

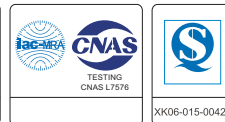


High Efficiency Magnetic Bearing Centrifugal Chiller

HXE



150~550 RT





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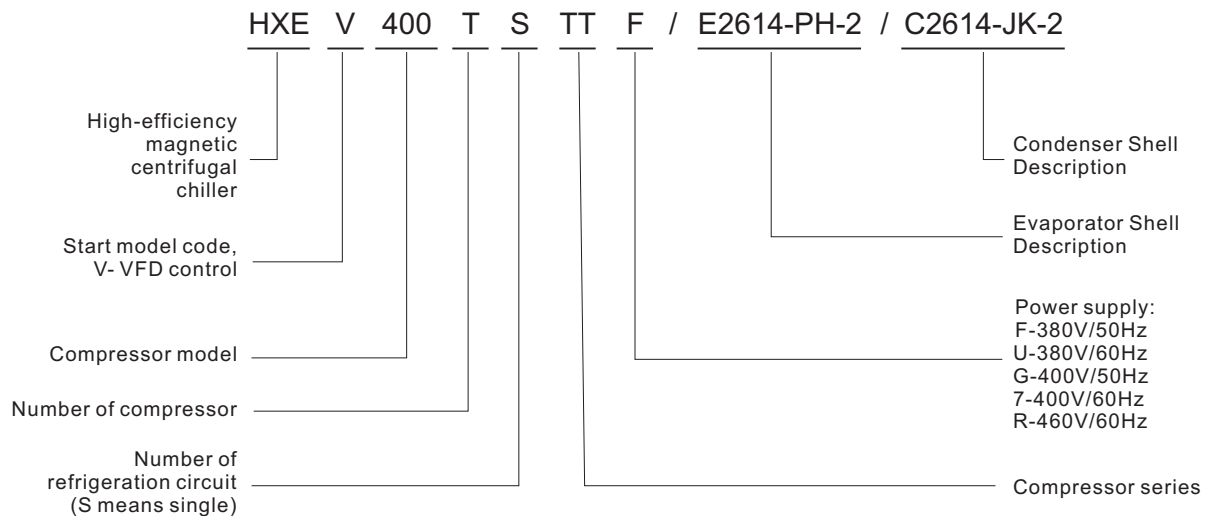
INTRODUCTION

World-Class Design Leader

Daikin, as one of the largest air condition company in the world, has earned a worldwide reputation for providing high quality products and expertise to meet variable requirements from different customers. Our customers benefit from maximum energy savings, lower installation and operation costs, quiet operation, superior indoor air quality. Daikin has been dedicating to the ongoing commitment of products development and technology innovation and also offers industrial-leading and excellent performance products as always.



NOMENCLATURE





TECHNOLOGY FEATURES

Superior Efficiency

As the global HVAC leader, Daikin has perfectly combined the most advanced technology with water cooled chillers to provide excellent performance.



Magnetic bearing centrifugal chiller has been designed with oil free system, resulting in eliminating oil contamination in the refrigerant and heat transfer surfaces to provide outstanding operating efficiency without any performance penalty compared to conventional oil-system chiller. Our magnetic bearing centrifugal chiller also integrates VFD technology. It allows the compressor to unload smoothly from maximum to minimum load for superior part-load performance in comfort cooling applications. An additional flash tank type economizer has contributed to efficiency improved by operating the two-stage compression system. It makes chiller efficiency lower to 0.52kw/RT and IPLV lower to 0.29kw/RT.

Reliable and Sustainable While efficient

Daikin chiller offers a full package of features for total owner satisfaction, such as reliability and sustainability.

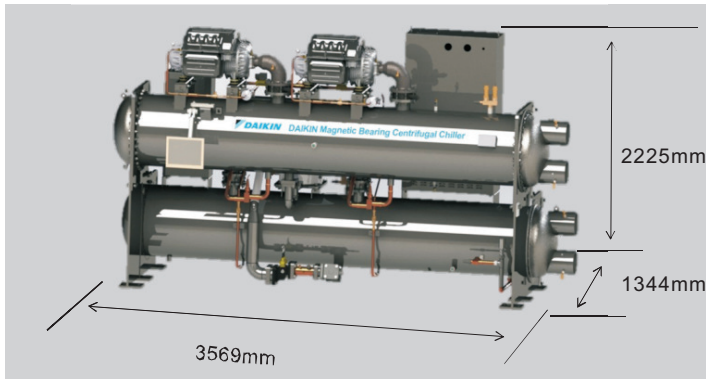
- The magnetic bearing compressor greatly improves performance, reliability and reduces service requirements as compared with the conventional centrifugal compressor design. Moreover, magnetic bearings technology eliminates mechanical seals and wear surfaces for maximum machine life.
- The simplicity of a direct-drive motor and shaft don't need gears, slide valves and extra parts to enhance reliability.
- Reduced starting inrush current by utilizing a VFD and prolong motor lifespan.
- Oil-free design is no need for oil management systems to effectively improve compressor and system reliability and also avoid performance degradation because of no oil contamination in the refrigerant.



Trouble-free ownership

Low noise

- The chiller sound pressure level is as low as 77.5 dB(A), creating a quiet environment. No mechanical noise makes the chiller become the quietest chiller. Therefore, this quiet operation makes this ideal option for sound sensitive environments such as schools, concert halls and museums.



Compact Design

- The compact size of the chiller makes it available for replacement, retrofit and energy upgrade projects. In addition, the smaller footprint saves the chiller plant room space.

Lowest total cost

Over the life of the equipment, the total maintenance savings could be significant and depend on maintenance practices, age and efficiency of other equipment, energy prices, etc.

Energy cost

- Reduced annual energy costs due to outstanding part-load efficiency since chillers spend about 99% of their operating hours at part-load conditions.
- This chiller has been proven effective in thousands of installations around the world. It is more energy efficient than normal centrifugal chillers.

Operational cost

- Sustainable performance assured for the operating life of the chiller. The positive pressure, oil-free design eliminates performance degradation because of no oil contamination in the refrigerant.
- Magnetic bearing chiller is oil free system without any need for oil charge, oil replacement, oil filter replacement, etc. The results are reduced operational costs and maintenance savings every year.



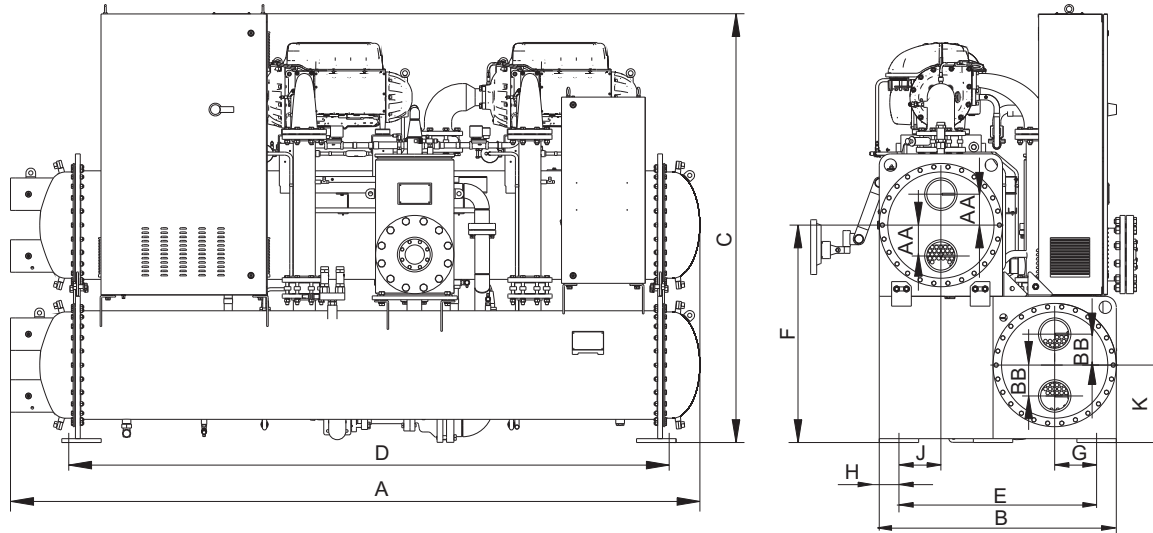
TECHNICAL DATA

Model	Cooling capacity		Power Consumption	Efficiency		Evap. Flow Rate	Evap. Pressure Drop	Cond. Flow Rate	Cond. Pressure Drop	Rated Load Amps
	RT	KW	k/W	kw/RT	COP	l/s	kPA	l/s	kPA	A
HXEV350DSTTF/E2210-PH/C2210-KK	200.0	703.2	108.9	0.5447	6.456	30.28	28.9	37.61	30.4	195.2
HXEV350DSTTG/E2612-PH/C2212-JK	220.0	773.5	119.5	0.5432	6.474	33.31	20.0	41.35	31.1	201.3
HXEV400DSTTG/E2610-PH/C2210-JK	240.0	843.8	128.4	0.5349	6.575	36.34	19.8	45.02	31.4	207.6
HXEV400DSTTF/E2212-QH/C2212-KK	250.0	879.0	135.6	0.5425	6.483	37.85	66.2	46.98	50.4	229.8
HXEV400DSTTG/E2610-PH/C2610-JK	260.0	914.2	140.6	0.5409	6.502	39.37	22.8	48.84	19.5	225.7
HXEV500DSTTG/E2612-RH/C2212-JK	300.0	1055	165.5	0.5517	6.375	45.43	53.1	56.51	52.7	265.6
HXEV500DSTTG/E2612-PH/C2612-JK	350.0	1231	191.1	0.5460	6.441	53.00	44.7	65.83	36.8	304.0
HXEV350TSTTF/E2614-RH/C2614-MK	300.0	1055	159.6	0.5319	6.612	45.43	61.5	56.23	51.0	286.7
HXEV400TSTTF/E2614-QH/C2614-MK	350.0	1231	184.0	0.5257	6.690	53.00	64.5	65.50	66.0	314.5
HXEV400TSTTF/E2614-PH/C2614-KK	400.0	1406	217.6	0.5441	6.463	60.56	65.3	75.20	66.8	366.9
HXEV500TSTTG/E3014-RH/C2614-JK	450.0	1582	244.1	0.5424	6.484	68.14	67.0	84.57	65.0	392.2
HXEV500TSTTG/E3014-RH/C3014-MK	500.0	1758	270.1	0.5403	6.509	75.71	80.4	93.91	69.9	431.1
HXEV500TSTTG/E3014-QH/C3014-KK	550.0	1934	301.8	0.5488	6.409	83.28	79.5	103.5	70.6	478.9

Notes:

- Above chiller cooling capacity is based on AHRI condition:
Chilled water outlet temperature 6.7°C, Chilled water inlet temperature 12.2°C;
Cooling water inlet temperature 29.4°C. Cooling water outlet temperature 34.6°C;
Evaporator-side water fouling factor: 0.018 m °C/kW, condenser-side water fouling factor: 0.044 °C/kW;
- Parameters of special units, please contact the Local sales organization;
- The starting current is smaller than full load current; the power distribution should according to the full load current.

DIMENSIONS



Dimensions and connection drawing of (HXE) Dual Compressors

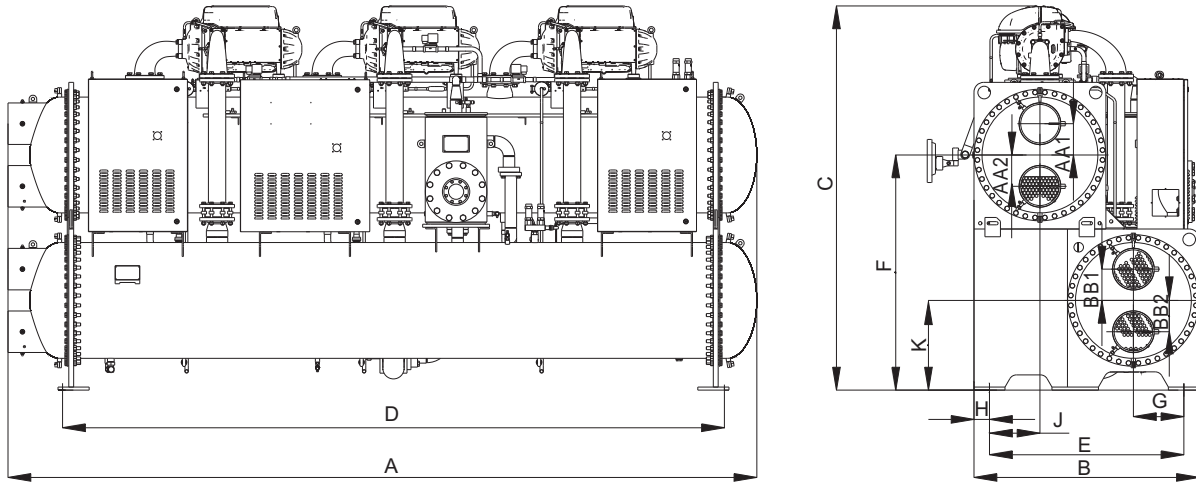
Model	Dimension(mm)						Locating Size of Evaporator Connection(mm)				Locating Size of Condenser Connection(mm)				
	A	B	C	D	E	H	F	J	AA	DN	G	J	K	BB	DN
HXEV***DSTT*/E2210/C2210	3569	1344	2225	3108	1023	102	1126	217	160	168	217	217	401	160	168
HXEV***DSTT*/E2610/C2210	3665	1422	2241	3108	1110	102	1264	305	180	219	217	305	401	160	168
HXEV***DSTT*/E2610/C2610	3665	1427	2392	3108	1198	102	1415	305	180	219	304	305	489	180	219
HXEV***DSTT*/E2212/C2212	4152	1344	2225	3694	1023	102	1126	217	160	168	217	217	401	160	168
HXEV***DSTT*/E2612/C2212	4250	1422	2238	3694	1110	102	1264	305	180	219	217	305	401	160	168
HXEV***DSTT*/E2612/C2612	4250	1427	2389	3694	1198	102	1415	305	180	219	304	305	489	180	219

Notes:

1. A, B, C dimension deviation $\pm 13\text{mm}$;
2. Above dimension base on 2 pass water flow, Please contact your Daikin representative for other pass.



DIMENSIONS



Dimensions and connection drawing of (HXE) Triple Compressors

Model	Dimension(mm)						Locating Size of Evaporator Connection(mm)				Locating Size of Condenser Connection(mm)				
	A	B	C	D	E	H	F	J	AA	DN	G	J	K	BB	DN
HXEV***TSTT*/E2614/C2614	4899	1402	2423	4345	1198	102	1435	305	180	219	304	305	509	180	219
HXEV***TSTT*/E3014/C2614	4940	1474	2454	4345	1226	102	1415	332	206	273	304	332	509	180	219
HXEV***TSTT*/E3014/C3014	4940	1483	2593	4345	1279	102	1547	332	206	273	332	332	590	206	273

Notes:

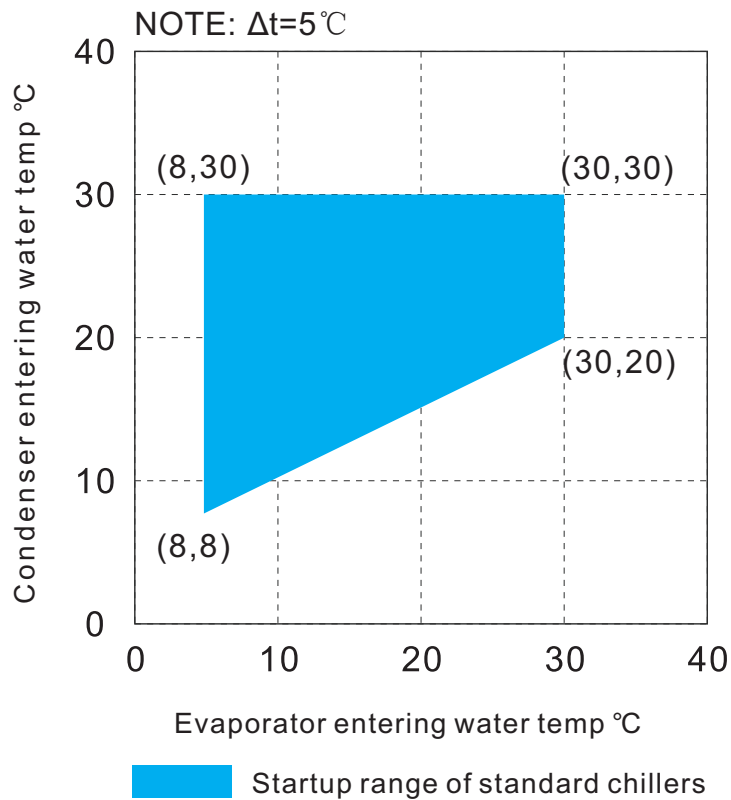
- 1、 A、 B、 C dimension deviation $\pm 13\text{mm}$;
- 2、 Above dimension base on 2 pass water flow, Please contact your Daikin representative for other pass.



OPTIONS

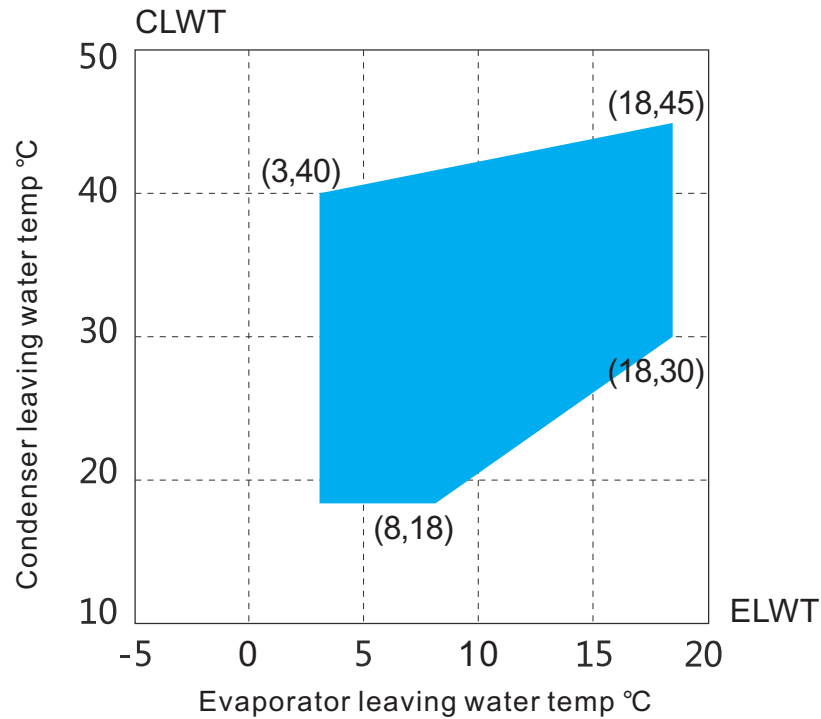
Items	Standard	Options
Vessel Code	GB Standard (1.0 MPa)	ASME
Water connection	Victaulic groove ready	ANSI Flange
Marine water box	NONE	Option
Insulation	20mm insulation on evaporator and cold surface	40mm insulation on evaporator and cold surface
Thermal Flow switch	STD	Pressure Differential/Paddle type
Anti-vibration	Rubber cushion	Spring isolator
Warranty Extension	None	1To 4 Year
Factory Test	AHRI Certified test	1-4 point witness test

STARTUP RANGE





OPERATION RANGE



APPLICATION STANDARD

The standard running condition of the water chiller is as follows:

Supply Voltage	Rated voltage $\pm 10\%$
Phase Unbalance Rate	$\pm 2\%$
Frequency	Rated frequency $\pm 2\%$ Hz
Operating Temperature	3~40°C
Relative Humidity	$\leq 90\%$
Explosion-proof grade	None
Atmospheric Corrosive Gas Contents	Sulfur dioxide $\leq 10 \text{ mg/m}^3$
	Hydrogen fluoride $\leq 5 \text{ mg/m}^3$
	Hydrogen sulfide $\leq 5 \text{ mg/m}^3$
	Nitrogen oxide $\leq 5 \text{ mg/m}^3$
	Nitrogen $\leq 1 \text{ mg/m}^3$
	Hydrogen chloride $\leq 5 \text{ mg/m}^3$
Installation	Indoor installation, no rain or direct sunlight(for installations of the outdoor, seaside, chemical plant, or place of high concentration of corrosive gas, please contact the local Daikin branch office and dealers)
Water Temperature Range of Water Chiller	See IOMM 13.2
Water Capacity Range	See IOMM 13.3
Heat Exchange Tube Waterside Pressure	Standard chiller 1.0MPa (may be designed follow the customer's requirements)



WATER QUALITY MANAGEMENT

During the unit running, the water quality of the cooling and chilled water will directly affect the machine's performance and lifetime, so it is necessary to survey the water quality beforehand and conduct water quality control as the unit runs.

The following table contains some parameters of the water quality of open system:

Item	Unit	Reference Value	Item		
			Corrosion	Scaling	
Base Items	PH (25°C)	—	<6.5-8.0	O	O
	Electrical conductivity (25°C)	μs/cm	<800	O	O
	Chloridion Cl ⁻	mg(Cl ⁻)/L	<200	O	
	Sulfateion SO ₄ ²⁻	mgSO ₄ ²⁻ /L	<200	O	
	Acid Consumption (PH=4.8)	mg(CaCO ₃)/L	<100		O
	Full Hardness	mg(CaCO ₃)/L	<200		O
Reference Items	Iron Fe	mg(Fe)/L	<1.0	O	O
	Sulphion S ²⁻	mg(S ²⁻)/L	Not Detected	O	
	Ammoniumion NH ₄ ⁺	mg(NH ₄ ⁺)/L	<1.0	O	
	Silicon Oxide SiO ₂	mg(SiO ₂)/L	<50		O

Notes:

1. The "O" in the table indicates the relevant factors with corrosion or scaling.
2. We recommend you add water process device and contact Daikin professional servicer to deal with it.



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