



Scanning transparent, dark and reflective objects without surface preparation or markers



R3Dscan – works without surface preparation and placing of markers

3D digitizing systems based on the principle of fringe projection play an important role in industrial metrology. However, conventional fringe projection systems meet their limits when it comes to scanning reflective or transparent surfaces. In these cases, the measuring object can only be digitized by preparing the surface, for example with a spray.

To overcome this problem, the German company AiMESS has developed a fringe projection system that makes surface preparation needless. In contrast to all other fringe projection systems, the R3Dscan does not analyze an object's reflection. Instead, it makes use of an infrared detector for tracing the energy that is absorbed by the measurement object and converted into heat. As the nature of the surface finish does not affect this patented infrared measurement method, the R3Dscan allows for instant scanning of reflective, dark or transparent surfaces.

Not only spraying is avoided when applying the R3Dscan. The time-consuming procedure of placing markers on the measurement object is not necessary either. Thanks to a highly precise way of positioning, the single views of a measuring object are automatically matched to a complete data set. Furthermore, the R3Dscan is insensi-

tive to ambient light as well as to the temperature of the component or the environment. No matter how light and temperature conditions may be, the system will always deliver accurate measuring results.

As the system allows for measurements without prior spraying, the infrared scanner opens completely new application areas in manufacturing. As an example, it is possible to use the system in-line for measuring objects in step with the production cycle. Moreover, the R3Dscan is perfectly suitable for all applications in which neat cleaning of the measuring object cannot be guaranteed after spraying.

Technical data:

Weight	approx. 25 kg
Power supply	100-240 Volt AC
Measurement volume*	250x250x100 mm ³
Image acquisition frequency	300 Hz
Type of laser	CO ₂
Laser class	2
Comparison of CAD data	IGES or STEP

* larger scans can be generated by registering several patches

Would you like to learn more about the R3Dscan?

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