



Mammoth®
The Leader In Custom HVAC & Energy Saving
美国美意



专业空调 量身定制

**Water Source Heat Pump
(Package Type Unit-E Series)**

3.0kW-21.0kW (50Hz)

R410A



Mammoth(Shanghai)Air Conditioning Ltd.

Mammoth

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Mammoth Water Source Heat Pump Units

- Eleven units from 3.0 to 21.0 kW
- Fully run tested with water
- Compact size
- CCC and CE listed
- Microprocessor-based control system including fan speed adjustment and condensate overflow protection
- Optional geothermal application



Standard Rating Data Water loop application(boiler/tower)

Unit Size	Voltage	Air Flow m3/h	Water Flow m3/h	Cooling		Heating	
				kW	EER	kW	COP
009	L	580	0.61	3.0	4.6	4.0	5.7
013	L	780	0.81	4.1	4.2	5.5	4.8
016	L	1170	1.05	5.3	4.5	6.7	5.5
019	L	1200	1.12	6.2	4.5	7.3	5.2
024	L	1500	1.50	7.6	4.8	9.0	5.4
030	L	1720	1.90	9.4	4.5	11.8	5.4
036	L	2200	2.53	11.0	4.6	13.5	5.6
043	J	2350	2.60	12.3	4.4	14.8	4.8
052	J	2850	3.11	15.0	4.1	17.6	4.7
062	J	3100	3.62	16.5	4.0	19.0	4.4
072	J	3300	4.11	19.3	3.9	22.5	4.3

Rated per ARI/ISO standard 13256-1 and GB/T19409-2003

Cooling capacity is based on 27°C db /19°C wb entering air and 30°C/35°C entering/leaving water.

Heating capacity is based on 20°C db /15°C wb entering air and 20°C entering water.

Ground loop application

Unit model	Voltage	Air Flow m3/h	Water Flow m3/h	Cooling		Heating	
				kW	EER	kW	COP
009	L	580	0.62	3.2	5.4	2.4	3.8
013	L	780	1	4.3	4.8	3.3	3.3
016	L	1170	1.1	5.5	5.0	4.2	4.0
019	L	1200	1.39	6.4	4.9	4.7	3.8
024	L	1500	1.63	7.9	5.7	5.7	3.7
030	L	1720	2.1	9.8	5.0	7.6	4.0
036	L	2200	2.4	11.4	5.7	8.4	3.7
043	J	2350	2.9	12.6	4.8	9.2	3.5
052	J	2850	3.6	15.4	4.5	10.7	3.2
062	J	3100	4	17.0	4.4	12.6	3.2
072	J	3300	4.6	19.8	4.3	15.0	3.1

Rated per ARI/ISO standard 13256-1 and GB/T19409-2003

Cooling capacity is based on 27°C db /19°C wb entering air and 25°C/30°C entering/leaving water.

Heating capacity is based on 20°C db /15°C wb entering air and 0°C entering water.

Model Nomenclature

MSR – L 016 H H E
1 2 3 4 5 6

- 1 MSR: Mammoth water source heat pump
- 2 Power supply: L=220V~/50Hz,J=380V/3N~50Hz
- 3 Unit Number
- 4 Unit type: H=Horizontal,V=Vertical
- 5 Temperature Range: H-Water Loop Conditions;L-Ground Loop Conditions
- 6 Design Vintage

Unit Description

Mammoth offers a complete line of high efficiency horizontal units from 3.0 kW - 21.0 kW. Five cabinet sizes with a similar shape allow for easy layout and installation. Each unit is run-tested with water in the cooling and heating modes. All units are listed for product safety by CCC & CE.

Unit Construction

The cabinet is constructed of G-60 galvanized steel. Internal metal parts are also fabricated from galvanized steel. Cabinet insulation is 15mm thick, skin-coated fiberglass/PE. The entire bottom panel is insulated with the same material to prevent condensation and reduce noise transmission. Three access panels for the compressor, fan and control box sections allow service to all major components without removing the unit from the ceiling. The control box has its own entrance panel to limit exposure to other sections not requiring service. All major electrical components, including transformer, relays, contactor(s) and circuit board, are located inside the control box making it convenient to service the unit.

A 10 mm thick reusable filter is supplied in a factory-mounted filter bracket designed to accommodate a return air duct connection.

The units include factory-mounted hanger brackets and have four top-panel adjustable brackets with factory-mounted grommets.

All units incorporate female water fittings outside the cabinet for connection to flexible hoses. A 19 mm O.D. condensate connection is located outside the cabinet, adjacent to the water connections.

Refrigeration System

Refrigeration system for each circuit consists of high efficiency compressor, either rotary type or scroll type, a coaxial water-to-refrigerant heat exchanger, an airside coil, thermal expansion valve or capillary tube, access valve, reversing valve and safety controls.

The compressor is mounted on heavy - gauge mounting rails to dampen compressor vibration. In addition, the compressor is also mounted on neoprene isolators. This dual isolation ensures minimal noise transmission and quiet operation. Each refrigeration circuit has high and low side access valves for servicing.

The water-to-refrigeration coaxial coil consists of an inner twisty tube and a steel outer tube.

Large tube diameters prevent clogging, unlike brazed type heat exchangers which require mesh strainers. The air coil is a copper-tube, aluminum finned selected for high efficiency.

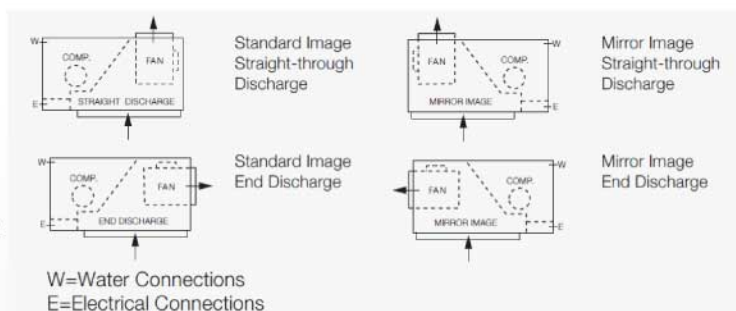
The reversing valve is energized in the heating mode and is fail-safe to the cooling mode.

Safety controls include high and low (loss of charge protection) refrigeration pressure switches for each circuit. A lockout relay prevents the compressor from operating if any of the safeties trip.

Fan Section

The fan section consists of the fan wheel/housing assembly, fan motor and drain pan. Airside components are separated from the compressor section to limit noise transmission from the compressor. The drain pan extends past the coil into the compressor section for easy cleaning. It is insulated from the unit casing to prevent sweating.

All units are capable of having two different discharge air arrangements: straight or end, both can be factory-supplied in either configuration or simply converted from one to the other in the field. Mirror image units allow a "reversed" configuration. All units have a directdrive fan assembly. The fan motor is a multispeed, with internal overload protection. With a maximum speed of 1200 rpm, the fan is quieter than the smaller of diameter motors used in similar products. Each centrifugal fan wheel is balanced for minimum vibration.



Electrical and Control Box

The control box houses all the electrical components with its own access panel. Controls include a transformer, printed-circuit board, compressor contactor, fan relay and a capacitor(s).

Mammoth offers a microprocessor - based unit controller and includes features such as:

- **Fan speed control**

Fan speed control is a standard feature with the microprocessor control system. It permits motor operate with High/Medial/Low speed to meet different requirement

- **Safety lockout**

Safety lockout prevents compressor operation if any of the safety switches trip: high pressure switch, low pressure switch or optional freezestat. The unit can be reset from the thermostat or from the main unit disconnect.

- **High and low voltage protection**

High and low voltage protection shuts off the unit in the event the unit voltage is too high or too low to protect the internal components from damage.

- **Low pressure switch bypass**

Low pressure switch bypass ignores the low pressure input signal for 120 seconds each time the compressor starts to eliminate nuisance trip and to allow the suction pressure to build at startup.

- **Condensate overflow protection**

Condensate overflow protection stops compressor operation if the drain pan sensor detects moisture at the top of the pan to prevent overflow due to clogged or slow draining condensate piping.

- **Others:** Refrigerant leakage protection , Frost-protection, Water temperature protection, Coil Frost-protection, High discharge temperature protection, Water flow switch(Optional), Fire-alarm, LCD error code display, Water pump interlock, Timer-power-on/off , Economy operation mode etc .

Factory-mounted Options

Mammoth water source heat pumps offer numerous factory-installed options that can help minimize field labor and enhance system performance.

- **Cooling-only**

Units are available for those applications requiring no heating from the unit.

- **An extended-range package**

An extended-range package is available on all heat pump units to allow heating operation down to -5°C entering water temperature. The package includes thermal expansion valve, an insulated coaxial heat exchanger and insulated refrigerant piping.

- **25/50 mm filter**

Field-mounted Options

- **Water flow switch**

Water flow switch will shut off the unit when the water flow is smaller than limit value to protect the system.

- **Flexible hose kits**

Flexible hose kits are available in, 3/4-inch and 1-inch diameters, 600mm and 900mm long. Each hose is constructed of braided stainless steel and has steel fittings with a swivel at one end. Hoses are rated at minimum 1000 kPa.

Performance Data

L009H													
COOLING									HEATING				
Ent Water °C	Water flow m3/h	Pressure drop Kp	Ent Air Db/Wb °C	Total capacity kw	Sensible capacity kw	Ht Rej kw	Power input kw	Lvg Water °C	Ent Air °C	Total capacity kw	Ht Abs capacity kw	Power input kw	
5	0.46	19.4							10	3.08	2.50	0.576	
									15.6	2.91	2.30	0.602	
									20	2.74	2.11	0.629	
									26.7	2.59	1.93	0.657	
	0.61	31.0							10	3.23	2.64	0.590	
									15.6	3.05	2.43	0.617	
									20	2.88	2.23	0.644	
									26.7	2.71	2.04	0.673	
	0.76	43.4							10	3.28	2.68	0.599	
									15.6	3.09	2.47	0.626	
									20	2.92	2.26	0.654	
									26.7	2.75	2.07	0.684	
10	0.46	19.4	21/16	2.96	2.31	3.43	0.475	20.0	10	3.42	2.83	0.593	
			24/17	3.15	2.46	3.62	0.470	20.1	15.6	3.23	2.61	0.620	
			27/19	3.36	2.62	3.82	0.468	20.2	20	3.05	2.40	0.647	
			30/22	3.57	2.79	4.05	0.474	20.3	26.7	2.87	2.20	0.677	
	-	-	21/16						10	3.59	2.98	0.608	
			24/17						15.6	3.39	2.75	0.635	
			27/19						20	3.20	2.53	0.664	
			30/22						26.7	3.02	2.32	0.693	
	-	-	21/16						10	3.64	3.03	0.618	
			24/17						15.6	3.44	2.79	0.645	
			27/19						20	3.24	2.57	0.674	
			30/22						26.7	3.06	2.35	0.705	
15	0.46	19.4	21/16	2.90	2.26	3.41	0.513	22.8	10	3.85	3.24	0.609	
			24/17	3.08	2.41	3.59	0.508	23.0	15.6	3.63	2.99	0.637	
			27/19	3.28	2.57	3.79	0.505	23.2	20	3.43	2.76	0.666	
			30/22	3.50	2.73	4.01	0.512	23.3	26.7	3.23	2.54	0.695	
	0.61	31.0	21/16	2.97	2.32	3.47	0.505	20.8	10	4.05	3.42	0.623	
			24/17	3.16	2.47	3.66	0.500	20.9	15.6	3.82	3.17	0.651	
			27/19	3.37	2.63	3.87	0.498	21.0	20	3.60	2.92	0.681	
			30/22	3.59	2.80	4.09	0.504	21.2	26.7	3.40	2.69	0.711	
	0.76	43.4	21/16	3.03	2.37	3.51	0.485	20.3	10	4.14	3.51	0.633	
			24/17	3.23	2.52	3.71	0.480	20.5	15.6	3.91	3.24	0.661	
			27/19	3.44	2.68	3.91	0.478	20.6	20	3.69	2.99	0.691	
			30/22	3.66	2.86	4.14	0.484	20.8	26.7	3.48	2.75	0.722	
20	0.46	19.4	21/16	2.81	2.20	3.38	0.564	27.4	10	4.28	3.65	0.626	
			24/17	2.99	2.34	3.55	0.558	27.6	15.6	4.03	3.38	0.654	
			27/19	3.19	2.49	3.74	0.556	27.8	20	3.81	3.12	0.684	
			30/22	3.40	2.65	3.96	0.563	28.0	26.7	3.59	2.88	0.714	
	0.61	31.0	21/16	2.88	2.25	3.44	0.556	24.9	10	4.50	3.86	0.639	
			24/17	3.07	2.40	3.62	0.550	25.1	15.6	4.25	3.58	0.668	
			27/19	3.27	2.55	3.82	0.547	25.3	20	4.01	3.31	0.698	
			30/22	3.48	2.72	4.04	0.554	25.4	26.7	3.78	3.05	0.729	
	0.76	43.4	21/16	2.94	2.30	3.47	0.533	24.4	10	4.64	3.99	0.648	
			24/17	3.13	2.45	3.66	0.528	24.6	15.6	4.37	3.70	0.678	
			27/19	3.34	2.61	3.86	0.525	24.8	20	4.13	3.42	0.708	
			30/22	3.55	2.78	4.08	0.532	24.9	26.7	3.89	3.15	0.740	
25	0.46	19.4	21/16	2.73	2.13	3.34	0.608	32.9	10	4.45	3.80	0.646	
			24/17	2.91	2.27	3.51	0.602	33.1	15.6	4.20	3.52	0.675	
			27/19	3.10	2.42	3.69	0.599	33.3	20	3.96	3.25	0.706	
			30/22	3.30	2.58	3.90	0.607	33.6	26.7	3.73	3.00	0.737	
	0.61	31.0	21/16	2.80	2.19	3.40	0.599	29.9	10	4.68	4.02	0.658	
			24/17	2.98	2.33	3.57	0.593	30.1	15.6	4.42	3.73	0.688	
			27/19	3.17	2.48	3.76	0.590	30.3	20	4.17	3.45	0.719	
			30/22	3.38	2.64	3.98	0.597	30.5	26.7	3.93	3.18	0.751	
	0.76	43.4	21/16	2.85	2.23	3.44	0.587	29.3	10	4.82	4.15	0.668	
			24/17	3.04	2.38	3.62	0.581	29.5	15.6	4.55	3.85	0.698	
			27/19	3.24	2.53	3.82	0.578	29.7	20	4.29	3.56	0.729	
			30/22	3.45	2.69	4.03	0.586	29.9	26.7	4.05	3.29	0.762	
30	0.46	19.4	21/16	2.60	2.03	3.27	0.672	37.3	10	4.60	3.94	0.665	
			24/17	2.77	2.16	3.44	0.669	37.6	15.6	4.34	3.65	0.695	
			27/19	2.95	2.30	3.61	0.665	37.8	20	4.10	3.37	0.727	
			30/22	3.14	2.45	3.81	0.674	38.1	26.7	3.87	3.11	0.759	
	0.61	31.0	21/16	2.67	2.08	3.33	0.662	34.4	10	4.85	4.18	0.667	
			24/17	2.84	2.22	3.50	0.659	34.6	15.6	4.57	3.88	0.697	
			27/19	3.02	2.36	3.68	0.655	34.9	20	4.31	3.59	0.728	
			30/22	3.22	2.52	3.88	0.664	35.1	26.7	4.07	3.31	0.761	
	0.76	43.4	21/16	2.72	2.12	3.36	0.645	33.7	10	4.99	4.30	0.688	
			24/17	2.90	2.26	3.53	0.639	33.9	15.6	4.71	3.99	0.719	
			27/19	3.08	2.41	3.72	0.636	34.2	20	4.44	3.69	0.751	
			30/22	3.28	2.57	3.93	0.644	34.4	26.7	4.19	3.41	0.785	
35	0.46	19.4	21/16	2.48	1.94	3.23	0.750	43.4					
			24/17	2.64	2.06	3.38	0.742	43.7					
			27/19	2.81	2.20	3.55	0.738	44.0					
			30/22	2.97	2.32	3.71	0.748	44.3					
	0.61	31.0	21/16	2.56	2.00	3.29	0.735	39.9					
			24/17	2.72	2.13	3.45	0.727	40.2					
			27/19	2.90	2.27	3.63	0.724	40.5					
			30/22	3.06	2.39	3.79	0.733	40.8					
	0.76	43.4	21/16	2.64	2.06	3.35	0.710	38.7					
			24/17	2.81	2.19	3.51	0.703	39.0					
			27/19	2.99	2.34	3.69	0.699	39.3					
			30/22	3.19	2.49	3.89	0.708	39.6					

Performance Data

L013H													
COOLING									HEATING				
Ent Water °C	Water flow m3/h	Pressure drop Kp	Ent Air Db/Wb °C	Total capacity kw	Sensible capacity kw	Ht Rej kw	Power input kw	Lvg Water °C	Ent Air °C	Total capacity kw	Ht.Abs capacity kw	Power input kw	
5	0.70	20.0							10	4.26	3.31	0.948	
									15.6	4.02	3.03	0.990	
									20	3.79	2.76	1.035	
									26.7	3.58	2.50	1.081	
	0.93	32.0							10	4.47	3.50	0.971	
									15.6	4.22	3.21	1.015	
									20	3.98	2.92	1.061	
									26.7	3.76	2.65	1.108	
	1.16	44.8							10	4.54	3.55	0.986	
									15.6	4.28	3.25	1.030	
									20	4.04	2.96	1.077	
									26.7	3.81	2.68	1.125	
10	0.70	20.0	21/16	3.98	3.06	4.70	0.721	20.0	10	4.73	3.76	0.976	
			24/17	4.23	3.26	4.95	0.714	20.1	15.6	4.47	3.45	1.020	
			27/19	4.51	3.47	5.22	0.710	20.2	20	4.21	3.15	1.066	
			30/22	4.80	3.69	5.52	0.720	20.3	26.7	3.97	2.86	1.114	
	-	-	21/16						10	4.97	3.97	1.000	
			24/17						15.6	4.69	3.64	1.045	
			27/19						20	4.42	3.33	1.092	
			30/22						26.7	4.17	3.03	1.141	
	-	-	21/16						10	5.04	4.03	1.017	
			24/17						15.6	4.76	3.69	1.062	
			27/19						20	4.49	3.38	1.110	
			30/22						26.7	4.23	3.07	1.160	
15	0.70	20.0	21/16	3.89	2.99	4.67	0.779	22.8	10	5.33	4.32	1.003	
			24/17	4.14	3.19	4.91	0.771	23.0	15.6	5.02	3.98	1.048	
			27/19	4.41	3.39	5.18	0.767	23.2	20	4.74	3.64	1.096	
			30/22	4.70	3.61	5.48	0.777	23.3	26.7	4.47	3.33	1.145	
	0.93	32.0	21/16	3.99	3.07	4.76	0.767	20.8	10	5.60	4.57	1.026	
			24/17	4.25	3.27	5.01	0.759	20.9	15.6	5.28	4.21	1.072	
			27/19	4.52	3.48	5.28	0.756	21.0	20	4.98	3.86	1.120	
			30/22	4.82	3.71	5.58	0.765	21.2	26.7	4.70	3.53	1.171	
	1.16	44.8	21/16	4.07	3.13	4.81	0.736	20.3	10	5.73	4.69	1.042	
			24/17	4.33	3.33	5.06	0.729	20.5	15.6	5.40	4.32	1.089	
			27/19	4.62	3.55	5.34	0.725	20.6	20	5.10	3.96	1.138	
			30/22	4.92	3.78	5.65	0.735	20.8	26.7	4.81	3.62	1.189	
20	0.70	20.0	21/16	3.78	2.90	4.63	0.857	27.4	10	5.92	4.89	1.031	
			24/17	4.02	3.09	4.87	0.848	27.6	15.6	5.58	4.51	1.077	
			27/19	4.28	3.29	5.13	0.844	27.8	20	5.27	4.14	1.125	
			30/22	4.56	3.51	5.42	0.855	28.0	26.7	4.97	3.79	1.176	
	0.93	32.0	21/16	3.87	2.98	4.72	0.844	24.9	10	6.23	5.18	1.052	
			24/17	4.12	3.17	4.96	0.835	25.1	15.6	5.88	4.78	1.099	
			27/19	4.39	3.38	5.22	0.831	25.3	20	5.54	4.40	1.148	
			30/22	4.68	3.60	5.52	0.842	25.4	26.7	5.23	4.03	1.200	
	1.16	44.8	21/16	3.95	3.04	4.76	0.810	24.4	10	6.42	5.35	1.067	
			24/17	4.21	3.24	5.01	0.802	24.6	15.6	6.05	4.94	1.115	
			27/19	4.48	3.45	5.28	0.798	24.8	20	5.71	4.54	1.166	
			30/22	4.77	3.67	5.58	0.808	24.9	26.7	5.39	4.17	1.218	
25	0.70	20.0	21/16	3.67	2.82	4.60	0.933	32.9	10	6.15	5.09	1.064	
			24/17	3.90	3.00	4.83	0.923	33.1	15.6	5.81	4.69	1.111	
			27/19	4.16	3.20	5.08	0.919	33.3	20	5.48	4.32	1.161	
			30/22	4.43	3.41	5.36	0.931	33.6	26.7	5.17	3.95	1.214	
	0.93	32.0	21/16	3.76	2.89	4.68	0.919	29.9	10	6.48	5.40	1.083	
			24/17	4.00	3.08	4.91	0.909	30.1	15.6	6.11	4.98	1.132	
			27/19	4.27	3.28	5.17	0.905	30.3	20	5.77	4.58	1.183	
			30/22	4.54	3.49	5.46	0.917	30.5	26.7	5.44	4.20	1.236	
	1.16	44.8	21/16	3.84	2.95	4.73	0.891	29.3	10	6.67	5.57	1.099	
			24/17	4.08	3.14	4.97	0.882	29.5	15.6	6.29	5.15	1.149	
			27/19	4.35	3.35	5.23	0.878	29.7	20	5.94	4.74	1.201	
			30/22	4.63	3.56	5.52	0.889	29.9	26.7	5.60	4.35	1.255	
30	0.70	20.0	21/16	3.56	2.74	4.56	1.002	37.3	10	6.37	5.27	1.095	
			24/17	3.79	2.92	4.79	0.997	37.6	15.6	6.01	4.86	1.145	
			27/19	4.04	3.11	5.03	0.992	37.8	20	5.67	4.47	1.196	
			30/22	4.30	3.31	5.30	1.005	38.1	26.7	5.35	4.10	1.250	
	0.93	32.0	21/16	3.65	2.81	4.64	0.987	34.4	10	6.70	5.61	1.097	
			24/17	3.89	2.99	4.87	0.982	34.6	15.6	6.33	5.18	1.147	
			27/19	4.14	3.19	5.12	0.977	34.9	20	5.97	4.77	1.198	
			30/22	4.41	3.39	5.40	0.990	35.1	26.7	5.63	4.38	1.252	
	1.16	44.8	21/16	3.72	2.86	4.69	0.962	33.7	10	6.91	5.77	1.132	
			24/17	3.97	3.05	4.92	0.953	33.9	15.6	6.52	5.33	1.183	
			27/19	4.22	3.25	5.17	0.948	34.2	20	6.15	4.91	1.237	
			30/22	4.50	3.46	5.46	0.960	34.4	26.7	5.80	4.51	1.292	
35	0.70	20.0	21/16	3.40	2.61	4.52	1.118	43.4					
			24/17	3.62	2.78	4.73	1.106	43.7					
			27/19	3.85	2.97	4.96	1.101	44.0					
			30/22	4.06	3.13	5.18	1.115	44.3					
	0.93	32.0	21/16	3.50	2.70	4.60	1.096	39.9					
			24/17	3.73	2.87	4.82	1.085	40.2					
			27/19	3.97	3.06	5.05	1.079	40.5					
			30/22	4.19	3.22	5.28	1.093	40.8					
	1.16	44.8	21/16	3.61	2.78	4.67	1.059	38.7					
			24/17	3.85	2.96	4.89	1.048	39.0					
			27/19	4.10	3.15	5.14	1.043	39.3					
			30/22	4.36	3.36	5.42	1.056	39.6					

Performance Data

L016H														
COOLING									HEATING					
Ent Water °C	Water flow m3/h	Pressure drop Kp	Ent Air Db/Wb°C	Total capacity kw	Sensible capacity kw	Ht Rej kw	Power input kw	Lvg Water °C	Ent Air °C	Total capacity kw	HtAbs capacity kw	Power input kw		
5	0.80	26.3							10	5.21	4.31	0.893		
									15.6	4.94	3.97	0.965		
									20	4.68	3.64	1.042		
									26.7	4.43	3.31	1.126		
	1.06	42.0							10	5.47	4.55	0.920		
									15.6	5.18	4.19	0.994		
									20	4.91	3.84	1.073		
									26.7	4.66	3.50	1.159		
	1.33	58.8							10	5.55	4.61	0.934		
									15.6	5.26	4.25	1.009		
									20	4.98	3.89	1.090		
									26.7	4.72	3.55	1.177		
10	0.80	26.3	21/16	5.13	4.01	6.05	0.925	20.1	10	5.79	4.88	0.911		
			24/17	5.46	4.27	6.38	0.920	20.3	15.6	5.48	4.50	0.984		
			27/19	5.82	4.54	6.73	0.915	20.4	20	5.20	4.14	1.062		
			30/22	6.20	4.84	7.12	0.929	20.5	26.7	4.93	3.78	1.147		
	-	-	21/16		10	6.08	5.14	0.938						
			24/17		15.6	5.76	4.75	1.013						
			27/19		20	5.46	4.36	1.094						
			30/22		26.7	5.17	3.99	1.182						
	-	-	21/16		10	6.16	5.21	0.953						
			24/17		15.6	5.84	4.81	1.030						
			27/19		20	5.54	4.42	1.112						
			30/22		26.7	5.25	4.05	1.201						
15	0.80	26.3	21/16		5.02	3.92	6.02	0.999	23.0	10	6.51	5.57	0.937	
			24/17		5.34	4.18	6.34	0.993	23.1	15.6	6.17	5.16	1.012	
			27/19		5.69	4.45	6.68	0.988	23.3	20	5.85	4.76	1.093	
			30/22		6.06	4.74	7.07	1.003	23.4	26.7	5.54	4.36	1.181	
	1.06	42.0	21/16	5.15	4.02	6.11	0.959	20.9	10	6.77	5.79	0.979		
			24/17	5.48	4.28	6.44	0.954	21.0	15.6	6.41	5.36	1.057		
			27/19	5.84	4.56	6.79	0.949	21.2	20	6.08	4.94	1.142		
			30/22	6.22	4.86	7.18	0.963	21.3	26.7	5.76	4.53	1.233		
	1.33	58.8	21/16	5.25	4.10	6.17	0.921	20.5	10	6.92	5.93	0.994		
			24/17	5.59	4.37	6.51	0.915	20.6	15.6	6.56	5.49	1.074		
			27/19	5.95	4.65	6.87	0.911	20.7	20	6.22	5.06	1.160		
			30/22	6.34	4.95	7.27	0.925	20.9	26.7	5.89	4.64	1.253		
20	0.80	26.3	21/16	4.87	3.81	5.98	1.111	27.6	10	7.23	6.27	0.964		
			24/17	5.19	4.05	6.29	1.104	27.7	15.6	6.86	5.81	1.041		
			27/19	5.53	4.32	6.63	1.099	27.9	20	6.50	5.37	1.124		
			30/22	5.89	4.60	7.00	1.115	28.1	26.7	6.16	4.95	1.214		
	1.06	42.0	21/16	5.00	3.90	6.06	1.067	25.0	10	7.46	6.44	1.020		
			24/17	5.32	4.16	6.38	1.060	25.2	15.6	7.07	5.97	1.102		
			27/19	5.67	4.43	6.72	1.055	25.4	20	6.70	5.51	1.190		
			30/22	6.04	4.72	7.11	1.071	25.6	26.7	6.35	5.07	1.285		
	1.33	58.8	21/16	5.10	3.98	6.11	1.013	24.5	10	7.68	6.64	1.035		
			24/17	5.43	4.24	6.44	1.007	24.7	15.6	7.28	6.16	1.118		
			27/19	5.78	4.52	6.78	1.002	24.9	20	6.90	5.69	1.208		
			30/22	6.16	4.81	7.17	1.017	25.1	26.7	6.54	5.24	1.304		
25	0.80	26.3	21/16	4.73	3.70	5.86	1.125	33.1	10	7.52	6.53	0.995		
			24/17	5.04	3.94	6.16	1.118	33.3	15.6	7.13	6.06	1.074		
			27/19	5.37	4.19	6.48	1.113	33.5	20	6.76	5.60	1.160		
			30/22	5.71	4.46	6.84	1.129	33.8	26.7	6.41	5.15	1.253		
	1.06	42.0	21/16	4.85	3.79	5.96	1.108	30.1	10	7.75	6.70	1.051		
			24/17	5.17	4.04	6.27	1.101	30.3	15.6	7.35	6.22	1.135		
			27/19	5.50	4.30	6.60	1.096	30.5	20	6.97	5.74	1.226		
			30/22	5.86	4.58	6.97	1.112	30.7	26.7	6.60	5.28	1.324		
	1.33	58.8	21/16	4.95	3.87	6.01	1.064	29.5	10	7.99	6.92	1.066		
			24/17	5.27	4.12	6.33	1.057	29.7	15.6	7.57	6.42	1.152		
			27/19	5.61	4.39	6.67	1.052	29.9	20	7.18	5.93	1.244		
			30/22	5.98	4.67	7.05	1.068	30.1	26.7	6.80	5.46	1.343		
30	0.80	26.3	21/16	4.59	3.59	5.79	1.196	37.5	10	7.79	6.76	1.025		
			24/17	4.89	3.82	6.09	1.195	37.8	15.6	7.38	6.27	1.107		
			27/19	5.21	4.07	6.40	1.189	38.0	20	6.99	5.80	1.195		
			30/22	5.55	4.33	6.75	1.207	38.3	26.7	6.63	5.34	1.291		
	1.06	42.0	21/16	4.71	3.68	5.89	1.178	34.6	10	8.03	6.96	1.064		
			24/17	5.02	3.92	6.19	1.177	34.8	15.6	7.61	6.46	1.149		
			27/19	5.34	4.17	6.51	1.171	35.1	20	7.21	5.97	1.241		
			30/22	5.69	4.45	6.88	1.189	35.3	26.7	6.84	5.49	1.341		
	1.33	58.8	21/16	4.80	3.75	5.95	1.149	33.9	10	8.27	7.17	1.098		
			24/17	5.12	4.00	6.26	1.142	34.1	15.6	7.84	6.65	1.186		
			27/19	5.45	4.26	6.59	1.136	34.4	20	7.43	6.15	1.281		
			30/22	5.80	4.53	6.96	1.153	34.6	26.7	7.04	5.66	1.384		
35	0.80	26.3	21/16	4.39	3.43	5.72	1.334	43.7						
			24/17	4.67	3.65	6.00	1.326	44.0						
			27/19	4.97	3.89	6.29	1.320	44.3						
			30/22	5.24	4.10	6.58	1.339	44.6						
	1.06	42.0	21/16	4.52	3.53	5.83	1.308	40.2						
			24/17	4.81	3.76	6.11	1.300	40.4						
			27/19	5.13	4.01	6.42	1.294	40.7						
			30/22	5.40	4.22	6.72	1.313	41.0						
	1.33	58.8	21/16	4.66	3.64	5.92	1.264	39.0						
			24/17	4.96	3.88	6.22	1.256	39.2						
			27/19	5.29	4.13	6.54	1.250	39.5						
			30/22	5.63	4.40	6.90	1.269	39.8						

Performance Data

L019H																				
COOLING									HEATING											
Ent Water °C	Water flow m3/h	Pressure drop Kp	Ent Air Db/Wb °C	Total capacity kw	Sensible capacity kw	Ht Rej kw	Power input kw	Lvg Water °C	Ent Air °C	Total capacity kw	Ht Abs capacity kw	Power input kw								
5	0.98	26.9							10	5.76	4.71	1.046								
									15.6	5.43	4.30	1.130								
									20	5.12	3.90	1.220								
									26.7	4.83	3.52	1.318								
	1.30	43.0							10	6.04	4.97	1.077								
									15.6	5.70	4.54	1.164								
									20	5.38	4.12	1.257								
									26.7	5.07	3.72	1.357								
	1.63	60.2							10	6.13	5.04	1.094								
									15.6	5.78	4.60	1.181								
									20	5.46	4.18	1.276								
									26.7	5.15	3.77	1.378								
10	0.98	26.9	21/16	5.99	4.68	7.09	1.097	20.1	10	6.40	5.32	1.078								
			24/17	6.38	4.99	7.47	1.091	20.3	15.6	6.03	4.87	1.165								
			27/19	6.80	5.31	7.88	1.085	20.4	20	5.69	4.43	1.258								
			30/22	7.24	5.66	8.34	1.102	20.5	26.7	5.37	4.01	1.359								
	-	-	21/16								10	6.72	5.60	1.111						
			24/17								15.6	6.34	5.14	1.200						
			27/19								20	5.98	4.68	1.296						
			30/22								26.7	5.64	4.24	1.399						
	-	-	21/16								10	6.81	5.68	1.128						
			24/17								15.6	6.43	5.21	1.218						
			27/19								20	6.06	4.75	1.315						
			30/22								26.7	5.72	4.30	1.421						
15	0.98	26.9	21/16								5.87	4.58	7.05	1.185	23.0	10	7.20	6.09	1.109	
			24/17								6.25	4.88	7.42	1.178	23.2	15.6	6.79	5.59	1.198	
			27/19								6.65	5.20	7.82	1.172	23.4	20	6.40	5.11	1.294	
			30/22								7.08	5.54	8.27	1.190	23.5	26.7	6.04	4.64	1.397	
	1.30	43.0	21/16	6.02	4.70	7.15	1.138	20.9	10	7.48	6.32	1.159								
			24/17	6.41	5.01	7.54	1.131	21.1	15.6	7.06	5.80	1.251								
			27/19	6.82	5.33	7.95	1.125	21.2	20	6.66	5.30	1.352								
			30/22	7.27	5.68	8.41	1.142	21.4	26.7	6.28	4.82	1.460								
	1.63	60.2	21/16	6.11	4.77	7.20	1.092	20.5	10	7.65	6.47	1.176								
			24/17	6.50	5.08	7.59	1.086	20.7	15.6	7.22	5.95	1.270								
			27/19	6.93	5.41	8.01	1.080	20.8	20	6.81	5.44	1.372								
			30/22	7.38	5.76	8.47	1.096	20.9	26.7	6.42	4.94	1.482								
20	0.98	26.9	21/16	5.69	4.45	7.01	1.317	27.6	10	7.99	6.85	1.140								
			24/17	6.06	4.74	7.37	1.309	27.8	15.6	7.54	6.31	1.231								
			27/19	6.46	5.05	7.76	1.303	28.0	20	7.12	5.79	1.330								
			30/22	6.88	5.37	8.20	1.322	28.2	26.7	6.71	5.28	1.436								
	1.30	43.0	21/16	5.84	4.56	7.11	1.265	25.1	10	8.24	7.04	1.207								
			24/17	6.22	4.86	7.48	1.257	25.3	15.6	7.78	6.47	1.303								
			27/19	6.62	5.18	7.88	1.251	25.5	20	7.34	5.93	1.407								
			30/22	7.05	5.51	8.32	1.270	25.7	26.7	6.92	5.40	1.520								
	1.63	60.2	21/16	5.93	4.63	7.13	1.202	24.6	10	8.49	7.26	1.225								
			24/17	6.31	4.93	7.51	1.194	24.8	15.6	8.01	6.69	1.323								
			27/19	6.72	5.25	7.91	1.188	25.0	20	7.56	6.13	1.429								
			30/22	7.16	5.59	8.37	1.206	25.1	26.7	7.13	5.58	1.543								
25	0.98	26.9	21/16	5.53	4.32	6.86	1.334	33.2	10	8.31	7.14	1.177								
			24/17	5.89	4.60	7.21	1.326	33.4	15.6	7.84	6.57	1.271								
			27/19	6.27	4.90	7.59	1.319	33.6	20	7.40	6.03	1.373								
			30/22	6.68	5.22	8.02	1.339	33.9	26.7	6.98	5.50	1.482								
	1.30	43.0	21/16	5.67	4.43	6.98	1.314	30.1	10	8.57	7.33	1.243								
			24/17	6.04	4.72	7.35	1.306	30.4	15.6	8.09	6.74	1.342								
			27/19	6.43	5.02	7.73	1.300	30.6	20	7.63	6.18	1.450								
			30/22	6.85	5.35	8.17	1.319	30.8	26.7	7.20	5.63	1.566								
	1.63	60.2	21/16	5.76	4.50	7.02	1.262	29.5	10	8.83	7.57	1.261								
			24/17	6.13	4.79	7.38	1.254	29.7	15.6	8.33	6.97	1.362								
			27/19	6.53	5.10	7.78	1.248	30.0	20	7.86	6.39	1.471								
			30/22	6.95	5.43	8.22	1.266	30.2	26.7	7.41	5.82	1.589								
30	0.98	26.9	21/16	5.37	4.19	6.79	1.418	37.6	10	8.61	7.39	1.212								
			24/17	5.72	4.47	7.13	1.417	37.9	15.6	8.12	6.81	1.309								
			27/19	6.09	4.76	7.50	1.410	38.1	20	7.66	6.25	1.414								
			30/22	6.48	5.07	7.91	1.431	38.4	26.7	7.23	5.70	1.527								
	1.30	43.0	21/16	5.51	4.30	6.90	1.398	34.7	10	8.87	7.61	1.259								
			24/17	5.86	4.58	7.26	1.396	34.9	15.6	8.37	7.01	1.360								
			27/19	6.24	4.88	7.63	1.389	35.2	20	7.90	6.43	1.468								
			30/22	6.65	5.20	8.06	1.410	35.4	26.7	7.45	5.86	1.586								
	1.63	60.2	21/16	5.59	4.37	6.95	1.363	34.0	10	9.14	7.84	1.299								
			24/17	5.95	4.65	7.31	1.354	34.2	15.6	8.62	7.22	1.403								
			27/19	6.34	4.95	7.69	1.347	34.5	20	8.13	6.62	1.516								
			30/22	6.75	5.27	8.12	1.368	34.7	26.7	7.67	6.04	1.637								
35	0.98	26.9	21/16	5.10	3.98	6.68	1.582	43.8												
			24/17	5.43	4.24	7.00	1.573	44.1												
			27/19	5.78	4.52	7.35	1.565	44.4												
			30/22	6.10	4.76	7.69	1.588	44.7												
	1.30	43.0	21/16	5.26	4.11	6.81	1.551	40.3												
			24/17	5.60	4.37	7.14	1.542	40.6												
			27/19	5.96	4.66	7.50	1.534	40.8												
			30/22	6.29	4.91	7.84	1.557	41.1												
	1.63	60.2	21/16	5.42	4.23	6.92	1.499	39.1												
			24/17	5.77	4.51	7.26	1.490	39.3												
			27/19	6.15	4.80	7.63	1.482	39.6												
			30/22	6.55	5.12	8.05	1.504	39.9												

Performance Data

L024H													
COOLING									HEATING				
Ent Water °C	Water flow m3/h	Pressure drop Kp	Ent Air Db/Wb °C	Total capacity kw	Sensible capacity kw	Ht Rej kw	Power input kw	Lvg Water °C	Ent Air °C	Total capacity kw	HtAbs capacity kw	Power input kw	
5	1.18	25.0							10	6.93	5.61	1.321	
									15.6	6.60	5.17	1.426	
									20	6.28	4.74	1.540	
									26.7	5.99	4.32	1.664	
	1.57	40.0							10	7.28	5.92	1.354	
									15.6	6.93	5.47	1.462	
									20	6.60	5.02	1.579	
									26.7	6.28	4.58	1.705	
	1.96	56.0							10	7.38	6.00	1.374	
									15.6	7.03	5.54	1.484	
									20	6.69	5.09	1.603	
									26.7	6.37	4.64	1.731	
10	1.18	25.0	21/16	7.44	5.81	8.73	1.295	20.1	10	7.70	6.36	1.340	
			24/17	7.92	6.19	9.21	1.287	20.3	15.6	7.33	5.89	1.447	
			27/19	8.43	6.59	9.71	1.281	20.4	20	6.98	5.42	1.563	
			30/22	8.98	7.02	10.28	1.300	20.5	26.7	6.65	4.96	1.688	
	*	*	21/16						10	8.08	6.70	1.380	
			24/17						15.6	7.70	6.21	1.490	
			27/19						20	7.33	5.72	1.609	
			30/22						26.7	6.98	5.24	1.738	
	*	*	21/16						10	8.20	6.80	1.402	
			24/17						15.6	7.81	6.29	1.514	
			27/19						20	7.44	5.80	1.636	
			30/22						26.7	7.08	5.32	1.766	
15	1.18	25.0	21/16	7.28	5.68	8.67	1.399	22.9	10	8.66	7.31	1.349	
			24/17	7.75	6.05	9.14	1.390	23.1	15.6	8.25	6.79	1.457	
			27/19	8.25	6.45	9.64	1.383	23.2	20	7.86	6.28	1.573	
			30/22	8.79	6.87	10.19	1.404	23.4	26.7	7.48	5.78	1.699	
	1.57	40.0	21/16	7.46	5.83	8.80	1.343	20.8	10	9.00	7.59	1.408	
			24/17	7.95	6.21	9.28	1.335	21.0	15.6	8.57	7.05	1.521	
			27/19	8.46	6.61	9.79	1.328	21.1	20	8.17	6.52	1.643	
			30/22	9.01	7.04	10.36	1.348	21.3	26.7	7.78	6.00	1.774	
	1.96	56.0	21/16	7.57	5.92	8.86	1.289	20.4	10	9.21	7.78	1.430	
			24/17	8.07	6.30	9.35	1.281	20.5	15.6	8.77	7.23	1.545	
			27/19	8.59	6.71	9.87	1.275	20.7	20	8.35	6.68	1.668	
			30/22	9.15	7.15	10.44	1.294	20.8	26.7	7.95	6.15	1.802	
20	1.18	25.0	21/16	7.03	5.49	8.58	1.555	27.5	10	9.62	8.27	1.358	
			24/17	7.49	5.85	9.03	1.545	27.7	15.6	9.16	7.70	1.466	
			27/19	7.97	6.23	9.51	1.538	27.9	20	8.73	7.14	1.584	
			30/22	8.49	6.63	10.05	1.561	28.1	26.7	8.31	6.60	1.710	
	1.57	40.0	21/16	7.21	5.63	8.70	1.493	25.0	10	9.92	8.48	1.437	
			24/17	7.68	6.00	9.16	1.484	25.2	15.6	9.45	7.90	1.552	
			27/19	8.18	6.39	9.65	1.476	25.3	20	9.00	7.32	1.676	
			30/22	8.71	6.80	10.21	1.498	25.5	26.7	8.57	6.76	1.810	
	1.96	56.0	21/16	7.32	5.72	8.74	1.418	24.5	10	10.22	8.76	1.458	
			24/17	7.79	6.09	9.20	1.409	24.7	15.6	9.73	8.16	1.575	
			27/19	8.30	6.48	9.70	1.402	24.8	20	9.27	7.57	1.701	
			30/22	8.84	6.91	10.26	1.423	25.0	26.7	8.83	6.99	1.837	
25	1.18	25.0	21/16	6.79	5.31	8.37	1.575	33.0	10	10.01	8.61	1.401	
			24/17	7.23	5.65	8.80	1.565	33.2	15.6	9.53	8.02	1.513	
			27/19	7.70	6.02	9.26	1.557	33.4	20	9.08	7.44	1.634	
			30/22	8.20	6.41	9.78	1.580	33.7	26.7	8.65	6.88	1.765	
	1.57	40.0	21/16	6.97	5.44	8.52	1.551	30.0	10	10.32	8.84	1.480	
			24/17	7.42	5.80	8.96	1.541	30.2	15.6	9.83	8.23	1.598	
			27/19	7.90	6.17	9.43	1.534	30.4	20	9.36	7.63	1.726	
			30/22	8.41	6.57	9.97	1.557	30.6	26.7	8.91	7.05	1.864	
	1.96	56.0	21/16	7.07	5.52	8.56	1.489	29.4	10	10.63	9.13	1.502	
			24/17	7.53	5.88	9.01	1.480	29.6	15.6	10.12	8.50	1.622	
			27/19	8.02	6.27	9.49	1.472	29.8	20	9.64	7.89	1.752	
			30/22	8.54	6.67	10.04	1.495	30.0	26.7	9.18	7.29	1.892	
30	1.18	25.0	21/16	6.56	5.13	8.24	1.674	37.4	10	10.36	8.92	1.443	
			24/17	6.99	5.46	8.66	1.672	37.7	15.6	9.87	8.31	1.559	
			27/19	7.44	5.81	9.11	1.664	37.9	20	9.40	7.71	1.683	
			30/22	7.93	6.19	9.62	1.689	38.2	26.7	8.95	7.13	1.818	
	1.57	40.0	21/16	6.73	5.26	8.38	1.649	34.5	10	10.68	9.18	1.499	
			24/17	7.17	5.60	8.82	1.648	34.7	15.6	10.17	8.55	1.619	
			27/19	7.63	5.96	9.27	1.639	35.0	20	9.69	7.94	1.749	
			30/22	8.13	6.35	9.79	1.664	35.2	26.7	9.22	7.34	1.889	
	1.96	56.0	21/16	6.83	5.34	8.44	1.608	33.8	10	11.00	9.45	1.547	
			24/17	7.28	5.68	8.87	1.598	34.0	15.6	10.48	8.80	1.671	
			27/19	7.75	6.05	9.34	1.590	34.3	20	9.98	8.17	1.805	
			30/22	8.25	6.45	9.87	1.614	34.5	26.7	9.50	7.55	1.949	
35	1.18	25.0	21/16	6.23	4.87	8.10	1.867	43.5					
			24/17	6.64	5.19	8.50	1.856	43.8					
			27/19	7.07	5.52	8.92	1.847	44.1					
			30/22	7.45	5.82	9.33	1.874	44.5					
	1.57	40.0	21/16	6.43	5.02	8.26	1.831	40.1					
			24/17	6.85	5.35	8.66	1.820	40.3					
			27/19	7.29	5.70	9.10	1.810	40.6					
			30/22	7.68	6.00	9.52	1.838	40.9					
	1.96	56.0	21/16	6.63	5.18	8.40	1.769	38.8					
			24/17	7.06	5.51	8.82	1.758	39.1					
			27/19	7.52	5.87	9.27	1.749	39.4					
			30/22	8.00	6.25	9.78	1.775	39.7					

Performance Data

L030H														
COOLING									HEATING					
Ent Water °C	Water flow m3/h	Pressure drop Kp	Ent Air Db/Wb °C	Total capacity kw	Sensible capacity kw	Ht Rej kw	Power input kw	Lvg Water °C	Ent Air °C	Total capacity kw	HtAbs capacity kw	Power input kw		
5	1.46	27.5							10	9.06	7.46	1.599		
									15.6	8.62	6.90	1.727		
									20	8.21	6.35	1.865		
									26.7	7.82	5.81	2.015		
	1.94	44.0							10	9.51	7.87	1.639		
									15.6	9.06	7.28	1.770		
									20	8.62	6.71	1.912		
									26.7	8.21	6.15	2.065		
	2.43	61.6							10	9.64	7.98	1.664		
									15.6	9.18	7.39	1.797		
									20	8.75	6.81	1.941		
									26.7	8.33	6.23	2.096		
10	1.46	27.5	21/16	9.19	7.18	10.86	1.667	20.1	10	10.06	8.38	1.682		
			24/17	9.79	7.65	11.45	1.657	20.3	15.6	9.58	7.77	1.816		
			27/19	10.43	8.14	12.07	1.649	20.4	20	9.13	7.16	1.961		
			30/22	11.10	8.67	12.78	1.673	20.5	26.7	8.69	6.57	2.118		
	-	-	21/16						10	10.56	8.84	1.724		
			24/17						15.6	10.06	8.20	1.862		
			27/19						20	9.58	7.57	2.011		
			30/22						26.7	9.13	6.95	2.171		
	-	-	21/16						10	10.72	8.96	1.752		
			24/17						15.6	10.20	8.31	1.892		
			27/19						20	9.72	7.68	2.043		
			30/22						26.7	9.26	7.05	2.207		
	15	1.46	27.5	21/16	8.99	7.03	10.79	1.801	22.9	10	11.32	9.60	1.722	
				24/17	9.58	7.48	11.37	1.790	23.1	15.6	10.78	8.92	1.859	
				27/19	10.20	7.97	11.98	1.781	23.2	20	10.27	8.26	2.008	
				30/22	10.86	8.49	12.67	1.807	23.4	26.7	9.78	7.61	2.169	
1.94		44.0	21/16	9.22	7.21	10.95	1.729	20.8	10	11.76	9.97	1.794		
			24/17	9.82	7.67	11.54	1.718	21.0	15.6	11.20	9.27	1.937		
			27/19	10.46	8.17	12.17	1.709	21.1	20	10.67	8.58	2.092		
			30/22	11.14	8.71	12.88	1.735	21.3	26.7	10.16	7.90	2.260		
2.43		61.6	21/16	9.36	7.31	11.02	1.659	20.4	10	12.03	10.21	1.822		
			24/17	9.97	7.79	11.62	1.649	20.5	15.6	11.46	9.49	1.968		
			27/19	10.62	8.30	12.26	1.641	20.7	20	10.92	8.79	2.125		
			30/22	11.31	8.84	12.98	1.666	20.8	26.7	10.40	8.10	2.295		
20		1.46	27.5	21/16	8.69	6.79	10.69	2.001	27.5	10	12.58	10.82	1.761	
				24/17	9.25	7.23	11.24	1.989	27.7	15.6	11.98	10.08	1.902	
				27/19	9.86	7.70	11.84	1.979	27.9	20	11.41	9.35	2.055	
				30/22	10.50	8.20	12.51	2.009	28.1	26.7	10.86	8.65	2.219	
	1.94	44.0	21/16	8.91	6.96	10.83	1.921	25.0	10	12.97	11.10	1.864		
			24/17	9.49	7.42	11.40	1.910	25.2	15.6	12.35	10.33	2.013		
			27/19	10.11	7.90	12.01	1.900	25.3	20	11.76	9.59	2.174		
			30/22	10.77	8.41	12.69	1.929	25.5	26.7	11.20	8.85	2.348		
	2.43	61.6	21/16	9.05	7.07	10.87	1.825	24.5	10	13.35	11.46	1.892		
			24/17	9.63	7.53	11.45	1.814	24.7	15.6	12.72	10.68	2.043		
			27/19	10.26	8.02	12.07	1.805	24.8	20	12.11	9.91	2.207		
			30/22	10.93	8.54	12.76	1.832	25.0	26.7	11.54	9.15	2.383		
	25	1.46	27.5	21/16	8.40	6.56	10.42	2.027	33.0	10	13.08	11.26	1.818	
				24/17	8.94	6.99	10.96	2.014	33.2	15.6	12.46	10.49	1.963	
				27/19	9.52	7.44	11.53	2.004	33.4	20	11.86	9.74	2.120	
				30/22	10.14	7.92	12.18	2.035	33.7	26.7	11.30	9.01	2.290	
1.94		44.0	21/16	8.61	6.73	10.61	1.996	30.0	10	13.48	11.56	1.920		
			24/17	9.17	7.16	11.16	1.984	30.2	15.6	12.84	10.77	2.073		
			27/19	9.77	7.63	11.74	1.974	30.4	20	12.23	9.99	2.239		
			30/22	10.40	8.13	12.41	2.004	30.6	26.7	11.65	9.23	2.418		
2.43		61.6	21/16	8.74	6.83	10.66	1.917	29.4	10	13.89	11.94	1.949		
			24/17	9.31	7.27	11.21	1.905	29.6	15.6	13.23	11.12	2.105		
			27/19	9.91	7.74	11.81	1.895	29.8	20	12.60	10.32	2.273		
			30/22	10.56	8.25	12.48	1.924	30.0	26.7	12.00	9.54	2.455		
30		1.46	27.5	21/16	8.11	6.34	10.27	2.155	37.4	10	13.54	11.66	1.872	
				24/17	8.64	6.75	10.79	2.153	37.7	15.6	12.89	10.87	2.022	
				27/19	9.20	7.19	11.34	2.142	37.9	20	12.28	10.09	2.184	
				30/22	9.80	7.66	11.97	2.174	38.2	26.7	11.69	9.34	2.359	
	1.94	44.0	21/16	8.32	6.50	10.44	2.123	34.5	10	13.96	12.01	1.945		
			24/17	8.86	6.92	10.98	2.121	34.7	15.6	13.29	11.19	2.100		
			27/19	9.44	7.37	11.55	2.110	35.0	20	12.66	10.39	2.268		
			30/22	10.05	7.85	12.19	2.142	35.2	26.7	12.06	9.61	2.450		
	2.43	61.6	21/16	8.44	6.60	10.51	2.070	33.8	10	14.37	12.37	2.007		
			24/17	8.99	7.03	11.05	2.057	34.0	15.6	13.69	11.52	2.168		
			27/19	9.58	7.48	11.63	2.047	34.3	20	13.04	10.70	2.341		
			30/22	10.20	7.97	12.28	2.078	34.5	26.7	12.42	9.89	2.528		
	35	1.46	27.5	21/16	7.71	6.02	10.11	2.404	43.5					
				24/17	8.21	6.41	10.60	2.389	43.8					
				27/19	8.74	6.83	11.12	2.377	44.1					
				30/22	9.21	7.20	11.63	2.413	44.5					
1.94		44.0	21/16	7.95	6.21	10.30	2.357	40.1						
			24/17	8.46	6.61	10.80	2.342	40.3						
			27/19	9.01	7.04	11.34	2.331	40.6						
			30/22	9.50	7.42	11.86	2.366	40.9						
2.43		61.6	21/16	8.19	6.40	10.47	2.277	38.8						
			24/17	8.72	6.82	10.99	2.263	39.1						
			27/19	9.29	7.26	11.54	2.252	39.4						
			30/22	9.89	7.73	12.18	2.286	39.7						

Performance Data

L036H													
COOLING									HEATING				
Ent Water °C	Water flow m3/h	Pressure drop Kp	Ent Air Db/Wb °C	Total capacity kw	Sensible capacity kw	Ht Rej kw	Power input kw	Lvg Water °C	Ent Air °C	Total capacity kw	Ht.Abs capacity kw	Power input kw	
5	1.73	26.8							10	10.04	8.13	1.912	
									15.6	9.57	7.50	2.065	
									20	9.11	6.88	2.230	
	2.30	42.8							26.7	8.68	6.27	2.408	
									10	10.55	8.59	1.959	
									15.6	10.04	7.93	2.116	
	2.88	59.9							20	9.57	7.28	2.285	
									26.7	9.11	6.64	2.468	
									10	10.70	8.71	1.989	
10	1.73	26.8	15.6	10.19	8.04	2.148							
			20	9.70	7.38	2.320							
			26.7	9.24	6.73	2.506							
	.	.	10	11.16	9.22	1.939							
			15.6	10.63	8.53	2.094							
			20	10.12	7.86	2.262							
	.	.	26.7	9.64	7.20	2.443							
			10	11.72	9.72	1.997							
			15.6	11.16	9.00	2.157							
15	1.73	26.8	20	10.63	8.30	2.330							
			26.7	10.12	7.61	2.516							
			10	11.89	9.86	2.030							
	2.30	42.8	15.6	11.32	9.13	2.192							
			20	10.78	8.41	2.368							
			26.7	10.27	7.71	2.557							
	2.88	59.9	10	12.56	10.60	1.952							
			15.6	11.96	9.85	2.109							
			20	11.39	9.11	2.277							
20	1.73	26.8	26.7	10.85	8.39	2.459							
			10	13.28	11.24	2.039							
			15.6	12.65	10.45	2.202							
	2.30	42.8	20	12.04	9.67	2.378							
			26.7	11.47	8.90	2.568							
			10	13.59	11.52	2.070							
	2.88	59.9	15.6	12.94	10.70	2.236							
			20	12.32	9.91	2.415							
			26.7	11.74	9.13	2.608							
25	1.73	26.8	10	13.95	11.98	1.985							
			15.6	13.29	11.16	2.123							
			20	12.65	10.36	2.293							
	2.30	42.8	26.7	12.05	9.57	2.476							
			10	14.84	12.76	2.080							
			15.6	14.13	11.89	2.246							
	2.88	59.9	20	13.46	11.04	2.426							
			26.7	12.82	10.20	2.620							
			10	15.29	13.17	2.111							
30	1.73	26.8	15.6	14.56	12.28	2.280							
			20	13.86	11.40	2.462							
			26.7	13.20	10.55	2.659							
	2.30	42.8	10	14.51	12.48	2.028							
			15.6	13.82	11.63	2.191							
			20	13.16	10.79	2.366							
	2.88	59.9	26.7	12.53	9.98	2.555							
			10	15.43	13.29	2.142							
			15.6	14.70	12.39	2.314							
35	1.73	26.8	27.19	11.37	8.89	2.429							
			30.22	12.11	9.46	2.699							
			21.16	10.18	7.95	2.156							
	2.30	42.8	24.17	10.41	8.13	2.266							
			27.19	11.09	8.66	2.354							
			30.22	11.81	9.23	2.488							
	2.88	59.9	21.16	10.03	7.83	2.227							
			24.17	10.68	8.34	2.232							
			27.19	11.37	8.89	2.220							
40	1.73	26.8	30.22	12.11	9.46	2.699							
			21.16	10.18	7.95	2.156							
			24.17	10.41	8.13	2.266							
	2.30	42.8	27.19	11.09	8.66	2.354							
			30.22	11.81	9.23	2.488							
			21.16	10.03	7.83	2.227							
	2.88	59.9	24.17	10.68	8.34	2.232							
			27.19	11.37	8.89	2.220							
			30.22	12.11	9.46	2.699							
45	1.73	26.8	21.16	10.18	7.95	2.156							
			24.17	10.41	8.13	2.266							
			27.19	11.09	8.66	2.354							
	2.30	42.8	30.22	12.11	9.46	2.699							
			21.16	10.18	7.95	2.156							
			24.17	10.41	8.13	2.266							
	2.88	59.9	27.19	11.09	8.66	2.354							
			30.22	11.81	9.23	2.488							
			21.16	10.03	7.83	2.227							

Performance Data

J043H																			
COOLING									HEATING										
Ent Water °C	Water flow m3/h	Pressure drop Kp	Ent Air Db/Wb °C	Total capacity kw	Sensible capacity kw	Ht Rej kw	Power input kw	Lvg Water °C	Ent Air °C	Total capacity kw	Ht Abs capacity kw	Power input kw							
5	2.03	20.0							10	11.41	8.99	2.417							
									15.6	10.76	8.23	2.526							
									20	10.15	7.51	2.640							
									26.7	9.58	6.82	2.759							
	2.70	32.0							10	11.98	9.52	2.454							
									15.6	11.30	8.73	2.564							
									20	10.66	7.98	2.679							
									26.7	10.05	7.25	2.800							
	3.38	44.8							10	12.15	9.66	2.491							
									15.6	11.46	8.86	2.603							
									20	10.81	8.09	2.720							
									26.7	10.20	7.36	2.843							
10	2.03	20.0	21/16	11.73	9.09	13.96	2.23	20.0	10	12.67	10.16	2.515							
			24/17	12.55	9.73	14.75	2.21	20.1	15.6	11.96	9.33	2.629							
			27/19	13.79	10.69	15.99	2.20	20.2	20	11.28	8.53	2.747							
			30/22	14.76	11.44	16.98	2.22	20.3	26.7	10.64	7.77	2.871							
	-	-	21/16							10	13.31	10.75	2.553						
			24/17							15.6	12.55	9.88	2.668						
			27/19							20	11.84	9.05	2.788						
			30/22							26.7	11.17	8.26	2.914						
	-	-	21/16							10	13.50	10.90	2.595						
			24/17							15.6	12.73	10.02	2.712						
			27/19							20	12.01	9.18	2.834						
			30/22							26.7	11.33	8.37	2.961						
15	2.03	20.0	21/16							11.47	8.89	13.88	2.408	22.8	10	14.26	11.62	2.636	
			24/17							12.28	9.52	14.66	2.383	23.0	15.6	13.45	10.70	2.754	
			27/19							13.14	10.18	15.51	2.371	23.2	20	12.69	9.81	2.878	
			30/22							14.06	10.90	16.46	2.402	23.3	26.7	11.97	8.96	3.008	
	2.70	32.0	21/16	11.65	9.03	13.97	2.311	20.8	10	14.99	12.31	2.683							
			24/17	12.47	9.67	14.76	2.288	20.9	15.6	14.14	11.34	2.803							
			27/19	13.34	10.34	15.62	2.277	21.0	20	13.34	10.41	2.930							
			30/22	14.28	11.07	16.58	2.306	21.2	26.7	12.59	9.52	3.061							
	3.38	44.8	21/16	11.89	9.22	14.11	2.219	20.3	10	15.34	12.61	2.724							
			24/17	12.72	9.86	14.92	2.196	20.5	15.6	14.47	11.62	2.847							
			27/19	13.61	10.55	15.80	2.185	20.6	20	13.65	10.67	2.975							
			30/22	14.56	11.29	16.78	2.214	20.8	26.7	12.88	9.77	3.109							
20	2.03	20.0	21/16	11.09	8.59	13.76	2.676	27.4	10	15.84	13.08	2.756							
			24/17	11.86	9.20	14.51	2.649	27.6	15.6	14.94	12.06	2.880							
			27/19	12.69	9.84	15.33	2.636	27.8	20	14.10	11.09	3.009							
			30/22	13.58	10.53	16.25	2.670	28.0	26.7	13.30	10.16	3.145							
	2.70	32.0	21/16	11.37	8.81	13.94	2.569	24.9	10	16.67	13.86	2.812							
			24/17	12.17	9.43	14.71	2.543	25.1	15.6	15.73	12.79	2.939							
			27/19	13.02	10.09	15.55	2.531	25.3	20	14.84	11.77	3.071							
			30/22	13.93	10.80	16.49	2.563	25.4	26.7	14.00	10.79	3.209							
	3.38	44.8	21/16	11.60	8.99	14.04	2.441	24.4	10	17.17	14.32	2.854							
			24/17	12.41	9.62	14.83	2.416	24.6	15.6	16.20	13.22	2.983							
			27/19	13.28	10.29	15.68	2.404	24.8	20	15.29	12.17	3.117							
			30/22	14.21	11.01	16.64	2.435	24.9	26.7	14.42	11.16	3.257							
25	2.03	20.0	21/16	10.76	8.34	13.47	2.710	32.9	10	16.47	13.63	2.844							
			24/17	11.52	8.93	14.20	2.683	33.1	15.6	15.54	12.57	2.972							
			27/19	12.32	9.55	14.99	2.669	33.3	20	14.66	11.56	3.106							
			30/22	13.19	10.22	15.89	2.704	33.6	26.7	13.83	10.59	3.245							
	2.70	32.0	21/16	11.04	8.56	13.71	2.669	29.9	10	17.34	14.44	2.896							
			24/17	11.81	9.16	14.45	2.643	30.1	15.6	16.36	13.33	3.027							
			27/19	12.64	9.80	15.27	2.629	30.3	20	15.43	12.27	3.163							
			30/22	13.52	10.48	16.19	2.664	30.5	26.7	14.56	11.25	3.305							
	3.38	44.8	21/16	11.26	8.73	13.82	2.563	29.3	10	17.86	14.92	2.940							
			24/17	12.05	9.34	14.59	2.537	29.5	15.6	16.85	13.78	3.072							
			27/19	12.89	9.99	15.42	2.524	29.7	20	15.90	12.69	3.210							
			30/22	13.79	10.69	16.35	2.557	29.9	26.7	15.00	11.64	3.355							
30	2.03	20.0	21/16	10.45	8.10	13.33	2.881	37.3	10	17.05	14.12	2.929							
			24/17	11.18	8.67	14.05	2.867	37.6	15.6	16.09	13.02	3.061							
			27/19	11.96	9.27	14.82	2.853	37.8	20	15.18	11.98	3.199							
			30/22	12.80	9.92	15.69	2.890	38.1	26.7	14.32	10.97	3.343							
	2.70	32.0	21/16	10.72	8.31	13.56	2.839	34.4	10	17.95	15.01	2.940							
			24/17	11.47	8.89	14.29	2.825	34.6	15.6	16.93	13.86	3.072							
			27/19	12.27	9.51	15.08	2.810	34.9	20	15.97	12.76	3.210							
			30/22	13.13	10.18	15.98	2.847	35.1	26.7	15.07	11.71	3.355							
	3.38	44.8	21/16	10.93	8.47	13.70	2.768	33.7	10	18.49	15.46	3.028							
			24/17	11.70	9.07	14.44	2.740	33.9	15.6	17.44	14.28	3.164							
			27/19	12.52	9.70	15.24	2.726	34.2	20	16.45	13.15	3.307							
			30/22	13.39	10.38	16.15	2.762	34.4	26.7	15.52	12.07	3.455							
35	2.03	20.0	21/16	9.98	7.73	13.19	3.214	43.4											
			24/17	10.68	8.28	13.86	3.182	43.7											
			27/19	11.42	8.86	14.59	3.166	44.0											
			30/22	12.10	9.38	15.30	3.207	44.3											
	2.70	32.0	21/16	10.29	7.97	13.44	3.151	39.9											
			24/17	11.01	8.53	14.13	3.119	40.2											
			27/19	11.78	9.13	14.88	3.104	40.5											
			30/22	12.47	9.67	15.62	3.144	40.8											
	3.38	44.8	21/16	10.60	8.22	13.65	3.044	38.7											
			24/17	11.35	8.80	14.36	3.014	39.0											
			27/19	12.14	9.41	15.14	2.999	39.3											
			30/22	12.99	10.07	16.03	3.038	39.6											

Performance Data

J052H																									
COOLING									HEATING																
Ent Water °C	Water flow m3/h	Pressure drop Kp	Ent Air Db/Wb °C	Total capacity kw	Sensible capacity kw	Ht Rej kw	Power input kw	Lvg Water °C	Ent Air °C	Total capacity kw	Ht Abs capacity kw	Power input kw													
5	2.42	25.0							10	13.26	10.42	2.839													
									15.6	12.63	9.57	3.066													
									20	12.03	8.72	3.312													
	3.22	40.0							26.7	11.46	7.88	3.577													
									10	13.93	11.02	2.910													
									15.6	13.26	10.12	3.143													
									20	12.63	9.24	3.394													
	4.03	56.0							26.7	12.03	8.36	3.666													
									10	14.12	11.17	2.954													
10	2.42	25.0							21/16	14.25	10.960	17.11	2.860	20.2	10	14.74	11.81	2.924							
									24/17	15.25	11.727	18.09	2.842	20.4	15.6	14.03	10.88	3.158							
									27/19	16.31	12.548	19.14	2.828	20.5	20	13.37	9.96	3.411							
	3.22	40.0							30/22	17.45	13.426	20.32	2.870	20.6	26.7	12.73	9.05	3.683							
									21/16	14.30	10.999	17.26	2.965	20.8	10	16.91	13.82	3.089							
									24/17	15.30	11.769	18.25	2.947	20.9	15.6	16.10	12.77	3.336							
									27/19	16.37	12.593	19.30	2.932	21.0	20	15.34	11.73	3.603							
	4.03	56.0							30/22	17.52	13.474	20.49	2.976	21.2	26.7	14.61	10.72	3.891							
									21/16	14.51	11.164	17.36	2.846	20.3	10	17.30	14.16	3.137							
24/17									15.53	11.945	18.36	2.829	20.5	15.6	16.47	13.09	3.388								
27/19									16.62	12.782	19.43	2.815	20.6	20	15.69	12.03	3.659								
15	2.42	25.0							21/16	13.94	10.724	17.03	3.088	22.8	10	16.08	13.12	2.965							
									24/17	14.92	11.475	17.99	3.069	23.0	15.6	15.32	12.11	3.202							
									27/19	15.96	12.278	19.02	3.054	23.2	20	14.59	11.13	3.458							
	3.22	40.0							30/22	17.08	13.137	20.18	3.100	23.3	26.7	13.89	10.16	3.735							
									21/16	14.30	10.999	17.26	2.965	20.8	10	16.91	13.82	3.089							
									24/17	15.30	11.769	18.25	2.947	20.9	15.6	16.10	12.77	3.336							
									27/19	16.37	12.593	19.30	2.932	21.0	20	15.34	11.73	3.603							
	4.03	56.0							30/22	17.52	13.474	20.49	2.976	21.2	26.7	14.61	10.72	3.891							
									21/16	14.51	11.164	17.36	2.846	20.3	10	17.30	14.16	3.137							
24/17									15.53	11.945	18.36	2.829	20.5	15.6	16.47	13.09	3.388								
27/19									16.62	12.782	19.43	2.815	20.6	20	15.69	12.03	3.659								
20	2.42	25.0							21/16	13.54	10.412	16.97	3.433	27.4	10	18.42	15.41	3.006							
									24/17	14.48	11.140	17.89	3.412	27.6	15.6	17.54	14.30	3.246							
									27/19	15.50	11.920	18.89	3.395	27.8	20	16.71	13.20	3.506							
	3.22	40.0							30/22	16.58	12.755	20.03	3.446	28.0	26.7	15.91	12.13	3.787							
									21/16	13.88	10.679	17.18	3.296	24.9	10	19.39	16.21	3.181							
									24/17	14.85	11.426	18.13	3.275	25.1	15.6	18.47	15.03	3.435							
									27/19	15.89	12.226	19.15	3.259	25.3	20	17.59	13.88	3.710							
	4.03	56.0							30/22	17.01	13.082	20.31	3.308	25.4	26.7	16.75	12.74	4.007							
									21/16	14.09	10.839	17.22	3.131	24.4	10	19.97	16.74	3.229							
24/17									15.08	11.597	18.19	3.112	24.6	15.6	19.02	15.53	3.487								
27/19									16.13	12.409	19.23	3.096	24.8	20	18.12	14.35	3.766								
25	2.42	25.0							30/22	17.26	13.278	20.40	3.143	24.9	26.7	17.25	13.19	4.067							
									21/16	13.14	10.108	16.62	3.477	31.5	10	19.16	16.06	3.102							
									24/17	14.06	10.816	17.52	3.455	31.7	15.6	18.25	14.89	3.350							
	3.22	40.0							27/19	15.04	11.573	18.48	3.438	32.0	20	17.38	13.76	3.618							
									30/22	16.10	12.383	19.59	3.490	32.2	26.7	16.55	12.64	3.908							
									21/16	13.48	10.368	16.90	3.424	28.6	10	20.17	16.89	3.276							
									24/17	14.42	11.093	17.82	3.403	28.8	15.6	19.21	15.67	3.538							
	4.03	56.0							27/19	15.43	11.870	18.82	3.386	29.0	20	18.29	14.47	3.821							
									30/22	16.51	12.701	19.95	3.437	29.3	26.7	17.42	13.29	4.127							
21/16									13.68	10.523	16.97	3.287	28.1	10	20.77	17.45	3.325								
24/17									14.64	11.260	17.90	3.267	28.3	15.6	19.78	16.19	3.591								
30	2.42	25.0							27/19	15.66	12.048	18.91	3.251	28.5	20	18.84	14.96	3.879							
									30/22	16.76	12.891	20.06	3.300	28.7	26.7	17.94	13.75	4.189							
									21/16	12.76	9.814	16.45	3.696	37.3	10	19.83	16.63	3.195							
	3.22	40.0							24/17	13.65	10.501	17.34	3.692	37.6	15.6	18.88	15.43	3.451							
									27/19	14.61	11.236	18.28	3.674	37.8	20	17.98	14.26	3.727							
									30/22	15.63	12.023	19.36	3.729	38.1	26.7	17.13	13.10	4.025							
									21/16	13.09	10.066	16.73	3.641	34.4	10	20.87	17.55	3.319							
	4.03	56.0							24/17	14.00	10.770	17.64	3.638	34.6	15.6	19.88	16.29	3.584							
									27/19	14.98	11.524	18.60	3.620	34.9	20	18.93	15.06	3.871							
30/22									16.03	12.331	19.70	3.674	35.1	26.7	18.03	13.85	4.181								
21/16									13.28	10.217	16.83	3.550	33.7	10	21.50	18.07	3.425								
35	2.42	25.0							24/17	14.21	10.932	17.74	3.529	33.9	15.6	20.47	16.77	3.699							
									27/19	15.21	11.697	18.72	3.511	34.2	20	19.50	15.50	3.995							
									30/22	16.27	12.516	19.83	3.564	34.4	26.7	18.57	14.26	4.315							
	3.22	40.0							21/16	12.12	9.324	16.24	4.123	43.4											
									24/17	12.97	9.977	17.07	4.098	43.7											
									27/19	13.88	10.675	17.96	4.077	44.0											
									30/22	14.70	11.305	18.84	4.139	44.3											
	4.03	56.0							21/16	12.50	9.613	16.54	4.042	39.9											
									24/17	13.37	10.286	17.39	4.017	40.2											
27/19									14.31	11.006	18.30	3.997	40.5												
30/22									15.15	11.655	19.21	4.057	40.8												

Performance Data

J062H													
COOLING									HEATING				
Ent Water °C	Water flow m3/h	Pressure drop Kp	Ent Air Db/Wb °C	Total capacity kw	Sensible capacity kw	Ht Rej kw	Power input kw	Lvg Water °C	Ent Air °C	Total capacity kw	Ht Abs capacity kw	Power input kw	
5	2.89	29.4							10	14.63	11.15	3.480	
									15.6	13.94	10.28	3.654	
									20	13.27	9.44	3.837	
	3.85	47.0							26.7	12.64	8.61	4.029	
									10	15.37	11.80	3.567	
									15.6	14.63	10.89	3.746	
	4.81	65.8							20	13.94	10.00	3.933	
									26.7	13.27	9.14	4.130	
									10	15.58	11.96	3.622	
10	2.89	29.4							15.6	14.84	11.04	3.803	
									20	14.14	10.14	3.993	
									26.7	13.46	9.27	4.193	
	-	-							10	16.26	12.68	3.584	
									15.6	15.49	11.72	3.764	
									20	14.75	10.80	3.952	
	-	-							26.7	14.05	9.90	4.149	
									10	17.07	13.40	3.674	
									15.6	16.26	12.40	3.858	
15	2.89	29.4							20	15.49	11.43	4.051	
									26.7	14.75	10.49	4.253	
									10	17.32	13.58	3.734	
	3.85	47.0							15.6	16.49	12.57	3.921	
									20	15.71	11.59	4.117	
									26.7	14.96	10.64	4.322	
	4.81	65.8							10	18.29	14.66	3.635	
									15.6	17.42	13.60	3.816	
									20	16.59	12.58	4.007	
20	2.89	29.4							26.7	15.80	11.59	4.208	
									10	19.01	15.23	3.787	
									15.6	18.11	14.13	3.976	
	3.85	47.0							20	17.25	13.07	4.175	
									26.7	16.42	12.04	4.384	
									10	19.45	15.60	3.846	
	4.81	65.8							15.6	18.52	14.48	4.038	
									20	17.64	13.40	4.240	
									26.7	16.80	12.35	4.452	
25	2.89	29.4							10	20.32	16.64	3.685	
									15.6	19.36	15.49	3.869	
									20	18.43	14.37	4.063	
	3.85	47.0							26.7	17.56	13.29	4.266	
									10	20.95	17.05	3.899	
									15.6	19.96	15.86	4.094	
	4.81	65.8							20	19.01	14.71	4.299	
									26.7	18.10	13.59	4.514	
									10	21.58	17.62	3.958	
30	2.89	29.4							15.6	20.55	16.40	4.156	
									20	19.58	15.21	4.364	
									26.7	18.64	14.06	4.582	
	3.85	47.0							10	21.14	17.33	3.803	
									15.6	20.13	16.14	3.993	
									20	19.17	14.98	4.193	
	4.81	65.8							26.7	18.26	13.86	4.402	
									10	21.79	17.77	4.016	
									15.6	20.75	16.54	4.217	
35	2.89	29.4							20	19.77	15.34	4.428	
									26.7	18.82	14.17	4.649	
									10	22.44	18.37	4.077	
	3.85	47.0							15.6	21.38	17.10	4.280	
									20	20.36	15.86	4.494	
									26.7	19.39	14.67	4.719	
	4.81	65.8							10	21.88	17.96	3.917	
									15.6	20.84	16.72	4.113	
									20	19.84	15.52	4.318	
40	2.89	29.4							26.7	18.90	14.36	4.534	
									10	22.55	18.49	4.069	
									15.6	21.48	17.21	4.272	
	3.85	47.0							20	20.46	15.97	4.486	
									26.7	19.48	14.77	4.710	
									10	23.23	19.03	4.199	
	4.81	65.8							15.6	22.12	17.72	4.409	
									20	21.07	16.44	4.629	
									26.7	20.07	15.21	4.861	
45	2.89	29.4							10	24.00	20.00	4.000	
									15.6	22.92	18.72	4.224	
									20	21.84	17.44	4.448	
	3.85	47.0							26.7	20.76	16.16	4.672	
									10	24.88	20.88	4.176	
									15.6	23.80	19.60	4.392	
	4.81	65.8							20	22.72	18.32	4.616	
									26.7	21.64	17.04	4.840	
									10	25.76	21.52	4.288	

Performance Data

J072H														
COOLING									HEATING					
Ent Water °C	Water flow m3/h	Pressure drop Kp	Ent Air Db/Wb °C	Total capacity kw	Sensible capacity kw	Ht Rej kw	Power input kw	Lvg Water °C	Ent Air °C	Total capacity kw	Ht Abs capacity kw	Power input kw		
5	3.23	30.0							10	17.01	12.76	4.25		
									15.6	16.35	11.89	4.46		
									20	15.73	11.04	4.68		
									26.7	15.12	10.20	4.92		
	4.30	48.0							10	17.86	13.51	4.35		
									15.6	17.17	12.60	4.57		
									20	16.51	11.71	4.80		
									26.7	15.88	10.84	5.04		
	5.38	67.2							10	18.11	13.69	4.42		
									15.6	17.42	12.78	4.64		
10	3.23	30.0		21/16	18.31	13.08	22.19	3.88	20.2	10	18.90	14.52	4.37	
				24/17	19.59	13.99	23.45	3.86	20.4	15.6	18.17	13.58	4.59	
				27/19	20.96	14.97	24.80	3.84	20.5	20	17.47	12.65	4.82	
				30/22	22.43	16.02	26.33	3.90	20.6	26.7	16.80	11.74	5.06	
	4.30	48.0		21/16						10	19.84	15.36	4.48	
				24/17						15.6	19.08	14.37	4.71	
				27/19						20	18.35	13.40	4.94	
				30/22						26.7	17.64	12.45	5.19	
	5.38	67.2		21/16						10	20.13	15.57	4.56	
				24/17						15.6	19.35	14.57	4.78	
				27/19						20	18.61	13.59	5.02	
				30/22						26.7	17.89	12.62	5.27	
15	3.23	30.0		21/16	17.92	12.80	22.11	4.19	23.0	10	21.26	16.83	4.44	
				24/17	19.17	13.69	23.34	4.17	23.2	15.6	20.44	15.79	4.66	
				27/19	20.51	14.65	24.66	4.15	23.4	20	19.66	14.77	4.89	
				30/22	21.95	15.68	26.16	4.21	23.5	26.7	18.90	13.77	5.13	
	4.30	48.0		21/16	18.29	13.06	22.31	4.03	20.9	10	22.10	17.48	4.62	
				24/17	19.57	13.98	23.57	4.00	21.1	15.6	21.25	16.40	4.85	
				27/19	20.94	14.95	24.92	3.98	21.2	20	20.43	15.34	5.09	
				30/22	22.40	16.00	26.44	4.04	21.4	26.7	19.65	14.30	5.35	
	5.38	67.2		21/16	18.56	13.26	22.43	3.87	20.5	10	22.61	17.91	4.69	
				24/17	19.86	14.19	23.70	3.84	20.7	15.6	21.74	16.81	4.93	
				27/19	21.25	15.18	25.07	3.82	20.8	20	20.90	15.73	5.17	
				30/22	25.44	18.17	29.32	3.88	20.9	26.7	20.10	14.66	5.43	
20	3.23	30.0		21/16	17.39	12.42	22.06	4.66	27.6	10	23.62	19.13	4.50	
				24/17	18.61	13.29	23.25	4.63	27.8	15.6	22.71	17.99	4.72	
				27/19	19.91	14.22	24.53	4.61	28.0	20	21.84	16.88	4.96	
				30/22	21.31	15.22	25.99	4.68	28.2	26.7	21.00	15.80	5.21	
	4.30	48.0		21/16	17.84	12.74	22.32	4.48	25.1	10	24.35	19.60	4.76	
				24/17	19.09	13.63	23.54	4.45	25.3	15.6	23.42	18.42	5.00	
				27/19	20.42	14.59	24.85	4.43	25.5	20	22.52	17.27	5.25	
				30/22	21.85	15.61	26.35	4.49	25.7	26.7	21.65	16.14	5.51	
	5.38	67.2		21/16	18.11	12.93	22.36	4.25	24.6	10	25.08	20.25	4.83	
				24/17	19.37	13.84	23.60	4.23	24.8	15.6	24.12	19.05	5.07	
				27/19	20.73	14.81	24.94	4.21	25.0	20	23.19	17.87	5.32	
				30/22	24.82	17.73	29.09	4.27	25.1	26.7	22.30	16.71	5.59	
25	3.23	30.0		21/16	16.89	12.06	21.61	4.72	33.2	10	24.57	19.93	4.64	
				24/17	18.07	12.91	22.76	4.69	33.4	15.6	23.62	18.75	4.87	
				27/19	19.33	13.81	24.00	4.67	33.6	20	22.71	17.60	5.12	
				30/22	20.69	14.78	25.43	4.74	33.9	26.7	21.84	16.47	5.37	
	4.30	48.0		21/16	17.32	12.37	21.97	4.65	30.1	10	25.33	20.43	4.90	
				24/17	18.53	13.24	23.16	4.62	30.4	15.6	24.35	19.21	5.15	
				27/19	19.83	14.16	24.43	4.60	30.6	20	23.42	18.01	5.40	
				30/22	21.22	15.16	25.89	4.67	30.8	26.7	22.52	16.84	5.67	
	5.38	67.2		21/16	17.58	12.56	22.04	4.46	29.5	10	26.09	21.11	4.97	
				24/17	18.81	13.44	23.25	4.44	29.7	15.6	25.08	19.86	5.22	
				27/19	20.13	14.38	24.54	4.42	30.0	20	24.12	18.64	5.48	
				30/22	24.09	17.21	28.58	4.48	30.2	26.7	23.19	17.43	5.76	
30	3.23	30.0		21/16	16.40	11.71	21.42	5.02	37.6	10	25.43	20.65	4.78	
				24/17	17.54	12.53	22.56	5.01	37.9	15.6	24.45	19.43	5.02	
				27/19	18.77	13.41	23.76	4.99	38.1	20	23.51	18.24	5.27	
				30/22	20.09	14.35	25.15	5.06	38.4	26.7	22.60	17.07	5.53	
	4.30	48.0		21/16	16.82	12.01	21.76	4.95	34.7	10	26.21	21.25	4.96	
				24/17	17.99	12.85	22.93	4.94	34.9	15.6	25.21	19.99	5.21	
				27/19	19.25	13.75	24.17	4.92	35.2	20	24.24	18.76	5.47	
				30/22	20.60	14.71	25.59	4.99	35.4	26.7	23.30	17.56	5.75	
	5.38	67.2		21/16	17.07	12.19	21.89	4.82	34.0	10	27.00	21.88	5.12	
				24/17	18.26	13.04	23.06	4.79	34.2	15.6	25.96	20.58	5.38	
				27/19	19.54	13.96	24.31	4.77	34.5	20	24.96	19.31	5.65	
				30/22	23.39	16.71	28.23	4.84	34.7	26.7	24.00	18.07	5.93	
35	3.23	30.0		21/16	15.58	11.13	21.18	5.60	43.8					
				24/17	16.67	11.91	22.23	5.57	44.1					
				27/19	17.83	12.74	23.37	5.54	44.4					
				30/22	21.13	15.09	26.75	5.62	44.7					
	4.30	48.0		21/16	16.06	11.47	21.55	5.49	40.3					
				24/17	17.18	12.27	22.64	5.46	40.6					
				27/19	18.39	13.13	23.82	5.43	40.8					
				30/22	21.78	15.56	27.29	5.51	41.1					
	5.38	67.2		21/16	16.56	11.83	21.86	5.30	39.1					
				24/17	17.71	12.65	22.99	5.27	39.3					
				27/19	18.95	13.54	24.20	5.25	39.6					
				30/22	22.69	16.21	28.02	5.32	39.9					

Application Limits

	Water Loop		Ground Loop	
	Cooling	Heating	Cooling	Heating
Rreturn Air Temp.	21~32℃	21~32℃	21~32℃	15~27℃
Entering Water Temp.	20~40℃	20~40℃	10~40℃	-5~25℃

NOTE: 1. When the source water temperature is too low(Ground loop),please add antifreeze to the source water system.
 2.It is not recommended to operate under 10~15℃ source water temperature. If the source water temperature is below 15℃, please reduce the source water flow to make sure the leaving source water temperature is higher than 25℃.

Capacity Correction Factors

Methanol	10%	15%	20%
Cooling	1.00	0.99	0.99
Heating	0.99	0.98	0.97

Ethanol	10%	15%	20%
Cooling	1.00	1.00	1.00
Heating	0.99	0.98	0.97

Propylene Glycol	15%	20%	25%
Cooling	0.98	0.97	0.96
Heating	0.96	0.95	0.93

Electrical Data

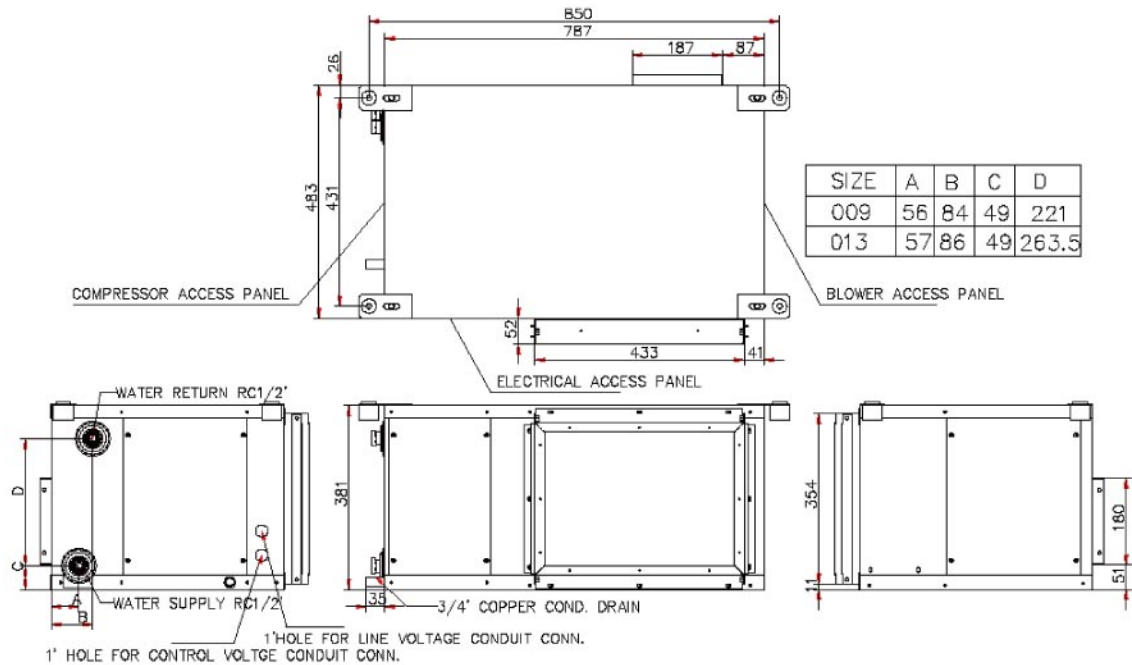
Model	Power	Compressor		Fan Motor	Total current A	Min/Max Voltage V	Breaking current A	Power wire	
		RLA	LRA	FLA				Wire diameter	Number
L009	220V/50/1	3.60	17.80	0.39	3.99	198/264	10	1.5mm2	3
L013		5.40	26.10	0.52	5.92		15	1.5mm2	3
L016		6.25	27.44	0.85	7.10		15	1.5mm2	3
L019		7.75	31.83	0.94	8.69		25	2.5mm2	3
L024		9.30	36.80	1.11	10.41		25	2.5mm2	3
L030		11.90	61.00	1.40	13.30		32	2.5mm2	3
L036		13.10	68.20	2.07	15.17		32	4mm2	3
J043	380V/50/3	6.30	44.00	2.00	8.30	342/418	25	2.5mm2	5
J052		7.20	50.00	3.82	11.02		25	2.5mm2	5
J062		8.20	57.00	4.06	12.26		32	2.5mm2	5
J072		10.10	73.00	5.82	15.92		32	4mm2	5

Fan Performance

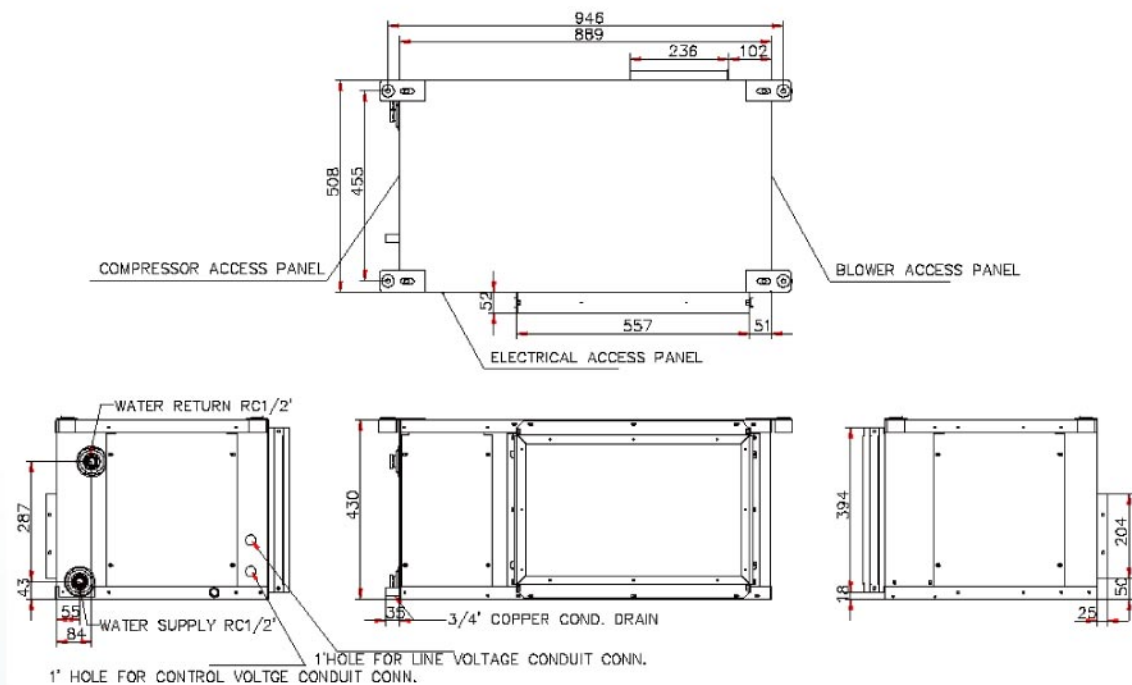
Model	Standard Air Flow m3/h	External Static Pressure (Pa)							
		12	20	30	50	80	100	120	150
		Air Flow m3/h							
L009	580	620	580	500	478	/	/	/	/
L013	780	856	825	780	696	/	/	/	/
L016	1170	1264	1223	1170	1059	/	/	/	/
L019	1200	1317	1267	1200	1066	/	/	/	/
L024	1500	1566	1550	1500	1443	/	/	/	/
L030	1720	/	/	1769	1720	1598	1513	/	/
L036	2200	/	/	2259	2200	2094	2001	/	/
J043	2350	/	/	2430	2350	2200	2020	/	/
J052	2850	/	/	/	2967	2850	2783	2684	2589
J062	3100	/	/	/	3208	3100	3074	3010	2900
J072	3300	/	/	/	3456	3300	3136	3087	3004

Dimensional Data(All dimensions are millimeters unless noted)

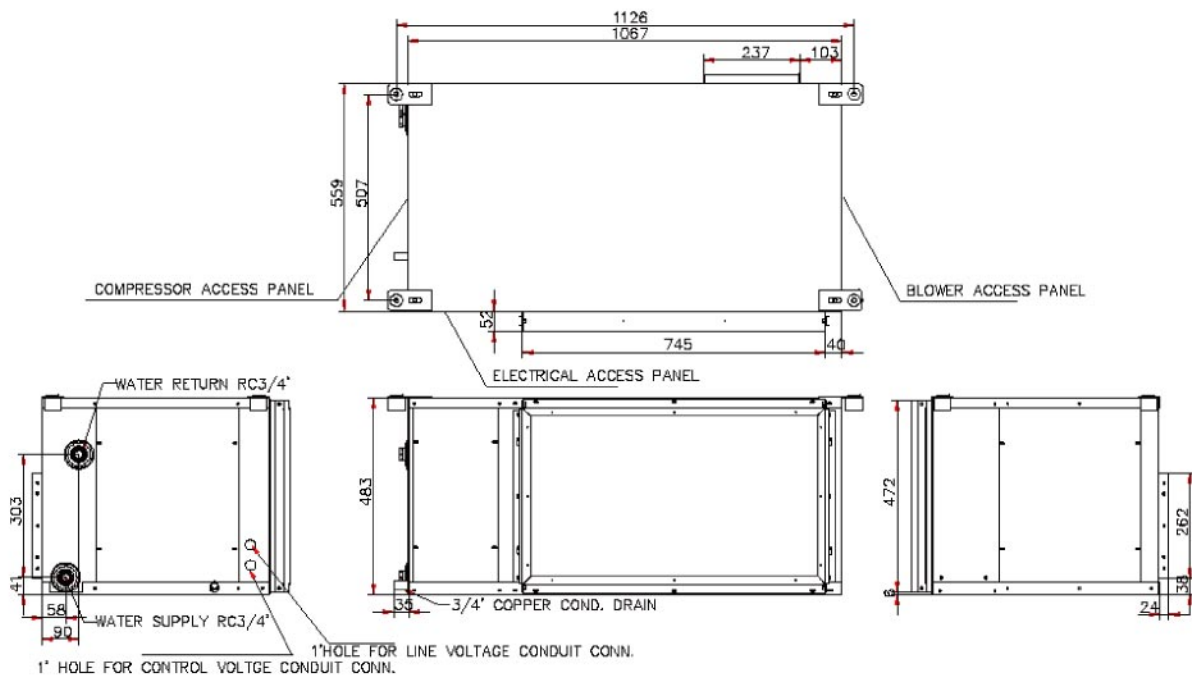
Unit Size 009 through 013



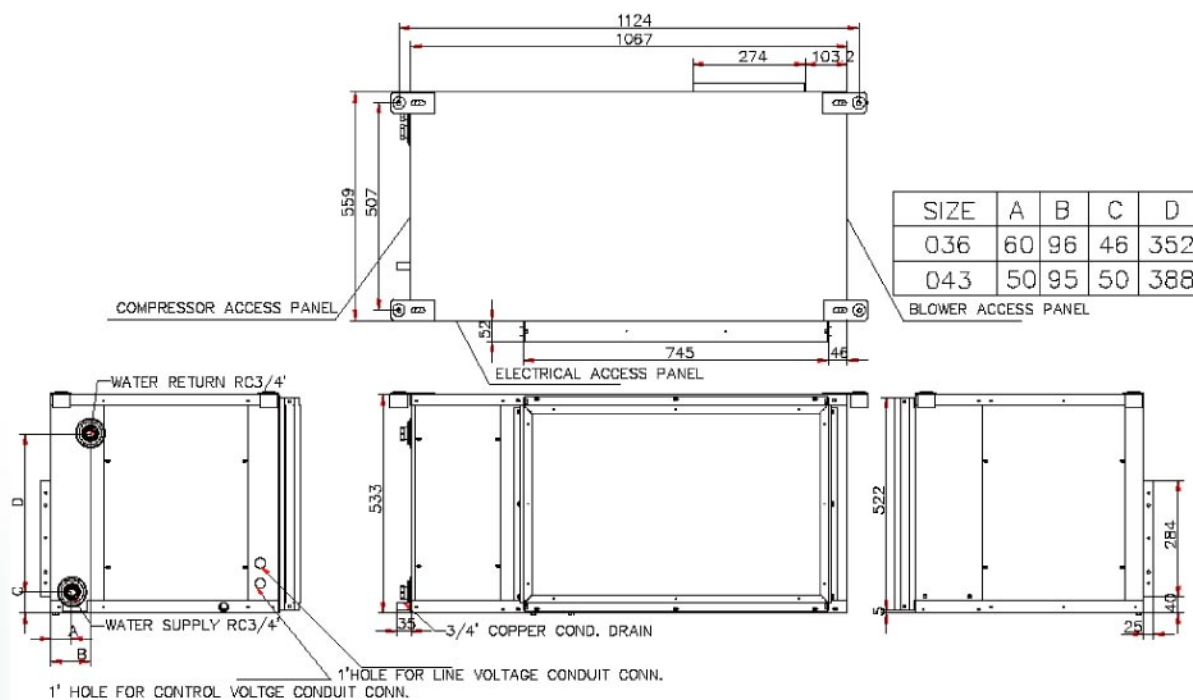
Unit Size 016 through 019



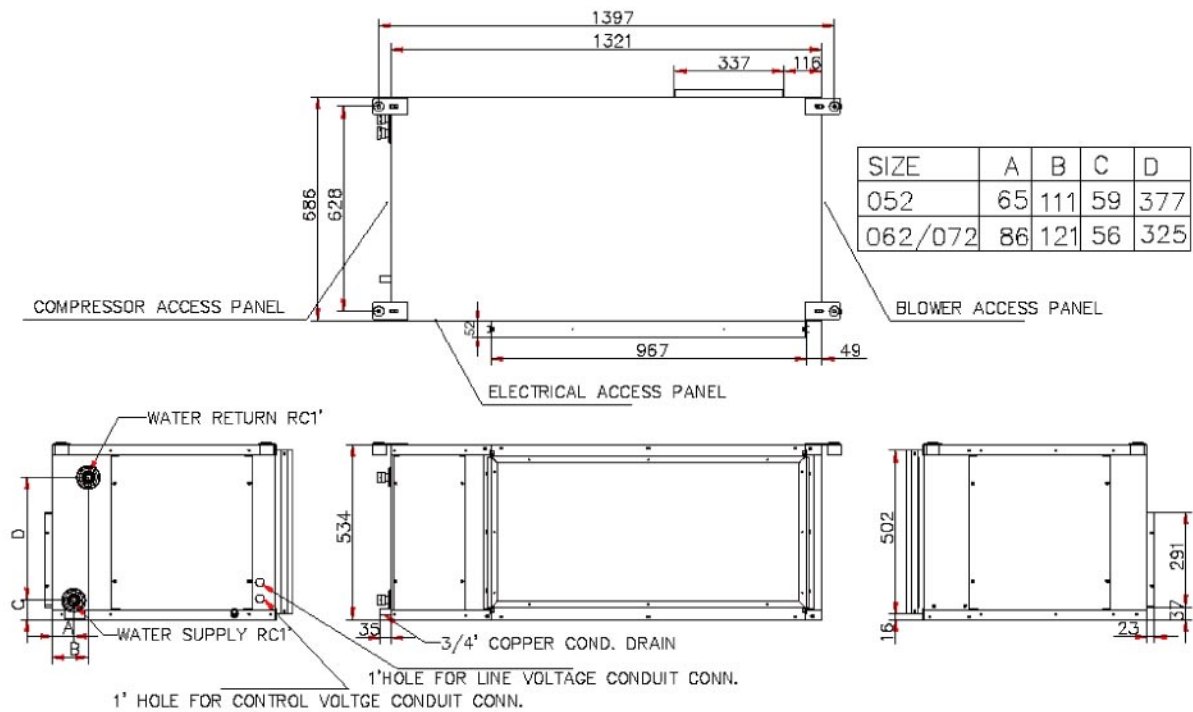
Unit Size 024 through 030



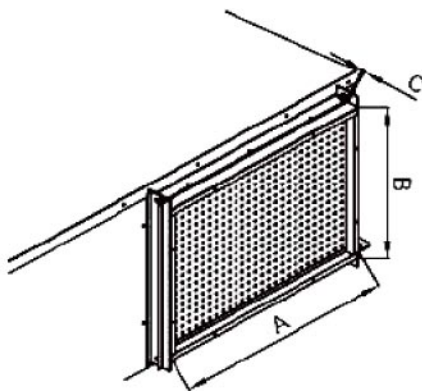
Unit Size 036 through 043



Unit Size 052 through 072



Dimensions of filter(All dimensions are millimeters unless noted)



	Dimension		
	A	B	C
009-013	423	307	10
016-019	540	346	10
024-030	735	425	10
036-043	735	425	10
052-072	955	455	10



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Due to continuous product improvements, we reserve the right to change design and specifications without notice.

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