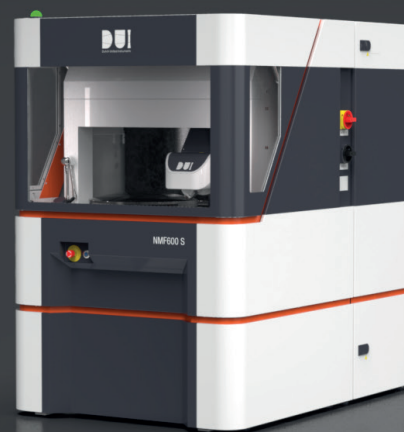


Instruments for optical component metrology



DUI develops, manufactures and delivers innovative instruments for metrology and qualification of high-end optical components.

Metrology of aspherical and freeform optics is a key enabler to unlock the potential of these complex surfaces. Based on the proven NANOMEFOS technology developed by TNO, DUI has developed the NMF600 S and NMF350 S. A measurement machine that combines versatility, large measurement volume, non-contact, fast measurements with traceable nanometer level accuracy.

One tool to cover all form metrology needs in modern high-end optics manufacturing.

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TNO Technology Inside

NMF products

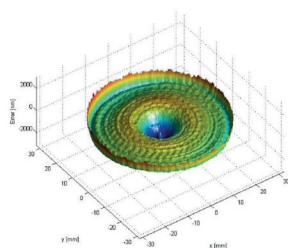
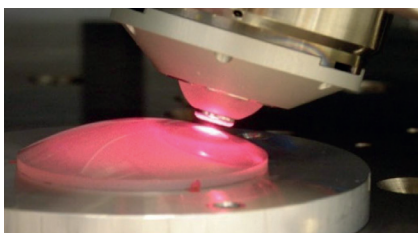
This machine is specifically designed to provide easy and accurate metrology of complex optics to the workshop floor. This fast, non-contact tool is capable of measuring optics ranging from convex to concave and from flat to freeform, with a typical measurement uncertainty below 15 nm rms.

The accuracy of an interferometer with the versatility of a coordinate measuring machine.

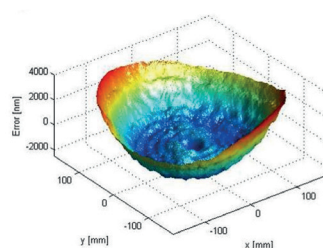
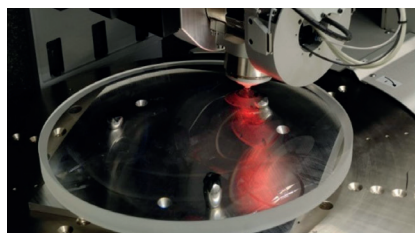


Specifications

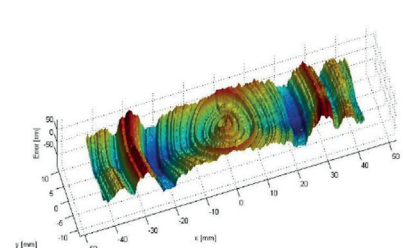
- Versatile, no setup changes for
 - Flat – Convex – Concave
 - Sphere – Asphere – Freeform
 - Off-axis, non-circular apertures
- Measurement volume
 - \varnothing 600 x 125 mm for NMF600 S and \varnothing 350 x 125 mm for NMF350 S
 - Up to full hemispheres
 - Unlimited asphere departure
 - Up to 5 mm PV freeform departure
- Polished and ground surfaces
- Non-contact
- Fast (minutes)
- High point density for mid-spatials
 - Line scans with μ m point spacing
- Measurement uncertainty < 15 nm rms for all flats, spheres and aspheres; worst case freeform < 30 nm rms
- Easy loading, alignment, programming & results processing
- Footprint
 - NMF600 S: 1220 mm x 1750 mm
 - NMF350 S: 970mm x 1585 mm



50 mm convex asphere
280k points (0.2 mm), 7 min



380 mm convex asphere
3M points (0.2 mm), 15 min



30 x 100 mm concave freeform
235k points (0.1 mm), 24 min