



MEGA·Q



DAIKIN *MEGA-Q*  
ALL-ELECTRIC  
HOT WATER  
GENERATION  
SYSTEM

# Accelerating Decarbonization of Commercial Buildings



**HOSPITALS**



**MULTI-FAMILY HOMES**



**HOTELS**



**SCHOOLS**



**GYMS AND SPAS**



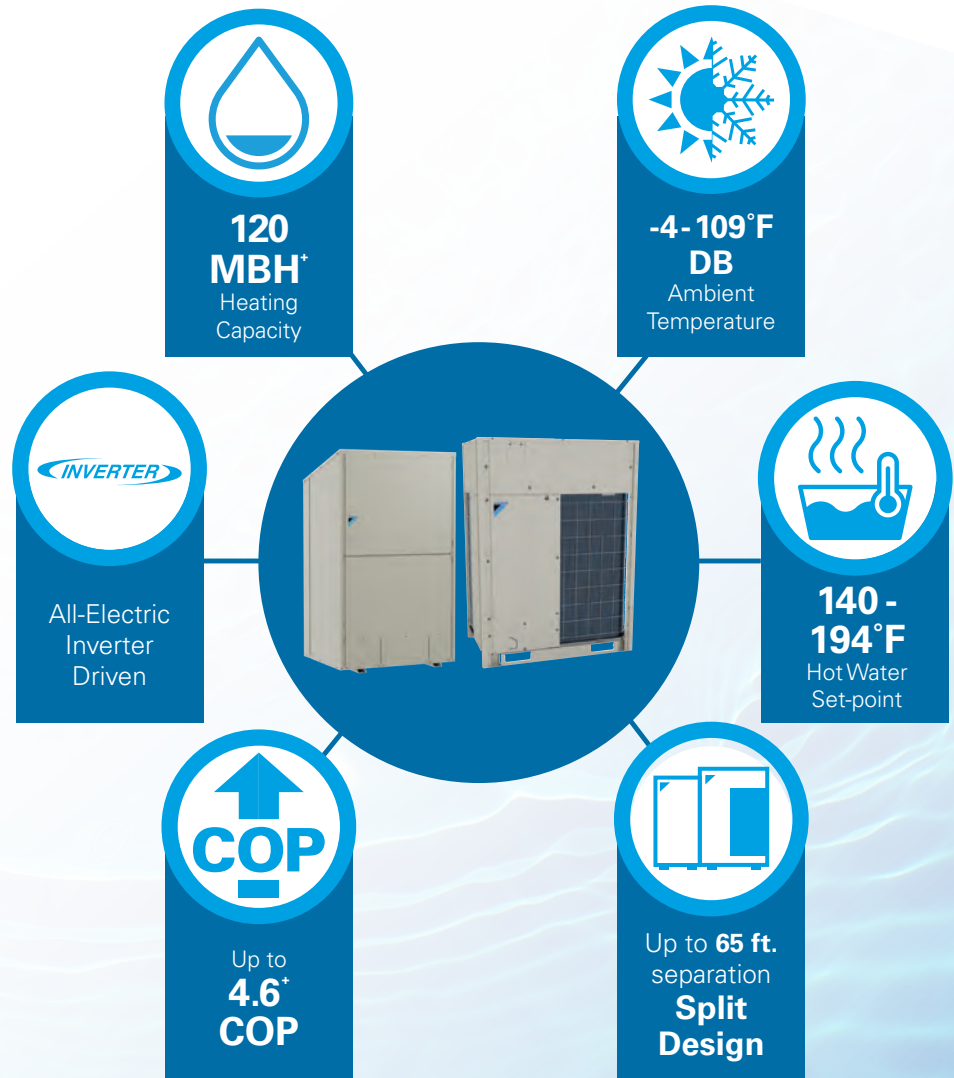
**OFFICES**

# INTRODUCING DAIKIN MEGA-Q

**Hot water is used in everyday activities.** In North America, gas, oil, electric, and steam boilers have been leveraged traditionally to generate hot water. Air-to-water heat pump technology offers an all-electric alternative for generating hot water, reducing dependence on fossil fuel systems. Daikin's inverter-driven Daikin *Mega-Q* system provides an all-electric hot water solution, making it an ideal choice for commercial buildings with large volume non-potable demand. The heat source component of *Mega-Q* should be used for heating water for non-potable use only, not for other applications such as but not limited to space heating or cooling.

## Features and Benefits:

- » All-electric heat pump technology for non-potable hot water generation in commercial applications.
- » Dependable hot water generation at ambient temperatures from -4°F DB to 109°F DB (from -20°C DB to 43°C DB).
- » Customizable high-leaving water temperatures from 140°F to 194°F (from 60°C to 90°C) with inlet water temperatures from 41°F to 176°F (from 5°C to 80°C).
- » Year-round high efficiencies with up to 4.6\* COP thanks to Daikin's inverter heat pump and cascade technologies.
- » Scalable and modular system design allows for up to 6 Daikin *Mega-Q* systems to connect to the same hydronic loop, achieving total nominal capacity of 720 MBH.
- » Flexible application design with a vertical separation of up to 65 ft. between the heat source unit and the cascade unit.
- » Modular and compact system design enables installation indoors or outdoors.
- » Built-in variable speed water pump increases waterside system efficiencies compared to single-speed pumps and can handle water flow rates of up to 3.8 gallons per minute (GPM).



\*Based on heating conditions at the outdoor temperature of 77°F DB/69.8°F WB, the outlet water temperature of 149°F, and the inlet water temperature of 75.2°F.



\* Complete warranty details available from your local dealer/contractor or at [www.daikincomfort.com](http://www.daikincomfort.com). Daikin *Mega-Q* heat source unit (RXHWQ120MQTJA) and cascade unit (BWL120TJU) come with a 5-Year Parts Limited Warranty where installation and commissioning requirements are satisfied. Other limitations and exclusions apply.

# DECARBONIZING WATER HEATING IN COMMERCIAL BUILDINGS.

**Decarbonization is happening across North America.** Several states, cities, and local bodies have set decarbonization goals for their regions. As of January 2024, 24 states have enacted laws for decarbonization. States such as California, Washington, and New York have implemented bans on certain fossil fuel heating systems as part of these initiatives.

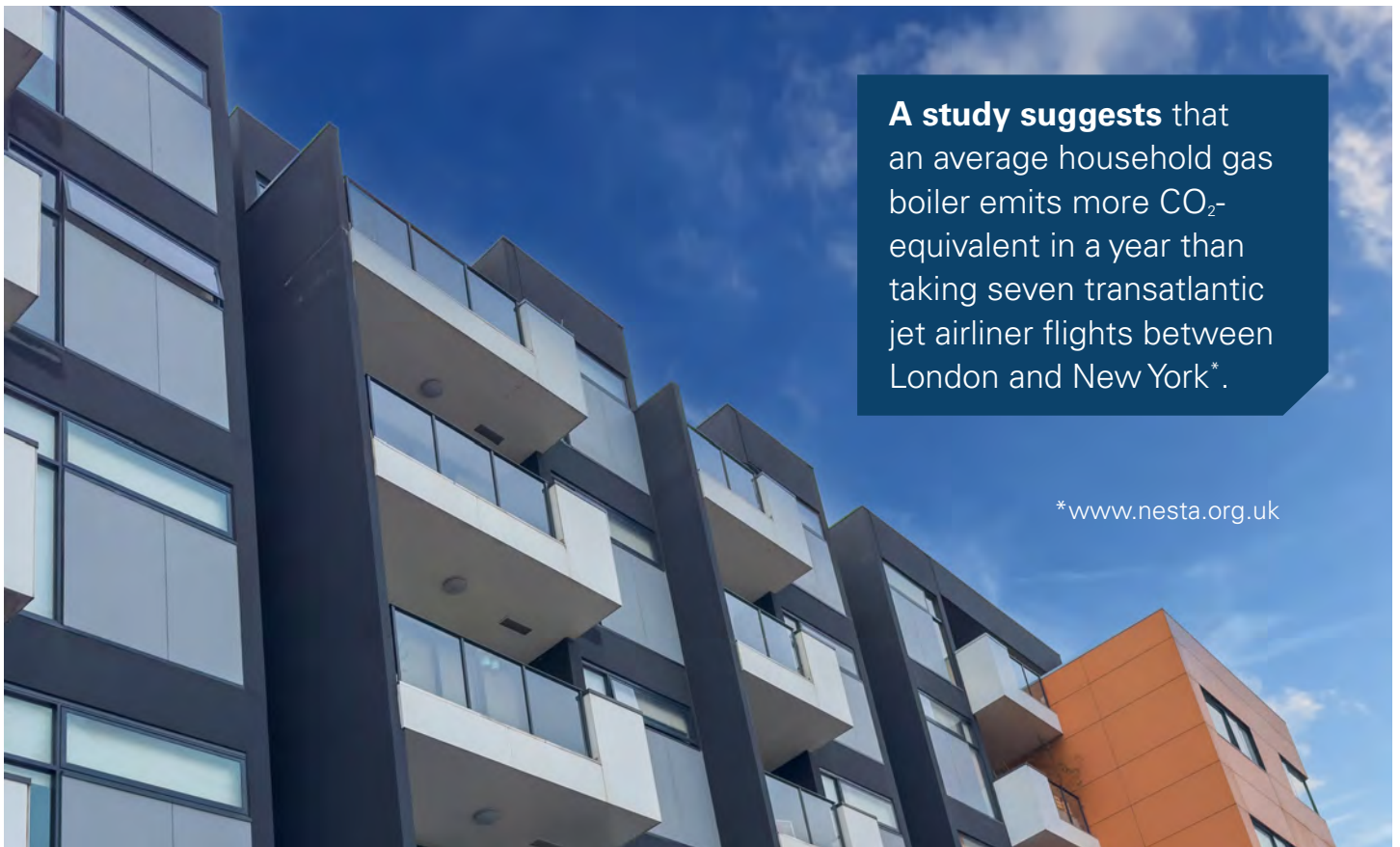
## Why is it important?

**Most buildings are equipped with traditional, inefficient commercial gas boilers powered by fossil fuels.** Commercial gas boilers generally demand large spaces with complex plumbing and safety requirements. They can also require frequent maintenance, including daily checks of temperature, pressure, and water levels. Additionally, periodic scheduled changeovers make operating gas boilers a labor-intensive task.

## The Strength of Daikin *Mega-Q*

Leveraging Daikin's innovative inverter and air-to-water heat pump technologies, the Daikin *Mega-Q* offers an all-electric non-potable hot water generation solution to support the following:

- » Switching out fossil-fuel based technologies to all-electric alternatives
- » Alignment with electrification and decarbonization objectives
- » Design flexibility for versatile installation scenarios



**A study suggests** that an average household gas boiler emits more CO<sub>2</sub>-equivalent in a year than taking seven transatlantic jet airliner flights between London and New York\*.

\*[www.nesta.org.uk](http://www.nesta.org.uk)

# EFFICIENCY AND FLEXIBILITY.



**Daikin Mega-Q is an all-electric hot water generation system** that is built upon 3 main components — heat source unit, cascade unit, and tank controller kit — providing some attributes of a central hot water generation system but with the flexibility of indoor or outdoor installation.

*Mega-Q* offers all-electric hot water generation for various non-potable water applications, such as multi-family buildings, offices, hotels, schools, and other large commercial applications.

This innovative system can supply non-potable hot water to commercial buildings even in outdoor ambient temperatures as low as -4°F. The dual refrigerant circuit split system design features Daikin's Inverter-driven heat pump technology. Coupled with an inverter-driven cascade unit, the *Mega-Q* supports reliable performance with customizable high-leaving hot water temperatures ranging from 140°F to 194°F with inlet water temperatures from 41°F to 176°F.

**The Daikin MEGA-Q:**

**1**

**Heat Source Unit**

- » All-electric inverter air-cooled heat source
- » R-410A refrigerant

**2**

**Cascade Unit**

- » Cascade unit – Refrigerant to water
- » Built-in inverter water pump
- » R-134A refrigerant

**3**

**Tank Controller Kit**

- » Connects to the hot water storage tank using three water temperature sensors
- » Controls up to 6 *Mega-Q* systems on the same hydronic loop

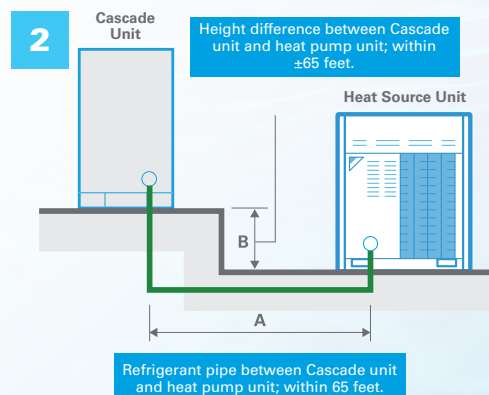
The heat source component of *Mega-Q* should be used for heating water for non-potable use only, not for other applications such as but not limited to space heating or cooling.

Note: Hot water storage tank is field supplied.

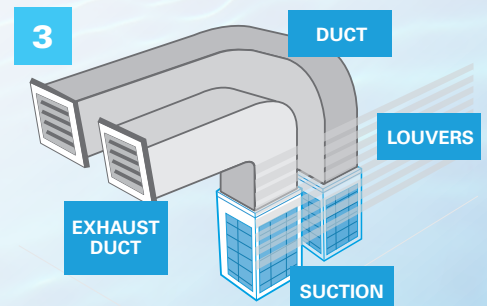
## Flexible Installation



» The heat source unit and cascade unit are installed outside side by side.

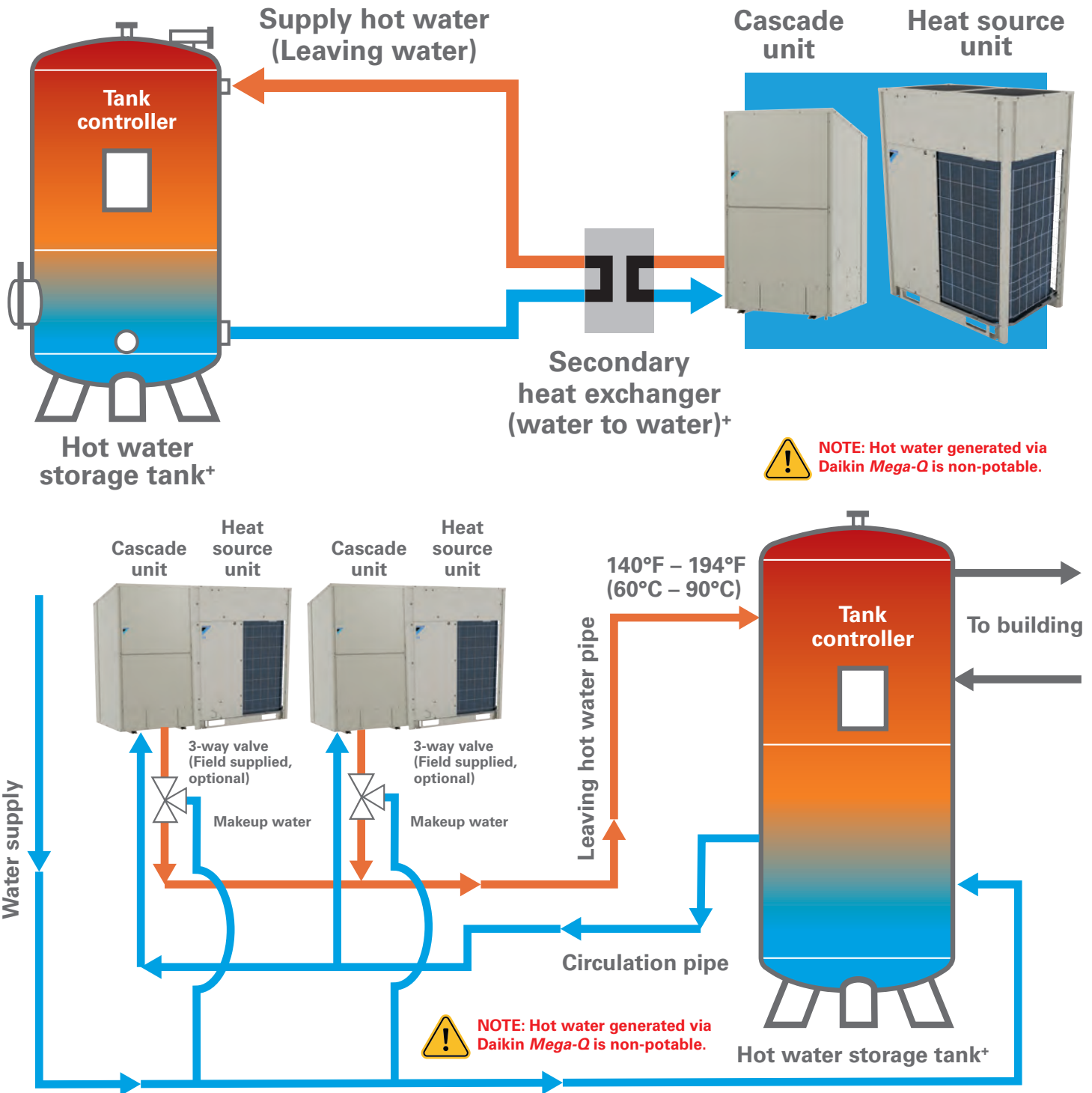


» The cascade unit can be installed up to 65 feet away from the heat source unit, with the option to place it indoors.



» Both the heat source unit and cascade unit can be installed indoors. Note that the heat source unit must be ducted to the outside.

# HOW IT WORKS



<sup>+</sup> Not required for operation of the Daikin *Mega-Q* system. Field supplied if used in applications.

Dual refrigerant circuit of Daikin *Mega-Q* achieves high-temperature hot water output.

Daikin *Mega-Q* takes advantage of the excellent low ambient temperature characteristics of R-410A combined with high temperature boiling characteristics of R-134A to generate high-temperature water up to 194°F.

## RXHWQ120MQTJA + BWLP120TJU

Sound (A scale)		Db	55 (Winter 59)		
<b>Unit Model Name</b>		<b>Heat Source Unit</b>		<b>Cascade Unit</b>	
Model Name		RXHWQ120MQTJ*		BWLP120TJU	
Power Supply		3 Phase 208/230V 60Hz			
Casing Color		Ivory White (5Y7.5/1)			
External Dimensions (H x W x D)		In. (mm)	66-11/16 (1694) x 48-7/8 (1242 ) x 30-3/16 (767)	60-1/16 (1525) x 35-3/16 (893) x 30 (762)	
Heat Exchanger	Evaporator	Cross Fin Coil		Plate Heat Exchanger	
	Condenser			Winding Spiral Tube Heat Exchanger	
Compressor	Model	Hermetically Sealed Scroll Type			
	Starting System	Soft Start (Inverter)			
	Motor Output	kW	(4.4 + 4.4)	(4.5 + 4.5)	
Fan	Model	Propeller Fan		N/A	
	Motor Output x Number	kW	0.75 x 2	N/A	
	Air Flow	cfm (m3/min)	8228 (233)	N/A	
	Drive System	Direct Drive		N/A	
Water Pump		N/A		Non-Self-Priming Canned Pump	
Connecting Pipe	Heat Source Unit	Liquid Side Pipe	in. (mm)	1/2 (12.7) C1220T (Brazed Connection)	N/A
		Gas Side Pipe	in. (mm)	1-1/8 (28.6) (Brazed Connection) *1	N/A
	Heat Source Unit Cascade Unit	Liquid Side Pipe	in. (mm)	1/2 (12.7) C1220T (Brazed Connection)	
		Gas Side Pipe	in. (mm)	7/8 (22.2) C1220T (Brazed Connection) *1	
	Cascade Unit	Liquid Side Pipe	in. (mm)	N/A	1/2 (12.7)
		Gas Side Pipe	in. (mm)	N/A	7/8 (22.2)
		Circulation (water) Pipe	in. (mm)	N/A	NPT3/4 male thread (after the installation of piping adaptor)
		Outlet (hot water) Pipe	in. (mm)	N/A	NPT3/4 male thread (after the installation of piping adaptor)
	Weight		lb. (kg)	695 (315)	639 (290)
	Safety Device		High pressure switch, Fan driver overload protector, Overcurrent relay, inverter overload protector		High pressure switch, inverter overload protector
	Defrost Method		Deicer		N/A
	Refrigerant	Refrigerant Name		R-410A	High side R-134A Low Side R-410A
		System Charge	lbs. (kg)	18.1 (8.2)	13.2 (6.0)
		Control		Electronic Expansion Valve	
	Design Pressure	High Pressure	PSIG (Mpa)	478 (3.30)	High Side 550 (3.80) Low Side 580 (4.00)
		Low Pressure	PSIG (Mpa)	320 (2.21)	High Side 248 (1.71)

\*1 The pipe diameter on the gas side of the heat source unit is different between the heat source unit and the cascade unit. When arranging piping, procure with the gas piping diameter between the heat source unit and the cascade unit.

UNIT MODEL NAME				TANK CONTROLLER KIT	
<b>Model</b>				<b>BRP26B2VJU</b>	
Controller Box	<b>Power Supply</b>			1-Phase 208/230V 60 Hz	
	Exterior			Ivory White (5Y7.5/1)	
	Dimensions	H x W x D	In. (mm)	17-11/16 (450) x 11-13/16 (300) x 3-15/16 (100)	
	Weight		lbs. (kg)	23 (10.5)	
External Output				Operation ON	
				Malfunction	
External Input				Operation ON	
				Demand Control	
				Hot Water Set Temperature Switch	
Attached Sensor				Thermistor for hot water (Screw Type) x 3	
Accessory				Remote Controller	

## About Daikin:

Daikin Industries, Ltd. (DIL) is a global Fortune 1000 company and is recognized as one of the largest HVAC (Heating, Ventilation, Air Conditioning) manufacturers in the world. Founded in 1924, Daikin is celebrating 100 years of HVAC worldwide leadership. DIL is primarily engaged in developing indoor comfort systems and refrigeration products for residential, commercial, and industrial applications. Its consistent success is derived, in part, from a focus on innovative, energy-efficient, and premium quality indoor climate and comfort management solutions.

To learn more, visit [mega-q.com](https://mega-q.com)



### WARNINGS:

- » The heat source component of *Mega-Q* should be used for heating water for non-potable use only, not for other applications such as but not limited to space heating or cooling.
- » Always use a licensed installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- » Use only those parts and accessories supplied or specified by Daikin. Ask a licensed contractor to install those parts and accessories. Use of unauthorized parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- » Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.
- » For any inquiries, contact your local Daikin sales office.

**NOTICE**  
**NON-POTABLE**  
**WATER**  
**DO NOT DRINK**

