

**YOUR  
SOLUTION**  
WINEFFICIENCE



WINE  
INDUSTRY

Winning performance  
**Winefficiency**  
solutions

**Our values**

The market leader in process cooling for 30 years, CTA, a French manufacturer, brings all its experience to bear in researching and designing products for winemaking purposes. Our company, created in 1987, is your ideal partner in the on-going quest for energy efficacy and performance.

Our expertise and skills are reflected in the WinEfficiency product range, which is ideally suited to temperature control in the winemaking sector.

Always attentive to the requirements expressed by winegrowers, we have developed high tech solutions for temperature regulation, from settling to final production.



Our solutions are highly energy efficient, providing a rapid return on investment. Thanks to its experience, its team of professionals and its technical network in France and abroad, CTA is a local player, with a strong commitment to customer satisfaction.

# WineChill

The energetic revolution

REFCOOL  
REFRIGERATION LTD

## The WineChill range consists of 18 models, designed to satisfy the most demanding of winegrowers in terms of their temperature control requirements:

- Temperature maintenance of vat contents.
- Vat thermoregulation.
- Malolactic fermentation.
- Cellar cooling/heating.
- Air conditioning/heating of related premises.



## The WineChill range was designed for maximum flexibility:

**The cooling unit is reversible, and can provide heat and cold simultaneously by recovering the 'waste' calories from the compressor, with an energy gain of 25%. Designed exclusively for agri-food industry requirements:**

- Reliable sealed cooling and hydraulic circuits.
- Automated control.
- Use of reliable components manufactured by major French brands.

### Designed to adapt to your cellar:

- Visually unobtrusive.
- Low noise levels (soundproofed ventilation and refrigeration compartments).

### Plug & Play monobloc unit:

- A single hydraulic circuit.
- Ease of handling.
- Indoor or outdoor installation.
- Ease of maintenance: panels can be completely dismantled to provide quick access to components.

## The CTA advantage: Our No Frost, No Risk heat exchanger!

CTA's patented No Frost exchanger was developed in partnership with the world leader Alfa Laval, enabling the use of water at temperatures as low as 5°C without adding a glycol solution. Its immersion in a water tank, along with its textured surface (DNA cycle), impedes the formation of ice, and eliminates the risk of the grape harvest being polluted by glycol, where water temperatures are lower than +5°C.



## Energy excellence:



- Optimal efficiency; 1 production kw yields 4 kw thanks to the high efficiency condenser, and the high yield Scroll compressor.
- Heat recovery: our systems enable you to recover heat output by the compressor, thereby providing a source of heat in parallel to the cooling process (to heat the tank, or a liquid, or the cellar, etc.).

## Kind to the environment:

With environmental considerations in mind, CTA has developed alternative solutions that use R290, a natural gas that provides excellent energy-yield while reducing the impact on climate change.



WINECHILL		01C1t	02C1t	03C1	05C1	08C1	09C1	10C1	12C1	15C1	18C2	20C2	26C2	30C2	35C2	40C2	50C2	55C2	60C2
Cooling capacity <sup>(1)</sup>	kW	5,8	8,0	12,7	16,8	19,3	23,1	27,1	33,0	40,2	43,2	53,0	62,0	78,1	90,8	101,0	128,0	143,0	156,0
Cooling capacity <sup>(1)</sup>	Fg	4 988	6 880	10 922	14 448	16 598	19 866	23 306	28 380	34 572	37 152	45 580	53 320	67 166	78 088	86 860	110 080	122 980	134 160
Heating capacity <sup>(2)</sup>	kW	6,4	8,8	14,0	18,5	21,4	25,4	29,8	36,3	42,0	47,6	58,3	68,2	85,9	99,8	108,0	140,0	157,0	169,0
Heating capacity <sup>(2)</sup>	Cal	5 504	7 568	12 040	15 910	18 404	21 844	25 628	31 218	36 120	40 936	50 138	58 652	73 874	85 828	92 880	120 400	135 020	145 340
ESEER		3,13	3,18	3,1	3,31	3,44	3,4	3,55	3,39	3,39	3,2	3,31	3,16	3,26	3,11	3,22	3,19	3,2	3,36
Total input power	kW	2,8	3,7	5,2	7,0	7,8	9,2	10,5	13,1	16,6	19,5	21,6	28,0	33,4	37,6	45,8	52,9	59,9	66,3
Total absorbed current	A	4,6	7,3	10,8	13,8	16,3	21,3	24,5	29,5	34,7	48,7	58,2	65,2	75,2	82,2	94,6	113,6	127,4	137,9

### Frigorific side

Compressors quantity	n°	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Independent frigorific circuit	n°	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
Steps of capacity	n°	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2

### Aeraulic datas

Fans quantity	n°	1	1	1	1	1	1	1	1	1	2	2	2	3	3	2	4	3	3
Fans power	kW	0,1	0,2	0,3	0,6	0,6	0,7	1,0	1,0	2,0	2,0	2,0	2,0	3,0	3,0	3,9	3,9	5,9	5,9

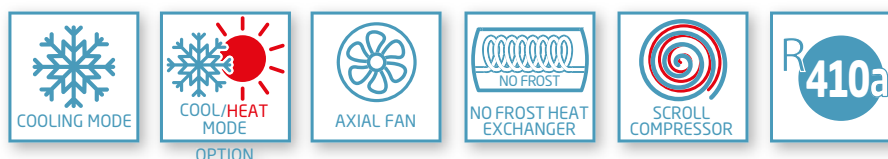
### Hydraulic side

Heat exchanger		Immersted evaporator No Frost®																	
Brine/Water Pump type		Peripheral									Centrifugal								
Pump power input	kW	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,55	0,55	0,55	0,9	0,9	1,1	1,5	1,5	2,2	2,2	2,2
Water/Brine flow	m <sup>3</sup> /h	1,0	1,4	2,2	2,9	3,3	4,0	4,7	5,7	7,0	7,4	9,1	10,7	13,4	15,6	17,3	21,9	24,5	26,9
Tank volume	L	23	23	65	65	65	160	160	160	160	290	290	290	460	460	460	480	480	480

### Sizes and Weight

Length (L)	mm	830	830	980	980	980	1 280	1 280	1 280	1 280	1 930	1 930	1 930	2 580	2 580	2 580	3 520	3 520	3 520
Depth (P)	mm	650	650	800	800	800	990	990	990	990	990	990	990	990	990	990	990	990	990
Height (H)	mm	1 320	1 320	1 785	1 785	1 785	2 055	2 055	2 055	2 155	2 155	2 155	2 155	2 155	2 155	2 155	2 215	2 215	2 215
Net Weight	Kg	180	205	300	315	330	550	570	590	600	785	810	860	1 010	1 100	1 170	1 720	1 810	1 850
Piping/Connections BSP	"	1/2	1/2	1	1	1,1/4	1,1/4	1,1/4	1,1/4	1,1/4	1,1/4	1,1/2	1,1/2	2	2	2	3	3	3
Sounds pressure <sup>(3)</sup>	dB(A)	55	58	55	58	59	65	65	65	67	67	68	68	70	71	72	73	74	74

Power supply : 400/3/50Hz with ground, without neutral. (1) Condenser air temperature 35°C - inlet/outlet water temperature 12/7°C. (2) Condenser air temperature 7°C - inlet/outlet water temperature 40/45°C. (3) Sounds pressure in free field at 1 meter.  
Options : wheels, Power supply control, stainless steel panels.



**WineChill coolers are the ideal solution for cellars with several vats.**  
**With our WineSm@rt thermoregulation solution,**  
**CTA enables you to manage your different vats independently, either on site or remotely.**

# WineSm@rt solutions

## Connected intelligence

Specialists in industrial cooling and temperature control, CTA and CAREL joined forces to co-develop WineSm@rt, a set of solutions aimed at winemaking applications.

Our offering enables optimal management of fermentation temperatures, thanks to drives that are controlled and connected, and that can be monitored using the WineSm@rt Evolution interface.

### WineSm@rt Classic

#### Fermentation temperature management via a system of pilot-controlled valves:

- Automated tank temperature management.
- Reliable regulation using Norgren valves.
- Wire connection between tanks with remote management via a control box that drives the entire set of tanks, or physical management of each tank using a simplified, individual control box.

### WineSm@rt Evolution

#### Monitoring and reporting on the WineSm@rt Classic solution, via CAREL's boss™ connected monitoring tool.

- Centralised remote temperature management (setpoint monitoring and adjustment, alarm management and control).
- Functional software with traceability of changes made remotely or physically via control valves.
- User-friendly interface, customised to your cellar's operation.

This connected monitoring system will satisfy the requirements of even the most demanding winegrower, since it makes cellar monitoring easy, while optimising the thermodynamic efficiency of your equipment. The solution provides real time display and management, but also lists all the events and variations in temperature and atmosphere. The interface and architecture enable data export for complete traceability. Along with our WineChill solution, it provides independent management and peace of mind during the winemaking process, since the cooling unit can be started or restarted remotely.



FEATURES	Wine Sm@rt Classic	Wine Sm@rt Evolution
Automated tank "wine" temperature management	●	●
Temperature and set points control and management using a centralized microprocessor in vat room	●	●
Temperature control using an individual box	○	○
Remote monitoring and temperature control	–	●
Alarm managements and reporting	–	●
Traceability of changes made and monitoring of variations over the desired period	–	●
Complementary probes integration (CO2, compressed air pressure)	○	○
Supervision and control of additional remote probes	–	○
Connected management of other features (water chiller status, external temperature, ...)	–	○
Available valves types:		
• Solenoid valves	●	●
• Electro-pneumatic valves	○	○
• Motorized valves	○	○
Carel microprocessor	IR33	IR33 + PCO

○ : in serie ● : in option – : not available

# WineCellar

Heating and air-conditioning solutions

WineCellar solutions consist of 2 lines of terminals that are ideal for heating and cooling your cellars and other premises.

## The WineCellar "Aéroréfrigérants" (air cooler) line comprises 6 models which, coupled with a cooling unit and/or heat pump, will cool and/or heat your premises.

- Extremely low running costs due to the efficiency of the heat exchanger, through the combination of special aluminium blades and copper tubes.
- The electric fans are highly efficient and use little energy thanks to their static and dynamic stability.
- The unit bodies are made of galvanised steel, with an epoxy-polyester protective coating, making them long-lasting and resistant to all types of corrosion.



WINECELLAR AÉRORÉFRIGÉRANTS		2	5	7	10	12	15
Cooling capacity	kW	2,2	5,1	7,3	10,0	12,2	15,2
Cooling capacity	Fg	1 892	4 386	6 278	8 600	10 492	13 072

### Aeraulic datas

Air flow	m <sup>3</sup> /h	1 490	4 730	3 000	4 990	4 750	4 320
Inlet air temperature	°C	17	17	17	17	17	17
Outlet air temperature	°C	12,6	13	11,4	12	11,3	10,2
Fans quantity	n°	1	2	2	2	2	2
Total input power	kW	0,09	0,3	0,18	0,3	0,3	0,3
Total absorbed power	A	0,38	1,34	0,8	1,34	1,34	1,34

### Hydraulic side

Water/Brine flow	m <sup>3</sup> /h	1,0	1,4	1,0	1,4	2,2	2,9
Inlet Water/Brine temperature	°C	5	5	5	5	5	5
Outlet Water/Brine temperature	°C	10,5	10,1	10,2	10	10,1	10,1

### Dimensions and Weight

Length (L)	mm	820	1 230	1 230	1 630	1 630	1 630
Depth (P)	mm	670	507	507	560	560	560
Height (H)	mm	350	470	470	470	470	470
Net Weight	Kg	14	32	38	43	47	58
Piping/Connections	"	28	28	28	28	28	28
Sounds pressure <sup>(1)</sup>	dB(A)	55	58	55	58	55	58

Power supply : 230V/50Hz.  
(1) Sounds pressure in free field at 1m.

## WineCellar "Armoires de precision" (precision units) line is a stand-alone unit that cools/heats your premises and monitors the humidity levels.

It is ideal for the cellar environment, thanks to its:

- Intelligent design, ensuring minimal ground surface area, low noise levels, making it both audibly and visually discreet.
- Low energy requirements, due to the high energy yield condenser, its high performance Scroll compressor, and controlled ventilation.
- Modular design to suit air flow requirements (centrifugal ventilators at height or at ground level, plug fans and EC motors), Carel's optimised heat pump control, which is completely compatible with CTA's WineSm@rt solutions, and suitable refrigerating circuits.

## The CTA advantage: Temperature and humidity management.

WineCellar precision units provide precise management of both temperature and humidity, through several hot water and electric batteries, along with a modulating steam humidifier, regulating in real time both the temperature and the humidity levels in your cellars.

WineCellar solutions are ideal for air-conditioning your cellars and related premises.

# WineCooler

## Mobile efficacy

The WineCooler is a hybrid solution. It is a direct expansion wine cooler, consisting of 5 reversible models (cold only/heat pump) up to 60 kW. It is an ideal for solution for cold settling of the grape harvest, for controlling alcohol fermentation, for cooling the wine prior to bottling, for small and medium-sized vineyards with modest refrigeration and heating requirements.

### Designed around a high performance coaxial heat exchanger, the WineCooler range meets the requirements of even the most demanding winegrowers:

- Increased mobility through its compact and discreet design, 4 wide wheels and comfortable handles.
- Plug & Play thanks to its intelligent control system, which manages the pump externally. Macon-type water input and output provide for ease of installation, and real flexibility when cooling/heating your tanks.
- Designed to provide high energy yield thanks to the high efficiency condenser and the Scroll R410a compressors, which guarantee efficacy and operational safety.

#### WineCooler mobile cooling units consist of:

- HP/LP pressure switches.
- Stainless steel flow switch.
- HP/LP manometers.
- Phase sequence relay.
- Electrical resistance on compressor.
- Low-noise axial fan.
- Intake and outlet valves.



WINECOOLER		31	81	151	201	251
Cooling capacity <sup>(1)</sup>	kW	12,9	24,3	35	44,2	63,4
Cooling capacity <sup>(1)</sup>	Fg	11 094	20 898	30 100	38 012	54 524
Heating capacity <sup>(2)</sup>	kW	15,8	21,5	32,7	41,4	57,2
Heating capacity <sup>(2)</sup>	Cal	13 588	18 490	28 122	35 604	49 192
Total input power	kW	3,6	5,9	8,8	11,3	15
Total absorbed current	A	6,3	10,5	15,8	19,2	27
Heat exchanger type		Coaxial inox				

#### Frigorific side

Compressors quantity	n°	1	1	1	1	1
Independent frigorific circuit	n°	1	1	1	1	1

#### Aeraulic datas

Fans quantity	n°	1	1	1	2	2
Fans power	kW	0,27	0,56	0,86	0,56	0,86

#### Dimensions and Weight

Length (L)	mm	980	1280	1280	1930	1930
Depth (P)	mm	800	990	990	990	990
Height (H)	mm	1 785	2 055	2 055	2 155	2 155
Net Weight	Kg	170	320	385	490	520
Piping/Connections "Macon"	"	40	40	50	50	50
Sounds pressure <sup>(3)</sup>	dB(A)	66	70	71	71	72

Power supply: 400/3/50Hz with ground, without neutral.

(1) Condenser air temperature 20°C - inlet/outlet water temperature 30/25°C.

(2) Condenser air temperature 20°C - inlet/outlet water temperature 40/45°C.

(3) Sounds pressure in free field at 1 meter.

Options: Power supply control, stainless steel panels.

### The CTA Advantage: The CTA coaxial exchanger

As a specialist in heat exchange for over 30 years, CTA's coaxial exchanger provides high energy yield and therefore optimises your energy needs.

Its design provides excellent heat exchange, and eliminates all risk of clogging over time.

The WineCooler solution's flexibility, modularity and mobility make it ideal for settling and tank cooling.

It is a versatile solution, and is comfortable handling excess requirements.

