

**KUKA**



**Series 2000:  
The all-rounders in the  
high payload range**

**Series 2000  
KR 240-2**



product  
design  
award  
2002



reddot design award  
winner 2002

»SERIES 2000: MULTI-TALENTS WITH A MODULAR DESIGN.

Extremely powerful motors, gear units and servo drives – Series 2000 robots give you greater performance. These talented all-rounders come in five rating classes: for payloads from 150 to 270 kg and reaches from 2,700 to 3,000 mm. Thanks to their modular design and the wide range of expansion options, these robots can be quickly upgraded or converted – and thus perfectly adapted to your application.

As if that were not enough, Series 2000 robots are also available as special variants: Cleanroom (CR) for stringent cleanroom requirements; Foundry (F) for environments with a high degree of fouling and high temperatures; and an optional variant with food-compatible H1 oil. **The advantages: a high degree of planning reliability and security of investment.**

»EXTREMELY MODULAR – EXTREMELY EXPANDABLE

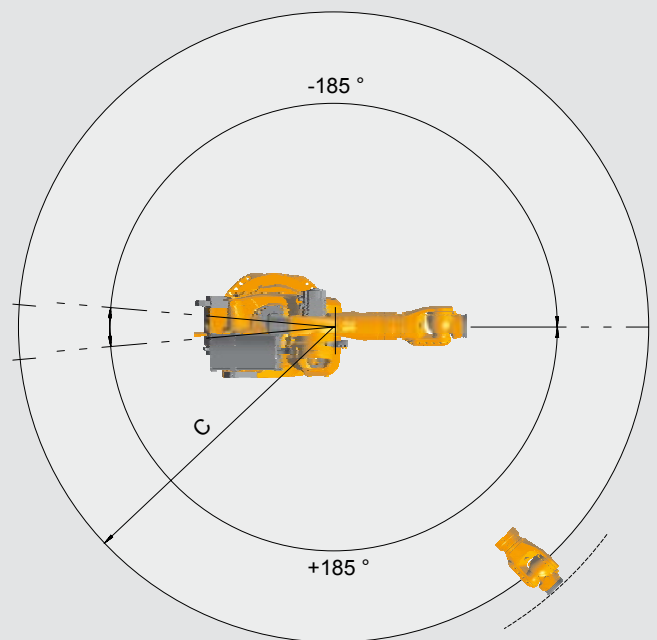
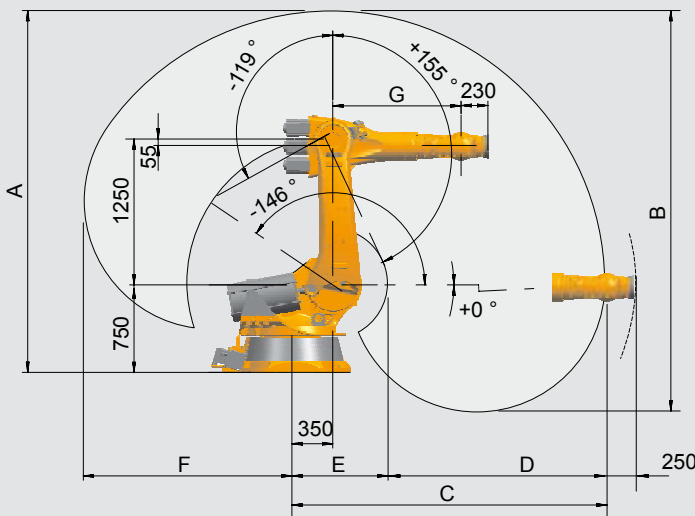
The 2000 Series offers a wide variety of models, as well as numerous expansion options such as different arm extensions or mounting variants for the ceiling or floor. In this way, the robots can also be quickly retrofitted for increased payload or reach. There's no more laborious, cost-intensive implementation of new systems – and production can start in record time. **The advantages: flexible production and rapid commissioning.**

»EXTREMELY POWERFUL – EXTREMELY PRECISE

High speed and maximum output: the high installed motor capacity and high-torque gear units in all axes make the 2000 Series highly dynamic and extremely powerful. Added to this is the precision control, which gives these high-performers a repeatability of ±0.06 mm. The result: better manufacturing quality, fewer rejects, and thus greater efficiency for your production. **The advantages: shorter cycle times and higher quality.**

»TECHNICAL DETAILS KR 240-2

Dimensions: mm



| Work envelope | Dimensions <sup>1)</sup> |          |          |          |        |          |          | Volume              |
|---------------|--------------------------|----------|----------|----------|--------|----------|----------|---------------------|
|               | A                        | B        | C        | D        | E      | F        | G        |                     |
| KR 240-2      | 3,100 mm                 | 3,450 mm | 2,700 mm | 1,875 mm | 825 mm | 1,788 mm | 1,100 mm | 55.0 m <sup>3</sup> |
| KR 240 L210-2 | 3,300 mm                 | 3,850 mm | 2,900 mm | 2,050 mm | 850 mm | 1,987 mm | 1,300 mm | 72.9 m <sup>3</sup> |
| KR 240 L180-2 | 3,500 mm                 | 4,250 mm | 3,100 mm | 2,150 mm | 950 mm | 2,187 mm | 1,500 mm | 93.0 m <sup>3</sup> |

<sup>1)</sup> Relative to intersection of axes 4/5

» **EXTREMELY WELL-DESIGNED – EXTREMELY COST-EFFECTIVE**

Cost-effectiveness was a major priority right from the design phase of the 2000 Series: state-of-the-art engineering, as in the gear units with the highest torque in their class, guarantees 40,000 hours of continuous operation. Moreover, wear-resistant components, such as robot wrists with beltless spur gears, extend maintenance intervals – and cut costs. **The advantages: trouble-free production and greater planning security.**

» **EXTREMELY VERSATILE – EXTREMELY SAFE**

KUKA offers you a comprehensive range of software: from ready-made application software for the most common applications to simulation programs for planning robot cells and Safe Robot Technology for monitoring safety zones. And for precisely coordinated teamwork with several robots, we offer the RoboTeam application package. **The advantages: maximum scope and maximum safety.**



Be it the standard variant, with optional arm extension, or the cleanroom or foundry variant – the 2000 Series offers the right solution for every requirement.



Welding, machining, removal of castings, or inline measurement of bodies-in-white: these are only a fraction of the possible applications.

| Type                                    | KR 240-2            | KR 240 L210-2 | KR 240 L180-2 |
|---|---------------------|---------------|---------------|
| Maximum reach                           | 2,700 mm            | 2,900 mm      | 3,100 mm      |
| Rated payload                           | 240 kg              | 210 kg        | 180 kg        |
| Suppl. load, arm/link arm/rotating col. | 50/100/300 kg       |               |               |
| Suppl. load, arm + link arm, max.       | 100 kg              |               |               |
| Maximum total load                      | 640 kg              | 610 kg        | 580 kg        |
| Number of axes                          | 6                   |               |               |
| Mounting position                       | Floor, ceiling      |               |               |
| Variant                                 | Cleanroom, Foundry  |               |               |
| Positioning repeatability*              | ±0.06 mm            |               |               |
| Path repeatability*                     |                     |               |               |
| Controller                              | KR C2 edition2005   |               |               |
| Weight (excluding controller), approx.  | 1,267 kg            | 1,277 kg      | 1,285 kg      |
| Temperature during operation            | +10 °C to +55 °C    |               |               |
| Protection classification               | IP 65               |               |               |
| Robot footprint                         | 1,006 mm x 1,006 mm |               |               |
| Connection                              | 7.3 kVA             |               |               |
| Noise level                             | < 75 dB             |               |               |

The 2000 Series comprises the KR 150-2, KR 180-2, KR 210-2, KR 240-2 and KR 270-2.

Drive system, electromechanical with brushless AC servomotors

\*to ISO 9283

| Axis data   | Range (software) | Speed with rated payload |        |        |
|-------------|------------------|--------------------------|--------|--------|
|             |                  | 240 kg                   | 210 kg | 180 kg |
| Axis 1 (A1) | ±185°            | 86°/s                    | 82°/s  | 82°/s  |
| Axis 2 (A2) | 0°/-146°         | 80°/s                    | 78°/s  | 78°/s  |
| Axis 3 (A3) | +155°/-119°      | 79°/s                    | 74°/s  | 76°/s  |
| Axis 4 (A4) | ±350°            | 100°/s                   | 100°/s | 100°/s |
| Axis 5 (A5) | ±125°            | 110°/s                   | 110°/s | 110°/s |
| Axis 6 (A6) | ±350°            | 184°/s                   | 184°/s | 184°/s |

Details provided about the properties and usability of the products are purely for information purposes and do not constitute a guarantee of these characteristics. The extent of goods delivered and services performed is determined by the subject matter of the specific contract. No liability accepted for errors or omissions.



## »THE KUKA ROBOT GROUP: YOUR STRONG PARTNER

Quality made in Germany, creativity and the utmost commitment to customers and business partners: these form the basis on which KUKA develops the best possible technologies and thus the optimal automation concepts. The result is that you receive custom-tailored solutions and benefit from decisive process optimization.

Genuine passion for the fascination of robotics is reflected in our slogan “KUKA YOUR IDEAS”, which is also our promise to you: Whatever you want to do, and however unusual your idea may be, with us you can implement anything – irrespective of the specific branch of industry and irrespective of whether or not a similar application has existed before.

Whatever task you give us, KUKA has the required specialists. In close cooperation with experienced system partners with competence in their respective industries, we do everything in our power to implement your ideas. Let us work on them together.

## »KUKA SERVICES: ALWAYS THERE FOR YOU

You can rely on us to stand by you in every phase of a project: from planning and commissioning to maintenance and conversion. 24 hours a day. 365 days a year. The high-density KUKA service network ensures that we are always in your vicinity and can start your production in record time.

# KUKA YOUR IDEAS

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