

POLAR

Heat Recovery Ventilation

About POLAR

The POLAR HRV (Heat Recovery Ventilation) fan ventilates the interior of the building whilst retaining heat thereby conserving energy and minimising cost. The fan features an aluminium heat exchanger core so that when the interior of the building is comparatively warmer than the exterior, the core transfers heat from the outgoing stale air to preheat the incoming fresh air. The extent to which the heat exchange occurs depends upon the relative difference in air temperature. The maximum heat exchange possible (and across the industry) is around 75%, although under normal environmental conditions around 50% heat recovery is more realistic.



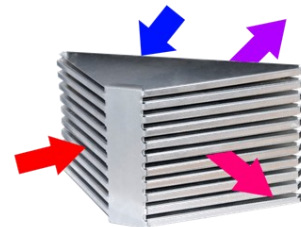
The design is such that the cross-current sections inside the fan ensure the two air streams are always kept separate preventing the incoming fresh air from being contaminated by the outgoing stale air.



POLAR HRV conserves heat energy and incorporates 2 x 2 watt MagLev motors.

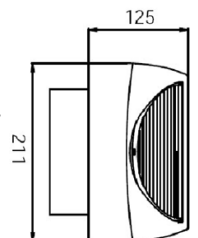
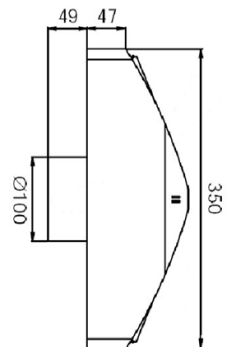
The POLAR HRV runs continuously and together with the integrated filters helps to maintain a comfortable living environment as when the incoming air is heated it reduces the air contaminants such as nitrous oxide, carbon dioxide and water vapour within it and replenishes the oxygen levels.

The low-watt fan system utilises an energy efficient MagLev motor, offering great efficiency, quiet operation and exceptionally long life (up to 50,000 hours of operation). No user or installation set up is required.



Features and Benefits:

- Ventilates the interior of the building whilst retaining heat thereby conserving energy and minimising cost
- Continuous running maintains a comfortable and healthy fresh air environment
- As the air is filtered and removes contaminants it is of particular benefit to those with asthma or other allergies
- Aluminium super conductive heat recovery plates deliver high efficiency and very long life
- Manufactured to WEEE requirements
- Incorporates MagLev DC fan motors - designed to operate for 50,000+ hours fault free which means:
 - ◇ Almost silent operation
 - ◇ Cost effective as it is inexpensive to run, low maintenance and has a long life.
 - ◇ Can be fixed in any orientation without affecting performance (wall, ceiling)
 - ◇ High performance low wattage energy efficient solution for ducted systems
- Polycarbonate ABS mix with fire retardant housing which provides a robust and high temperature resistant casing.
- Produces up to 30m³/h of air flow
- Lifetime* guarantee on the MagLev motor and 5 year guarantee on all other parts giving peace of mind



What is MagLev Technology:

MagLev fans are derived from the most advanced train technology in the world. We have integrated the science behind making the MagLev trains float above the rails and propel forward, into our complete range of domestic fans.

The levitation of the blade and housing is created through opposing magnetic forces causing propulsion through perpendicular magnetic fields. This means that there is no physical contact between the moving parts and therefore no mechanical friction. This in turn means that the fan temperature is low and there is less waste of energy and less wear to the components. No friction also results in exceptionally high efficiency, quieter running and improved balance. All these features make a highly reliable motor with around 30 years life expectancy under normal operating conditions

* Lifetime = lifetime of fan motor >50,000 hours in normal conditions

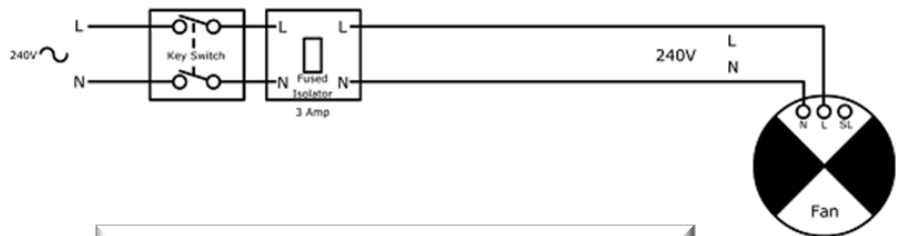
Polar HRV options

| Item | Part No. | Kit Contents |
|-------------------------|-----------------------|--|
| HRV Fan | POLAR HRV | POLAR HRV fan with Heat Recovery Ventilation |
| Accessories | | |
| Split duct | HRV100 DUCT | 100mm intake/extract sleeve |
| External grille (brown) | HRV100GRILLE | Intake/Extract 100mm Grille |
| Flat Roof Cowl | HRV100ROOF - F | 100mm ducted roof cowl with flashing for flat roof |
| Sloped Roof Cowl | HRV100ROOF - S | 100mm ducted roof cowl with flashing for sloped roof |

POLAR Wiring

The diagram depicts the wiring for the POLAR HRV fan and therefore the connection is direct from the fan to the fuse spur isolator

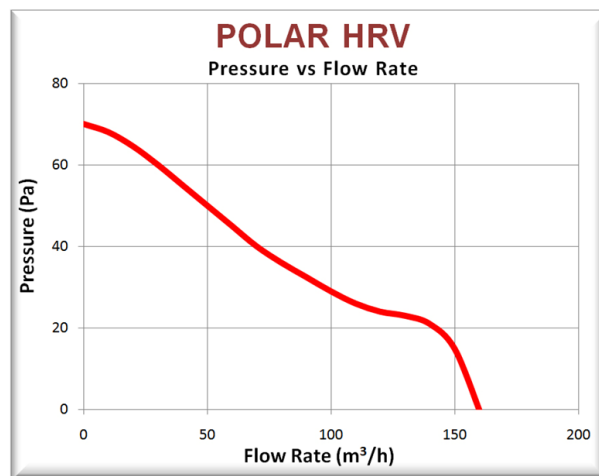
Wiring Diagram 1



General Notes on Fan Installations

The fan position should be as far as practical from the main source of air replacement. This is to avoid short-circuiting of the airflow. The fan can be placed on a wall or ceiling. The POLAR fans have a 98mm spigot to fit onto a circular 100mm ducting system.

For more information, please contact us or see our website for product details and a detailed installation guide.



And for the Specifier.....

The POLAR HRV contains aluminium heat recovery plates and should be installed onto a circular split duct system with suitable intake/extract exhaust grille. The fan will include 2 MagLev motors of not more than 2 Watts each extracting at no less than 30m³/h.

| Product | POWER | | | | |
|-----------|-----------------------------------|----------------------|----------------------------|------------------|--------------------------------|
| | Max Air Flow m ³ /h | Fan Input (watts) | Static Pressure (Pa) | Noise (dB(A)) | Exhaust Spigot Size (mm) |
| POLAR HRV | 30 | 4 | 50 | 30 | 98 |