



technology & innovation

natural refrigerants

3-5 February 2014, Tokyo

COMMERCIAL CO2 HEAT PUMP WATER HEATER

**Its Market Presence Grows with Environmental Concerns
While Meeting Diverse Customer Needs**

**NIHON ITOMIC CO., LTD.
Kazuyuki Ochiai**

1. ITOMIC CORPORATE PROFILE

Founded in 1948, Nihon Itomic is a leading manufacturer of electric water heaters for industrial use in Japan. Along with Tokyo Electric Power Company, we set out on R&D of industrial Eco-cute in 2000, and have put the products into the domestic market since 2002. Approx. 2,100 units have been sold domestically and internationally as of Dec. 2013.



Company data

- Specializing electric water heaters since 1948
- Dominant market share of 70% in Japan
- ISO9001 certified
- Exporting electric water heater and Eco-cutes to 45 countries



2. WHAT IS ECOCUTE?

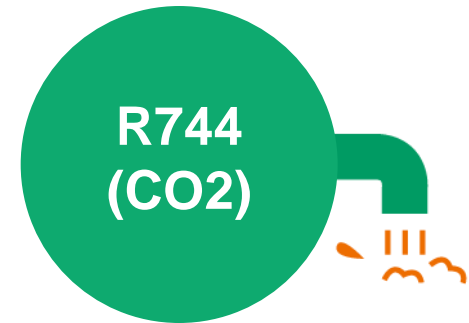
Heat pump water heaters which make hot water with the heat generated from pressured air, under the following conditions;

- a. Using **CO₂ as refrigerant**, not HFCs
- b. COP is more than **3.0** (**COP**: Coefficient of Performance)

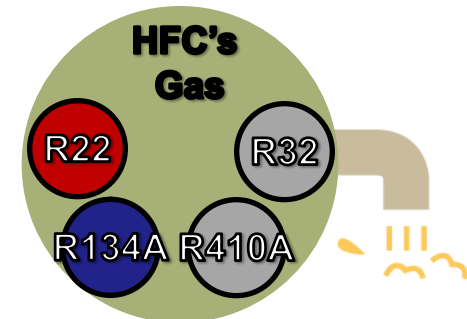
are officially labeled as

“CO₂ Heat Pump Water Heater”, or ECO-CUTE

EcoCute



NOT EcoCute



3. ITOMIC's ECOCUTE Line-up

Variety of products meeting the individual needs of power, volume, and system



Heating ability
9kW/12kW



Heating ability
50Hz 26kW / 60Hz 30kW

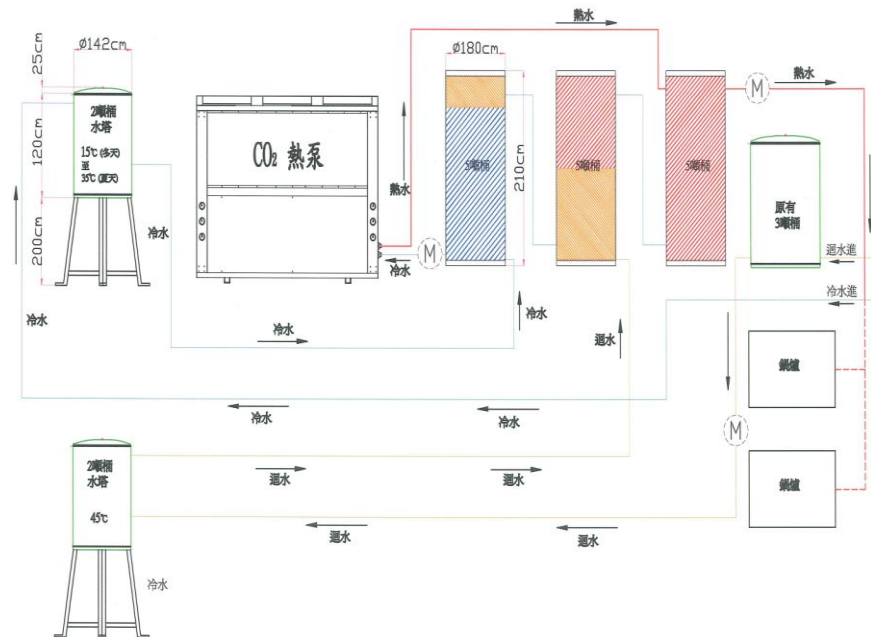


Heating ability
Power mode : 80kW
Standard mode : 67.5kW
Energy savings mode : 50kW

4. CASE EXAMPLES

a. Taiwan : Leather Processing Factory

To achieve cost reduction from the previous usage of steam boilers, and also to ensure **constant supply of high temperature hot water (90°C) with a stable COP**, this company adopted Itomic Eco-cutes as a good solution.



4. CASE EXAMPLE

b. Northern Japan : Nursing home

Despite harsh weather in winter, COP remains relatively unchanged compared with heat pumps with HFCs. This is the reason the Home chose Itomic Eco-cute.

The storage tanks are specifically designed to insulate from the severe winter conditions, and equipped with heating wire.

The heater is automatically put on when the ambient temperature goes down lower than the preset one.



4. CASE EXAMPLE

c. Central Japan : Educational facility

Being ISO14001 certified, this school is committed to fight against the global warming.

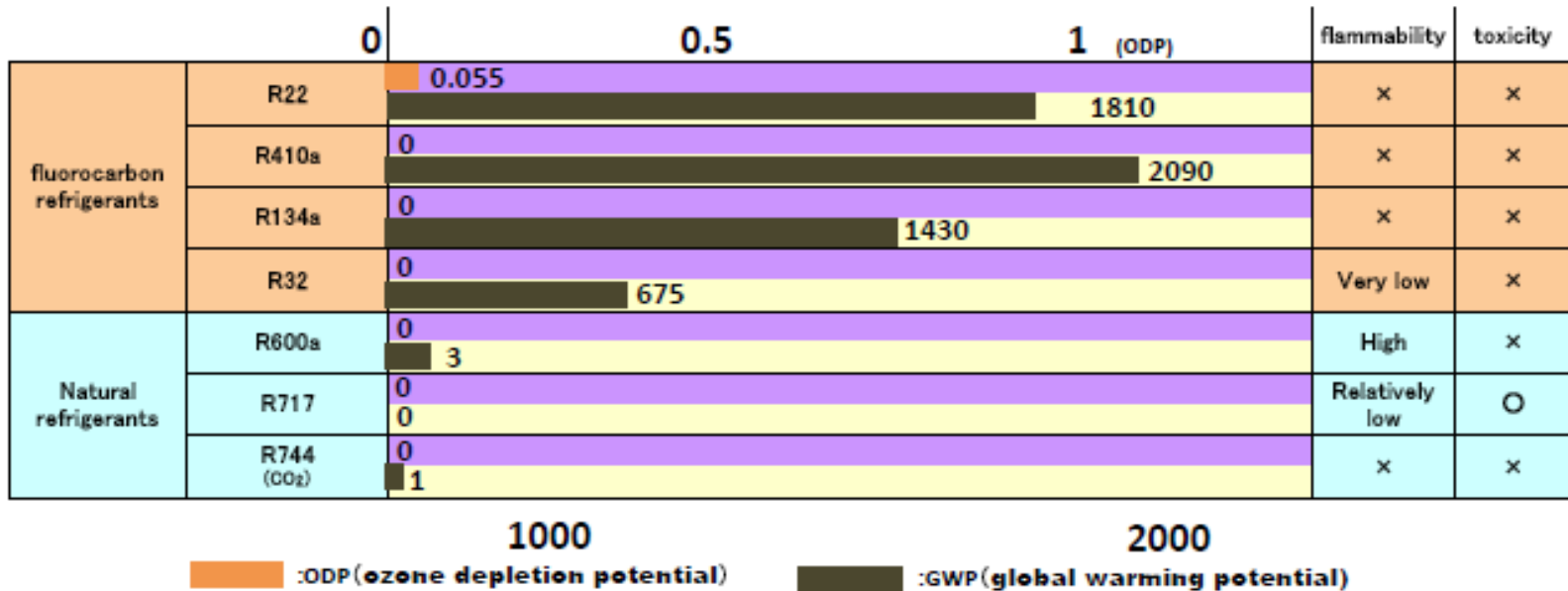
Their premises and systems are all designed to be eco-friendly with the latest green technology.

Eco-cute was naturally chosen as a result.



5. NATURAL REFRIGERANT

Effects by refrigerants on the environment



Source: The Japan Refrigeration and Air Conditioning Industry Association (JRAIA)

5. NATURAL REFRIGERANT

CO₂ can exhibit its strengths as a refrigerant in the water heater industry.

CO₂ has been proven to be highly efficient, low in GWP, and energy-saving.

Nihon Itomic is committed to increase popularity of CO₂ heat pump water heaters in the world for the prevention of global warming.



ATMO
sphere
technology & innovation
natural refrigerants
3-5 February 2014, Tokyo

Thank you very much!



iTOMIC
Innovative hot water solutions