

HEX390

Balanced Pressure Ventilation with Heat Recovery



for healthy indoor air



MADE IN NZ

HEX390 Made in New Zealand for New Zealand conditions.



BALANCED PRESSURE

The HEX390 is a 'balanced pressure' system. It extracts air from the house and simultaneously brings fresh air in. These two streams of air pass through a heat exchanger, which warms incoming air in winter and cools incoming air in summer.

HEAT RECOVERY - NON-PERMEABLE CORE

The non-permeable heat recovery core of the HEX390 is better suited to New Zealand's climatic conditions than permeable core systems. All moisture drawn from the house passes through the HEX390 to be expelled to outside, while heat is transferred between the air streams.

COST EFFECTIVE

The HEX390 is very cost effective, especially when compared to traditional 'positive pressure' systems. It is cost effective for both installation and running costs.

FIND A REGISTERED HEX390 INSTALLER

Contact a registered HEX390 installer today to discuss how together we can make your family home more comfortable, drier and healthier at an affordable price.

Nationwide installers available, find a registered installer on www.home-ventilation.co.nz



5 YEAR WARRANTY ON HEX390



HEX390 KEY BENEFITS

- **Drier** - moist inside air is removed and replaced with fresh, filtered, drier outside air, reducing condensation and moisture in furnishings.
- **Fresher** - stale, smelly inside air is removed and filtered outside air is introduced.
- **Cleaner** - the introduced outside air is filtered to remove contaminants, while inside air is removed.
- **Warmer** - up to 80% of the warmth from the stale inside air is transferred to the incoming air. Other ventilation systems have no transfer of heat. For cooling situations the same applies.
- **Healthier** - fresher, cleaner, warmer, drier air is healthier for your family as well as your home and furnishings. The filtered incoming air reduces allergens and contaminants.
- **Cheaper to run** - because of the transfer of heat, there are energy cost savings over traditional domestic ventilation systems. The same applies for cooling.
- **Securer** - fresh air is circulating even when windows and doors are closed.
- **Quieter** - reduces external noise as windows can stay closed. The system also uses acoustic insulated ducting for quieter operation.



HEX390 Heat Exchange unit

The Perfect Solution

Modern houses are almost perfectly sealed, so they require the perfect balanced pressure ventilation solution: the HEX390 Domestic Ventilation System with Heat Exchanger.



Install a HEX390 balanced pressure heat recovery system in your home or rental property today and never look back.

Your home is one of the largest investments you will make and you should protect that investment from moisture and mould.

A high proportion of kiwi homes have serious mould and damp issues, approximately half are prone to condensation. Adding to that, many New Zealanders suffer from hay fever, dust and pollen allergies, or asthma, which can be triggered by the unhealthy, allergen filled air within our homes.

Modern air tight homes need active ventilation to avoid stale and damp air problems.

Positive vs Balanced Pressure Ventilation

Traditional domestic ventilation systems are 'positive pressure'. They bring air in from outside via the roof space and force the stale air out through gaps around windows and doors. The incoming air from these systems has to be heated or cooled to keep the house warm in winter or cool in summer.

Whereas the HEX390 is a 'balanced pressure' system. It extracts air from the house and simultaneously brings fresh air in. These two streams of air pass through a heat exchanger, which warms incoming air in winter and cools incoming air in summer. This heat exchange process means that up to 80% of the energy, which would be wasted using a traditional positive pressure system, is recovered by the HEX390, resulting in significant energy savings and therefore cost savings.

Energy Savings

The benefits of using the HEX390 system is twofold, achieving ventilation to provide better indoor air quality while conserving the energy through the process of heat recovery, thus reducing the heating or cooling loads.

House size (sqm)	Inside Temp (C)	Heat required to maintain indoor temp with positive pressure system (kwh)	Heat required to maintain indoor temp with HEX system (kwh)	Cost savings per day vs. positive pressure @27c/kWh
100m ²	20°	0.9	0.16	\$1.10
120m ²	20°	1.1	0.20	\$1.40
150m ²	20°	1.3	0.24	\$1.80
180m ²	20°	1.6	0.29	\$2.20
220m ²	20°	1.9	0.36	\$2.80
280m ²	20°	2.4	0.46	\$3.70

Expected energy cost savings from the installation of a HEX390 compared to positive pressure when outside air temperature is 0°.

HEX390 features

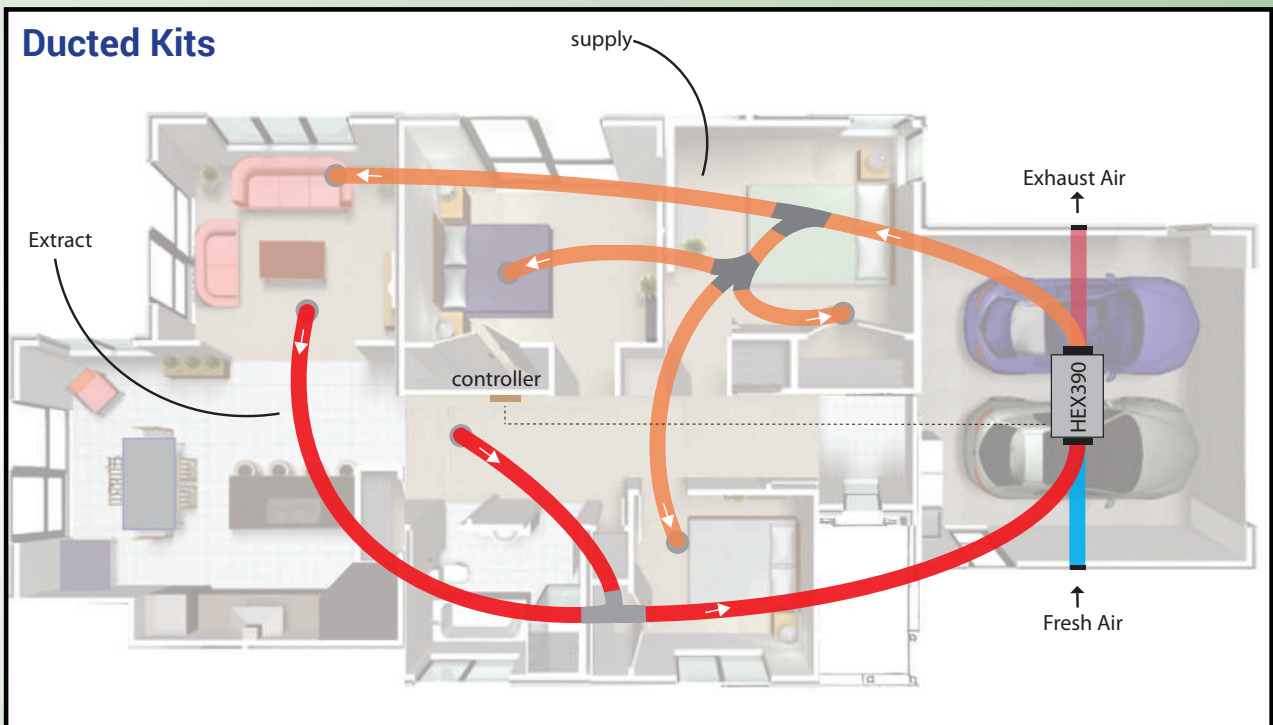
- Simple to use controllers (automatic and manual options)
- Washable filters
- Acoustic ducting for quieter operation
- Modular kitset design for easy installation (unit fits through standard manhole)
- Custom units to suit special requirements

Other options:

- UV filter, F7 filter
- heater
- summer bypass kit
- 'EC' fans - new technology, energy efficient and even quieter



Ducted Kits



The ducted kits are equipped with acoustic insulated ducting, along with aesthetically designed diffusers for the bedrooms and lounge.



Controller Options

Hybrid Controller

The hybrid manual controller with digital display can set the HEX390 fan speed to high, medium and low. It also has a scheduler function, which you can programme to set fan speeds depending on household activities, with up to eight set points per day.



Hybrid controller

Digital Controller

The digital controller is for automatic operation. The sophisticated wall controller compares indoor and outdoor temperatures and adjusts the operation to suit the house. The controller will automatically shut down in summer if outside air temperature exceeds 27°C and the home is warm.

Other features include:

- **Winter off mode** shuts down the fan automatically when outside temperature is less than the set point, eg 2°C.
- **User System On/Off** can be enabled or disabled to make child proof.
- **Battery back-up** in the event of a power failure.
- **Optional supply air boost heater** (when heater fitted) is controlled automatically when outside air temperature is less than 12°C and the home is cold. As the temperature decreases, heater output increases to maximum.
- **Optional Attic Damper Kit.** A diverting branch can be attached to divert the intake from the outside air to the attic, to utilise the heat gain from the roof during the winter months.



Digital controller



"Good ventilation is essential for maintaining air quality and removing excess moisture from your home. Having a draughty house is not the same as having good ventilation. As houses get more airtight, they become easier to heat, but good ventilation is still important to stop inside air getting stale and damp."

- EECA (Energy Wise New-Zealand)

Frequently Asked Questions

What is the maximum house size suited to a Hex390?

Maximum per HEX390 unit is 250-280m².

Will it work in my 2 bedroom unit?

Yes, you can set the maximum fan speed to suit the house size. So for a two bedroom unit, the maximum fan speed would be set lower than for a larger house.

Will the HEX390 get rid of moisture and condensation?

Yes, it will reduce moisture, as you will be extracting stale air from your home, simultaneously introducing fresh tempered air from outside.

How many fresh air inlets do I need? Are they filtered? Where do they go?

Only one fresh air intake is required and there is a pre-filter inside the HEX unit. If additional filtration is required, an in-line filter with higher grade filter (F7) can be employed, eg for occupants suffering from asthma and other allergies.

Normally the fresh air intake is in the soffit, or through the roof if space is limited.

Can I use the HEX390 with my Ducted Heat Pump?

Yes, incorporating a HEX unit into the ducted heat pump system is a very efficient way to provide fresh air into the house due to the energy conservation

achieved by using a heat recovery core.

Can I use the HEX390 with my standard split-system (eg wall mounted) Heat Pump?

You can operate the HEX390 as a standalone system, along side a split-system Heat Pump. However, care must be taken while sizing the Heat Pump, as the warm air will be transferred around the house via the HEX390 supply ducts.

Can I use the HEX390 with a Heat Transfer Unit?

The HEX390 mixes the airflows so you don't get the heat stratification needed for standard heat transfer systems to work well. However, as the HEX390 provides fresh tempered air from outside, it can operate as a heat transfer system to a certain degree.

Under the clause G4 (Ventilation) of the New Zealand Building Code, one HEX390 unit could ventilate a standard 2.4m ceiling height house of up to 450m² based on 0.35 Air changes per hour (ac/h).

However, it is recommended to have one HEX390 per 280m² for optimum performance.





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Balanced Pressure Ventilation

www.home-ventilation.co.nz



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***Fresher, Cleaner, Warmer, Drier,
Healthier Homes***

