GREEN TECH

BY HOMY

SUBMITTAL

HIGH TEMPERATURE

HEAT PUMP

EVI DC INVERTER

Maximum Water Temperature:

203°F (95°C)

APPLICATIONS INCLUDE:

- Space heating
- Domestic hot water production
- Radiant floor heating
- Fan coil systems
- Low temperature hydronic systems

The GreenRech ASTRA Two-Stage EVI DC Inverter Air Source Heat Pump is a high-temperature air-to-water system using R32 and R515B refrigerants to deliver outlet water temperatures up to 95°C (203°F), with stable and efficient operation in low ambient conditions.

PROJECT NAME: _____

PROJECT LOCATION: _____

SUBMITTED BY: _____

DATE: _____

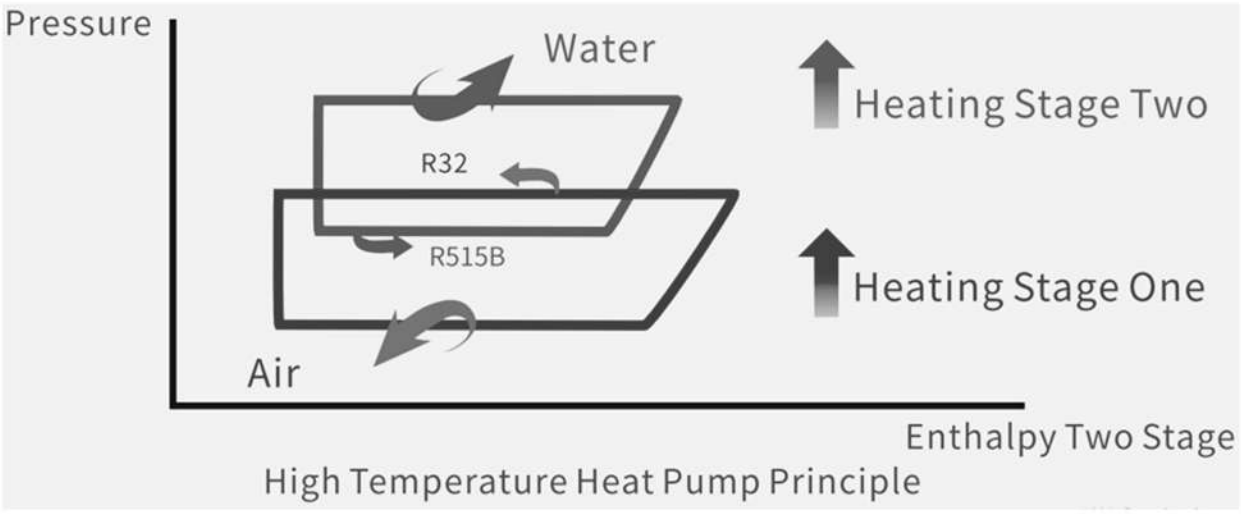
HOMY BUILDING SOLUTIONS

www.Homybuild.ca

ABOUT THE SYSTEM

Designed for cold climates and high-temperature applications, ASTRA High-Temperature Heat Pumps deliver reliable heating and hot water up to 95°C using advanced two-stage inverter technology.

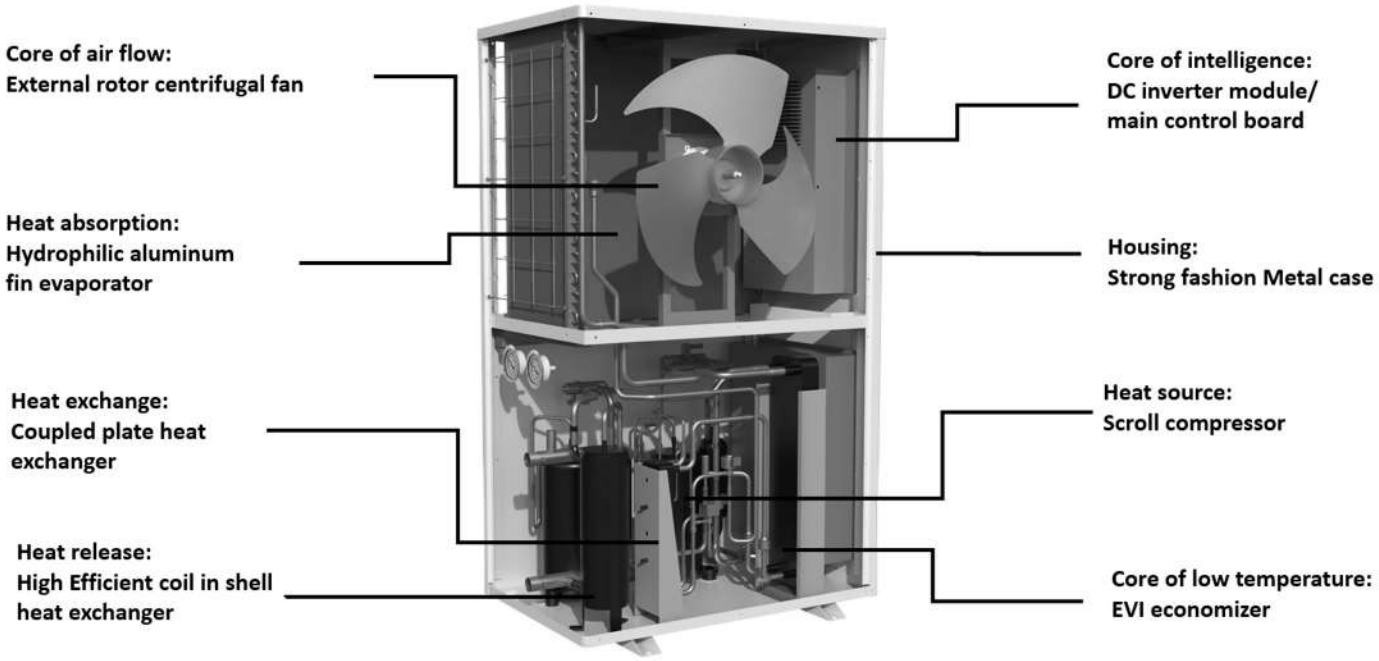
WORKING PRINCIPLE: Two-stage coupled system with R32 in Stage 1 and R515B in Stage 2 to reduce the operating compression ratio and thus improve the running efficiency under low ambient temperature.



High Temperature Heat Pump Principle

By using the condenser of the first stage as the evaporator of the second stage, the system significantly improves overall efficiency and provides high-temperature hot water even in cold climates.

LAYOUT OF COMPONENTS



PRODUCT KEY FEATURES

Refrigerant Type: R32 + R515

Heat exchange component of R32 system and R515B system.

High Temperature Water Production

Capable of producing hot water up to **203°F (95°C)** for space heating and domestic hot water applications.

Accelerated Heating

Quickly reaches stable operation after startup, delivering higher heating output in shorter time.

Intelligent Defrosting

Rapid defrost recovery maintains heating capacity and minimizes performance loss during low ambient operation.

Automatic Antifreeze Protection (Standby Mode)

Multi-level antifreeze protection automatically activates to prevent freezing and ensure safe operation.

DC Inverter Technology

High-efficiency DC inverter compressor with intelligent speed control delivers stable performance, lower energy use, and reliable operation under varying loads.

TECHNICAL SPECIFICATIONS

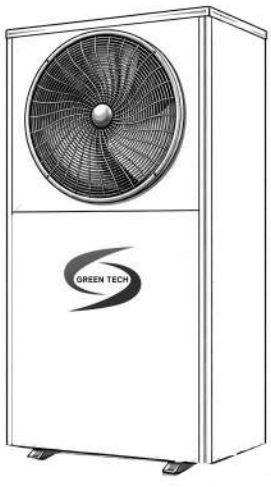
Parameter		Unit	GTHRW14ZA
Power supply		V/P/Hz	240/1/60
Ambient 20°C/68°FWater outlet 75°C/167°F	Heating capacity	kW	13.5
		BTU/H	46,062
	Power input	kW	6.00
	COP	/	2.25
Ambient 7°C/44.6°FWater outlet 75°C/167°F	Heating capacity	kW	12.5
		BTU/H	42,650
	Power input	kW	5.76
	COP	/	2.17
Ambient -12°C/10.4°FWater outlet 75°C/167°F	Heating capacity	kW	9.2
		BTU/H	31,390
	Power input	kW	5.26
	COP	/	1.75
Ambient -20°C/-4°FWater outlet 75°C/167°F	Heating capacity	kW	8.1
		BTU/H	27,637
	Power input	kW	5.0625
	COP	/	1.6
Maximum water outlet temperature		°C/°F	95/203
Rated water flow volume		m^3/h / GPM	2.15 / 9.34
Rated water pressure drop		kPa	40
Water connections (external threaded)		inch	1"
Refrigerant			R32+R515B
Sound level		dB(A)	53
Waterproof level			IPX4

Remarks:
The above data is based on a 230V power supply and is provided for reference only. In case of changes due to product improvements, the unit nameplate data shall prevail.

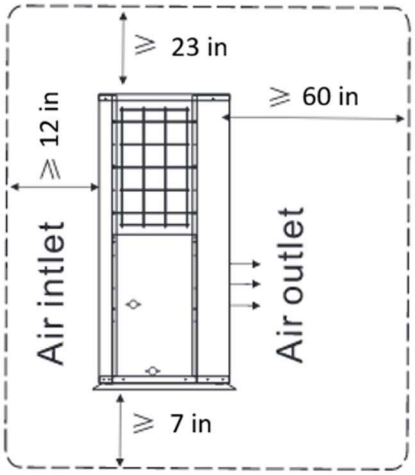
DIMENSSION AND WEIGHT

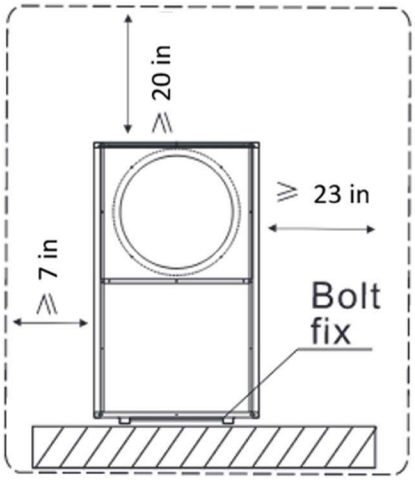
The unit has a compact vertical design for space-efficient installation. Ensure proper structural support and use suitable lifting equipment during handling and mounting.

Parameter	Unit	GTHRW14ZA
Weight	lb	306
Unit dimensions (L/W/H)	inch	32/23/54



INSTALLATION SPACE REQUIREMENTS



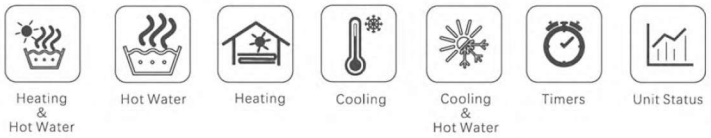


SMART CONTROL

A user-friendly color touch controller with remote APP integration for convenient system monitoring and control.

FEATURES:

1. Remote control via smart APP
2. Heating, Cooling, and Hot Water modes
3. Temperature adjustment and scheduling
4. Timer and unit status monitoring
5. RS485 communication interface for BMS integration



ELECTRICAL REQUIRMENTS

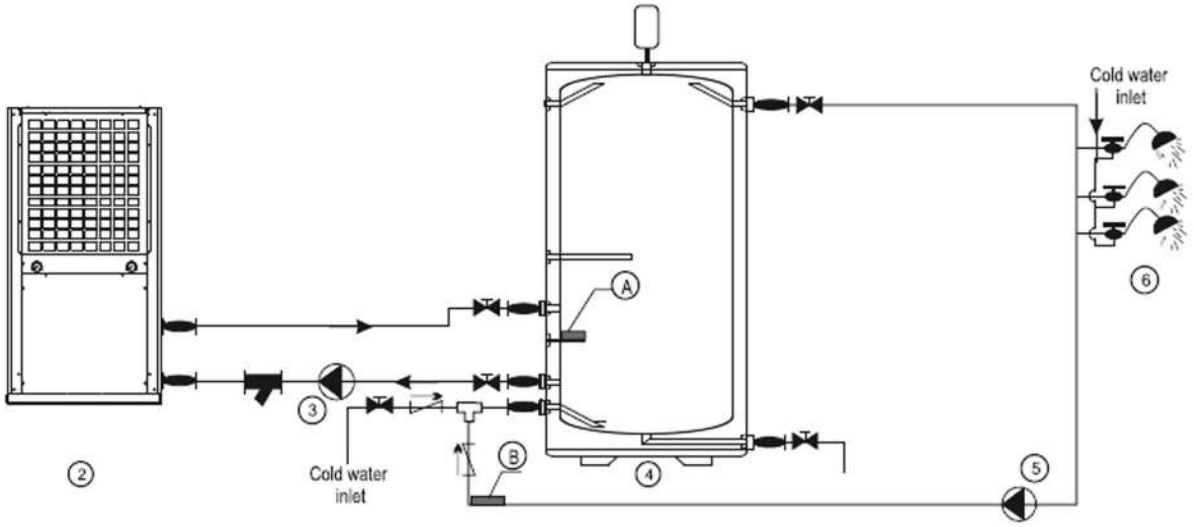
Use a dedicated, properly rated power supply with correct copper wiring and reliable grounding.

Installation must follow the wiring diagram and be done by qualified technicians, ensuring safe load capacity and no outlet

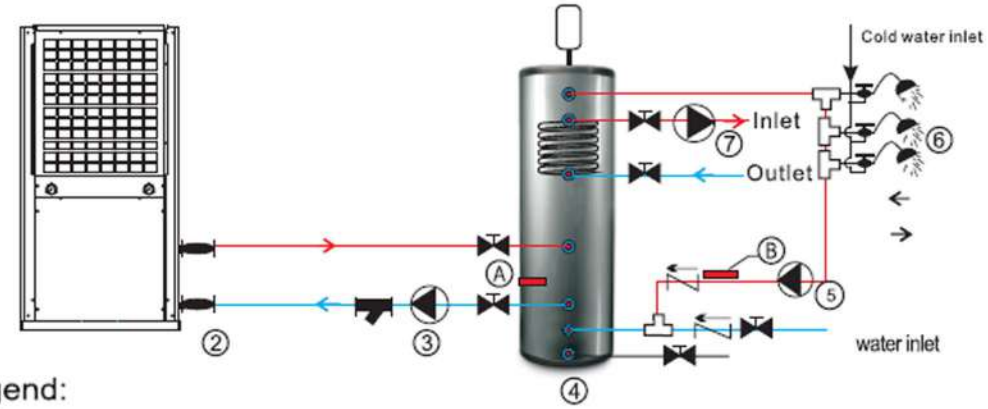
Parameter	Unit	GTHRW14ZA
Power Supply		220V / 1Ph / 60Hz
Rated Heating Power	kW	5.1
Rated Heating Current	A	23.2
Fan Motor Full Load Current	A	0.4
Motor Compressor RLA	A	29
MCA (Minimum Circuit Ampacity)	A	40
MOCP (Maximum Overcurrent Protection)	A	60
Minimum Supply Cable / Breaker Size		8 AWG / 40A
Maximum Supply Cable / Breaker Size		6 AWG / 60A
Maximum Fuse	A	60

INSTALLATION SCHEMATIC

A. Domestic Hot Water System Installation Drawing



B. Hot Water and Floor Heating System Installation Drawing (Without Three-Way Valve)



Legend:

Globe valves	Shower head	⑦ Floor heating cycle pump
Electric driven two-way valve	② Indoor unit	Ⓐ Hot water tank temp.
Check valve	③ Water cycle pump	Ⓑ Water supply return temp.
Water pressure switch	④ Hot water tank	
Water temp. sensor	⑤ Water supply cycle pump	
Expansion Tank	⑥ Bath room	

GREEN TECHNOLOGY INTERNATIONAL
www.Greentechastra.com
info@greentechastra.com

HOMY BUILDING SOLUTIONS INC.
Suite A4, 9131 Keele St, Vaughan
ON, Canada – L4K 0G7
Tel: (905) 851 8787
info@homybuild.ca