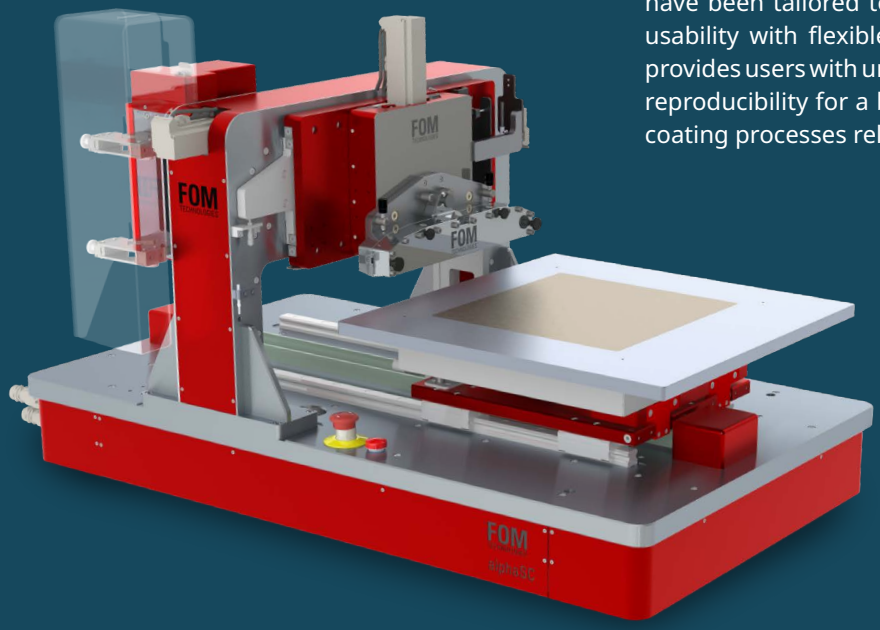
FOM TECHNOLOGIES

FOM alphaSC



The FOM alphaSC represents the ultimate combination of control, functionality, and versatility in thin-film research and production. All its hardware, software, and premium features have been tailored to reduce experimental error and increase usability with flexible and rigid substrates. The FOM alphaSC provides users with unmatched versatility, precision, and process reproducibility for a broad spectrum of lab-scale materials and coating processes relevant to industry and academia.

KEY FEATURES

- Uniform dry film thickness from nm to µm
- Coating width from 1 mm to 500 mm
- A microporous vacuum substrate holder
- Automated coating via intuitive GUI
- Remote access from a PC or Tablet
- Local saving of coating protocols
- Quick-action physical buttons
- Integrated pump with software controlled wet film thickness
- Designed for rigid and flexible substrates
- Substrate, slot-die head, and syringe heating
- 2-axis motorized slot-die head positioning
- Designed for fluids up to 20,000 cPs
- Simple scaling from sheet coating to R2R coating via a docking station
- Fume hood and glove box integration
- Remote support & troubleshooting

Technical specifications

MACHINE

- Model: FOM alphaSC
- Dimensions: 1297 x 788 x 786 mm (L x W x H)
- Weight: 166 kg
- Substrate holder dimensions: 520 mm x 500 mm
- Substrate holder heating: Up to 200 °C
- Microporous vacuum dimensions: 305 mm x 305 mm
- Recommended cable clearance: 200 mm
- Integrated syringe pump from 1 ml to 300 ml
- Integrated PLC control system

ELECTRICAL PANEL

- Panel dimensions: 1000 x 300 x 950 mm (L x W x H)
- Weight: 90 kg
- Material: Powder-coated carbon steel
- Cable length to machine: 4,5 m (Standard)

COATING

- Fully motorized x-y-z positioning 1 µm precision
- Coating width: 1 mm to 500 mm
- Coating length: Up to 470 mm
- Coating speed: 0.01 up to 5.0 m min^{-1}
- Slot-die head heating: Up to 80 °C
- Slot-die compatibility: FOM SD 25 – FOM SD 500

MACHINE UTILITIES

Electrical power supply
- 3–phase Voltage: 3-PHASE+N+G 200-230 (V) OR 3-phase+N+G 380-415 (V)
- Voltage frequency: 50 & 60 (Hz)
- Maximum current: 24 (A)
- Electrical panel plug connection: FOM provides a CEE plug for connection to the electrical panel
- Power connection: Connection cable from the main power supply to the electrical panel not included
- Recommended power connection cable: 12AWG / 4 mm^2

Compressed air
- Operating pressure: 6-8 bar
- Air consumption: 3.5 NL/s
- Air quality requirements: Clean and dry, non-lubricated. ISO 8573-1:2010 Class 1.2.3 or better
- Connection details: To be fitted to Ø8 mm Festo push-fit connection

Internet connection
- Ethernet cable via Rj45 connector

CERTIFICATIONS & STANDARDS

- Machine Standard: EN 60204-1 and ISO 13849-1 (CE)
- Compliant with Quality Directive 2006/42/EC Annex II B
- Electrical panel standard: UL508A

OPTIONS

Equipment:
- Laptop
- FOM Ionizing system (Anti-static)
- FOM Flexographic system
- FOM Positioning sheets
- FOM Blade coating system
- FOM Slot-die height laser system
- FOM Slot-die height & alignment laser system
- FOM Equipment mounting system (for multiple options)

Electrical panel:
- Extension cable (from electrical panel to machine): Intervals of 5 m

Glove box integration:
- FOM Glove box adapter cables – 5 m

Enclosure:
- FOM Enclosure

Pumps, syringes, and consumables
- External syringe pump - Standard viscosity
- External syringe pump - High viscosity
- Continuous pumps – Standard viscosity
- Continuous pumps – High viscosity
- Stainless steel syringe
- Glass syringe
- PP syringe
- FOM Syringe heating up to 80 °C
- Slot-die shims and guides for adjusting coating width and pattern

Additional drying:
- FOM Air knife system
- FOM Heat blower oven system
- FOM IR drying system

Roll-to-roll option:
- Continuous coating: FOM R2R docking system

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