



# HAEevo TECH



High efficiency air-cooled reversible process heat pumps with scroll compressors and refrigerant R410A.

Nominal cooling capacity 15,9 - 90,8 kW | Nominal heating capacity 13,6 - 83,8 kW



## High efficiency air-cooled reversible process heat pumps.

The HAEevo Tech reversible heat pumps are high efficiency units specifically designed for the wine industry, and generally for all the process applications that require high performance, continuous operation and reduction of management costs as for example: food plants drying and distillation, chemical plants, flexographic printing. The new heat exchangers with high surface, meet the scroll compressors and the use of R410A refrigerant, ensure high performance and meet the maximum energy saving, therefore the HAEevo Tech units Directive Erp - Ecodesign. The wide technical equipment and options available for the standard units has been greatly enhanced through important technical updates such as the introduction of new electronic control and the new version suitable for open storage tank systems that make the HAEevo Tech units very efficient and capable to meet the most varied application needs.



Cooling, conditioning, purifying.

## Standard features

- Refrigerant R410A;
- Hermetic Scroll compressors;
- High-efficiency finned coil evaporator with copper tubes and aluminum fins, installed inside the water storage tank;
- Axial fans with die-cast aluminum/plastic crescent-shaped blades;
- Oversized air-cooled condensers with copper tubes and aluminium fins protected by hydrophilic treatment;
- Condenser air filter standard;
- Double mechanical thermostatic expansion valve with external equalization;
- 4-way refrigerant cycle reversing valve;
- Storage tank (design pressure 6 barg) complete with pump, filling/drain valve, pressure gauge;
- Internal hydraulic bypass between the inlet and outlet connections;
- Electronic level sensor with water conductivity function;
- High and low refrigerant pressure switches;
- Refrigerant high pressure transducer;
- Parametric microprocessor control IC208CX;
- Protection rating: IP54;
- Phase monitor against phase reversal;
- Compressor crankcase heater;
- Free contacts available to the customer.

## Versions

- N Version (mod.031-351): basic version equipped with a carbon steel tank suitable for all industrial processes both with hydraulic circuits under pressure and atmospheric;
- Version with hydraulic circuit suitable for open storage tank systems (mod. 031-351): the pump sucks from the tank the process fluid to be cooled, making it circulate through the evaporator of the unit;
- Non Ferrous Version: suitable for operation with aggressive process fluids (evaporator in copper protected by a brass frame, storage tank in AISI 304).

## Benefits

- All the HAEevo TECH models meet the limits set by the directive ErP - Ecodesign;
- The unique evaporator-in-tank configuration has been specifically designed for process cooling applications. It allows high flow rates with low pressure drops and it is furthermore compatible with the presence of contaminated process fluids;
- R410A non ozone depleting refrigerant increase the performance thanks its outstanding heat conductivity;
- Scroll compressors ensure high efficiency, excellent performance and elevated energy savings;
- Extended operating limits (chiller mode): Tw in max = +35 °C; Tw out min = -10 °C; Tamb max = +46 °C; Tamb min = -5 °C;
- Extended operating limits (HP mode): Tw out max = +55 °C; Tw out min = +30 °C; Tamb max = +20 °C; Tamb min = -10 °C;
- The condenser aluminium fins are protected by hydrophilic treatment;
- The oversized hydraulic tank is standard useful to compensate the imbalances caused by sudden changes in load demand from the user;
- IP54 electrical protection rate makes HAEevo Tech suitable for outdoor installation;
- Free contacts available to the customer: ON/OFF remote control, chiller/heat pump remote working change, double set point, management of heating auxiliary system (boiler/heater), managing of external 3-way valve for sanitary water;
- Cooling circuit suitable both for atmospheric and pressurized hydraulic circuits (up to 6 barg);
- Comprehensive safety equipment, including phase monitor pressure switches, antifreeze sensors, level sensors, crankcase heaters and an internal hydraulic bypass circuit.

## Options and kit

- P3, P5 pumps: with nominal head pressure 3 bar or 5 bar;
- EC brushless axial fans with inverter technology;
- Anti-freezing heaters (on tank and pumps);
- Electronic expansion valve;
- Manual filling tank kit: suitable for hydraulic circuits at atmospheric pressure;
- Automatic filling kit: suitable for pressurized hydraulic circuits (up to 6 barg);
- Automatic hydraulic bypass kit: includes adjustable pressure relief valve;
- Remote control kit VICX620 display LED, VG1890 display LCD;
- Supervisor kits: RS485 ModBus, xWEB300D;
- Automatic hydraulic bypass kit external.



IC208CX sophisticated microprocessor connectable to supervisor systems through RS485.



The hydrophilic coating of the fins avoids the building up of droplets of condensed moisture.



Standard Pump P3 (3 barg); optional P5 pump (5 barg).



The integral yet removable high capacity water tank ensures very precise water temperature control.

HAEevo Tech		031	051	081	101	121	161	201	251	301	351
Nominal cooling capacity (1)	kW	15,9	20,6	27,4	34,6	44,6	52,6	60,0	67,9	76,8	90,8
Total absorbed power (1)	kW	3,8	5,3	6,3	8,7	10,5	12,9	14,3	17,3	19,3	23,4
EER (1)		4,16	3,88	4,35	3,98	4,23	4,09	4,18	3,93	3,97	3,88
SEPR HT (2)		5,00	4,59	5,08	4,81	4,79	4,73	5,40	5,35	5,31	4,86
Nominal heating capacity (3)	kW	13,6	18,3	23,6	30,3	40,0	46,0	53,0	60,6	69,3	83,8
Total absorbed power (3)	kW	4,5	5,9	7,2	9,4	12,4	14,0	16,1	18,7	21,3	25,8
COP (3)		3,00	3,12	3,26	3,23	3,22	3,29	3,30	3,25	3,25	3,25
SCOP (4)		3,276	3,405	3,479	3,552	3,425	3,454	3,826	3,928	4,021	3,765
ErP efficiency class (4)		A+	A+	A+	A+	A+	A+	A+	A++	A++	A+
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50									
Noise level (5)	dB(A)	48,8	49,9	50	50	54	54,5	55,6	55,6	55,9	57,5
Width	mm	662	662	761	761	761	761	865	865	865	865
Depth	mm	1315	1315	1864	1864	1864	1864	2251	2251	2251	2251
Height	mm	1416	1416	1470	1470	1470	1470	2085	2085	2085	2085
Working weight (P3 pump)	Kg	329	351	495	643	665	681	968	1051	1091	1113
Tank volume	l	115	115	140	255	255	255	350	350	350	350
Evaporator water connections	Rp	1"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"	2"	2"

### Data declared according to UNI EN 14511:2013. All data refers to standard units at the following nominal conditions:

- (1) Evaporator water inlet/outlet temperature 20/15 °C, external air temperature 25 °C.
- (2) Data declared in compliance with the European Regulation (EU) 2016/2281 with regard to ecodesign requirements for cooling products and high temperature process chillers.
- (3) Condenser water inlet/outlet temperature 40/45 °C, external air temperature 7 °C.
- (4) Data declared according to the European Regulation 813/2013 for heat pumps at low temperature (BT) in average climate conditions (Strasbourg) and variable outlet water temperature
- (5) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1,6 m from the unit support base. Values with tolerance +/- 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions.

The listed noise levels, weights and dimensions refer to base units with no options fitted.



MTA is ISO9001 certified, a sign of its commitment to complete customer satisfaction.



MTA products comply with European safety directives, as recognised by the CE symbol.



MTA participates in the E.C.C. programme for LCP-HP. Certified products are listed on: [www.eurovent-certification.com](http://www.eurovent-certification.com). Certification applied to the units: - Air/Water up to 600 kW - Water/Water up to 1500 kW



EAC Declaration

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