



TCHVBZ 2561 HE

Constructional characteristics

- Compact load bearing structure made of galvanized steel sections and polyester powder-coated (WHITE RAL 9018).
- Semi-hermetic screw compressors with high energy efficiency, specifically designed to work with R134a gas. The compressor startup is part-winding or star-triangle type with starting current limited by equalizer and load stepping, complete with integral protection and crankcase heater. The compressors are also complete with intercept valve on the refrigerant outlet pipe.
- User side shell and tube dry expansion heat exchanger with counter-flow thermal exchange. It is made of carbon steel with inner rifled copper pipes, with water differential pressure switch, air bleed valve, water discharge cock, Victaulic type water connections and insulation of closed cell expanded polyurethane rubber with anti U.V. protection layer.
- Condenser shell of shell-and-tube type in carbon steel with copper pipes with integral finning, complete with high pressure safety valve and service connection with cock on refrigerant high pressure circuit.
- 5" female threaded water connections.
- Refrigerant circuit is made with mild copper tubes and silver alloy welding or with A106 steel tubes, and is complete with: cartridge filter-drier, charge connections, manual reset high pressure switch, indicator of gas passage and any presence of humidity, electronic expansion valve, intercept valve on the liquid line, safety valve in the high pressure section, suction line insulation of closed cell expanded polyurethane rubber with anti U.V. protection layer.
- Refrigerant high and low pressure gauge for each refrigeration circuit.
- Refrigerant charge of eco-friendly R134a.

Electrical panel

- Electrical panel complying with IEC standards, waterproof box complete with:
 - electrical wiring configured for power supply 400V-3ph-50Hz;
 - transformer for auxiliary circuit;
 - auxiliary power supply: 230V-1ph-50Hz;
 - control power supply: 24V-1ph-50Hz;
 - phase monitoring to protect the compressor;
 - power contactors;
 - remotable controls: remote ON/OFF, dual set point (DSP accessory);
 - remotable machine controls: compressor(s) operation indicator light, general lockout indicator light;
 - general isolator with door interlock on the power supply;
 - automatic protection switch on auxiliary power circuit;
 - overload fuses for each compressor (the version with magneto-thermal switches for the protection of each compressor is optional);
 - fuses for auxiliary circuit.
- Programmable microprocessor electronic control board, managed by keyboard inserted in machine, remotable up to 1,000 m.

This electronic board performs the following functions:

 - For the standard unit, adjustment and control are made on evaporator inlet temperature (with the optional accessory CCL - stepless capacity control - chiller are managed through the evaporator outlet water temperature);
 - management of the safety delays; hour run meter of each compressor; automatic inversion of compressor operation sequence; circulation or user service pump (on both the evaporator and condenser side); electronic anti-freeze protection; of the load steps, of functions that integrate the workings of individual devices fitted to the unit;
 - management of the electronic expansion valve (EEV) with possibility to read and display suction temperature, evaporation pressure, overheating and valve opening status.
 - LCD display of programmed set points, of inlet/outlet water temperatures, of the condensing pressures, of alarms;
- Multilanguage management (Italian, English, French, German, Spanish) of display information.
- Alarm history management. The following is memorized for each alarm (only if the KSC accessory is present):
 - date and time of activation;
 - alarm code and description;
 - the water inlet/outlet temperature values when the alarm intervened;
 - condensation pressure values at the time of the alarm;
 - alarm delay time from the switch-on of the connected device;



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- compressor status when the alarm intervened.
- self-diagnosis with continuous monitoring of the machine's operational status.
- Advanced functions:
 - configured for serial connection via RS 485 port for communication with building automation, centralised systems and supervision networks;
 - management of time bands and operation parameters with the possibility of daily/weekly programming;
 - check up and verification of programmed maintenance status;
 - computer-aided testing of the units.

Version

B - High energy efficiency standard version



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TECHNICAL DATA

Design conditions

		Cooling
Evaporator inlet water temperature	°C	12,2
Evaporator outlet water temperature	°C	6,7
Condenser inlet water temperature	°C	31,1
Condenser outlet water temperature	°C	36,7

Main data

Cooling capacity	kW	551,9
Total power input	kW	116,2
ESEER'		5,99

Main features

Refrigerant	Type	R134a
Compressors	Type	Screw compressors
N° Compressors	n°	2
N° Circuits	n°	2
Capacity steps	n°	6
Sound power level (*)	dB(A)	99
Sound pressure level (**)	dB(A)	81

Evaporator

Evaporator water flow	m³/h	86,1
Evaporator pressure drop	kPa	31
Fluid		Water
Fouling factor	m²°C/kW	0,035

Condenser

Condenser water flow	m³/h	103,6
Condenser pressure drop	kPa	24
Fluid		Water
Fouling factor	m²°C/kW	0,035



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Electrical data

Power input (Tot)	kW	116,2
Main power supply	V-ph-Hz	400-3-50
Auxiliary power supply	V-ph-Hz	230-1-50
Nominal current	A	184
Max. current	A	258
Starting current	A	568

Dimensions and weight

Width	mm	1300
Height	mm	1960
Length	mm	4070
Weight	kg	3297

(*) Standard reference ISO 3744

(**) Measured in free field conditions with Q=2 at 1 m

(*) ESEER (European Seasonal EER) - European seasonal energy efficiency

ATTENTION! Due to different performance calculation methods

the output of the present selection program could slightly be discordant with the technical documentation. In this case consider the selection program data



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