

The Bry-Air Magic

Hot water in...
50°C to 100°C

Cold water out
5°C to 15°C

- Low Grade Waste Heat
- Process waste heat
 - Tri-Generation
 - Solar heat

Process cooling
and
Air-conditioning (HVAC)



Bry-Air®

Adsorption Chiller

Energysmart Cooling using Waste Heat



Bry-Air®

Leaders in Dehumidification... Worldwide

www.bryair.com

Recover Low Grade Process Waste Heat for Energy Smart Green Cooling

Industrial operations represent a significant source of greenhouse gas emissions and most of the waste heat is simply rejected via cooling towers to the atmosphere. It can be thought of as "dumped" heat.

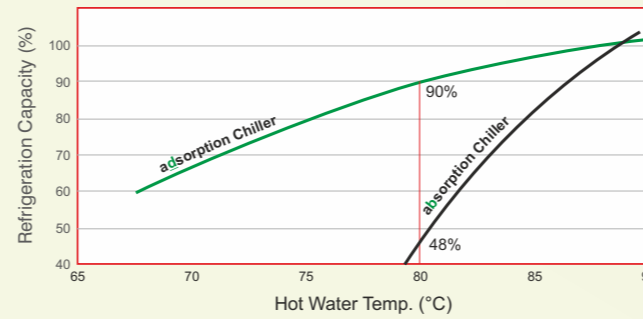
Waste heat is the by-product of system inefficiencies found in industrial and commercial process and represents a waste of resources, opportunities, and money. Waste heat is commonly generated during:

- Power generation;
- Fuel fired furnaces;
- Process heating.

Benefits

- Prevent tonnes of CO₂ emission from entering the atmosphere
- Chiller reduces electrical usage by 99%

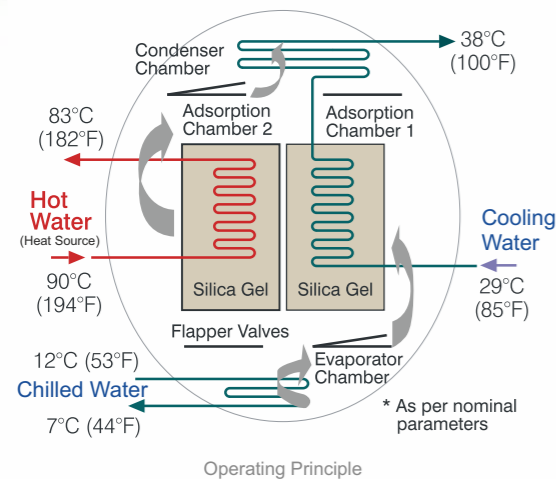
Adsorption versus Absorption



High Efficiency even at Low Hot Water temperature



How does our Adsorption Chiller Works?



The principle of **Adsorption** works with the interaction of gases and solids. With adsorption chilling, the molecular interaction between the solid and the gas allow the gas to be adsorbed into the solid. The **Adsorption** chamber of the chiller is filled with solid material, silica gel, eliminating the need for moving parts and eliminating the noise associated with those moving parts. The silica gel creates an extremely low humidity condition that causes the water refrigerant to evaporate at a low temperature.

As the water evaporates in the evaporator, it cools the chilled water. The **Adsorption chiller** has four chambers; an evaporator, a condenser and two **Adsorption** chambers. All four chambers are operated at nearly a full vacuum.

Unbeatable Advantages

- Long product life (>25 yrs)
- Low maintenance
- Regeneration temperature as low as 50°C
- 'Green' refrigerant (water)
- Low electric consumption (one-tenth the conventional system)
- No noise and vibration

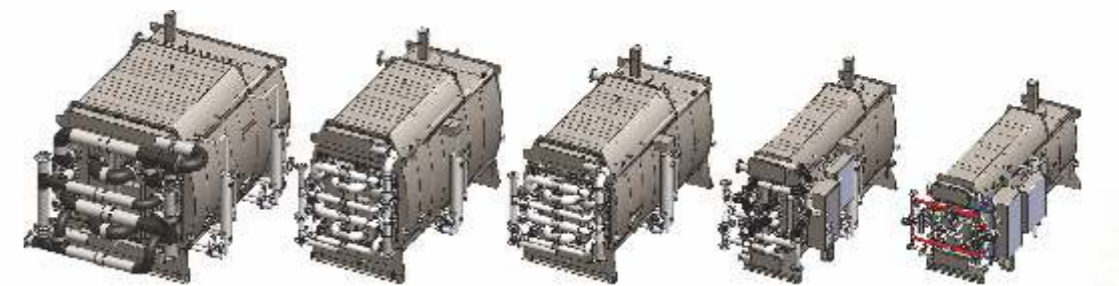
Why Adsorption is a Better Choice?

Adsorption versus Absorption Comparison

Factors	Adsorption Chillers	Absorption Chillers
Life Expectancy	Greater than 25 Years	7 to 9 Years
Maintenance	Negligible Maintenance	Require High Maintenance
Regeneration Temperature (Hot Water)	Down to 50°C (122°F)	Shuts down at 82°C (180°F), Needs Back-up Heater
Desiccant Used	Silica Gel (Inert)	Lithium Bromide (Highly Corrosive)
Replacement Requirements (Periodic Maintenance)	Not Required	Heat Exchangers, Boilers, Absorbent Replacement Required

Range

70 - 1180 kw (20 - 335 tonnes)



F-FRAME	EXT E-FRAME	E-FRAME	D-FRAME	C-FRAME
200-330 TONS	150-190 TONS	100-150 TONS	50-75 TONS	10-40 TONS
12'W X 17.5'L X 11.5'H	8'W X 16.5'L X 11'H	8'W X 16.5'L X 9.75'H	7'W X 16.5'L X 9.5'H	6.5'W X 15.75'L X 8'H
46,000lb W/O REF.	34,000lb W/O REF.	30,000lb W/O REF.	17,000lb W/O REF.	12,000lb W/O REF.

Input sources

Process Waste Heat

Tri-generation (CHP)



Food & Beverage



Power Plant



Generators

Solar Heat



Solar Collectors

Applications

Process Cooling

Air-conditioning (HVAC)



Aluminum Anodizing



Mould Cooling



Acid Cooling



Food Processing



Cement, steel, plastic processing, hospitality, healthcare and many more....



Leaders in Dehumidification... Worldwide

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Enter Bry-Air... exit moisture

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