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# THE GREEN DEVELOPMENT

## ADSORPTION CHILLER



**G&D**



## What is G&D?

The **G&D** is a new innovative design Adsorption Chiller

The G&D uses water “H<sub>2</sub>O” as a refrigerant.

The adsorbers include specialized Silica Gel which is an environmentally friendly material.

Therefore, the G&D is totally **GREEN** chiller.



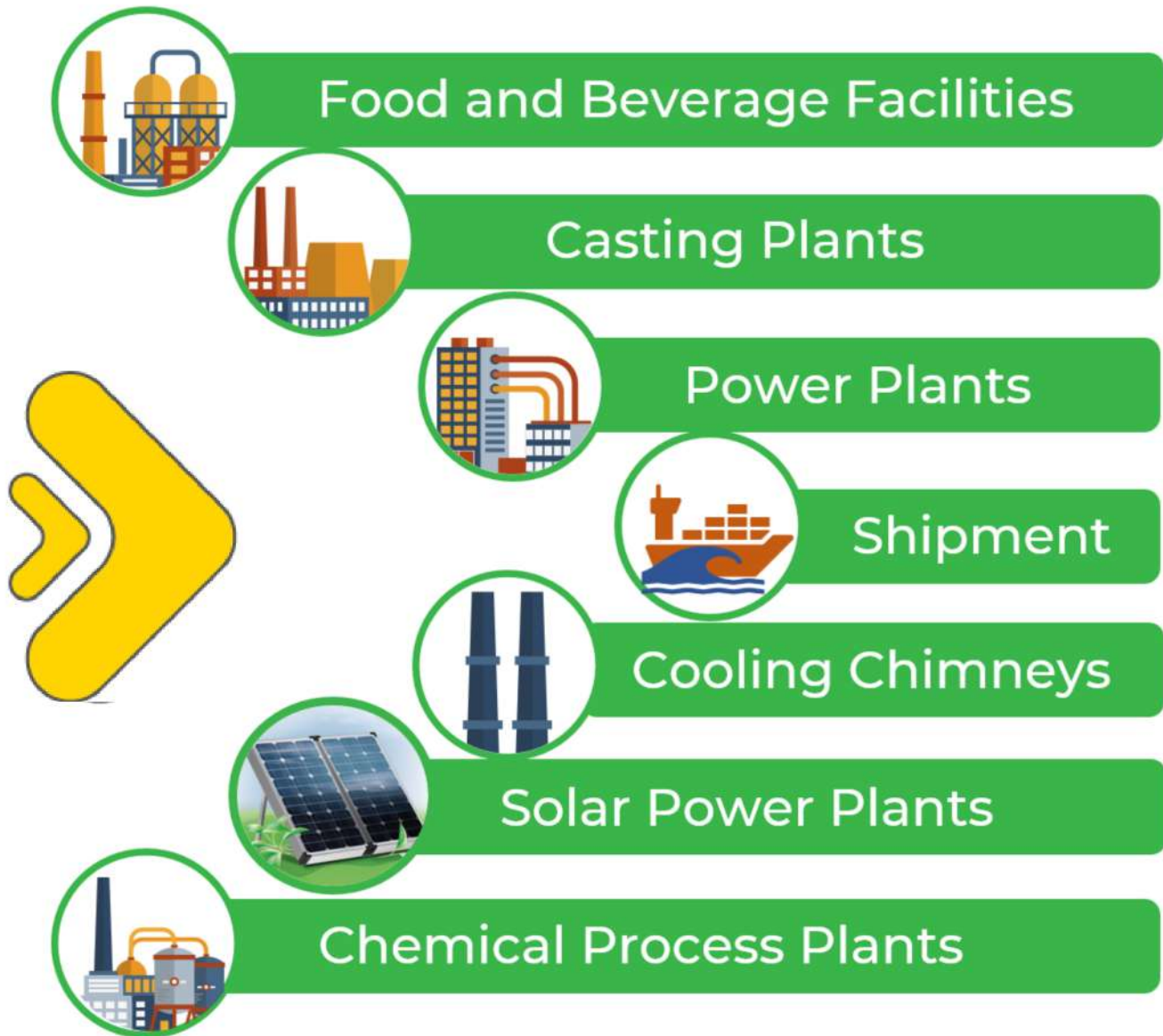
### Nature Matters

*The fact that the G&D uses water as refrigerant makes it a completely green product.*



## Usage Areas of G&D

The facilities that generate waste heat and have a cooling problem can benefit from the functionality of the G&D.



The G&D can be used in every facility that the waste heat is generated inside.

## Innovative Adsorber Design

The G&D has the “Innovative Adsorber Design” that firstly used in the world.

The condenser of the chiller is embedded inside of the adsorbers. Thanks to the design, the weight, and the size of G&D has reduced.



**Better  
Functionality**



**Less  
Weight**



**Smaller  
Size**



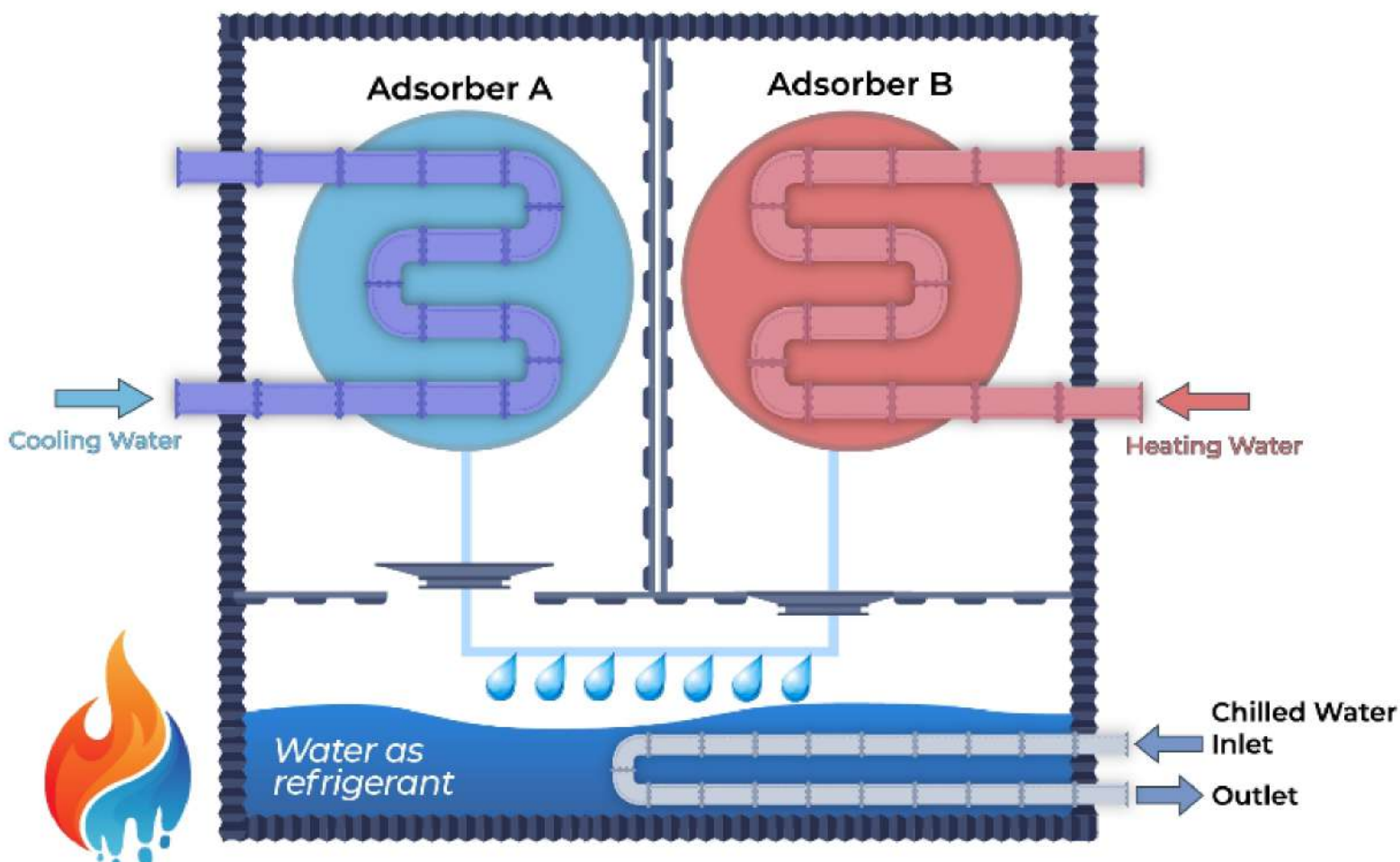
**Operates at  
Low Flow Rates**



**AI Based Cooling  
Optimization**



**High COP**



**G&D**

## How does G&D function?

The G&D has basically two processes; Adsorption and Desorption Cycles.

1

The refrigerant which is water, evaporates in the evaporator section and produces chilled water during the ADSORPTION process. This chilled water can be used where cooling is needed.

2

The evaporated water adsorb by Adsorber A. Due to heat of adsorption, cooling water from a free supply is used to remove this heat. When Adsorber A works for ADSORPTION process, Adsorber B works for DESORPTION process.

3

The waste heat source from the plant is used to desorb, remove the moisture, of the Silica Gel inside the Adsorber B. The water vapor, which is going out of the Silica Gel particles, is condensed inside the Adsorber B, collected, and returns to evaporator again.



## Advantages of G&D

The G&D has a wide variety of advantages.



Has a long life-span of more than 25 years without maintenance

Uses waste heat as a power source at low temperatures down to 50°C



Consumes only a little amount of electricity

Works without generating noises or vibrations



## Advantages of G&D

The G&D has a wide variety of advantages.



Uses water as a refrigerant throughout the process

Has the innovative condenser embedded adsorber design



The lightest weight and smallest size adsorption chiller in the market

Functions eco-friendly and complies with the Paris Agreement



## Why Adsorption, not Absorption?

We prefer Adsorption.

Do you want to find out the reasons of why?

	Adsorption Chiller	Absorption Chiller
Life Maintenance	More Than 20 Years Negligible Maintenance	7-9 Years High Maintenance
Pair	Silica Gel & Water 	Lithium Bromide Ammonia 
Regenerasyon	Shots below 50 °C	Shots below 82 °C



99%

ELECTRICAL USAGE  
REDUCTION



# Contact Us for Detailed Engineering Analysis



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[info@gdsorption.com](mailto:info@gdsorption.com)