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NEXT EVO INV

IT COOLING

NEXT EVO INV

Range of precision air conditioning units for PERIMETER installation available in the following versions:

i) **Direct Expansion air cooled with SINGLE COOLING CIRCUIT**:
9 models with nominal cooling capacity 8-60 kW
Water cooled version available in the second half of 2014

ii) **Direct Expansion air cooled with DOUBLE COOLING CIRCUIT**:
4 models with nominal cooling capacity 38-102 kW
Water cooled version available in the second half of 2014

The NEXT EVO INV range alongside the actual NEXT DX increasing the RC Group offer for precision air conditioning units for application in small / medium size Data Centres

NEXT EVO INV
Under/Over versions
Close control air conditioners equipped with BLDC scroll compressors.

NEXT DX
Under/Over versions
Close control air conditioners equipped with scroll compressors.

NEXT DW
Under/Over versions
Close control air conditioners equipped with scroll compressors.

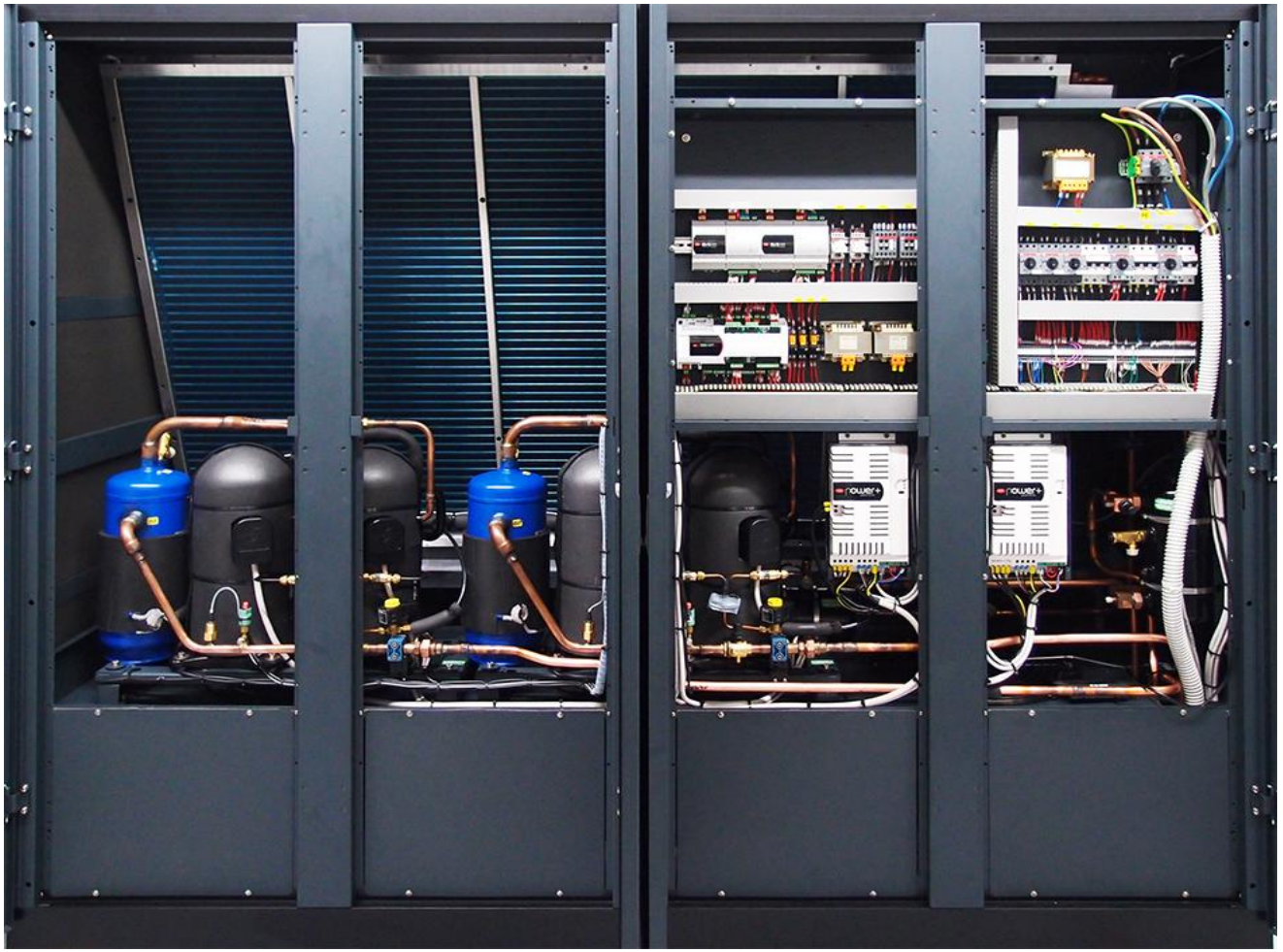
NEXT EVO INV

2 circuit 4 compressors

external view

NEXT EVO INV

NEXT EVO INV
2 circuit 4 compressors
internal view



The ENERGY SAVING oriented general/operating characteristics as well as the fitted components allow to fully meet various and sophisticated needs of today IT installations:

i) Application in installations only reaching full load in medium term, and/or having variable load

ii) Application in installations with hot/cold isle lay-out, with or without containment, and in "traditional" installations with uniform temperature in the room

iii) Installations requiring "load sharing" working logic, with ALL units in operation at partial load for maximum energy saving

iv) Supply air temperature control through continuous modulation of cooling capacity

v) Return air temperature or floor void differential pressure control through air flow continuous modulation

NEXT EVO INV SINGLE COOLING CIRCUIT
technical/operating characteristics:

i) Single BLDC inverter compressor up to a 37 kW

ii) Nr.1 x BLDC inverter + nr. 1 x ON/OFF compressor in parallel (tandem compressor) up to 53 kW

iii) Nr.1 x BLDC inverter + nr. 2 x ON/OFF compressor in parallel (TRIO technology) up to 72 kW

NEXT EVO INV DOUBLE COOLING CIRCUIT
technical/operating characteristics:

i) Single BLDC inverter compressor PER CIRCUIT, up to 70 kW

ii) Nr. 1 x BLDC inverter + nr. 1 x ON / OFF compressor in parallel (tandem compressor) PER CIRCUIT up to 102 kW

NEXT EVO INV DX
main components:

i) Scroll BLDC inverter compressors (EC compressors) specific for R410A

ii) ON/OFF scroll compressors specific for R410A

iii) Plug Fan “Radical” type fans with brushless EC electric motors in fully compliance with the ERP 2015 norm

iv) Finned package high efficiency evaporator with copper tubes and aluminum fins

v) Electronic expansion valve

NEXT EVO INV DX
main components:

MICROPROCESSOR CHARACTERISTICS

- Two control logic based on cooling capacity and air flow control:

LOGIC 1
cooling capacity control based on the supply air temperature and air flow control based on the return air temperature.
(supply + return air temperature control)

LOGIC 2
cooling capacity control based on the supply air temperature and air flow control based on the differential floor void pressure
(supply air temperature + differential floor void pressure control)

Free-cooling operation:
- direct free-cooling plenum control and management

NEXT EVO INV DX
main components:

MICROPROCESSOR CHARACTERISTICS

Double serial port:

- RS485 as fix option + a second among Ethernet or BACnet

Built-in control of main components

- serial control of inverter, fans, humidifier, T + RH sensors for a very high accuracy of operating parameters measure and control

Dehumidification function based on dew point calculation

- Dew point calculation on the evaporator surface and consequent input to the electronic expansion valve

NEXT EVO INV

COMMON OPTIONAL ACCESSORIES

NEXT EVO INV
SIZE
TEAM MATE remote condenser
TEAM MATE PF remote condenser
213 - Team Mate electrical power supply by internal unit
848 - Condensate discharge system (kit)
849 - Condensate discharge system
405 - Extra-Circuit system
810 - Floor stand Hmax=350 mm
811 - Floor stand Hmax=450 mm
812 - Floor stand Hmax=510 mm
808 - Sandwich panels
843 - Motorized damper with frame
832 - Air supply plenum with F6 filters
833 - Air supply plenum with F7 filters
835 - Air supply plenum with F9 filters
836 - Air supply plenum with sound absorber
945 -Air return plenum with Free Cooling damper
321 - Steam humidifier
773 - Dehumification system
310 - Electric heater
514 - Water heater + 2 way valve
508 - Automatic S/W operation
606 - Compr. power factor capacitor - 0,9
81 - Phases sequence control relay
204 - Pressure control under the raised floor.
215 - Disposal F5 efficiency air filter
909 - Clogged filters alarm
911 - Water presence alarm
913 - Additional water sensor (kit)
860 - T/rH sensor on air return
866 - T/rH external sensor
867 - T/rH remote sensor
863 - Remote terminal shared
923 - RC-Com MBUS/JBUS Serial board
926 - LON Serial board
931 - BACnet Ethernet - SNMP - TCP/IP Serial board
932 - BACnet MS/TP Serial board
MBUS RS485/JBUS + BACnet for Ethernet - SNMP - TCP/IP double serial board
MBUS RS485/JBUS + BACnet per MS/TP double serial board
958 - Temporary power microprocessor
962 - Kit modem GSM
957 - Plantwatch without modem
930 - Remote graphic terminal kit

NEXT EVO INV DX: the accessories

Same “mechanical” as NEXT R410A & NEXT EVO CW

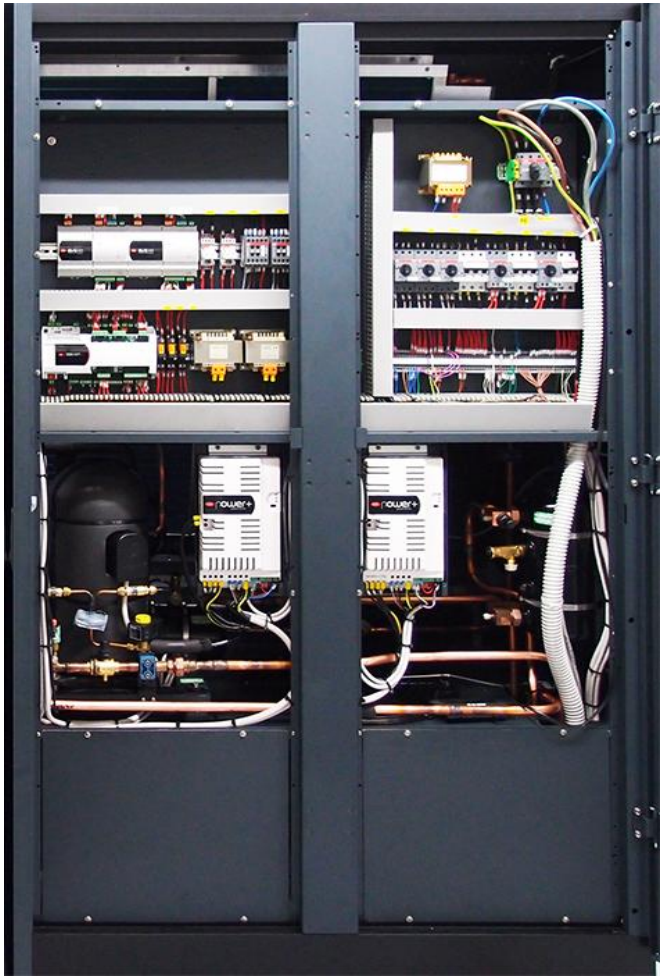
Same “microprocessor” accessories as NEXT EVO CW

OPTIONAL ACCESSORIES - OVER VERSION ONLY

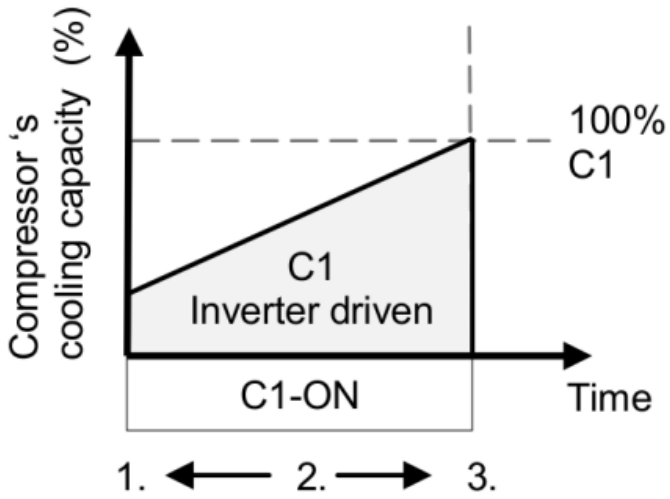
NEXT EVO INV
SIZE
862 - Acoustic panel
830 - Air discharge plenum with grilles
831 - Plenum with frontal grille and sound absorber
807 - Blind frontal pannel

NEXT EVO INV

NEXT EVO INV 2 circuit
detail of inverter and mother board



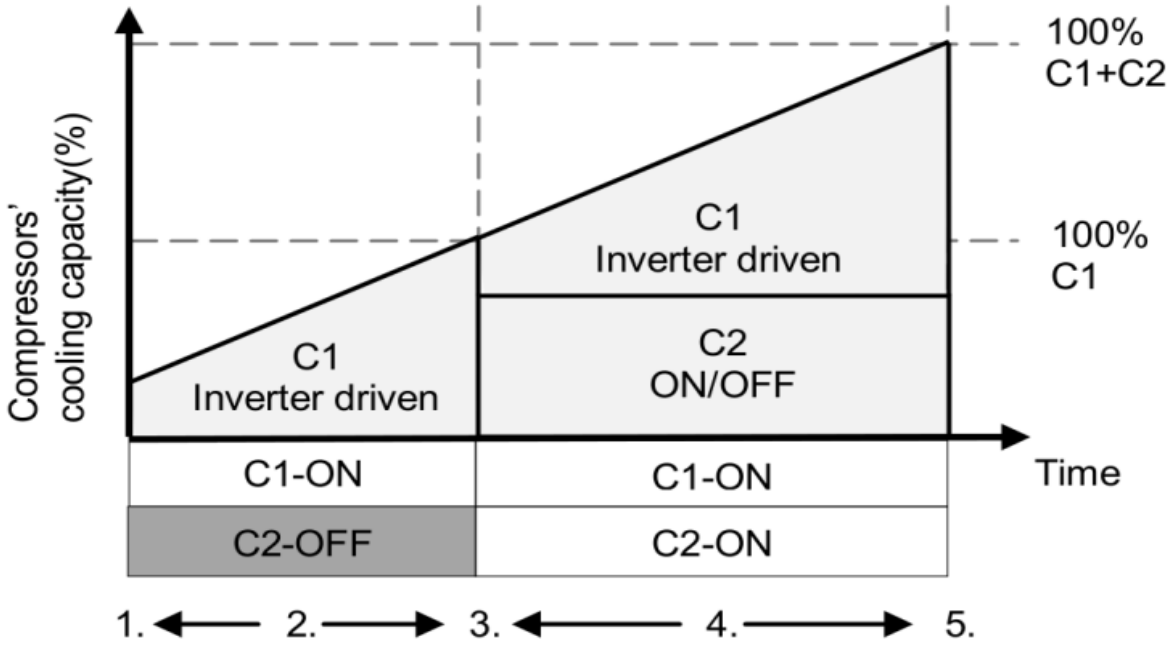
NEXT EVO INV DX single circuit:
Operating mode with single inverter driven BLDC compressor



Operating conditions for increasing thermal load

1. BLDC compressor start
2. BLDC compressor in speed modulation
3. Maximum cooling capacity

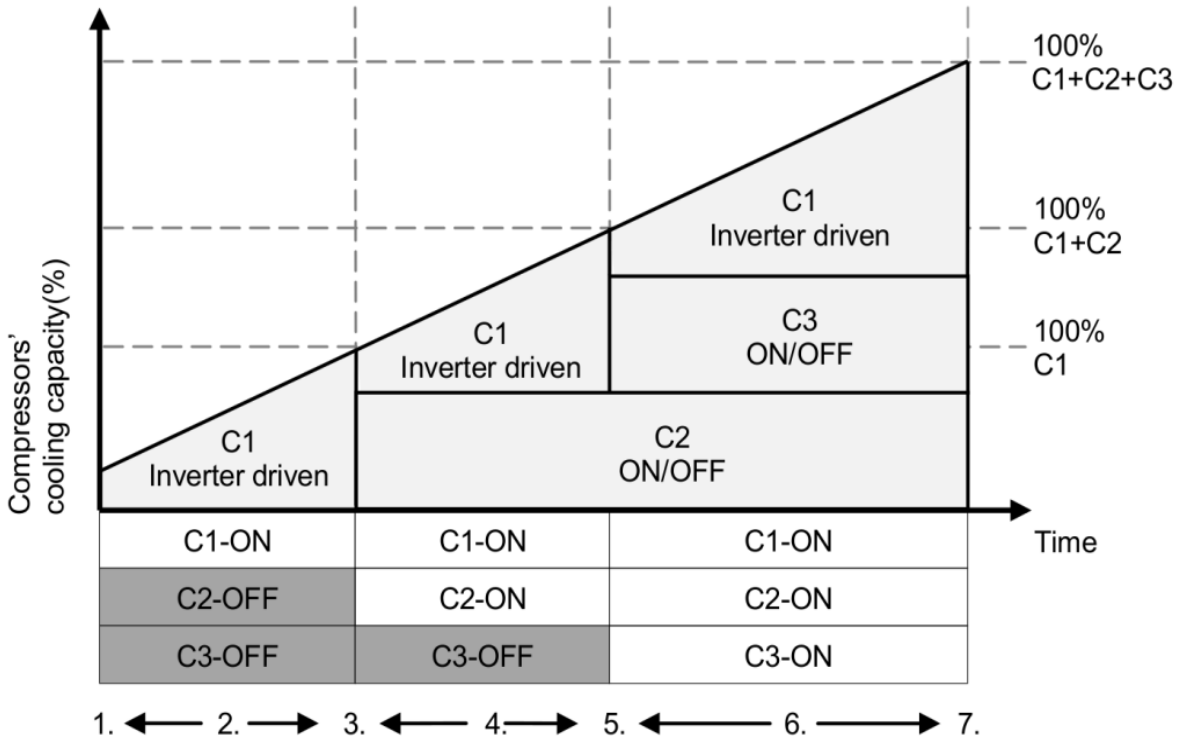
NEXT EVO INV DX single circuit:
Operating mode with nr.1 x inverter driven BLDC + nr.1 x ON / OFF compressor



Operating conditions for increasing thermal load

1. BLDC compressor start
2. BLDC compressor in speed modulation
3. ON/OFF compressor start and corresponding adjustment of the BLDC compressor speed
4. BLDC compressor in speed modulation
5. Maximum cooling capacity

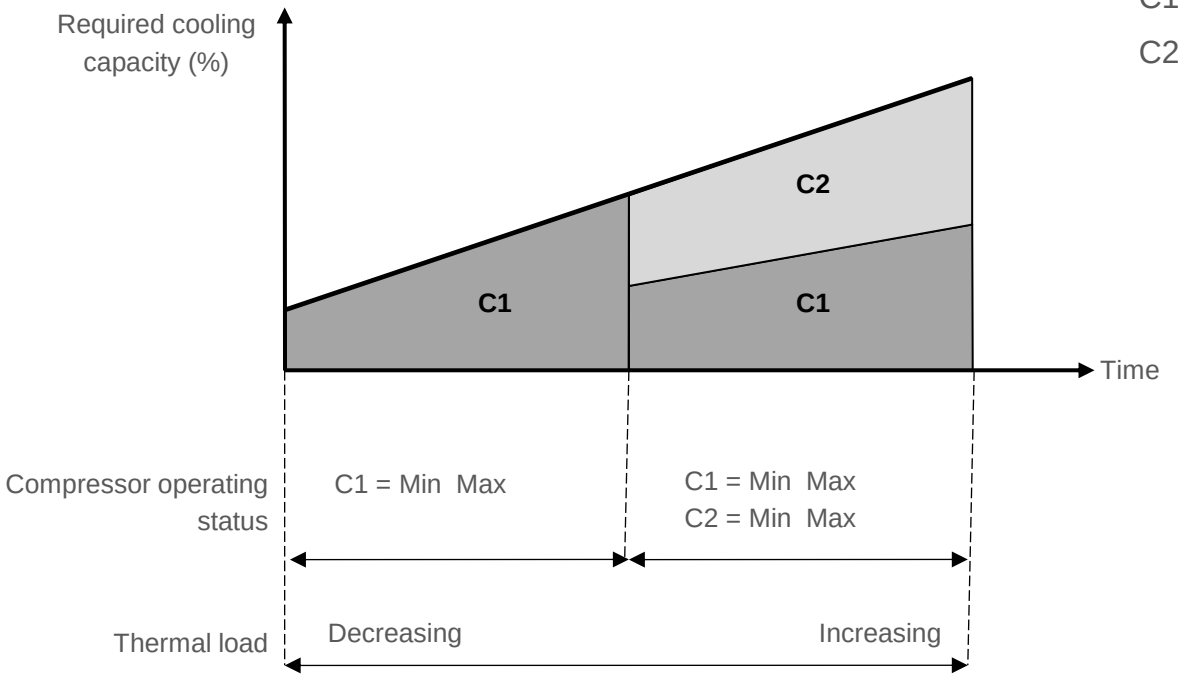
NEXT EVO INV DX single circuit:
Operating mode with nr.1 x inverter driven BLDC + nr.2 x ON / OFF compressor



Operating conditions for increasing thermal load

1. BLDC compressor start
2. BLDC compressor in speed modulation.
3. First ON/OFF compressor start and adjustment of the BLDC compressor speed.
4. BLDC compressor in speed modulation.
5. Second ON/OFF compressor start and adjustment of the BLDC compressor speed.
6. BLDC compressor in speed modulation.
7. Maximum cooling capacity.

NEXT EVO INV DX double circuit:
Operating mode with single inverter driven BLDC compressor per circuit

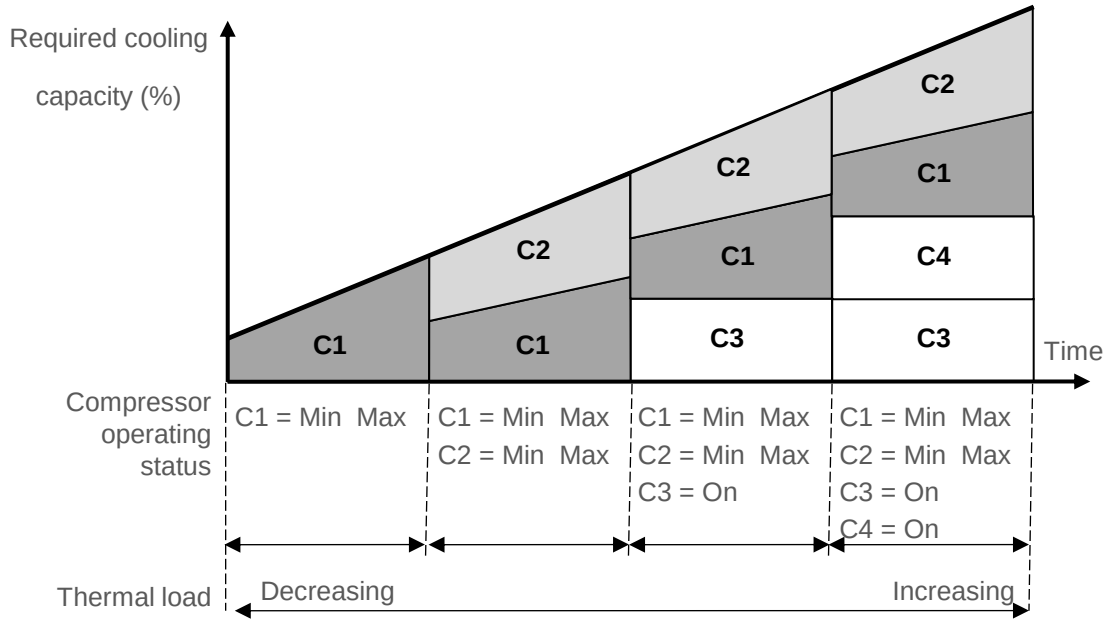


Operating conditions for increasing thermal load

C1. BLDC compressor circuit 1

C2 . BLDC compressor circuit 2

NEXT EVO INV DX double circuit:
Operating mode with nr. 1 x inverter driven BLDC compressor
+ nr. 1 x ON/OFF compressor per circuit



Operating conditions for increasing thermal load

C1. BLDC compressor circuit 1

C2 . BLDC compressor circuit 2

C3. ON/OFF compressor circuit 1

C4 . ON/OFF compressor circuit 2

NEXT EVO INV

NEXT EVO INV 2 circuit
detail of inverter and mother board

NEXT EVO INV

NEXT EVO INV 2 circuit
detail of compressors compartment

NEXT EVO INV

NEXT EVO INV DX: selling points:

i) Compressors in parallel for very high energy efficiencies at partial loads. This characteristics can make any specs “RC Group oriented”

ii) Scroll inverter compressors BLDC (Brushless Direct Current) type (EC compressors) with very high energy efficiencies; higher than the ones of scroll inverter compressors no BLDC

iii) Plug Fan EC “radical” type fans in accordance with the ERP 2015 Norm

iv) Internal components lay-out, design of refrigerant pipes to minimize pressure drops on both air & refrigerant sides

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1 9 6 3 2 0 1 3

fifty cool years

Start here!

Start with RC Group