

# dry facts

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Leaders in Dehumidification...Worldwide

**Bry-Air**

**PAWA GROUP**  
Innovation is life

**DRI**  
Innovative Air Solutions

**delair**  
The Compressed Air Treatment System Company

**TDS**  
Air Solutions on Rent

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**Bry-Air**

## Adsorption Chiller

Energysmart Cooling using Waste Heat

SOMETHING  
**NEW AND EXCITING**

Watch the **Bry-Air** Magic on YouTube 



Hot water in... 80C to 100C  
Cold water out... 10C to 15C

Process cooling and air conditioning (HVAC)

It's not magic.  
It's an advanced green technology  
using inert 'Silica Gel-Water' pair

Bry-Air Adsorption Chiller

To watch the video scan the QR code 

The Bry-Air **Adsorption Chiller** is based on an advanced green technology, and is being manufactured in India under license from Power Partners Inc., USA. The Bry-Air **Adsorption Chiller** provides Energysmart cooling using waste heat. **The Adsorption Chiller taps the abundant low grade waste heat available in process industries and use it for process cooling or air-conditioning (HVAC).** **Power Partners Inc.**, markets energy-efficient, environment friendly **Adsorption Chillers** that are manufactured in Athens, GA, USA. Power Partners is a part of PPI, a ground breaking manufacturing company whose brands include Power Partners ECO-MAX, Gap Partners and Change Partners.

**INVITATION**

## Workshop on Adsorption Chiller

(9:30 a.m. to 1:00 p.m.)

by industry expert, **Mr. Wes. Livingston, PPI, USA** will enable understand the technology and its benefits. Workshop will also cover in depth LCC, payback and selections.

**Delhi**  
14 December  
Monday

**Mumbai**  
15 December  
Tuesday

**Bangalore**  
16 December  
Wednesday

**Chennai**  
17 December  
Thursday

**Kolkata**  
18 December  
Friday

**Dubai, UAE**  
21 February  
Sunday

**Dhaka, Bangladesh**  
28 February  
Sunday

**Bangkok, Thailand**  
29 February  
Monday

**Kuala Lumpur, Malaysia**  
1 March  
Tuesday

**Manila, Philippines**  
2 March  
Wednesday

**Jakarta, Indonesia**  
3 March  
Thursday

Register  
Today @  
www.bryair.com

LEARN THE **Bry-Air** MAGIC!

# RECOVER LOW GRADE PROCESS WASTE HEAT (50°C-100°C) 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:

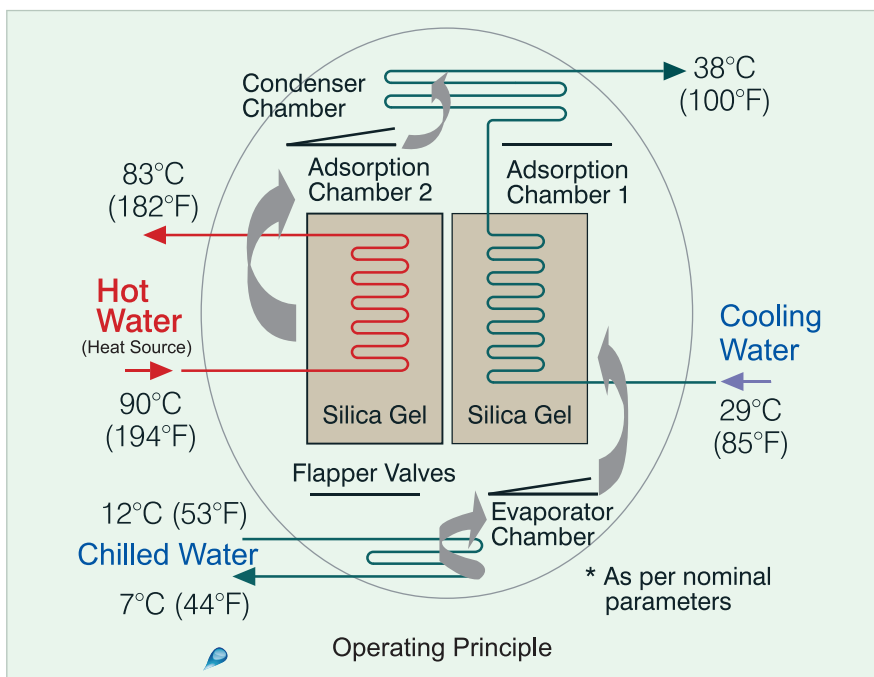
- Steam generation
- Power generation
- Fuel fired furnaces
- Process heating

## Benefits:

- Prevent tonnes of CO<sub>2</sub> emission from entering the atmosphere
- Chiller reduces electrical usage by 99%

Adsorption Chiller reduces electrical usage by **99 PERCENT**

## How does our Adsorption Chiller work?










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.

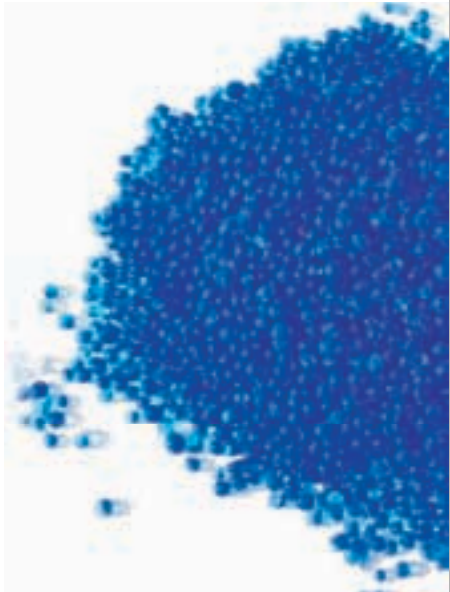
As the water evaporates in the evaporator, it cools the chilled water. The **Adsorption** chiller has four chambers; an evaporator, a condenser and two **Adsorption** chambers. All four chambers are operated at nearly full vacuum.



# Why is the **Adsorption Chiller** a better choice?

**Adsorption Chillers** eliminate noisy compressors, high-pressure refrigerant systems, high amperage electrical connections, refrigerant monitoring & alarm systems and high maintenance costs.

Attribute	Adsorption	Mechanical
Sound Pressure Level 	Very Low (<50 db (A))	Loud (>80 db (A))
Operating Cost 	Negligible	High
Maintenance 	Virtually None	Seasonal maintenance, replacement of oil & bearing
Chemistry 	Municipal water and Special Silica Gel- S <sub>2</sub>	HFC & HCFC refrigerant with synthetic oils
Energy Requirement 	Hot Water -50°C to 93°C (122°F to 200°F)	Electricity- 230/415-3Ph-50Hz, 460--3Ph-60Hz, 240--3Ph-60Hz
Cooling Water Requirement 	Preferably <30°C to 10°C Lower temp. increase capacity of the system	Unstable at low temperatures
End of Life 	No special disposal requirements	Special disposal requirements



## **Bry-Air**® **Adsorption Chiller**

The Bry-Air **Adsorption Chiller** is effective as a stand-alone system either as an enhancement to a current HVAC system or as a replacement technology to a current chiller system.



### UNBEATABLE ADVANTAGES

- Long product life (>25 years)
- Low maintenance
- Regeneration temperature as low as 50°C
- “Green” refrigerant (water)
  - Low electric consumption (one-tenth the conventional system)
  - No noise and vibration
- Range 70kW to 1180 kW



Future Ready  
Energysmart  
**GREEN COOLING**



# RECOVER THE WASTE HEAT . . .

## Input sources

Process Waste Heat



Food & Beverage



Power Plant

Tri-Generation (CHP)



Generators

Solar Heat



Solar Collectors

## Applications

Process Cooling



Aluminum Anodizing



Mould Cooling



Acid Cooling



Food Processing

Air-conditioning (HVAC)



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

To read more on the technology involved and possibilities, you may download the whitepaper on **Adsorption Chillers** by scanning the QR code or visit us at [www.bryair.com](http://www.bryair.com)



**Bry-Air**

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**PAHWA GROUP**  
Innovation is life

An ISO 9001 : 2008 and 14001:2004 COMPANY