

NEW

Automated Desanding Station

**Efficiently desand cores
3D printed with inorganic binders**



Increased Productivity for Coarse Desanding

Integrated automation saves time and reduces costs of unpacking sand cores

The pioneering automation technology in the ExOne desanding station can reduce job box material removal time by up to 95%. A state-of-the-art PLC system and integrated sensors save labor costs and increase the speed of desanding cores printed using inorganic binders.

The desanding station is compatible with the box-in-box system and has an ergonomic design to ensure operator safety. In conjunction with the S-Max[®] Pro binder jetting machine and a microwave, it forms a production line for the automated manufacturing inorganic cores. Up to four S-Max Pro machines can be connected to one desanding station and the modular setup allows the system to be extended as required, for example with robotic removal of cores and finishing, creating greater flexibility and a future-proof investment.



ADDED VALUE

1. Fully automated desanding of 3D printed cores
2. Increased **Overall Equipment Efficiency (OEE)**
 - Fully automated job box transport and desanding, as well as instant recovery of sand for material recycling
 - Reduces the coarse desanding process by up to 95% from approximately 90 down to 3 minutes
 - Lower risk of core breakage or damage compared to manual extraction, increasing yields and improving core quality

3. Improved ergonomics and work safety
 - Operator-friendly, ergonomic design for part removal
 - Integrated dust collector with filter to reduce fine particle dust
4. Future connection to integrate robotics enabling fully automated unpacking and fine desanding

Main components

- 1 Platform
- 2 Control cabinet
- 3 Operating panel
- 4 Desanding module
- 5 Transport module
- 6 Screw conveyor
- 7 Collection hopper
- 8 Recycling bin
- 9 Industrial dust collector



Technical data

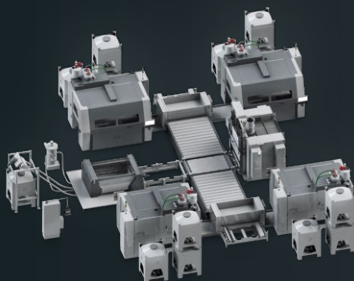
Dimensions	L 8,700 × B 3,300 × H 2,700 mm
Total weight	~ 3,000 kg
Supply voltage	400 V, 50/60 Hz, 3~/N/PE
Pressurized air	6–10 bar (dry and free of residual oil)

APPLICATION

Inorganic binder (FB901) in combination with the box-in-box system for processing silica sand as a standard molding material.

PROCESS OPTIMIZATION

Use the full potential of the automated desanding station and connect up to four S-Max Pro printers in a manufacturing cell.

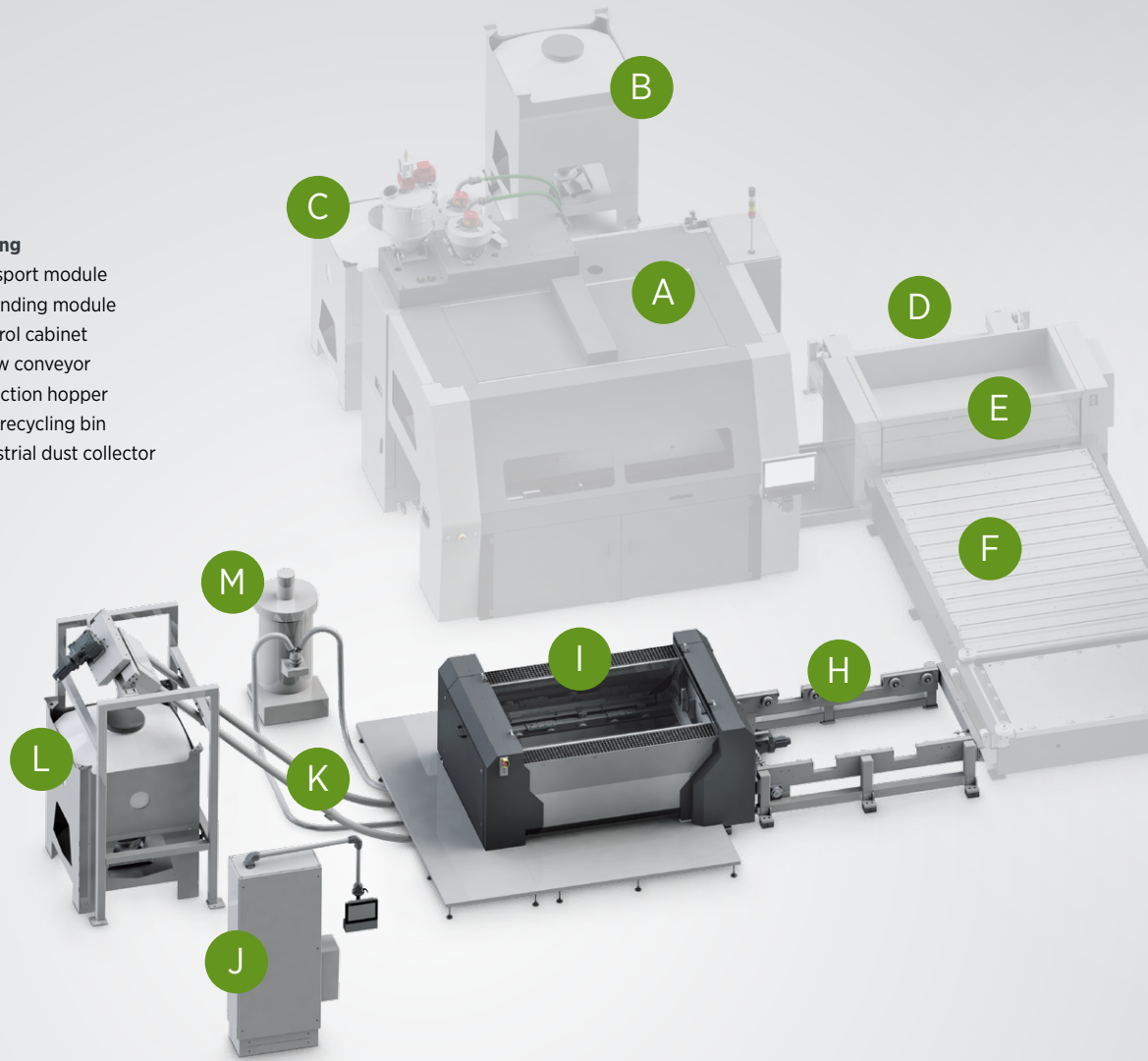


3D printing system

- A S-Max Pro
- B Transport container (fresh sand)
- C Transport container (recycled sand)
- D Transfer station
- E Job box
- F Conveyor
- G Microwave

Desanding

- H Transport module
- I Desanding module
- J Control cabinet
- K Screw conveyor
- L Collection hopper with recycling bin
- M Industrial dust collector



Performance guaranteed thanks to first-class components

A Siemens PLC is at the heart of the automatic desanding station with an intuitive touchscreen interface to guide operators through the process. Together with integrated sensors, the PLC guarantees safe and automatic completion of the individual process steps.

1



LOADING A COMPLETED BUILD

A job box that has been cured in the microwave is transported (H) to the desanding module (I) with integrated sensors guiding the loading process.

2



DESANDING

Coarse desanding removes material as sand falls through two perforated plates at the base of the job box. Moved to the open position where the holes line up, sand flows through the plates.

3



SAND TRANSPORT & DUST REMOVAL

Sand removed from the job box is collected and transported via screw conveyors (K) into a recycling bin with fill level monitoring (L) while the industrial dust collector (M) engages to simultaneously remove fine dust particles.



Desand up to
30x
faster

4



CLOSING THE JOB BOX BASE

Following the coarse desanding process, the perforated plates are closed at the base of the job box and the build platform is raised for ergonomic removal.

5



REMOVING PRINTED PARTS

Cores are removed and residual sand is brushed into the integrated side funnels.

6



READY FOR THE NEXT BUILD

The job box is moved out of the desanding module and returned to its position on the transport module.

FINISHING



Subject to change without notice.
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VIDEO – See the automated desanding station:
www.exone.com/autodesanding



ExOne has facilities and representatives around the world.
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