UP TO DATE CHILLER SELECTION

User	Ismail Polat (UNTES)	**Date**	27.05.2025
Reference:			

SELECTİON

Family	EasyPack
	TCAEBY 269-2112
Model	TCAEBY 269 ASP2
Webcode	EAS01

The images are for reference purposes only and may not represent exactly the models or the equipment subject of this document.
This unit is certified in the LCPHP Programme of Eurovent Certita Certification, with its allowed component options as per the TCR document in force at all the conditions with a fouling factor of 0 m2K/kW (except ISEER) and with no antifreeze solution (except MT and LT Process Chiller applications when certified).
The certified standard performances and the certified software tool version can be verified in www.eurovent-certification.com

CONSTRUCTİON FEATURES

Packaged air-cooled water chillers and R410A refrigerant. Series with hermetic Scroll compressors.
B - Standard version
ASP2 - Installation with increased head pump and storage tank. (230 l)

POWER SUPPLY: 400V/3PH+N/50HZ
TYPE OF COIL: BRA-COPPER/ALLUMINIUM COIL
CONDENSING CONTROL: FI15-CONDENSING CONTROL
FINISH ELECTRICAL BOX: TQE - RAIN PROT.EL.BOX
EXCHANGER: PA-PLATE EXCHANGER
PRESSURE VISUALISATION DISPLAY: SPS-HIGH-LOW PRESSURE DISPLAY
PUMPING GROUP MANAGEMENT: VPF_R

o Load-bearing structure and panels in galvanised and RAL 9018 painted sheet metal; galvanised steel sheet metal base.
o The structure consists of two sections:
• technical compartment that houses the compressors, electrical panel and main components of the cooling circuit;
• aeraulic circuit to house the heat exchange coils and motor-driven fans
o Scroll rotary hermetic compressors complete with internal thermal protection and resistance in the crankcase that is automatically activated when the unit stops (as long as the unit is electrically powered).
o Duly insulated stainless steel brazed plate heat exchanger on the water circuit side (tube and shell heat exchanger - STE option).
o Air side heat exchanger consisting of MCHX microchannel battery for TCAETY-TCAESY-TCAEQY chillers and copper tubes and aluminum fins for TCAEBY chillers.
o Axial electric fans with external rotor, equipped with internal thermal protection and complete with protection nets set up in single row or double row depending on the models.
o The B-Base version the proportional electronic device (FI10) is standard, for pressure and continuous fan rotation speed adjustment up to an outdoor air temperature of -10°C.
o Victaulic-type hydraulic connections.
o Differential pressure switch to protect the unit from any interruptions in the water flow.
o Cooling circuit built with annealed copper tube (EN 12735-1-2) complete with: cartridge dryer filter, load connections, safety pressure switch on the high pressure side with manual reset, LP and HP pressure transducer, safety valve/s, valve upstream of the filter, liquid indicator, insulation of the inlet line, thermostatic expansion valve or electronic expansion valve (accessory), cycle inversion valve and liquid receiver, non-return valve, gas separator on intake to the compressors.
o Unit with protection rating IP24.
o Control with AdaptiveFunction Plus function.
o The unit is supplied filled with refrigerant fluid R410A.

ELECTRİCAL PANEL
o Electrical panel (IP54) can be accessed by opening the front panel, in compliance with IEC Standards in force, fitted with opening and closing via specific tool.
o Complete with:
• electrical cables prepared for 400-3ph-50Hz power supply voltage;
• numbered electric cables;
• auxiliary circuit power supply 230V-1ph-50Hz drawn from the main power supply;
• 12V-1ph-50Hz control power supply drawn from the main power supply;
• power supply isolator master switch, complete with safety door locking device;

• automatic circuit breaker protection for compressors and motordriven fans;
• auxiliary circuit protection fuse;
• compressor power contactor;
• machine remote controls: ON/OFF summer-winter switch;
• machine remote controls: compressor operation light and main lock light.
○ Programmable microprocessor electronic board handled by the keyboard inserted in the machine.
○ This electronic board performs the following functions:
• regulation and control of the unit outlet water temperature settings; of the safety timers; of the circulation pump; of the system compressor and pump hour-run meter; dei cicli di sbrinamento; of the pressurised defrost cycles; electronic anti-freeze protection that is automatically activated when the unit is off; and of the functions that control the operations of the individual parts making up the unit;
• complete protection of the unit, possible shutdown and display of all the triggered alarms;
• compressor protection phase sequence monitor;
• unit protection against low or high phase power supply voltage;
• display of the programmed set points on the display; of the water in/out temperatures on the display; of the condensation and evaporation pressures; of the electrical voltage values in the three phases of the electrical circuit that powers the unit; of the alarms on the display; of the chiller;
• user interface menu;
• alarm code and description;
• alarms log management (menu protected by manufacturer password).
○ In particular, for every alarm, the following are memorised:
• date and time of intervention;
• in/out water temperature values as soon as the alarm was triggered;
• the evaporation and condensation pressure values at the time of the alarm.
• alarm delay time from the switch-on of the connected device;
• compressor status at the time of the alarm;
○ Advanced functions:
• Pump Energy Saving management;
• evaporator pump control KPE, contactor recovery pump command KPR and KPDS desuperheater Pump Control in the case of external supply of electric pumps (to be installed by the installer). For the unit to operate properly, activation of the recovery pump, by the installer, must be controlled by means of a specific discrete output provided in the board on the unit;
• High-Pressure Prevent function with forced cooling capacity partialisation for a high outdoor temperature (in summer mode);
• VPF_R control: (Variable Primary Flow by Untes in the main exchanger). VPF_R includes the temperature probs, the inverter management and the management software of the chiller;
• set up for serial connection (SS/KRS485, BE/KBE, BM/KBM, KUSB accessory);
• possibility of having a discrete input for double set-point remote management (DSP);
• possibility of having a discrete input for total recovery management (CRC100), the desuperheater (CDS) or for the production of domestic hot water by means of a 3-way diverter valve (CACS). In this case, there is the possibility of using a temperature probe instead of the discrete input (see specific section for more information);
• option of having domestic hot water diverter valve (VACS) control;
• possibility of having an analogue input for the shifting set-point via a 4-20mA remote signal (CS);
• management of time bands and operating parameters with the possibility of daily/weekly operating programs;
• check-up and verification of the scheduled maintenance status;
• computer-assisted machine testing;
• self-diagnosis with continuous monitoring of the machine operating status.
• MASTER/SLAVE management logic integrated into the single units (SIR - Integrated Sequencer) - See specific section for Explanation
○ Set-point regulation via the AdaptiveFunction Plus with two options:
• fixed set-point (Precision option);
• set-point slidinge (Economy options).

TECHNİCAL DATA - TCAEBY 269 ASP2

Design parameters

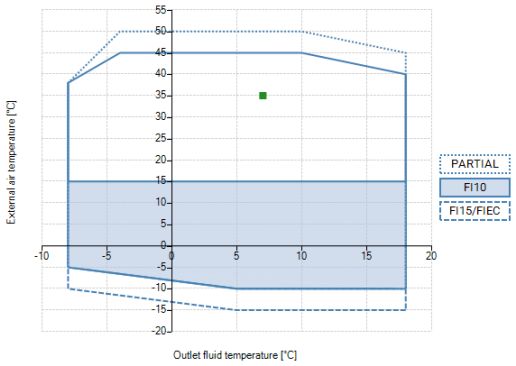
		Cooling
External air temperature	[°C]	35
External air humidity	[%]	50
User side exchanger inlet fluid temperature	[°C]	12
User side exchanger outlet fluid temperature	[°C]	7
Altitude	[m]	0
User side exchanger fluid		Propylene glycol 40%
Fouling factor	[m²°C/kW]	0,035

Performances

At design conditions:		Cooling
Capacity (gross)	[kW]	61,4
Absorbed power (gross)	[kW]	22,9
EER (gross)		2,68
Capacity (UNI EN 14511)	[kW]	62,4
EER (UNI EN 14511)		2,68

Functioning limits

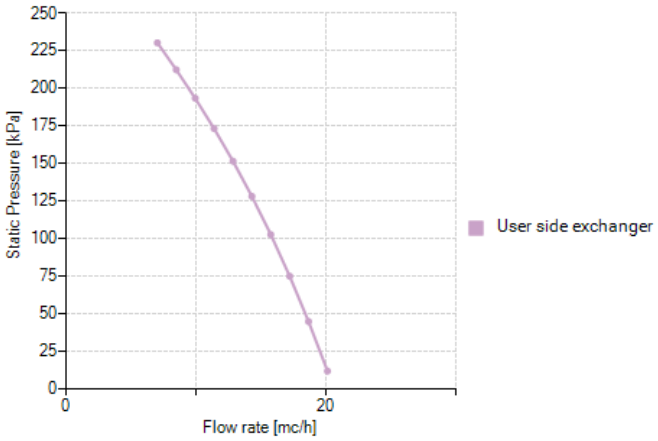
Cooling



User side exchanger

		Cooling
Flow rate	[m³/h]	11,4
Static Pressure	[kPa]	173

Static Pressure



Fans

Type:		Axial
Fan number		2
Consumption for each	[kW]	0,69
Air flow rate	[m³/h]	20800

Technical features

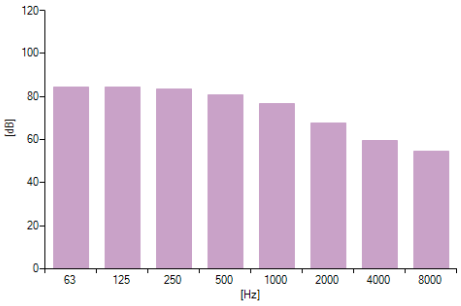
Refrigerant: (5)		R410A (A1)
Amount of refrigerant (6)	[kg]	11
Global Warming Potential (GWP)		2088
Equivalent CO_2	[ton]	22,97
Compressors		Scroll
Oil charge	[kg]	5.3
Number of compressors		2
Number of indipendent circuits		1
Number of compressor steps		3

Noise

Sound Power level (1)	[dBA]	82
Sound Pressure level (10m) (2)	[dBA]	50
Sound Pressure level (1m) (2)	[dBA]	64

(Performance given without pump)

[Hz]	[dB]
63	85
125	85
250	84
500	81
1000	77
2000	68
4000	60
8000	55



UP TO DATE

CHILLER SELECTION

Electrical data

		Cooling
Total electrical power (3)	[kW]	24,2
Pump nominal power	[kW]	2,2
Pump absorbed power	[kW]	1,38
Electrical power supply	[V-ph-Hz]	400-3+N-50
Nominal current (4)	[A]	43,7
Maximum current	[A]	52,8
Starting current	[A]	201,8
Starting current SFS	[A]	131,4

Size and weight

Length	[mm]	2650
Height	[mm]	1700
Depth	[mm]	1210
Empty weight (6)	[kg]	935
User side inlet/outlet connections	Ø	2" VIC

Partial loads

Cooling

Outlet fluid temperature	**°C**					7					
External air temperature	**°C**					35					
Load	**%**	**100**	**90**	**80**	**70**	**60**	**50**	**40**	**30**	**20**	**10**
Capacity (GROSS VALUE)	kW	61,4	55,2	49,1	43	36,8	30,7	24,5	18,4	12,3	6,1
EER (GROSS VALUE)		2,68	2,82	3,01	3,29	3,49	3,57	3,57	3,44	3,21	2,67
Capacity (UNI EN 14511)	kW	62,4	56,1	49,9	43,7	37,4	31,2	25	18,7	12,3	6,2
EER (UNI EN 14511)		2,68	2,82	3,01	3,29	3,47	3,54	3,52	3,39	3,16	2,62

Flow rate determined at full load condition

SEER (EN 14825)

with the following options		FI15		FI15
Application type	LOW	LOW	LOW	LOW
Application temperature [°C]	7	7	7	7
Tdesign [°C]	35	35	35	35
Water flow	FIXED	FIXED	VARIABLE	VARIABLE
Pdesignc [kW]	67,1	67,1	67,1	67,1
SEER	4,37	4,46	4,55	4,64
Seasonal efficiency (Reg.2016/2281 UE) [%]	172	175	179	183

Note

(1)	Standard reference UNI EN-ISO 9614
(2)	Standard reference UNI EN-ISO 3744
(3)	Total absorbed power at selected conditions (compressors, fans if present and pumps if selected)
(4)	Referred to nominal conditions: Ta: 35°C Tw:12/7°C
(5)	Regulated transport ADR UN 2857
(6)	The value is indicative and may be subject to change based on the selected accessories