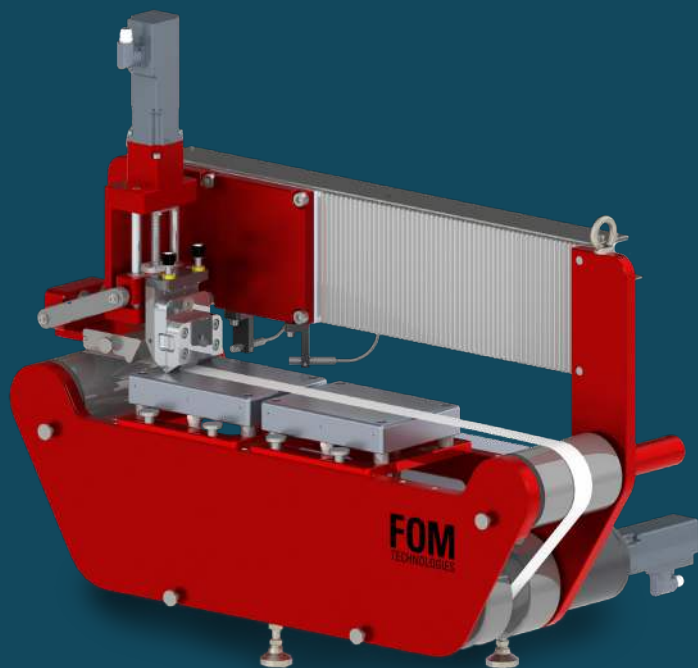


# FOM photonR2R



## 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
- Non-contact coating within  $\mu\text{m}$  precision
- Uniform dry film thickness from nm to  $\mu\text{m}$
- Coating width from 0.1 mm to 50 mm
- Microporous vacuum substrate holder
- Self-cleaning slot-die system
- Automated coating via intuitive GUI
- Upload or save coating recipe through cloud-based repository
- Remote access from PC or tablet, no local software installation required
- Integrated pump with SW controlled wet film thickness
- Designed for both rigid and flexible substrates
- Interchangeable substrate holder, tailored to the users' needs
- Advanced liquid heating for rheology control
- Designed for fluids up to  $>20,000$  cPs
- Excellent layer uniformity, and repeatability
- 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: 100 mm 150 mm:
- Custom substrate holder on request.
- Substrate holder heating: Up to 200 oC
- Microporous vacuum dimensions: 75 mm x 100 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: Carbon steel
- Cable length to machine: 4,5 m (Standard)

## COATING

- Fully motorized x-z positioning 1 µm precision
- Coating width: 1 mm to 50 mm
- Coating length: Up to 15000 mm
- Coating speed: 0.01 up to 5.0 m min<sup>-1</sup>
- Slot-die head heating: Up to 80 °C
- Slot-die compatibility: FOM SD 25 – FOM SD 50

## 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: FOM does not provide the power connection cable from the main power supply to the electrical panel
- Recommended power connection cable: 12AWG / 4 mm<sup>2</sup>

### Compressed air

- Compressed air information: Spec list 5-7 bar. Clean and dry, non-lubricated. ISO 8573-1:2010 Class 1.2.3 or better
- Connection and tubing type: 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

