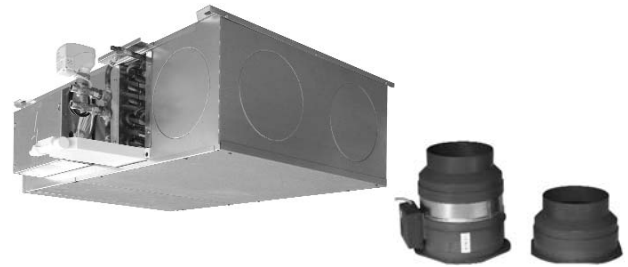




The high comfort solution for the Residential



A Residenciat ductable unit per apartment



A centralised production for each building or group of buildings

or



An individual heat pump



A user's terminal for each room
silent and simple controls

And comfort throughout the year...

RESIDENCIAT System has been specially elaborated for heating and air-conditioning homes and housing. Its algorithms of regulation, developed by CIAT, meet the particular requirements of these installations perfectly.

Designed for 2-pipe, 2-pipe + 2-wire and 4-pipe system, operating with recycled air, the RESIDENCIAT system consists of:

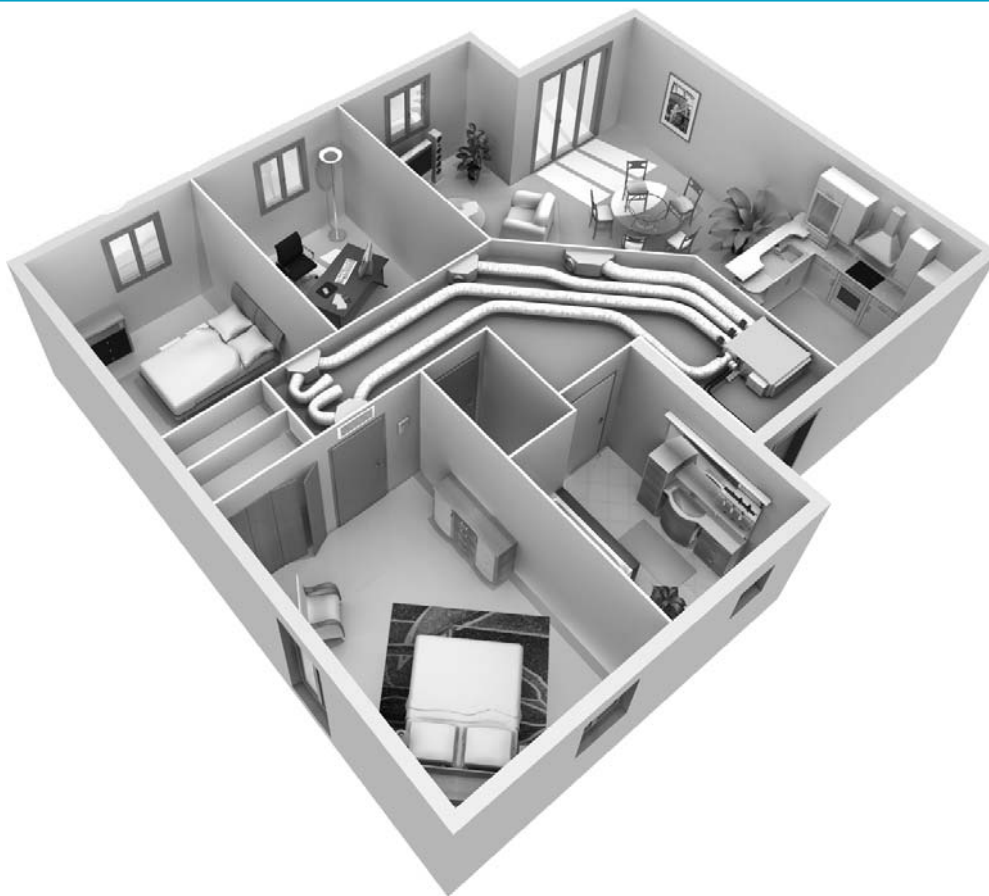
- A Residenciat ductable unit equipped with a multi- zone PI controller.
- Wall terminals with display (1 main terminal and up to 6 zone terminals).

- Motorized dampers.

- A discharge/return air diffusion system (diffusion grille ensuring the COANDA effect).

Thanks to its centralized control, RESIDENCIAT controls up to 6 rooms (zones), ensuring a high level of thermal and acoustic comfort.

The RESIDENCIAT system is proposed in water control with 4-way valves. The regulator controls the 24 V actuator valve with two rotation directions (3 points). This type of motor permits the stabilising of the valve opening from 0 to 100% according to control requirements. Its operation is not influenced by the temperature of fluids circulating in the valve.



Operation

From the main terminal, the user adjusts the setpoints COMFORT and ECONOMY as well as the weekly clock programming ensuring ECO/COMFORT change-over for each zone.

All controllers (main terminal and zone terminal) manage the ambient temperature of each respective zone according to settings transmitted by the main terminal. The user can adjust the temperature of its zone from each terminal, and go against the ECONOMY and COMFORT modes resulting from the clock programming.

The controller mounted on the unit communicates with the main terminal and the zone controller. It summarizes the requirements and pilots all organs at his disposal : action on 3 ventilation speeds, valve(s), 3 points motorized dampers and the possible electric heaters (electric heaters piloting in chrono-proportional signal).

The ventilation mode alone permits to transfer cold or hot from one room to the other without hot or chilled water consumption (closed valves: energy saving).

The control parameters (neutral zone ventilation, proportional band, integration time) are pre-settled in factory.

These parameters as well as the settings can be modified on site via the main terminal (factory set: hot 20°C, cold 24°C, dead zone 4K).

A self-supplied communication bus ensures the connection between the controller and each terminal (no separate bus supply).

Necessary installation:

For all applications, **RESIDENCIAT** requires upstream:

- A hot and/or cold water production (heat pump, refrigerant unit + boiler, other).
- A 2-pipe or 4-pipe system distribution in the common parts.
- One energy counting system for each apartment (in collective housing).

In order to optimize energy consumption, it is possible to add a Cristopia heat storage system for calories.

The RESIDENCIAT prices are defined by the terminal unit selected and the number of zones to be controlled. Do not hesitate to consult us for further information.

Budget estimates for the supply of the material necessary to a 2-pipe reversible (heating/cooling) Residenciat installation including:

- 1 Y model Residenciat ductable unit (return in suspended ceiling), factory equipped with:
 - 1 Residenciat multi-zone controller,
 - 1 x 4-way valve with 3-point servo-motor,
 - 1 change-over sensor.
- 2 to 6 200 mm diameter motorised on/off register kits (+ 200/160 diam. reduction for use with a 600 x 150 mm diffuser).
- 1 set of 4 resilient mounts.
- Isophonic flexible duct, double skin 25 mm.
- Air discharge/intake diffusers:
 - Room model: 600 X 150 mm, spur in Ø 160 mm,
 - Living-room model: 800 X 200 mm, spur in Ø 200 mm.
- Terminals of the control:
 - 1 main terminal,
 - 1 to 6 zone terminals.

Number of rooms	Surface area m ²	Selected size	Motor ref. in HS	Capacity in high speed		Motorised dampers	Packages of 10 linear meter of isophonic flexible duct*		Diffusers		Terminals	
				Cooling total W	Heating W		200 mm	160 mm	Room 600x150	Living-room 800x200	TP	TZ
2	35	295/01R Y	R5	3980	3880	2	1	1	1	1	1	1
3	55	295/01R Y	R4	4460	4430	3	1	2	2	1	1	2
3	75	295/03 Y	R4	5630	5260	3	1	2	2	1	1	2
4	80	295/03 Y	R3	6410	6010	4	1	3	3	1	1	3
5	95	295/03 Y	R2	7220	6760	5	1	4	4	1	1	4
6	110	295/04 Y	R3	9070	8280	6	1	4	5	1	1	5

Conditions of selection: **Summer** pure water 7/12°C, air intake 27°C, **Winter**: pure water 45/40°C, air intake 19°C

* Measuring of isophonic duct to adjust according to each apartment.

Note: dimensioning to be made on approximately 30% of over-power in high speed.

Remain to envisage :

- Connection of all the terminals to the central controller by a two-wire BUS.
- 1 power supply protected on sleeving (1 pH + N 230V-50Hz + Earth).
- 1 supply, 2 tubes heating/cooling.
- 1 energy meter (when the production is collective).
- 1 gravitating condensate drain (no drain pump).
- Suspended-ceiling in the circulation zones.
- Trap door allowing access to the filter, controller and hydraulic connections.

Other possible configurations:

- 2-pipe coil + electric battery.
- 4-pipe coil.
- H model (ducted air intake) for installation in attic space.

Envisage imperatively assistance and training for commissioning by a CIAT customer service.

Our distribution network is at your service for any study or detailed costing.