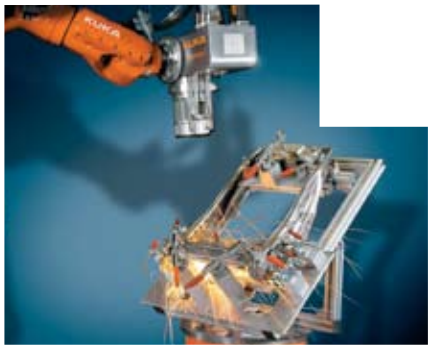
KUKA

KUKA Laser Solutions

KS ROBOSCAN
REMOTE 3D LASER TECHNOLOGY.
FAST, ECONOMICAL, RELIABLE

GREATER DISTANCE FOR BETTER RESULTS

The concept of RoboScan stands not only for the new KUKA remote laser welding head, but also for the fact that it is guided and controlled by a robot. With this remote laser system, the laser beam is guided to the welding point with a working distance of up to 1500 mm, which enables extremely short repositioning times between laser joints. Small reorientations of the optics result in large, fast motions of the operating point. With a variable focal length of 270 mm to 1500 mm, RoboScan is unique on the laser market, offering maximum flexibility in the 3D processing of components. The focus diameter and angle of divergence remain constant over the entire adjustment range, guaranteeing optimal process reliability. The focal length adjustment is integrated into the controller as an external robot axis.



COST-EFFECTIVENESS

- Large working distance enables:
  - High output due to short repositioning motions
  - Low operating costs due to reduced fouling

FLEXIBILITY

- 3D work envelope for optimal orientation on the workpiece
- Adaptable to all common laser sources
- Any orientation of the head possible during welding

USER-FRIENDLINESS

- Simple teaching
- Simple programming with inline forms
- Integrated, intuitive, menu-guided operator control

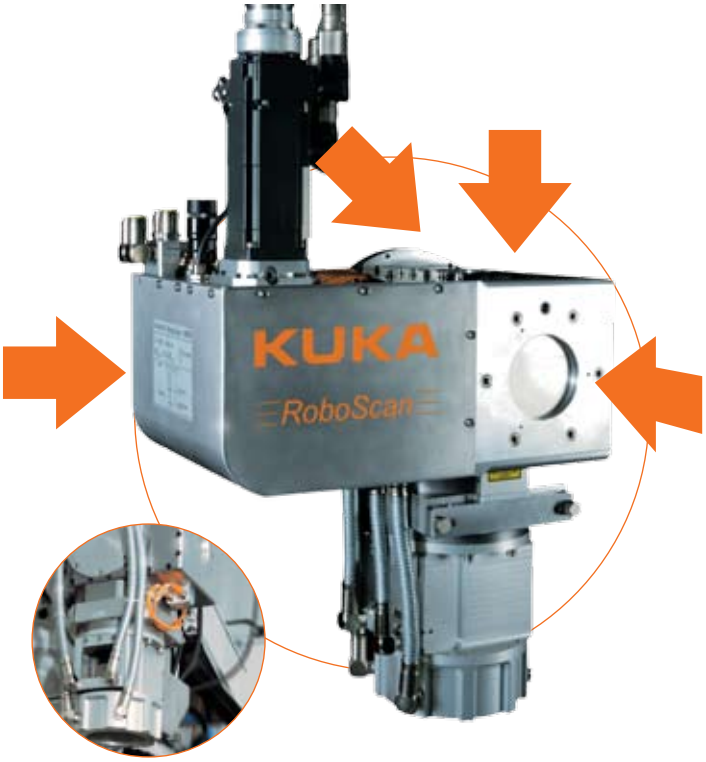
CAPITAL COSTS

- Low capital costs
- Simple, cost-effective system integration into the robot controller

RELIABLE SOLUTIONS

- Concept and implementation from a single source
- Integrated solutions from the design phase through to series application

ONE LASER WELDING HEAD. TWO VARIANTS. FOUR CONNECTION OPTIONS



Simple teaching with two integrated program pointers which cross at the focus

User-friendly cover slide drawer and cover slide monitoring

Plug & Play distance sensor for direct transfer of distance information to the robot program

Cross jet / cone jet function for the avoidance of nugget fouling and plasma in the weld pool

ROBOSCAN PRODUCT DATA

DIMENSIONS:

- Length x Width x Height approx.: 456 x 285 x 700
  Height 700 = (main body 177, collimation 265, focus/cone jet 258)
- Weight: 32 - 33 kg
- Adaptation: KR 60 HA / KR 100 HA robots
- Beam exit: 90° angled / 0° straight

OPTICS:

- Fiber-optic cable: LLK-Auto 200 µm (QBH and others on request)
- Max. laser power: 8 kW
- Wavelength: 1035 - 1080 nm
- Divergence at laser exit: 135 mrad half-angle
- Working distance: 270 mm - 1200 mm, with M = 3.0, focus 600 µm
  310 mm - 1500 mm, with M = 3.4, focus 680 µm

FOCUS ADJUSTMENT:

- Integrated 7th robot axis
  Adjustment time over entire travel: 200 ms

FLUIDS:

- Cooling water consumption: 2.5 l / min
- Compressed air: 6 - 10 bar

FIELD BUS SYSTEM:

- Adaptable to all common field bus systems, for example
  - DeviceNet integrated in the robot
  - Profibus
  - Interbus

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WOULD YOU LIKE MORE INFORMATION ABOUT THE LASER WELDING HEAD?
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WE ARE THERE FOR YOU WHENEVER YOU NEED US.

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