



User's and installation manual

# DRY 300 GALLERY MUSEUM DEHUMIDIFIER



Version: 2018-01-01





**Thank you** for purchasing Microwellmuseum dehumidifier. We are very happy you selected a Microwell DRY300 Gallery to guard your precious artefacts. This dehumidifier has been designed to control humidity in all types of museums around the world. You are holding probably the most advanced unit. The unit comes in a very decent design that blends in most of museums.

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## 1. WASTE DISPOSAL INFORMATION

When using this dehumidifier in the European countries, the following information must be followed:

**DISPOSAL:** Do not dispose this product as unsorted municipal waste. It is prohibited to dispose this dehumidifier in domestic / household waste. It is prohibited to dispose this appliance into forests or natural landscape. This could lead to local soil pollution. Collection of such waste must be treated individually.



### DISPOSAL POSSIBILITIES:

1. The municipality has established a collection system where electronic waste can be disposed.
2. When buying a new product, the retailer or the manufacturer may take back the old appliance free of charge.
3. As old appliance may contain valuable resources which could be sold to scrap material dealers.
4. Disposal of packaging materials such as carton box or plastic / bubble foil can be recycled.

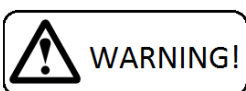


## 2. SAFETY MEASURES

This device is primarily designed for use in museums. Alternative use is in laundries, drying rooms or other humid areas requiring dehumidification.

Model Microwell **DRY 300 GALLERY** is designed for rooms with size up to 500 m<sup>3</sup>.

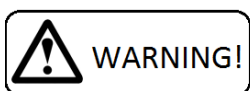
**It is necessary to follow instructions in this User's manual and local regulations in your country that regulate the installation and usage of this device. Incorrect, improper or operations contradictory to this User's manual may lead to an injury or property damage and will lead to loss of warranty. To prevent injury or property damage the following instructions must be followed:**



### 2.1 ELECTRICAL SAFETY

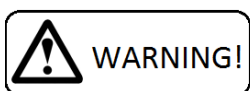
- The device operates at dangerous electrical current.
- Only authorized person with particular electro-technical qualification can manipulate with unit.
- Danger of electrical shock.
- Do not exceed the required power supply.
- Do not turn the device on that shows signs of possible damage such as broken packaging, broke otherwise damaged unit's chassis or cover, smoke, smell, etc.
- It is necessary to use appropriate Residual current circuit breaker (RCD) for connection of the dehumidifier to main power supply.
- Do not manipulate with the device with wet hands.
- Do not clean the device with water.
- Before cleaning the device, switch off the circuit breaker of the unit's power supply or unplug the cord.
- Maintenance, service or repair must be performed by qualified technician.
- When the device is not intended to be used for a longer time, we recommend switching the circuit breaker of the unit's power supply off or unplugging the cord.

- Unit must be installed in vertical position to avoid condensate water to enter electrical part of the unit and surroundings of the unit's position.
- It is forbidden to install the unit close to devices that may cause electrical or frequency disturbance such as welding machines, motors or rotors, WIFI/WLAN routers or repeaters.
- It is forbidden to alter electrical installation of the device. It is also forbidden to alter any other part or functionality of the device.



## 2.2 USAGE PRECAUTIONS

- Air outlet (exhaust) and air inlet (intake) must not be blocked.
- Do not cover or block the intake or exhaust openings. It is forbidden to block or cover the intake or exhaust openings with clothes, towels, buckets, canoes, ceiling beams, decoration objects, etc.
- **Do not install or place any heating appliances close to the unit's grilles / louvres. It could continually overheat the dehumidifier and result in its malfunction or damage.**
- Do not climb up on or sit on the unit.
- Do not place any objects on the top of the unit (e.g. boxes, flower vases, etc.).
- Do not spray any flammable substances into the equipment; this might lead to fire.
- Do not clean the equipment with aggressive cleaning agents, this might lead to damage or deformations.
- When cleaning plastic parts do not use any cleaning agents unsuitable for the cover of the dehumidifier (household cleaning agents, solvents, bleaching agents, benzene, diluents, rough cleaning powder, cresol, chemical agents). Instead, sweep the dehumidifier cover with a soft cloth or a sponge.
- Never throw or insert any objects into any hose or opening.
- The cover is made from wood. Do not manipulate with lighted cigarette, cigarette ashes, or any other kind of fire in vicinity to this part.
- Use this device exclusively for the intended purpose, as described in the attached instruction manual. Do not use parts which are not recommended.
- Children are not allowed to operate, touch or play with the unit.
- **Children are not allowed to manipulate with packaging, plastic / bubble foil. Risk of suffocation!**
- **Prevent the children from injury or harm caused by any manipulation with the unit, its parts or its packaging. Small parts like screws may be swallowed and cause suffocation or harm to health.**



## 2.3 HANDLING PRECAUTIONS

- Leave the unit in vertical upright position for at least 2 hours before the installation.
- Transport in lying position or turning the device over may harm the compressor and will lead to loss of warranty.
- The device must be handled with care and special attention avoiding any mechanical damage.
- It is forbidden to apply any improper mechanical force onto the unit. This may cause mechanical damage to the device.
- It is forbidden to let the device fall freely onto the ground or any solid surface resulting in hard impact.
- Please notify your reseller or distributor if you suspect that the unit was delivered damaged. Unit may seem to work well at start but small damage can make the unit go out-of-order in short time. In such case the unit must be inspected and approved for further use by your reseller.
- Please notify your reseller or distributor if directly after installation you suspect that unit is not working in perfect order.
- In the case of device failure resulting from improper handling or mechanical damage (impact, hit, fall, etc.), the manufacturer reserves the right to evaluate the continuity of warranty.

### 3. UNIT DESCRIPTION

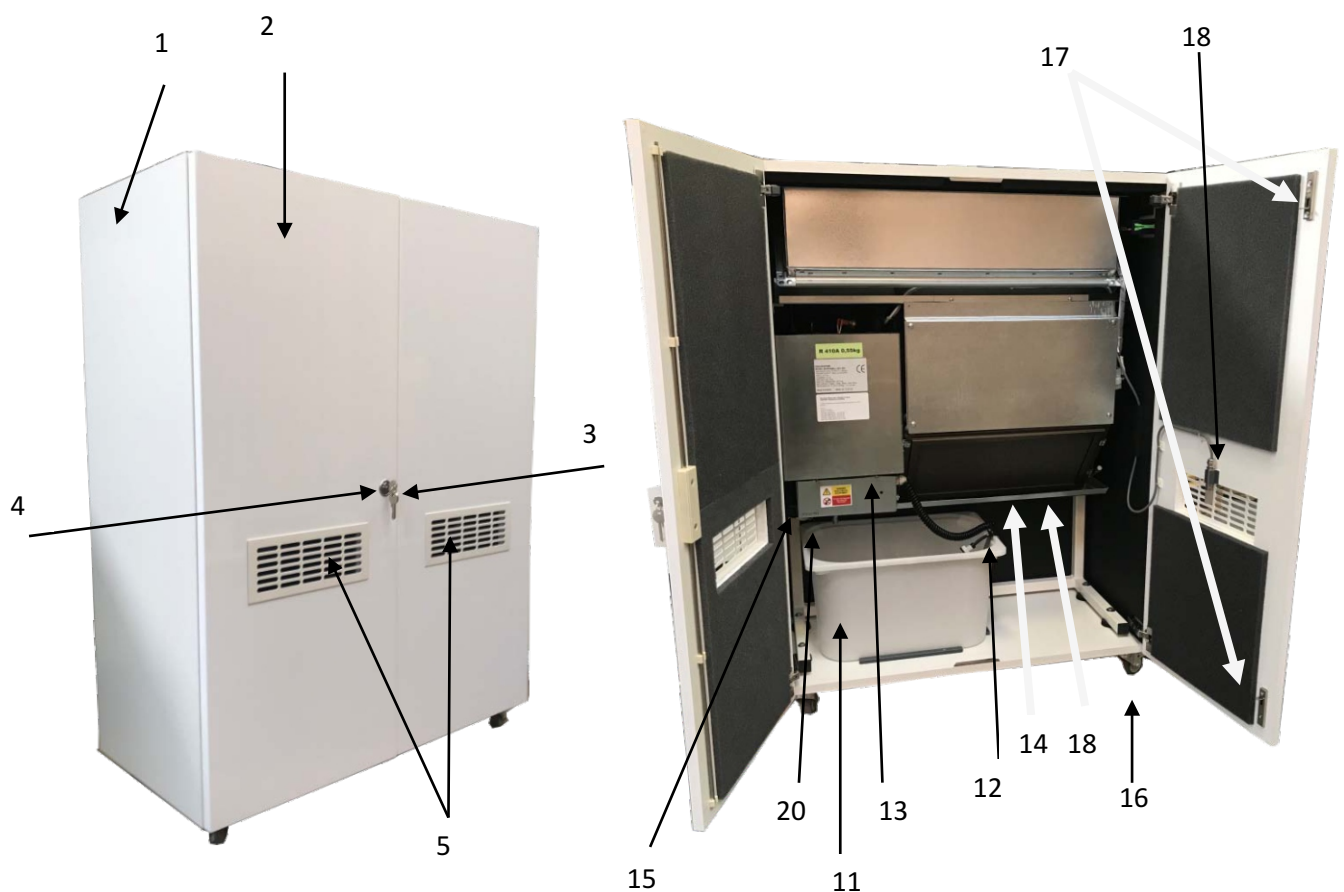
The unit was delivered in carton/wooden box on a wooden palette. Please unpack the unit and check the content. It should include the following:

1. The dehumidifier
2. User's manual
3. Set of keys
4. Plug adapter (if required)
5. Water tank
6. Cart
7. Plug for condensate drain

**Additional accessories to be included in the box (on demand):**

1. Remote Wireless regulator DRY EASY 300

#### 3.1 Description of basic parts



1. Dehumidifier body
2. Door
3. Keys
4. Main Lock
5. Air in grill
6. Air out grill /from the top/
7. Controller
8. LED indicating full tank

9. Electric plug /from the back/
10. Condensate hose
11. Condensate tank
12. Float switch
13. Electrobox
14. Condensate tray
15. Fan switch

- 16. Wheels /4x/
- 17. Manual lock /2x/
- 18. Humidity sensor
- 19. Air filter

- 20. Mechanical humidistat



### 3.2 Wheel locking and positioning

Please note that DRY 300 Gallery dehumidifier is equipped with a 2 front wheels with a locking mechanism. This allows you to fix the position of the dehumidifier by locking the 2 front wheels. We strongly suggest to keep the wheels locked when stationary.

Wheel locked	Wheel unlocked

**RECOMMENDATION:** The dehumidifier is designed to be positioned on an even surface with elevation of max. 0.5% +/-.

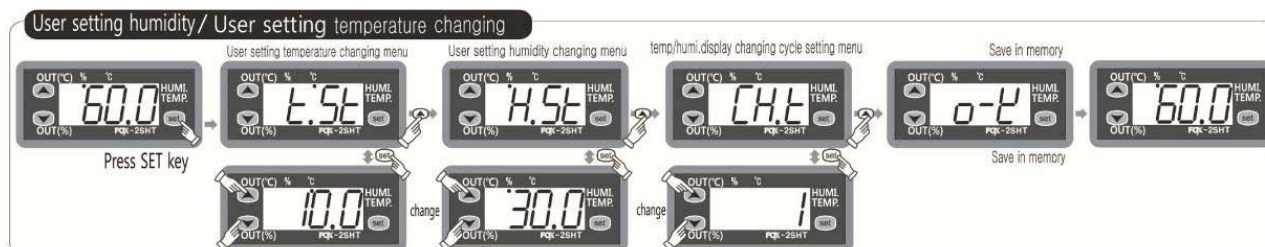
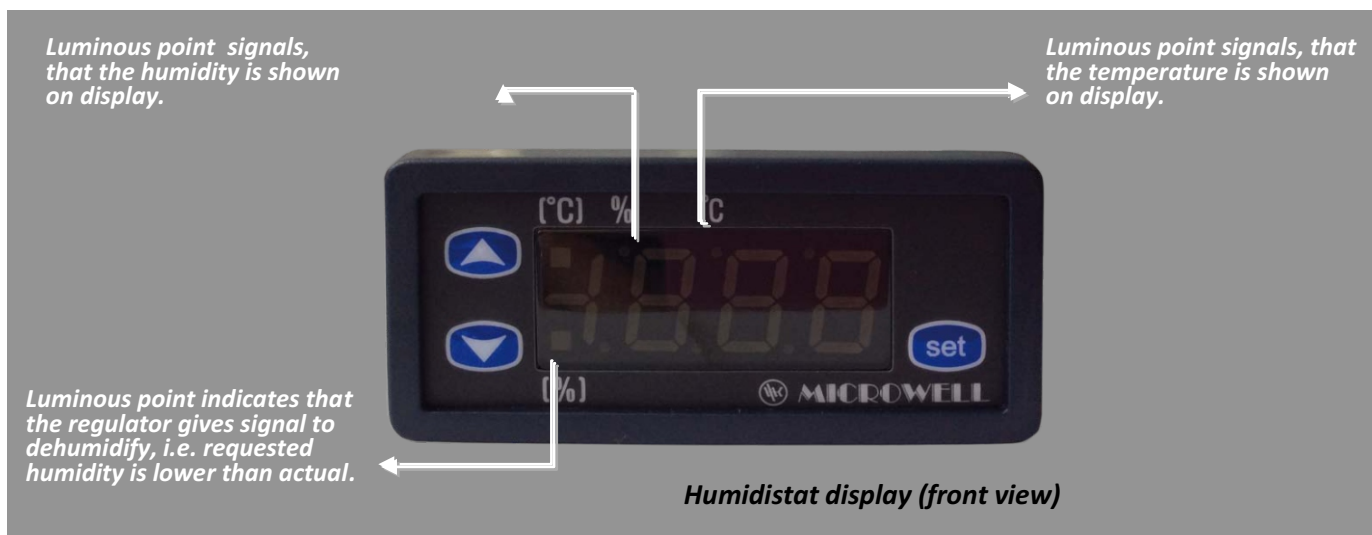
## 4. INSTRUCTIONS FOR USE

### 4.1 Humidistat

Your unit is equipped with built-in digital humidistat and thermostat by standard. On demand it can be equipped with remote wireless or wired regulator. Regulation by remote regulators is described in their separate manuals coming with the regulators if they were selected at order and mounted inside the unit in the factory.

The built-in digital humidistat and thermostats located at the top of the unit on the right. The humidistat reads the humidity of the incoming air and depending on the preset value does or does not dehumidify.

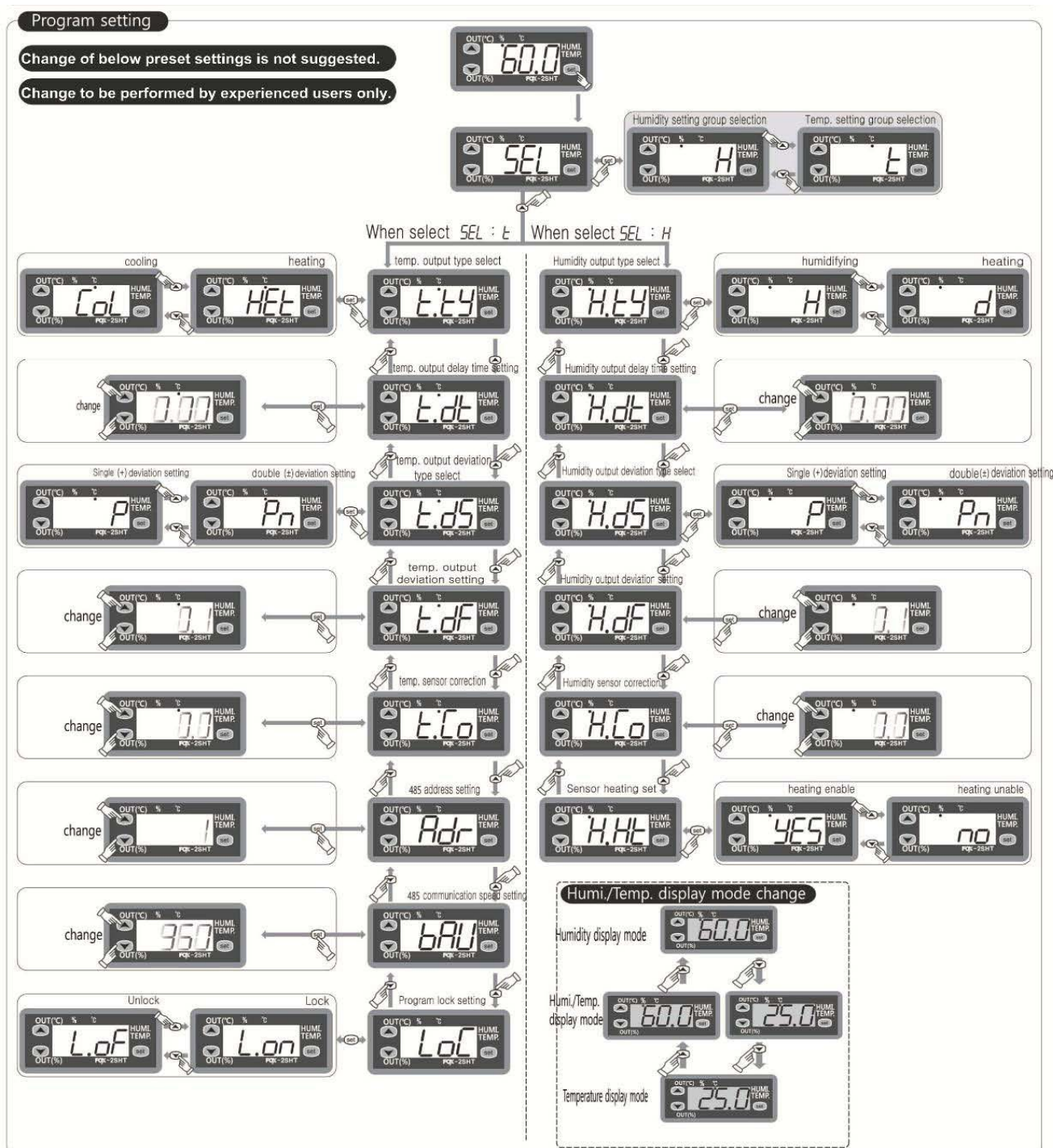
DRY300 Gallery is by standard preset at **50% humidity** at the factory. You can change the settings by simply pressing SET, then arrow to H.SE then SET, then with up or down arrow please set the desired target humidity and then SET, arrow to o-K.



#### **FAILURE REPORTING:**

- Er1** *Memory failure. Switch off and then switch on again the electrical connection. If the failure reporting continues, please ask us to change the component.*
- 0-E** *Sensor failure. The electrical connection of the sensor is broken off. Please control the cable.*
- S-E** *Sensor failure. The sensor is short-circuited. Please control the cable.*

*If any of above errors is detected, please make a note about it and perform restart of the machine by unplugging it from the power supply and plugging it back.*



Built-in digital humidistat is located on the front side of the unit's cover. The unit is preset to keep the humidity at 50%. User can set the humidity to requested value between 10-100%. Appropriate relative humidity range in themuseum is between 50 %. Lower humidity is not necessary; it has no harm your mucous tissue. Higher relative humidity than 70% will result in building material or fabric damage and also creates bacteria and mould favorable environment.

### 4.3 Compressor control

Start-up of the compressor is due to its protection delayed by 3 minutes. Depending on the humidity of the environment, it may take even longer for compressor to start operating. Once the compressor stops operating, the operation is renewed automatically at the earliest after three minutes. The user must not alter the preset delay-action relay.



The dehumidifier has an oil compressor inside thus it is very important to keep the dehumidifier always in a upright standing position on its wheels. Never turn the unit aside or put it into a lying position. This may severely damage the compressor and cause unit's malfunction or failure

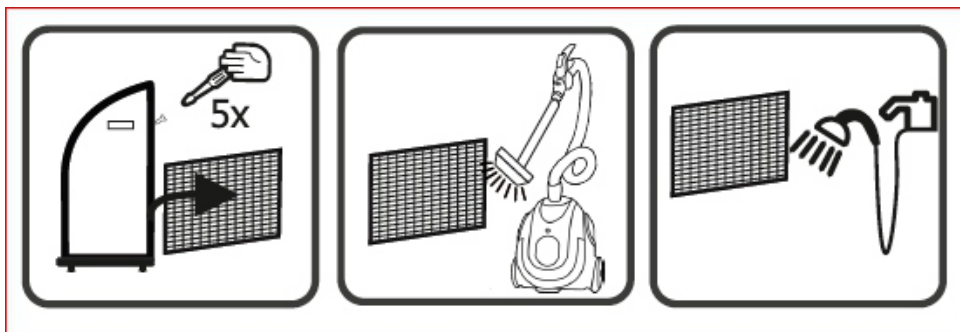
## 4.4 Maintenance and Air Filter

At least once a year it is necessary to have the unit checked and cleaned. This will ensure long and reliable service life of the unit.

It is important to have your air filter checked and cleaned in cycle between 4 to 6 weeks. Not cleaned filter causes interruption of the air flow resulting to dehumidifier damage, overheat or overpressure. Damages caused due to not cleaned air filter can be proved and are warranty excluded. More information in attached User's Manual. Air filter is washable or can be cleaned by vacuum cleaner. It removeable by hand by removing 2 or 3 pins that hold it. Please be careful and do not cut yourself on the edges of.



It is important to have your air filter checked and cleaned in cycle between 4 to 6 weeks. Not cleaned filter causes interruption of the air flow resulting to dehumidifier damage, overheat or overpressure. Damages caused due to not cleaned air filter can be proved and are warranty excluded.



## 5. INSTALLATION GUIDE

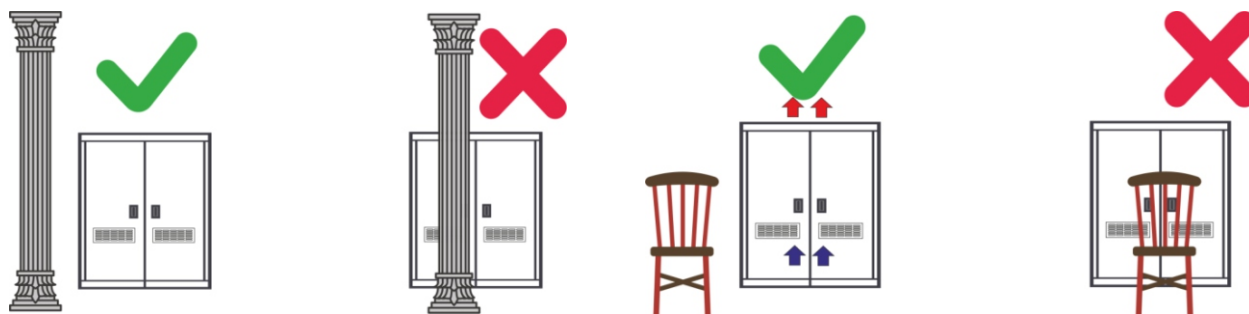


*The unit must be installed in compliance with the local installation and electrical installation regulations!*

The dehumidifier is designed to be positioned on an even surface with elevation of max. 0.5% +/-.

Do not place any objects or do not block by any means the air inlet and air outlet grills. This would lead to reduced water collection or a complete inability to collect water, unit overheat, malfunction, failure or damage.

The dehumidifier, when collecting water, absorbs amounts of air which is dried and heated up by approximately +2°C more than the air in the room. It is important to ensure free access to the air that is to be dehumidified and also free space where the dried air is to be delivered.

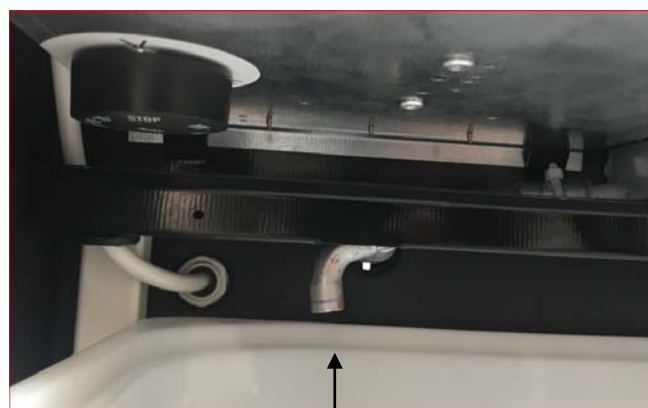


Since Microwell DRY300 Gallery is designed to be a museum dehumidifier, low noise and vibrations

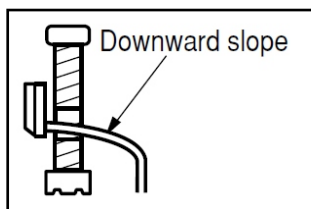
were the highest priority during development and production stages. DRY300 Gallery is thus equipped with several noise and vibration reduction elements. Despite that however the unit may spread some vibrations when standing just next to it or in very close vicinity. It is recommended to place the unit on a **carpet** or similar surface; this will help to eliminate the noise and vibrations.

## 5.4 Drainage of condensate water

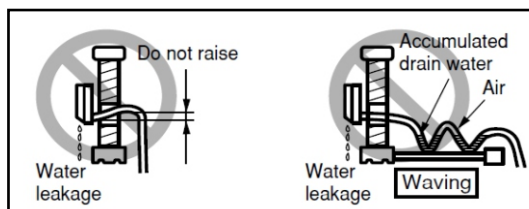
DRY300 Gallery dehumidifier is equipped with 2 types of condensate drainage. Number one is the water tank (bucket – part 11) inside the unit. Number two is a continuous drainage via a hose from the back of the unit (part 10). Unit comes with pre-set bucket drainage. Should you wish to switch this into a continuous drainage, please take a supplied black rubber plug and plug it into the condensate drainage just above the water tank. Make sure you plug it firmly so the water will not leak through.



Then please remove the plug from the hose located in the back of the unit and insert the hose into a drainage (e.g. sewer water system). Make sure there is a siphon in order to prevent unpleasant odor spread from the sewer water system.



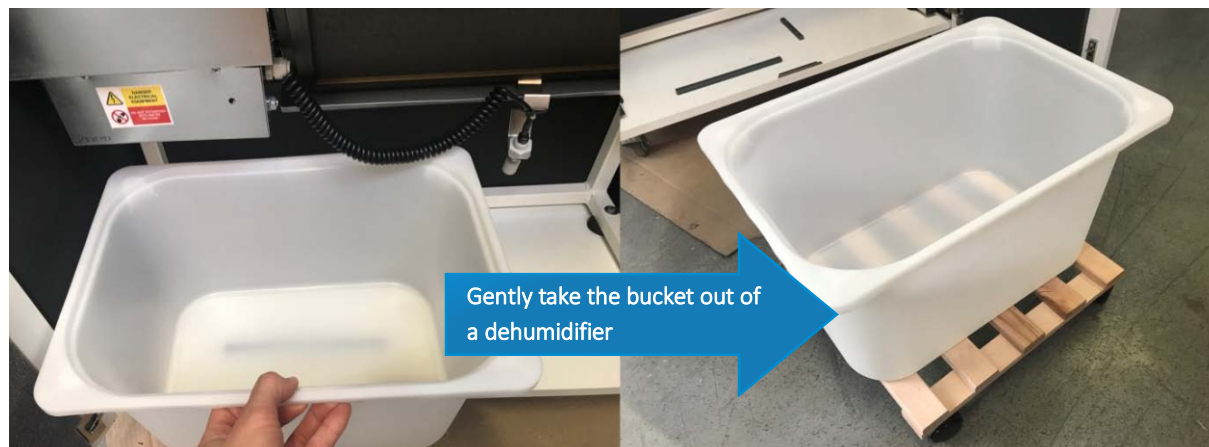
Correct drain hose



Incorrect drain hose installation.

## 5.5 Empty tank

Drainage into the bucket requires you to regularly pour the water out. Once the tank is filled, the unit will stop working and red LED on the right side of the unit will be lit. Please take following steps to take the water out so your dehumidifier can again start collecting water.



1. Open the door with supplied keys. Please note that left side door open by unlocking the keylock. Right-side door opens by opening the locks or hatches if you will from the inside of the unit (up and down).
2. Please remove the float switch from the bucket and place it on a condensate tray. Please proceed gently.
3. Please take supplied cart and gently take the bucket out of a dehumidifier and place it on a cart.
4. Take the cart to a location where the water can be poured out.
5. After the water has been poured out, please place the bucket back into the dehumidifier. Please make sure the bucket is in left corner within the grey plastic lines. If the bucket is not inserted properly back, the water may leak out of the unit.
6. Place the float switch back on the bucket. Please note that if float switch is not properly placed, the unit may not collect the water or collect the water even though the bucket is

already full. This will result in water leakage and can cause a damaged to the surroundings of the dehumidifier.

## 5.6 Connection of power supply

Microwell DRY300 Gallery comes with a supplied plug/cord. This is ready-to-use plug/cord. Please do not use the device in the case the plug, the wire or the connection shows signs of damage, smoke, burn or produces heat.

Connection of the unit onto the mains must conform to relevant safety standards. Connection requirements: Power supply: 220-240V / 50Hz. Protection: 16A by a protective switch (RCD) with nominal differential drop-out current not exceeding 30 mA. The main switch of the unit must be bipolar, with switch-out breaking of conductors L and N. An appliance for disconnecting the unit from the mains must be embedded into a firm surface. The distance of contacts, when switched off, must be at least 3 mm for all poles.



*Please mind all electrical safety precautions from page # 3*

## 6. STARTING THE UNIT

The unit comes preset for a water collection and is fully automatic. This means that as soon as the unit is plugged into a working power source, the unit will start collecting water should the humidity in the room be higher than preset 50%.

There is not master switch or any other requirement to be done by end user. Just simply plug in and go.

Unit first starts with the fan. You will hear fan working and you can feel that air is being sucked inside the unit and then blown out of the unit.

Should room humidity be higher than 50% (or set required humidity) then in about 3 minutes the compressor will start. You can notice this by a bit warmer air coming out of the machine. In few seconds after the unit starts to collect the water.

### 6.1 Hot gas defrost- on demand

Hot gas defrost allows the dehumidifier to operate effectively at air temperatures down to 5°C. It is designed for heavy duty low air temperature operations. Although the efficiency of the device concerning the extraction rate versus energy consumption by 5°C ambient air temperature conditions is low, the dehumidifier will still collect water. If your dehumidifier is equipped with hot gas defrost accessory, then the gas circuit is equipped with 4-way valve. When temperature on evaporator drops below zero, system starts to count 30 minutes of a time. After this period, the evaporator temperature is checked again and if the current temperature is still below zero, the compressor and the ventilator are turned off. Dehumidification stops. Gas circuit is reversed and after 3 min the compressor starts. System now defreezes the unit for 3 minutes. After another 3 minutes, if the defrost cycle is completed, the unit goes into usual operations. In extremely low temperatures and in still humid enough air it is normal to take 2 or 3 defreezing cycles to complete the procedure.

## 7. TECHNICAL DATA

### 7.1 Technical data table \*

DATA	UNIT	DRY 300 GALLERY
Room volume	m <sup>3</sup>	500m <sup>3</sup>
Extraction rate 30°C/60%RH	l/24hrs	36 liters
Extraction rate 20°C/60%RH	l/24hrs	26 liters
Air flow	m <sup>3</sup> /h	550m <sup>3</sup> /h
Noise level at 1m dist.	dB(A)	42dB(A)
Condensate drain		1-continuous by supplied hose;2-20liter (5.3Gallons) removable water tank
Power consumption	W	700W
Heat output (W)	W	1900W
Refrigerant	type	R410A
Dimensions netto (w/h/l)	mm	800x1070x385mm
Weight (kg)	kg	60kg

\* Manufacturer reserves the right to change above data without notice.

Gas circuit is filled with refrigerant R410A which is two-content refrigerant (R32/R125). Based on ES No. 842/2006 are these contents considered to be a fluorcarbon greenhouse gases. The unit contains fluorcarbo greenhouse gases included in Kyoto Protocol:

## 8. WARRANTY

This dehumidifier is subject to a warranty period of 2 years. It may have been prolonged in your country or by your distributor or reseller. Please contact your reseller or distributor in the case a warranty should be claimed for this dehumidifier.

**Please note that no claims will be accepted (warranty void) if:**

1. The dehumidifier has been used in an incorrect way, not as described in this manual or in contrary to this User's manual or against Safety measures of this User's manual.
2. The dehumidifier is installed in an incorrect way, not as described in this User's manual or in contrary to this User's manual.
3. The dehumidifier was put to operation by an unauthorized person.
4. The air flow through the dehumidifier is out of the defined borders.
5. The unit has been exposed to a mechanical damage / force or any unauthorized action was performed on construction of a unit welding, brazing or has been mechanically damaged resulting in scratches, blends, compressions, pipe rupture, etc. No mechanical damage is

accepted as warranty claim unless a written claim had been made with transporting agent delivering the device.

6. The dehumidifier suffered frost or overheating damage resulting from ambient air temperatures out of Temperature operational range.
7. The electric tension source is insufficient or improper in any other way.



***When applying for warranty, please contact your distributor and indicate dehumidifier model, serial number and date of purchase. Please describe the genesis of the failure.***

## TRANSPORT INSTRUCTIONS



*The dehumidifier must be transported in the original packaging only and in a vertical upright position. Make sure that the dehumidifier cannot turn over or fall down during transport. Never put the dehumidifier aside! It may lead to serious compressor damage!*

*No mechanical damage is accepted as warranty claim unless a written claim had been made with transporting agent delivering the device. When receiving the product please check whether the package is not damaged. Please make a proper documentation of any damage immediately after delivery and claim all transport damage in written form with the forwarding agent at the delivery.*

**Notes:**

**Manufacturer:**

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