

KUKA



KUKA LWR.

**User-friendly, sensitive
and flexible.**

THE KUKA LIGHTWEIGHT ROBOT: THE ALL-ROUNDER

The aluminum housing of the LWR 4+ accommodates the motors, gear units, brakes and sensors, as well as the necessary control and power electronics for 7 axes. The result is a powerful, streamlined robot with a payload capacity of 7 kg, a compact footprint and minimized disruptive contours. Thanks to its integrated sensors, the LWR 4+ is extremely sensitive. This makes it ideally suited to handling and assembly tasks.

» EXTREMELY MANEUVERABLE

The modular robot features 7 degrees of freedom. Compared with the standard 6-axis robot, its 7 axes give it greater flexibility. This means that, for a given position and orientation, a pose can be selected that is favorable for the process concerned. The robot's great flexibility enables it to move around obstacles and reach even the most inaccessible places. **The advantages: outstanding maneuverability and excellent accessibility.**

» EXTREMELY USER-FRIENDLY

The robot can be freely guided throughout its work envelope by hand. Manual guidance is possible for all 7 axes and makes programming intuitive and efficient. Once guided to a position in the work envelope, the robot maintains its pose, making teaching as easy as child's play. This kind of programming helps save time and cost, especially for applications with great component diversity. **The advantages: intuitive control and efficient programming.**

» EXTREMELY SENSITIVE

The torque sensors in the axes make the LWR 4+ particularly well suited to force-controlled joining tasks, process monitoring, and also position detection and referencing of objects. In this case, it is the robot itself that has the required sensitivity – not the tool. This allows use of the simplest tools, which can be exchanged for performance of a range of tasks. The integrated sensor system is supplied fully functional. No laborious integration, configuration or testing of the sensor system is required. **The advantages: use of simple tools and Plug & Play.**

» EXTREMELY FLEXIBLE

The LWR 4+ can be transported to a new location without any auxiliary equipment, and therefore does not have to pay for itself within a single application. Its low weight and streamlined design make it flexible to use and ensure high cost-effectiveness. A special substructure is not necessary for use of the LWR 4+. Thanks to its lightweight design and low power consumption, the robot is also suitable for battery-driven operation. **The advantages: high utilization potential and simple integration.**



Redundancy due to the seventh axis: for a given position and orientation, a pose can be selected that is favorable for the process concerned.



Well-rounded: the power supply right up to axis 7 is routed internally. There is no additional disruptive contour.



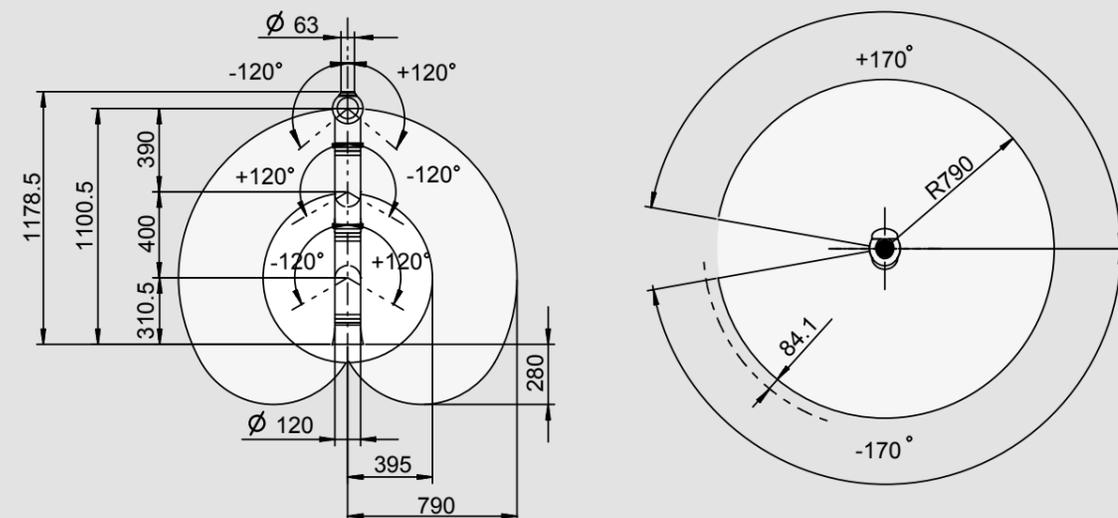
Sensitive and agile: the modular 7-axis kinematic system features torque sensors in every axis.



A dynamic trio: LWR 4+ with the service-proven KUKA KR C2 lr controller and the KUKA teach pendant.

» TECHNICAL DETAILS LWR 4+

Dimensions: mm



Volume of working envelope

LWR 4+ 1.84 m³

Type	Lightweight Robot LWR 4+
Payload	7 kg
Number of axes	7
Wrist variant	In-line wrist
Mounting flange A 6	DIN ISO 9409-1-A 50
Mounting position	Any
Repeatability (ISO 9283)	± 0.05 mm
Controller	KR C2 lr
Weight (excluding controller), approx.	16 kg

Axis data	Motion range	Speed with rated payload	Maximum torque
Axis A1 (J1)	± 170°	110°/s	176 Nm
Axis A2 (J2)	± 120°	110°/s	176 Nm
Axis E1 (J3)	± 170°	128°/s	100 Nm
Axis A3 (J4)	± 120°	128°/s	100 Nm
Axis A4 (J5)	± 170°	204°/s	100 Nm
Axis A5 (J6)	± 120°	184°/s	38 Nm
Axis A6 (J7)	± 170°	184°/s	38 Nm

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**The LWR in an industrial application:
complex assembly tasks in the production
of a robot wrist**

KUKA – YOUR STRONG PARTNER.

Quality made in Germany, creativity and the utmost commitment to customers: at KUKA, this has been the basis for decades of exceptional technology, helping you to decisively optimize your processes. We were the pioneers in the world of robotics, and now we are global leaders in innovation. Our passion is finding future-oriented solutions to make even complex automation tasks simple.

In concrete terms, this translates into an extremely broad product portfolio, encompassing diverse robot technologies that have been specially developed for different tasks and requirements. This means that we can offer you exactly the right robot that is best suited to your specific task. The lightweight robot LWR with 7 axes and integrated sensor technology is particularly suitable for complex assembly tasks and applications with direct human-machine cooperation. The new KUKA small robot series KR AGILUS is ideal for handling tasks with very short cycle times, such as pick-and-place applications. For order picking and palletizing, our palletizing robots for payloads from 40 to 1,300 kg deliver outstanding results.

Many other specialized robots and variants are the basis for optimal production results in a wide range of special applications. This unique KUKA product portfolio guarantees that you are ideally equipped for the requirements of the future. We strive to turn your ideas into reality. Use our edge to drive your success.