	247
	Water Pressure Drop	kPa	80	72	72	72	72	72	72	77
	Connecting Pipe Diameter	DN	125	150	150	200	200	200	200	200
	Water-Side Working Pressure	MPa	1.0							
Chilled Water Hydraulic Module	Water Pump Power	kW	15	18.5	22	22	30	37	37	37
	External Water Head	m	21	25	22	20.5	22	20	20	20
	Constant Pressure Tank Volume	L	100	100	150	150	200	200	200	300
Cooling Water System	Cooling Tower Type		Low-Noise Crossflow Square Cooling Tower							
	Number of Fans	Units	1	2	2	2	3	3	3	4
	Power of a Single Cooling Tower Fan	kW	4	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	Total Power of Cooling Tower Fans	kW	4	4.4	4.4	4.4	6.6	6.6	6.6	8.8
	Cooling Water Pump Power	kW	7.5	11	11	11	15	18.5	18.5	18.5
	Water-Side Working Pressure	MPa	1.0							
	Cooling Tower Makeup Water Pipe Diameter	DN	25	25	25	32	32	32	32	40
	Cooling Tower Drainage Pipe Diameter	DN	40	40	40	40	40	40	40	40
	Cooling Tower Overflow Pipe Diameter	DN	40	40	40	40	40	40	40	40
Refrigerant	Type		R22							
Outline Dimensions	L	mm	7850	9200	9200	10120	12120	12120	12150	14150
	W	mm	2880	2880	2880	2880	2880	2880	2880	2880
	H	mm	3000	3000	3000	3000	3000	3000	3000	3000
Unit Weight		kg	8900	9800	10150	12200	12600	13100	13600	15000
Operating Weight		kg	14900	16300	16900	20300	21000	21800	22650	25000

Note:

1、Cooling Conditions: Ambient dry/wet bulb temperature 35/24°C, entering/leaving chilled-water temperature 12/7°C;

2、The external water head of the chilled-water side in the table above is for reference only; specific requirements are based on the user's actual needs;

3、Power supply for the unit is a three-phase five-wire system, 380V50Hz;

4、For technical specifications regarding special requirements, please contact us for specific technical solutions.

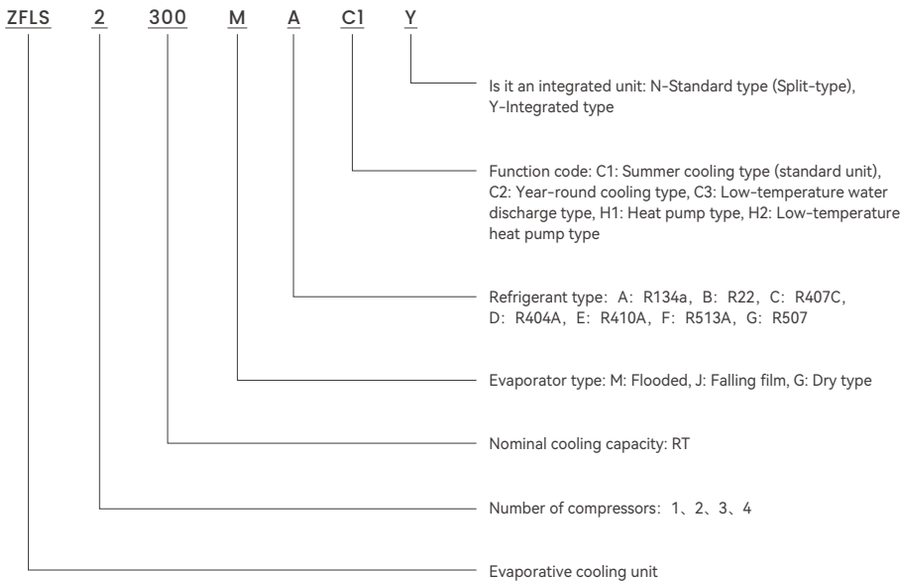
ALL-IN-ONE EVAPORATIVE CHILLER

Obair's integrated evaporative cooling screw chiller unit deeply integrates the functions of traditional water-cooled chillers, cooling towers, cooling water and chilled water transportation units, constant pressure water replenishment devices, etc. It also uses an evaporative condenser with high cooling efficiency and an independently developed intelligent control system. It is a room-type system that can directly replace the conventional air-conditioning room and is placed within a framework. The unit is characterized by high efficiency and energy saving, easy installation, and easy maintenance and use.

Product Features

1. Integrated whole unit design: combines the refrigeration system, hydraulic system, and control system; outdoor installation without the need for a machine room, saving space.
2. Energy-efficient: the unit's energy efficiency exceeds the requirements of the first-class energy efficiency standard GB 19577-2015.
3. Low cooling water circulation requirement, approximately only about 60% of that of water-cooled chillers (with cooling towers).
4. The evaporative condenser is designed to be corrosion-resistant, scale-resistant, and easy to clean; resulting in a longer service life.
5. Customized option design for different engineering applications: high pressure on the chilled water side, heat recovery function, high wet-bulb temperature, large temperature difference, low resistance water filter, backup water pumps, noise reduction enclosure, etc.
6. The unit features double-shell compressors, low-noise high-efficiency water pumps, and large diameter low-speed condenser fans; effectively reducing the noise level of the unit.
7. PLC intelligent control system, with a large-sized true color touch screen, provides intuitive and convenient operation.
8. One-touch start and stop, no special attendance required.

Model Description



Technical Parameters (R134a Single Compressor)

Model ZFLS1XXXMAC1Y			085	100	110	120	130	140	150	175	190	210	230	250	280	310	330
Nominal Cooling Capacity		kW	300	346	386	422	459	495	538	615	668	738	816	880	993	1089	1162
Total Cooling Input Power		kW	63.6	72	83	92.7	97.7	103.6	109.6	125.2	137.7	149.7	171.2	181	211	225	234
Refrigeration System Energy Efficiency Ratio SCOP		W/W	5.35	5.36	5.36	5.43	5.29	5.59	5.69	5.58	5.60	5.63	5.47	5.53	5.49	5.58	5.70
Estimation of Maximum Operating Current		A	142	163	183	199	220	228	244	284	307	337	379	406	463	503	527
Power Supply Type			380V/50Hz/3PH														
Compressor	Type		Semi-Hermetic Screw Type														
	Cooling Input Power	kW	51	59	65	70	77	82	88	102	111	121	132	145	163	179	188
	EER	W/W	5.88	5.86	5.94	6.03	5.96	6.04	6.11	6.03	6.02	6.10	6.18	6.07	6.09	6.08	6.18
	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Start-Up Method		Y-△														
Condenser	Type		High-Efficiency Evaporative Cooling Condenser (Designed Based On a Wet-bulb Temperature of 26℃).														
	Number	Units	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Total Power of Cooling Fans	kW	4	4	5.5	5.5	7.5	4.4	4.4	6	6	8	15	11	15	12	12
	Total Power of Spray Pump	kW	1.1	1.5	1.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	3	3	4	4
	Cooling Water Makeup Volume	m^3/h	0.57	0.67	0.75	0.81	0.89	0.98	1.1	1.25	1.28	1.36	1.54	1.7	1.87	2.01	2.22
	Spray Water Makeup Pipe Diameter	DN	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	Spray Water Tank Drain Pipe Diameter	DN	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Evaporator	Type of Evaporator		Flooded Evaporator														
	Chilled Water Flow Rate	m^3/h	52	60	66	73	79	85	93	106	115	127	140	151	171	187	200
	Pump Selection Flow Rate	m^3/h	57	65	73	80	87	94	102	116	126	140	154	166	188	206	220
	Water Pressure Drop	kPa	38	42	54	57	55	55	54	53	54	56	55	56	60	61	60
	Pipe Diameter for Connections	DN	100	125	125	125	125	125	125	150	150	150	150	150	200	200	200
	Water Side Working Pressure	MPa	1.0								1.0						
Chilled Water Hydraulics Module	Number of Water Pumps	Units	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Pump Input Power	kW	6.9	7.4	9.1	10.3	11.1	12.0	13.0	15.2	16.6	17.9	19.2	20.8	24.4	27.5	29.3
	External Head	m	25	22	24	25	25	25	25	25	25	24	23	23	24	25	25
	Expansion Tank Volume	L	50	50	50	50	50	50	80	80	80	100	100	100	150	150	150
Outline Dimensions	L	mm	6920	6920	6920	7420	7420	8050	8050	9060	9060	9060	9560	9560	9760	10470	10470
	W	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2820	2820	2820	2820
	H	mm	2830	2830	2830	2830	2830	2830	2830	2830	2830	2830	2830	2830	2830	2830	2830
Unit Transport Weight (Including Chilled Water Hydraulic Module)		kg	6300	6400	6500	6700	7100	7600	8050	8450	8950	9550	9850	10500	12000	12400	12700
Unit Operating Weight (Including Chilled Water Hydraulic Module)		kg	8250	8400	8500	8750	9300	9950	10550	11050	11700	12500	12900	13750	15700	16250	16600

Note:

1. Cooling conditions: chilled water inlet/outlet temperature 12℃/7℃; ambient dry bulb temperature 35℃/wet bulb temperature 26℃;
2. Unit operating range: chilled water outlet temperature range 5 ~ 15℃; ambient dry bulb temperature range 15 ~ 45℃, wet bulb temperature range 10 ~ 30℃;
3. Chilled water side fouling factor 0.118m^2℃/kW; cooling water side fouling factor 0.044m^2℃/kW;
4. This product is designed in accordance with JB/T 12323-2022 standards for steam compression cycle evaporative cooling water chiller (heat pump) units.

ZFLS | All-in-one Evaporative Chiller

Technical Parameters (R134a Dual Compressors)

Model ZFLS2XXXMAC1Y			240	260	280	310	350	380	420	460	500	530	560	620	660
Nominal Cooling Capacity		kW	844	918	990	1076	1230	1336	1476	1632	1760	1867	1986	2178	2324
Total Cooling Input Power		kW	178.4	204.4	208.2	217.2	254.4	272.4	283.4	308.4	350	370	391	413	436
Refrigeration System Energy Efficiency Ratio SCOP		W/W	5.40	5.26	5.56	5.75	5.66	5.68	5.65	5.70	5.37	5.49	5.50	5.69	5.72
Estimation of Maximum Operating Current		A	397	448	463	484	566	612	681	743	841	881	933	996	1053
Power Supply Type			380V/50Hz/3PH												
Compressor	Type		Semi-Hermetic Screw Type												
	Cooling Input Power	kW	141	155	165	174	201	219	241	266	292	312	325	351	374
		W/W	5.99	5.92	6.00	6.18	6.12	6.10	6.12	6.14	6.03	5.98	6.11	6.21	6.21
	Number		2	2	2	2	2	2	2	2	2	2	2	2	2
	Start-Up Method		Y-△												
Condenser	Type		High-Efficiency Evaporative Cooling Condenser (Designed Based On a Wet-bulb Temperature of 26℃).												
	Number	Units	2	2	2	2	2	2	2	2	2	2	2	2	2
	Total Power of Cooling Fans	kW	11	15	8.8	8.8	12	12	16	16	30	22	30	24	24
	Total Power of Spray Pump	kW	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	6	6	6	8	8
	Cooling Water Makeup Volume	m^3/h	1.62	1.78	1.96	2.2	2.5	2.61	2.72	2.72	3.08	3.4	3.74	4.02	4.44
	Spray Water Makeup Pipe Diameter	DN	25×2 sets												
	Spray Water Tank Drain Pipe Diameter	DN	50×2 sets												
Evaporator	Type of Evaporator		Flooded Evaporator												
	Chilled Water Flow Rate	m^3/h	145	158	170	185	212	230	254	281	303	321	342	375	400
	Pump Selection Flow Rate	m^3/h	160	174	187	204	233	253	305	323	348	369	393	431	460
	Water Pressure Drop	kPa	62	60	63	63	62	64	62	62	60	62	61	62	61
	Pipe Diameter for Connections	DN	150	200	200	200	200	200	200	200	200	250	250	250	250
	Water Side Working Pressure	MPa	1.0												
Chilled Water Hydraulics Module	Number of Water Pumps	Units	1	1	1	1	1	1	2	2	2	2	2	2	2
	Pump Input Power	kW	19.5	24.8	26.9	26.9	33.4	35.4	40.1	42.5	45.6	50.1	53.1	58.4	60.3
	External Head	m	21	24	24	22	24	23	22	21	21	22	22	22	21
	Expansion Tank Volume	L	100	100	150	150	150	150	200	200	200	200	200	300	300
Outline Dimensions	L	mm	12770	13220	14470	14470	16170	16170	16170	17170	17170	17170	17170	18600	19100
	W	mm	2500	2500	2500	2500	2500	2500	2500	2500	2820	2820	2820	2820	2820
	H	mm	2830	2830	2830	2830	2830	2830	2830	2830	2830	2830	2830	2830	2830
Unit Transport Weight (Including Chilled Water Hydraulic Module)		kg	12500	13300	14200	15100	15900	17100	18100	18800	19400	20200	21500	23500	24000
Unit Operating Weight (Including Chilled Water Hydraulic Module)		kg	16400	17450	18600	19800	20900	22400	23700	24650	25400	26450	28200	30800	31450

Note:

1. Cooling conditions: chilled water inlet/outlet temperature 12℃/7℃; ambient dry bulb temperature 35℃/wet bulb temperature 26℃;
2. Unit operating range: chilled water outlet temperature range 5 ~ 15℃; ambient dry bulb temperature range 15 ~ 45℃, wet bulb temperature range 10 ~ 30℃;
3. Chilled water side fouling factor 0.118m^2℃/kW; cooling water side fouling factor 0.044m^2℃/kW;
4. This product is designed in accordance with JB/T 12323-2022 standards for steam compression cycle evaporative cooling water chiller (heat pump) units.

FULL-FLOW WATER (GROUND) SOURCE HEAT PUMP UNIT

The Obair full-liquid water (ground) source heat pump unit is an energy-saving air conditioning unit independently developed by Obair, combining China's geographical climate environment and the current social context of clean energy utilization. This unit utilizes the relatively stable temperature of underground and surface water throughout the year for energy conversion, achieving cooling in summer and heating in winter. It is a central air conditioning equipment that integrates energy saving, environmental protection, and high efficiency.

The Obair full-liquid water (ground) source heat pump unit consists of a full-liquid dedicated semi-hermetic twin-screw compressor, high-efficiency oil separator, shell-and-tube condenser, full-liquid evaporator, electronic expansion valve, oil return system, injection system, and intelligent control system, among other components. The unit system is simple and highly reliable.