TE testing facilities questionnaire

Company name and location Facility name and location Contact email	ESA/ESTEC, Noordwijk, The Netherlands Large Space Simulator (LSS) info@european-test-services.net
Maximum Sample/Test article dimension (H x L x W)	Maximum usable volume 9.5m Diameter x 10m height Sun simulation Diameter 6m for up to 1.75SC
Optical bench dimension (LxW) if present	N/A
Environment	
Cleanliness levels:	ISO8
Minimal pressure (Typical) mbar:	<5e-6
Temperature range (K)	100K – 350K
Humidity range (%)	0%
Temperature measurements:	
Temperature measurements technique	Contact sensors (Pl resistors or TC, typically T Type and K Type)
Temperature measurements range (typical) (K)	90K – 773K (can vary depending on type of TC or Pt)
Temperature measurements uncertainties (typical) (K)	Depends on the sensor selected and the reading (e.g. NgDCU or external scanners)
Temperature measurements:	
Temperature measurements technique	Thermography
Temperature measurements range (typical) (K)	233K (on going extension down to 173K) – 623K
Temperature measurements uncertainties (typical) (K)	1K or 1% of Temperature in Celsius
Geometric measurement 1:	
Method:	Photogrammetry
Deformation (displacement, rotation) range	Best capabilities 20ppm absolute measurement 10ppm relative measurement
Deformation (displacement, rotation) uncertainties	Network dependent
Equipment in vacuum (Yes/No)	Yes
Optical ports (number, diameter)	N/A
Geometric measurement 2:	
Techniques:	Laser Radar
Deformation (displacement, rotation) range	Ad hoc measurement network
Deformation (displacement, rotation) uncertainties	Set-up dependent
Equipment in vacuum (Yes/No)	No
Optical ports (number, diameter)	1 (required), location to be identified/agreed
Geometric measurement 3:	
Techniques:	Laser tracker
Deformation (displacement, rotation) range	Ad hoc measurement network
Deformation (displacement, rotation) uncertainties	Set-up dependent
Equipment in vacuum (Yes/No)	No
Optical ports (number, diameter)	1 (required), location to be identified/agreed
Wavefront measurement technique 1	
Method	
Wavelength	
Wavefront range	
Wavefront measurement uncertainties	
Equipment in vacuum (Yes/No)	
Optical ports (number, diameter)	
Wavefront measurement technique 2	
Method	
Wavelength	

Wavefront range Wavefront measurement uncertainties Equipment in vacuum (Yes/No) Optical ports (number, diameter)	
Customer can bring in its own GSE for TE test (Yes/No)	Yes
Other useful information	
URL/Link to presentation of facility	https://european-test-services.net/services-thermal-large-space-simulator/