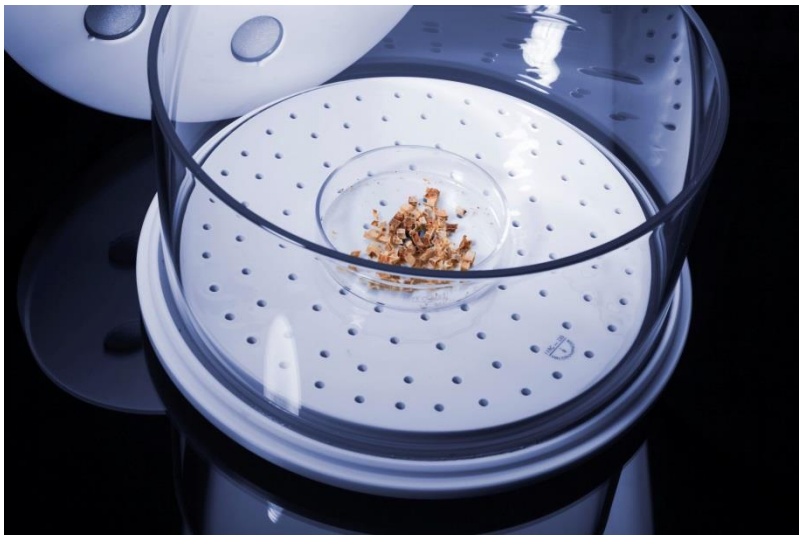
# Drying Rotor 1DRY

For efficient microwave drying of humid samples prior to decomposition, Anton Paar offers the Drying Rotor 1DRY for Multiwave PRO. It is a beneficial accessory for reducing overall sample preparation time by replacing conventionally heated drying procedures.



## 1 General Information

In addition to excellent decomposition applications Multiwave PRO can also be used for the fast and efficient drying of samples by means of the Drying Rotor 1DRY. Systematic investigations show comparable results with conventional compartment dryer procedures – but in less than a quarter of the time!

Soft drying without hot spots or charring of the sample is performed in a rotating low-pressure chamber in the microwave field. The wall and bottom of the drying rotor are slightly self heating, thus avoiding condensation of moisture released by the sample. The powerful integrated Multiwave PRO exhaust module sucks filtered air through the chamber to draw off the humidity without contamination of the sample or release of unpleasant smell into the laboratory. No external means or modifications at the instrument are required.

Handling of the drying rotor is easy and convenient. With the unpulsed microwave control of Multiwave PRO, soft power profiles can be programmed thus careful drying is obtained even for sensitive material.

The Drying Rotor 1DRY is applicable for various samples. No matter whether applied for the drying of bulky material, the removal of large amounts of water, the treatment of only a few grams of reference material or the preparation for dry weight determination – the Multiwave PRO drying rotor can do the job!

Major economic benefits result from time savings in handling, reduction of overall drying time, higher utilization of the microwave oven and the savings for other drying means. Therefore the Drying Rotor 1DRY is a useful and economic accessory for Multiwave PRO!

## 2 Benefits

- Reduced drying time by efficient microwave heating
- Soft drying without carbonization
- Humidity draw off by the integrated Multiwave PRO exhaust unit
- No contamination
- Large sample capacity
- Additional utility means added value for your Multiwave PRO

## 3 Hints for Drying Applications

Place large pieces of sample directly on the desiccator plate. For fine, powdery material use evaporation dishes, covered with watch glasses. Arrange the samples in a regular order for homogeneous heating.

When editing drying methods, select rotor type DRY. For the appropriate power profile please see special application notes or create it according to experience with your particular sample material. Recommendation for a general purpose drying program:

| Phase | Power | Ramp | Hold | Fan |
|---|---|---|---|---|
| 1 | 100 | 0 | 0:01 | 1 |
| 2 | 250 | 20:00 | 10:00 | 1 |
| 3 | 0 | 0 | 10:00 | 2 |

A ramp at the beginning avoids charring of samples. To avoid overtemperature alarms, do not apply more than 800 W for more than 10 minutes.

For drying of fine powders, do not use fan steps 2 or 3 to avoid loss of sample by turbulent air flow through the rotor. Permanent use of fan step 3 (high air throughput) would require frequent cleaning of the air filter disk.

Regular cleaning provides for high service life of all components. Remaining residues may cause local overheating in the microwave field. Therefore clean carefully rotor surfaces and desiccator plate.

Clean the inlet air filter disks at the top plate after 20 runs or earlier, when they are obviously clogged by dust. Take out the disk by removing the O-rings and clean them in an ultrasonic bath with a laboratory cleaning agent.

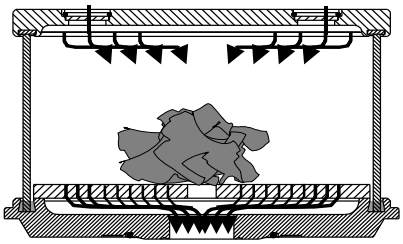


*Fig. 1 Air-flow through the Rotor 1DRY*

## 4 Ordering Information

**6450 Drying Rotor 1DRY**

Rotor for fast and efficient drying by the help of microwave heating. Samples like sewage sludge and soil as well as biological materials can be treated.
Sintered glass filters in the lid avoid contamination of the samples by airborne dust. The exhaust unit removes humidity and odour and cools the samples after drying.
The slightly self-heating glass tube of the chamber avoids condensation of humidity on the rotor walls.
Samples will be dried within a quarter of the time required by traditional drying methods.

Due to unpulsed microwave energy supply even sensitive material will not get charred.

Volume: 4.3 L

Weight: 4.4 kg

**77580 Desiccator Plate**

Porcelain desiccator plate, glazed on one side, with 4 mm perforation.

**77579 Filter Disk Borosilicate Glass D=30mm Porosity 0**

Glass frit made of borosilicate glass with a diameter of 30 mm, for filtration of air passing through the drying chamber. Six filter disks are located in the top plate.

**77693 O-Ring 28.25x2.62**

Silicone O-ring for fastening the filter disks in the drying rotor top plate.