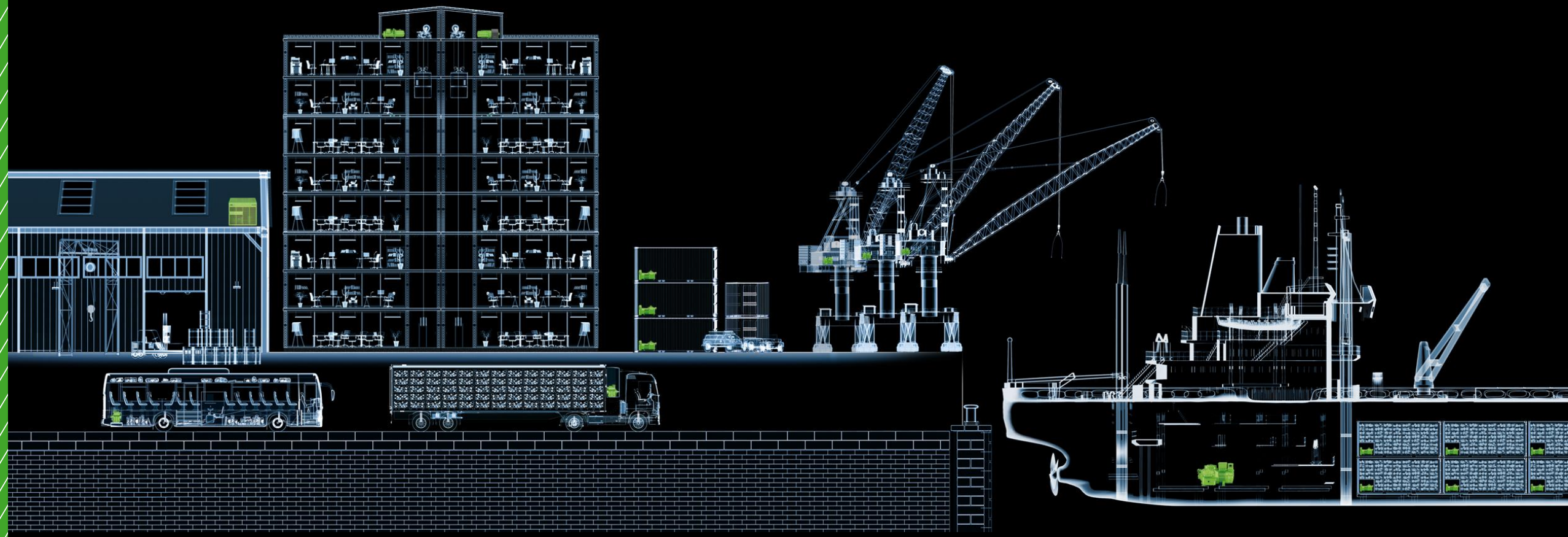


IMPROVE THE QUALITY OF LIFE

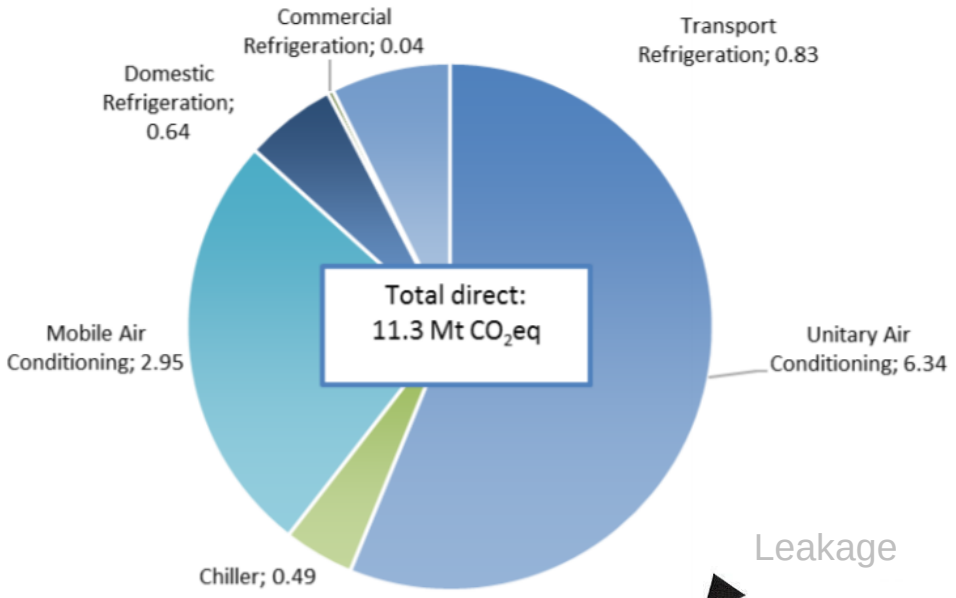
INCREASE THE RELIABILITY OF REFRIGERATION SYSTEM WITH ENERGY EFFICIENCY AND MONITORING SYSTEM

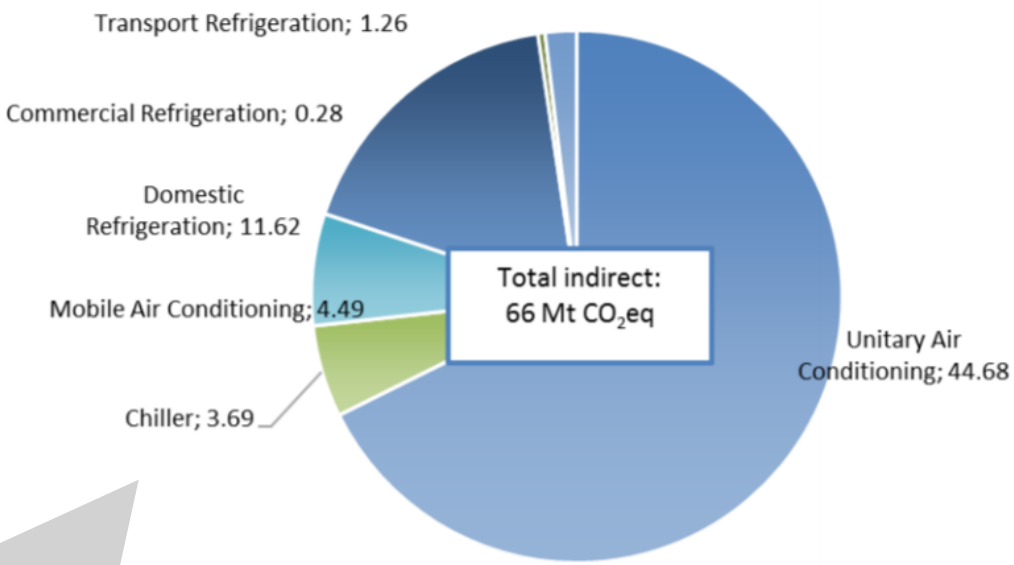
Jakarta, 30 April 2019
Tedy Chriswanda

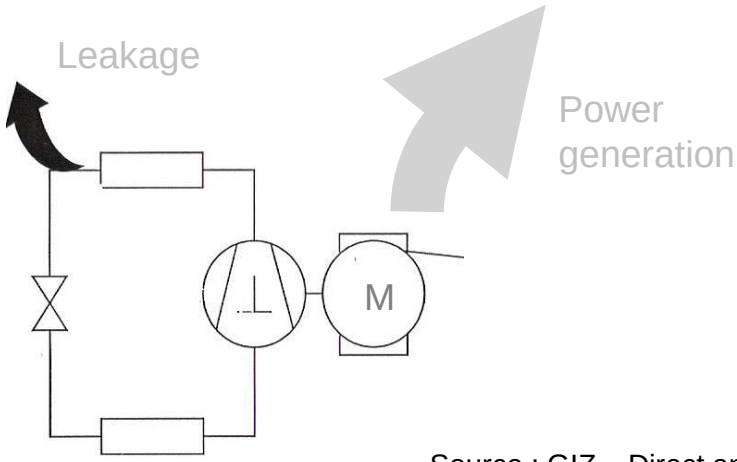
DAS HERZ DER FRISCHE

DIRECT AND INDIRECT EMISSIONS

/ Reduce refrigerant emission, but keep the efficiency

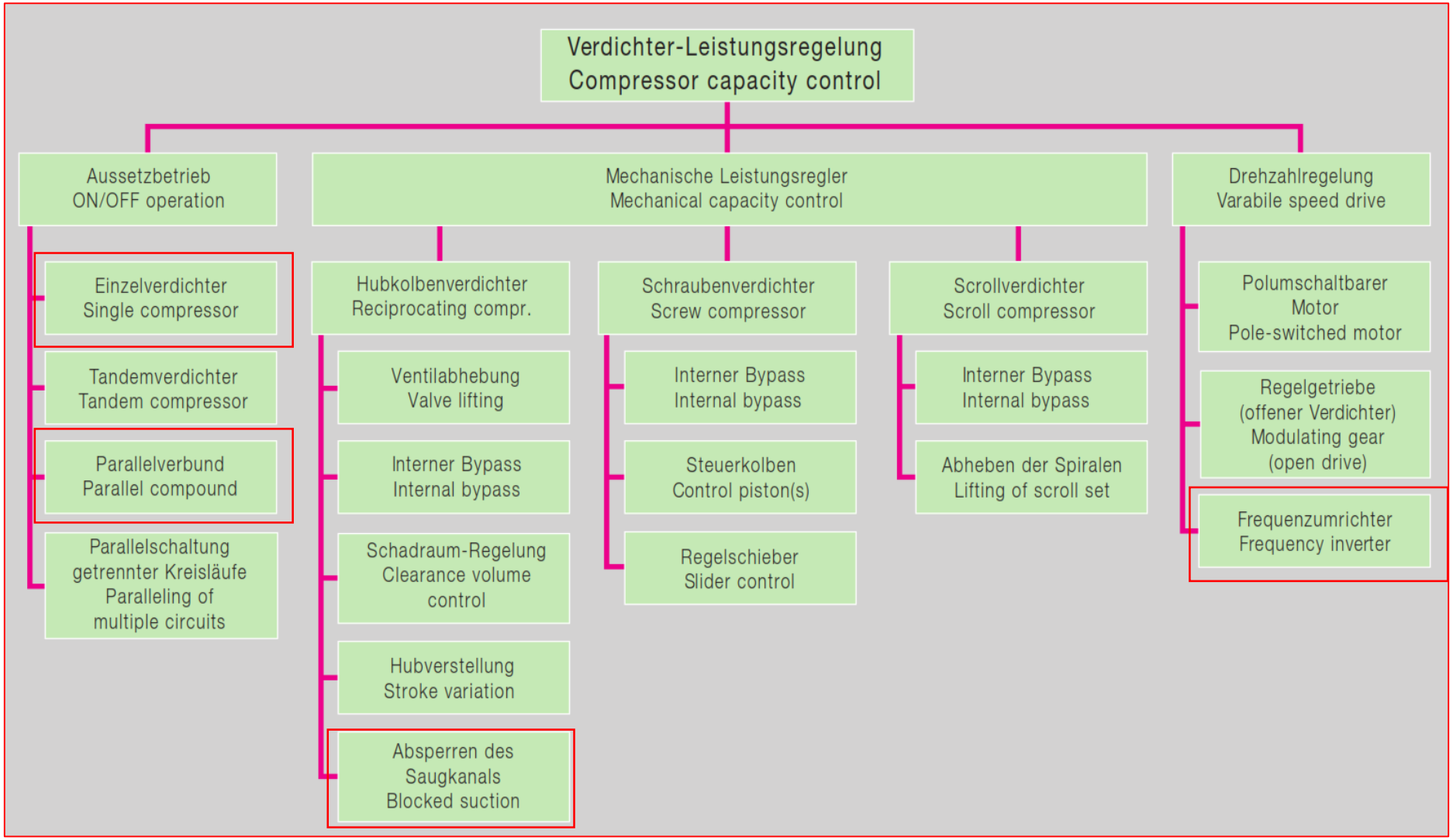




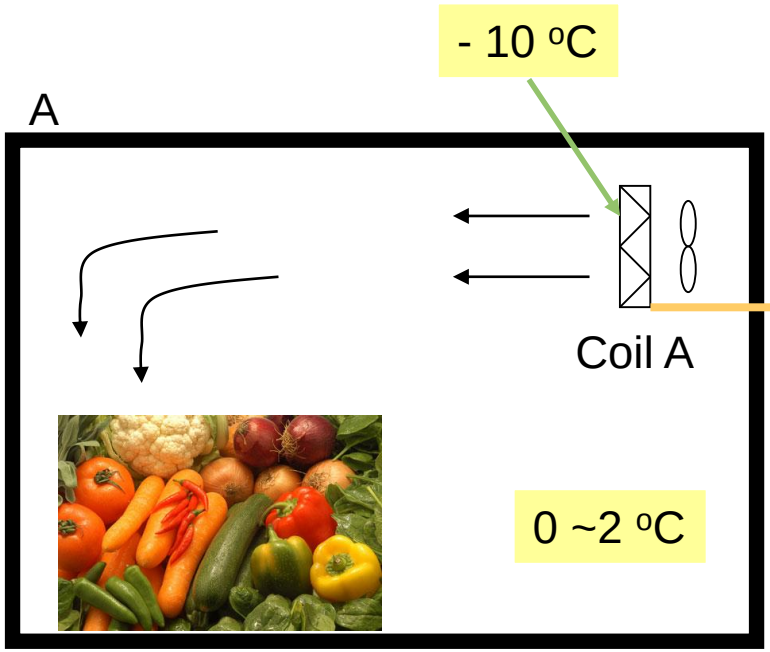


Source : GIZ – Direct and Indirect GHG emissions of the RAC subsectors in 2015

COMPRESSOR CAPACITY CONTROL METHOD



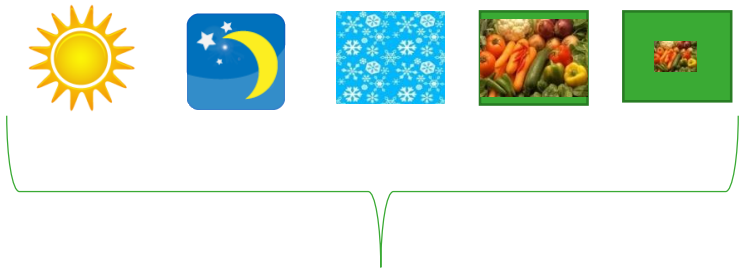
COMMERCIAL REFRIGERATION USE ON OFF CONTROL

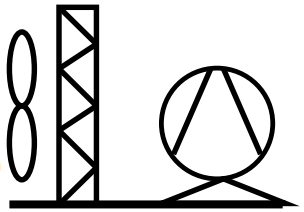


- Cold Room
- Supermarket

Selection at :

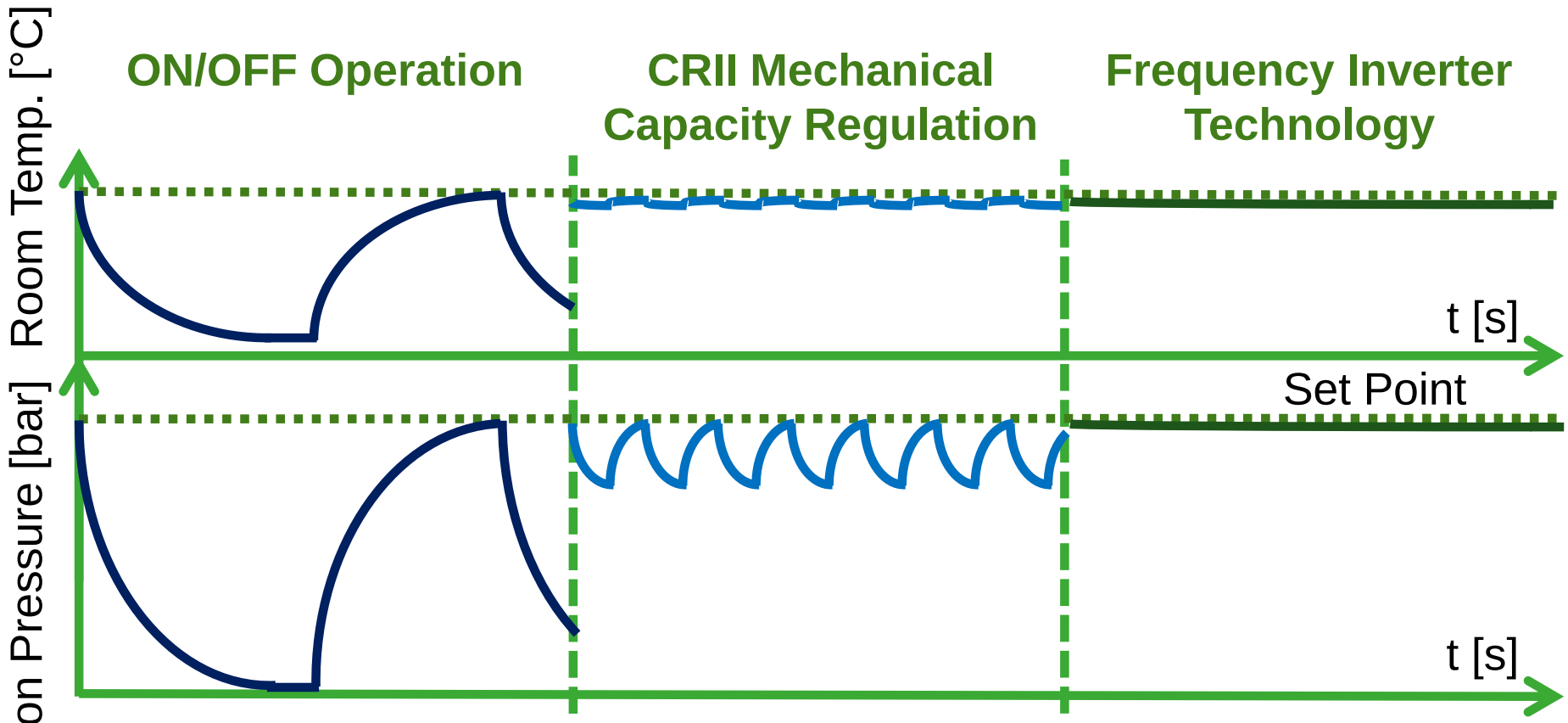
- Full Load
- Maximum Ambient





- ON / OFF Condensing Unit
- 50 Hz or one speed

CAPACITY REGULATION

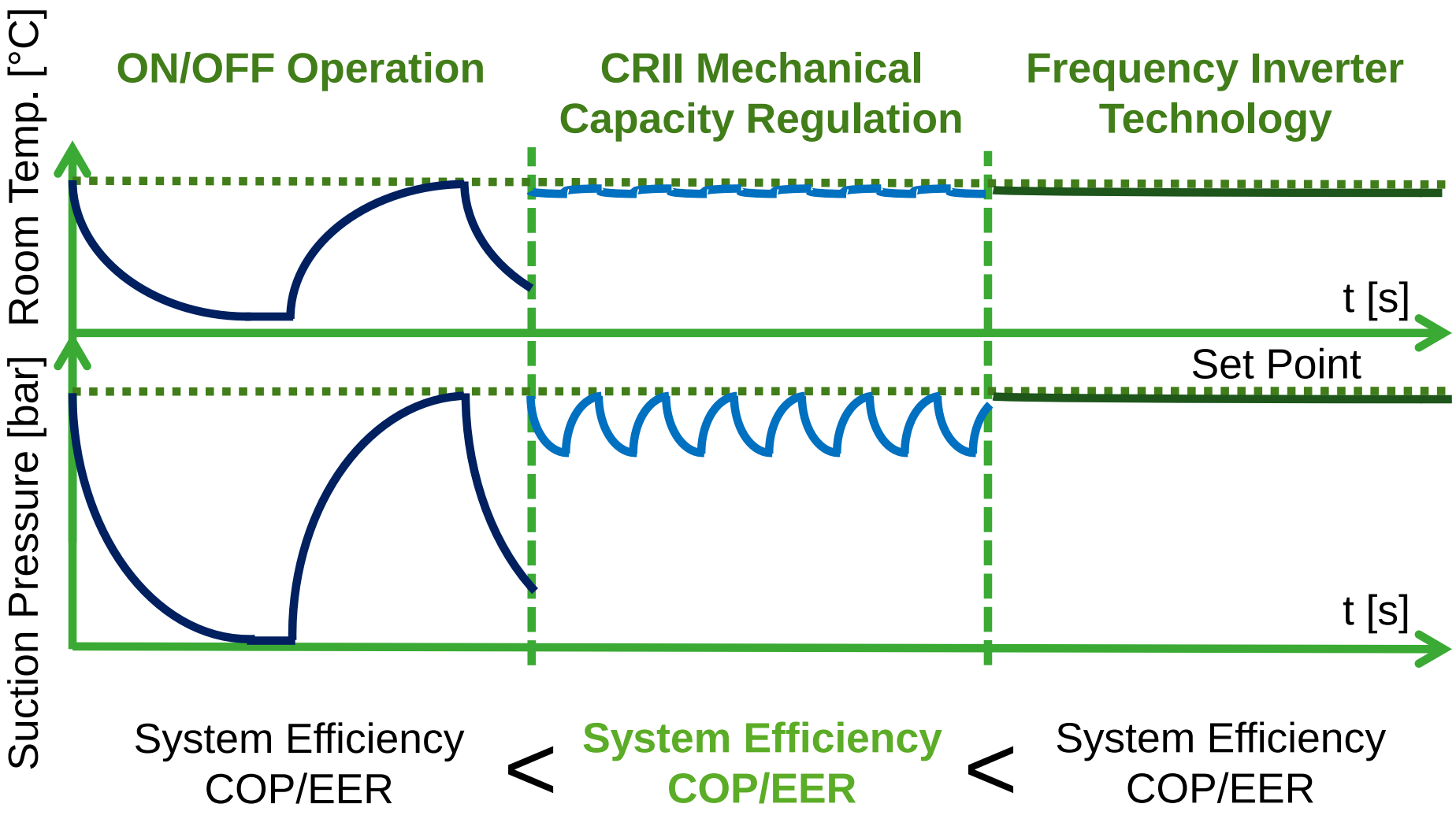


/ **Large fluctuations** of cold room temperature

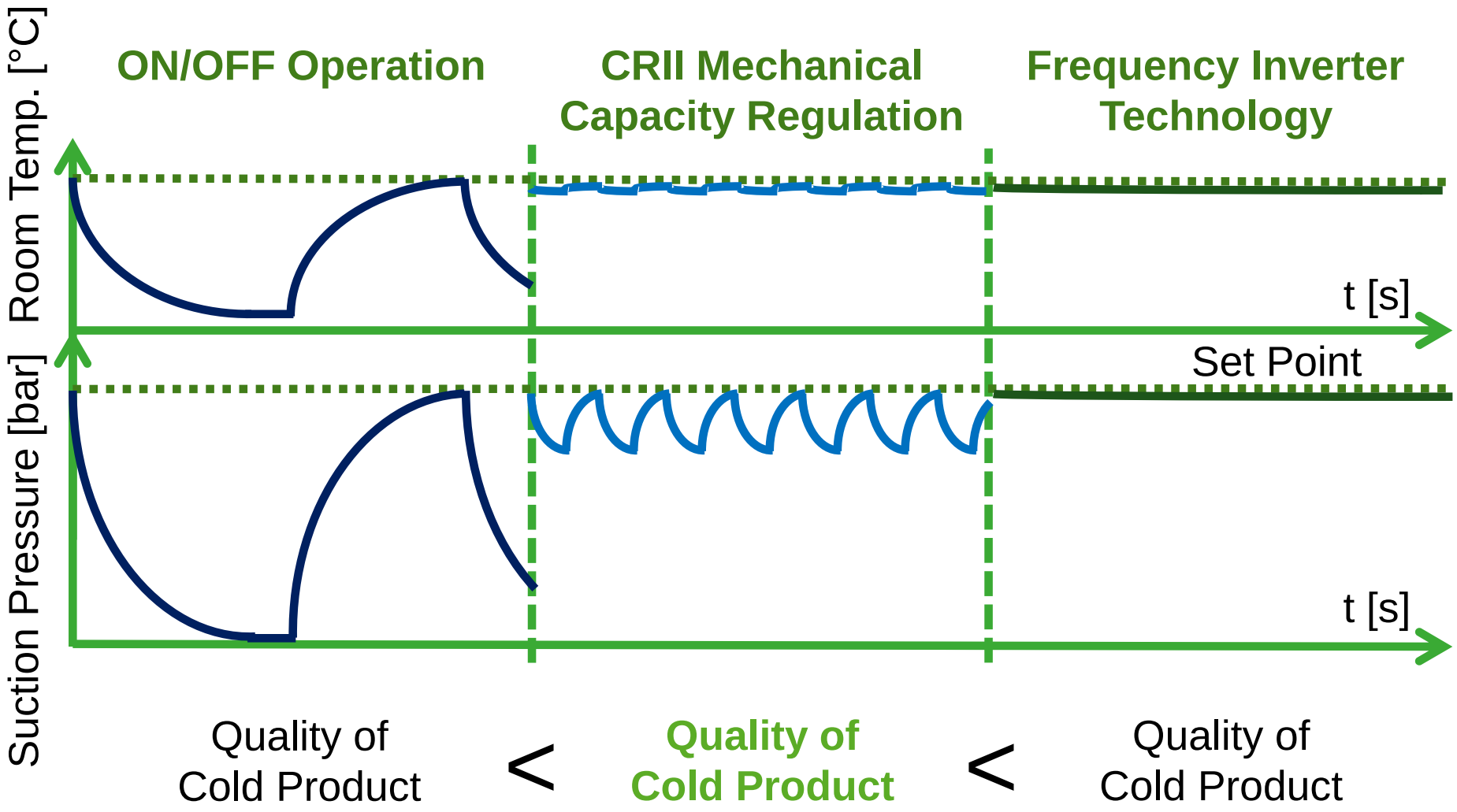
/ Reduced fluctuations thanks to **high switching frequency** of CRII System

/ Accurate **stepless** cooling capacity adaptation **without fluctuations**

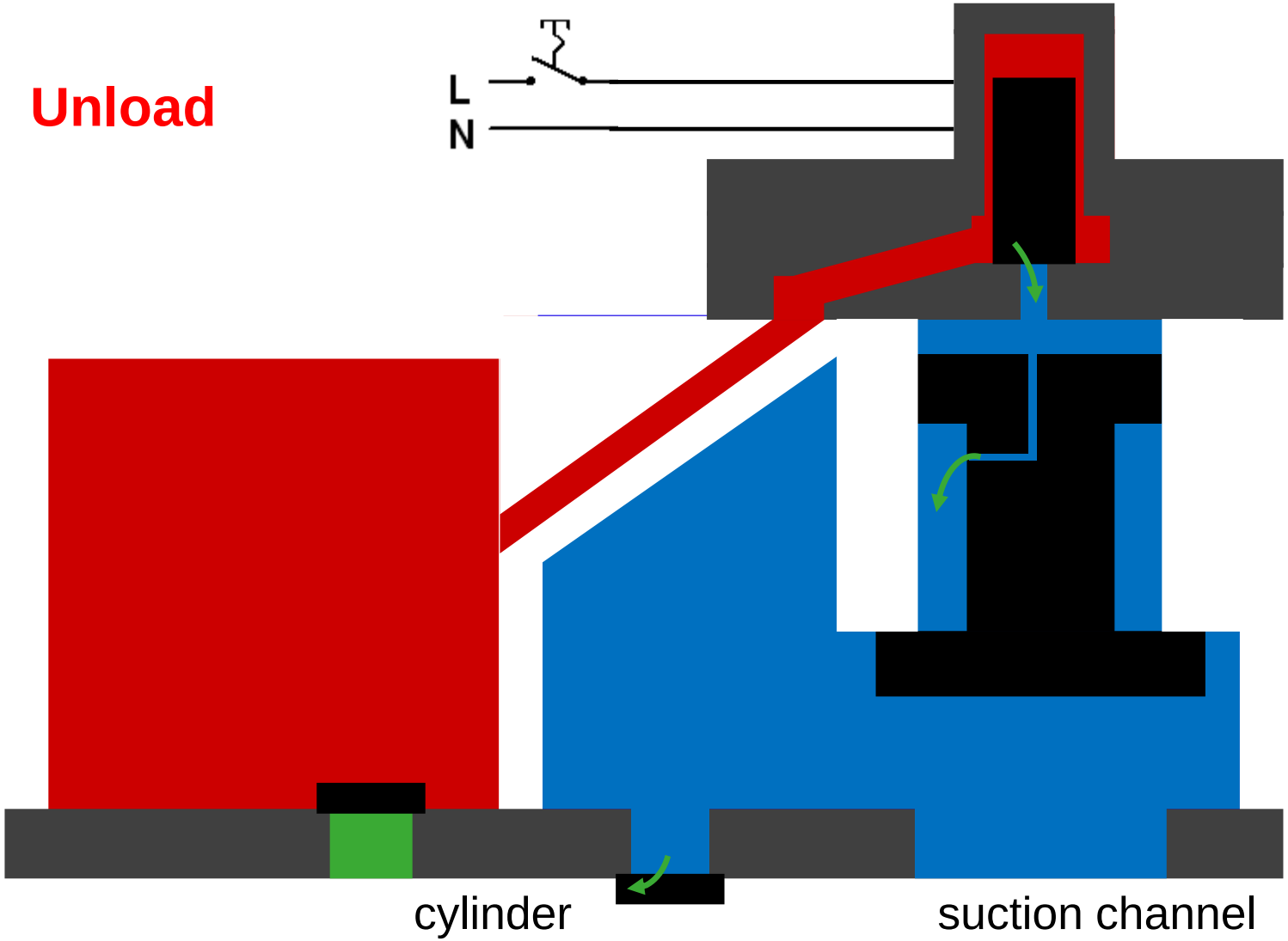
CAPACITY REGULATION



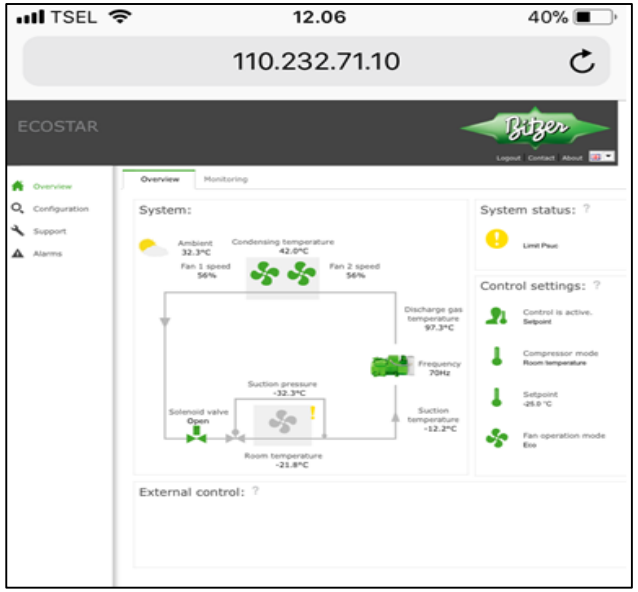
CAPACITY REGULATION

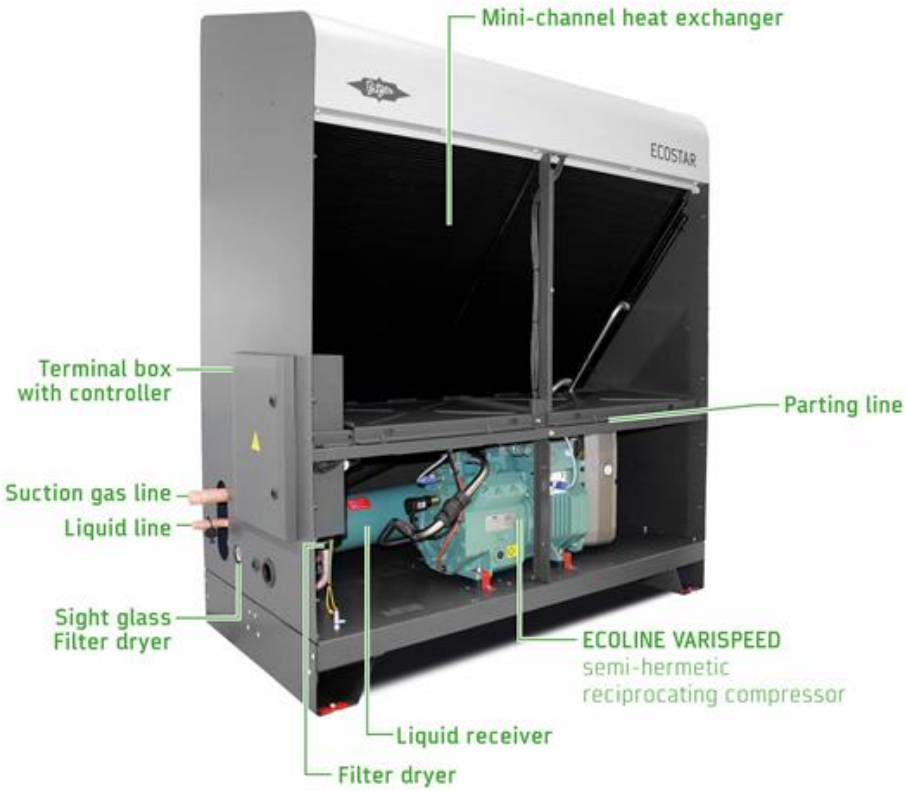


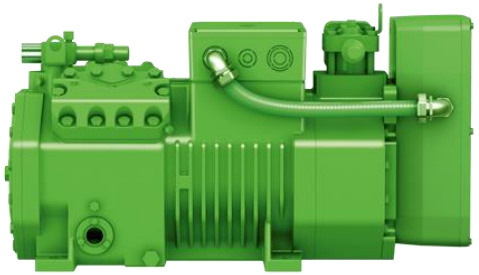
BLOCKED SUCTION CRII SYSTEM DESCRIPTION



UNIT APPLICATION – SYSTEM EFFICIENCY

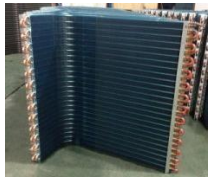


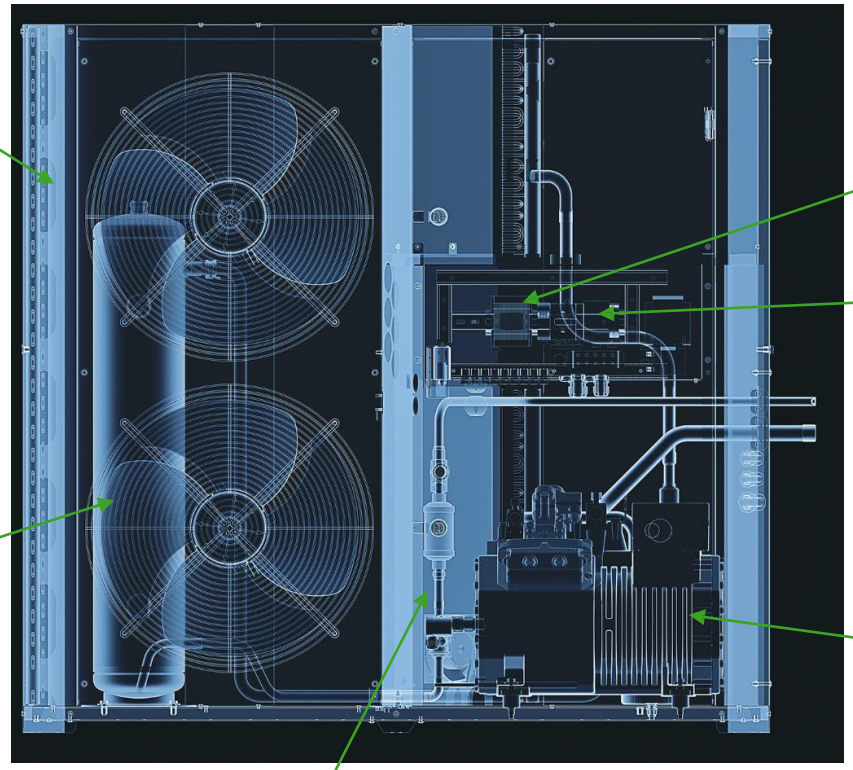




UNIT APPLICATION – SYSTEM EFFICIENCY

Minichannel condenser for best heat exchange rate and low refrigerant charge

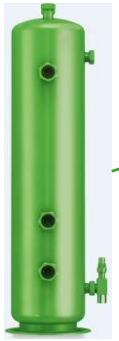




Controller with BITZER Software

BEST SOFTWARE

Pre-wired switch board



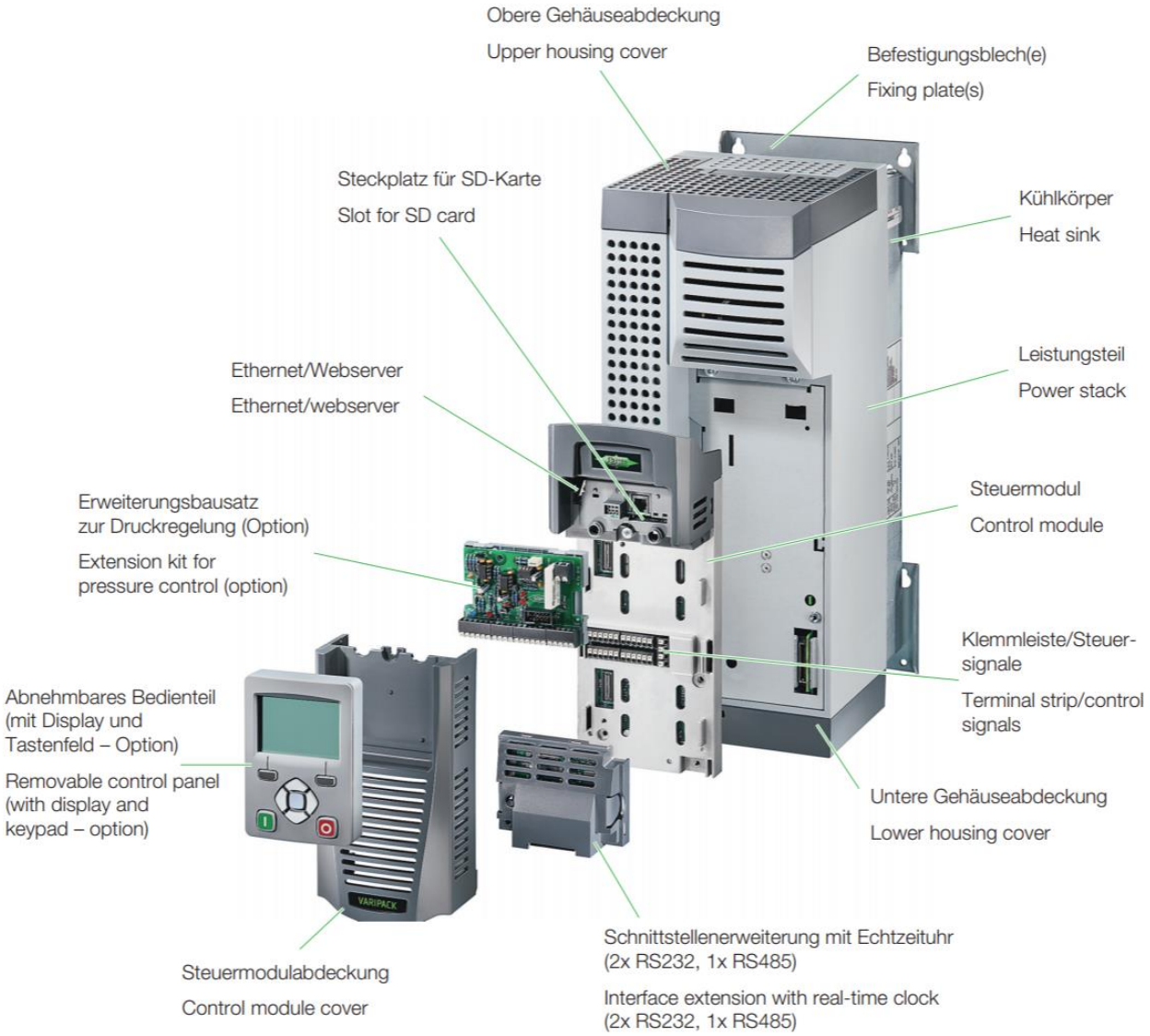
BITZER Receiver

Full equipped liquid line with drier and sight glass

Efficient BITZER ECOLINE compressor

With Capacity control as standard

UNIT APPLICATION – SYSTEM EFFICIENCY



IQ MODULE – CM-RC-01

Control

- Compressor Start (DOL, PW, Y/Δ)
- Oil heater
- Head fan
- SU, CRII and RI

Monitoring & Diagnosis

- Motor temperature
- Discharge gas temperature
- Oil supply (OLC-D1 and DP-1)
- Application Limits

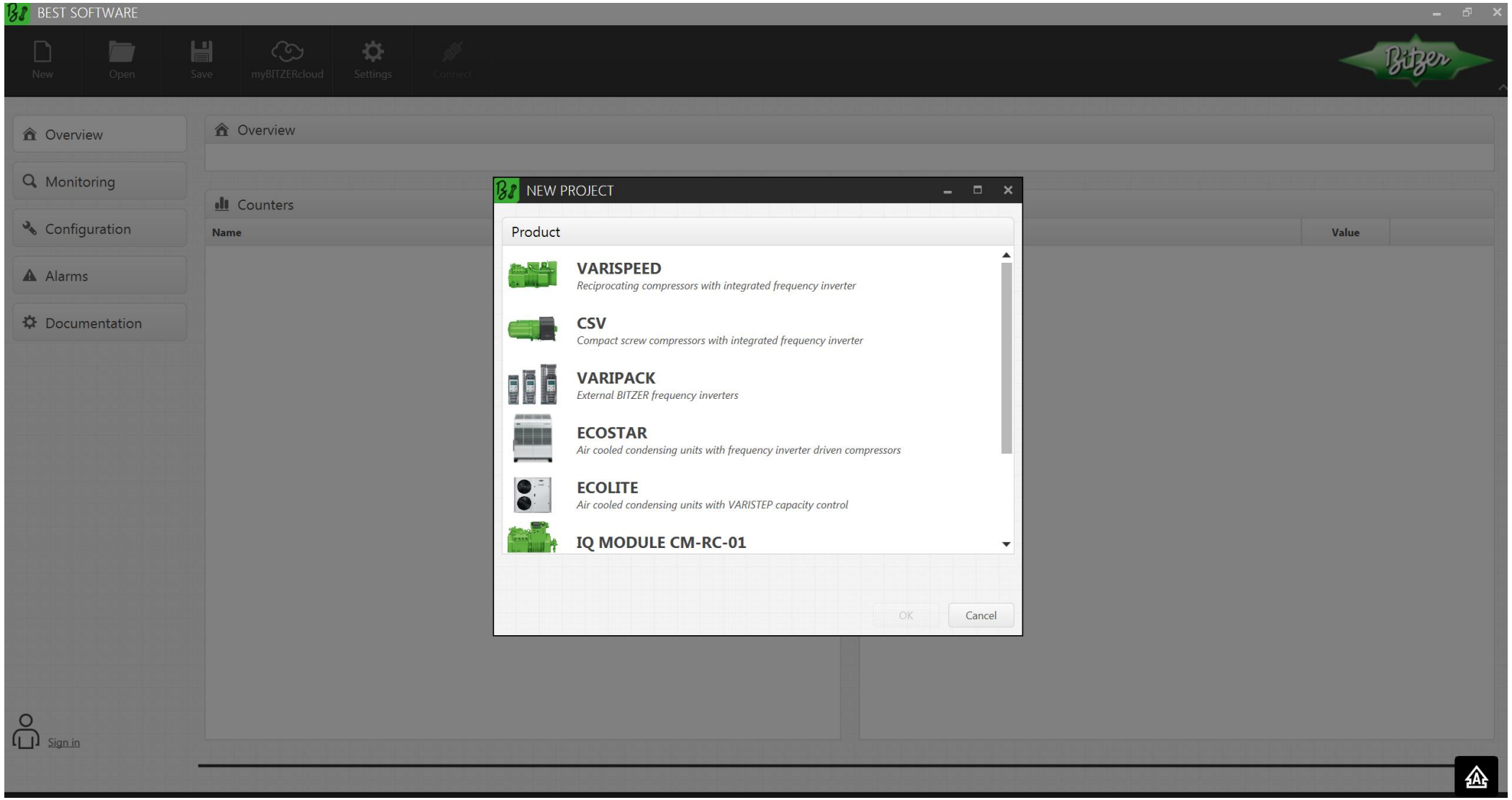
Communication & Datalog

- BEST software
  (Bluetooth or BEST converter)
- Datalog
- Modbus
- LED indicators

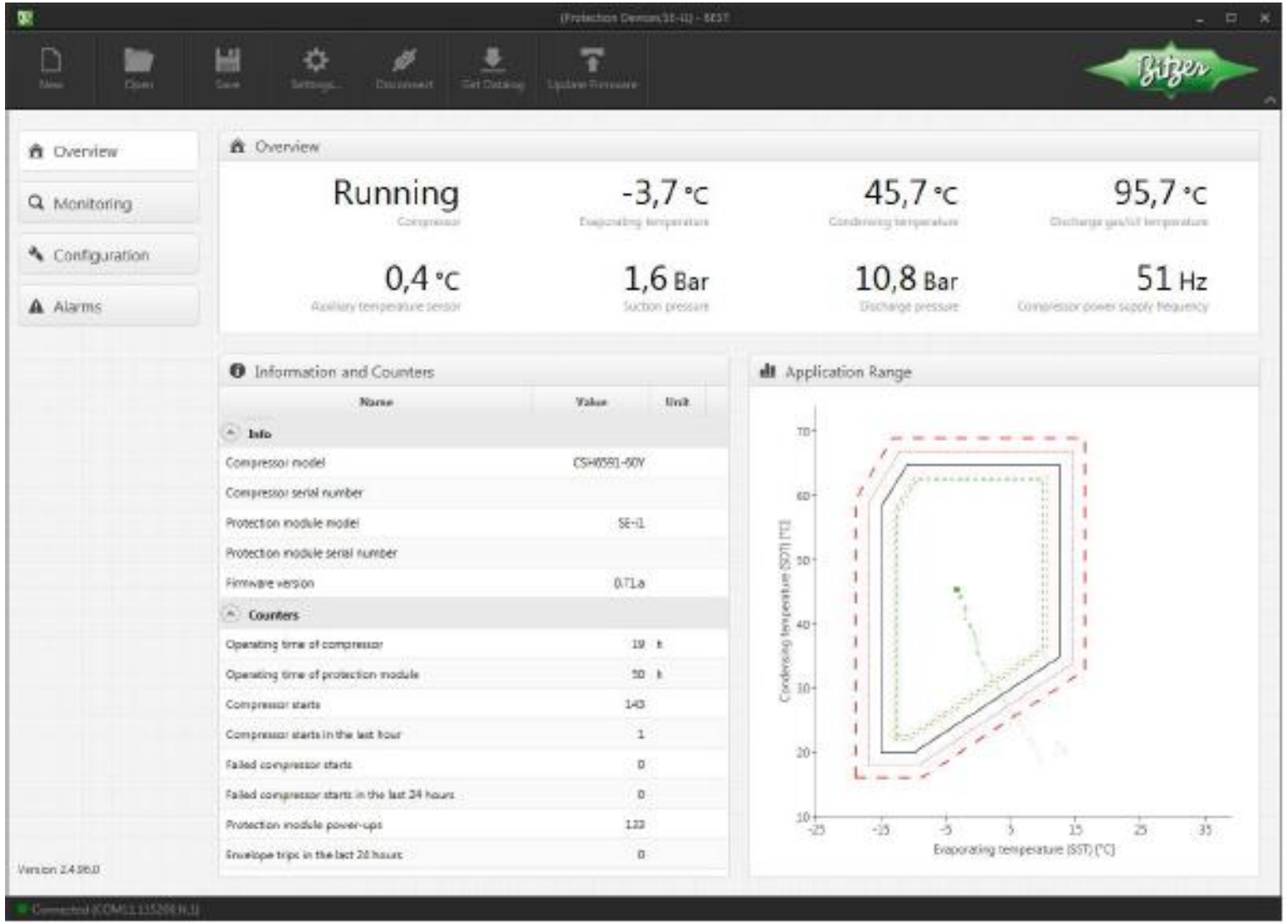
System simplification

- Less components
- Less design time
- Quick diagnosis
- Easier installation and operation

MONITORING SYSTEM INTERFACE



MONITORING SYSTEM INTERFACE



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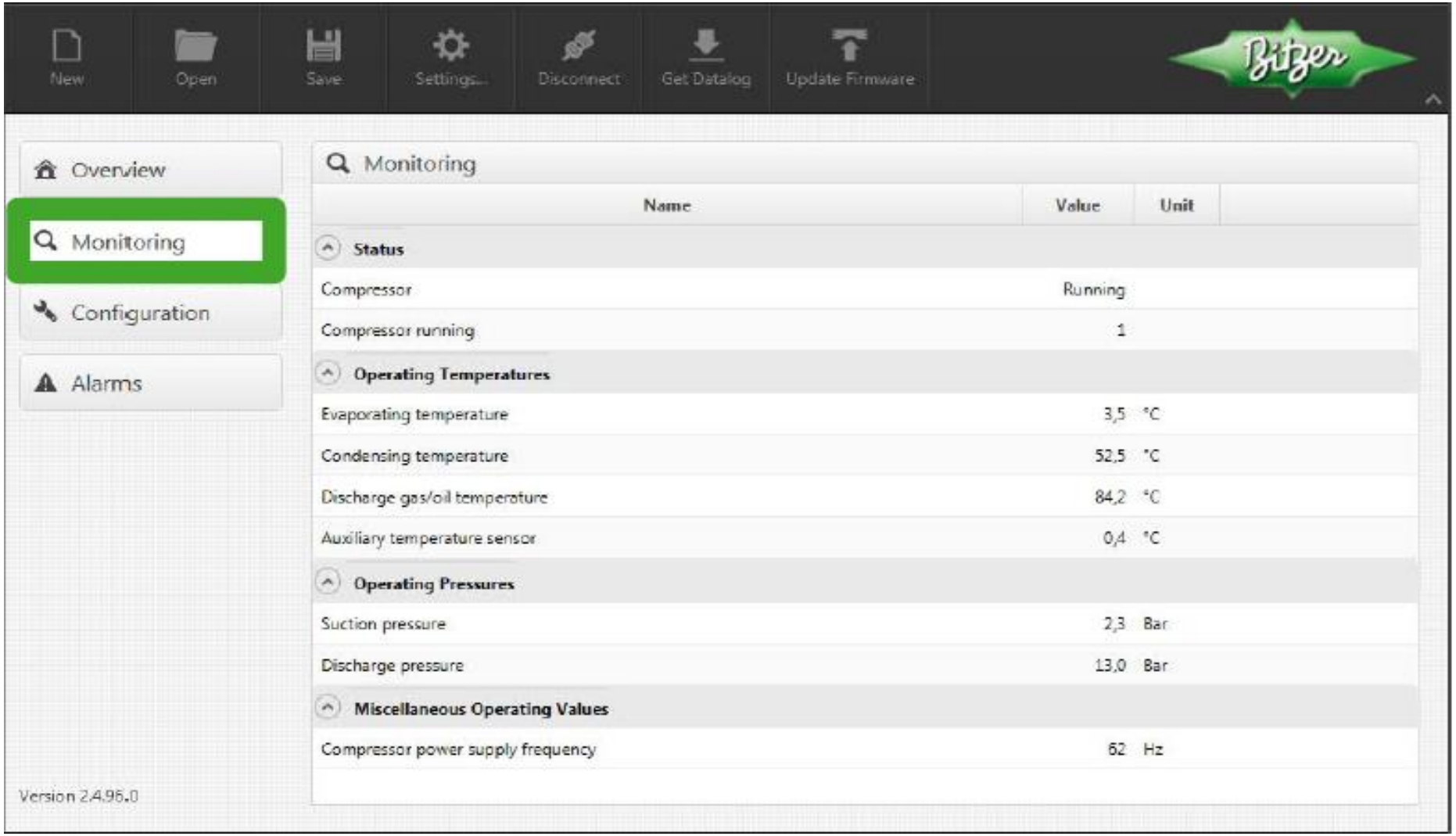

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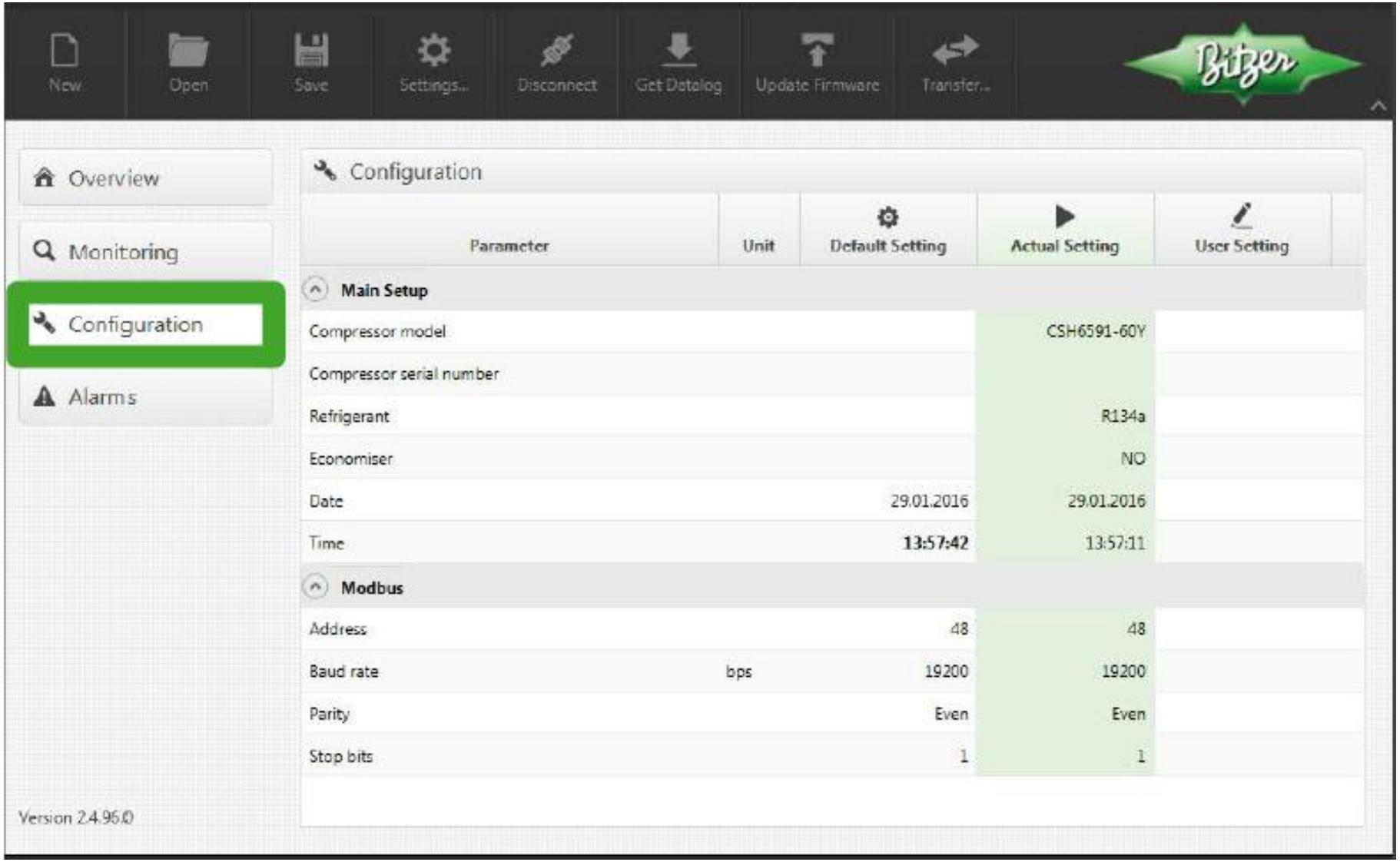

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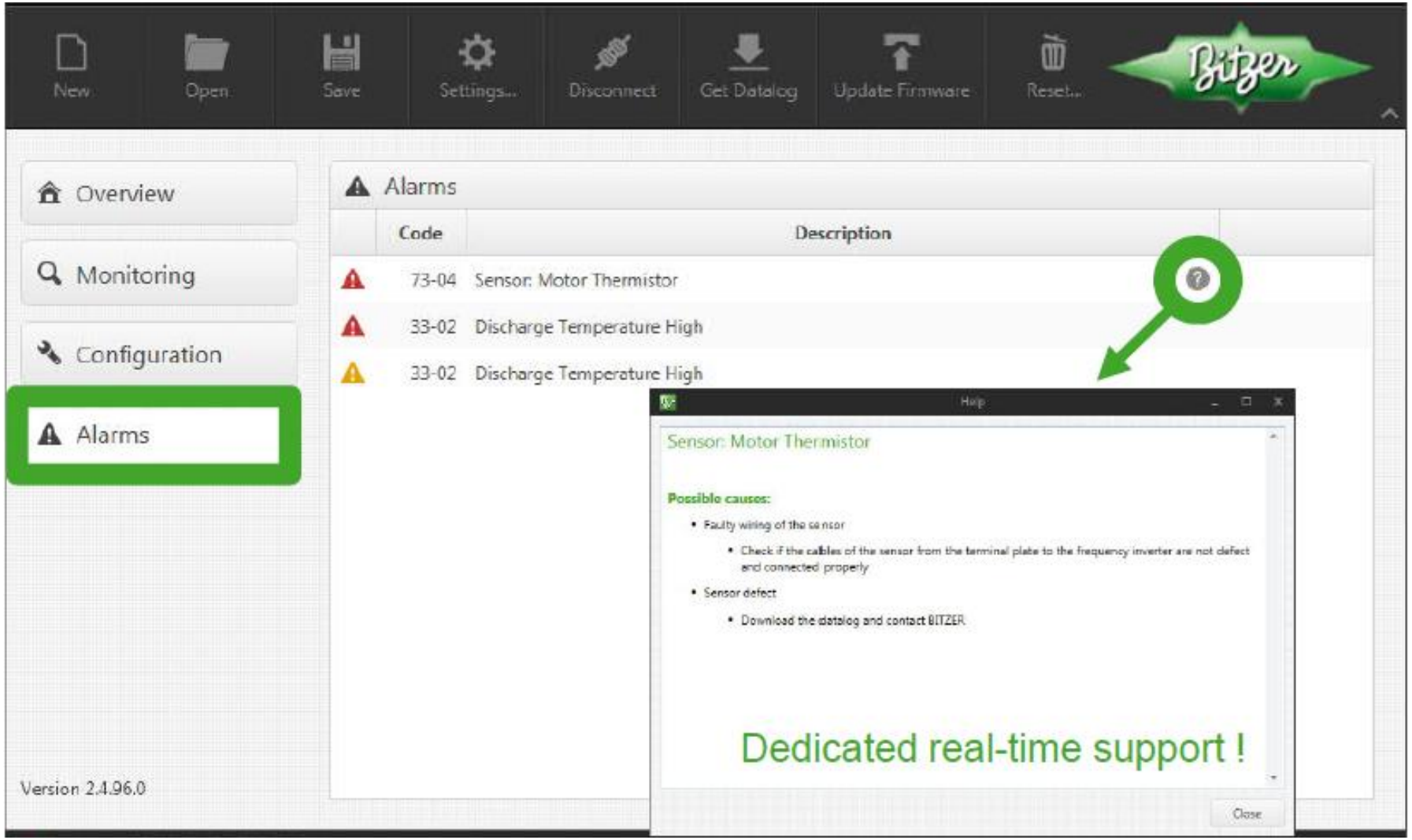

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