

PRECISE ATTENTION TO COMFORT AND NOISE EMISSIONS



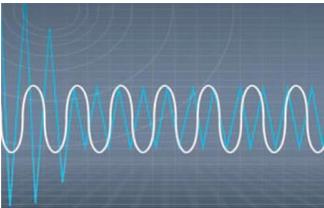
To guarantee ideal temperature, humidity and air quality go together with the need to reduce noise emissions and vibrations. This is a decisive aspect in order to ensure adequate comfort, as well as to comply with noise emission regulations.

VERY STRICT ENERGY EFFICIENCY AND SUSTAINABILITY REQUIREMENTS



Reduced initial investment and running costs, compliance with increasingly strict energy consumption and environmental impact regulations, are becoming more and more crucial factors not only for real estate valuation, but also in deciding if the project should proceed.

INFRASTRUCTURE AND TECHNICAL SPACE OPTIMIZATION



The real estate value, especially with expensive, prestigious investment in urban environments may be determined also by the quality of the electrical system installed. Hence, choices that do not overload electrical infrastructure are more and more desirable.

UNBEATABLE EFFICIENCY AT PART LOAD

E.S.E.E.R.
5.87

At partial load, TECS2 units are far more efficient than traditional scroll/screw units, with ESEER values up to 60% higher.

Running cost savings are evident and consistent, especially when all year-round operation is required.

SIMPLIFIED LOGISTICS



Turbocor compressors feature an extremely advantageous capacity / weight ratio. The considerable weight reduction allows simplified site operations.

EXTREMELY SILENT OPERATION



Thanks to the adoption of the centrifugal compressor with magnetic levitation, and, in air source units, of fans with reduced noise emission, TECS2 sound power and pressure are the lowest on the market, without peaks in any of the sound frequency spectrum. Vibrations are dramatically reduced as well, with considerable advantages in terms of transmission to the building

LOW IN RUSH CURRENT



A further benefit is the very low inrush current, obtained thanks to the characteristics of the compressor and to the “inverter” starting. This is a crucial factor, as it allows a more favorable selection of the protection devices to be placed on the power supply between transformer and unit.

CENTRIFUGAL COMPRESSOR WITH MAGNETIC LEVITATION



This is a miniaturized, highly innovative compressor, with magnetic levitation device and digital control of the rotor’s speed. The efficiencies achieved are far superior to those with traditional volumetric compressors.

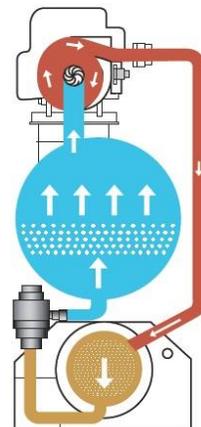
Inverter controls with inlet guide vanes extend the compressor’s operational limit: building requirements are precisely met, even at very low conditions.

A solution that, besides the reduction of weight and dimensions with respect to traditional compressors, permits the compressor to operate completely without oil allowing an improvement of its performance, through the heat exchange process. Vibrations are virtually eliminated together with possible jolts due to inrush current in the startup phase: the unit’s wear is minimized.

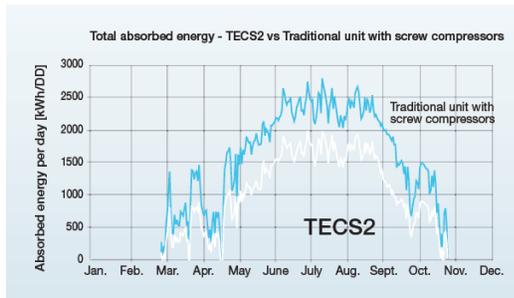
FLOODED EVAPORATOR

The technology of flooded evaporator further enhanced the absence of oil in the refrigerant circuits, realises a substantial increase of cooling capacity and an optimization in the compressor’s operational mode. The unit’s overall efficiency further increases thanks to:

Compression ratio reduction thanks to a smaller approach Theoretic
 absence of refrigerant superheat at the compressor’s suction stage
 Minimization of refrigerant pressure drop on the evaporator’s shell side
 Optimization of the exchange surfaces, also at part loads, thanks to the complete control of the refrigerant level in all operating conditions. To comply with the security requirements of the “F-gas Regulation” (CE 842//2006), factory calibrated leak detection systems are available upon request.



ELECTRONIC VALVE



The electronic valve is adopted to grant the ideal operation of the evaporator in all conditions. In the air cooled unit the control is made with a precise measurement of the subcooling in the condenser coil. The fast processing of the acquired data allow a quick, fluctuation-free regulation, and therefore a highly accurate adjustment to the swings of load and ambient conditions.

EC FANS

On TECS2 units, the technology of EC electronic switching fans is introduced, as standard on SL-CA-E versions and optional on the other models.

The superior energy efficiency of the DC brushless motor further improves the chiller's performance, that reaches the highest ESEER level in the market. More advantages are low inrush current and the ability to continuously modulate the rotational speed with an immediate gain in both silence and energy consumption