



# Zortrax HEPA Cover

FOR ZORTRAX M SERIES AND M SERIES PLUS



## Safer Workplace and Better Prints

Zortrax HEPA Cover is a filtering device compatible with Zortrax M Series and M Series Plus FDM 3D printers. An electric fan with regulated speed keeps the temperature stable inside the printing chamber to reduce ABS shrinkage. A built-in carbon filter removes unpleasant smells while a HEPA filter catches over 99% of emissions released in the 3D printing process.

Zortrax HEPA Cover is easy to set up and operate even for untrained staff. Designed to make the work environment safer and increase the quality of prints, it is a perfect accessory to complement Zortrax M Series and M Series Plus FDM 3D printers.

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## Effective Filtering

HEPA filters are designed to catch particles with 300 nm in diameter and larger. But they can also efficiently catch ultrafine particles released in the FDM 3D printing process. Research done at CEA-Grenoble in France under the EU-funded Nanosafe2 Project has proven they could catch over 99% of nanoparticles of graphite ranging from 10 nm to 100 nm in diameter\*. That's why Zortrax HEPA Cover is a proven, effective safety measure particularly useful in confined, unventilated print rooms.

## Compatibility and Maintenance

Designed to perfectly fit onto Zortrax M Series and M Series Plus 3D printers, Zortrax HEPA Cover is a standalone device that can work with third-party printers as well, provided they have similar dimensions. Because Zortrax HEPA Cover has its own electric fan, it needs a separate power source. To guarantee optimal performance, both HEPA and carbon filters should be replaced every 3-4 months.

## Limiting Shrinkage and Warping



All ABS-based materials shrink during cooldown, which may cause warping. Zortrax HEPA Cover reduces shrinkage and warping by maintaining higher temperatures inside the printing chamber and therefore slowing down the material's cooling rate.

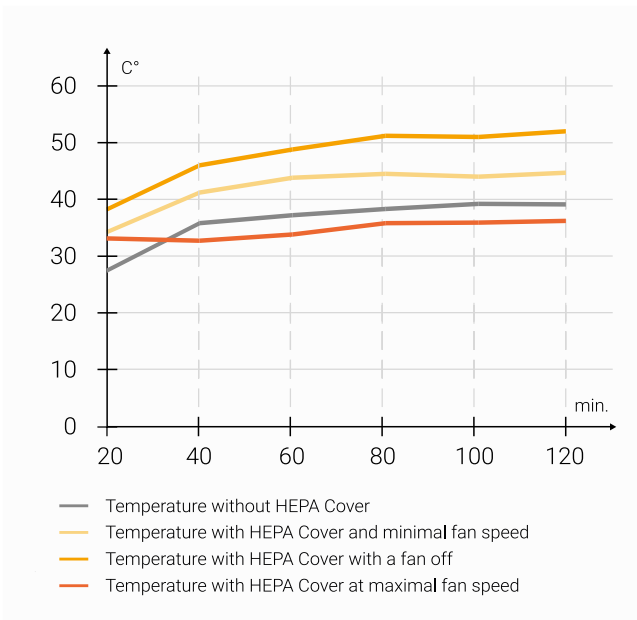


A HEPA filter in Zortrax HEPA Cover can be easily replaced when necessary.

## Dimensional Accuracy

ABS-based materials can shrink up to 8% during cool down. Usually, the higher the cooling rate, the more the material shrinks. To reduce shrinkage, Zortrax HEPA Cover keeps the temperature stable inside the printing chamber. Depending on the fan speed, average temperatures maintained around the 3D printed model can be up to 10 °C (18 °F) higher compared to the 3D printer working without Zortrax HEPA Cover. This way rapid cool down can be avoided which leads to higher dimensional accuracy of prints.

\*L. Golanski, A. Guiot, F. Rouillon, J. Pocachard, and F. Tardif, „Experimental evaluation of personal protection devices against graphite nanoaerosols: fibrous filter media, masks, protective clothing, and gloves”, Human & Experimental Toxicology Vol 28, Issue 6-7, pp. 353 - 359.



The temperatures maintained in the printing chamber are on average 10 °C (18 °F) higher when Zortrax HEPA Cover is installed.



Zortrax HEPA Cover is an efficient safety measure in large 3D printing farms, especially the ones operating in confined, poorly ventilated spaces.

## Zortrax HEPA Cover Main Features:

- › Works with Zortrax M200, M300, M200 Plus, M300 Plus, and other 3D printers with similar dimensions
- › Maintains stable temperature inside the printing chamber to reduce warping of ABS-based materials
- › Carbon filter eliminates unpleasant smells
- › HEPA filter catches over 99% of 3D printing emissions, including ultrafine particles
- › Electric fan has regulated speed

## Zortrax HEPA Cover Technical Data

|   | Zortrax HEPA Cover 200  | Zortrax HEPA Cover 300                   |
|---|---|--|
|   | <b>Weight and physical dimensions</b>   |  |
| <b>Without filtering module (W x D x H)</b> | 368 x 357 x 230 mm (14.5 x 14.1 x 9.1 in)   | 496 x 483 x 280 mm (19.5 x 19.1 x 11 in) |
| <b>With filtering module (W x D x H)</b>    | 426 x 357 x 230 mm (16.8 x 14.1 x 9.1 in)   | 545 x 483 x 280 mm (21.5 x 19.1 x 11 in) |
| <b>Net weight</b>                           | 1.95 kg (4.3 lb)  | 2.55 kg (5.6 lb)                         |
| <b>Device weight</b>                        | 3.2 kg (7.1 lb)   | 4.8 kg (10.6 lb)                         |
|   | <b>Filtration</b>   |  |
| <b>Odor reduction filter</b>                | Carbon  |  |
| <b>Particle reduction filter</b>            | HEPA  |  |
| <b>Filtration efficiency</b>                | 99.5%   |  |
|   | <b>Electrical</b>   |  |
| <b>AC input</b>                             | 100 – 240 V ~ 0.7 A 50/60 Hz  |  |
| <b>Power supply parameters</b>              | 12 V DC, 0.5 A (min)  |  |
| <b>Maximum power consumption</b>            | 6 W   |  |
|   | <b>In the box</b>   |  |
|   | Device, power supply unit, filtering module with HEPA and carbon filters                          |  |
|   | <b>Additional information</b>   |  |
| <b>Compatible products</b>                  | M200 and M200 Plus  | M300 and M300 Plus                       |
|   | All information contained in this brochure and specification is subject to change without notice. |  |



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