

# Kappa Rev FC

Air cooled modular freecooling chiller



320 ÷ 1300 kW

## General

High energy efficiency freecooling chillers with screw compressors also driven by inverter characterized by a substantial energy saving, high performance and low noise emission.

## Mechanical Configurations

STD: standard efficiency  
HE: High efficiency unit  
SLN: Super Low noise unit  
HEi: unit with hybrid compressors  
XEi: unit with full inverter compressors

## Freecooling Configurations

Basic: **TFT** up to -2,4°C (-5°C as avg)  
Custom: **TFT** up to +1,3°C (-1°C as avg)  
Extra: **TFT** up to +3,1°C (+2°C as avg)

## Bullet points

- ▶ Dedicated freecooling section
- ▶ Full inverter and hybrid versions available
- ▶ Eurovent A Class Unit
- ▶ Eurovent certified chiller section
- ▶ Hybrid freecooling: capability, in the mid seasons, to operate in mixed mode freecooling/chiller
- ▶ SLN unit with Night Shift function
- ▶ 3 efficiency levels of the chiller section, combinable with 3 levels of TFT of freecooling section
- ▶ Multilogic function
- ▶ Integrated web server
- ▶ Microchannel condensing coil

# Revolutionary Freecooling

## modular freecooling

 <b>SLN</b> super low noise	 <b>HAT</b> high ambient temperature	 <b>CLASS HE</b> high efficiency	 <b>HEi</b> hybrid inverter	 <b>XEi</b> full inverter	 <b>LGW</b> low GWP
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**100%**  
Mechanical cooling

STD ▶ ESEER up to **3.6**

HE ▶ ESEER up to **3.9**

HEi ▶ ESEER up to **4.6**

XEi ▶ ESEER up to **5.1**

**100%**  
freecooling  
(TFT: Total freecooling temperature)

Basic ▶ TFT up to **-2°C**

Custom ▶ TFT up to **1,5°C**

Extra ▶ TFT up to **3°C**



# EFFICIENCY

## modular freecooling



modular freecooling uses less yearly energy

**up to -14%**

compared to common freecooling method

The common method of freecooling chillers is to use a close couple condenser and freecooling coil, which shares the same fans and air flow.

The result is a compromise of efficiency performance.

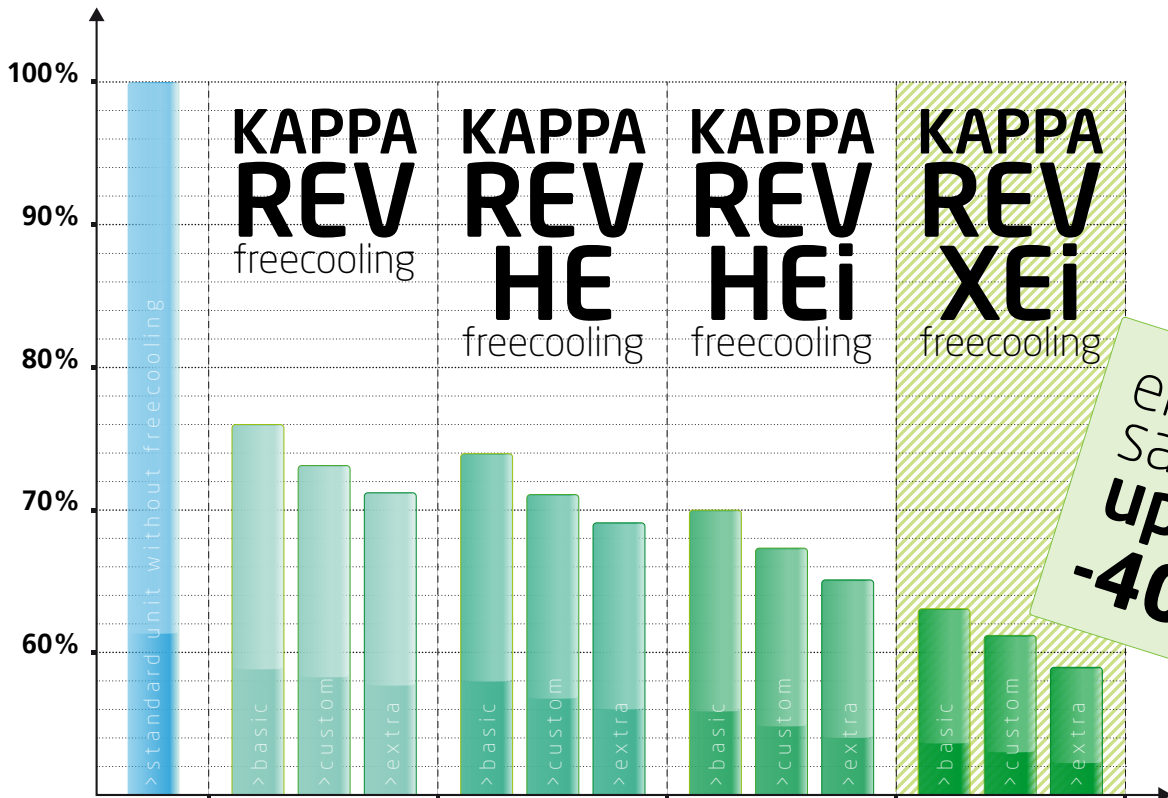
- Summertime EER is lower than non freecooling units.
- All fans need to operate all time.

**Kappa Rev FC** have two dedicated sections that have their own fans and coils functioning independently, to ensure the optimum balance between mechanical cooling and free cooling

This means that:

- **Freecooling section** operates with fan speed control to maximise the freecooling mode, while fans are stopped in summer.
- **Chiller section** operate with fan speed control with condensing control function in hybrid freecooling mode, or stopped fans when 100% freecooling is achieved.
- **Designed structure** allows more configurations with 3 different freecooling levels.

# ENERGY SAVING



Energy analysis calculated in Frankfurt with constant cooling demand during 1 year

Total energy absorbed from standard unit ▶ 1379203 [kWh]

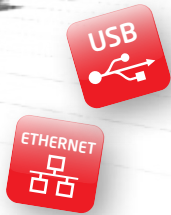
Total cost per year ▶ € 151.712,00 (0,11 €/kW)

Energy saving referred to KAPPA REV FC, in comparison to the KAPPA REV

(nominal cooling capacity 820+840 kW - inlet/outlet water temperature 15/10 °C; e.g. 30%)



# ADVANCED CONTROL FUNCTIONS



**SMART CONTROL**

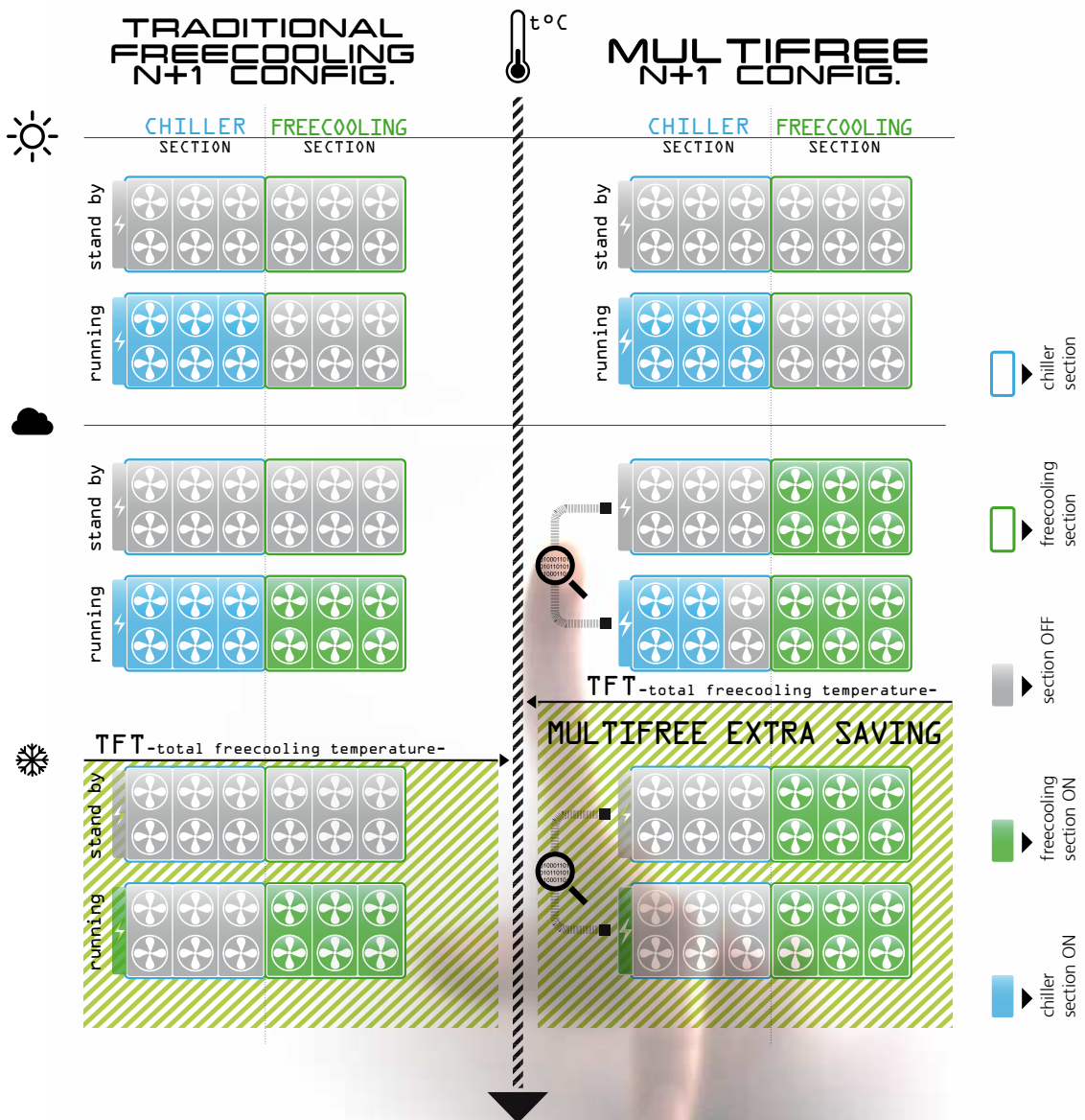
- > Unit management by integrated web page
- > Data logging of all units parameters one month long
- > User friendly interface based on visual icons
- > RS485 and Ethernet ports as standard
- > Fast restart procedure in case of power supply interruptions

## MULTILOGIC FUNCTION

- > Up to 32 units (1 Master e 31 Slave) connected to the same hydronic circuit
- > Management of units with different logics and priority levels

## MULTIFREE FUNCTION

- > Maximise the efficiency using the freecooling from stand-by unit in n+1 configuration



**Atlantic Haus**  
**Hamburg - Germany**  
2x screw air cooled freecooling chillers  
Supply -> 1,1 MW



# Blue Box technological product range

find out the complete product range on our web site and catalogues



## Zeta Rev .Ei > 32÷91 kW

High efficiency air cooled chillers with brushless DC inverter scroll compressor.



## Zeta Rev FC > 44÷143 kW

High efficiency air cooled free cooling chillers. Patented system. Available also with brushless DC inverter compressor.



## Tetris FC > 97÷518 kW

High efficiency air cooled free cooling modular chillers.



## Kappa Rev .Ei > 286÷1451 kW

High efficiency air cooled modular chillers with inverter screw compressors.



## Kappa V Evo FC > 325÷1178 kW

Air cooled free cooling chiller.



## Tetris W FC/NG > 39÷634 kW

High efficiency water cooled free cooling chillers with integrated hydronic module.



## Kappa Rev LGW > 240÷1020 kW

Low GWP, high efficiency air cooled modular chillers, also with free-cooling module.



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