



## X-ray module

# MesoFocus 450



### High power and system availability

Combining the module's excellent performance and high throughput makes the MesoFocus module ideal for inline inspection and 24/7 operation. The MesoFocus module reduces inspection times up to 60%, compared to standard open-microfocus modules, because of the higher penetration power and highest system availability for the 25 – 500 micrometers inspection application range.

### Stability, repeatability, and accuracy

The MesoFocus technology enables a stable dose rate without the need for recalibration during the scan. The results are consistent image quality and reproducibility, which is vital for long-term CT scans where stability is crucial. The MesoFocus module ensures repeatable and accurate inspection results and measurements vital in mass production inspection.

### Low maintenance, high uptime

The robust and sealed design of the MesoFocus tube allows for 24/7 operation in harsh environments. The sealed tube design does not need frequent maintenance, and it is not sensitive to dust, oily environments, humidity. The modules' predictive maintenance capabilities enable scheduled maintenance - making production planning easy and ensuring maximum uptime.

## Product Specifications

|   |  |
|---|--|
| <b>MesoFocus 450</b>                          | <b>450/1.0</b>   |
| Nominal voltage                               | 450kV  |
| Voltage range                                 | 100 - 450kV  |
| Focal spot Ø **                               | 63µm FS18 50W<br>100µm FS16 100W<br>250µm FS13 250W<br>350µm FS11 350W<br>450µm FS10 450W                                    |
| Inherent filtration                           | 5 mm Be  |
| Target material                               | W  |
| Target angle                                  | 20°  |
| Radiation coverage                            | 40° x 40°  |
| Minimal focal spot to object distance FOD     | 60mm   |
| Working point change                          | < 6s   |
| Absolute voltage accuracy                     | ± 1% of max kV   |
| Long term voltage stability*                  | ± 0.1% of max kV   |
| Temperature-induced drift on kV               | ± 40 ppm/°C  |
| Emission current range                        | 0 - 2 mA   |
| Absolute current accuracy                     | ± 0.01mA   |
| Current reproducibility                       | ± 0.002 mA   |
| Long-term current stability*                  | ± 0.1% of set mA   |
| Temperature-induced drift on mA               | ± 50 ppm/°C  |
| Communication interface                       | Ethernet   |
| Expected tube lifetime                        | 63µm / 50W: >25'000h<br>100µm / 100W: >15'000h<br>250µm / 250W: >10'000h<br>350µm / 350W: > 8'000h<br>450µm / 450W: > 5'000h |
| Typical dose rate decrease per 1000 cycles    | <0.1%  |
| Typical dose rate decrease per 1000 hours     | <0.2%  |
| High-voltage connector type on tube side      | R28  |
| High-voltage connector type on generator side | R28  |
| Tube weight                                   | 47.6 kg  |
| Tube dimensions D x L                         | 170 x 555.5 mm   |
| Generator weight                              | 292 kg   |
| Generator dimensions W x H x L                | 578 x 1021 x 709 mm  |
| Gapping spring-loaded terminal                | 2 rings visible, -7mm  |
| Gapping non spring-loaded terminal            | 5.5 - 6 mm   |
| Grease quantity for high voltage cable        | 1.4 ml (tube side)<br>1.4ml (generator side)   |
| Approvals                                     | PTB, M+C7:C31ET-NRTL,<br>NFC 74-100 (pending)  |
| Leakage radiation in 1 m distance             | 10 mSv/h   |

\* Over 8 h max. kV / power after 1 h warm-up

\*\* according ASTM E1165-12

**Comet AG**  
3175 Flamatt  
Switzerland  
xray.comet.tech



## General Information

For more information and instructions regarding operation and installation of iXRS X-ray modules, cooling, connection of the X-ray tube and radiation protection, please consult the iXRS operator manual.

## iXRS Configuration

For your individual iXRS configuration, please consult our website.

## Power Rating Diagrams

