

# TECS2 HFO 0351 - 1053

High efficiency chiller, air source for outdoor installation  
339-1017 kW



## Version

SL-CA-E Super Low noise version, Premium efficiency, Class A enhanced (based on Eurovent classification)

## Configurations

- Basic function

## Features

### HFO REFRIGERANT

4th generation refrigerant HFO 1234ze, with negligible greenhouse effect in comparison with traditional HFC refrigerants (Global Warming Potential GWP of HFO 1234ze < 1, GWP of R134a = 1300 as per IPCC rev. 5th) and zero impact on the ozone layer.

### VERY HIGH EFFICIENCY

Very high efficiency at full and partial load, to top market levels, thanks to adopted technological solutions: large capacity modulation and expanded exchanger, offering minimum running costs of the unit in real working conditions.

### EXTREMELY SILENT OPERATION

The best compromise between silence and efficiency, as result of a systematic design oriented to minimize the noise level.

### LOW INRUSH CURRENTS

Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

## Accessory

- VPF (Variable Primary Flow) kit: variable flow pumps with on board regulation
- Hydronic group
- Set-up for remote connectivity with ModBus/Echelon protocol cards

Outdoor unit for the production of chilled water featuring oil-free centrifugal compressor, with refrigerant HFO (1234-ze), axial-flow fans, condensing coil with copper tubes and aluminium fins, shell and tube flooded evaporator and electronic regulation valve. Base and supporting structure and panels are of galvanized epoxy powder coated steel with increased thickness. Flexible and reliable unit; it easily adapts itself to different thermal load conditions thanks to the precise thermoregulation together with the use of inverter technology. The compressor is radically innovative: magnetic bearings and digital rotor speed control allow partial load efficiency levels to be reached that were hither to impossible.

## Controls

### W3000TE

The brand new W3000TE controller offers advanced functions and algorithms. The large format keyboard and the wide LCD display favour an easy and safe access to the machine setup and a complete view of unit's status. The assessment and intervention on the unit is managed through a multi-level menu, with selectable user's language. The led icons immediately show the operating status of the circuits, as well as of the fans and of the water pumps (if present). An optional extra is the touch screen interface: 7.0" WVGA colour display with adjustable LED backlight and front USB port. The touch screen technology allows intuitive navigation between the various screens, safe access to the data with a three-level password protection as well as the graphic display of the performance of some monitored measurements.

The diagnostics comprises a complete alarm management system, with "black box" (via PC) and alarm log functions (via display or also PC) for a better analysis of the unit performance.

For the systems made of several units, the adjustment of the resources is performed by optional proprietary devices.

Consumption metering and performance measurement are possible as well. Supervision can be easily developed via proprietary devices or the integration in third party systems by means of the most common protocols as ModBus, Bacnet-over-IP, Echelon LonWorks, Bacnet MS/TP protocols.

Compatibility with the remote keyboard managing up to 8 units.

The presence of the programmable timer allows the creation of an operating profile containing up to 4 typical days and 10 time bands.

The control is characterized by the continuous modulation of the unit capacity, based on PID algorithms and referring to the water delivery temperature.

Optionally (VPF package), capacity modulation can be integrated with hydraulic flow modulation, thanks to inverter-driven pumps and to specific resources for the hydraulic circuit.





TECS2 HFO / SL-CA-E			0351	0702	1053
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50
<b>PERFORMANCE</b>					
<b>COOLING ONLY (GROSS VALUE)</b>					
Cooling capacity	(1)	kW	339	679	1017
Total power input	(1)	kW	96,3	192	282
EER	(1)	kW/kW	3,52	3,53	3,60
ESEER	(1)	kW/kW	5,56	5,96	6,00
<b>COOLING ONLY (EN14511 VALUE)</b>					
Cooling capacity	(1)(2)	kW	338	677	1014
EER	(1)(2)	kW/kW	3,48	3,50	3,55
ESEER	(1)(2)	kW/kW	5,36	5,75	5,64
Cooling energy class			A	A	A
<b>ENERGY EFFICIENCY</b>					
<b>SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)</b>					
<b>Ambient refrigeration</b>					
Prated,c	(7)	kW	338	677	1014
SEER	(7)(8)		5,65	5,99	5,89
Performance ηs	(7)(9)	%	223	237	233
<b>EXCHANGERS</b>					
<b>HEAT EXCHANGER USER SIDE IN REFRIGERATION</b>					
Water flow	(1)	l/s	16,22	32,45	48,66
Pressure drop	(1)	kPa	27,4	23,1	45,7
<b>REFRIGERANT CIRCUIT</b>					
Compressors nr.		N°	1	2	3
No. Circuits		N°	1	1	2
Refrigerant charge		kg	150	475	550
<b>NOISE LEVEL</b>					
Sound Pressure	(3)	dB(A)	58	59	60
Sound power level in cooling	(4)(5)	dB(A)	90	92	93
<b>SIZE AND WEIGHT</b>					
A	(6)	mm	4000	7900	9700
B	(6)	mm	2260	2260	2260
H	(6)	mm	2430	2430	2430
Operating weight	(6)	kg	3130	6450	7610

Notes:

- 1 Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
  - 2 Values in compliance with EN14511-3:2013.
  - 3 Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
  - 4 Sound power on the basis of measurements made in compliance with ISO 9614.
  - 5 Sound power level in cooling, outdoors.
  - 6 Unit in standard configuration/execution, without optional accessories.
  - 7 Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]
  - 8 Seasonal space heating energy index
  - 9 Seasonal energy efficiency of the space cooling
- The units highlighted in this publication contain HFC HFO-1234ze [GWP<sub>100</sub> 7] fluorinated greenhouse gases.  
 Certified data in EUROVENT

