

High efficiency water cooled chiller
340-1364 kW

**Version**

HC	High Condensing
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Configurations

-	Basic function
H	Function with heat pump, reversible on hydraulic side

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.

HEAT PUMP FUNCTION

Heat pump function water circuit side reversal

EXTREMELY SILENT OPERATION

Extremely silent operation in line with the best on the market, and highly reduced vibrations

LOW INRUSH CURRENTS

Reduced breakaway starting currents thanks to the revolutionary centrifugal compressor.

Accessory

- Integral acoustical enclosure (type base or plus)
- VPF (Variable Primary Flow) system
- Several devices for condensation's control
- Leak detector
- Set-up for remote connectivity with ModBus/Echelon protocol cards

Indoor unit for the production of chilled water featuring centrifugal compressors oil-free, with refrigerant HFO (1234-ze), electronic regulation valve, shell and tube condenser and shell and tube flooded evaporator.

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-W HFO / HC			0351	0712	1053	1414
Power supply	V/ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE						
COOLING ONLY (GROSS VALUE)						
Cooling capacity	(1)	kW	340	676	1015	1364
Total power input	(1)	kW	63,0	127	190	251
EER	(1)	kW/kW	5,39	5,34	5,35	5,43
ESEER	(1)	kW/kW	9,01	9,40	9,32	9,51
COOLING ONLY (EN14511 VALUE)						
Cooling capacity	(1)(2)	kW	339	674	1013	1361
EER	(1)(2)	kW/kW	5,18	5,17	5,19	5,29
ESEER	(1)(2)	kW/kW	7,83	8,12	8,22	8,50
Cooling energy class			A	A	A	A
ENERGY EFFICIENCY						
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)						
Ambient refrigeration						
Prated,c	(7)	kW	339	674	1013	1361
SEER	(7)(8)		8,20	8,22	8,36	8,76
Performance ηs	(7)(9)	%	320	321	326	342
EXCHANGERS						
HEAT EXCHANGER USER SIDE IN REFRIGERATION						
Water flow	(1)	l/s	16,24	32,33	48,54	65,22
Pressure drop	(1)	kPa	32,9	29,0	31,1	33,1
HEAT EXCHANGER SOURCE SIDE IN REFRIGERATION						
Water flow	(1)	l/s	19,19	38,25	57,42	76,97
Pressure drop	(1)	kPa	40,8	39,6	32,0	23,0
REFRIGERANT CIRCUIT						
Compressors nr.		N°	1	2	3	4
No. Circuits		N°	1	1	1	1
Refrigerant charge		kg	95,0	230	360	390
NOISE LEVEL						
Sound Pressure	(3)	dB(A)	74	76	77	78
Sound power level in cooling	(4)(5)	dB(A)	92	94	96	97
SIZE AND WEIGHT						
A	(6)	mm	2990	3490	4990	5450
B	(6)	mm	950	1300	1300	1300
H	(6)	mm	1900	1800	1800	1990
Operating weight	(6)	kg	1570	3010	4380	5240

Notes:

- Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger water (in/out) 30°C/35°C.
 - Values in compliance with EN14511-3:2013.
 - Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
 - Sound power on the basis of measurements made in compliance with ISO 9614.
 - Sound power level in cooling, indoors.
 - Unit in standard configuration/execution, without optional accessories.
 - Seasonal energy efficiency of the cooling environment [REGULATION (EU) N. 2016/2281]
 - Seasonal space heating energy index
 - Seasonal energy efficiency of the space cooling
- The units highlighted in this publication contain HFC HFO-1234ze [GWP₁₀₀ 7] fluorinated greenhouse gases.
Certified data in EUROVENT

