



HEAT RECOVERY VENTILATION SYSTEMS

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Ventilation of Child Care Facilities.

Heat Recovery Ventilation (HRV) is a system whereby the heat in the stale air being exhausted from buildings is **recovered** and used to warm the fresh air as it enters the building. Ventilation done in this way ensures that there is continuous extract from service areas such as kitchens and toilets and simultaneously, continuous fresh pre-warmed air supplied to habitable areas such as sitting and sleeping rooms. This is done by means of a single ventilation unit which enables over 90% of the heat to be recovered and accurately controls the amount of air supplied and extracted without any mixing of the two air-streams.

For all applications such as residential, school classrooms or childcare facilities, there is a certain rate at which this air should be supplied and exhausted and these are detailed in technical guidance documents provided by the Department of the Environment in association with building regulations. Roughly condensed down, these documents state that each person should be provided with 4 – 8 litres of air per second, depending on the situation.

It is an indisputable fact that fresh filtered air supply and stale air removal is absolutely beneficial to not just the clients (in this case the children), but to staff and to the building itself, which can suffer from condensation and mould growth if not properly ventilated.

It is now widely accepted that HRV systems, working continuously and quietly in the background, are the optimal solution to ventilation problems and that large extract fans which work intermittently only serve to make buildings cold and uncomfortable. As the heat from the exhaust is recovered, this means that air entering from outside (via small discs in the ceilings) is almost at the temperature of the building irrespective of how cold it gets outside. This means that buildings are easier to heat and there is no necessity to open windows in cold weather with obvious advantages for the health and comfort of the occupants and staff alike.

With this system it is possible to improve the draught-proofing and insulation of a building without compromising on air quality. In fact, it is highly recommended that all three aspects should be improved as a package of measures. A well ventilated, highly insulated and draught-proof building such as a child-care facility will

- Greatly reduce fuel bills.
- Increase staff satisfaction
- Quickly deal with smells and spills
- Inhibit the growth of mould and dangerous bacteria.
- Eliminate condensation risk and preserve the building fabric.
- Reduce the amount of cold surfaces and hugely increase the feeling of warmth and comfort.

For the above reasons, we believe that the package of measures described should be high on any list of improvements planned for any building, but especially a child-care one where the occupants are of such a tender and precious nature.