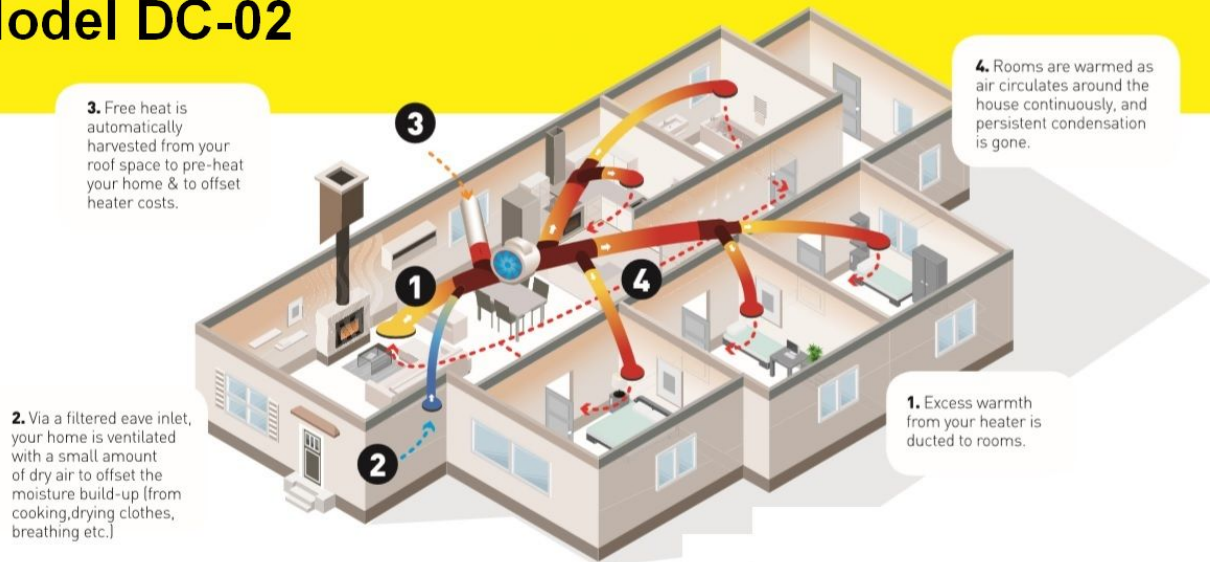




Controller Instructions Model DC-02



Version 02. Applies to HEG Air Circulation Systems installed since Oct 2014.
Author: Adam Hirst

HEG Air Circulation™ is a hybrid heat transfer system specifically optimised for the Tasmanian climate and market. HEG Air Circulation allows residential dwellings to:

- Have a healthier environment for residents due to improved air quality;
- Lower heating costs due to solar roof heat recovery & minimisation of secondary heaters;
- Achieve better distribution of warm or cool air around bedrooms & hallways;



Instruction Summary

Winter mode:

- Main Fan switch **ON**
- Red LED thermostat display **ON**

Summer mode:

- Fan switch **ON**
- Red LED thermostat display **OFF**

(Note: if your house is comfortable in summer, you can turn the system off completely by flicking the FAN switch off)



The standard living room ceiling inlet, at left, and a picture of the bedroom outlet, at right.

HEG Air Circulation System Explained





The base system is comprised of a powerful air transfer system, called the HEG Air Circulation System. It is designed for long-term operation, often working 24/7 for 9 months per year during cooler months, with many customers keeping it in continual operation. An inlet in the living room takes excess heat from your heater and distributes it to key rooms in your home, namely bedrooms and bathrooms.

Other modules are added to provide functionality, as follows...

Roof Heat Recovery Module

Most systems are fitted with a Roof Heat Recovery Module (item 3 in the diagram, above), which is a filtered intake in the roof space which allows solar gain from the roof cavity to supplement traditional heaters in the household. The roof space intake has a motorised, filtered air valve that opens when the air in the roof space is over a specified trigger point. This trigger point, or temperature, can be adjusted by the customer, which is a useful thing to be able to do as requirements vary from house to house.

The image of the controller, at top of the first page, shows a temperature of 23 degrees in the **roof space** (NOTE: It does not show the room temperature). The trigger temperature is usually 20 degrees or above, which means that the Roof Heat Recovery Air Valve will open when the roof space air temperature reaches that temperature, or higher. When the roof heat recovery module is active (meaning that the roof heat recovery valve is open), you will notice a small red indicator light to the left of the temperature readout.

To turn the Roof Heat Recovery Module ON or OFF	Hold your finger on the power button on the thermostat for 3 seconds. When off, the temperature display will disappear.	
To change the Trigger Temperature* <i>* This is the temperature when the Roof Heat Recovery filtered intake starts taking air from your roof cavity after a certain roof air temperature is attained.</i>	Click the SET button, and then press the UP or DOWN arrows to adjust to the desired trigger temperature. To save the setting, simply leave the thermostat alone for 15 seconds and the screen will revert back to the temperature screen. Standard setting is 19 degrees. <i>Hint: hold your finger down on the SET button for 3 seconds if you don't want to wait for the 15 seconds.</i>	  

Condensation Control Module

This module allows drier, fresh air to be mixed and circulated with the internal air of your home. Outside air is generally quite a bit drier than internal air, so humidity levels are reduced due to dilution of moist air (and subsequent displacement of humid internal air out of cracks in the house structure). Filtered air is brought in via an intake on your eaves, gable ends or via a roof vent/cowl, whichever is most relevant to your house (depends on construction characteristics). The vents need to be cleaned monthly or more frequently when the system is in continual operation, and full instructions can be found here:

www.heg.com.au/tabid/570/Default.aspx

Summer Heat Exhaust Module

The summer ventilation module sucks air out of the living room inlet and blows it into the roof space so as to reduce the build-up of solar gain in rooms on hot days. Ventilation is sucked into the house to replace this air, which tends to cool it down (assuming that the outside air is cooler!), and roof space air is displaced to reduce the solar gain build-up in the roof cavity.

Recommended Actions: To turn the Summer Heat Exhaust Module (SHEM) on, flick the HEAT switch on and ensure the digital thermostat is switched off (Press the thermostat power button off). Keep the outlets open, internal doors ajar and have at least two external windows or doors open to create a cross-draft in the house. The ventilation air will be distributed around the home, whilst warmer air from sunny rooms will move towards the living room inlet, and then be sucked into the roof space.

IMPORTANT NOTE: ensure back-draught devices, such as a “Draft Stoppa”, is installed over any ceiling vents, otherwise warm air from the roof space could be pushed back into the liveable parts of the house.

Filtered Ceiling Inlet

Our usual ceiling inlets are usually a “Jet Diffuser” style, which is made up of rings of concentric circles. An optional extra is the filtered inlet, which stops dust particles from entering the system. You may have different sizes of filtered inlet in your home (compared to the one pictured, at right) depending on the size and air flow in your system. These dust particles are already in your house, so it provides a degree of dust removal, similar to an air conditioning system. The filter cartridge can be accessed by hand unscrewing the bolt at one edge of the filtered intake. The filter needs to be cleaned monthly, and changed every two years.



Operation recommendations

1. 24/7: Leave the system running all of the time during cooler months with the Roof Heat Recovery Module permanently on.
2. Use the system without the Roof Heat Recovery Module during summer to duct cooler ventilation or cool air from air conditioners.
3. When using the Summer Heat Exhaust Module, following the aforementioned instructions, and remember to leave internal doors ajar to allow air to circulate effectively.
4. The filter sock on the Roof Heat Recovery Module can be DIY cleaned once per year using a vacuum cleaner, but needs to be replaced every 2 years. See HEG for DIY or professional maintenance servicing.
5. Filtered Inlet: The intake for the HEG Air Circulation System is usually a filtered grill, which has filter cartridge located just above the grill. This can get clogged with dust, hair and other particles over time. HEG suggests cleaning this monthly, or more regularly if a whistling sounds is present, indicating that the filter is becoming blocked.

Cleaning the filtered inlet (if applicable)

You will need a step ladder and possibly a small screwdriver. Only perform this task if you are physically competent and able, and have a suitable ladder and balance.

1. By hand, loosen the small white knob on the filtered grille. Because the grille is on a hinge, this will allow the grille “door” to flap open. Note: open the door grille SLOWLY otherwise the filter cartridge may suddenly slide out.
2. Slide out the filter cartridge. If it does not move, the safety screws may be in place, in which case you will need to use a small Phillips-head screwdriver to remove and discard the screws (one-off process).
3. Vacuum the filter outside on both sides, starting with the dusty side.
4. Return the filter cartridge to the grille, and then hand tighten the knob to secure it shut.
5. Repeat every month, or whenever the inlet makes a louder sound (caused by the air trying to squeeze through). You may need to replace the filtered inlet cartridge every 2 years.