

# AIR DYN SYSTEM

Ductable sensible heat recovery unit for ceiling installation with thermodynamic system

- cod. ACC100003 - cod. ACC100004 - cod. ACC100005  
- cod. ACC700004 - cod. ACC700005 - cod. ACC700006  
- cod. ACC700007



## DESCRIPTION

AIR DYN SYSTEM air renewal units feature the adoption of a dual energy recovery system, which would otherwise be wasted in the stale air expulsion phase: the first, static type, uses a cross-flow recovery unit with aluminium plates, and the second (in combination with the previous one), active type, uses a reversible refrigeration circuit.

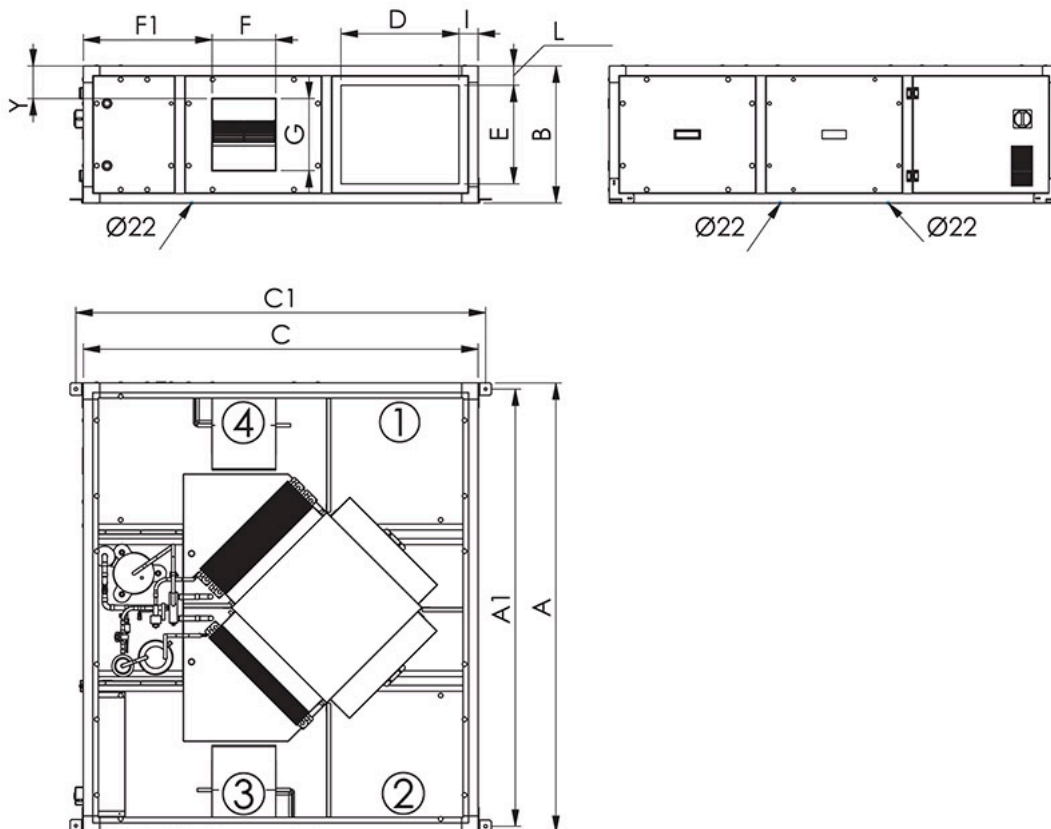
Using a single, independent unit, this allows the simultaneous renewal of air with respect to comfort, reduction of associated thermal loads and savings in energy, all due to very high overall efficiency, both in winter and summer.

### TECHNICAL SPECIFICATIONS:

- Extruded aluminium profile frame, Anticorodal 63 alloy, with preloaded nylon knot joints.
- 23 mm thick sandwich-type cladding panels, internally made of galvanized sheet and externally pre-painted, with thermo-acoustic insulation in injected polyurethane with a density of 45 kg/m<sup>3</sup>.
- Filtration sections at the suction inlets, consisting of synthetic cell filters with ISO 16890 COARSE 55% efficiency class (G4 EN779), removable from both the bottom and the side.
- Double-inlet forward-curved centrifugal fans with directly coupled EC electric motor and dedicated driver; standard operation at constant airflow.
- First stage of thermal transfer (static) through an air-to-air crossflow heat exchanger with aluminum exchange plates; lower condensate collection pan extending across the entire area dedicated to thermal treatment.
- Second stage of active heat transfer via heat pump refrigeration circuit (with R410A gas), consisting of a hermetic compressor (rotary or scroll depending on unit size), evaporator and condenser coils with 25x22 geometry, copper tubes and continuous aluminum fins, electronic expansion valve, separator and liquid receiver, 4-way reversing valve, high and low pressure switches, freon filter, and liquid sight glass.
- Internal electrical panel for load management; NTC-type temperature sensors on both air circuits; microprocessor-

based electronic control for automatic management of room temperature, hot/cold switching, and defrost cycles; remote control panel up to 20 m from the unit, already implemented with Modbus RTU protocol for communication with the supervision system.

## TECHNICAL DRAWING



- [1] Outdoor air intake
- [2] Room air intake
- [3] Treated air delivery
- [4] Foul air expulsion

## DIMENSIONS

CODE	A [mm]	B [mm]	C [mm]	A1 [mm]	C1 [mm]	D [mm]	E [mm]	F [mm]	F1 [mm]	G [mm]	I [mm]	L [mm]	Y [mm]
ACC100003	1840	410	1440	1795	1494	400	250	233	498	264	85	80	55
ACC100004	1840	500	1440	1795	1494	400	350	233	470	264	85	75	118
ACC100005	2040	550	1690	1995	1744	500	410	299	571	264	85	70	120

## ACCESSORIES

High efficiency filter ePM<sub>1</sub> 70%  
Optional remote user terminal with interconnect cables

## PERFORMANCE

MODEL	1000	1500	2300
Nominal flow rate [m³/h]	1000	1500	2300
Useful static delivery pressure [Pa]	295	290	365
Useful static intake pressure [Pa]	240	230	305
Sound pressure level [dB(A)]	62/49/55	67/54/57	65/51/60
Weight	185	228	267

## functional limitations

MODEL	1000	1500	2300
Winter Limit Conditions Standard Configuration [°C]	min -10°C OUT and min 19°C 50% IN		
Range change flow %	+10		
Summer limit conditions [°C]	max 38°C 50% OUT and max 27°C IN	max 38°C 50% OUT and max 27°C IN	max 38°C 50% OUT and max 27°C IN
Range change flow %	+10		

## ELECTRICAL DATA

MODEL	1000	1500	2300
Power supply [V] / ph / [Hz]	230/1/50	230/1/50	400/3+N/50
Absorbed current max [A]	13,2	20,2	10

## PERFORMANCE IN HEATING

MODEL	1000	1500	2300
Efficiency static recovery %	50	50	50
Total heat output [kW]	9.8	14.3	20.8
Thermal power active recovery [kW]	5.1	7.4	10.1
Global COP *Excluding power absorbed for ventilation	9.4	9.6	12.6

## COOLING PERFORMANCE

MODEL	1000	1500	2300
Efficiency static recovery %	50	50	50
Total cooling capacity [kW]	6.3	9.0	13.4
Cooling capacity with active recovery [kW]	5.3	7.5	11
Global EER [W/W] *Excluding power consumed by ventilation	4.5	4.3	5.6

## COOLING PERFORMANCE

MODEL	1000	1500	2300
Refrigerant - GWP	R410A - 2088	R410A - 2088	R410A - 2088
Number of circuits	1	1	1

## ITEMS

CODE	DESCRIPTION
ACC100003	HEAT RECOVERY UNIT WITH "AIR DYN SYSTEM" THERMODYNAMIC SYSTEM - 1000m³/h
ACC100004	HEAT RECOVERY UNIT WITH "AIR DYN SYSTEM" THERMODYNAMIC SYSTEM - 1500m³/h
ACC100005	HEAT RECOVERY UNIT WITH "AIR DYN SYSTEM" THERMODYNAMIC SYSTEM - 2300m³/h
ACC700004	REMOTE USER TERMINAL FOR "AIR DYN SYSTEM"
ACC700005	COMPACT FILTER ePM1 70% FOR "AIR DYN SYSTEM" - 1000m³/h
ACC700006	COMPACT FILTER ePM1 70% FOR "AIR DYN SYSTEM" - 1500m³/h
ACC700007	COMPACT FILTER ePM1 70% FOR "AIR DYN SYSTEM" - 2300m³/h

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