Feet Engineering Industries

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KMR200
IIWA

KMR iiwa
The mobile, intelligent production assistant

The industrial manufacturing of tomorrow will require production and logistics concepts which are intelligently networked, modular, versatile and thus also mobile. Solutions which can work in the vicinity of humans, workpieces and machines in equal measure. Just like humans, the KMR iiwa (KUKA Mobile Robot) production assistant can also track moving workpieces, move around them freely and link solitary production islands to form new, highly flexible production units. As a mobile, intelligent helper, the KMR iiwa is prepared for the challenges of Industrie 4.0.

360°

Freely scalable, modular system. The interaction of service-proven KUKA robot technology, mobile platforms and industrial components offers a mobile solution for all conceivable scenarios. Both the position and the number of installed robots are variable, as are their size and their payload capacity. Grippers, tools and special equipment can be easily mounted on the KMR iiwa and supplied with power. Integral components of the package are a mobile KUKA platform, an LBR iiwa robot and an expanded KUKA Sunrise controller. Power is supplied by lithium-ion batteries via an inverter. The system can also be expanded, for example, to include a Hardware Application Layer for external PCs or additional hardware to meet your application requirements.

Maximum flexibility and unrestricted maneuverability. Where manufacturing processes are subjected to continual changes, one thing counts more than anything else: flexibility. The KMR iiwa stands for unlimited adaptability. The omnidirectional wheel concept enables unrestricted motion in any direction from a standing start. Furthermore, the immense working range opens up a wide range of options for entirely new production concepts and increased cost-effectiveness in logistics management.

Enabled by KUKA Sunrise.OS

Intelligent, flexible, mobile and autonomous.
With the KMR iiwa, we are uniting the strengths of the sensitive LBR iiwa (intelligent industrial work assistant) lightweight robot with a mobile and autonomous platform. The robot thus becomes a highly flexible, location-independent production assistant with an unrestricted workspace – an ideal basis for the intelligent, networked production worlds of Industrie 4.0.

Mobile KUKA platform + LBR iiwa + KUKA Sunrise.OS + KUKA Navigation Solution = your solution

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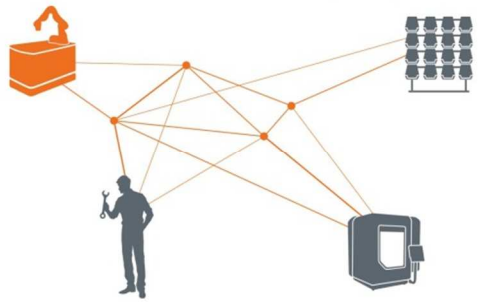


KMR iiwa
The combination of mobile platform and intelligent, sensitive work assistant opens up a wide range of potential applications.

Rack storage
Thanks to its innovative navigation system, the KMR iiwa operates autonomously and is able, for example, to set down machined workpieces or independently fetch required components.

Operator
The operator is relieved of monotonous, non-ergonomic tasks and can concentrate on important processing steps.

Machine tool
The KMR iiwa takes over the tending of machine tools and relieves the human worker of strenuous and tiring tasks.

Autonomous navigation. The integrated laser scanner monitors the work environment, while the integrated control software for navigation and motion enables reliable and flexible work sequences. The independent power supply combines high-performance batteries with industrial WLAN technology and liberates the KMR iiwa from the restrictions of complex cabling. Safe monitoring of the robot is also possible, however. The KUKA Navigation Solution navigation software enables collision-free path planning in the work environment. Implementation is quick and uncomplicated.

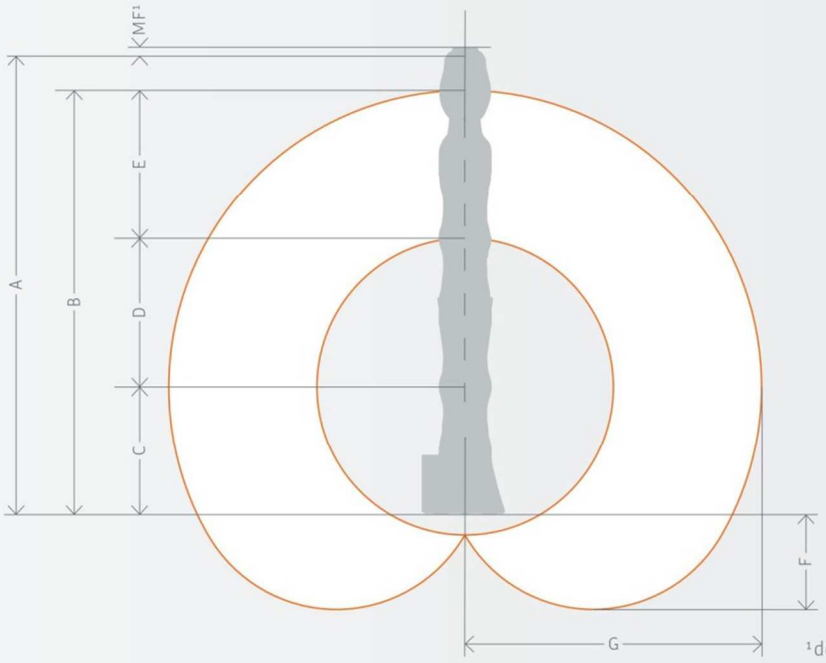
±5 mm

Utmost precision and simple operator control. With the omnidirectional wheel technology, the KMR iiwa moves safely to the desired position, even in confined spaces, with a positioning accuracy of up to ±5 mm – irrespective of whether the distance to the workplace is 5 m or 150 m. For the first time, the KMR iiwa makes it possible to utilize the efficiency and reliability of KUKA robotic technology for large-area automation solutions in the logistics sector.

Safe human-robot collaboration. The LBR iiwa lightweight robot from KUKA is an intelligent, industrial production assistant for the manufacturing concepts of the future and enables safe collaboration between humans and robots. In conjunction with the safe mobile platform, different degrees of automation can be implemented within a system. In particular, tasks for which a fully automatic solution would be too complex or too expensive can be partially automated in this way, providing support to the operator and relieving his workload at ergonomically unfavorable workstations.

Enabled by KUKA Sunrise.OS

Mobile robotics from KUKA
Technical data



¹dependent on the media flange option

Work envelope	Dimensions A	Dimensions B	Dimensions C	Dimensions D	Dimensions E	Dimensions F	Dimensions G	Volume
LBR iiwa 7 R800	1,266 mm	1,140 mm	340 mm	400 mm	400 mm	260 mm	800 mm	1.7 m³
LBR iiwa 14 R820	1,306 mm	1,180 mm	360 mm	420 mm	400 mm	255 mm	820 mm	1.8 m³

LBR iiwa	LBR iiwa 7 R800	LBR iiwa 14 R820
Max. total payload	7 kg	14 kg
Number of axes	7	7
Wrist variant	In-line wrist	In-line wrist
Mounting flange A7	DIN ISO 9409-1-A50	DIN ISO 9409-1-A50
Installation position	any	any
Positioning accuracy (ISO 9283)	± 0.1 mm	± 0.1 mm
Weight	22.3 kg	29.5 kg
Protection rating	IP54	IP54
Cleanroom class	ISO 3	ISO 3

Mobile platform	
Vehicle height	700 mm
Length with scanners and safety zones	1,080 mm
Width with scanners and safety zones	630 mm
Weight	390 kg
Max. payload	170 kg / 200 kg without LBR iiwa
Max. velocity in longitudinal direction	3.6 km/h
Max. velocity in lateral direction	2 km/h
Wheel diameter	250 mm
Cleanroom class	ISO 5