Buying a dehumidifier

❖ Why use a dehumidifier?

Factsheet No. 15, *Dealing with Condensation*, gives plenty of tips and advice on how to deal with condensation but in some cases these measures aren't enough and purchasing a dehumidifier is the only remaining option to cure the problem.

Old houses, particularly those with solid walls or thin cavity walls, can be hard to keep warm, and cold surfaces on external walls can attract damp and mould from condensation. As air warms, it can carry more water vapour. This makes the air harder to heat, as damp air takes more energy to warm. Where there are cold spots in the house, when warm, moist air comes into contact with cold surfaces, the water vapour condenses, creating dampness and mould.

❖ What does a dehumidifier do?

- The purpose of a dehumidifier is simple – to remove excess moisture from the air. There are different types of dehumidifier but they all circulate room air through a dehumidifying system, condensing the water vapour into a water chamber for disposal and blowing out dry air into the room.
- Most dehumidifiers operate with a 'humidistat'. This is the same as the thermostat on your boiler, except that instead of regulating the level of heat, a humidistat uses the moisture content of the air to control the dehumidifier.
- This is important, as it is possible for rooms to become too dry, as well as too damp. Ideally a relative humidity of 40 – 60% is best.

❖ Different types of dehumidifier

- There are two different types of domestic dehumidifier – refrigerated coil and desiccant dehumidifiers.
  - **Refrigerated coil dehumidifiers:** operate like a fridge, using a compressor and pump arrangement to compress and expand a refrigerant inside a refrigerated coil to create a chilled coil. A fan blows warm moist room air across this, causing the water vapour to condense onto the coil.

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- **Desiccant dehumidifiers:** use a water attracting substance, a desiccant, which absorbs water. The desiccant is contained within a rotating disk through which the moist room air passes. The desiccant material absorbs the water, and is then heated to drive the water off where it is collected for disposal.

❖ Which type of dehumidifier is best?

- Both types have pros and cons. In general, refrigerant coil dehumidifiers are cheaper to run, as they don't produce any heat, but they tend to be heavier and harder to move around the house, and also noisier. Desiccant dehumidifiers are smaller and lightweight, so are easier to move from room to room.
- Desiccant humidifiers tend to perform better in colder conditions, remaining highly efficient even when temperatures are at 0°C. Refrigerated coil models may lose efficiency below 15°C as the cooling coil can freeze.
- While most homes are warmer than this, if you have a cold room or are looking to use the dehumidifier in a basement, shed or particularly cool corner, then a desiccant model may be better. In these circumstances, the small amount of heat the dehumidifier gives out may be an additional benefit.

❖ How to get the most from a dehumidifier

- Whichever type of dehumidifier you choose, it's important to use it correctly to get the best from it:
  - Try to get rid of as much moisture as possible naturally by opening the windows and ventilating first, after a bath or cooking for example. Then close the windows and run the dehumidifier.
  - Never run a dehumidifier in a room with the windows open.
  - If your house is very damp, you can run a dehumidifier continuously for a week or two to dry things out. However, afterwards, you should be able to run it for only a few hours each day. A typical domestic desiccant model uses 350 Watts, which would cost around £1 per day if run constantly, but just 15p per day if used for two hours in the morning and two at night.
  - If you place the dehumidifier in the hall or landing and open the other room doors, you can reduce damp throughout the house.
  - Remember to keep emptying the water collection bucket regularly – otherwise the dehumidifier will switch itself off.

- It's also worth remembering that while it adds to your electricity bills to run a dehumidifier, having dryer air in the house will make you feel warmer and reduce the need for so much heating, helping you save on your heating bills. See Factsheet No. 1, *What Makes a Home Warm*, for more details.
- Because desiccant dehumidifiers produce a small amount of heat, this type can also help keep the chill off small spaces like cupboards and kitchen corners, as well as reducing damp and condensation.

❖ A local manufacturer[1]…

- Not only British but here in Newton Aycliffe, County Durham, Ebac was founded in 1972 and manufactures a range of dehumidifiers. Ebac are the only UK-based manufacturer of dehumidifiers.
- Ebac's dehumidifiers include models with their patented 'Smart Control System', which they claim automatically adjusts the running pattern of the machine according to changes in the weather and the users' lifestyle.
- This Smart Control saves the user from constantly making adjustments to suit the weather conditions and is claimed to be better for the UK climate than a dehumidifier fitted with a simple humidistat.

An Ebac dehumidifier in use keeping a Barningham cellar condensation-free

[1] The author and Barningham Net Zero have no connection with this manufacturer – it is referenced as an example only

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