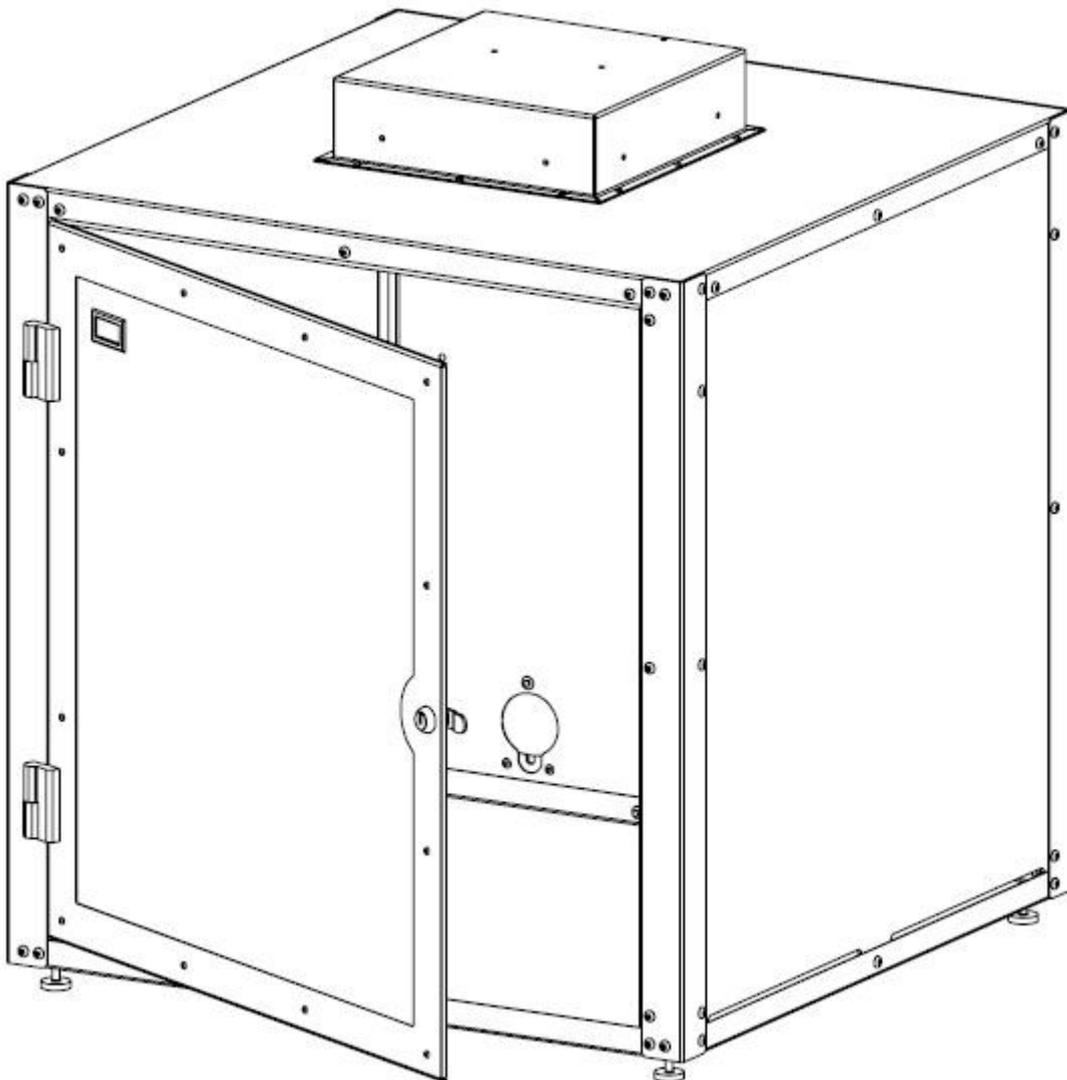




Kora Model SC-XX 3D Printer Safety Enclosure



How does the SC-XX work?

Manufactured in the UK, The SMS Safety Enclosure (SC-XX) works on the principal of sucking in clean air through lower vents on the SC-XX, washing it over an operating FFF / FDM Desktop 3D Printer and exhausting it back out through a specially treated 'easily replaceable' high volume HEPA / Active Carbon Filter. This removes nearly all emitted and ingestible particles (including Ultra Fine), toxic chemicals and unpleasant odours produced during the desktop 3D printing process

Confirmation of the harmful particle removal has been established after severe in-depth and comprehensive official 'real time' testing at the UK HSE Government Test Laboratory found here:

<https://www.hse.gov.uk/research/rrpdf/rr1146.pdf>

If preferred, the SC-XX can also make use of a 3D printable 'direct to outside atmosphere adaptor', negating the need for installation of the special 'HEPA / Active Carbon Filter' and venting all emissions via a 'domestic tumble dryer style' 100mm diameter flexible pipe, terminating at a wall vent or through an open window to the external open air (the .stl external adapter file can be supplied on request)

Further, the SC-XX is fully enclosed and has a key lockable front access door to prevent inherent hazards present on most desktop 3D Printing Machine, (especially relevant regards the presence young children) namely:

- a) 'Burn' hazard from the extremely hot 'printing head' often reaching temperatures in excess of 200 - 300°C and the 'heated build plate' sometimes reaching temperatures exceeding 100°C
- b) 'Trap' hazards (fingers, hair, clothing etc.) caused by numerous mechanical parts and belts moving on any open or exposed gantry system
- c) Significantly reduces the background machine and cooling fan noise of any 3D Printer machine during operation
- d) The key lockable SC-XX has the ability to be screwed or bolted to the desktop surface so preventing opportunist theft of the Desktop 3D Printer machine or the SC-XX itself
- e) The enclosed SC-XX prevents 'gusting' drafts of air caused for example by an open door or window on a windy day. Such 'gusting' drafts can seriously affect the final quality of the 3D Printed model part
- f) By the addition of a relatively simple internal fire detection / extinguishing system, and being constructed of steel and fire resistant clear PETG sheet materials, using the SC-XX would suppress the spread of any 'open hearth' fire in the case of a catastrophic machine system failure

What standard features are included with the SC-XX?

The SC-XX Safety Enclosure - strong powder coated lightweight steel construction, quiet and safe electric air filtration unit with LARGE 3 stage Capacity HEPA / Active Carbon Filter Cassette, fire resistant clear PETG sides and/or door panels, easily removable hinged and 'lift-off' front door for total SC-XX internal access, key operated door cam lock, 12v plug adaptor style power supply - 100v to 240v AC in - safe 12v DC out, LCD humidity and internal temperature display module, fully adjustable Enclosure levelling feet, sealed mains plug exit hatch for 3D Printer power / power supply plugs

What Size is the SC-XX and which 3D printer machines will fit inside it?

The SC-01 is externally 662 wide x 662 deep x 787 high (including the filter housing) and internally 652 wide x 658 deep x 688 high. So the large size may allow multiple small size printers to be installed inside the SC-01.

Known 3D Printers to fit inside the SC-XX are Kora iTX 3D, Creality CR10 (300mm model), Ultimaker machines, Prusa machines, Most RepRap machines, etc. this list is non exhaustive. Different size Safety Enclosures are available (see www.kora3d.com for details

How is the SC-XX used?

The SC-XX is used for personal protection to self and others against inherent Hazards such as fire or finger burn / trap by unauthorised child intervention during the operation of any Desktop 3D Printing machine, whether the operator is performing attended or unattended 3D printing (when considering unattended 3D Printing, it is recommended that the fully Automatic Fire Extinguisher and/or Heat Detector accessories available to easily install inside the Safety Enclosure should be considered for increased fire hazard protection)

What problems does the SC-XX solve, and how does it solve them?

The SC-XX solves the inherent hazard problems found on most Desktop FFF / FDM 3D Printer machines whilst in operation, by using the combination of a key lockable enclosure and a highly efficient and safe air filtration / extraction system against breathable particles and chemical emissions

What are the most important features of the SC-XX?

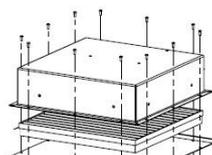
The SC-XX is lockable by a key, removes the majority of all ingestible particles (including Ultra Fine), toxic chemicals and unpleasant odours produced during the desktop 3D printing process and is able to be permanently fixed to a desk or table. The unit is conveniently supplied in a 'flat pack' form for easy transportation, shipping and building – which will take approximately an hour

What are the most important technical features of the SC-XX?

The quiet, economical and highly effective HEPA / Active Carbon filtration system, lockable access to the 3D Printer whilst inside the SC-XX

What additional accessories are available for the SC-XX?

The SC-XX is constructed so that a Fully Automatic Fire Extinguisher can be integrally installed inside the SC-XX, both triggered by extreme temperature rise inside the SC-XX. Other available accessories are a Heat Detector Unit that operates in a similar way to a domestic smoke detector, but emits a continuous piercing beep-beep if the heat in the SC-XX rises significantly above expected levels. LED lighting can also be added to the SC-XX for great overall lighting of the entire 3D Printer machine and the model that is being printed. Independent heater systems of your choice can also be added to the SC-XX to establish an increased ambient printing environment, proved beneficial for more successful printing of certain 3D Printer filament materials



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Unit 6 United Business Park, Lowfields Road, Leeds, West Yorkshire LS12 6UB
Email: customerservices@kora.co.uk Website: www.kora3d.com