cleanaire

Heat Recovery Ventilator

Since 1982

The most energy efficient way to ventilate your home

You wouldn’t drink dirty water, why breathe dirty air?

The Building Code requires new and renovated homes to be energy-efficient. Living spaces are sealed from the effects of outdoor weather, almost as air-tight as a plastic bag.

In Winter, people spend the majority of time indoors, and with windows and doors tightly shut for energy efficiency and security, pollutants that result from normal daily living accumulate to unhealthy levels

NZ MADE SINCE 1982

FACT: From 1982, we have continuously manufactured Genuine Heat Recovery Ventilators. Since producing the first (NZ) genuine home HRV, CLEANAIRE HRV has perfected the "Crossflow" Heat Exchanger, to suit the New Zealand climate.

CONTINUOUS TRICKLE VENTILATION TO COMPLY WITH NZS3403

The CLEANAIRE HRV provides continuous balanced outdoor air "trickle ventilation", to dilute excessive moisture and indoor contaminants, so the indoor environment is fresh, dry and healthy. When installed as per our plan & instructions, the CLEANAIRE HRV complies with **NZ Standard 4303:1990 "Ventilation for Acceptable Indoor Air Quality"** which calls for continuous ventilation at a rate of 0.35 ACH (Air Changes per Hour) - equivalent to one complete air change every 3 hours.

EUROVENT CERTIFIED ALUMINIUM HEAT EXCHANGER

Heatex (Sweden) Aluminium Air to Air Heat Exchanger is Eurovent Certified. The “Heatex” was first designed for Avon, for NZ conditions, in 1982. We provide an unconditional 12 Year Warranty on the Heatex Heat Exchanger.

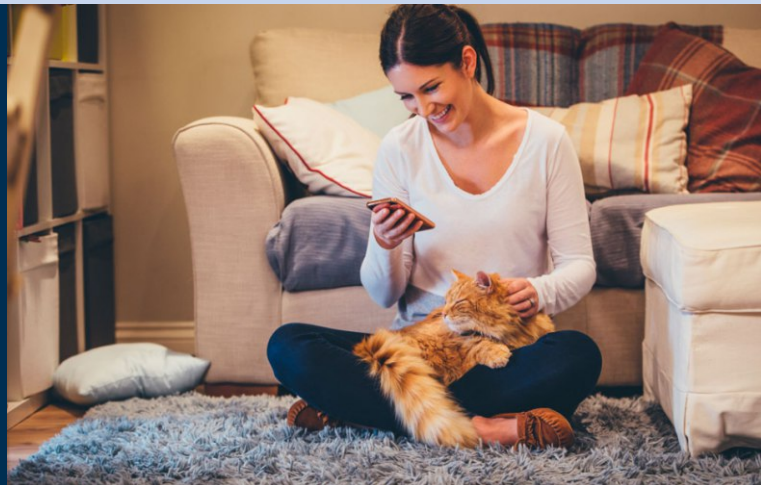
ENERGY EFFICIENT HEAT RECOVERY

Depending on model and conditions, the CLEANAIRE can recover up to 80-95% of available waste heat, and save up to 15 times the energy it consumes.

CLEANAIRE PERFORMS BEST WHEN WINTER CONDITIONS ARE WORST

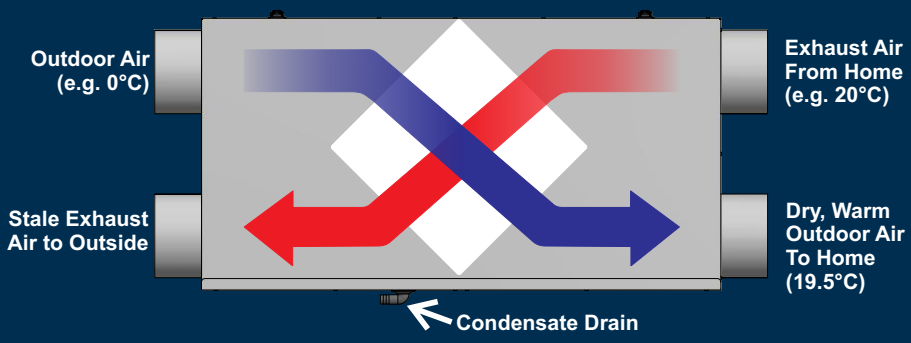
The greater the temperature difference (indoors warmer - outdoors colder), the better the CLEANAIRE HRV will lower the relative humidity of the indoor environment - no sunshine or warm roofspace required.

The best solution for a dry, healthy home



HOW IT WORKS

Up to 95% of available waste heat is recovered from the exhaust air and recycled to the incoming outdoor air.



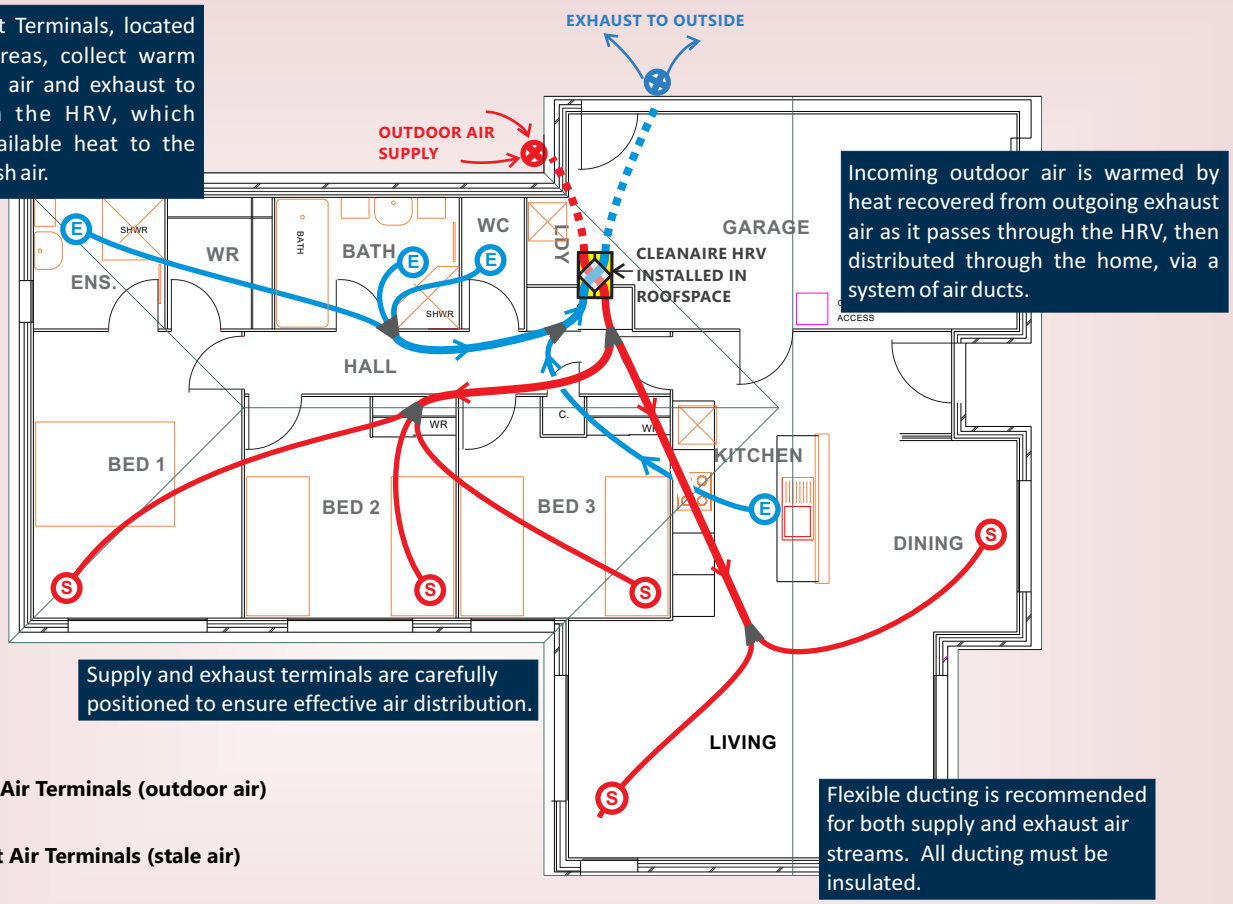
Stale, humid indoor air is continuously exhausted and replaced with 100% outdoor air. Up to 80-95% (depending on model & conditions) of available waste heat from the exhaust air stream is "captured" by the Aluminium Heat Exchanger and transferred to warm the incoming cold outdoor air.

The pre-warmed, dry, outdoor air is filtered before being continuously distributed throughout your home, to create a dry, healthy indoor environment. In some conditions, airborne humidity condenses in the Heat Exchanger and is drained to outside via the integral condensate drain.

It is important to note that the Cleanaire is not a heater - it recycles available waste heat from other indoor sources and will dehumidify whenever the outdoor air is colder than indoor air. Heat Recovery Ventilators perform best when winter conditions are worst. Unlike other condensation control devices, HRVs do not require sunshine, a warm roof space, or supplementary heating. When there is no heat to recover (on warm days and in summer) the HRV continues to provide balanced, controlled ventilation from its two (supply and exhaust) fans. Ventilation with outdoor air will ensure "acceptable indoor air quality", but for effective condensation control, indoor air must be warmer than outdoor air. The greater the temperature difference (indoors warmer - outdoors colder), the better the HRV will lower the relative humidity of the indoor environment.

EFFECTIVE AIR DISTRIBUTION*

Exhaust Duct Terminals, located in service areas, collect warm stale, humid air and exhaust to outside via the HRV, which transfers available heat to the incoming fresh air.



Incoming outdoor air is warmed by heat recovered from outgoing exhaust air as it passes through the HRV, then distributed through the home, via a system of air ducts.

Supply and exhaust terminals are carefully positioned to ensure effective air distribution.

Flexible ducting is recommended for both supply and exhaust air streams. All ducting must be insulated.

(S) Supply Air Terminals (outdoor air)

(E) Exhaust Air Terminals (stale air)

*** To comply with NZS3403:1990, Ventilation Air must be effectively distributed.**

The Genuine Heat Recovery Ventilator (HRV)

SPECIFICATIONS

Avon currently manufacture three standard domestic CLEANAIRE HRV models: the **CL130**, **CL200** and the **CL300.** We can also offer custom built larger capacity units domestic/commercial applications - contact us to enquire.

MODEL	CL130	CL200	CL300
FOR HOMES UP TO (max)	150m²	235m²	350m²
FAN CAPACITY			
0.35 Air Changes (ACH)*	35lps*	55lps*	83lps*
MAX (e.g. for Summer)	83lps	152lps	195lps
POWER CONSUMPTION			
At 0.35 Air Changes (ACH)*	50W*	46W*	170W*
Max Fan Speed	170W	170W	336W
EFFICIENCY (Up to Max)**	80%**	95%**	95%**
WEIGHT	18kgs	22kgs	31kgs
DIMENSIONS (mm) L x H x D	944x349x436	841x559x436	1062x509x437

** To comply with NZS4303:199 in a home of the max recommended area & a ceiling height of 2.4m, (Ventilating at a rate of 0.35ACH (Air Changes Per Hour))*

*** Certified by www.eurovent.eu. Actual efficiency varies with conditions.*

Standard Control Panel
ON/OFF Switch & Infinitely Variable Fan Speed Controller.

Optional Summer Bypass Control Panel
Includes additional Summer/Winter Switch.

FEATURES

COMPACT ALUMINIUM CABINET - Lightweight, durable and easy to install (quick release spigots)- fits through most manholes.

HIGH EFFICIENCY EC FANS - Ultra quiet and almost vibration free.

ALUMINIUM HEAT EXCHANGER - Up to 80-95% efficient.

WASHABLE AIR FILTERS - 2 x Integral Air Filters + a spare set supplied with each unit - low cost & easy to replace.

INTEGRAL CONDENSATE DRAIN - 7.5m semi rigid drain tube supplied (15mm dia condensate drain outlet)

GIMMICK FREE CONTROLLER - Easy to use, simply set & forget.

OPTIONS

SUMMER BYPASS DAMPER - The majority of Exhaust Air is diverted around the Heat Exchanger Core when in "Summer" mode to avoid unwanted heat recovery.

HOT WATER THERMOSTAT - Ideal for new homes and houses with no current bathroom ventilation. Increases the Ventilation rate when hot water is used (i.e. shower)

"CUT IN HALF KITSET"- The CLEANAIRE is supplied as a "knock-down" Kitset" to enable it to be passed through a manhole and reassembled in the roofspace.

SUPPLEMENTARY AIR FILTERS- Higher grade Air Filters are available if, for example, occupants suffer from hayfever, allergies or if outdoor air is polluted by odours. The "Quick-Fit" Bin Filter is a simple but effective system which can accommodate several types of filters in the same enclosure.

WHY CLEANAIRE IS THE BEST

LOW POWER CONSUMPTION

When installed as recommended, each unit only uses approx 50% of max fan capacity when providing ventilation to comply with NZS4303:1990, leaving the additional approx 50% capacity available for increased summer ventilation.

ENVIRONMENTALLY FRIENDLY

Helps reduce greenhouse gas emissions by recycling heat otherwise wasted.

CONDENSATION CONTROL

Continuously replaces stale indoor air with fresh, filtered, outdoor air to control condensation and reduce humidity throughout winter, for a dryer and easier to heat environment.

UNMATCHED WARRANTY

With over 30 years experience, we stand behind each unit we manufacture, and offer an unmatched warranty for peace of mind. Each CLEANAIRE HRV is sold with a 5 year + 7 year Warranty. 5 years on the entire Heat Exchange unit and control panel and a further 7 years on the aluminum Heatex.

ULTRA QUIET OPERATION

In a standard installation to comply with NZ Standard 4303, the CLEANAIRE HRV is so quiet that it is almost inaudible to a person with normal hearing. To reduce any risk of nuisance noise (especially if using the hot water thermostat or running on high speed in summer), we recommend that the CLEANAIRE HRV is located over a service area i.e. bathroom.

DURABILITY & SAFETY

The CLEANAIRE Cabinet and Heat Exchange Core are Aluminum, which in continuous home service, (unlike steel or plastic) cannot rust, burn, degrade, or give out any undesirable chemical smells. 95% of internal wiring cables are Silicone Rubber insulated with an outer Fibreglass Braided Sheath rated to withstand 600°C. All components are certified and proven in service since 1982 and spare parts are always available - we can still provide spares for CLEANAIRE manufactured in 1982. CLEANAIRE complies with all applicable NZ & Australian Standards.

INSTALLATION

Two options are available - DIY or Trade install.

DIY Installation

If supplied with a suitable plan, we provide a layout showing ideal locations for supply & exhaust terminals to create a balanced airflow, if possible we also provide an indicative ducting plan with an estimate of the amount of ducting and associated parts required to install. CLEANAIRE HRVs do not come with any ducting, grilles or duct fittings, these can be sourced through local suppliers or we can offer an optional extra "ducting kitset".

Detailed installation instructions are provided with each unit, so the majority of the installation can be completed by a competent handyman (a registered electrician is required to complete the electrical installation of the unit).

Fully Installed

If you would prefer to have the CLEANAIRE HRV fully installed by an experienced HVAC Trades person, we have installers in most regions - please contact us to find an installer near you.

Installation Requirements

To be able to install the CLEANAIRE HRV, there needs to be sufficient space to install the unit, and to run ducting to supply and exhaust terminals throughout the home.

In a standard installation, the CLEANAIRE HRV & ducting is installed in the roofspace, however some possible solutions to homes with limited space can include underfloor installation or locating the unit in a cupboard with ducting in a specially designed bulkhead. It is important that the CLEANAIRE is accessible for future maintenance.

Mounting

There are three mounting options available with each unit; Suspension Springs and Turnbuckles either from the top four corners or the vertical ends, or EPDM Rubber Mountings (for extra low roofspaces).

MAINTENANCE

To ensure continued efficient operation, we recommend an annual inspection of the CLEANAIRE, filters and duct system. The integral EU3 filters can be gently washed up to 5 times, which is a relatively simple job and does not require a tradeperson to complete. Any optional extra filters fitted are not able to be washed and need replaced as required - (recommend checking these every 6 months initially).

BEWARE - HRV v ERV

There are two fundamental types of Heat Exchangers:

1) Heat Recovery Ventilator (HRV) - designed to transfer what is known as "sensible heat" from the outgoing air stream to the incoming air stream. In lay terms "sensible heat", is dry heat. A genuine HRV MUST have two fans, an Air to Air Heat Exchanger & a condensate drain. An HRV does not transfer humidity, (water vapour, known as latent heat), from the exhaust air to the incoming fresh air stream.

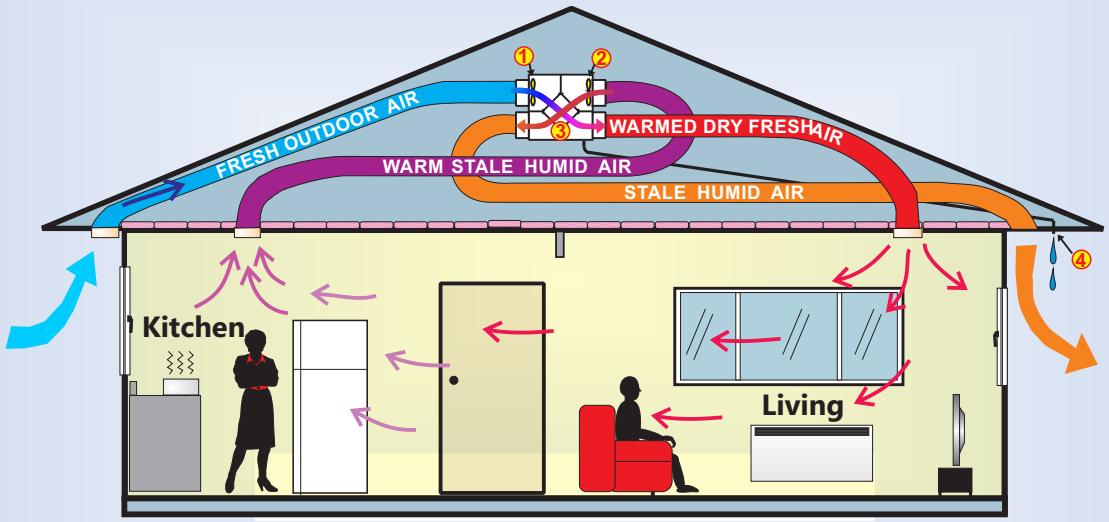
2) ERV or Energy Recovery Ventilator - made from pervious material and designed to transfer "latent heat" and "sensible heat" from one air stream to another. In an ERV, latent heat, (which is humidity, water vapour, or humidity), actually passes right through the material that the heat transfer component, (the "core") is made of. Because they transfer moisture, ERV's do not have a condensate drain. In hot humid tropical climates, in conjunction with a (cooling) Air Conditioner, an ERV is more efficient than an HRV.

Most NZ homes with poor ventilation suffer from excessive humidity (condensation). An ERV that transfers dampness from the exhaust air, to the incoming fresh air, is unlikely to control indoor condensation as effectively as an HRV.

NZ Standard 4303:1990 'Ventilation for Acceptable Indoor Air Quality" defines Outdoor Air as "air taken from the external atmosphere and, therefore, not previously circulated through the system" - i.e. not roofspace air.

cleanaire - The Genuine Heat Recovery Ventilator

COMPLIES with NZ Standard 4303



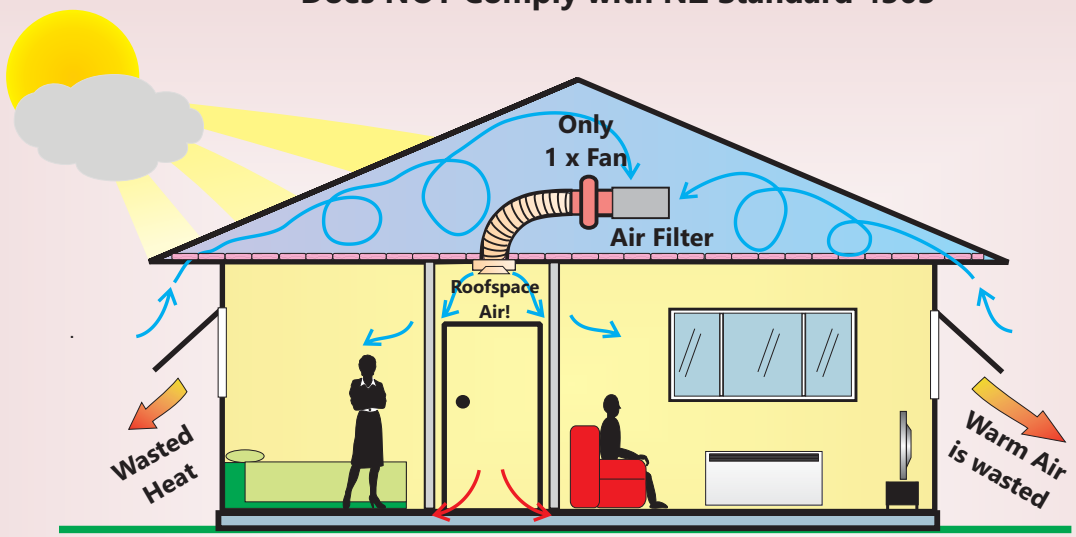
- ✓ Complies with NZ Standard 4303:1990 "Ventilation for Acceptable Indoor Air Quality" (When installed to our plans)
- ✓ Sunshine is unnecessary
- ✓ Condensation drains to outside
- ✓ Stale, humid air is exhausted
- ✓ Supply Air is fresh, outdoor air

A "*Genuine*" HRV must have :-

1. **SUPPLY FAN**
2. **EXHAUST FAN**
3. **HEAT EXCHANGER** (continuously transfers available heat from the exhaust air to incoming outdoor air.)
4. **CONDENSATE DRAIN**

Positive Pressure System - Has No Heat Exchanger!

Does NOT Comply with NZ Standard 4303



- × Does NOT comply with NZ Standard 4303:1990 "Ventilation for Acceptable Indoor Air Quality"
- × No sun, No heat! - even when the sun shines, heat is limited.
- × Warm air is wasted to outside
- × Roof space air is often contaminated by birds, spiders and rodents.
- × In the event of a roof space fire, a Positive Pressure System may force smoke into the home and accelerate the fire.

SEE THE DIFFERENCE

Proud Supporters of Emirates Team New Zealand since 1987

Contact us for a Free Quote

0800 DRYAIR (0800 379 247)

www.cleanaire.co.nz

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Since 1982

Heat Recovery Ventilator

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