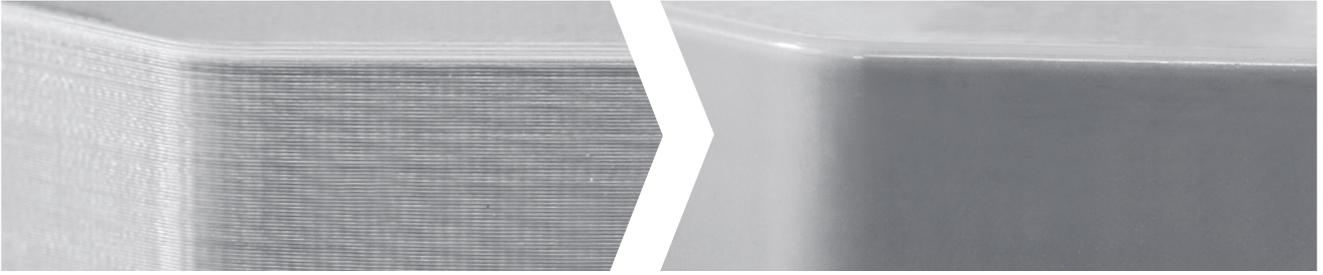# Zortrax Apoller
AUTOMATIC VAPOR SMOOTHING DEVICE

Smooth It Out

Zortrax Apoller is a smart vapor smoothing device that automatically removes visible layering from FDM 3D prints. It works in three simple steps. First, the model has to be placed inside the smoothing chamber. Second, the door has to be closed and settings chosen with an intuitive touch interface. Third, the model has to be taken out of the chamber once the smoothing process is done. Vapor smoothing performed in Zortrax Apoller does not affect the model's details nor dimensional accuracy.

In vapor smoothing, gaseous acetone or butanone dissolves the surface of a print to blend the layers together. This way, 3D printed models get the look of injection molded parts with glossy or mat finish depending on the filament used. Such models easily undergo further post-processing steps like painting to achieve the looks of end-use products. But both acetone and butanone are highly volatile and flammable, so vapor smoothing had to be performed with extreme care. Zortrax Apoller makes this process clean, fully automated, and safe.

zortrax

Vapor circulation system in Zortrax Apoller distributes the solvent uniformly across the model's surface to ensure consistent smoothing effect.

SVS Technology

Zortrax Apoller uses the Zortrax SVS (Smart Vapor Smoothing) technology to work with both acetone and butanone (MEK). The entire process is run by advanced, proprietary algorithms managing temperature, pressure, and concentration of solvent's vapors at all times. First the smoothing chamber is heated enough to vaporize the solvent deposited in a sink below the glass tray. Once this is done, vapors are circulated spiraling upwards to evenly cover the entire model. Solvent's vapors then condensate on models, superficially melting their surfaces. Next, the chamber is heated to dry the print out. Finally the remaining vapors are condensed again which brings the solvent back to the tank. This way a 300 ml bottle of solvent can be used for smoothing multiple prints instead of just one. Combined weekly output of 4 typical FDM 3D printers can be automatically smoothed within one day. Efficiency goes hand in hand with quality.

Workplace Safety

Users's safety was one of the guiding principles while designing Zortrax Apoller. Due to redundancy carefully engineered into the system, Zortrax Apoller offers industrial-class reliability. The device is double sealed off from the environment. At all times the pressure inside the smoothing chamber is kept below the pressure in the room. Besides double seals, this is yet another level of redundancy in the safety system preventing fumes from getting out of the smoothing chamber. It also keeps the chamber closed even when there is a power outage causing its electromagnetic lock to shut down. When the power backs on, Zortrax Apoller automatically decontaminates the chamber before allowing anyone to open it. Safety systems have been designed to meet the high standards required by the ATEX 2014/34/EU Directive regulating the equipment intended for explosive atmospheres. That' why Zortrax Apoller is easy to implement in workshops and safe to use.

Z-ULTRAT

Z-ASA Pro

Vapor smoothing removes visible layering from FDM 3D printed models and gives them a glossy or mat finish depending on the material of choice.

Zortrax Apoller Main Features

› Smoothing chamber measures 300x250x250 mm

› Works in the Zortrax SVS technology

› Works with MEK and acetone

› Has an intuitive touch interface

› Has Wi-Fi and Ethernet connectivity

› Smoothens models printed with Z-ABS,
  Z-ULTRAT, Z-ULTRAT Plus, Z-ASA Pro, and Z-HIPS

› Works with external materials including
  ABS, ASA, and HIPS

› Has an advanced vapor circulation system

› Maximal working temperature is set at 90° C (194° F)

› Minimal working temperature is as low as -20° C (-4° F)

› Minimal absolute working pressure is set at 0.4 bar

› Safety systems meet the standard required by the EU
  ATEX Directive

Zortrax Apoller can smooth multiple prints with one 300 ml bottle of solvent. Excessive vapor is condensed and placed back in the tank to be used in another smoothing cycle which means less refills.

Zortrax Apoller Technical Data

Device

Build volume	300 x 250 x 250 mm (11.8 x 9.8 x 9.8 in)
Connectivity	Wi-Fi, Ethernet, USB
Operating system	Android
Processor	Quad Core
Touchscreen	4" IPS 800 x 480
Solvent compatibility	Aceton, MEK
Zortrax Compatible Materials	Z-ABS, Z-ULTRAT, Z-ULTRAT Plus, Z-ASA Pro, Z-HIPS
Compatible Materials	ABS, HIPS, ASA

Process

Maximum working temperature	90° C (194° F)
Minimum working temperature	-20° C (-4° F)
Minimum working pressure	0.4 bar
Ambient operation temperature	15 – 30° C (59 – 86° F)
Storage temperature	0 - 35° C (32 - 95° F)

Electrical

AC input	110 V ~ 13.6 A 50/60 Hz ; 240 V ~ 6.3 A 50/60 Hz
Power supply parameters	24 V DC @ 14 A, 500 W
Maximum power consumption	1500 W

Weight and physical dimensions

External dimensions (W x D x H)	671 x 396 x 388 mm (26.4 x 15.6 x 15.3 in)
Internal dimensions	340 x 270 x 260 mm (13.4 x 10.6 x 10.2 in)
Weight	30 kg (66 lb)

In the box

Device, Starter Kit

Additional information

All information contained in this brochure and specification is subject to change without notice.

Contact Your Local Reseller

Find your local Reseller at zortrax.com/find-reseller.
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