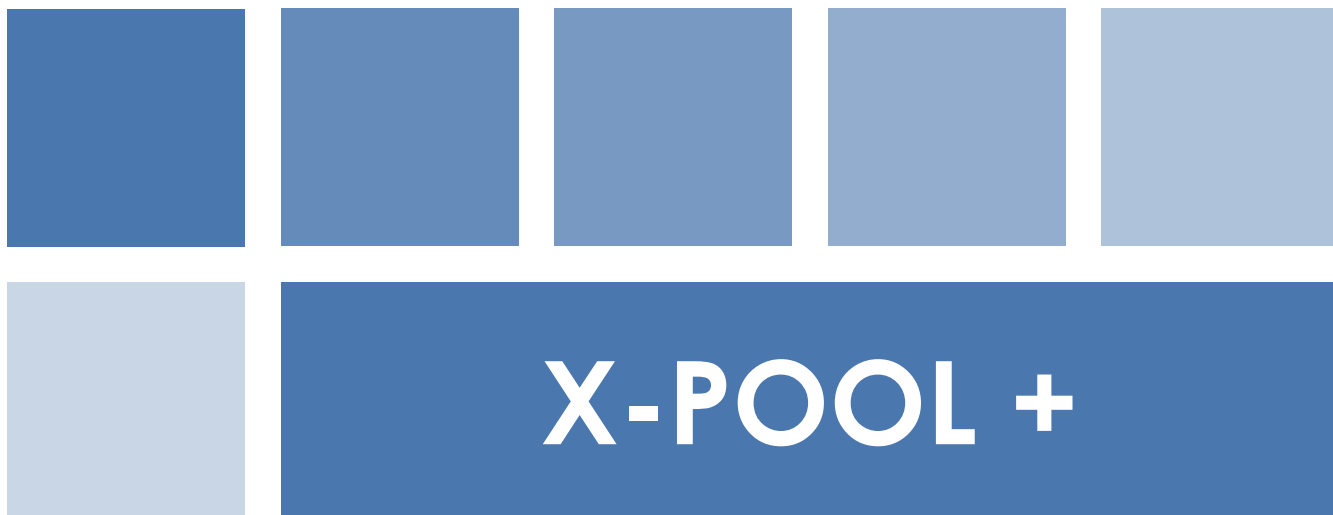




CLIMATIC
ENVIRONMENT
SOLUTIONS
AND EQUIPMENT



X-POOL +



Thermodynamic double flow dehumidifier



www.ett-hvac.com

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General description

The **ETT** packaged unit is delivered ready to operate. Its full aluminium structure (frame and casing), ensures an excellent corrosion protection (20-year anti-corrosion guarantee).

Aluminium facilitates the REFURBISHMENT of machines for a second life, unlike a steel structure.

Our technical choices have a major impact on the environment

• DECARBONATION:

ETT is committed to an ambitious approach to reducing greenhouse gas emissions:

- Reducing the energy consumption of our machines
- Fluid refrigerants with low GWP
- Energy monitoring & AI
- Adiabatic cooling
- Development of machine retrofits

• ALUMINIUM : PERFORMANCE AND DURABILITY!

- Lightweight: 3 times lighter than steel
- Corrosion resistant and long lifespan
- Thermal performance
- 100% recyclable indefinitely
- Facilitates the refurbishment of our machines



• ECO-DESIGN:

Our technologies are designed with sustainability in mind, reducing their environmental impact throughout their life cycle.

• LOW-POLLUTION MANUFACTURING PROCESS:

- Selective sorting: 80% recovery rate
- No paint or solvents

• END OF MACHINE LIFE:

In compliance with regulations, ETT is a member of the Ecologic eco-organisation for the end-of-life processing of machines, which are 98% recyclable.



• ETT CERTIFICATIONS

- **CSR assessment:** ECOVADIS Gold Medal for our CSR approach



- **ISO 14001 & ISO 9001 certification :** our Quality and Environmental Management System



- **Certificate of competence for handling refrigerants**

- **Membership of the UN Global Compact**

- **Qualiopi certification** for our training centre



As a positive-impact company, ETT contributes to a more sustainable world through its decarbonising products and services.

CE In addition, each unit is delivered with a certificate of conformity to EU standards and complies with the following standards:

- Machinery Directive 2006/42/EC - Operator's safety
- Low Voltage Directive (LVD) 2014/35/EU - Electricity
- Electromagnetic Compatibility (EMC) Directive 2014/30/EU
- Regulation (EU) 2016/426 – Gas appliances
- Standard NF EN 60204 -1- Electrical appliances
- Standard EN 378-2 : 2017 – Safety and environmental requirements
- PED Directive 2014/68/EU (in accordance with Articles 2.10, 2.11, 3.4, 5a and 5d of Annex 1) - Pressure equipment
- EcoDesign regulations ErP UE 2281/2016

**20-year guarantee
against corrosion
frame - casing**



Machine description

The **X-POOL+** thermodynamic double flow dehumidification system is designed to meet all the air treatment needs of small to medium-sized pools... (Hotels, spas, balneos, physiotherapy centres, senior residences, campsites, etc.)

Thanks to the various innovations and materials used, the **X-POOL+** combines performance, reliability, air quality and respect for the environment.

Connected components

Optimum unit operation

Can be connected to myETTVision communication platform

Remote box for communication outside the engine room (optional)



New generation PLC with display

Controls for optimum performance

External water weight can be compared in Free Cooling and Dehumidification modes

New ETT Control Box touch display (optional)

Electrical board ventilated separately from the technical room

Basic phase controller

Fans

Specific protection for humid, saline and sulphurous environments (H2+S) (optional)
Analogue Flow Controller (AFC) communicating, direct transmission, electronically commutated "EC" optimum performance and low noise level

Eco-design filtration

Low pressure drop.

Analogue clogging controller.

ISO ePM10 50% (M5) standard, ISO ePM1 50% (F7) optional

Water condenser (optional)

Insulated water exchanger stainless steel 316L or titanium

Heat is discharged into the pool water

(Unavailable on MAN version)

Energy recovery

Cross-flow plate heat exchanger

Anti corrosive paint for swimming pool application

Complies with Eco-design regulations (EU Regulation 1253/2014)

NEW ! Efficiency greater than 73% in all fresh air mode (in accordance with EN308)

Eurovent-certified heat exchanger



Thermodynamic batteries

New non-flammable fluid R513A (A1) **NEW !**

GWP divided by 4 compared with R410A

Optimised heat exchangers with reduced tube diameters and a reduced refrigerant load

Protected coil with vinyl fins

Electronic expansion valves

Reversible mode for thermodynamic cooling (Unavailable on MAN version) **NEW !**

R513A

GWP = Global warming potential

X-POOL+ MAN: unit version without refrigeration unit.

Dehumidification is carried out exclusively by modulating fresh air (M.A.N.)

Machine description

Reinforced insulation

50 mm thick glass wool classified M0/A2s1d0
Integrated thermal bridge breaker

Reinforced acoustic insulation with double skin and high-density glass wool

20-year guarantee
against corrosion
frame - casing

Aluminium frame and casing assembly

New system with improved thermal performance, class T2Tb2 (in accordance with NF EN 1886) **NEW !**

Optimised tightness and thermal insulation. **NEW !**

Compression locks

Lightweight, for new build and renovation projects.

Seal

Airtightness level **L1**
(according to NF EN 1886) Hygienic quality
VDI6022

100% recyclable
aluminium

Swimming pool applications

Casing specially designed for swimming pools. All stainless steel screws and bolts.
Negative pressure in the technical room to prevent any pollution from stale air being drawn in

Compact casing for wall mounting

Narrow machine width for easy door access during installation

Easy-to-clean machine with integrated condensation tray

CLASS (NF EN 1886)	Heat loss in W		
	X- POOL+ series 1	X- POOL+ series 2	X- POOL+ series 3
T2 *	287	353	423
T3	415	511	611
T4	607	747	894
T5	958	1179	1411

-53%



*EN1886 performance level on ETT model housing tested and validated by the TUV Nord laboratory (2022)

NF EN 1886 : 2008	ETT «Model Box» performance				
Mechanical distortion			D3	D2	D1
Case leak (overpressure +700Pa)			L3	L2	L1
Case leak (negative pressure -400Pa)			L3	L2	L1
Filter frame leak	M5	F6	F7	F8	F9
Transmittance	T5	T4	T3	T2	T1
Thermal bridge	Tb5	Tb4	Tb3	Tb2	Tb1

Operating principles

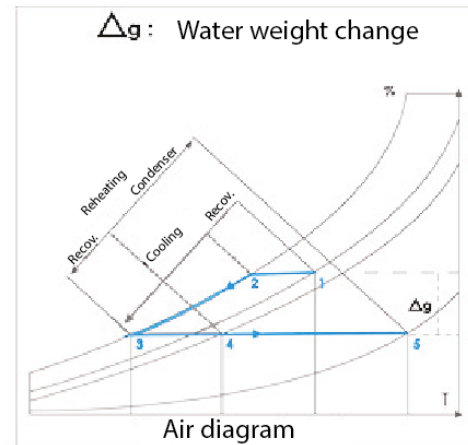
Dehumidification is ensured by the action of the heat pump's refrigeration cycle combined with a plate heat exchanger (recuperator).

This initial recovery of heat takes place without any external input, resulting in significant energy savings and a reduction of more than 50% in the size of the compressors, and therefore in subscriptions and electricity consumption.

The extracted air is dried by pre-cooling on the plate heat exchanger and then final cooling on the evaporator. The heat extracted is transferred on the supply side to the other half of the plate heat exchanger and then to the air-cooled condenser, heating the dehumidified air.

Because of the recovery of latent heat and the energy supplied by the compressors, the temperature of the supply air leaving the condenser is higher than the temperature of the air entering the machine (ambient temperature).

For sufficiently dry climates, a version without thermodynamics is also available: X-POOL+ MAN.



Recovery: Plate heat exchanger

Adaptive control :

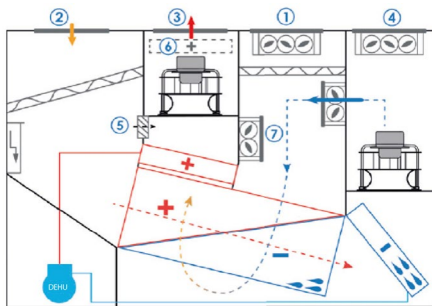
For temperate climates:

- > **In vacancy mode**, the control system favours thermodynamic recycling and will launch an over-ventilation cycle one hour before opening to the public.
- > **In occupancy mode**, dehumidification will be provided by fresh air, to ensure the comfort of occupants. The thermodynamic system will then operate as a heat pump to recover the heat from the air or water.

For hot and tropical climates:

- > **Comparison of the weight of external water with the weight of return water**, thermodynamic dehu in case of drift in the weight of the outside water.
- > Free Cooling enabled if conditions are favourable.
- > Thermodynamic cooling

Vacancy mode :



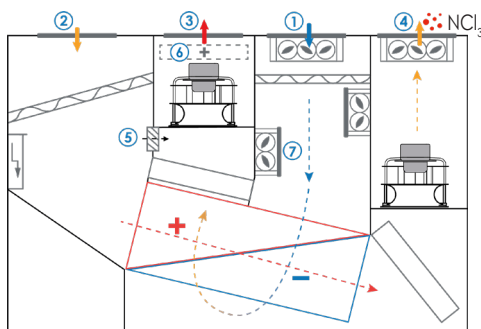
In vacancy mode, thermodynamic dehumidification with air recycling and recovery from the air or water in the pools. The water weight setpoint remains fixed.

The air flow rate is lowered to reduce energy consumption.

Fresh air can be supplied if thermodynamic dehumidification is not sufficient.

On the MAN version, dehumidification is carried out by supplying fresh air exclusively.

Dechlorination mode :



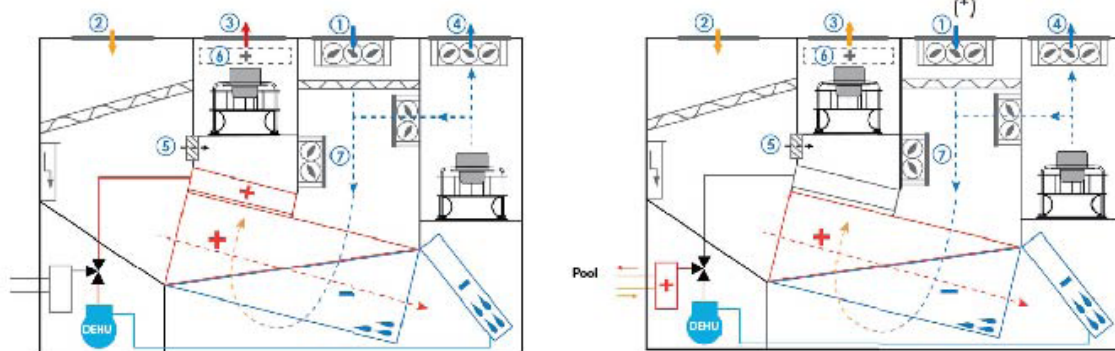
Dechlorination mode before switching to occupancy to clean up indoor air.

This mode can also be activated manually.

- ① Fresh air ② Return air ③ Supply air ④ Exhaust air ⑤ Supply air bypass ⑥ Heating auxiliary ⑦ Free Cooling damper

Operating principles

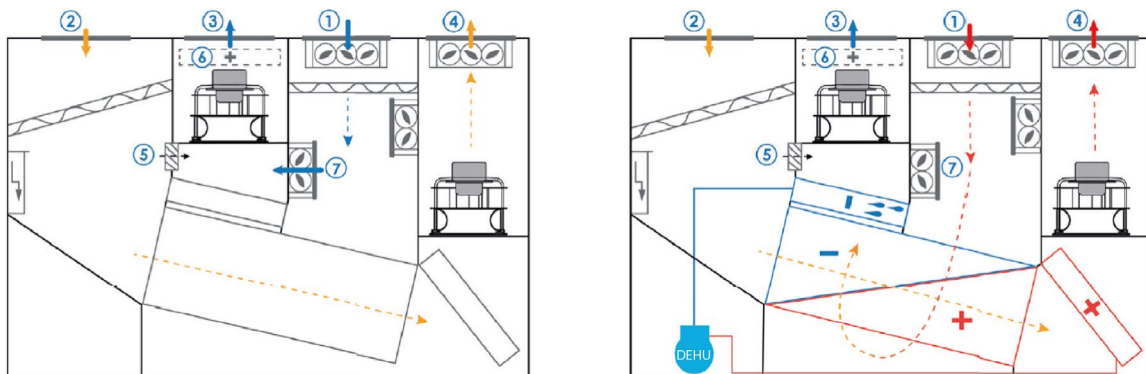
Occupancy mode : Dehumidification:



In **occupancy mode**, dehumidification is carried out by modulating the fresh air. The heat is then recovered by the plate heat exchanger and then the heat pump, and recovered from the air or water.

(*) For hot and tropical climates, the outside water weight is measured to check the fresh air damper.

Cooling mode:



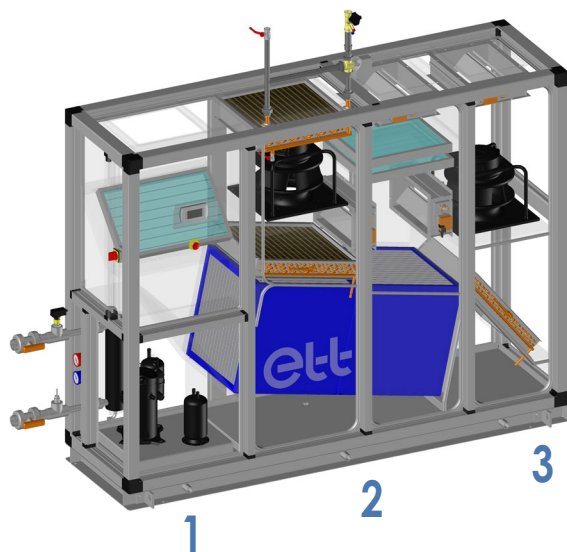
The control system favours Free Cooling.

If outdoor conditions are unfavourable, the thermodynamic system will be used for cooling.

The heat can also be recovered from the water in dehumidification and cooling mode via a water-cooled condenser (optional).

① Fresh air ② Return air ③ Supply air ④ Exhaust air ⑤ Supply air bypass ⑥ Heating auxiliary ⑦ Free Cooling damper

Detailed components



The ETT packaged unit comprises 3 different compartments:

- 1 A technical compartment containing the refrigeration components, the electrical board and the control devices.
- 2 A supply air compartment for fresh air renewal and energy recovery.
- 3 An extraction compartment for dehumidification.

Aluminium frame and casing :

- **Rigid, compact** and lightweight packaged unit, with perfect weather resistance and a 20-year anti corrosion warranty on the entire casing.
- **Watertight floor** with drainage outlets around the unit, connected to rubber traps.
- **Full aluminium casing** (AG3).
- A separate **technical compartment** that facilitates maintenance and control of the unit, enables measurements to be taken and settings to be fine-tuned during operation.
- **High thermal and aeraulic performance housing:** thermal class T2 & Tb2 leakage level L1 & F9 according to NF EN 1886.
- **Access through large “easy to remove” panels.** The panels are fitted **with compression locks**. The removable panels are sealed by compression on a flexible lip seal, ensuring perfect elasticity over time.
- **Double-skin internal sound and heat insulation** of the side walls using 50 mm thick glass wool classified M0/A2s1d0, protected by a 13/10 thick aluminium sheet for mechanical protection and ease of maintenance.
- 50 mm of M0/A2s1d0-rated glass wool with double skin provides **soundproofing and thermal insulation for the floor**.
- **3-Damper mixing box** consisting of a fresh air damper with a bird proof grid, a motorised exhaust air damper and a motorised mixing damper, ensuring the desired proportions and optimising the Free Cooling phases. The dampers have extruded aluminium blades with low pressure drop due to the aircraft wing profile. The damper frame is made of aluminium.

Detailed components

Air system assembly :

- **Easily removable 48 mm thick Eco-concept filtration** (supply and exhaust) - ISO ePM10 efficiency 50% (M5) in pleated media with fouling controlled by the regulator.
- High-performance plug fan on the supply and exhaust side to eliminate losses due to pulley-belt transmissions and thus improve the energy efficiency of the unit.
- **Last generation internal fans (High Energy Performance):**
 - ✓ **Direct transmission** (gain on maintenance, reliability and consumption),
 - ✓ **Fitted with a variable speed « EC »** electronically commutated motor combined with an Analogue Flow Controller - AFC (easier to commission),
 - ✓ Communicating for real time operation adjustment,
 - ✓ Integrated Soft Starter system for reduced starting current and soft start (textile ducting).

Energy and thermodynamic assembly:

- **Refrigeration circuits** compliant with European directive on pressure equipment (PED 2014/68/EU).
- **R513A refrigerant.**
- **A fixed plate heat exchanger**, aluminium plates, with high recovery capacity and sized to optimise the heat pump's efficiency. The plate heat exchanger recovers heat from the extracted air and transfers it on the fresh air side to the second half of the plate heat exchanger. Heat transfer takes place without energy consumption. The plate heat exchanger will be protected by vinyl treatment on the plates and anti-corrosion paint on the frame.
- **Direct expansion heat exchangers**, with copper tubes and aluminium fins, with high heat exchange capacity optimised by a thermostatic expansion valve, selected for an air speed of less than 2.5 m/s to avoid any risk of condensate being carried away. The coils are oversized to achieve the highest possible COPs. Direct expansion exchangers are protected with vinyl coating.
- **2 electronic expansion valves** for optimised heat exchanger operation and quick stabilisation of the thermodynamic system.
- **Anti-acid filter drier.**
- **HP pressure switch**



Detailed components

Electrical assembly:

- **Electrical board** compliant with standards NF EN C 15100 and NF EN 6020401, including:
 - ✓ **A ETT PLC** with display.
 - ✓ **A disconnecter** with a lockable external handle for full-load disconnection. Standard universal cable connection. Optional copper/aluminium junction boxes.
 - ✓ **A 400-230-24V transformer** for control and regulation circuits.
 - ✓ **A fault history** with a dry contact on standby on terminal.
 - ✓ **Numbered terminal blocks** with disconnecting terminals for all remote controls.
 - ✓ **A terminal block** for compressor load shedding.
 - ✓ **Internal wiring** fully numbered at both ends with numbered rings.
 - ✓ **An Ik3 standard breaking capacity** of 10 kA.
 - ✓ All components **protected** by circuit breakers.
 - ✓ **A phase controller**



Additional heating assembly :

- ✓ An additional heating auxiliary (electric or hot water) will be sized specifically for the project.

Control assembly :

- **NTC-type temperature sensors** whose reliability and accuracy have been tested and validated both in the factory and on site.
- **One or more BEST (Building Energy Saving Technology) PLCs** developed specifically by ETT for this range of machines. Programmes are updated annually to add functions required in certain applications and to optimise machine power consumption as far as possible.
- Native MODBUS IP communication protocol (optional BacNet IP)

The microprocessor, memory and size of the PLCs are adapted to the application and the options selected, incorporating a factory-set programme of 160 possible configurations.

The PLC is housed in a plastic enclosure, which guarantees a high level of mechanical protection and reduces the risk of electrostatic discharges.

The PLC performs the following functions, among others:

- ✓ **On/off by remote contact** or vacancy contact
- ✓ **Occupancy/vacancy mode** according to programmed schedule (2 time slots per day).

- ✓ **Fault overview** with dry contact for transfer to customer system.
- ✓ **Management of safety devices** (anti-freeze thermostat, smoke detector, HP pressure switch, etc.) and faults.
- ✓ **Control of supply and extract airflow** according to a progressive law linked to indoor temperature and humidity setpoints.
- ✓ **Optimisation** and equalisation of compressor operating times.
- ✓ **Measurement, indication and adjustment of the supply/extraction airflow rate**, enabling precise control of airflow rates according to the machine's operating modes.
- ✓ **Management of night-time energy consumption** with limited ventilation
- ✓ **Fault history** in literal form (no code) with time and outdoor temperature display.
- ✓ **Recording of machine, compressor and auxiliaries operating times.**
- ✓ **Control of the machine's operating points**, whatever the external environment, enabling comfort to be managed for users, while considering the relationship between energy efficiency and the protection of the building.

Main options

Frame - Casing	<ul style="list-style-type: none"> Machine for outdoor installation Motorised external supply air damper Frame 'METU'
Acoustics	<ul style="list-style-type: none"> STOPFLAM foam sound insulation for the technical compartment Acoustic insulation for fresh air cowl Compressor soundproofing covers *
Airflow section	<ul style="list-style-type: none"> Pressure gauge per filtration cell Filter Fouling Analogue Control (FFAC) 2-stage fresh air filtration Opacimetric filters ISO ePM1 50% (F7) th.48 mm
Thermodynamics	<ul style="list-style-type: none"> Cooling by cycle inversion
Thermal heat exchangers	<ul style="list-style-type: none"> 2-stage electric coil Hot water coil with analogue frost protection thermostat 3-way progressive valve mounted on hot water coil Pre-assembled shut-off valve + balancing valve
Installation	<ul style="list-style-type: none"> Feet, aluminium, 200, 400 mm
Electrics and communication	<ul style="list-style-type: none"> Machine Global Energy Meter Fresh air humidity sensor with water weight comparison (recommended with reverse cycle cooling) Software licence for BacNet IP protocol IT earthing system compatibility ETT 'Control Box' remote touch display myETTvision remote communications platform
Recovery	<ul style="list-style-type: none"> 316 L stainless steel insulated water condenser with 3-way valve and automatic reset water flow controller (only for chlorine water treatment) PVC-C stop valve on water-cooled condenser
Reinforced protections	<ul style="list-style-type: none"> Heresite protection on hot water coil Heresite protection on thermodynamic batteries Titanium insulated water-cooled condenser with 3-way refrigerant valve and automatic reset water flow controller High-performance plug fan with H2+S protective coating

* depending on model

	DESCRIPTION	Unit	1-1100	1-1850
FEATURES	Nominal supply air flow	m ³ /h	1100	1850
	Min./max. nominal supply air flow	m ³ /h	1100/2100	1700/2900
	Dehumidified air flow rate	m ³ /h	1100	1850
	Min./max. treated air flow	m ³ /h	1100/1700	1700/2500
	100% FA cooling-based dehumidification capacity ⁽⁵⁾	kg/h	5.4	9.1
	100% recirculation heating-based dehumidification capacity ⁽²⁾	kg/h	4.2	5.1
	20% FA heating-based dehumidification capacity ⁽²⁾	kg/h	8.3	13.1
	50% FA heating-based dehumidification capacity ⁽²⁾	kg/h	13.1	22.1
	Thermodynamic COP in heating base ⁽²⁾	kW/kW	5.03	5.31
	Overall heating efficiency ⁽²⁾⁽²⁾	kW/kW	6.23	5.97
	Plate heat exchanger recovery capacity ⁽²⁾	kW	3.1	4.5
	Heat recovery efficiency with 100% fresh air (ErP 2021 / EN308)	%	74%	75%
	Air-cooled condenser recovery capacity ⁽²⁾	kW	5.6	6.9
	Water condenser recovery power, pool recovery ⁽⁴⁾	kW	6.4	7.9
	Recommended total water flow rate per water-cooled condenser, pool recovery ⁽⁴⁾	m ³ /h	1.2	1.3
	Pressure drop, with water-cooled condenser, for recovery on pool water ⁽⁴⁾	mWH	0.15	0.2
	Total cooling capacity in cooling cycle ⁽³⁾	kW	4.4	5.2
	Number of independent refrigeration circuits	u	1	1
ELECTRICS	Total installed electrical machine power (standard) ⁽¹⁾	kW	7.7	7.8
	Total rated/starting current (standard) ⁽¹⁾	A	12.7/34.2	14.5/41.2
FANS	SUPPLY AIR			
	Quantity of fans	u	1	1
	Installed capacity	kW	2.94	2.94
	Power consumption at 250 Pa available at supply air	kW	0.75	1.11
	RETURN			
	Quantity of fans	u	1	1
	Installed capacity	kW	2.94	2.94
	Power consumption at 250 Pa available for recovery	kW	0.75	1.11
	Average sound pressure at 10m ref. 2 x 10 ⁻⁵ in free field conditions	dB(A)	39	41
GENERAL DATA	Weight of ETT unit without option	kg	544	544

Three-phase power supply 400V-50Hz + earth without neutral.

(1) Excluding electrical resistances.

(2) Conditions : Return 28°C/65% RH; Outside -7°C/95% RH.

(3) Conditions : Return 29°C/70% RH; Outside +35°C/40% RH.

(4) Conditions : Pool water 28°C; Return 28°C/65 RH.

(5) Conditions : Return 28°C/67% RH; Outside 32°C/40% RH.

(*) : dehumidification efficiency including electricity consumption of fans and compressors

FA: Fresh Air

	DESCRIPTION	Unit	1-1100	1-1850
FEATURES	Nominal supply air flow	m³/h	1100	1850
	Min.:max. nominal supply air flow	m³/h	700/2100	1700/2900
	Dehumidified air flow rate	m³/h	1100	1850
	Min./max. treated air flow	m³/h	700/1700	1700/2500
	100% FA cooling-based dehumidification capacity ⁽⁵⁾	kg/h	5.4	9.1
	Heat recovery efficiency at 100% fresh air (according to ErP 2021 : EN308)	%	74%	75%
ELECTRICS	Total installed electrical machine power ⁽¹⁾	kW	5.9	5.9
	Total rated/starting current ⁽¹⁾	A	9.2/9.2	9.2/9.2
FANS	SUPPLY AIR			
	Quantity of fans	u	1	1
	Installed capacity	kW	2.94	2.94
	Power consumption at 250 Pa available at supply air	kW	0.71	1.05
	RETURN			
	Quantity of fans	u	1	1
	Installed capacity	kW	2.94	2.94
	Power consumption at 250 Pa available for recovery	kW	0.71	1.05
	Average sound pressure at 10m ref. 2 x 10 ⁻⁵ in free field conditions	dB(A)	38	40
GENERAL DATA	Weight of ETT unit without option	kg	503	503

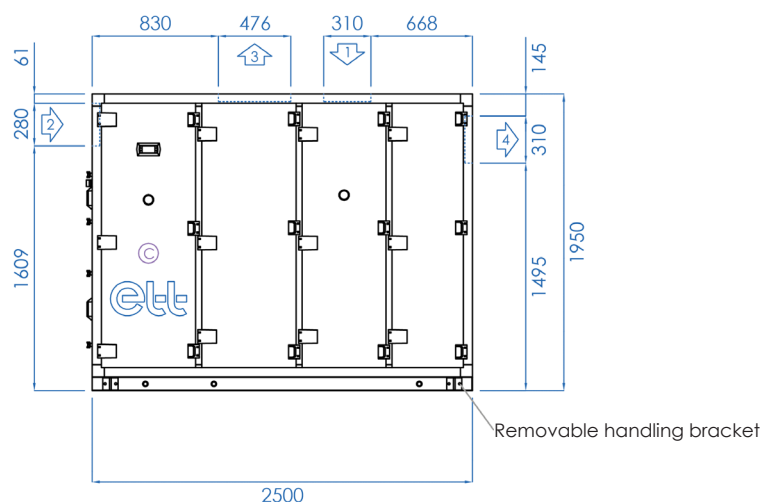
Three-phase power supply 400V-50Hz + earth without neutral.

(1) Excluding electrical resistances.

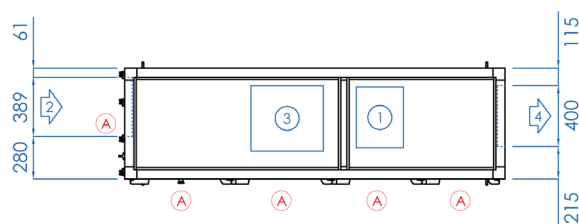
(5) Conditions : Return 28°C/67% RH; Outside 32°C/40% RH.

FA: Fresh Air

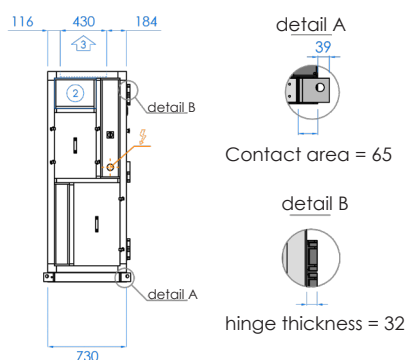
Front view:



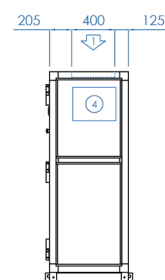
Top view:



Side view (return):



Side view (exhaust):



- ① Fresh air
- ② Return air
- ③ Supply air
- ④ Extracted air
- Ⓐ Access
- ⚡ Electrical supply
- Ⓒ Technical compartment

	Length	Width	Height
Dimensions of assembled casing (mm)	2500	730	1950
Overall dimensions for transport (mm)	2539	807	1950

Note: Allow a minimum of 200 mm under the machine for the connection of the condensate traps.

	DESCRIPTION	Unit	2-3000	2-4000
FEATURES	Nominal supply air flow	m ³ /h	3000	4000
	Min./max. nominal supply air flow	m ³ /h	2600/4500	3600/5000
	Dehumidified air flow rate	m ³ /h	3000	4000
	Min./max. treated air flow	m ³ /h	2600/3600	3600/4400
	100% FA cooling-based dehumidification capacity ⁽⁵⁾	kg/h	14.8	19.8
	100% recirculation heating-based dehumidification capacity ⁽²⁾	kg/h	8.5	10.3
	20% FA heating-based dehumidification capacity ⁽²⁾	kg/h	20.9	27.9
	50% FA heating-based dehumidification capacity ⁽²⁾	kg/h	35.7	47.9
	Thermodynamic COP in heating base ⁽²⁾	kW/kW	5.60	5.27
	Overall heating efficiency ⁽²⁾⁽²⁾	kW/kW	6.52	6.77
	Plate heat exchanger recovery capacity ⁽²⁾	kW	7.3	9.5
	Heat recovery efficiency with 100% fresh air (ErP 2021 / EN308)	%	74%	75%
	Air-cooled condenser recovery capacity ⁽²⁾	kW	11.2	13.7
	Water condenser recovery power, pool recovery ⁽⁴⁾	kW	13.3	16.8
	Recommended total water flow rate per water-cooled condenser, pool recovery ⁽⁴⁾	m ³ /h	2.3	2.9
	Pressure drop, with water-cooled condenser, for recovery on pool water ⁽⁴⁾	mWH	0.35	0.5
ELECTRICS	Total cooling capacity in cooling cycle ⁽³⁾	kW	8.4	10.3
	Number of independent refrigeration circuits	u	1	1
ELECTRICS	Total installed electrical machine power (standard) ⁽¹⁾	kW	9.9	10.7
	Total rated/starting current (standard) ⁽¹⁾	A	20.4/60.4	23.2/75.4
FANS	SUPPLY AIR			
	Quantity of fans	u	1	1
	Installed capacity	kW	3.4	3.4
	Power consumption at 250 Pa available at supply air	kW	1.64	1.89
	RETURN			
	Quantity of fans	u	1	1
	Installed capacity	kW	3.4	3.4
	Power consumption at 250 Pa available for recovery	kW	1.64	1.89
	Average sound pressure at 10m ref. 2 x 10 ⁻⁵ in free field conditions	dB(A)	41	41
GENERAL DATA	Weight of ETT unit without option	kg	726	726

Three-phase power supply 400V-50Hz + earth without neutral.

(1) Excluding electrical resistances.

(2) Conditions : Return 28°C/65% RH; Outside -7°C/95% RH.

(3) Conditions : Return 29°C/70% RH; Outside +35°C/40% RH.

(4) Conditions : Pool water 28°C; Return 28°C/65 RH.

(5) Conditions : Return 28°C/67% RH; Outside 32°C/40% RH.

(*): dehumidification efficiency including electricity consumption of fans and compressors

FA: Fresh Air

	DESCRIPTION	Unit	2-3000	2-4000
FEATURES	Nominal supply air flow	m ³ /h	3000	4000
	Min./max. nominal supply air flow	m ³ /h	2600/4500	3600/5000
	Dehumidified air flow rate	m ³ /h	3000	4000
	Min./max. treated air flow	m ³ /h	2600/3600	3600/4400
	100% FA cooling-based dehumidification capacity ⁽⁵⁾	kg/h	14.8	19.8
	Heat recovery efficiency at 100% fresh air (according to ErP 2021 : EN308)	%	74%	75%
ELECTRICS	Total installed electrical machine power ⁽¹⁾	kW	6.8	6.8
	Total rated/starting current ⁽¹⁾	A	10.4/10.4	10.4/10.4
FANS	SUPPLY AIR			
	Quantity of fans	u	1	1
	Installed capacity	kW	3.4	3.4
	Power consumption at 250 Pa available at supply air	kW	1.56	1.80
	RETURN			
	Quantity of fans	u	1	1
	Installed capacity	kW	3.4	3.4
	Power consumption at 250 Pa available for recovery	kW	1.56	1.80
	Average sound pressure at 10m ref. 2 x 10 ⁻⁵ in free field conditions	dB(A)	40	40
GENERAL DATA	Weight of ETT unit without option	kg	667	667

Three-phase power supply 400V-50Hz + earth without neutral.

(1) Excluding electrical resistances.

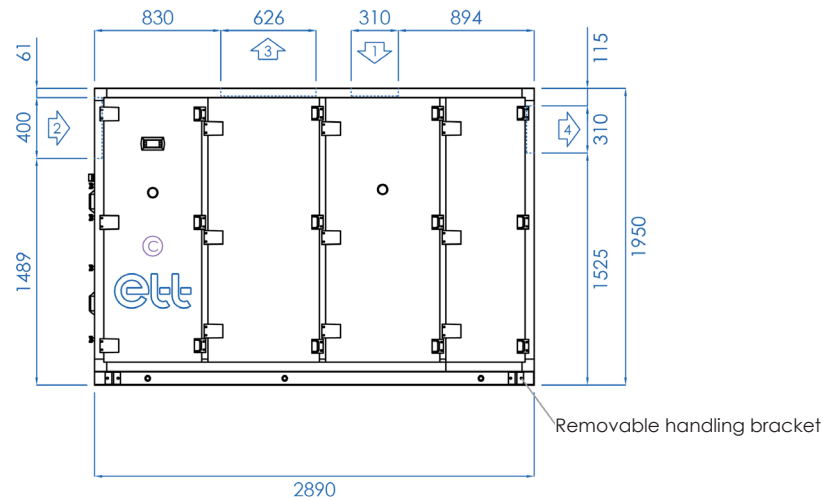
(5) Conditions : Return 28°C/67% RH; Outside 32°C/40% RH.

FA: Fresh Air

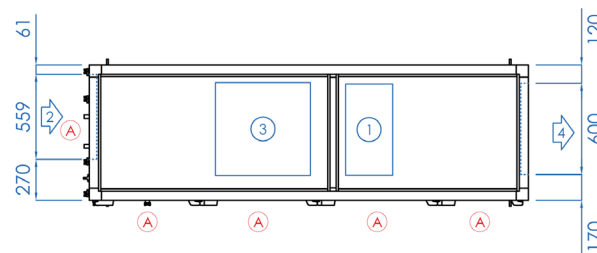
Dimensions and connections

X-POOL + 2-3000 / 2-4000

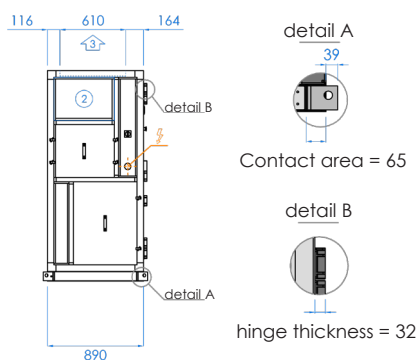
Front view:



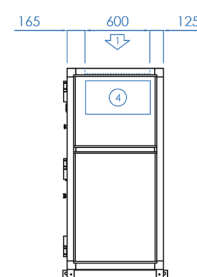
Top view:



Side view (return):



Side view (exhaust):



- ① Fresh Air
- ② Return
- ③ Supply air
- ④ Extracted air
- (A) Access
- ⚡ Electrical supply
- Ⓢ Technical compartment

	Length	Width	Height
Dimensions of assembled casing (mm)	2890	890	1950
Overall dimensions for transport (mm)	2929	967	1950

Note: Allow a minimum of 200 mm under the machine for the connection of the condensate traps.

	DESCRIPTION	Unit	3-5200	3-6200
FEATURES	Nominal supply air flow	m ³ /h	5200	6200
	Min./max. nominal supply air flow	m ³ /h	4900/7200	5600/7900
	Dehumidified air flow rate	m ³ /h	5200	6200
	Min./max. treated air flow	m ³ /h	4900/5600	5600/6700
	100% FA cooling-based dehumidification capacity ⁽⁵⁾	kg/h	25.7	30.7
	100% recirculation heating-based dehumidification capacity ⁽²⁾	kg/h	14.8	16.7
	20% FA heating-based dehumidification capacity ⁽²⁾	kg/h	36.8	43.3
	50% FA heating-based dehumidification capacity ⁽²⁾	kg/h	62.1	73.9
	Thermodynamic COP in heating base ⁽²⁾	kW/kW	5.97	5.48
	Overall heating efficiency ⁽²⁾⁽⁶⁾	kW/kW	7.58	7.20
	Plate heat exchanger recovery capacity ⁽²⁾	kW	12.6	14.1
	Heat recovery efficiency with 100% fresh air (ErP 2021 / EN308)	%	74%	74%
	Air-cooled condenser recovery capacity ⁽²⁾	kW	19.1	21.9
	Water condenser recovery power, pool recovery ⁽⁴⁾	kW	21.9	25.8
	Recommended total water flow rate per water-cooled condenser, pool recovery ⁽⁴⁾	m ³ /h	3.3	3.8
	Pressure drop, with water-cooled condenser, for recovery on pool water ⁽⁴⁾	mWH	0.6	0.8
	Total cooling capacity in cooling cycle ⁽³⁾	kW	14.5	16.3
	Number of independent refrigeration circuits	u	1	1
ELECTRICS	Total installed electrical machine power (standard) ⁽¹⁾	kW	14.0	14.8
	Total rated/starting current (standard) ⁽¹⁾	A	27.6/114.6	29.5/115.6
FANS	SUPPLY AIR			
	Quantity of fans	u	1	1
	Installed capacity	kW	4.45	4.45
	Power consumption at 250 Pa available at supply air	kW	2.31	2.65
	RETURN			
	Quantity of fans	u	1	1
	Installed capacity	kW	4.45	4.45
	Power consumption at 250 Pa available for recovery	kW	2.31	2.65
	Average sound pressure at 10m ref. 2 x 10 ⁻⁵ in free field conditions	dB(A)	42	45
GENERAL DATA	Weight of ETT unit without option	kg	929	929

Three-phase power supply 400V-50Hz + earth without neutral.

(1) Excluding electrical resistances.

(2) Conditions : Return 28°C/65% RH; Outside -7°C/95% RH.

(3) Conditions : Return 29°C/70% RH; Outside +35°C/40% RH.

(4) Conditions : Pool water 28°C; Return 28°C/65 RH.

(5) Conditions : Return 28°C/67% RH; Outside 32°C/40% RH.

(*) : dehumidification efficiency including electricity consumption of fans and compressors

FA: Fresh Air

	DESCRIPTION	Unit	3-5200	3-6200
FEATURES	Nominal supply air flow	m³/h	5200	6200
	Min./max. nominal supply air flow	m³/h	4900/7200	5600/7900
	Dehumidified air flow rate	m³/h	5200	6200
	Min./max. treated air flow	m³/h	4900/5600	5600/6700
	100% FA cooling-based dehumidification capacity ⁽⁵⁾	kg/h	25.7	30.7
	Heat recovery efficiency at 100% fresh air (according to ErP 2021 : EN308)	%	74%	74%
ELECTRICS	Total installed electrical machine power ⁽¹⁾	kW	8.9	8.9
	Total rated/starting current ⁽¹⁾	A	13.6/13.6	13.6/13.6
FANS	SUPPLY AIR			
	Quantity of fans	u	1	1
	Installed capacity	kW	4.45	4.45
	Power consumption at 250 Pa available at supply air	kW	2.19	2.52
	RETURN			
	Quantity of fans	u	1	1
	Installed capacity	kW	4.45	4.45
	Power consumption at 250 Pa available for recovery	kW	2.19	2.52
	Average sound pressure at 10m ref. 2 x 10 ⁻⁵ in free field conditions	dB(A)	39	41
GENERAL DATA	Weight of ETT unit without option	kg	854	854

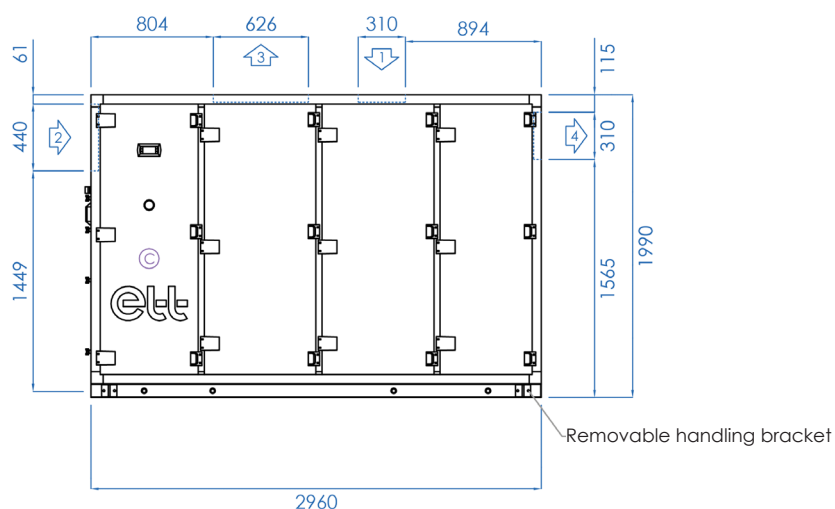
Three-phase power supply 400V-50Hz + earth without neutral.

(1) Excluding electrical resistances.

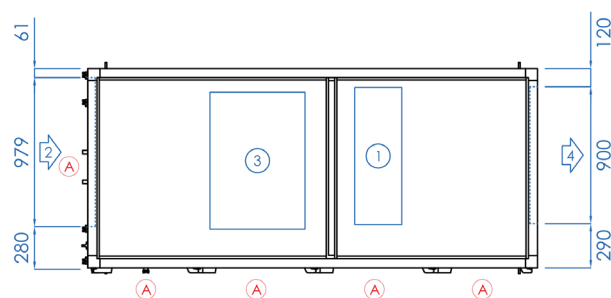
(5) Conditions : Return 28°C/67% RH; Outside 32°C/40% RH.

FA: Fresh Air

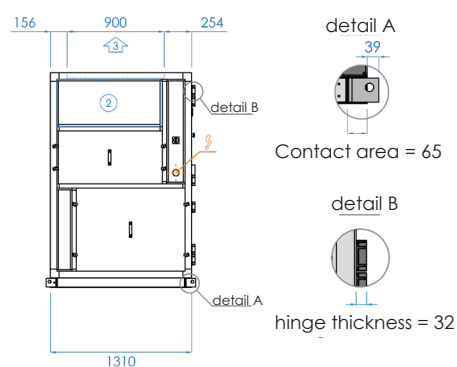
Front view:



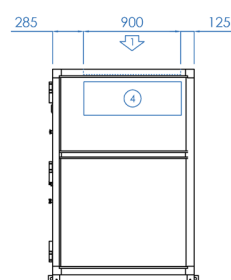
Top view:



Side view (return):



Side view (exhaust):



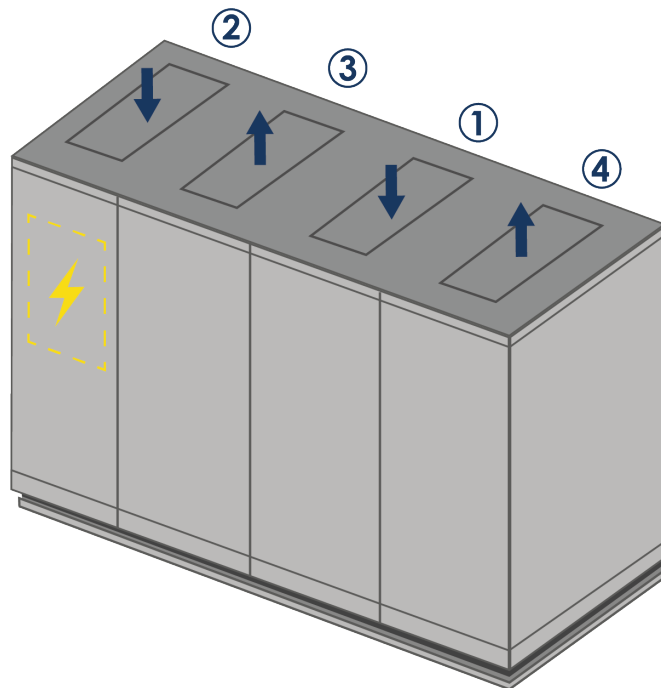
- ① Fresh air
- ② Return air
- ③ Supply air
- ④ Extracted air
- Ⓐ Access
- ⚡ Electrical supply
- Ⓒ Technical compartment

	Length	Width	Height
Dimensions of assembled casing (mm)	2960	1310	1990
Overall dimensions for transport (mm)	2999	1387	1990

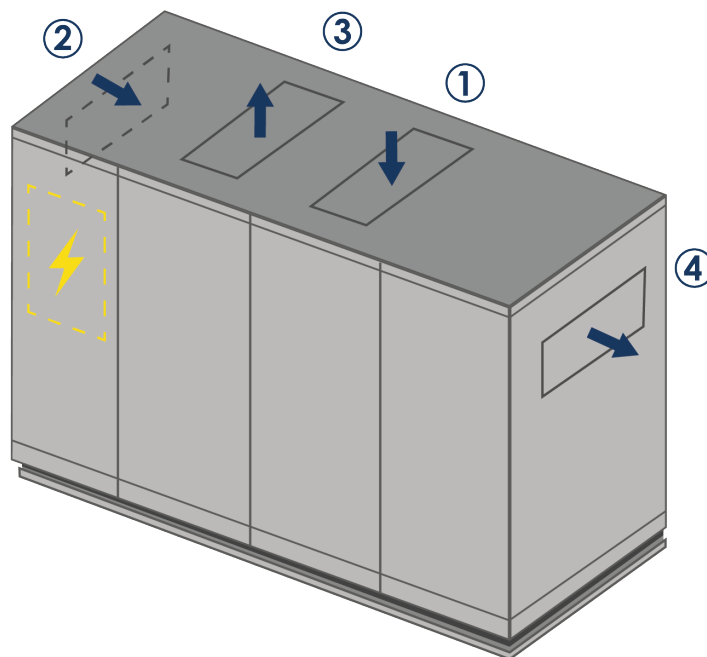
Note: Allow a minimum of 200 mm under the machine for the connection of the condensate traps.

Airflow arrangements

Arrangement A



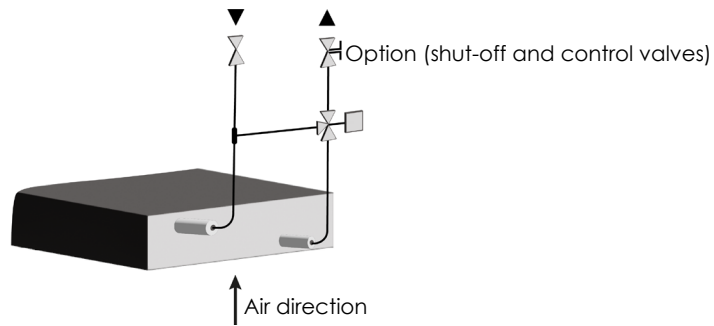
Arrangement B



① Fresh air ② Return air ③ Supply air ④ Exhaust air

Auxiliaries : Hot water coils

Piping diagram



Connections and weights

	Unit	1-1100	1-1850	2-3000	2-4000	3-5200	3-6200
Customer connection diameter	mm	20x27	20x27	26x34	26x34	33x42	33x42
Coil weight + 3WV with water	kg	20.4	20.4	26.4	26.4	33.3	33.3

Power ratings and load losses for an air inlet temperature to the coils of + 10°C

		Unit	1-1100	1-1850	2-3000	2-4000	3-5200	3-6200
Water regime 80/60°C	Max. power	kW	16.8	23.9	41.0	49.9	61.4	79.2
	Max. flow rate	m³/h	0.7	1.1	1.8	2.2	2.7	3.5
	Coil + 3WV pressure drop	mWH	1.3	2.9	1.6	2.3	1.6	2.7
Water regime 50/40°C	Max. power	kW	9.6	13.8	23.0	28.0	31.0	45.0
	Max. flow rate	m³/h	0.8	1.2	2.0	2.4	2.7	3.9
	Coil + 3WV pressure drop	mWH	1.5	4.4	2.0	3.0	1.7	4.0

Optional: shut-off valve on Flow and TA control valve on Return

		Unit	1-1100	1-1850	2-3000	2-4000	3-5200	3-6200
Water regime 80/60°C	Pressure drop on shut-off valve and TA valve, 3-turn opening	mWH	0.2	0.9	0.8	1.1	0.9	1.6
Water regime 50/40°C	Pressure drop on shut-off valve and TA valve, 3-turn opening	mWH	0.3	1	1.1	1.6	1	1.9

Power ratings and load losses for an air inlet temperature to the coils of + 20°C

		Unit	1-1100	1-1850	2-3000	2-4000	3-5200	3-6200
Water regime 80/60°C	Max. power	kW	19.9	34.1	41.4	58.6	65.9	79.2
	Max. flow rate	m³/h	0.9	1.5	1.8	2.6	2.9	3.5
	Coil + 3WV pressure drop	mWH	2.2	1.2	1.7	1.5	1.8	2.7
Water regime 50/40°C	Max. power	kW	9.7	16.5	19.9	28.5	31.9	45.0
	Max. flow rate	m³/h	0.8	1.4	1.7	2.5	2.8	3.9
	Coil + 3WV pressure drop	mWH	1.9	1.1	1.6	1.4	1.8	4.0

Optional: shut-off valve on Flow and TA control valve on Return

		Unit	1-1100	1-1850	2-3000	2-4000	3-5200	3-6200
Water regime 80/60°C	Pressure drop on shut-off valve and TA valve, 3-turn opening	mWH	0.2	0.7	0.6	0.7	0.8	1.1
Water regime 50/40°C	Pressure drop on shut-off valve and TA valve, 3-turn opening	mWH	0.1	0.4	0.5	0.8	0.9	1.0

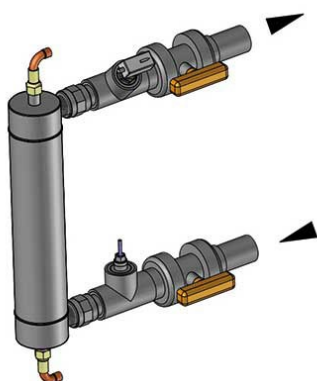
Auxiliaries : Electrical heaters

Available power (kW)

Overall power (kW)	Current intensity (A)	1st stage	2nd stage	1-1100	1-1850	2-3000	2-4000	3-5200	3-6200	Weight (Kg)
6	8.6	3	3	•	•	•	•	•	•	16.4
12	17.3	3	9		•	•	•	•	•	17
18	26	6	12			•	•	•	•	22.9
24	34.6	9	15				•	•	•	24.2
30	43.3	12	18					•	•	31.9
36	52	12	24						•	32.2

Water condenser

Piping diagram



This equipment releases heat to the water in the pool when the ambient temperature is reached. The water-cooled condenser is made of 316 L stainless steel with a 3-way refrigerant valve, including an automatic reset water flow controller (only for chlorine water treatment).

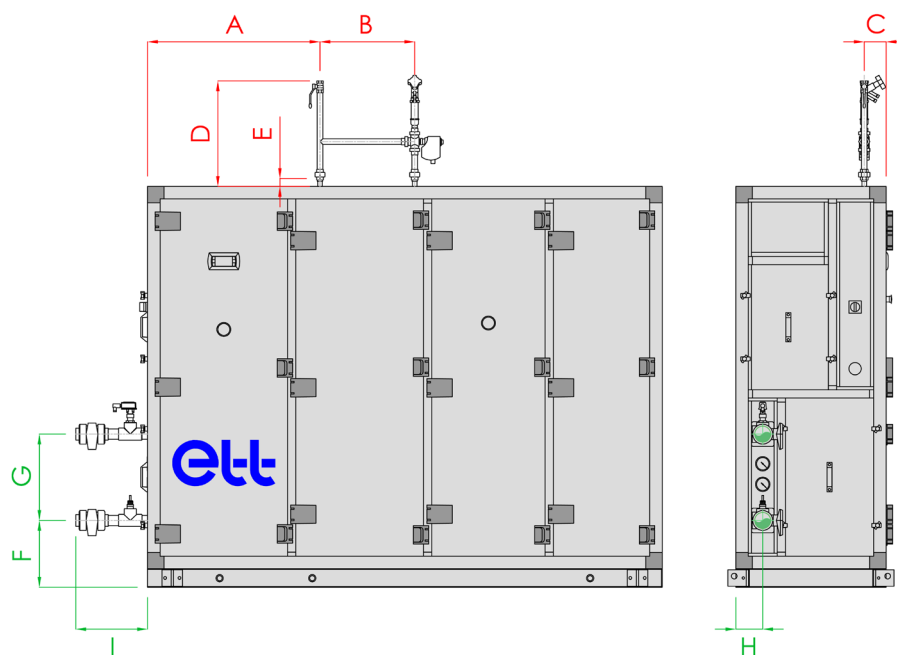
If the water treatment is different, use a titanium exchanger.

Shut-off valves are available as an option.

	Unit	1-1100	1-1850	2-3000	2-4000	3-5200	3-6200
Quantity		1	1	1	1	1	1
Total heat output	kW	6.4	7.9	13.3	16.8	21.9	25.8
Total flow rate	m ³ /h	1.2	1.3	2.3	2.9	3.3	3.8
Inlet temp.	°C	28	28	28	28	28	28
Outlet temp.	°C	33	33	33	33	33	33
Exchanger pressure drop, per condenser	mWH	0.15	0.2	0.35	0.5	0.6	0.8
Total weight	kg	18.8	18.8	26	26	26	26
Connection diameter	ND	50	50	63	63	63	63

Connections: Hot water coil & water condenser

Block diagram - Front view



Connection interface «Auxiliary: hot water coil» // Connection interface «Water condenser»

	Unit	1-1100	1-1850	2-3000	2-4000	3-5200	3-6200
A	mm	838	838	834	834	809	809
B	mm	460	460	617	617	617	617
C	mm	106	106	103	103	128	128
D	mm	514	514	521	521	531	531
E	mm	46	46	48	48	48	48
F	mm	325	325	320	320	320	320
G	mm	420	420	544	544	544	544
H	mm	131	131	132	132	132	132
I	mm	349	349	355	355	355	355

Noise level* at supply air/exhaust air

Spectrum by frequency band

X-POOL +

At unit supply air

	FREQUENCY BANDS Hz ►		63	125	250	500	1000	2000	4000	8000	Overall level Lw (dB(A))
	Supply air flow rate (m³/h) ▼	Processed air flow rate (m³/h) ▼									
1-1100	1100	1100	45.8	54.0	73.0	73.0	78.0	76.0	71.0	58.0	81.9
1-1850	1850	1850	45.8	55.0	73.0	73.0	79.0	79.0	76.0	64.0	83.8
2-3000	3000	3000	48.8	61.0	79.0	76.0	77.0	74.0	69.0	60.0	83.1
2-4000	4000	4000	49.8	61.0	78.0	78.0	78.0	76.0	71.0	63.0	83.9
3-5200	5200	5200	49.8	65.0	68.0	75.0	78.5	78.0	74.0	67.0	83.1
3-6200	6200	6200	52.3	64.5	70.5	78.5	81.5	82.5	77.5	70.5	86.7

At unit exhaust air

	FREQUENCY BANDS Hz ►		63	125	250	500	1000	2000	4000	8000	Overall level Lw (dB(A))
	Supply air flow rate (m³/h) ▼	Processed air flow rate (m³/h) ▼									
1-1100	1100	1100	45.8	54.0	73.0	73.0	78.0	76.0	71.0	58.0	81.9
1-1850	1850	1850	45.8	55.0	73.0	73.0	79.0	79.0	76.0	64.0	83.8
2-3000	3000	3000	48.8	61.0	79.0	76.0	77.0	74.0	69.0	60.0	83.1
2-4000	4000	4000	49.8	61.0	78.0	78.0	78.0	76.0	71.0	63.0	83.9
3-5200	5200	5200	49.8	65.0	68.0	75.0	78.5	78.0	74.0	67.0	83.1
3-6200	6200	6200	52.3	64.5	70.5	78.5	81.5	82.5	77.5	70.5	86.7

*Lw : sound power level (dB(A))

Sound level* at fresh air intake/return

Spectrum by frequency band

At unit fresh air intake

	FREQUENCY BANDS Hz ►		63	125	250	500	1000	2000	4000	8000	Overall level Lw (dB(A))
	Supply air flow rate (m³/h) ▼	Processed air flow rate (m³/h) ▼									
1-1100	1100	1100	46.4	54.6	73.2	73.3	77.3	74.9	70.2	55.6	81.4
1-1850	1850	1850	46.4	55.6	73.4	73.4	78.3	77.9	75.2	61.5	83.2
2-3000	3000	3000	49.1	62.2	78.9	76.3	76.3	73.0	68.3	57.6	82.8
2-4000	4000	4000	50.1	61.6	78.2	78.2	77.3	75.0	70.3	60.6	83.6
3-5200	5200	5200	50.1	65.3	68.2	75.2	77.9	77.0	73.3	64.5	82.5
3-6200	6200	6200	52.9	65.7	70.9	78.7	80.9	81.5	76.9	68.1	86.1

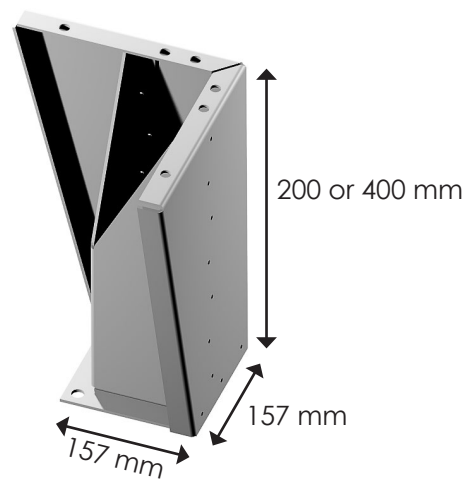
At unit return air

	FREQUENCY BANDS Hz ►		63	125	250	500	1000	2000	4000	8000	Overall level Lw (dB(A))
	Supply air flow rate (m³/h) ▼	Processed air flow rate (m³/h) ▼									
1-1100	1100	1100	45.6	53.8	71.8	70.0	65.2	64.6	58.2	51.2	75.1
1-1850	1850	1850	45.6	54.8	72.8	70.5	66.2	66.6	62.2	53.2	76.1
2-3000	3000	3000	47.6	62.8	75.8	72.5	66.2	65.6	61.2	52.2	78.2
2-4000	4000	4000	48.6	60.8	76.8	73.0	67.2	67.6	63.2	56.2	79.1
3-5200	5200	5200	48.6	63.8	66.8	69.0	69.2	69.6	66.2	58.2	75.7
3-6200	6200	6200	52.1	66.3	70.3	72.5	71.7	72.1	70.7	62.7	78.9

*Lw : sound power level (dB(A))

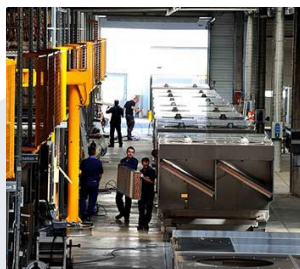
Accessories for installation : Feet

Fixed aluminium foot
Unit weight: 1 kg



Unit	1-1100	1-1850	2-3000	2-4000	3-5200	3-6200
Number of feet (Packaged unit)	4	4	4	4	4	4





Reference: MARK-BRO_54-EN_E

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