

SCube

The SCube from Swiss Cluster represents the next generation of R & D and small-scale production batch systems for Atomic Layer Deposition (ALD), ideal to coat multiple 2D substrates or different kinds and sizes of 3D parts.

The patent-pending scalable chamber from Swiss Cluster can be optimally configured to fit to all types of 3D parts and coating material requirements to deliver exceptional coating homogeneity at unparalleled process speeds with full control of the process parameters.

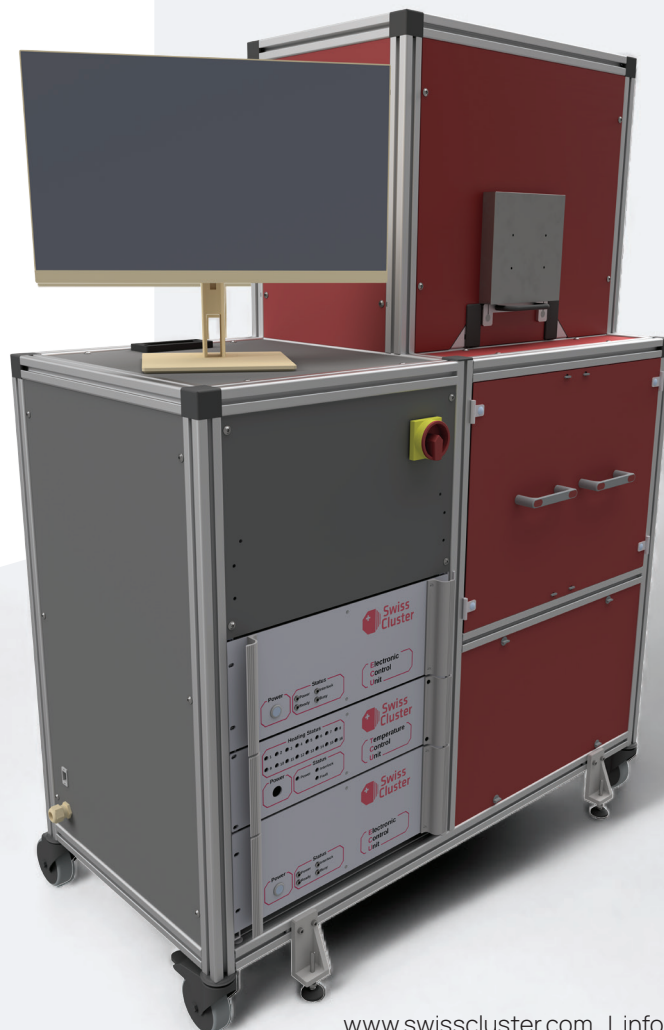
Our single chamber approach makes it easy to configure the chamber for a specific application or multipurpose use, integrate to a cleanroom or to a glovebox unit with an easy front loading of your parts. This approach also allows for ultra-fast heating and cooling of both the chamber walls and the parts themselves.

Moreover, these features combined with our flexible machine control and recipe creation software suite gives you complete control over the system and its automation.

The next era in R&D and small production processes for 3D objects starts with the SCube.

Technical Specifications

Chamber Dimensions	3 L – 50 L 150x150x150 mm – 370x370x370 mm Adaptable to your 3D parts and coating materials
Loading	Front loading with guided door Custom-made frame holders for 3D parts Cleanroom and glovebox compatible
Process Temperatures	Up to 400°C
Precursors	Up to 10 gas sources with 6 individual inlets Heated and non-heated sources Single and bubbler containers Ozone option
Standard Materials	Al ₂ O ₃ , ZnO, SiO ₂ , TiO ₂ , Y ₂ O ₃ , Nitrides Bubbler delivery system optimised for low vapour pressure precursors
Substrate Sizes	Multiple substrates or 3D objects of various shapes and sizes Dimensions of chamber and holder are optimally adapted to the parts and coating material

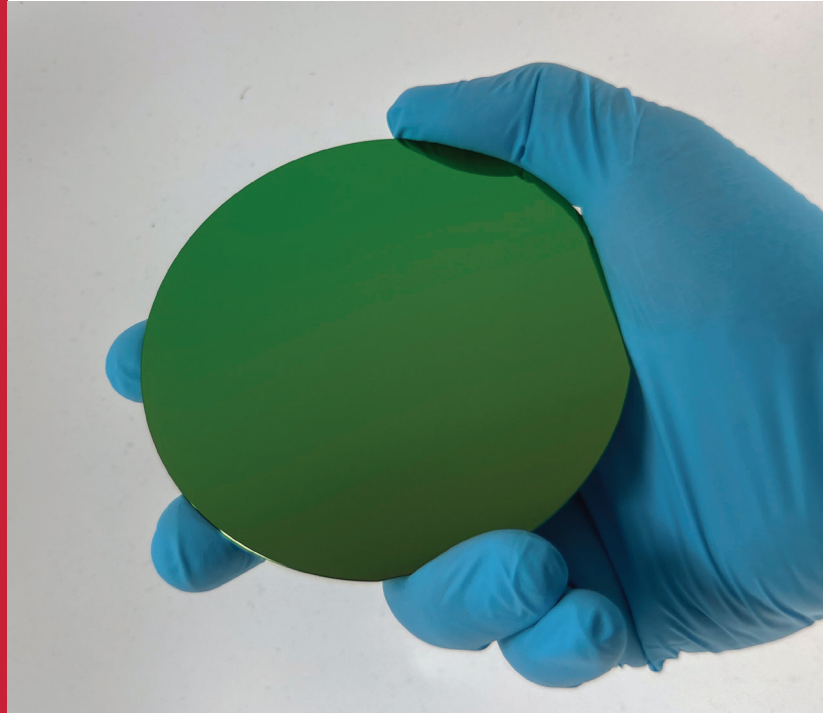


The SCube Series

Door-to-door process times with the standard volume of 3.3 L. Total duration 360 – 400 min.

- 1 Loading-Closing Door
<2 min
- 2 PumpDown/Heat-up of Chamber
to 300°C from 25°C
<15 min
- 3 Bakeout of Parts to Reach ~300°C
<120 min
- 4 Process Time Al₂O₃ 100 nm
100 – 140 min
- 5 Cooldown of Chamber
from 300°C to 100°C/Venting
120 min
- 6 Open Door-Unloading
<2 min

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Advantages of the SCube in every step of the process

Configurable chamber dimensions and ports

Our single chamber approach makes it easy to design the chamber dimensions as well as inlets/outlets and additional ports for in-situ monitoring. This is ideal to fit a particular 3D part or multiple parts to be homogeneously coated in the required throughput, or for R & D activities.

Effortless Front Loading and Unloading

The parts can be easily front loaded and unloaded from the cleanroom or a glovebox unit in a matter of minutes without any downtime.

Fast, Homogeneous, and Flexible Coating Process

Our pulsing and purging configurations can be optimised for multiple parts and coating material, resulting in optimised cycle times and homogeneous coatings.

Unparalleled System Control and Recipe Creation

Enjoy complete control over our system and unmatched flexibility in recipe creation for full automation.

We offer support at every stage of your R&D or small production process, including optimised chamber dimensions and configuration, ideal frame holder selection, technical and scientific support to optimise process parameters to deposit a homogeneous and high-quality film.