

Commercial Air Conditioners



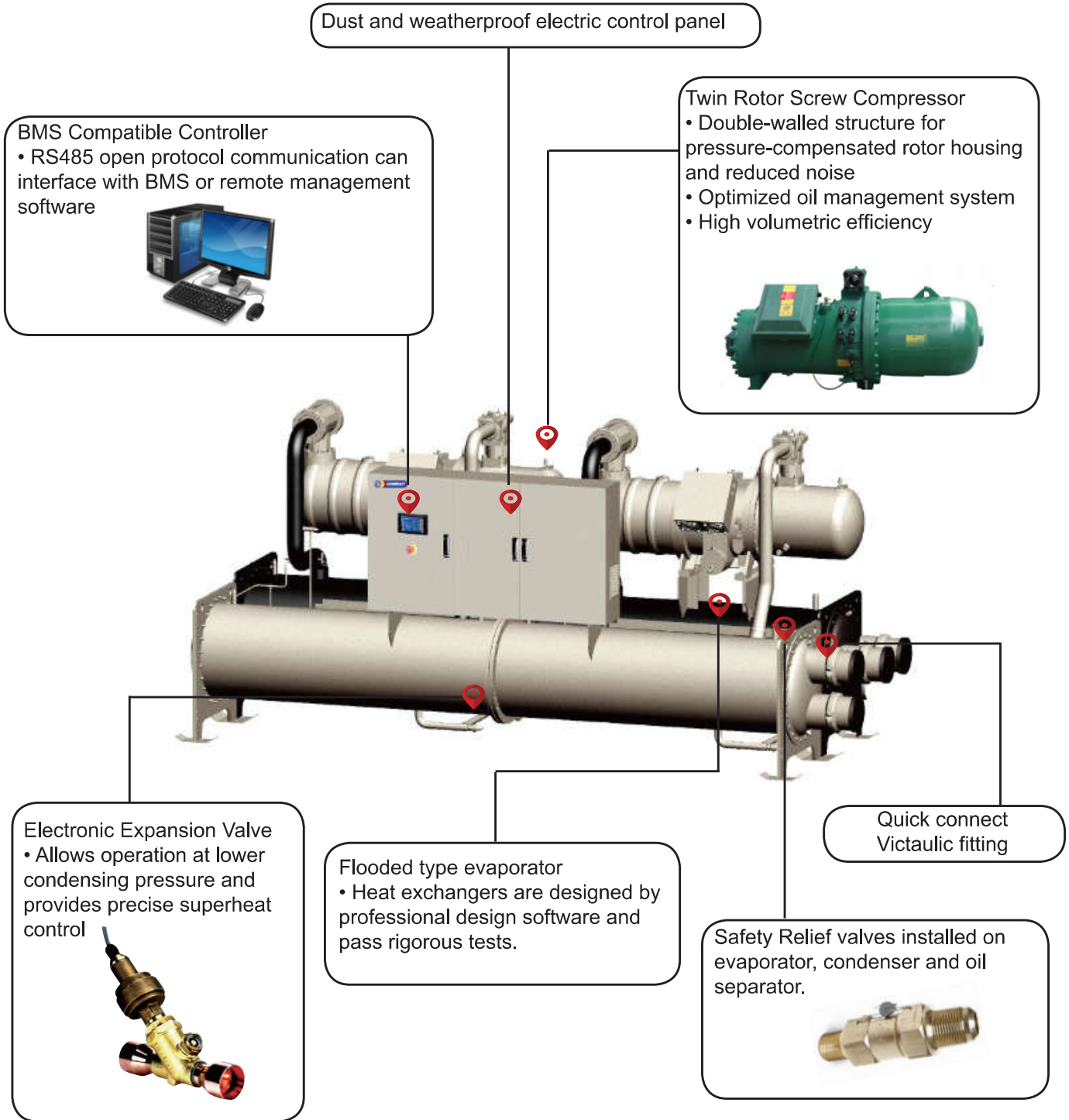
CWE Water Cooled Screw Chiller

100 TR - 500 TR



- ✓ Energy Efficient
- ✓ Cost Saving
- ✓ Wide Capacity Range

Features and Benefits



Environmental Responsibility >>

- ❖ Low power consumption, which reduces greenhouse gas (CO₂) emissions.
- ❖ R134a friendly refrigerant has zero ozone-depletion potential.
- ❖ High efficiency, world class, sustainable and reliable performance.



Stable and Reliable >>

Advanced twin-rotor screw compressor

Adjustable capacity valve

Four stage adjustable capacity or stepless adjustment.

Built-in oil separator

High precision filter, oil separation efficiency up to 99.5%.

Direct motor drive

High mechanical efficiency, low compressor speed, low noise levels.

Refrigerant discharge

Exhaust cavity with check valve, it helps avoid extended stoppages caused by compressor reversal.

Twin screw rotor

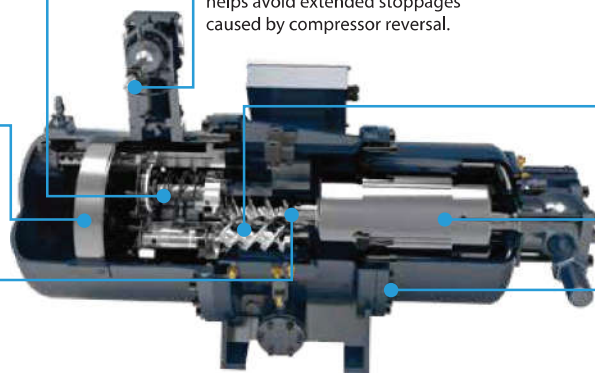
Patented type line design, high volumetric efficiency, smooth operation.

Hermetic motor

Refrigerant cooled motor, no expelled heat.

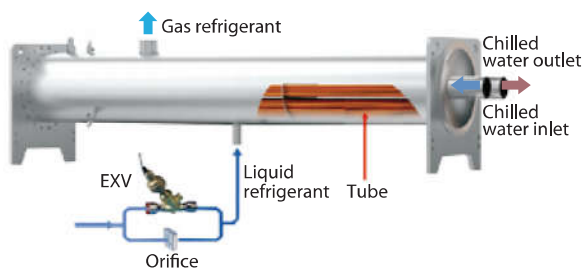
Semi-hermetic structure

Semi-hermetic compressor, moveable bolts, easy maintenance.

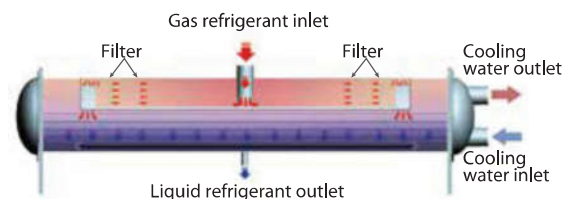


High Efficiency Heat Exchange Technology >>

Evaporator



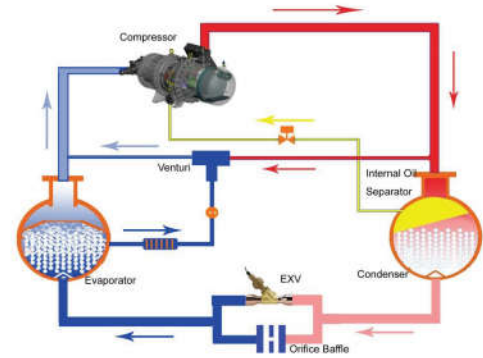
Condenser



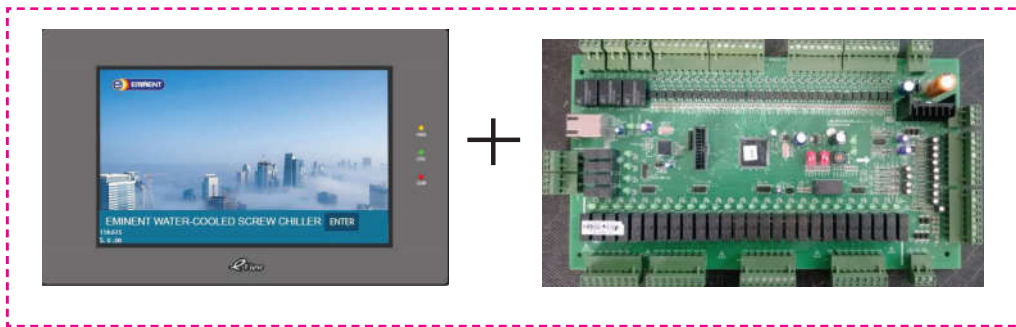
High efficiency shell and tube heat exchanger, double path, straight water pipe, easy to clean. Both end covers can be exchanged to meet customer's requirement for condenser. Double-grooved holes at tube support for tube expansion are designed to prevent leakage and increase the durability of heat exchanger.

Advanced oil system >>

Adoption of the special oil separation and return system, built-in separator, ensures the systems' stability. The lubrication system can heat oil to match the chillers exact requirements, guaranteeing the system is always protected against unnecessary wear.

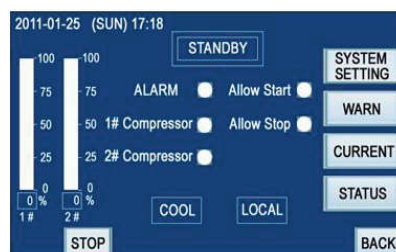


Factory installed PCB control >>



Main base controller gathers signals through input terminals, such as pressure, temperature and the state of protection switches and ensures unit's current condition. At the same time, according to input signal from HMI, such as starting signal, controller performs the logical operations and outputs signals. These signals act on components, time relay, contactors and so on.

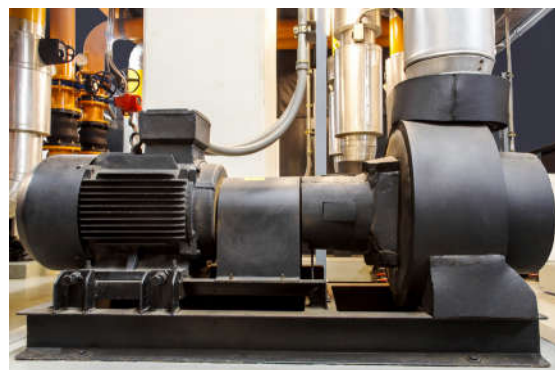
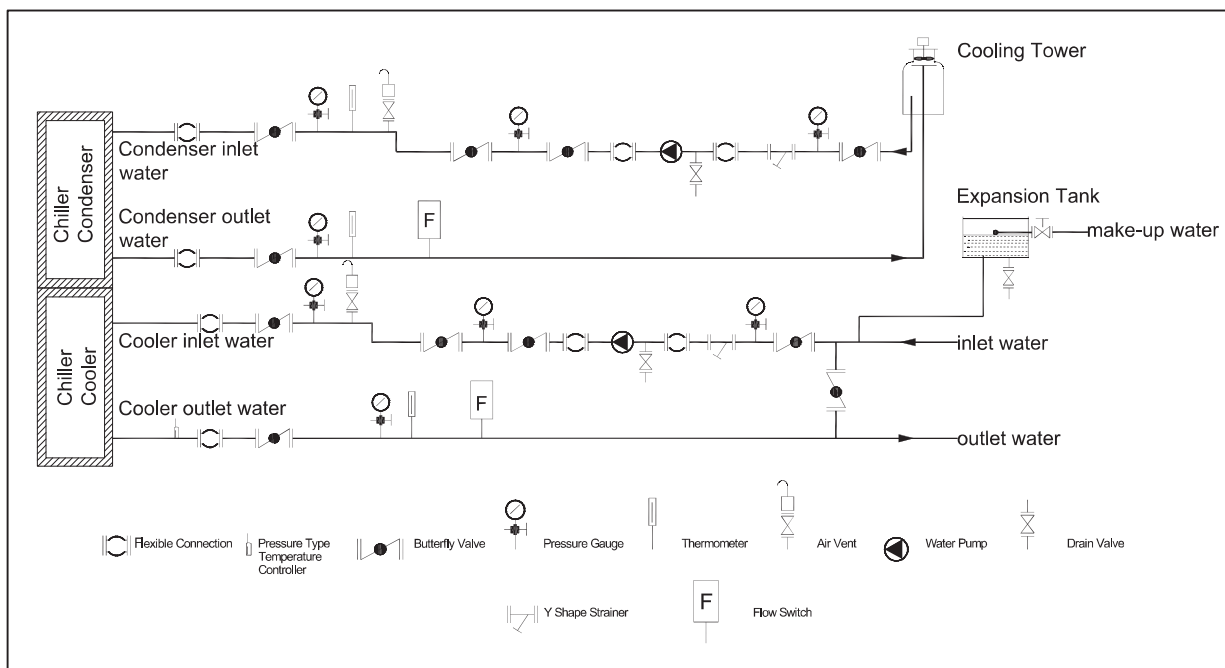
Optimised and User friendly operating interface >>



- ❖ Eminent chiller adopts Microprocessor control which provides advanced algorithm and reliable control.
- ❖ Graphical display of the operating state, operation scheduling, malfunction inquiry, help menu for easy trouble shooting and other user-oriented functions.

Typical Piping System

- ❖ All piping should be independently supported in order not to convey any stress and vibration to the chiller and have sufficient space for maintenance.
- ❖ Water flow switch is required and should be installed on the straight pipe length (5 times the pipe diameter) of the Chilled/Cooling water outlet.
- ❖ It is recommended to install a thermometer and pressure gauge to measure the units' operational condition.
- ❖ Notes: The diagram is the recommended water system schematic, some changes may be required to accommodate local conditions.



Technical Data

Model		CWE	100	125	150	200	225	250
Power supply		V-Ph-Hz	380-415/3/50					
Cooling capacity		RT	97	125	154	197	229	254
		kW	340	440	540	690	805	890
Input Power		kW	60	77	94	120	140	155
Efficiency	EER	kW/kW	5.66	5.71	5.74	5.75	5.75	5.74
	Power Ratio	kW/Ton	0.62	0.62	0.61	0.61	0.61	0.61
Capacity adjustment range		%	25%, 50%, 75%, 100%					
Evaporator	chilled water flow	gpm	255	335	409	524	608	674
	chilled water flow	m ³ /h	58	76	93	119	138	153
	type		Shell and Tube					
	Press. Drop	ft. H ₂ O	18.4	16.4	17.7	15.4	13	13
	Press. Drop	kPa	55	49	53	46	39	39
	Inlet/ outlet	inch	6"	6"	6"	8"	8"	8"
Condensator	Cooling water flow	gpm	321	418	511	652	762	841
	Cooling water flow	m ³ /h	73	95	116	148	173	191
	type		Shell and Tube					
	Press. Drop	ft. H ₂ O	25.1	23.4	25.8	22.1	18.7	18.7
	Press. Drop	kPa	75	70	77	66	56	56
	Inlet/ outlet	inch	6"	6"	6"	8"	8"	8"
Compressor		type	High Efficiency Twin Rotor Screw Compressor					
		quantity	1	1	1	1	1	1
Expansion Device		Type	Electronic Expansion Valve					
Refrigerant			R134a					
Weight	Net weight	kg	2500	2580	2950	3550	4050	4150
	Operating weight	kg	2700	2820	3220	3870	4420	4550
Dimensions	Length	mm	3550	3550	3550	3600		
	Width	mm	1220	1220	1220	1440		
	Height	mm	1730	1800	1900	2020		
Chilled Leaving Water Temperature		deg C	5°C~15°C					
Cooling Entering water Temperature		deg C	20°C~35°C					

Note:

Nominal cooling capacities are based on following conditions: Chilled water inlet/outlet temperature 12/7°C(53.6°F /44.6°F);

Cooling water inlet/outlet temperature 30/35°C(86°F /96°F).

The design fouling factor for both evaporator and condenser is 0.086m²·°C/kW (0.0005ft² F.hr/Btu).

Model		CWE	300	350	400	450	500
Power supply		V-Ph-Hz	380-415/3/50				
Cooling capacity		RT	308	342	395	462	507
		kW	1080	1200	1385	1620	1780
Input Power		kW	186	206	238	278	306
Efficiency	EER	kW/kW	5.8	5.82	5.81	5.82	5.81
	Power Ratio	kW/Ton	0.60	0.60	0.60	0.60	0.60
Capacity adjustment range		%	25%, 50%, 75%, 100%				
Evaporator	chilled water flow	gpm	819	907	1048	1228	1347
	chilled water flow	m ³ /h	186	206	238	279	306
	type		Shell and Tube				
	Press. Drop	ft. H2O	26.1	26.4	26.4	25.1	25.4
	Press. Drop	kPa	78	79	79	75	76
	Inlet/ outlet	inch	8"	8"	8"	8"	8"
Condensor	Cooling water flow	gpm	1021	1136	1312	1532	1686
	Cooling water flow	m ³ /h	232	258	298	348	383
	type		Shell and Tube				
	Press. Drop	ft. H2O	29.4	29.1	29.1	28.4	28.8
	Press. Drop	kPa	88	87	87	85	86
	Inlet/ outlet	inch	8"	8"	8"	8"	8"
Compressor		type	High Efficiency Twin Rotor Screw Compressor				
		quantity	2	2	2	2	2
Expansion Device		Type	Electronic Expansion Valve				
Refrigerant			R134a				
Weight	Net weight	kg	6700	6900	7150	8350	8450
	Operating weight	kg	7250	7490	7820	9200	9350
Dimensions	Length	mm	4600			4800	
	Width	mm	1520			1620	
	Height	mm	2035			2250	
Chilled Leaving Water Temperature		deg C	5°C~15°C				
Cooling Entering water Temperature		deg C	20°C~35°C				

Note:

Nominal cooling capacities are based on following conditions: Chilled water inlet/outlet temperature 12/7°C(53.6°F /44.6°F);

Cooling water inlet/outlet temperature 30/35°C(86°F /96°F).

The design fouling factor for both evaporator and condenser is 0.086m²•°C/kW (0.0005ft² F.hr/Btu).

Performance Data

CWE-100

LWT (°C)	Cooling Water Inlet(°C)															
	25		26		27		29		30		32		33		35	
	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)
5	95.1	54	94.3	56	93.5	57	91.7	58	90.8	59	89.1	61	88.1	62	85.9	64
6	98.5	56	97.5	57	96.6	57	94.6	59	93.7	60	92.0	61	90.9	62	88.7	64
7	101.3	56	100.4	57	99.5	58	97.6	59	96.7	60	94.6	62	93.6	63	91.6	65
8	104.7	56	103.7	58	102.8	58	100.8	60	99.8	60	97.7	62	96.3	63	93.3	65
9	107.7	57	106.8	58	105.9	59	104.0	60	103.0	61	100.8	63	99.7	64	97.4	66
10	110.7	57	109.9	59	109.1	59	107.1	61	105.9	62	103.9	63	102.8	64	100.6	66
11			113.0	59	112.2	60	110.3	61	109.2	62	107.2	64	106.1	65	103.7	67
12					115.3	60	113.7	62	112.4	63	110.6	64	109.4	66	107.0	68
13							117.1	62	115.8	63	113.9	65	112.7	66	110.4	68
14							120.8	63	119.9	63	117.3	66	116.1	67	113.8	69
15							124.5	63	123.7	64	120.9	66	119.8	67	117.4	69

CWE-125

LWT (°C)	Cooling Water Inlet(°C)															
	25		26		27		29		30		32		33		35	
	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)
5	123.1	72	122.0	72	120.9	73	118.7	75	117.5	76	115.4	78	114.0	79	111.2	82
6	127.5	72	126.2	73	125.0	74	122.5	75	121.2	76	119.1	78	117.7	80	114.9	82
7	131.1	73	129.9	73	128.8	74	126.4	76	125.1	77	122.5	79	121.2	80	118.5	83
8	135.5	73	134.2	74	133.0	75	130.4	77	129.1	78	126.5	80	124.6	81	120.7	84
9	139.4	74	138.2	75	137.0	75	134.6	77	133.2	78	130.5	81	129.0	82	126.0	85
10	143.3	74	142.3	75	141.3	76	138.6	78	137.0	79	134.5	81	133.1	83	130.2	85
11			146.3	76	145.3	77	142.8	79	141.4	80	138.7	82	137.2	83	134.2	86
12					149.3	77	147.1	79	145.5	80	143.1	83	141.6	84	138.5	87
13							151.5	80	149.9	81	147.4	83	145.9	85	142.9	88
14							156.4	80	155.1	81	151.8	84	150.3	86	147.3	88
15							161.1	81	160.0	82	156.5	85	155.0	86	151.9	89

CWE-150

LWT (°C)	Cooling Water Inlet(°C)															
	25		26		27		29		30		32		33		35	
	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)
5	151.1	87	149.8	88	148.4	89	145.6	91	144.2	92	141.6	95	139.9	97	136.5	100
6	156.5	88	154.9	89	153.4	90	150.3	92	148.8	93	146.2	96	144.4	97	141.0	100
7	160.9	89	159.5	90	158.1	91	155.1	93	153.5	94	150.3	97	148.7	98	145.4	101
8	166.3	89	164.8	90	163.2	91	160.1	94	158.5	95	155.2	97	152.9	99	148.2	103
9	171.1	90	169.6	91	168.2	92	165.1	94	163.5	96	160.1	98	158.3	100	154.6	103
10	175.8	91	174.6	92	173.4	93	170.1	95	168.1	96	165.1	99	163.3	101	159.8	104
11			179.5	93	178.3	94	175.2	96	173.5	97	170.3	100	168.4	102	164.8	105
12					183.2	94	180.6	97	178.6	98	175.7	101	173.8	103	170.0	106
13							185.9	97	183.9	99	180.9	102	179.0	103	175.3	107
14							191.9	98	190.4	99	186.3	103	184.4	104	180.7	108
15							197.7	99	196.4	100	192.1	103	190.2	105	186.4	109

Note:

Antifreeze must be installed in the pipeline when the chilled water temperature is lower than 5°C.

The inlet/outlet water temperature difference is 5°C.

The design fouling factor for both evaporator and condenser is 0.086m²•°C/kW.

LWT - Leaving water temperature

Cap. - Capacity

PI - Power Input

CWE-200

LWT (°C)	Cooling Water Inlet(°C)															
	25		26		27		29		30		32		33		35	
	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)
5	193.1	111	191.4	113	189.7	114	186.1	117	184.2	118	180.9	121	178.7	123	174.4	127
6	199.9	112	198.0	114	196.0	115	192.1	118	190.1	119	186.8	122	184.6	124	180.1	128
7	205.6	113	203.8	115	202.0	116	198.2	119	196.2	120	192.1	123	190.0	125	185.8	129
8	212.5	114	210.5	115	208.6	117	204.5	119	202.5	121	198.4	124	195.3	127	189.3	131
9	218.6	115	216.7	116	214.9	117	211.0	120	209.0	122	204.6	126	202.3	128	197.6	132
10	224.6	116	223.1	117	221.5	118	217.4	121	214.8	123	210.9	127	208.7	129	204.2	133
11			229.4	118	227.8	119	223.9	122	221.7	124	217.6	128	215.2	130	210.5	134
12					234.1	120	230.7	123	228.2	125	224.5	129	222.0	131	217.2	135
13							237.6	124	235.0	126	231.1	130	228.8	132	224.1	136
14							245.2	125	243.3	127	238.0	131	235.6	133	230.9	138
15							252.6	126	250.9	128	245.4	132	243.0	134	238.2	139

CWE-225

LWT (°C)	Cooling Water Inlet(°C)															
	25		26		27		29		30		32		33		35	
	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)
5	225.2	130	191.4	131	221.3	133	217.1	136	214.9	138	211.0	142	208.5	144	203.5	148
6	233.2	131	198.0	132	228.7	134	224.1	137	221.8	139	217.9	143	215.3	145	210.1	150
7	239.9	132	203.8	134	235.6	135	231.2	138	228.9	140	224.1	144	221.6	146	216.8	151
8	247.9	133	210.5	135	243.3	136	238.6	139	236.2	141	231.4	145	227.9	148	220.9	153
9	255.0	134	216.7	136	250.7	137	246.2	140	243.8	142	238.7	146	236.0	149	230.5	154
10	262.1	135	223.1	137	258.4	138	253.6	142	250.6	144	246.1	148	243.5	150	238.3	155
11			229.4	138	265.8	139	261.2	143	258.7	145	253.8	149	251.1	151	245.6	156
12					273.1	140	269.2	144	266.2	146	261.9	150	259.0	153	253.4	158
13							277.2	145	274.2	147	269.6	152	266.9	154	261.4	159
14							286.1	146	283.8	148	277.7	153	274.9	155	269.4	161
15							294.7	147	292.8	149	286.4	154	283.5	157	277.9	162

CWE-250

LWT (°C)	Cooling Water Inlet(°C)															
	25		26		27		29		30		32		33		35	
	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)
5	249.0	144	246.8	146	244.6	147	240.0	151	237.6	152	233.3	157	230.5	159	225.0	164
6	257.9	145	255.3	147	252.8	148	247.8	152	245.2	154	240.9	158	238.1	160	232.3	166
7	265.2	146	262.9	148	260.5	150	255.6	153	253.1	155	247.8	159	245.1	162	239.7	167
8	274.1	147	271.5	149	269.0	151	263.8	154	261.2	156	255.9	161	252.0	164	244.2	169
9	281.9	148	279.6	150	277.2	152	272.2	155	269.5	158	263.9	162	260.9	165	254.8	170
10	289.8	150	287.7	151	285.7	153	280.4	157	277.1	159	272.0	164	269.2	166	263.4	172
11			295.8	153	293.8	154	288.7	158	286.0	160	280.7	165	277.6	168	271.5	173
12					301.9	156	297.6	159	294.3	162	289.5	166	286.4	169	280.1	175
13							306.5	161	303.2	163	298.1	168	295.1	171	289.0	176
14							316.3	162	313.8	164	307.0	169	303.9	172	297.9	178
15							325.8	163	323.7	165	316.6	171	313.5	174	307.2	179

Note:

Antifreeze must be installed in the pipeline when the chilled water temperature is lower than 5°C.

The inlet/outlet water temperature difference is 5°C.

The design fouling factor for both evaporator and condenser is 0.086m²°C/kW.

LWT - Leaving water temperature

Cap. - Capacity

PI - Power Input

Performance Data

CWE-300

LWT (°C)	Cooling Water Inlet(°C)															
	25		26		27		29		30		32		33		35	
	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)
5	302.2	173	299.5	175	296.9	177	291.3	181	288.4	183	283.1	188	279.8	191	273.0	197
6	312.9	174	309.9	176	306.8	178	300.6	182	297.6	185	292.4	190	288.9	193	281.9	199
7	321.8	176	319.0	178	316.1	179	310.2	184	307.1	186	300.6	191	297.4	194	290.8	201
8	332.6	177	329.5	179	326.4	181	320.1	185	316.9	187	310.5	193	305.8	196	296.3	203
9	342.1	178	339.2	180	336.4	182	330.3	187	327.1	189	320.3	195	316.6	198	309.2	204
10	351.6	180	349.2	182	346.7	184	340.3	188	336.3	191	330.1	196	326.6	200	319.7	206
11			359.0	183	356.5	185	350.4	190	347.0	192	340.6	198	336.9	201	329.5	208
12					366.4	187	361.1	191	357.1	194	351.3	200	347.5	203	340.0	210
13							371.9	193	367.9	196	361.8	201	358.1	205	350.7	211
14							383.9	194	380.8	196	372.5	203	368.8	207	361.4	213
15							395.4	195	392.8	198	384.2	205	380.4	208	372.8	215

CWE-350

LWT (°C)	Cooling Water Inlet(°C)															
	25		26		27		29		30		32		33		35	
	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)
5	335.8	191	332.8	193	329.8	195	323.6	200	320.4	203	314.6	208	310.8	212	303.3	218
6	347.7	193	344.3	195	340.9	197	334.0	202	330.6	204	324.8	210	321.0	213	313.2	220
7	357.6	194	354.4	197	351.2	199	344.6	203	341.2	206	334.0	212	330.4	215	323.1	222
8	369.5	196	366.1	198	362.7	200	355.7	205	352.1	208	345.0	214	339.7	217	329.3	225
9	380.1	197	376.9	199	373.7	202	367.0	207	363.4	210	355.9	215	351.8	219	343.6	226
10	390.7	199	388.0	201	385.2	203	378.1	208	373.6	211	366.8	218	362.9	221	355.2	228
11			398.9	203	396.1	205	389.3	210	385.6	213	378.4	219	374.3	223	366.1	230
12					407.1	207	401.3	212	396.8	215	390.3	221	386.1	225	377.7	232
13							413.2	214	408.8	217	402.0	223	397.9	227	389.7	234
14							426.5	215	423.1	217	413.9	225	409.8	229	401.6	236
15							439.3	217	436.4	219	426.9	227	422.7	231	414.2	238

CWE-400

LWT (°C)	Cooling Water Inlet(°C)															
	25		26		27		29		30		32		33		35	
	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)
5	387.5	221	384.1	223	380.7	226	373.5	231	369.8	234	363.1	241	358.8	244	350.1	252
6	401.3	223	397.4	225	393.4	228	385.5	233	381.6	236	374.9	243	370.5	246	361.5	254
7	412.7	225	409.0	227	405.4	230	397.8	235	393.8	238	385.5	245	381.3	249	372.9	257
8	426.5	226	422.6	229	418.6	231	410.6	237	406.4	240	398.2	247	392.1	251	380.0	260
9	438.7	228	435.0	230	431.4	233	423.6	239	419.4	242	410.8	249	406.0	253	396.6	262
10	450.9	230	447.8	232	444.6	235	436.4	241	431.2	244	423.4	251	418.9	255	410.0	263
11			460.4	234	457.2	237	449.3	243	445.0	246	436.7	253	432.0	257	422.6	266
12					469.8	239	463.1	245	458.0	248	450.5	256	445.7	260	436.0	268
13							476.9	247	471.8	250	463.9	258	459.2	262	449.7	271
14							492.3	248	488.3	251	477.7	260	473.0	264	463.5	273
15							507.0	250	503.7	253	492.7	262	487.8	266	478.1	275

Note:

Antifreeze must be installed in the pipeline when the chilled water temperature is lower than 5°C.

The inlet/outlet water temperature difference is 5°C.

The design fouling factor for both evaporator and condenser is 0.086m²•°C/kW.

LWT - Leaving water temperature

Cap. - Capacity

PI - Power Input

CWE-450

LWT (°C)	Cooling Water Inlet(°C)															
	25		26		27		29		30		32		33		35	
	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)
5	453.3	258	449.3	261	445.3	264	436.9	270	432.5	273	424.7	281	419.6	286	409.5	294
6	469.4	260	464.8	263	460.2	266	451.0	272	446.4	276	438.5	283	433.3	288	422.9	297
7	482.7	262	478.5	265	474.2	268	465.2	275	460.6	278	451.0	286	446.1	291	436.2	300
8	498.9	264	494.3	267	489.7	270	480.2	277	475.4	280	465.7	288	458.6	293	444.5	303
9	513.2	266	508.9	269	504.6	272	495.4	279	490.6	283	480.4	291	474.9	296	463.9	306
10	527.4	269	523.7	272	520.1	274	510.4	281	504.4	285	495.2	294	490.0	298	479.5	308
11			538.5	274	534.8	277	525.6	284	520.5	287	510.8	296	505.3	301	494.3	311
12					549.5	279	541.7	286	535.7	290	527.0	299	521.3	303	509.9	313
13							557.8	288	551.8	292	542.6	301	537.1	306	526.0	316
14							575.8	290	571.2	293	558.8	304	553.2	309	542.2	319
15							593.1	292	589.2	296	576.3	306	570.6	311	559.2	322

CWE-500

LWT (°C)	Cooling Water Inlet(°C)															
	25		26		27		29		30		32		33		35	
	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)	Cap. (RT)	PI (kW)
5	498.0	284	493.6	287	489.3	290	480.1	297	475.3	301	466.7	309	461.1	314	450.0	324
6	515.8	286	510.7	290	505.6	293	495.5	300	490.4	304	481.8	312	476.1	317	464.6	327
7	530.4	289	525.7	292	521.0	295	511.2	302	506.1	306	495.5	315	490.1	320	479.3	330
8	548.1	291	543.1	294	538.0	297	527.6	304	522.3	308	511.7	317	503.9	323	488.4	334
9	563.8	293	559.1	296	554.4	299	544.3	307	539.0	311	527.9	320	521.8	325	509.7	336
10	579.5	296	575.5	299	571.4	302	560.8	310	554.2	314	544.1	323	538.4	328	526.9	339
11			591.7	301	587.6	305	577.5	312	571.9	316	561.3	326	555.2	331	543.1	342
12					603.8	307	595.2	315	588.6	319	579.0	329	572.8	334	560.3	345
13							612.9	317	606.3	322	596.2	331	590.2	337	578.0	348
14							632.7	319	627.6	323	613.9	334	607.9	340	595.7	351
15							651.6	322	647.3	325	633.2	337	626.9	343	614.4	354

Note:

Antifreeze must be installed in the pipeline when the chilled water temperature is lower than 5°C.

The inlet/outlet water temperature difference is 5°C.

The design fouling factor for both evaporator and condenser is 0.086m²•°C/kW.

LWT - Leaving water temperature

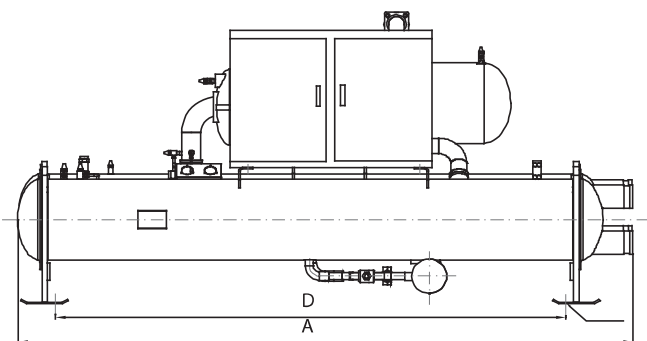
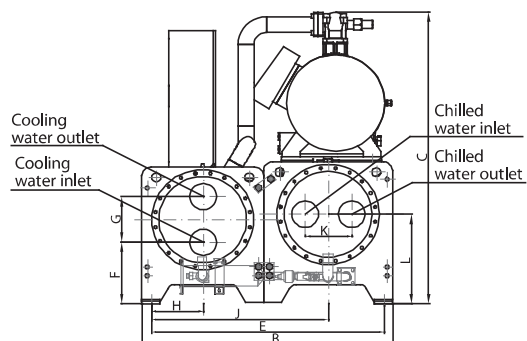
Cap. - Capacity

PI - Power Input



Dimensions

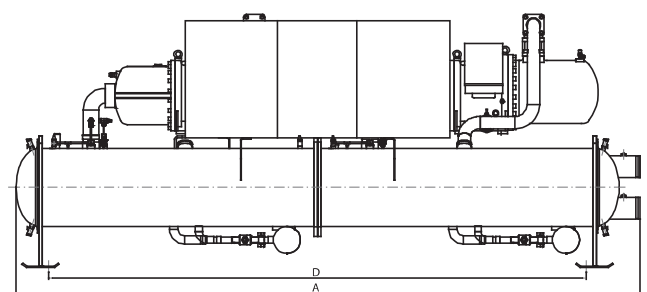
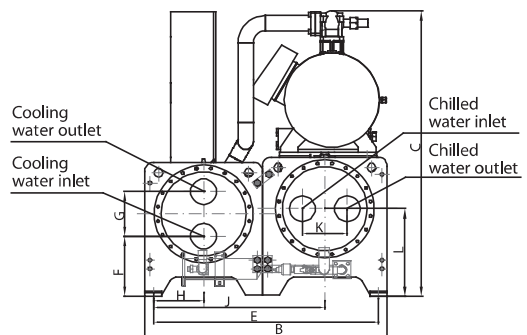
Single head (CWE-100 ~ CWE250)



Unit: mm

Model	A	B	C	D	E	F	G	H	J	K	L	Water inlet/outlet Dim.
CWE-100	3550	1220	1730	2850	1100	411	260	250	850	260	541	DN150
CWE-125	3550	1220	1800	2850	1100	411	260	250	850	260	541	DN150
CWE-150	3550	1220	1900	2850	1100	411	260	250	850	260	541	DN150
CWE-200	3600	1420	2000	2850	1300	451	280	300	1000	280	591	DN200
CWE-225	3600	1440	2020	2850	1300	451	280	300	1000	280	591	DN200
CWE-250	3600	1440	2020	2850	1300	451	280	300	1000	280	591	DN200

Dual heads (CWE-300 ~ CWE500)



Unit: mm

Model	A	B	C	D	E	F	G	H	J	K	L	Water inlet/outlet Dim.
CWE-300	4600	1520	2035	3850	1400	443	350	325	1075	350	618	DN200
CWE-350	4600	1520	2035	3850	1400	443	350	325	1075	350	618	DN200
CWE-400	4600	1520	2035	3850	1400	443	350	325	1075	350	618	DN200
CWE-450	4800	1620	2250	3850	1500	468	350	350	1150	350	643	DN200
CWE-500	4800	1620	2250	3850	1500	468	350	350	1150	350	643	DN200

Electrical data

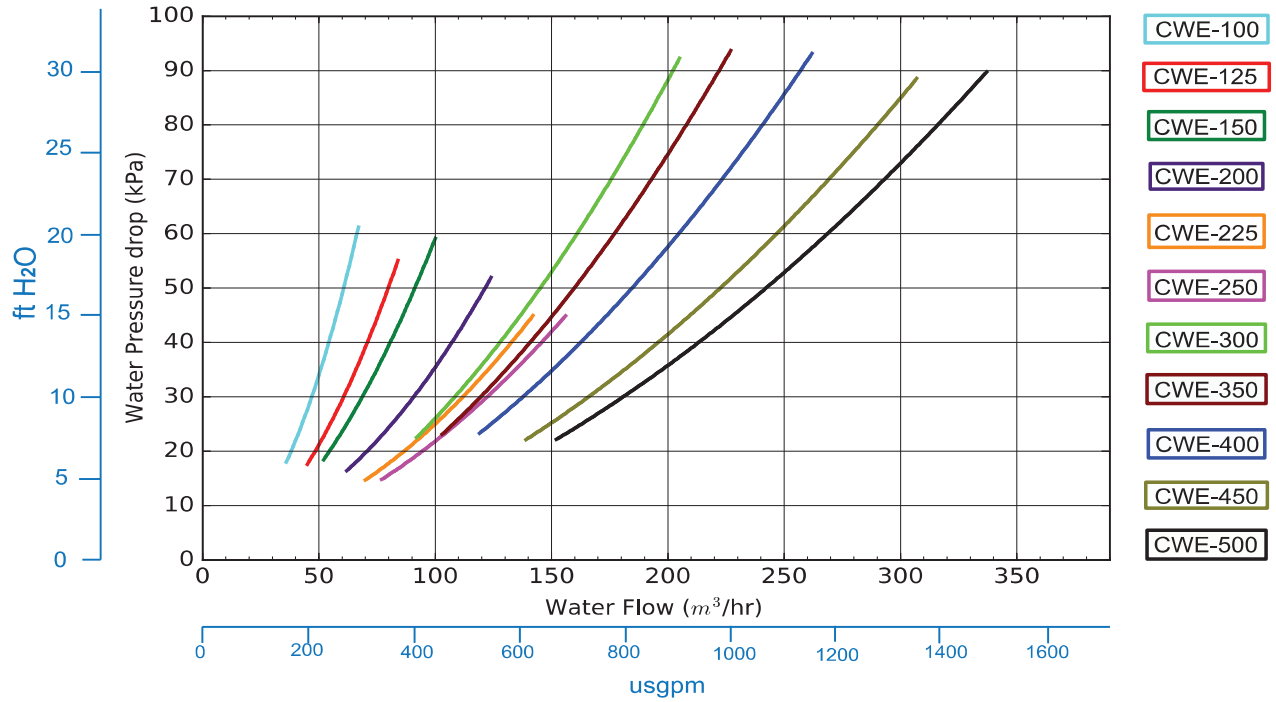
Model	CWE	100	125	150	200	225	250	300	350	400	450	500		
Standard voltage		380V 3Ph 50Hz~N~PE												
Voltage range		V		342~418										
Max. running current		A		139.6	167.2	203.5	277.5	327.8	362.4	407	480.8	555	655.6	724.8
Max. power consumption		kW		82.7	99.2	121.6	166.1	190.3	211.6	243.2	287.2	332.2	380.6	423.2
Rated current		A		103	130	159	203	236	262	314	348	402	495	536
Compressor A														
Locked rotor Amps.		A		780	780	1220	1330	2260	2260	1220	1330	1330	2260	2260
Max. allowed current		A		139.6	167.2	203.5	277.5	327.8	362.4	203.5	240.4	277.5	327.8	362.4
Rated current		A		103	130	159	203	236	262	157	174	201	247.5	268
Rated power		kW		60	77	94	120	140	155	93	103	119	247.5	268
Compressor B														
Locked rotor Amps.		A		--	--	--	--	--	--	1220	1330	1330	2260	2260
Max. allowed current		A		--	--	--	--	--	--	203.5	240.4	277.5	327.8	362.4
Rated current		A		--	--	--	--	--	--	157	174	201	247.5	268
Rated power		kW		--	--	--	--	--	--	93	103	119	247.5	268
Crankcase heater														
Voltage		V		220	220	220	220	220	220	220	220	220	220	220
Total input		kW		0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.6
Total Amps.		A		1.36	1.36	1.36	1.36	1.36	1.36	2.72	2.72	2.72	2.72	2.72

Note:

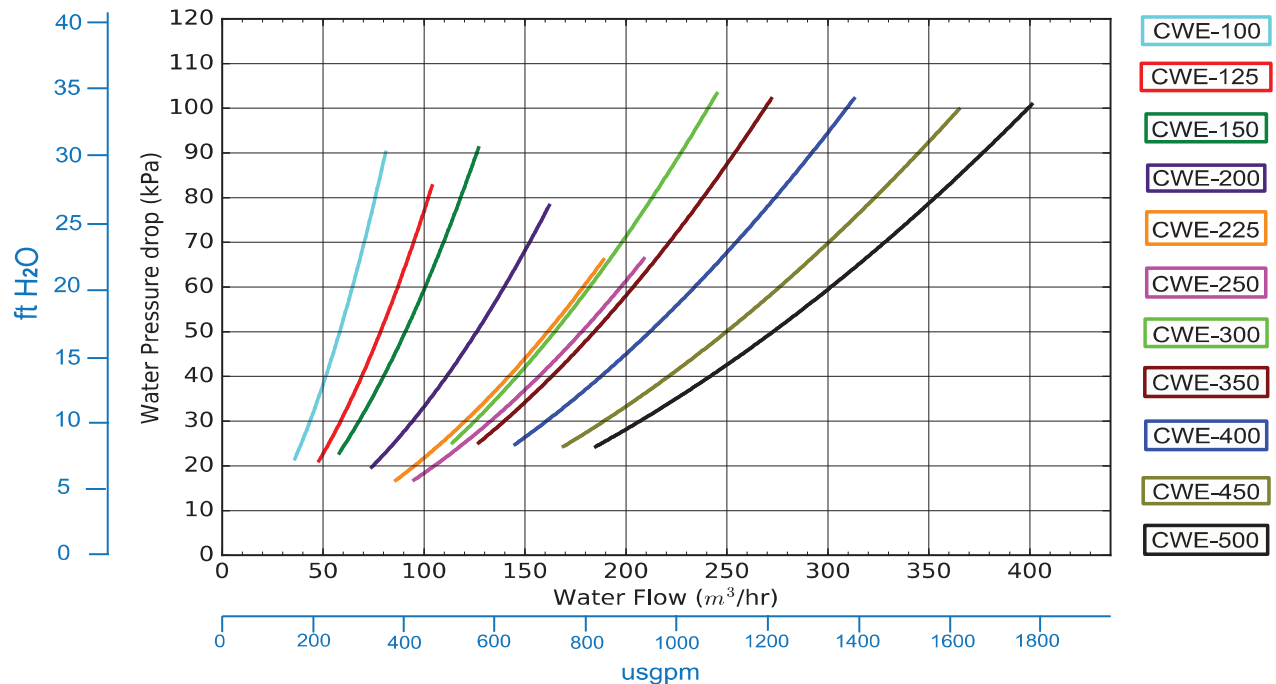
- 1.Customer to specify the exact nominal power supply available on site so that correct electrical components are selected.
- 2.Main power must be supplied from a single field supplied and mounted fused circuit breaker.
- 3.The compressor crankcase heaters must be energized for hours before the unit is initially started or after a prolonged power disconnection.
- 4.All field wiring must be in accordance with local standards.
- 5.Neutral line required on 380V-3Ph-50Hz(4 wires) power supply.
- 6.Rated load amperage values are nominal conditions.
- 7.A ±10% voltage variation from the nominal conditions is allowed temporarily only,not permanently.

Water Pressure Drop

Evaporator >>

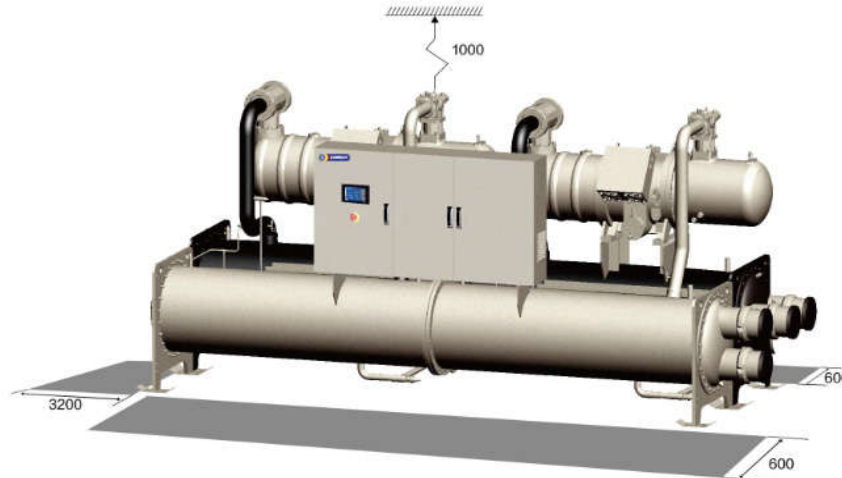


Condensor >>



Installation clearance

Ensure there is sufficient space for maintenance and service access:



- ❖ Avoid direct sunlight and other kinds of heat source.
- ❖ Place close to electrical source for wiring.
- ❖ Place with solid foundation preventing causing resonance and noise.
- ❖ Clean, bright and well ventilated place.
- ❖ Place where it is convenient for piping and water drainage with the least disturbance to surroundings caused by noise, cool or heat wind.

Water flow table

Unit Model	Evaporator water flow rate						Condenser water flow rate					
	Rated		Minimum		Maximum		Rated		Minimum		Maximum	
	m ³ /h	gpm	m ³ /h	gpm	m ³ /h	gpm	m ³ /h	gpm	m ³ /h	gpm	m ³ /h	gpm
CWE-100	58	255	29	128	64	282	73	321	37	163	80	352
CWE-125	76	335	38	167	83	365	95	418	47	207	104	458
CWE-150	93	409	46	203	102	449	116	511	58	255	128	564
CWE-200	119	524	59	260	131	577	148	652	74	326	163	718
CWE-225	138	608	69	304	152	669	173	762	87	383	190	837
CWE-250	153	674	77	339	168	740	191	841	96	423	210	925
CWE-300	186	819	93	409	204	898	232	1021	116	511	255	1123
CWE-350	206	907	103	453	227	999	258	1136	129	568	284	1250
CWE-400	238	1048	119	524	262	1154	298	1312	149	656	328	1444
CWE-450	279	1228	142	625	312	1374	348	1532	177	779	390	1717
CWE-500	306	1347	153	674	337	1484	383	1686	191	841	421	1854

Note: The flow rates must fall between the minimum and maximum values shown in the below table. Flow rates below the minimum values shown will result in laminar flow which will reduce efficiency. Flow rates exceeding the maximum values shown can cause erosion on the heat exchangers, connections and tubes.

Safety Features

Self Diagnosis >>

Self-diagnosis is always performed prior to start-up to enable safe operation. Only after all the requirements are met, the chiller will start. If any malfunction occurs, it will be displayed on the screen.

Protection Control >>

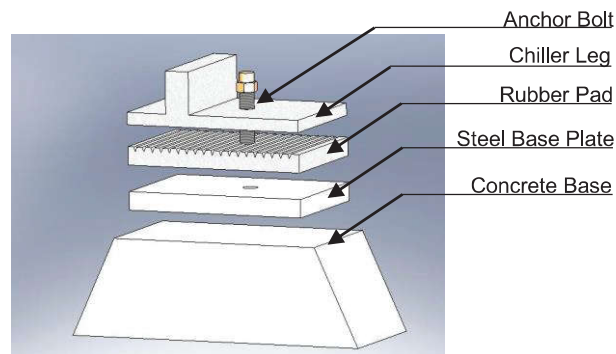
Item	Function
High/low pressure protection	Guarantees the Comp. runs in the right range thus ensuring its lifespan
Power open phase protection	Protects Comp. from damage in case of open phase or reverse-phase
Anti-freeze protection under cooling mode	Protects the evaporators' copper pipes from damage caused by water freeze
Frequent startup protection Protects	Protects Comp. motor winding from burnout caused by frequent startup
Overcurrent protection of Comp.	Protects Comp. from burnout caused by heavy current
Overheat protection of compressor	Protects Comp. from damage caused by a lack of refrigerant or lubricant
Water flow protection Protects	Protects Comp. from burnout caused by heat-exchanger failure
Reversal protection control(APRS)	Guarantees the comp. motor runs in the right direction

Power-down memory function >>

When power supply to the unit is shut off, the chiller will maintain previous running mode and parameter set point.

Mounting Detail >>

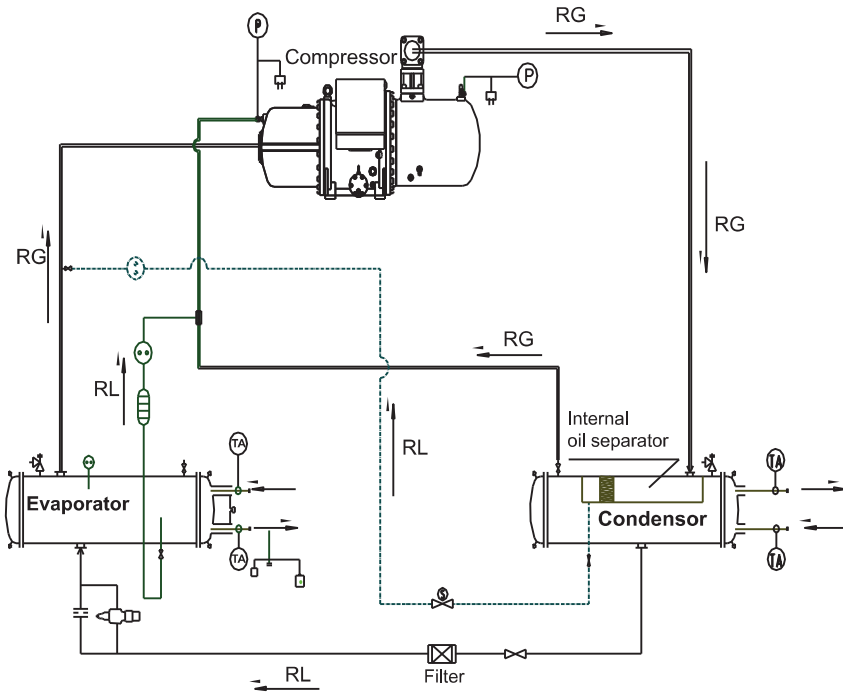
Typical Isolation:



Refrigeration Circuit

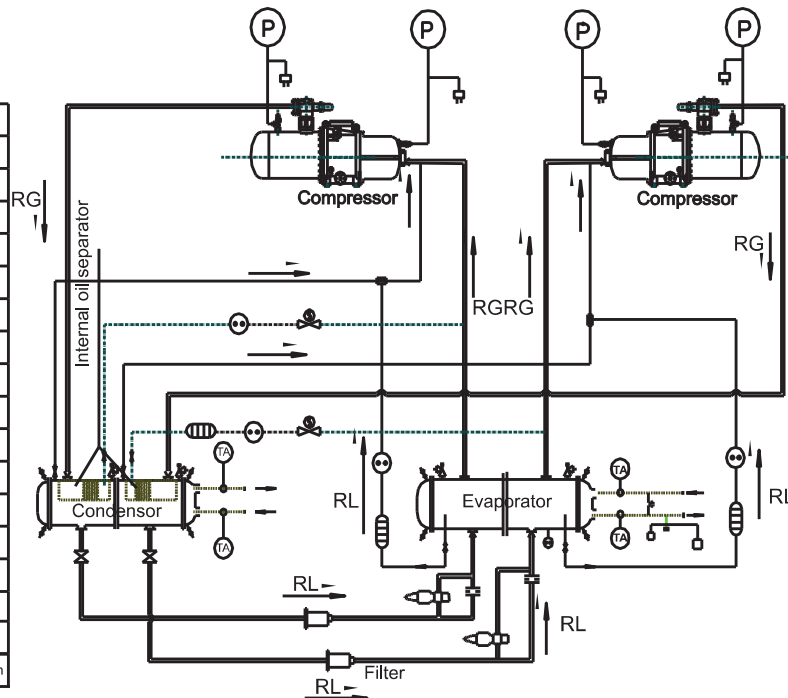
For single compressor unit (CWE-100 ~ CWE-250)

Code	Name
	Pressure Gauge
	Temperature Sensor
	Sight glass
	Filter
	Solenoid Valve
	Safety Valve
	Check Valve
	Shut-off Valve
	Refrigerant Gas Line
	Refrigerant Liquid Line
	Oil way
	Water way
	Throttle plate
	High/Low Pressure Switch
	Electric expansion valve
	Venturi Tube
	Pressure Difference Switch



For dual compressor unit (CWE-300 ~ CWE-500)

Code	Name
	Pressure Gauge
	Temperature Sensor
	Sight glass
	Filter
	Solenoid Valve
	Safety Valve
	Check Valve
	Shut-off Valve
	Refrigerant Gas Line
	Refrigerant Liquid Line
	Oil way
	Water way
	Throttle plate
	High/Low Pressure Switch
	Electric expansion valve
	Venturi Tube
	Pressure Difference Switch



Selection Software

Professional selection software makes the product selection process much easier and more efficient than conventional manual selection. Simple operating interface and smart arithmetic greatly improves selection efficiency. The user simply needs to provide several basic parameters, such as cooling capacity, fouling factor, power supply, etc. The program will then display all suitable models for easy selection.

EMINENT Detailed performance summary

Project Name : Eminent
 Site People :
 Version : 1.0 2/3/2017 9:47:14

Input data:

Power supply:	380/3/50	Evap inlet temp.:	12.0 °C
Refrigerant:	R134a	Evap outlet temp.:	7.0 °C
Unit type:	Flooded	Cond inlet temp.:	30.0 °C
Control mode:	PLC	Evap fouling factor:	0.0860
Startups:	WyeDelta	Cond fouling factor:	0.0860

Unit Information:

Unit Name: CWE-350
 Unit Quantity: 1
 Packing Weight: 6900 kg
 Operating Weight: 7400 kg
 Unit Length: 4000 mm
 Unit Width: 1520 mm
 Unit Height: 2035 mm
 Sound Power Level: 87.3 dB(A)

Performance Information:


Capacity: 341.2 usrt
 Power: 296.0 kW
 Efficiency (COP): 5.8 kW/kW

Compressor Information:

Type: Semi-hermetic Screw
 Model: RC-2-MS10-EP*2
 Quantity: 2
 Refrigerant Charge: 180.2 kg
 Lubricant Model: HBR-B04
 Lubricant Charge: 287.1 L

Evaporator Information:

Type: Shell-Tube Flooded
 Passes: 2
 Entering Temperature: 12.0 °C
 Leaving Temperature: 7.0 °C
 Water Flow: 968.3 gpm
 Pressure Drop: 79.1 kPa
 Volume: 270.4
 Fouling Factor: 0.0860
 Fluid Type: Water



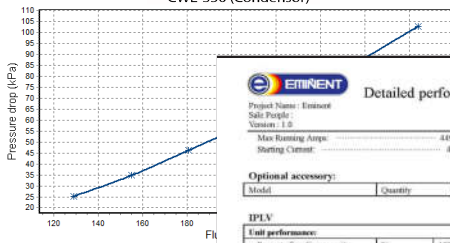
EMINENT Detailed performance summary

Project Name : Eminent
 Site People :
 Version : 1.0 2/3/2017 9:47:14

The above data may be changed without notice for future improvement on quality and performance.

Pressure Drop Curve:

CWE-350 (Condenser)



EMINENT Detailed performance summary

Project Name : Eminent
 Site People :
 Version : 1.0 2/3/2017 9:47:14

Max Running Amps: 449.2 A
 Starting Current: 443 A

Optional accessory:

Model	Quantity
-------	----------

IPLV

Unit performance:					
Percent of cooling capacity	%	100	75	50	25
Percent of full load power	%	100.00	67.49	38.46	22.09
Cooling capacity	usrt	341.2	255.9	170.6	85.3
Total unit power	kW	296.0	141.7	80.8	40.4
Efficiency	kW/kW	5.82	6.35	7.43	6.47

Evaporator data:

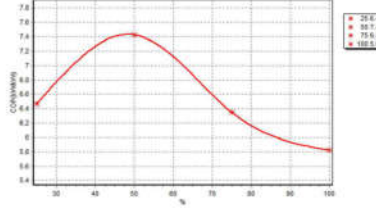
Entering water temperature	°C	12.0	10.7	9.5	8.2
Leaving water temperature	°C	7.0	7.0	7.0	7.0
Flow rate	gpm	968.3	968.3	968.3	968.3
Pressure drop	kPa	79.1	79.1	79.1	79.1
Fouling factor	m ² °C/kW	0.08600	0.08600	0.08600	0.08600

Condenser data:

Entering water temperature	°C	30.0	26.0	23.0	19.0
Leaving water temperature	°C	35.0	29.5	25.3	20.2
Flow rate	gpm	1212.1	1212.1	1212.1	1212.1
Pressure drop	kPa	87.0	87.0	87.0	87.0
Fouling factor	m ² °C/kW	0.08600	0.08600	0.08600	0.08600

IPLV

kW/kW	5.82
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Product: CW-350 (Water Cooled Screw Chiller)

Power supply: 380/3/50 kVPhz
 Refrigerant: R134a
 Control mode: Flooded
 Startups: WyeDelta

Evap Inlet Temp: 12.0 °C
 Evap Outlet Temp: 7.0 °C
 Cond Inlet Temp: 30.0 °C
 Evap Fouling Factor: 0.0860
 Cond Fouling Factor: 0.0860
 Capacity: 341.2 usrt

ID	Therms	Capacity	Power	Efficiency	Cond Pressure	Evap Pressure	Evap Temp	Cond Temp	Cond COP
1	1	341.2	296.0	5.82	1212.1	968.3	12.0	35.0	5.82
2	2	682.4	592.0	5.82	2424.2	1936.6	12.0	35.0	5.82



We reserve the right to make change in design and construction at any time without notice.



Eminent water cooled screw chiller is a classic products that operates on a flooded type evaporator and high efficiency compressor. Optimized system design and enhanced heat exchange efficiency mean the unit works best under both full load and partial load. Every chiller is fully factory tested and gas charged before shipment. It's an ideal choice for hotels, shopping malls, hospitals, factories, cinemas and other civil architecture air conditioning system. Its uses also extend into the plastic industry, electroplating industry, food processing, chemical industry and other processing facilities that require large amounts of chilled water.



Eminent Air (Thailand) Co., Ltd.
405 Moo 5 Soi Soonthonvasu,
Bhudharaksa Road, Preakasamai,
Muang, Samutprakarn ,10280 Thailand

Tel. +662 744-6777
Fax: +662 749-3034 or 35
E-mail: info@eminent.co.th
Website: www.eminent.co.th

