POWER & COOLING PACKAGE

NATURAL GAS COGENERATION + ABSORBTION CHILLER CONTENERIZED UNITS

Complete set that provides both **electrical and cooling power**, using **natural gas** as a input fuel. Designed to work in **high ambient temperatures** and **dusty** environments.

Ecological, Economical & Easy

Using a natural gas as an input fuel and atmosphere-friendly chilled water source makes the whole system an ecological, innovative and economically effective installation. Using a prefabricated, fully equipped and factory tested containerized units makes the on-site installation less time consuming and very convenient.

Electrical power

Electrical power is provided by a **generating set** based on **MTU** 12V4000L62(robust) **natural gas** powered generator. It's a top quality, high efficiency and durable genset designed for continuous power generation. Genset if fully up-fitted with **heat recovery equipment**, both from engine block and exhaust gases. Genset with necessary auxiliaries (ventilation, attenuation, cooling, lighting, controls etc.) is installed inside a custom designed and made container. **Packaged container** provides a complete, ready and easy to install **Combined Heat and Power Plan**t.

Cooling source

Chilled water (6/12^{o}C or 8/13^{o}C) is produced by **absorption chiller**, which is using hot water form CHP unit as a heat source. Absorption chillers based on lithium bromide and water are considered harmless for atmosphere and environment friendly solution comparing to electrical powered compressor chillers using CFC refrigerants. Chiller and auxiliaries are **up-fitted in a container**, designed to work in desert conditions. Heat from whole system (both chiller and genset) can be dissipated to atmosphere by **evaporative cooling tower** or directly by flow of **sea water**.

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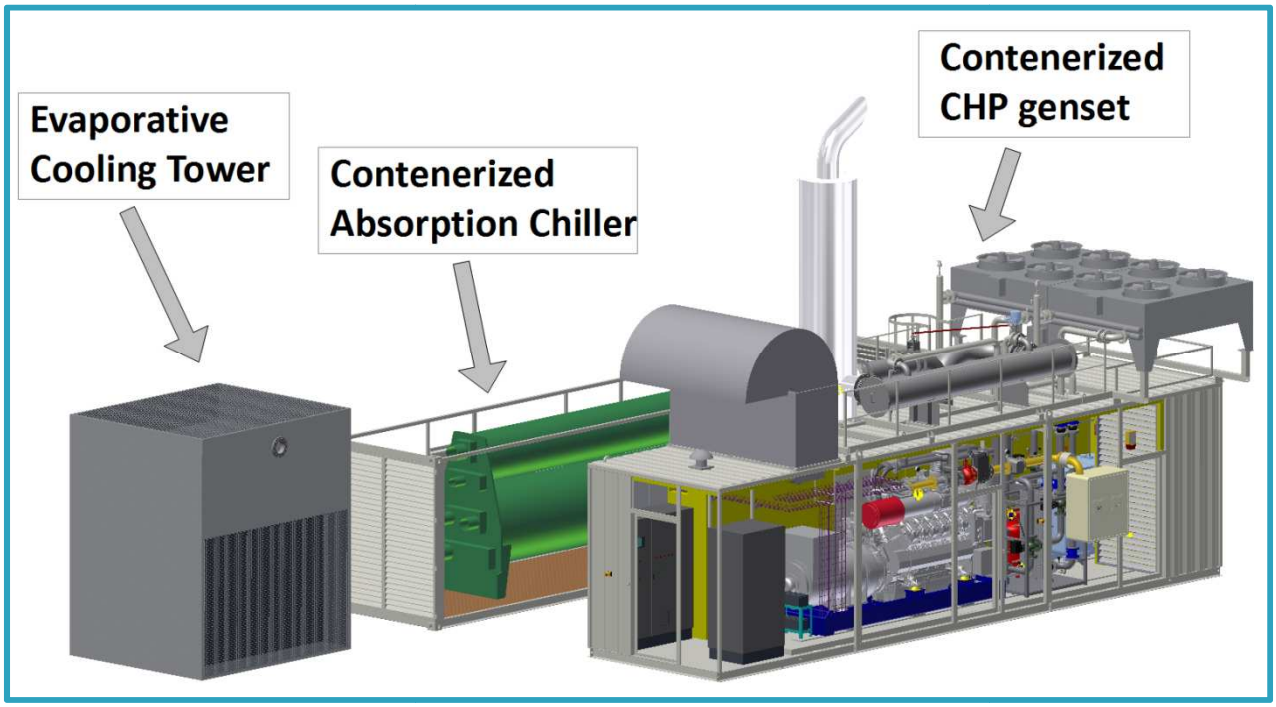

Basic technical data of **CHP UNIT** and 2 options of **ABSORPTION CHILLERS:**

Cogeneration Heat Plant		
type / model	HE-EC-1168/1396-MTG1168-GZ (R)	
brand / producer	HORUS ENERGIA + mtu onsite energy	
electrical power	**1168**	**kW_e**
electrical efficiency	40,42	%
heat power	**1396**	**kW_t**
heat efficiency	48,3	%
fuel power	2890	kW
total efficiency	88,72	%
natural gas consumption	302	m^3/h
dimensions	3,5 x 12,2 x 3,0	H x L x W
approx. weight	40 000	kg

OPTION 1

Cooling with Sea Water		
Absorbtion chiller		
type / model	YIA6C48D3	
brand / producer	Johnson Controls	
cooling capacity	**1000**	**kW_{ch}**
COP	0,708	-
chilled water	6 / 12	°C
cooling water	28 / 32	°C
hot water	90 / 74	°C
absorbing liquid	LiBr / H_2O solution	
dimensions	3,2 x 12,2 x 2,5	H x L x W [m]
approx. weight	44 000	kg

OPTION 2

Cooling with Evaporative Cooling Tower					
Absorption chiller				Evaporative cooling tower		
type / model	TSA-16LJ-53			type / model	VXT 470	
brand / producer	Carrier			brand / producer	BAC	
cooling capacity	**717**	**kW_{ch}**	+	**max heat capacity**	**2376**	**kW_{ch}**
COP	0,65	-		cooling water	34 / 39	°C
chilled water	8 / 13	°C		air inlet WB temp.	30	°C
cooling water	34 / 39	°C		fan quantity	2	pcs.
hot water	90 / 80	°C		fan power	22	kW_e
absorbing liquid	LiBr / H_2O solution			max. evaporation	0,837	
dimensions	3,2 x 12,2 x 2,5	H x L x W [m]		dimensions		H x L x W [m]
approx. weight	33 000	kg		approx. weight	7 300	kg

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