Air Source Heat Pump Water Heater

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Pre-sales Engineer
Product Line Up

Air Source HPWH

Domestic Hot Water
- Combo 190/300L
- Split 3.2-7.2kW

M-Thermal
- Mono 5-16kW
- Split 4-16kW

Swimming Pool
- 6-14kW

Commercial
- 10-82kW Direct/Cycle
Working principle

- Apply reversible air-conditioning technology
- Energy-saving and cost-efficient
Common Features

- Safety
- High efficiency
- All weather running
- Environmentally friendly
- Low running cost
## Low running cost

<table>
<thead>
<tr>
<th></th>
<th>HPWH</th>
<th>Gas water heater</th>
<th>Electric water heater</th>
<th>Boiler</th>
<th>Solar water heater</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy source</strong></td>
<td>Air and electricity</td>
<td>LPG</td>
<td>Electric</td>
<td>Diesel oil</td>
<td>Solar and electricity</td>
</tr>
<tr>
<td><strong>Calorific value</strong></td>
<td>860kcal/kWh</td>
<td>24,000kcal/m³</td>
<td>860kcal/kWh</td>
<td>10,200kcal/kg</td>
<td>860kcal/kWh</td>
</tr>
<tr>
<td><strong>Average efficiency</strong></td>
<td>4.0</td>
<td>0.8</td>
<td>0.95</td>
<td>0.7</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Consumption</strong>*</td>
<td>11.63kW·h</td>
<td>2.09m³</td>
<td>48.96kW·h</td>
<td>5.6kg</td>
<td>17.22kW·h</td>
</tr>
<tr>
<td><strong>Running cost</strong> (USD)</td>
<td>0.9</td>
<td>5.9</td>
<td>4.3</td>
<td>6.5</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Merits/Issues</strong></td>
<td>Green, safe, energy saving</td>
<td>Dangerous</td>
<td>Risk of electric shock</td>
<td>Dangerous, polluting</td>
<td>Green, safe, energy saving, Weather-dependent</td>
</tr>
</tbody>
</table>

LPG: Liquefied Petroleum Gas

The comparison is under the same condition

* 40,000kcal are required to heat 1 ton of water from 15°C to 55°C
Introduction

Domestic Hot Water

M-Thermal

Swimming Pool

Commercial

Combo

Split
Domestic Hot Water - Combo

<table>
<thead>
<tr>
<th>Power supply</th>
<th>220-240V/50Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP</td>
<td>-7°C-43°C</td>
</tr>
<tr>
<td>E-heater</td>
<td>-20°C-43°C</td>
</tr>
<tr>
<td>Outlet water</td>
<td>Default 60°C, 38°C-70°C</td>
</tr>
</tbody>
</table>

Household size
- 190L (for 3-4 Persons)
- 300L (for 5-6 Persons)
Combo - Features

- Safety

Refrigerant outlet

Refrigerant inlet
Combo - Features

• Flexible and easy installation
Combo - Features

- Disinfect function
- Vacation function
- Auto restart function

<table>
<thead>
<tr>
<th>Feature</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot water temp.</td>
<td>65°C</td>
</tr>
<tr>
<td>Frequency</td>
<td>7 days</td>
</tr>
<tr>
<td>Start time</td>
<td>23:00</td>
</tr>
</tbody>
</table>

- **Legionella bacteria**
  - Killed at once.
  - 90% killed within 2 mins.
  - Ideal temp. for Legionella bacteria’s breeding.
  - Exists but is inactive.
Combo - Features

- Built-in solar coil (available as option on 300L model)
Domestic Hot Water-Split Type

<p>| | |</p>
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</thead>
<tbody>
<tr>
<td><strong>Power supply</strong></td>
<td>220-240V/50Hz</td>
</tr>
<tr>
<td><strong>Capacity</strong></td>
<td>3.2 /5.0 /7.2kW</td>
</tr>
<tr>
<td><strong>Outlet water</strong></td>
<td>40-60°C</td>
</tr>
<tr>
<td><strong>HP</strong></td>
<td>-15-43°C</td>
</tr>
<tr>
<td><strong>Water volume</strong></td>
<td>260/300/350/400/500L</td>
</tr>
</tbody>
</table>

Split type (water cycle)
Split Type - Features

- Built-in water pump
- Sealed refrigerant circuit in outdoor unit
- Double-wall tube-in-tube heat exchanger
- 4-way valve for auto defrosting
- Configured with touch key wired controller

KJR-51/BMKE-A
M-Thermal

M-Thermal Mono

- 4 to 16 kW
- Heating, cooling and domestic hot water
- All DC inverter
- A++ rated energy grade

M-Thermal Split
Swimming Pool

• 6 to 14 kW
• Heating and cooling
• Easily operation wired controller
• Automatic defrosting
• Auto restart
• Titanium heat exchanger
Swimming Pool - Titanium heat exchanger

- High resistance to corrosion
Swimming Pool - Titanium heat exchanger

- No need for secondary heat exchanger
Introduction
Domestic Hot Water
M-Thermal
Swimming Pool

Commercial

Direct heating
Cycle heating
Commercial

- Water outlet 40-60 °C
- 10 to 80kW
- Direct heating and cycle heating
- Free modular combination
- High efficiency

KJR-51/BMKE-A
Commercial - Line Up

- Commercial
  - Direct heating
    - 10/20kW
    - 42kW
    - 80kW
  - Cycle heating
    - 30kW
Commercial HPWH - Features

- High efficiency tube-in-tube heat exchanger

Corrosion-resistant materials

Inner grooved copper pipe
Commercial HPWH - Features

- Multiple units can be installed in parallel

<table>
<thead>
<tr>
<th>Capacity (kW)</th>
<th>10</th>
<th>20</th>
<th>42</th>
<th>80</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Qty.</td>
<td>16</td>
<td>16</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>
Questions

1. Which of the following products use all DC inverter technology?

A. Domestic hot water HPWH   B. Swimming pool HPWH
C. Commercial HPWH           D. M-Thermal

2. Which sizes does Midea combo type HPWH’s have?

A. 120L   B. 190L and 300L
C. 200L   D. 350L
THANK YOU