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
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November 21 2007

Wow Company integrates a KUKA robot KR 5 Scara for heating and positioning samples for Hopkinson benches. See [here](#) for more information.

October 16-19 2007

Automatisering en robotica in lassen en handling. Visit us at **Welding week 2007** Antwerpen.
Booth 1460a (www.welding.be).

October 17-18 2007

Do you want to know the latest developments and trends in automation? Visit us at **Mocon Hydromech** on 17-18 October 2007 in Brussels Expo
Booth 7427 (www.easyfairs.com)

August 2007

KUKA Schweissanlagen GmbH changed its name into **KUKA Systems GmbH**

February 2007

KUKA Automatisering + Robots N.V. and Metris present the development of a flexible, automated measurement system for dimensional quality control in production lines in automotive industry. The measurement system consists of a laser scanner that is mounted on an industrial robot. While moving the scanner over the body part, the position of the robot is captured by an external 3D camera. The combination of measurements of scanner and camera leads to highly accurate 3D measurements in a large working volume. To enable easy execution of these measurement jobs, the robot will be programmed off-line. The development is supported by **IWT**.

November 2006

Koning & Hartman and KUKA close an agreement of cooperation on the field of robot technology. [Click](#) for more information.

September 2006

WOW company integrates a KUKA robot KR180 L150-2 in a windshields production line at the bending oven exit and before the windshields assembly and washing equipments. See [here](#) for more information.

July 2006

KUKA Automatisering + Robots N.V. receives the "Company of the year" award in the KUKA group.

October 3-6, 2006

"Aandrijftechniek & Factory Automation" is the largest and most important fair on drive technology, motion control and production automation in the Netherlands. Visit us at Jaarbeurs Utrecht in hall 11, booth C.069 (aandrijftechniek)

October 25-26 2006

Safetyplaza is a cooperation between the companies Aso, Axellent, Euchner, KUKA, Pilz, P&V, Pepperl+Fuchs and RDL for providing state-of-the art information on safety in automation. Visit us at the Mocon Hydromech Fair (www.safetyplaza.be)

KUKA

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Wow Company integrates a KUKA robot KR5Sixx for heating and positioning samples for Hopkinson benches

Since 1995, WOW company has build a solid experience in design, development, realization and installation of specific turnkey equipments, such as assembly machines, production lines, robotic cells, test and measurement benches, vision control systems, ...

For projects realization, WOW has its own design departments (electro mechanics, electricity, electronics and computer) and its own workshops (electrical wiring, electronics, machining and mechanical welding). This allows WOW to take care of complete projects and assures high flexibility during its projects realization.

The Royal Military Academy asked WOW to automate their new Hopkinson test bench in such a way that it can heat and manipulate samples used for the characterization of their mechanical deformation at high temperature.

Robotized system for heating and positioning samples for Hopkinson benches

Hopkinson benches are test benches for the characterization of materials under dynamic mechanical solicitations. As temperature has a key role in materials behaviour, it is therefore quite important to perform those tests at different temperatures. The system described below allows automated heating and manipulation of the tested samples, without any change in the temperature of the extremities of the Hopkinson bars, improving significantly the test conditions and providing so much more relevant results

For this dynamic solicitation, the sample is placed between 2 metallic bars. Then, a projectile is thrown on the first bar, called inlet bar, at a speed of several meters per second. The impact produces a mechanical wave that propagates in the inlet bar, goes through the sample and enters the exit bar. Multiple reflections are also generated at the different interfaces between bars and sample. Deformation detectors installed on each bar deliver signals that allow the calculation of both mechanical stress and speed deformation of the sample.

In order to specify the material at high temperatures, heating the sample without changing the bar extremities temperature is required, otherwise wave propagation would not be uniform and results would be inaccurate

WOW designed a new type of robotized equipment, extremely easy to use, that heats the sample before placing it between the bars, keeping so their extremities at the ambient temperature. The system warranty an excellent repetitivity of the process parameters (sequence, test temperature and process duration).

A SCARA type robot brings the sample, places it in a heating system for a programmed time, verifies its surface temperature, places it between the 2 bars and allows the projectile shoot.

Comment: The sample temperature is easily adjustable, ranging from ambient up to 550°C. Heating time can also vary from 0 to 30 seconds, providing an excellent homogeneity of the temperature inside the sample.



Surface temperature control



Placing of the cold sample on his pumping support where the robot will pick it up.



The sample has been finally placed between the Hopkinson bars

WOW made the whole automation of the Hopkinson test bench: the sample handling system, the heating enclosure, the surface temperature measurement, the positioning of the sample between the bars and the projectile synchronization. A "SCARA type" robot that manipulates the sample with a dedicated clip controls all the equipments.

Contact information

WOW Company s.a.
Rue Pieds d'Alouette, 18
B - 5100 NANINNE
Tel : +32.81.40.19.66
Fax : +32.81.40.24.44

www.wowcompany.com

Contact : Philippe HERMANT
Tel : +32.81.71.97.34

philippe.hermant@wowcompany.com

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