

Low GWP Refrigerant

HFO-1234ze(E)

Next generation centrifugal chiller

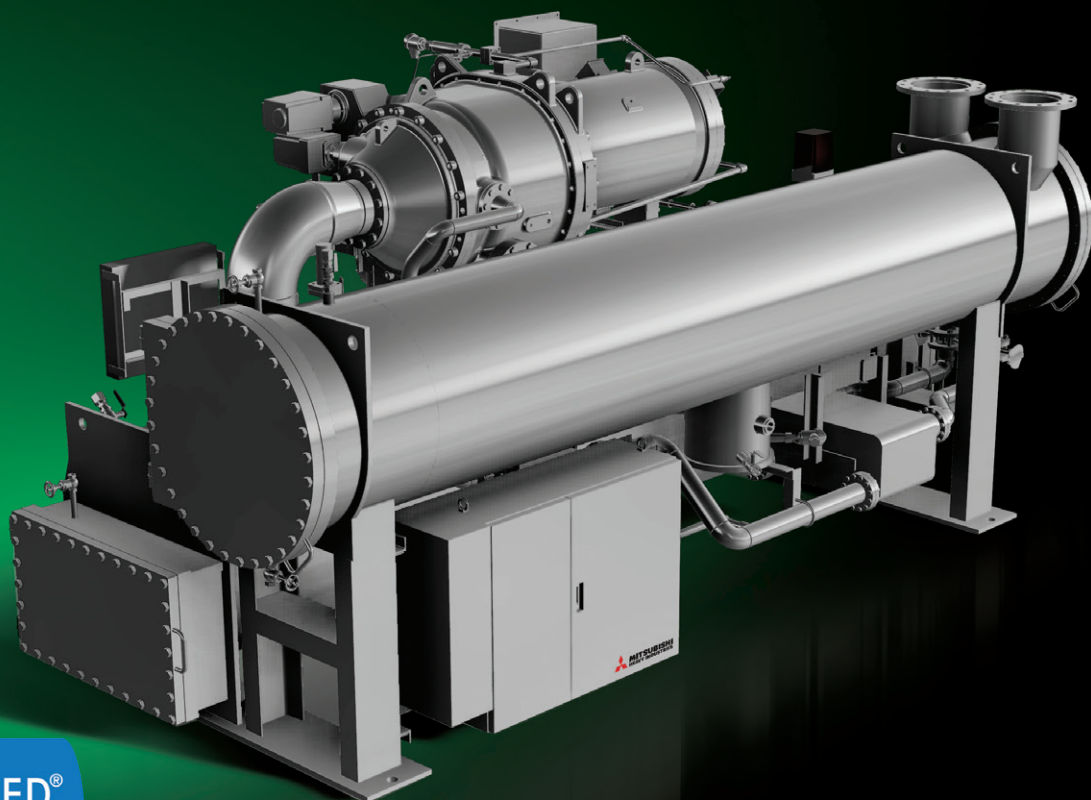
GART-

Constant speed

Variable speed

ZE & ZEI series

1055kW (300RT) ~ 17581kW (5000RT)



AHRI CERTIFIED®
www.ahridirectory.org

Water-Cooled Water Chilling and
Heat Pump Water-Heating Packages
AHRI Standards 550/590 and 551/591

Environment

Apply low GWP
 Refrigerant
HFO-1234ze(E)

GWP
< 1

GWP : Global Warming Potential

High Efficient

High performance have been pursued through improvements to the heat exchanger and the shape of the compressor impeller blades compliant with the HFO-1234ze(E) refrigerant.

Constant speed

COP
 AHRI Standard 550/590 [I-P]
6.9
 (GART-ZE250)

Variable speed

Max. COP
 at part load
24.0
 (GART-ZE250I)

Standard Specification

■ AHRI 550/590(I-P) Condition

(Rating common to both constant and variable speed)

Model		GART-	ZE 50 / 50I	ZE 75 / 75I	ZE 100 / 100I	ZE 150 / 150I	ZE 220 / 220I	ZE 250 / 250I
item(unit)		RT	380	480	700	970	1,350	1,650
Cooling capacity		kW	1,336	1,688	2,461	3,411	4,747	5,802
Chilled water	Entering temperature	°C	12.2	12.2	12.2	12.2	12.2	12.2
	Leaving temperature	°C	6.7					
	Flow rate	m³/h	208	263	384	532	740	905
	Pressure drop	kPa	23.1	34.8	39	47.1	46.6	40.7
	Piping connection/Nozzle size	inch	10	10	12	14	16	18
	No. of pass	-	2	2	2	2	2	2
Cooling water	Entering temperature	°C	29.4					
	Leaving temperature	°C	34.5	34.5	34.5	34.5	34.5	34.5
	Flow rate	m³/h	260	330	480	665	926	1130
	Pressure drop	kPa	31	46	37	37	36	40
	Piping connection/Nozzle size	inch	10	10	12	16	18	20
	No. of pass	-	2	2	2	2	2	2
Motor out put	kW 50Hz	173	221	322	444	623	770	
	kW 60Hz	176	226	333	455	640	785	
Insulation area	m²	32	33	39	40	46	48	
Power source : main	-	400V / 3kV / 6kV				3kV / 6kV		
Power source : auxiliary	-	Three-phase 200 / 200 V						

■ JIS B8621:2011 Condition

Chilled water 12°C / 7°C, Cooling water 32°C / 37°C

(Rating common to both constant and variable speed)

Model		GART-	ZE 50 / 50I	ZE 75 / 75I	ZE 100 / 100I	ZE 150 / 150I	ZE 220 / 220I	ZE 250 / 250I
Cooling capacity		RT	400	520	720	1,080	1,640	1,800
		kW	1,407	1,828	2,532	3,798	5,767	6,329
Motor out put		kW 50Hz	197	260	360	538	838	915
		kW 60Hz	198	262	368	543	840	919
Chilled water	Flow rate	m³/h	241	314	434	652	989	1,086
	No. of pass	-	2	2	2	2	2	2
	Pressure drop	kPa	29.9	47.3	48.4	67.2	77.5	55.9
	Piping connection/Nozzie size	A	250	250	300	350	400	450
Cooling water	Flow rate	m³/h	282	368	509	763	1,160	1,269
	No. of pass	-	2	2	2	2	2	2
	Pressure drop	kPa	35	54	41	47	54	49
	Piping connection/Nozzie size	A	250	250	300	400	450	500
Insulation area		m²	32	33	39	40	46	48
Power source : main		-	400V class / 3kV class / 6kV class			3kV class / 6kV class (Refer to Notes 5)		
Power source : auxiliary		-	Three-phase 200 / 200 V					

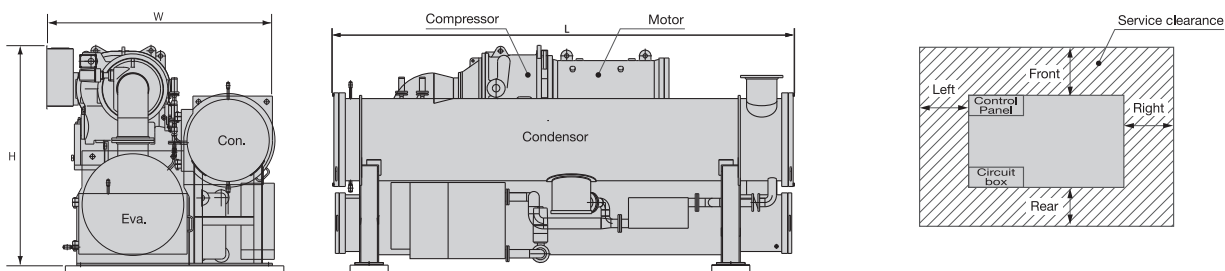
Notes: 1. This specification is based on AHRI STANDARD 550/590(I-P) conditions and JIS Standard B8621:2011 conditions for temperature and fouling factor of chilled water and cooling water.
 2. Max. working pressure (Chilled water and Cooling water): 1 MPa (G)
 3. Unit capacity of over 2,500 RT up to 5000 RT with dual compressors are available.
 4. The above specification is not data of max. cooling capacity.

5. Please consult with MTH* in case chiller capacity is more than 800RT with 400V class because it depends motor output.
 6. Refer to MTH*'s drawing "MACHINE LAYOUT" and "INVERTER PANEL OUTLINE" at installation.
 7. Service clearance must be provided more than above.
 8. Shipping weight of inverter panel is approximate weight of standard specification.
 9. The above shipping weight of chiller is weight of piece shipment.
 10. Design and specifications are subject to change without notice.

Dimension and Weight

Chiller

Model		GART-	ZE 50/50 I	ZE 75/75 I	ZE 100/100 I	ZE 150/150 I	ZE 220/220 I	ZE 250/250 I
Dimension	Length (L)	m	4.6	4.6	4.9	5.5	5.6	6.2
	Width (W)	m	2.4	2.4	2.6	2.9	3.2	3.4
	Height (H)	m	2.3	2.3	2.5	2.8	3.1	3.4
Shipping weight		t	10.6	11.5	15	20.2	27.4	33.6
Operation weight		t	13.4	14.3	19.1	25.6	35.1	43.9
Service Clearance	Front	m	1.2	1.2	1.2	1.2	1.2	1.2
	Both end	m	1.15	1.15	1.3	1.45	1.65	1.9
	Rear	m	0.9	0.9	0.9	0.9	0.9	0.9



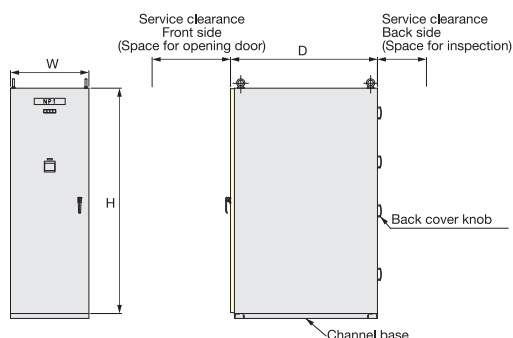
Notes relating to chiller:

1. Service clearance must be provided more than above.
2. Tube removal space must be provided at either end.
3. The piping must be arranged with offsets for flexibility, and adequately supported and balanced independently to avoid strain and vibration transmission on the unit.
4. Prepare the hook for raising compressor and motor unit.
5. The above shipping weight of chiller is weight of 1 piece shipment.

6. Refer to this figure to plan suitable and adequate entrance for machine installation, enough clearance should be provided.
(Caution: This plan shows the size without insulation. After insulation, the size will increase by the thickness of insulator.)
7. Detail other requirement is mentioned in MTH's drawing " MACHINE LAYOUT ". Please comply with it.

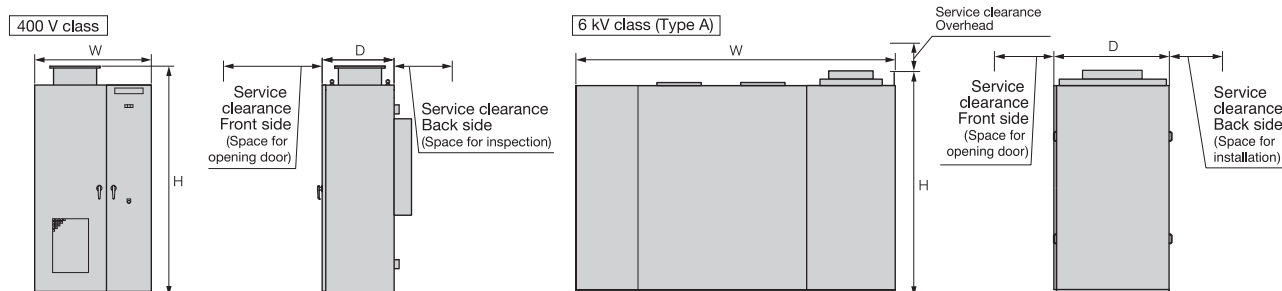
Starter Panel (GART-ZE)

Voltage			400V class	3kV class	6kV class
Dimension	Width (W)	m	0.8	0.8	0.8
	Depth (D)	m	1.2	1.5	1.5
	Height (H)	m	2.35	2.35	2.35
Shipping weight		t	0.6	0.8	0.8
Service Clearance	Front	m	0.8	0.8	0.8
	Back	m	0.5	0.5	0.5
Starting method		-	Star-delta	Reactor (65% TAP) Auto-transformer (65% TAP) *option	



Inverter Panel (GART-ZEI)

Chiller Model		GART-	ZE 50I			ZE 75I			ZE 100I			ZE 150I		ZE 220I		ZE 250I	
Voltage		-	400V class			6kV class			400V class			6kV class		6kV class		6kV class	
Type of inverter panel		-	-			-			-			-		-		-	
Dimension	Width (W)	m	1.3	3.8	4.7	1.8	3.8	4.7	2.1	3.8	4.7	4.0	4.8	4.1	4.9	4.4	5.1
	Depth (D)	m	0.8	1.3	1.2	0.8	1.3	1.2	0.8	1.3	1.2	1.3	1.2	1.3	1.2	1.3	1.2
	Height (H)	m	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Shipping weight		t	0.7	3.6	5.0	1.1	3.6	5.0	1.4	3.9	5.0	4.3	5.5	5.3	5.7	6.1	7.6
Service Clearance	Front	m	1.1	1.5	1.6	1.1	1.5	1.6	1.1	1.5	1.6	1.5	1.6	1.5	1.6	1.5	1.6
	Back	m	0.7	0.6	0.1	0.7	0.6	0.1	0.7	0.6	0.1	0.6	0.1	0.6	0.1	0.6	0.1
	Top	m	0.6	0.5	0.5	0.6	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5



Notes:

1. Refer to MTH's drawing "STARTER / INVERTER PANEL OUTLINE" at installation.
2. Design and specifications are subject to change without notice.
3. Shipping weight of starter panel is approximate weight of standard specification.
4. MTH* have 2 type inverter panel in 6 kV and 3 kV class.
Type A : Standard type (Required service clearance at back side is 0.6m to 0.7m.) Type B : Option type (Required service clearance at back side is 0.1m only.)
5. Please contact with MTH* about inverter panel 3 kV class.
6. The above is dimension and weight of inverter panel for the following chiller condition. chilled water leaving temp. : 7°C

Constant speed Variable speed

GART-ZE & ZE I series

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<https://www.mhi-mth.co.jp/en/>

Our factories are
ISO9001 and
ISO14001 certified.

Certified ISO 9001



Certificate number: JQA-0709



Certified ISO 14001



- Because of our policy of continuous improvement, we reserve right to make changes in all specifications without notice.
- Option items are included in the pictures of chiller.
- Unauthorized reproduction is prohibited.

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