nokra
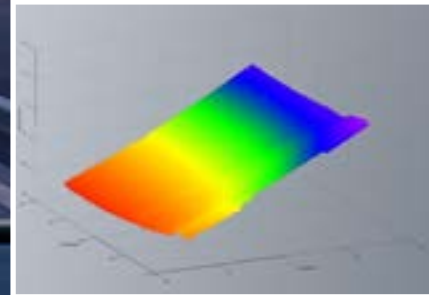
alpha.glass

automotive glazing inline geometry measurement

automotive glazing
inline geometry measurement

The future has just begun – we are ready

Increasingly stringent precision requirements in the age of HUD/AR combined with growing projection areas, as well as continually growing added value in production processes through new interaction concepts and functions, such as integrated displays, various coating systems, transparency on demand and plenty more, are demanding ever more powerful measuring tools for monitoring and controlling process and product quality. Manufacturing yield and product quality more than ever depend on prompt feedback in the production chain.

For over 15 years nokra has been successfully supplying laser-based inline geometry measuring systems to production lines of major windscreen manufacturers. And as always, nokra keeps up with the dynamic development in the automotive industry. With the new product series alpha.glass, nokra offers

unprecedented possibilities for measuring automotive glazing: scanning of areas enables direct ROC control, and an unlimited number of measuring points can be monitored. The newly developed high-sensitivity sensors allow differentiation between individual glass surfaces, which means that it is now possible to measure individual panes. In doublet manufacturing, direct gap evaluation is achieved, and in singlet press bending, virtual gap evaluation can be realised.

Flexible with alpha.glass

Singlets – doublets – laminates: alpha.glass fits all parts of the manufacturing process and can be used in all common manufacturing process types, starting immediately behind the bending furnace right through to final control. Thanks to the expanded functionality, the application area is no longer limited to windscreens, but also includes back lites and side lites.

The alpha.glass software offers dynamic recipe management for any number of different types of windscreen. In every recipe, an unlimited number of measuring points and ROC areas with their respective tolerances can be stipulated. The measuring data in the productive operation is automatically evaluated in real time. Communication with L1 and L2 systems is achieved through Profibus/Profinet and TCP/IP and is naturally industry 4.0-capable.

- low cycle times
- capable measurement system
- flexible measurement recipes
- ready for gap visualization
- ready for outer contour detection
- suited for singlets, doublets, laminates
- glass temperature independent
- all standard and special sizes
- fully integrated into customer's automation control system

control cabinet

fan

operator

chiller unit
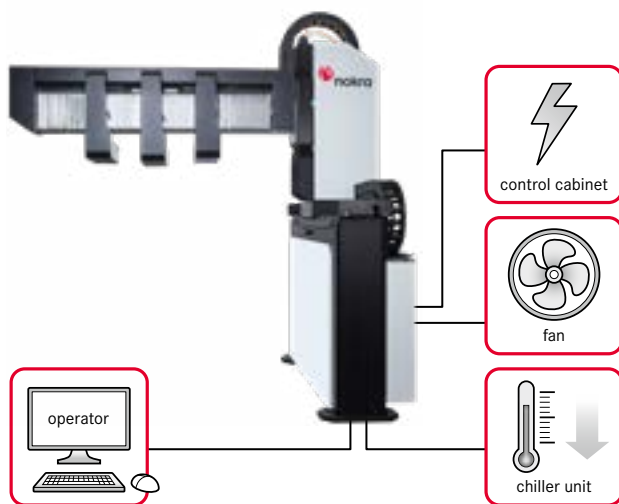
Technical Data

Glass-to-glass cycle time (min)... 8 s

Measurement time (min)... 4 s

Glass temperature (max).. 450 °C

Glass size (max) .... 1850 mm x 1250 mm (others on request)

Scan width ....3x 300 mm

Sag (max)...330 mm

Sensor linearity ....± 36 µm

Laser class...3B

Automation interface ....Profibus, Profinet

Level2 interface .... TCP/IP
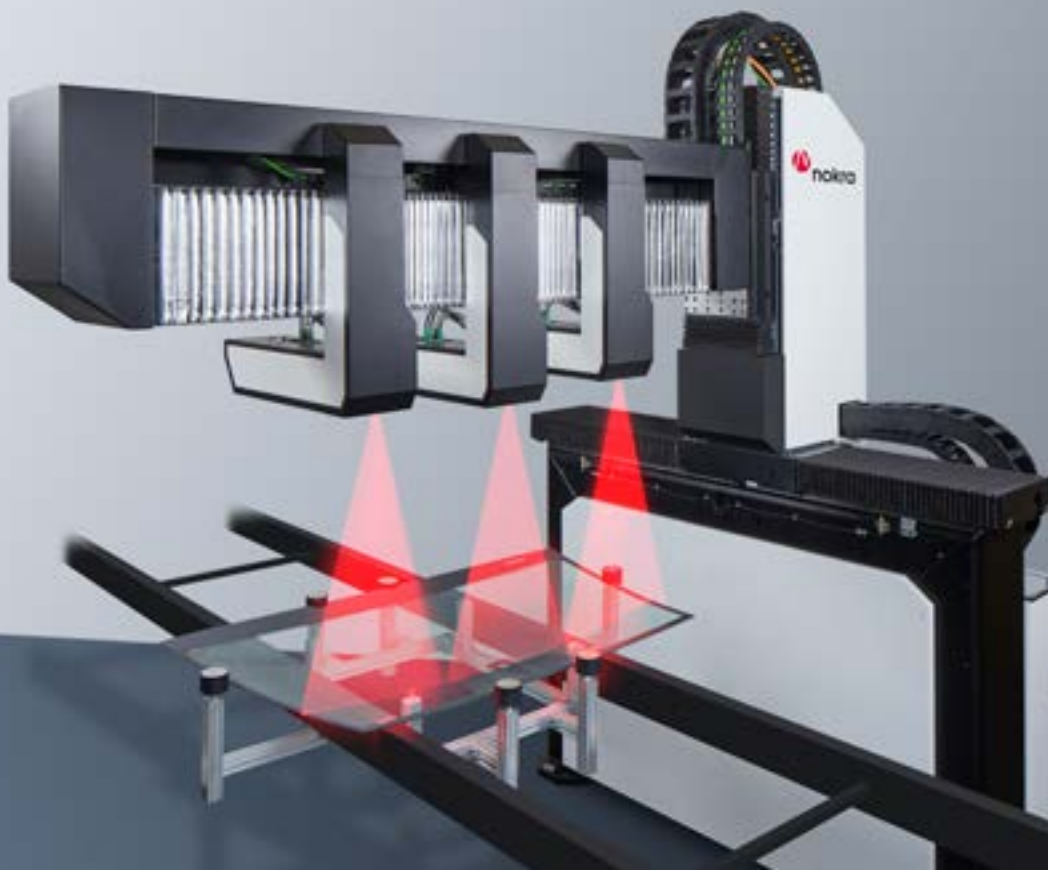
Your partner

nokra Optische Prüftechnik und Automation GmbH was founded in 1991 as a spin-off from Fraunhofer Institute for Laser Technology (ILT) and Fraunhofer Institute for Production Technology (IPT) in Aachen. As a medium-sized technology company we develop, produce and distribute laser based measurement devices for automatic inline inspection of geometric properties of products in the metal, automotive and glass industry. Products to be inspected are rolled products (coils, plates, profiles) in the steel, aluminium and non-ferrous metal industry, large-diameter pipes as well as vehicle components, e.g. camshafts and crankshafts, axle supports, automotive glazing.

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