Fitting the mold

KUKA Robots for the foundry and forging industry
Optimally equipped for harsh working environments
KUKA solutions for the foundry and forging industry

The foundry and forging industry gives a new face to many raw materials. KUKA robots help here, with a wide range of highly efficient automation processes, installed on, in or next to the machine. From sand mold production, casting and forging to surface finishing, they increase the quality and efficiency of manufacturing processes and protect your employees against hazardous production influences such as heat, dust or gases.
KUKA Foundry robots are all-rounders in the world of the foundry and forging industry. From intricate light alloy components to large-format steel parts: KUKA robots master all disciplines in the automated processes of the foundry and forging industry, from sand casting and die casting to permanent mold casting and even the handling of heavy molds and finished components.

Innovative technology setting the pace
Faster and more efficient with KUKA

Optimized robots
With their heat-, corrosion-, alkali- and acid-resistant coating, KUKA Foundry robots are optimally equipped for the harsh working environments in the foundry and forging industry.

Large product pallet
All the robots in the KUKA robot family, both large and small, are characterized by their high performance, robustness and energy efficiency. Whether standard, shelf-mounted or heavy-duty robots, which can be used even more flexibly thanks to the floor or ceiling mounting options, there is a suitable KUKA robot for every task and every production variant.

Compact design
The optimum combination of payload and compactness is based on minimized height, footprint and low weight of the robot.
The QUANTEC F series
The strongest in their payload category

Metal – red-hot, molten or solid. From intricate light alloy components to large-format steel parts: the KR QUANTEC F series masters all disciplines from sand casting and die casting to permanent mold casting and even the handling of heavy molds and finished components. It effortlessly handles payloads of up to 300 kg. The extremely robust and maintenance-friendly design makes it a sound investment for the future.

KR QUANTEC F: the advantages at a glance

- Ideal combination of high payload capacity and small footprint
- Fast and reliable – even for complex tasks
- Availability: virtually 100 %
- Optimized cycle times
- Process reliability
- Easy integration of peripheral devices, e.g. deflashing presses and grippers

The QUANTEC K-F series
Shelf-mounted robots with superior dynamism

The KR QUANTEC K-F series offers the right shelf-mounted robot for every machine – with maximum reaches of up to 3,900 mm. For efficient loading and unloading, finishing and assembly of parts. For optimal automation processes with a decisive edge in dynamic performance, flexibility and cost-effectiveness.

Light: KUKA shelf-mounted robots stand out for their low weight and volume. They can be installed directly on machines with minimum effort, thereby saving space.

Reliable planning: KUKA robot families have an identical hole pattern on their mounting base. This allows different KUKA shelf-mounted robots to be used on machines of different sizes without any additional planning measures.

Deep reach: KUKA shelf-mounted robots are designed for an especially large downward reach. They optimally access the workspace from above. Thanks to their low height, they require little vertical space.

Fast: Thanks to their low moving mass, KUKA shelf-mounted robots achieve a high dynamic performance and very short cycle times. This enables higher productivity and cost-effectiveness with rapid payback.
KUKA smartPAD and KR C4
The perfect duo for optimal robot operation

Complex systems. Simple operation. The KUKA smartPAD and the KR C4 are the ideal symbiosis for users. They enable intuitive and efficient control of even challenging tasks. The KUKA smartPAD can be deployed universally and is easy to handle with its large touch display. The KR C4 unites all relevant control tasks for the efficient use of robots in a single system – with maximum energy efficiency.

Versatile control system: KR C4 and KR C4 compact

KUKA KR C4 makes child’s play of controlling external axes and synchronizing in complex work processes. At the same time, the electronic components are protected against dust and dirt by means of an atmospheric overpressure in the housing. Both cabinet designs fit perfectly into existing machine environments. The open architecture places virtually no limits on technical integration.

KUKA smartPAD – making light work of complex tasks

Master even complex operating tasks easily – that’s what the KUKA smartPAD is designed for. The context-sensitive interface only displays the options relevant at the moment of operation. All six axes can be limited in their motion range using safe technology, monitored for operational stop or completely switched off.

Simple robot jogging with the ergonomic 6D mouse

It offers intuitive jogging and reorientation of the robot in three or six degrees of freedom.

Operation with little knowledge of robotics: thanks to KUKA PLC mxa

The convenient, universal interface makes KUKA robots extremely easy to operate. Interacting with the SIMATIC Robot Integrator software package from Siemens®, KUKA PLC mxa allows a KUKA robot teamed up with production machines to be visualized, operated, programmed and set up in the same system that the user is familiar with from the production machine environment. And all this using the production machine’s control panel.

Fast programming: thanks to familiar interface with KUKA CNC

KUKA robots perform processing tasks like production machines – and can be programmed like them in G-code (DIN 66025) thanks to the KUKA CNC interface. Users understand them straight away, can create programs using a CAD/CAM process chain and, after simulation, execute them on the robot without having to compile them into the robot language. Already included: tool radius correction, sister tools and many other familiar CNC functions.

Optimal casting quality: with the technology package KUKA Slip-Casting

KUKA.Slip-Casting enables the robot to perform simple, precise tracking of a tilting pour permanent mold casting machine. It controls the positioning of the pouring ladle exactly and draws the flow of molten aluminum into the mold with the utmost precision. The result: top casting quality due to low-turbulence pouring processes.

Efficient operation with brilliant, capacitive touch display

Inputs are made quickly and easily via the 8.4” screen.
KUKA robot range
The right solution for every task

KR AGILUS series
The KR AGILUS series with unparalleled performance at the highest of speeds is also available as a waterproof variant with protection rating IP 67.

KR CYBERTECH F series
High process reliability. Economical. Robust. Even in the demanding environments of the foundry and forging industry, our robots offer consistently high performance – with particularly low follow-up costs.

KR CYBERTECH KS F series
This series is ideally suited to space-saving cell concepts and provides top performance. It is optimally designed for working from above thanks to its long downward reach and convinces through its systematic lightweight construction.

KR FORTEC F series
Strong, flexible, agile: KR FORTEC F series is the perfect choice for handling heavy parts. With an unparalleled range of models for payloads up to 600 kilograms.

KR AGILUS series
The KR AGILUS series with unparalleled performance at the highest of speeds is also available as a waterproof variant with protection rating IP 67.

KR 1000 titan F series
The KR 1000 titan F series – with a payload of up to 1,300 kilograms and a reach of up to 6.5 meters – enables the precise handling of XL workpieces such as large engine blocks.

KR 30/60 F series
The highly practical, tried-and-tested KR 30/60 F series is ideally adapted to the requirements of foundry applications.

KR QUANTEC F series
Leaner, faster, more robust: the Foundry robot of the QUANTEC series requires less space, thus saving valuable production area. Optionally available with a linear unit.

KR QUANTEC K-F series
The series offers the right shelf-mounted robot for every machine. It is designed for an especially large downward reach. It optimally accesses the workspace from above.

KR CYBERTECH F series
High process reliability. Economical. Robust. Even in the demanding environments of the foundry and forging industry, our robots offer consistently high performance – with particularly low follow-up costs.

KR FORTEC F series
Strong, flexible, agile: KR FORTEC F series is the perfect choice for handling heavy parts. With an unparalleled range of models for payloads up to 600 kilograms.

KR 30/60 F series
The highly practical, tried-and-tested KR 30/60 F series is ideally adapted to the requirements of foundry applications.

KR QUANTEC F series
Leaner, faster, more robust: the Foundry robot of the QUANTEC series requires less space, thus saving valuable production area. Optionally available with a linear unit.

KR QUANTEC K-F series
The series offers the right shelf-mounted robot for every machine. It is designed for an especially large downward reach. It optimally accesses the workspace from above.

KUKA function and technology packages
They give robots the capability of performing the functions relevant for your industry within an automation solution.

More space for your success: the virtual protected space KUKA robots monitor their workspace by means of safe software. This allows them to also be operated in confined spaces, for example under craneways or in facilities with low ceilings.

KUKA Milling package
A high-precision robot equipped with spindle, software, controller and frequency converter – tested and tailored to machining. The KUKA CNC option enables direct programming and operation via G-code.
Specifications regarding the characteristics and usability of the products do not constitute a warranty of properties. They are intended to serve informative purposes only. Solely the respective contract of sale shall be binding in respect of the extent of our services and supplies. Some items of equipment depicted in the illustrations are optional and are not included in the standard scope of supply. Technical Data and illustrations are not binding for the delivery. Subject to change without prior notice.

© 2021 KUKA