Products of
Kawasaki Thermal Engineering
And
Kawasaki Group
Introduction of Kawasaki

- Ship & Offshore Structure
- Rolling Stock
- Aerospace
- Gas Turbine & Machinery
- Plant & Infrastructure
- Motorcycle & Engine
- Precision Machinery

Absorption Chillers
Kawasaki Thermal Engineering Co., Ltd. (KTE)

Industrial Boilers
Kawasaki, working as one

for the good of the planet

We are the Kawasaki Group, a global technology leader with diverse integrated strengths.

We create new value—for a better environment and a brighter future for generations to come.
Typical Products of Kawasaki

Development of heat-resistant material for gas turbines
Products of Kawasaki
Introduction of Kawasaki

- Ship & Offshore Structure
- Rolling Stock
- Aerospace
- Gas Turbine & Machinery
- Plant & Infrastructure
- Motorcycle & Engine
- Precision Machinery

Absorption Chillers
Kawasaki Thermal Engineering Co., Ltd. (KTE)

Industrial Boilers
What's an Absorption Chiller?

Special Feature

① Freon-Free
   (Refrigerant = H₂O)

② Less power consumption

③ Various Energy Sources
History of Kawasaki Chiller

Continuous Efforts for Higher COP

COP (Coefficient of Performance) = \frac{\text{Cooling Capacity}}{\text{LHV Heat Input}}

- S.F.C. = Stem Fired Chiller
- D.F.C. = Direct Fired Chiller

- Double-Effect D.F.C. “J Series” COP: 1.04
- Double-Effect D.F.C. “L Series” COP: 1.19
- Double-Effect D.F.C. “Sigma Ace Series” COP: 1.42
- Double-Effect D.F.C. “Sigma Chiller Series” COP: 1.74

World First

1968
1969
1970
1975
1980
1985
1990
1995
2000
2005

year
Various Energy Sources can be utilized

Natural heat

Solar, Geo-thermal

Absorption Chiller

Chilled Water

Energy Sources of Absorption Chiller

Fossil fuel

Gas

Oil

Exhaust heat

Gas Engine

Gas Turbine

Waste Hot Water

Exhaust Gas

Steamp

Exhaust Gas

Direct fire
Installation of Hybrid Chiller

**Natural Gas + Solar Thermal Triple-effect Hybrid Chiller system**

<table>
<thead>
<tr>
<th>equipment</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chiller (Triple-effect)</td>
<td>Cooling capacity: 527kW</td>
</tr>
<tr>
<td></td>
<td>Heat source: Natural gas + Hot Water (Solar Thermal)</td>
</tr>
<tr>
<td>Solar Thermal Collector Panel</td>
<td>139m² (Vacuum pipe type: 83m²  / Flat plate type: 56m²)</td>
</tr>
<tr>
<td>other</td>
<td>Photovoltaic 4kW (32m²)</td>
</tr>
</tbody>
</table>

Number of floor: 4
Floor space: 2,400m²
Installation: Dec 2009
Kawasaki aims to become a leading global enterprise that enriches lifestyles and helps safeguard the environment through its businesses.
Kawasaki absorption chiller is ⋯⋯

– Freon-Free
– Less power consumption
– Various Energy Sources

Environment friendly
Low carbon emission
Thank you very much for your attention

Kawasaki Thermal Engineering Co., Ltd.

http://www.khi.co.jp/corp/kte