PORTABLE COMMERCIAL DEHUMIDIFIERS

ULTRADRY

HOW TO GET THE MOST FROM YOUR DEHUMIDIFIER

Warning: It is critical not to over-dehumidify timber and GIB® construction. Here's why.

Dehumidifiers remove moisture from the air, and as the moisture level is reduced, only then will evaporation from surfaces of the surrounding environment occur.

Three things to consider when speeding up Plaster or Paint Drying Times

1. **Forced or low humidity** (e.g. applying paint onto a hot dry surface) can cause a rapid dry situation, resulting in skinning and occasionally bubbling of the paint film, cracks and substrate movement. Paint skinning can trap or slow the cure when applied onto a non-porous surface, conversely, low humidity may also affect the paint film with rapid absorption into the substrate often viewed as paint sheen variation.

2. **Rapid dehumidification without full air circulation** within the building could result in:
   - Localised substrate issues (cracking and movement);
   - Health issues such as breathing, skin and eye irritation; and/or
   - Accelerated (surface) drying of plaster and paints resulting in inconsistent texture/gloss.
   - *e.g. More horsepower is not always the better option.*

3. **If the humidity is too high, the surface wont dry.**

Dehumidification is less likely to cause surface distortion if moisture is allowed to migrate from the surface to the air at a controlled evaporation.

The importantance of Air Flow / Air Volume

In terms of dehumidification, **Air Changes per Hour (ACH)** is a measure of the Air Volume added to or removed from a space (normally a room or house) divided by the volume of the space [1]. This determines how many times the air within a defined space should pass through the Dehumidifier each hour to get the best result.

Here are recommendations based on humidity levels [2]:

- **Extremely Wet**: Humidity levels are between 90%-100%, you can see large puddles or have standing water. e.g. a flood situation. The recommended ACH is 6.
- **Wet**: Humidity levels are between 80%-90%, the area has visible stains, wet spots, mold, and mildew. The recommended ACH is 5.
- **Very Damp**: Humidity levels are between 70%-80%, the room has visible moisture on walls or floor and a mildew smell. The recommended ACH is 4.
- **Damp**: Humidity levels are between 60%-70%, the area feels damp and smells musty in humid weather. The recommended ACH is 3.

How to determine the Air Volume (m^3/h) required

Air Volume determines how much air the Dehumidifier can move and is measured in cubic metres per hour (m^3/h). The higher the value, the more air is being pushed through the unit. To work out the recommended m^3/h for your space, multiply the cubic meterage (length (m) x width (m) x height (m)) by the ACH value.

e.g. If you are working in a 'Damp' kitchen/dining area (ACH of 3) roughly $112m^3$ in size, the calculation would be ($112m^3$ x 3) = **336 m^3/h.**

[1] *Source: https://en.wikipedia.org/wiki/Air_changes_per_hour*
[2] *Source: https://learn.compactappliance.com/commercial-dehumidifier-buyers-guide/*

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Controlling Dehumidification with an UltraDry Commercial Dehumidifier

The **UltraDry** (*see Figure A*) is a refrigerant Dehumidifier with dent-resistant rotational housing, a washable air filter, a hot gas bypass defrosting system, and a removable water pump. The water pump connects to a drainage hose, which is stored on the back of the appliance, and the unattached end of the drainage hose can be placed into a vessel, basin, toilet or directed outdoors. For wetter environments, there is an option to connect a vent hose to assist with drying the area.

Figure A: UltraDry 55L

Vent Hose / Ducting

- A vent hose (ducting), with a diameter larger than 150mm (*not included*) can be connected to the **UltraDry** via the exhaust ring (*see Figure B*) to speed up drying the wet area.
- The **UltraDry** should be located in one room, ducting the outlet air into another room (*see Figure D*).
- Go as far as the flexible ducting will allow, to maximise consistent ACH (air changes per hour) throughout the building. *See overleaf for more information on ACH.*
- **Air movement throughout the building is critical in controlling the dehumidification process.**

Figure B: Vent hose

Best Practice

- Operate the **UltraDry** in an enclosed area, as this creates a drying chamber.
- Close all doors, windows or areas that open to external areas to maximise the dehumidifier's water removal efficiency.
- Keep traffic through the drying chamber to a minimum.
- Place the **UltraDry** in the centre of the room away from walls and furnishings.
- Do not allow the airflow to be obstructed.

Controlling the humidity

- Once the **UltraDry** is running, the display (*see Figure C - 8*) will show the humidity setting (left) and current humidity (right).
- Press "Up"or "Down" key to set or adjust the humidity in the range of 26% and 90%.
- As for humidity levels, the best drying will occur between 40 and 50 percent humidity.

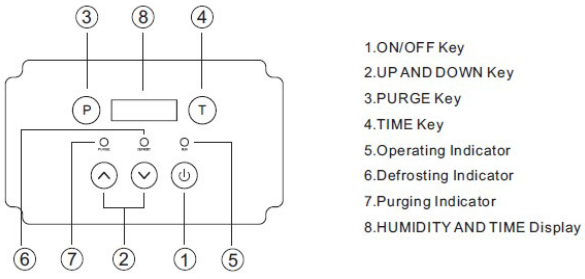

Figure C: User-friendly LED control display

Technical Specifications UltraDry 55L	
Model	UltraDry 55L
Air Volume	350m³/h
Moisture Removal Capacity	55L/Day
Power Supply	220-240V / 50Hz
Product Size (W x D x H)	545 x 500 x 638 mm
Power Consumption	720W
Net Weight	39kgs

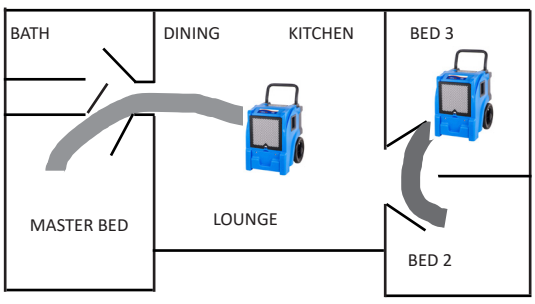

Figure D: e.g. Maximising Consistent ACH