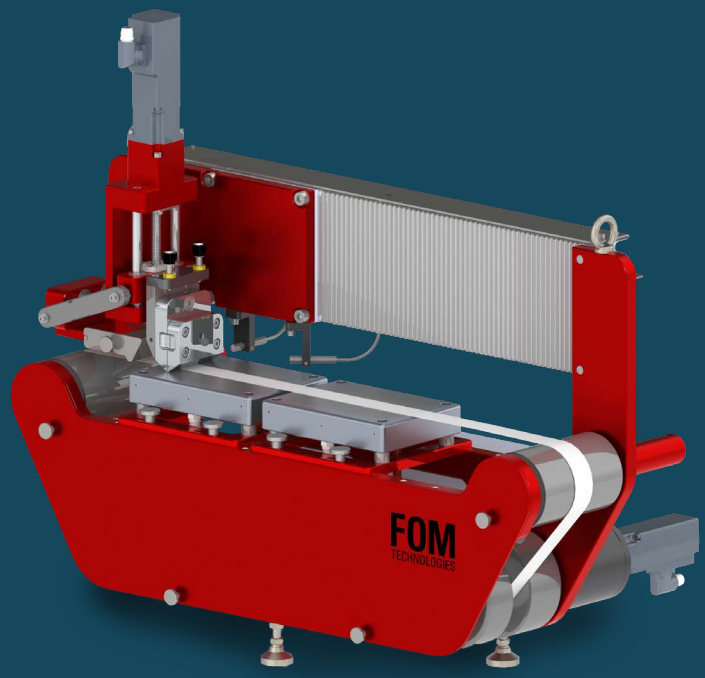
FOM TECHNOLOGIES

FOM photonR2R



Autonomous, versatile and cost-efficient in-situ material characterization for synchrotrons

The FOM photonR2R epitomizes the compactness, control, functionality, and versatility of slot-die coating machinery in thin-film research. Designed for placement within synchrotrons, it facilitates high-throughput and in situ studies at various synchrotron beamlines. Its compact size makes it suitable for fume hood use before synchrotron experiments and it can easily be moved around. All components, software, and premium features are optimized for remote control, allowing you to optimize data collection. Offering unparalleled versatility, precision, and process reproducibility, the FOM photonR2R is ideal for a wide range of lab-scale materials and coating processes relevant to both industry and academia.

KEY FEATURES

- Roll-to-roll and sheet-to-sheet coating modes
- Uniform dry film thickness from nm to µm
- Coating width from 0.1 mm to 50 mm
- Microporous vacuum substrate holder
- Self-cleaning slot-die head system
- Automated coating via intuitive GUI
- Local storage of coating protocols
- Remote access from PC or tablet, no local software installation required
- Integrated pump with software-controlled wet film thickness
- Designed for both rigid and flexible substrates
- Interchangeable substrate holder, tailored to the users' needs
- Designed for fluids up to 20,000 cPs
- Seamless fume hood and glove box integration
- Remote support & troubleshooting

Technical specifications

MACHINE

- Model: FOM photonR2R
- Dimensions: 650 x 160 x 550 mm (L x W x H)
- Weight: 22 kg
- Standard substrate holder dimensions: 115 mm 155 mm:
- Microporous vacuum dimensions: 85 mm x 125 mm
- Custom substrate holder on request
- Substrate holder heating: Up to 200 °C
- 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: 2 m (Standard)

COATING

- Fully motorized x-z positioning 1 µm precision
- Coating width: 1 mm to 50 mm
- Coating length: Up to 15.000 mm (flexible substrate)
- 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 and FOM SD 50

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

MACHINE UTILITIES

Electrical power supply
- Supply voltage: 230AC Phase to phase or Phase to N + GND, 50/60Hz; Type B RCD 30mA
- 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: 3-meter cable provided with EU or US plug
- Recommended power connection cable: 12AWG / 4 mm2

Power protection requirements
- Max fuse size: 16 A
- RCD info: RCD type B 200 mA

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

OPTIONS

Equipment:
- FOM Ionizing bar
- FOM IR drying system
- FOM Air knife system

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