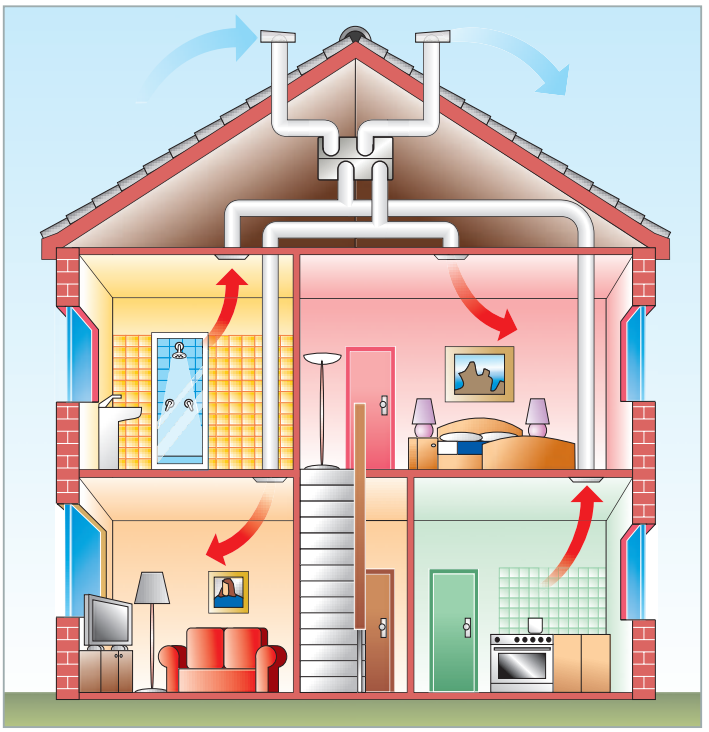
Building Regulations Document F1 2006

SYSTEM 4

CONTINUOUS MECHANICAL SUPPLY & EXTRACT VENTILATION WITH HEAT RECOVERY

A continuous balanced mechanical central supply and extract system to be positioned in loft or cupboard space. An integral heat exchanger recovers a large percentage of heat energy that would have otherwise been lost. In employing this type of system, there is no need to install background ventilators in the dwelling.



CONTINUOUS SUPPLY AND EXTRACT

1 Determine the whole building ventilation rate from **Table 1.1 b**. Allow for infiltration by subtracting

- for multi storey dwellings: 0.04 x gross internal volume of dwelling heated space (m^3).
- for single storey dwellings: 0.06 x gross internal volume of dwelling heated space (m^3).

2 Calculate the whole dwelling extract rate at maximum operation by adding the individual room rates for "minimum high rate" from **Table 1.1 a**.

3 The required air flow rates are as follows:

- **Maximum extract rate (boost)** is the greater of step 1 and 2 above. The maximum individual room extract rates should be at least those given in **Table 1.1 a** for minimum high rate.
- **Minimum air supply rate** should be at least the whole building ventilation rate in step 1 above.

4 No background ventilators are required with System 4.

TABLE 1.1 a

Room	Minimum intermittent extract rate	Continuous rate	
		Minimum high rate	Minimum low rate
Kitchen	30 l/s (adjacent to hob, 60 l/s elsewhere)	13 l/s	Total extract rate must be at least the whole building ventilation rate in Table 1.1B
Utility room	30 l/s	8 l/s	
Bathroom	15 l/s	8 l/s	
Sanitary Accomodation	6 l/s	6 l/s	

TABLE 1.1 b

	Number of bedrooms in dwelling				
	1	2	3	4	5
Whole building ventilation rate (l/s)	13	17	21	25	29
	Minimum value in any dwelling of 0,3 l/s per m^2 floor area				

- In addition, the minimum ventilation rate should not be less than 0,3 l/s per m^2 internal floor area (this includes each floor, e.g. for a two-storey building, add the ground and first floor areas).
- This is based on two occupants in the main bedroom and a single occupant in all other bedrooms. This should be used as the default value. If a greater level of occupance is expected, then add 4 l/s per occupant.

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