



The Q-Pack world: 70 – 320 kW

Chiller and heat pump with R407C

The Q-Pack world: 70 – 320 kW

▶ 15 MODELS:

8 models from 70 up to 160 kW



7 models from 150 up to 316 kW



▶ ADAPTIVE FUNCTION



▶ HIGH ENERGY EFFICIENCY



(also at partial loads)

▶ LOW NOISE EMISSIONS



(this effect increases at partial load)

▶ Wide range of ACCESSORIES



▶ VERSIONE EXP





The adaptive control allows to simulate the buffer water tank presence and the unit needs of a less water content (lt/kW) and at the same time guarantees the compressor safety and complete reliability of the components

Minimum plant water content (lt/kW)	
Q_Pack with Adaptive control and confort application	Standard Control
4	10

If the plant water content is less then 4 lt/kW we suggest T&P accessory

For process cooling application we suggest 10 lt/kW and T&P accessory

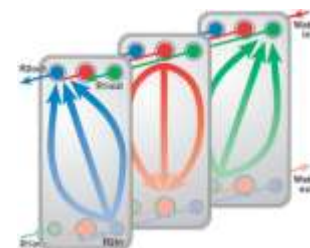
The Q-Pack world: 70 – 320 kW

PLUS: energy efficiency

- ✓ New design and optimised structure for R407C. This design makes also production and maintenance easier
- ✓ Guarantee operating limits up to 45°C
- ✓ technological components (example: cross flow exchanger)
- ✓ 2 independent circuits and 2 fan-rows with independent management



Presentazione
Microsoft PowerP



The Q-Pack world: 70 – 320 kW

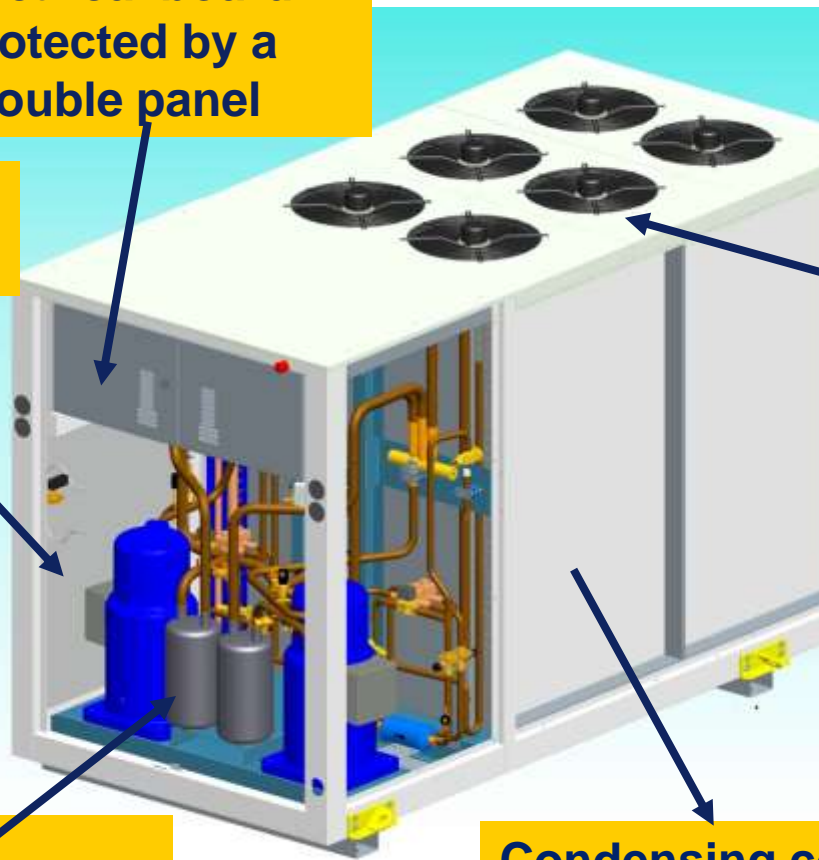
Electrical board protected by a double panel

Technical compressors case

2 fan-rows. The fan chamber is divided into two sections. This improves efficiency at partial loads, as the fan-row stops along with the compressor. This permits also a smart defrost management (heat pump unit)

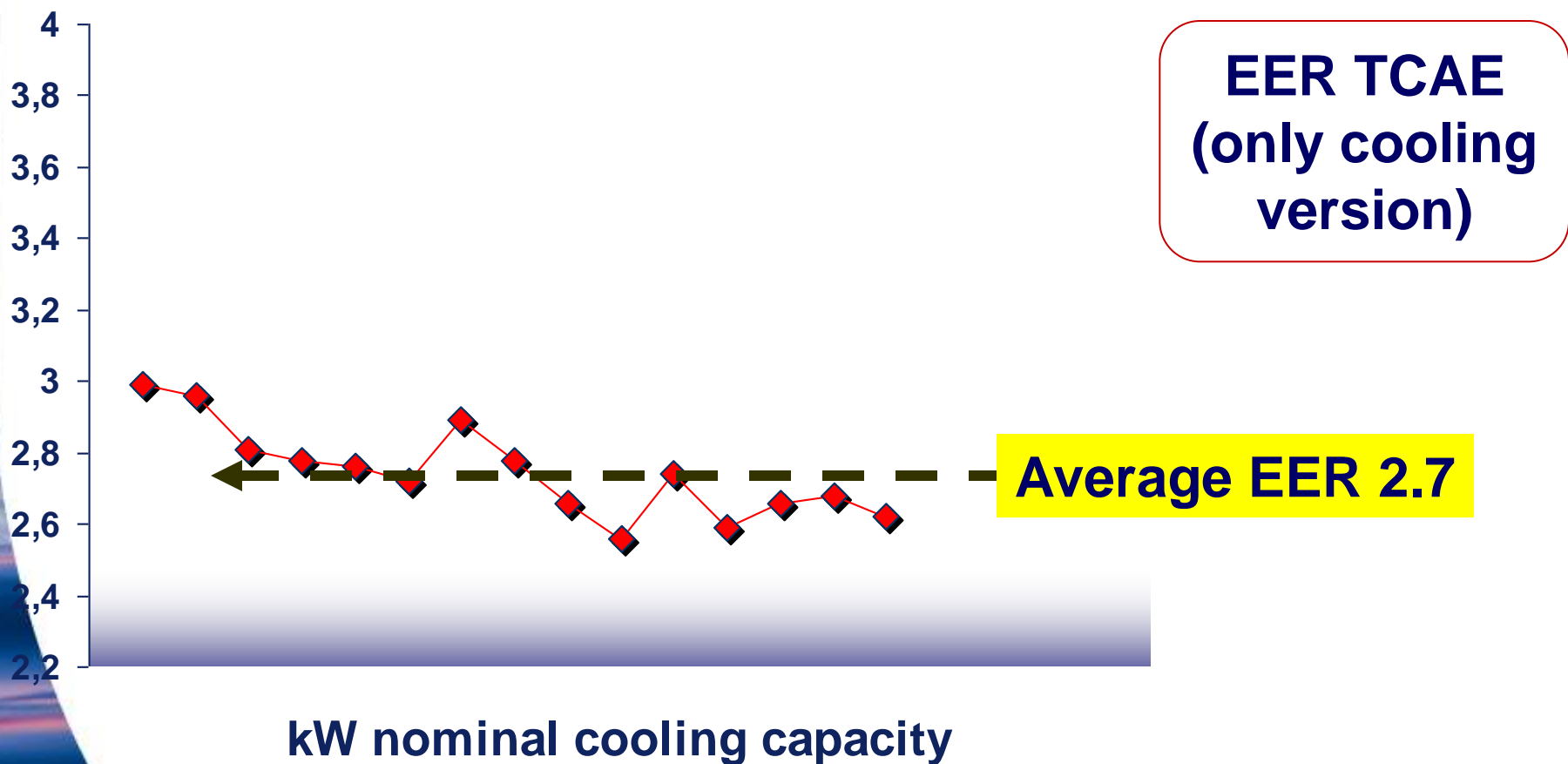
All the main refrigerant components are positioned inside the technical case

Condensing coil surface optimised to guarantee operation limit up to 45 °C ambient temperature



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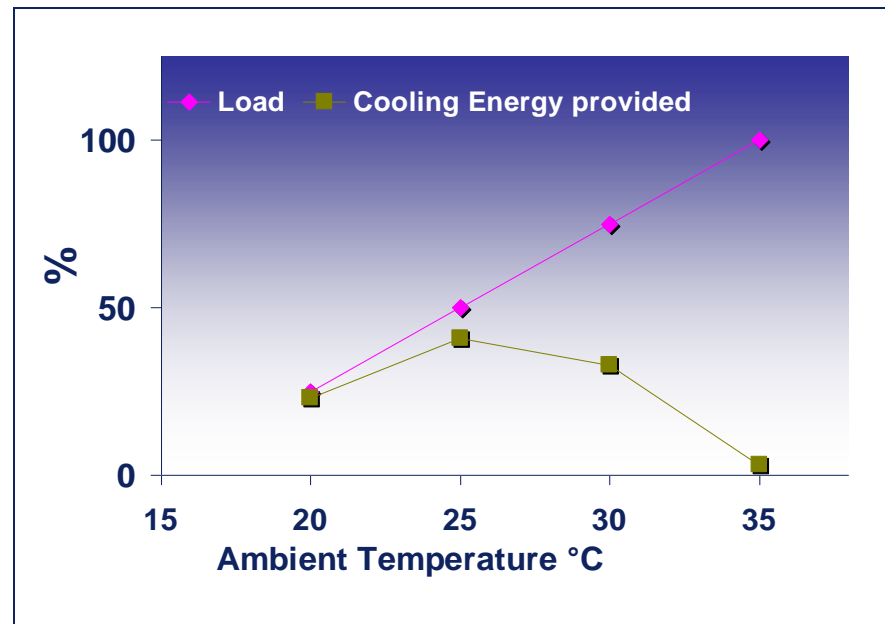
PLUS: energy efficiency



The Q-Pack world: 70 – 320 kW

PLUS: energy efficiency at partial load

ESEER (European Seasonal EER) is a proposal to estimate Energy Efficiency of various machines according to real load conditions. We assume that cooling and heating loads decrease linearly with the reduction of the outdoor temperature

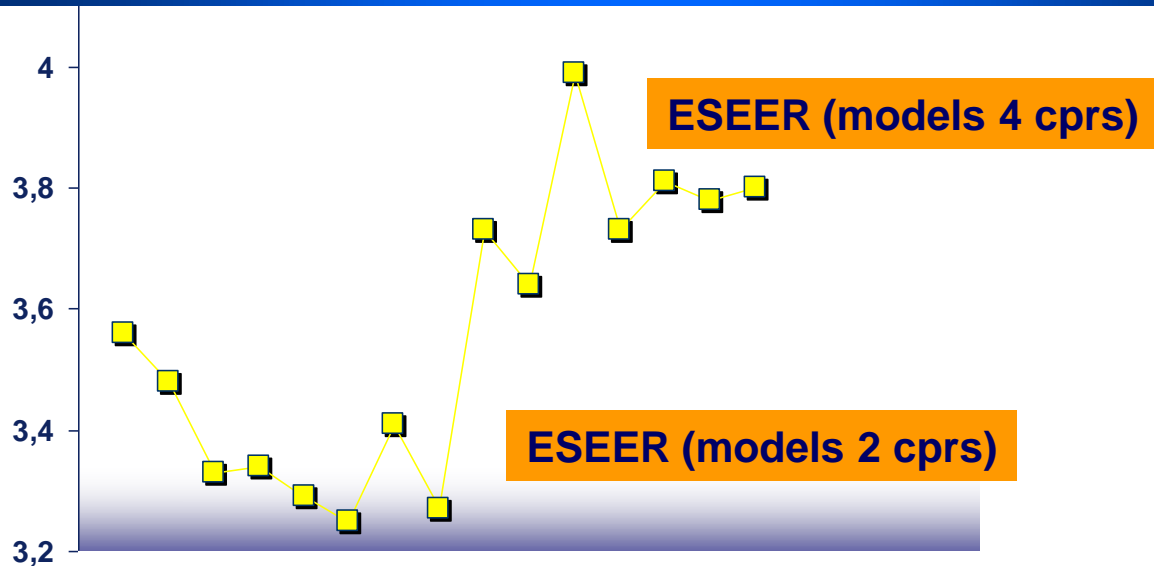


$$\text{ESEER} = (3 \times \text{EER}_{100\%} + 33 \times \text{EER}_{75\%} + 41 \times \text{EER}_{50\%} + 23 \times \text{EER}_{25\%}) / 100$$

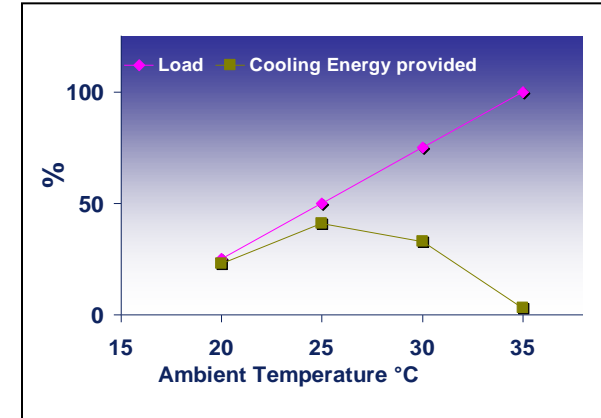
...or IPLV (integrated part load value)

$$\text{IPLV} = (1 \times \text{EER}_{100\%} + 42 \times \text{EER}_{75\%} + 45 \times \text{EER}_{50\%} + 12 \times \text{EER}_{25\%}) / 100$$

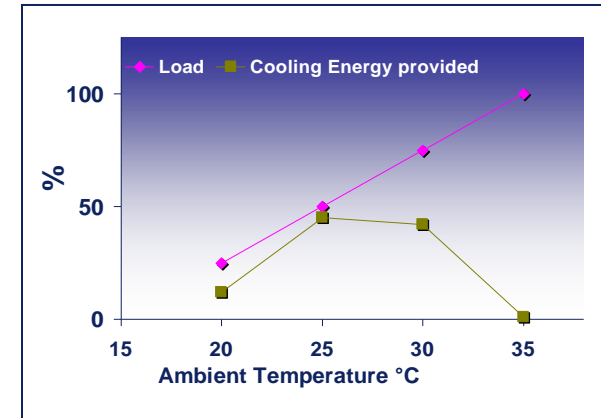
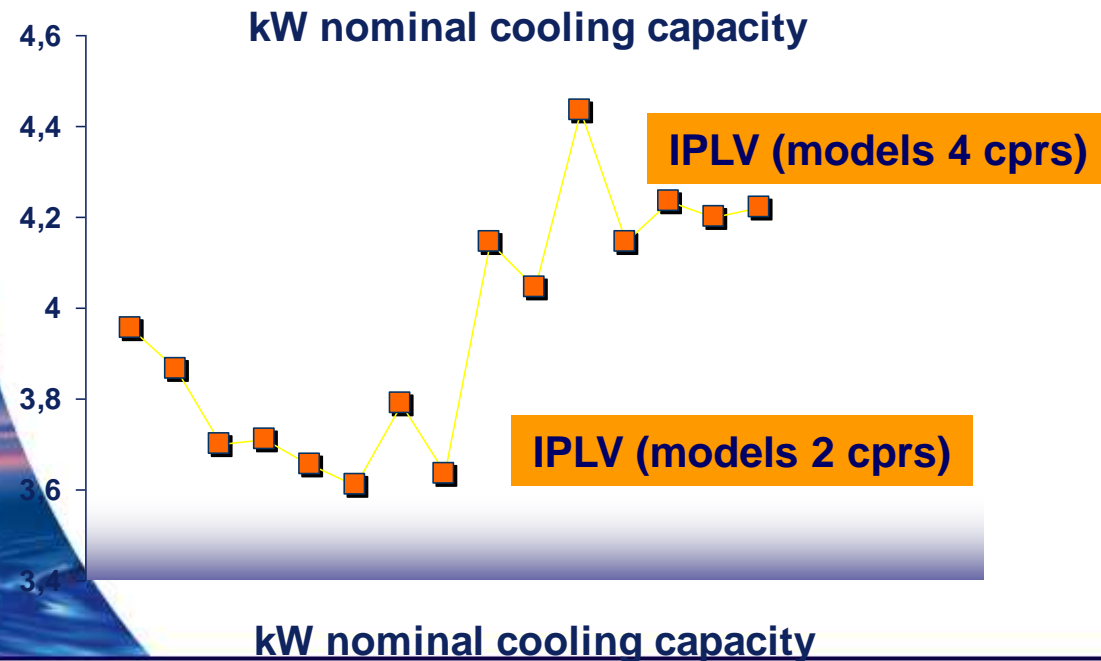
The Q-Pack world: 70 – 320 kW



ESEER



IPLV



kW nominal cooling capacity



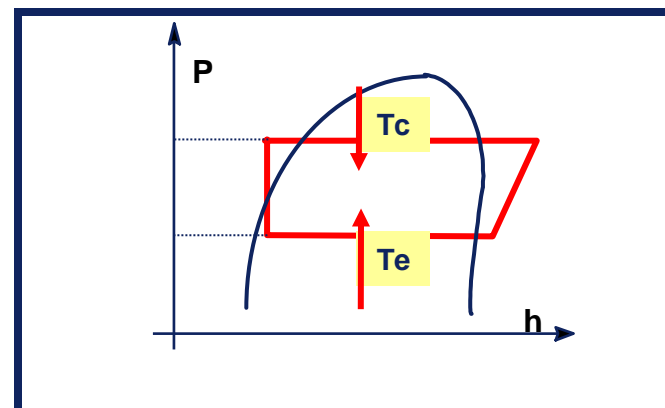
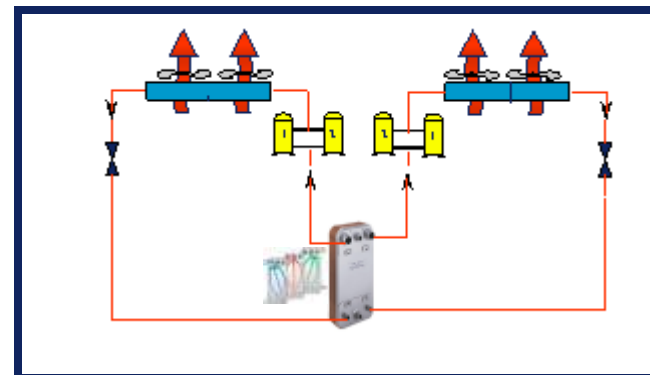
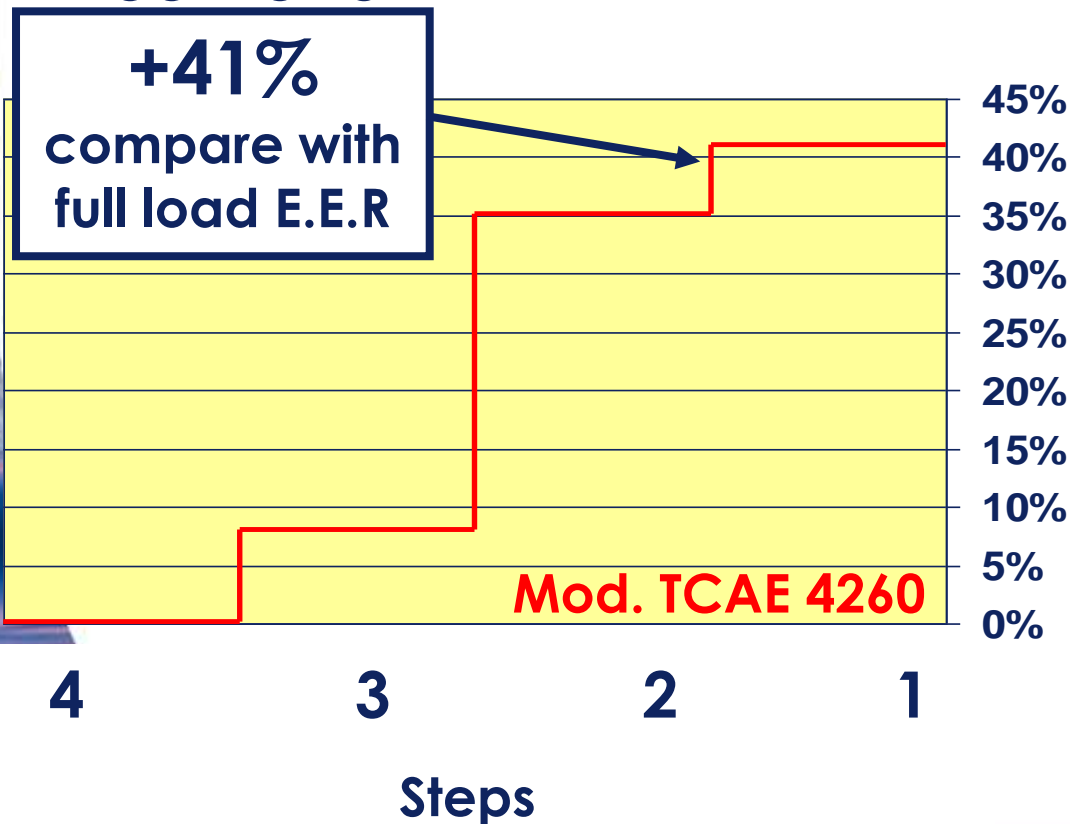
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PLUS: energy efficiency at partial load

- Range 4 compressors

4155-4320



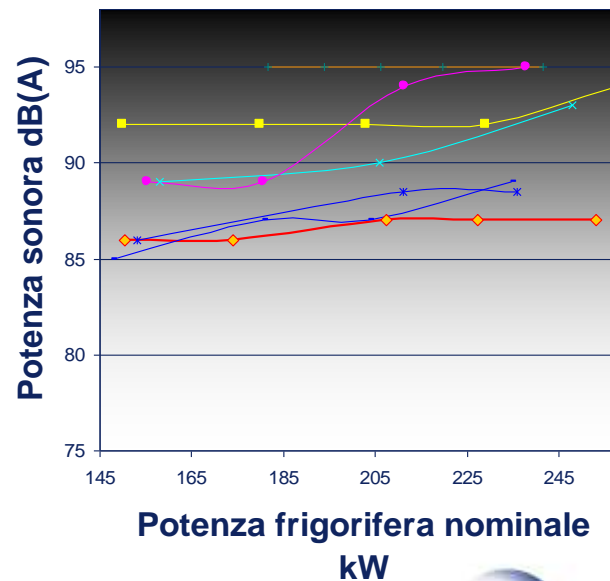
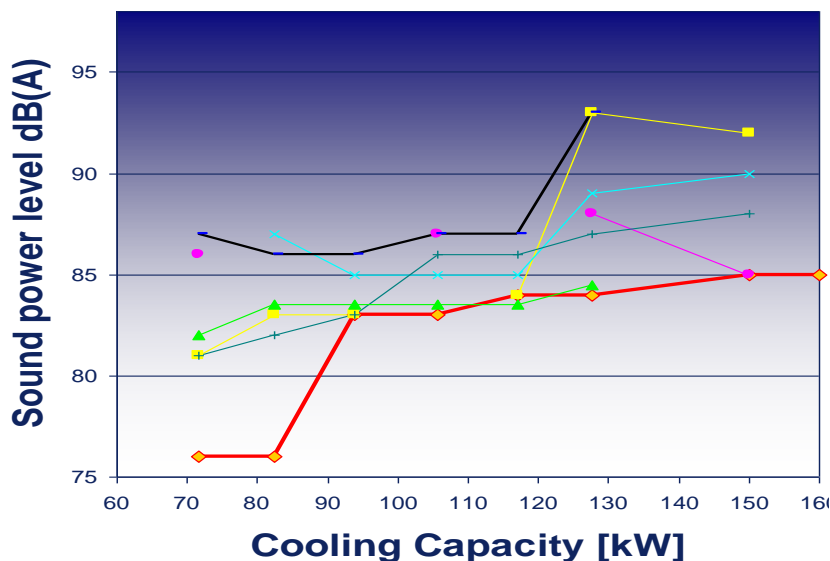
E.E.R. increase

The Q-Pack world: 70 – 320 kW



PLUS: low noise emissions

Thanks to layout, insulation of technical compressors case and independent fan-row management is guaranteed the low noise emissions (in particular at partial load)



The Q-Pack world: 70 – 320 kW

PLUS: accessories

T&P version (tank from 380 up to 1100 liters)

Pump version with single or double pumps

Recovery and DS in all versions

Victaulic connections as standard

Soft starter / Power factor correction capacitors



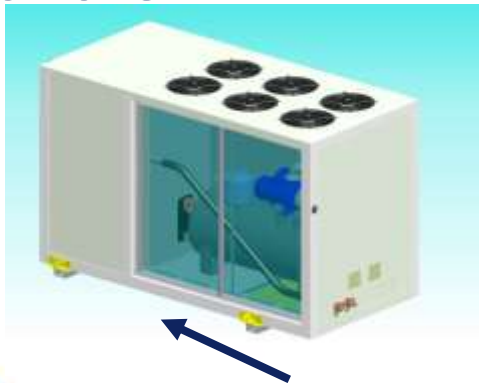
Buffer tanks:

380 L mod.: 70 – 80 kW

420 L mod.: 90 – 110 kW

550 L mod.: 120 – 170 kW

1100 L mod.: 200 – 320 kW



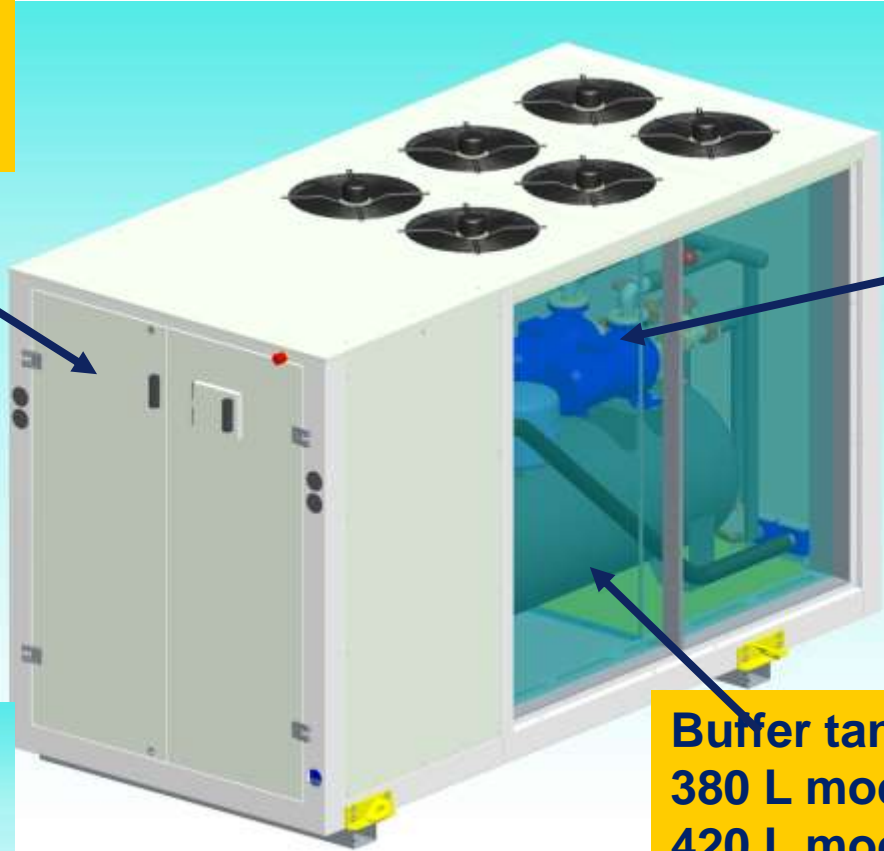
Victaulic hidraulic connections (as standard)

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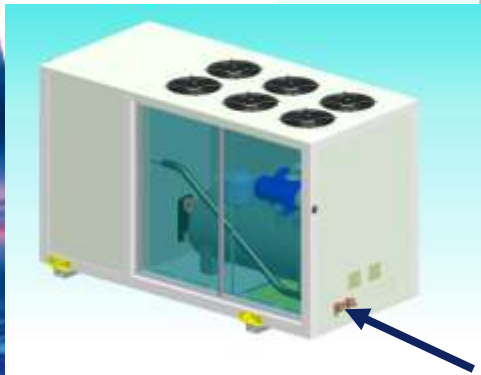


Electrical board protected by a double panel

Wide range of hydraulic options are now available: pumping group with single or double pump



Buffer tanks:
380 L mod.: 70 – 80 kW
420 L mod.: 90 – 110 kW
550 L mod.: 120 – 170 kW
1100 L mod.: 200 – 320 kW



Victaulic hydraulic connections (as standard)

WHAT'S EXP

EXP is a 4^o generation heat pump to satisfy the requests of 2 and 4 pipes system with only one unit



HOW EXP WORKS

- ✚ Two operating mode
 - AUTOMATIC
 - SELECT
- AUTOMATIC automatically allows the simultaneous or independent production of chilled and hot water.
- SELECT : EXP supplies hot water from the main exchanger and/or hot water from the heat recovery exchanger according to system's requests and user's priority.



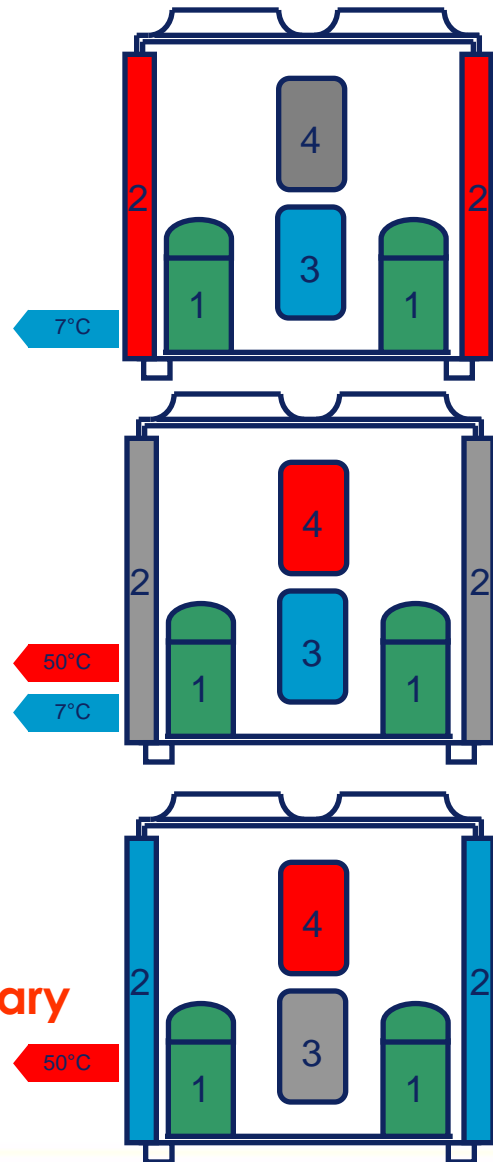
HOW EXP WORKS

AUTOMATIC

A1 – Chilled water from main exchanger

A2 – Chilled water from main exchanger and hot water from secondary exchanger

A3 – Hot water from secondary exchanger



4 scroll compressors (1)

Air cooled condensers (2)

Main heat exchanger (3)

Secondary heat recovery (4)

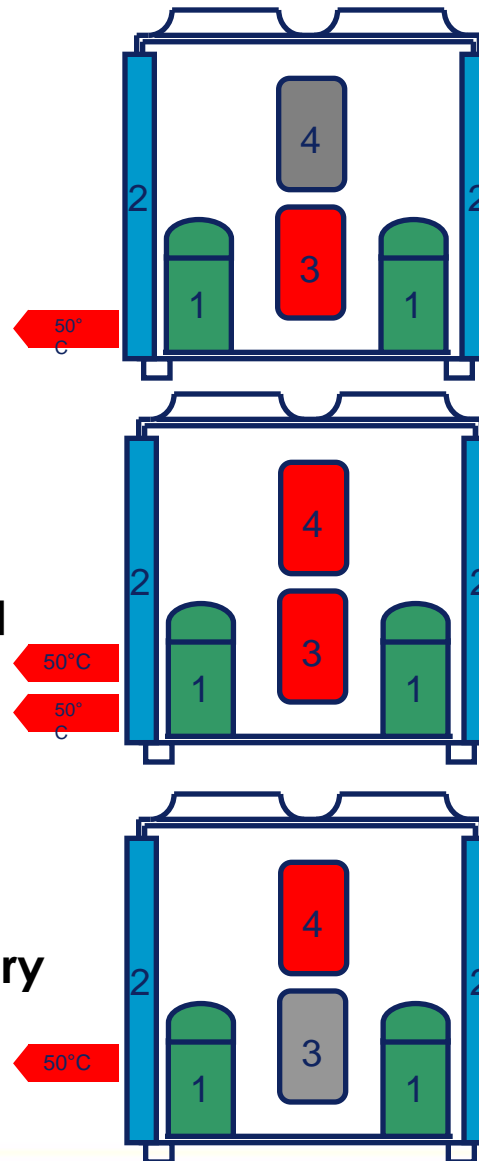
HOW EXP WORKS

■ SELECT

S1 – Hot water from main exchanger

S1/S2 – hot water from main and secondary exchanger

S2 – Hot water from secondary exchanger



4 scroll compressors (1)

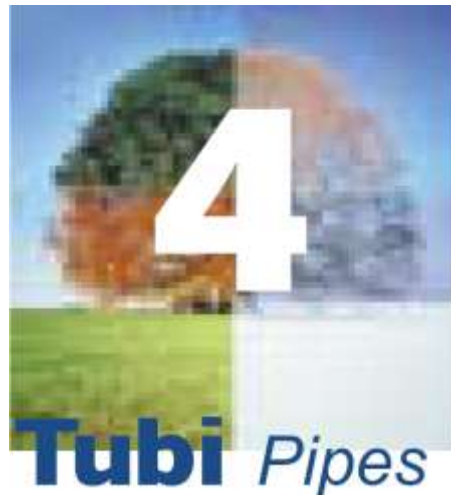
Air cooled condensers (2)

Main heat exchanger (3)

Secondary heat recovery (4)

APPLICATIONS

- Automatic and Select mode can satisfy the 4 or 2-pipes-system requests with only one unit



With ever more frequency, modern HVAC installations require the simultaneous production of hot and chilled water. This can happen with more frequency due to:

- + The development of buildings thermal insulation
- + The increased internal loads (CED, WEB,..)
- + Lighting systems
- + The presence of big large windowed areas
- + The increasing importance given to IAQ (Indoor Air Quality), that require the use of air-conditioning systems throughout the year

APPLICATIONS



■ AUTOMATIC – 4 PIPES

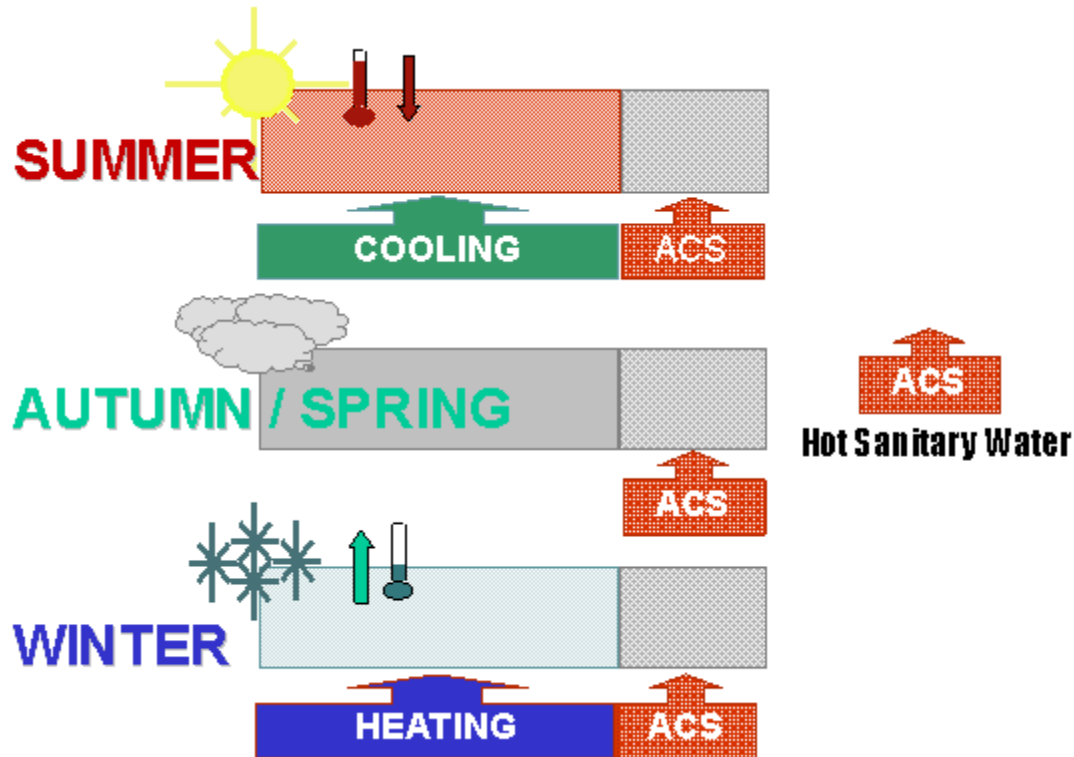


The need to cool and heat at the same time different rooms of a modern office building is a typical application for 4-pipe system where EXP in Automatic mode finds its natural place.

APPLICATIONS



Air conditioning and producing hot sanitary water in 2-pipes-systems is a need of hotels, hospitals, fitness centers and accomodation facilities.



APPLICATIONS

Automatic



cooling



Hot sanitary water



- **AUTOMATIC – 2 pipes**
Air conditioning and hot sanitary water production

Select



Heating



Hot sanitary water



- **SELECT – 2 PIPES**
Heating and hot sanitary water production

✚ Typical applications : Hotel, Hospital

PRODUCTS RANGE

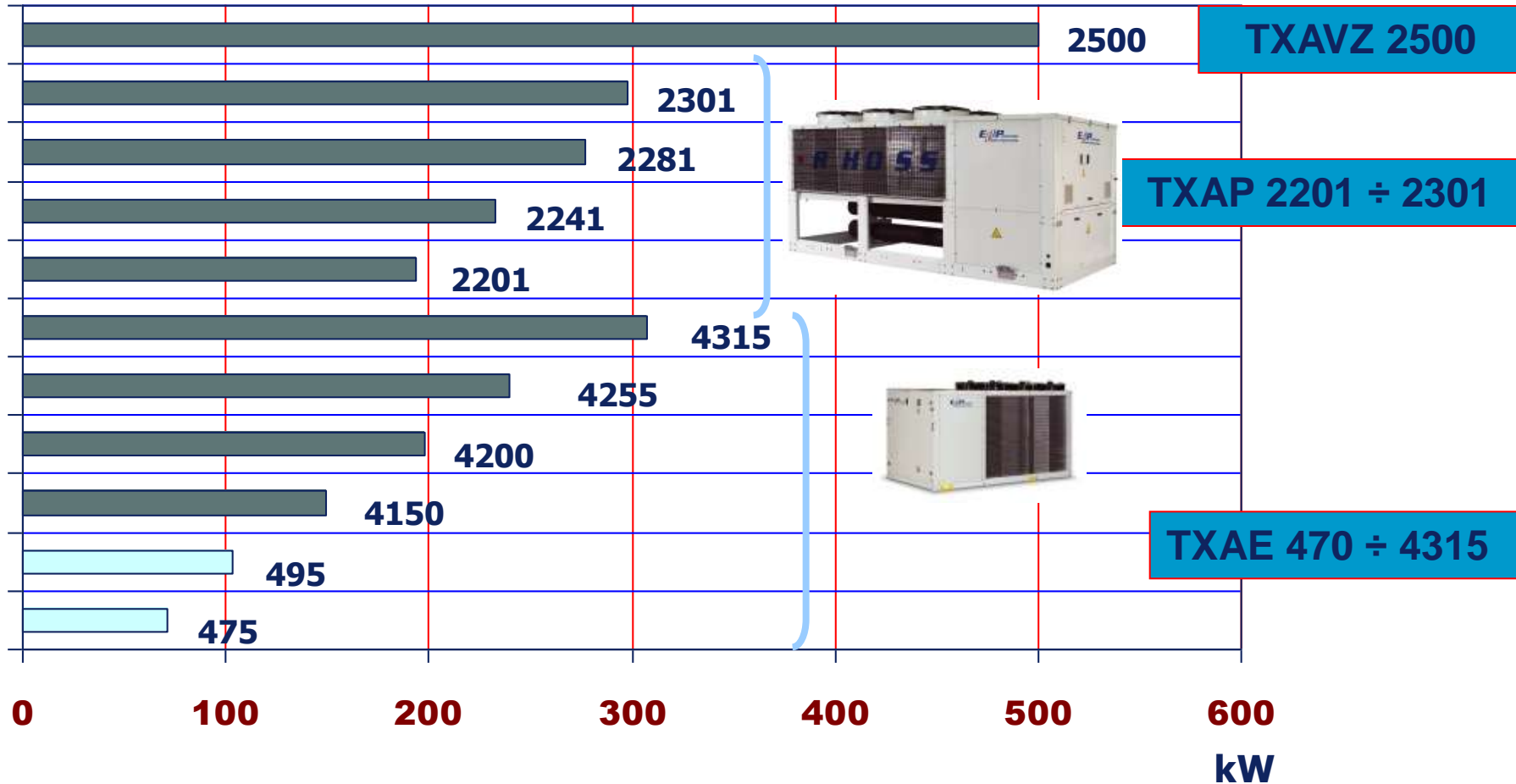
STANDARD

- + TXAP-TXAPS 2201÷2301 – Polyvalent unit with semihermetic compressor
- + TXAE-TXAES 475÷4150 – Polyvalent unit with hermetic scroll compressor

SPECIAL ESECUTION

- + TXAE-TXAES 4200-4255-4315 – Polyvalent unit with hermetic scroll compressor (from 200 up to 315 kW)
- + TXAVZ 2500 – Polyvalent unit with semihermetic screw compressor

PRODUCTS RANGE



Nominal cooling capacity

(water 7°C/12°C, ambient air temperature 35°C)

