



NEW ADSORPTION CHILLER

AdRef-Noa



The AdRef-Noa

is a new type of adsorption chiller product belong to the MAYEKAWA NATURAL 5 program. The AdRef-Noa uses the ultimate natural material “H₂O” as a refrigerant. The power source of the AdRef-Noa is hot water; therefore, electricity consumption is very small. As a result the COP can be reached as high as 9.0.*1

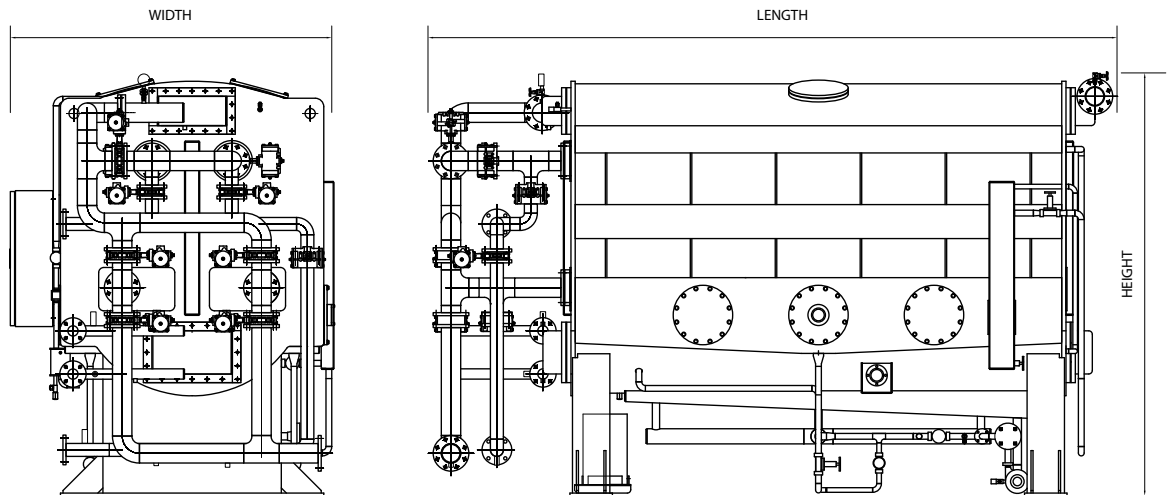
European Union draw up “20-20-20 rules by 2020”.

20% Reduction Green house gas / 20% Reduction Energy consumption / 20% Improve Renewable energy part in all energy

The AdRef-Noa is one of the best solutions. Customer can improve the part of renewable energy because he can use; for example, hot drain water from factory, geothermal heat, hot spring, vapor condensate, waste heat from fuel cells and solar heat as a power source.

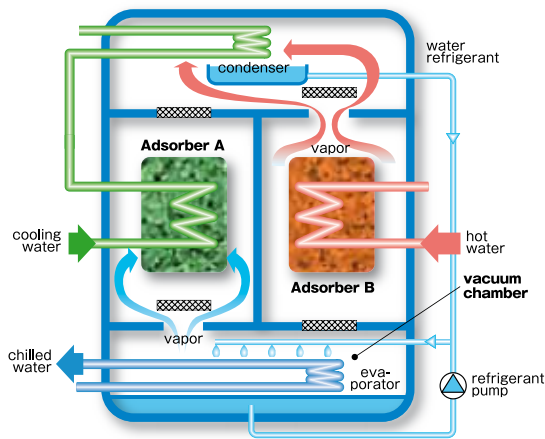
The AdRef-Noa is using the new adsorbent Zeolite instead of Silica gel. Zeolite is the highest efficient adsorbent so we can achieve more compact design compared to the precious design.

*1;Our standard design condition.

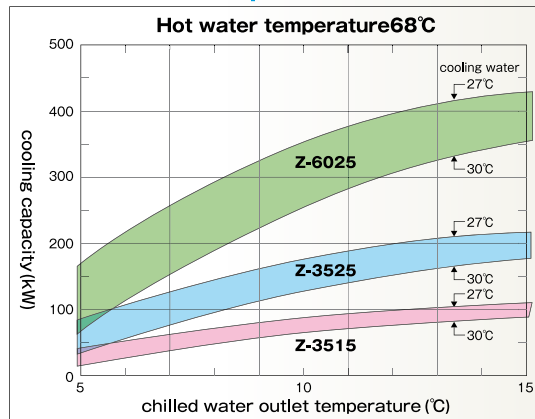


UNIT TYPE	WEIGHT (kg)	WIDTH (mm)	LENGHT (mm)	HEIGHT (mm)
ADR-Z3515	5800	2000	4000	2550
ADR-Z3525	10000	3200	3500	3000
ADR-Z6025	19000	3200	5700	5700

Operating principle



Performance comparison of models



*Standard design conditions Provided hot water temperature: 60~80°C
Chilled water outlet temperature: 5~25°C
Cooling water inlet temperature: 32°C or below
Please contact us for other conditions.

AdRef-Noa

consists of two identical adsorption / desorption heat exchanging sections, one for each evaporative and condensing heat exchanger. Adsorption / desorption process, describe below, is interchanged and repeated in these two sections.

ADSORPTION CYCLE

Water as a refrigerant evaporates in the evaporator section. This produces chilled water by using water evaporative latent heat. The vapor is then adsorbed by an adsorber A. The adsorber generates heat, but removing this heat by cooling water further enhances the evaporating process.

DESORPTION CYCLE

Hot water (the heat source) is using to remove the moisture that is desorbed in the adsorber B. The released moisture enters the condensing section and is condensed for next evaporation.

Standard Specifications of AdRef-Noa

TYPE			ADR-Z3515	ADR-Z3525	ADR-Z6025
Chilled water	Capacity	kW	92,0	184,0	369,0
	Inlet	°C	15,6		
	Outlet	°C	9,0		
	Flow rate	m ³ /h	12,0	24,0	48,0
	Fluid	-	Normal water ¹⁾		
Heat source water	Capacity	kW	200,0	400,0	801,0
	Inlet	°C	75,0		
	Outlet	°C	66,9		
	Flow rate	m ³ /h	21,3	42,6	85,3
	Fluid	-	Normal water ¹⁾		
Cooling water	Capacity	kW	301,0	602,0	1205,0
	Inlet	°C	29,0		
	Outlet	°C	34,2		
	Flow rate	m ³ /h	49,5	99,0	198,0
	Fluid	-	Normal water		
Refrigerant Pump		kW	0,40	0,55	1,10
Vacuum Pump		kW	0,40	0,40	0,75

1) Both water is mixed on switching of adsorptions / desorption time.

*Above information is subject to change without notice

WORLDWIDE

- 35 countries / 122 offices
- 8 production plants



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