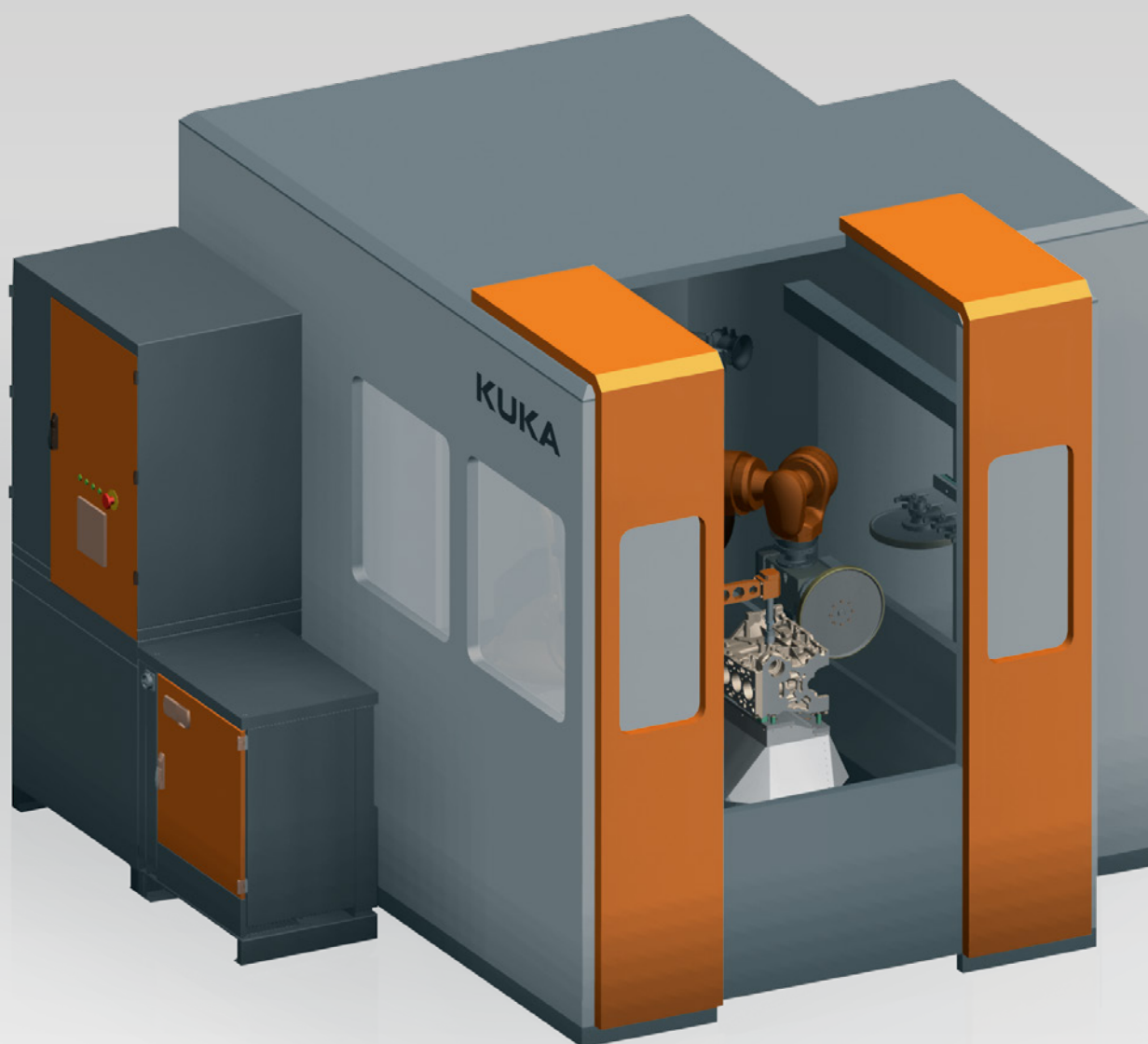




Casting Solutions_Pre-Machining Cell



Pre-Machining Cell (PMC) for cost-effective deburring

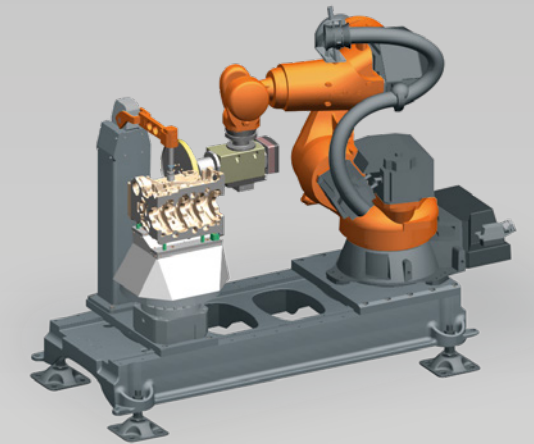
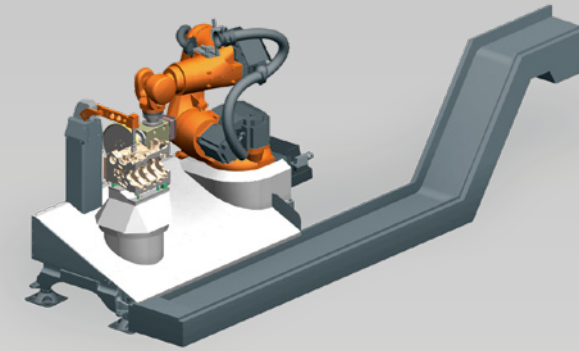
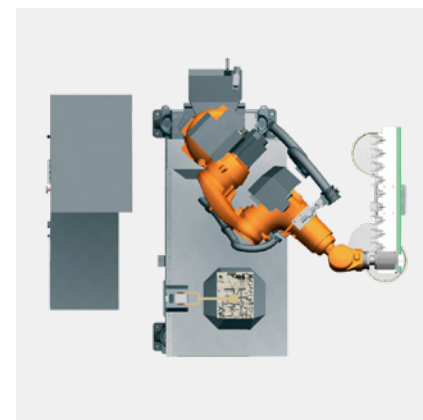
The KUKA PMC systematically assures quality and performance: the PMC makes for process-reliable automation and offers a high degree of flexibility. Examples include cast iron applications, such as gate and feeder removal with diamond tools, the smoothing of mold joint burrs and the trimming of core prints.

Equipment and description

- Extremely space-saving construction of the Pre-Machining Cell, which can remove feeders, gates and mold joint burrs from castings using a single robot with high payload capacity and a compact design.
- Depending on the weight of the casting, it is loaded into the cell with or without lifting gear. For loading with lifting gear, the cell is equipped with an L-shaped door.
- The cell may optionally be fitted with a wide range of different workpiece presentation equipment.
- Components are set down on a turntable, the control of which is integrated into the robot controller.
- Extremely simple workplace location design and special clamping unit with the pressure point at the center of rotation of the turntable.
- Service-proven KUKA milling package with 16 kW spindle power.
- User interface with modern HMI design on the KUKA smartPAD of the robot.
- Protective enclosure for minimization of noise emissions and as a containment envelope.

Highlights

- Basic PMC unit with robot, workpiece location and clamping system on a solid base plate.
- KR 160 nano – compact 6-axis robot as motion unit with KR C4 robot controller.
- Stable turntable for workpiece location with direct integration into the axis interpolation of the robot (turntable moves with the robot).
- Electrically-driven NC spindle with tool changing system and HSK F 63 tool holder – 16 kW drive power at approx. 9,000 rpm.
- Optimal removal of the burr via metal casing, designed for the machining of cast iron parts.
- KR C4 robot controller with milling spindle drive technology package using a specially parameterized frequency inverter.
- Tool rack with ten setdown locations. Electrical monitoring of all locations.

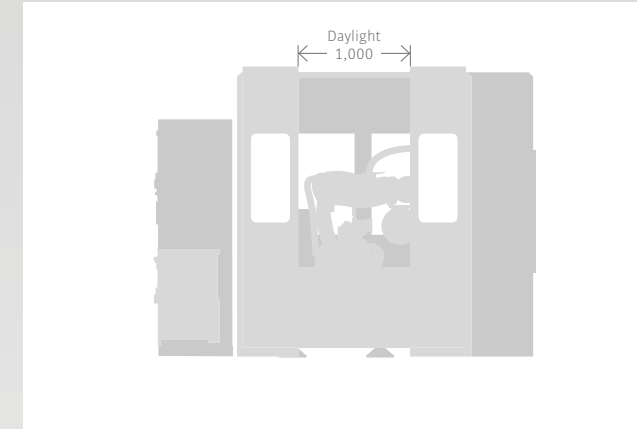


Very good removal of the incurring scraps due to

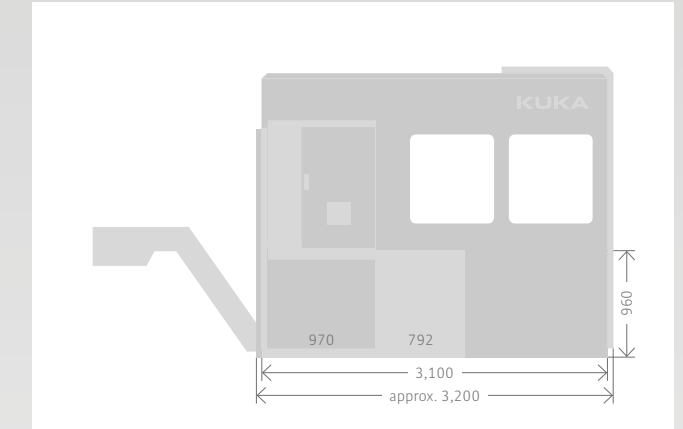
- High workpiece location
- Single clamping point at the center
- Metal casing of the stable substructure
- Two machining sides
- Outward transfer of the trimmed burr on a burr conveyor

Stable gray cast iron pedestal for installation of the robot and turning unit

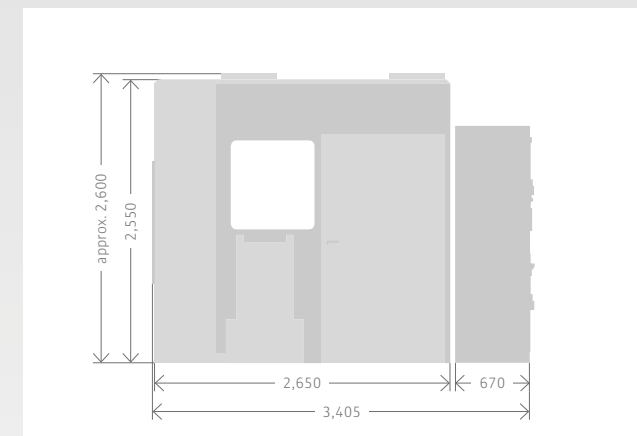
- Closed force flow within the system
- Components from the KUKA modular system
- High damping characteristics due to the use of cast components
- Simple transportation and on-site installation



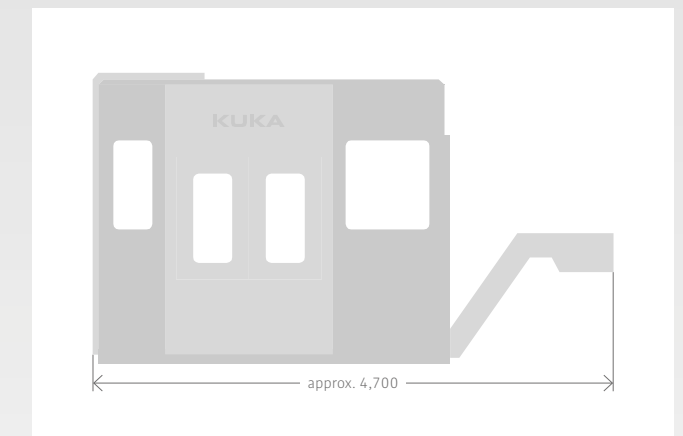
Front view



Side view from left



Side view from right



Rear view

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Belgium	Norway
Brazil	Poland
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Czech Republic	Switzerland
Germany	Singapore
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Great Britain	South Africa
India	Taiwan
Italy	Thailand
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Korea	USA

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PF|Pre-Machining Cell|EN|01|0619