



# SMART HANDLING SOLUTIONS FOR UNIVERSAL ROBOTS

2018



**GRIPKIT**  
BY WEISS ROBOTICS

**FORCEKIT**  
BY WEISS ROBOTICS

**FINGERKIT**  
BY WEISS ROBOTICS

Certified GRIPKIT Partner



GRIP SMARTER.

**WEISS ROBOTICS**

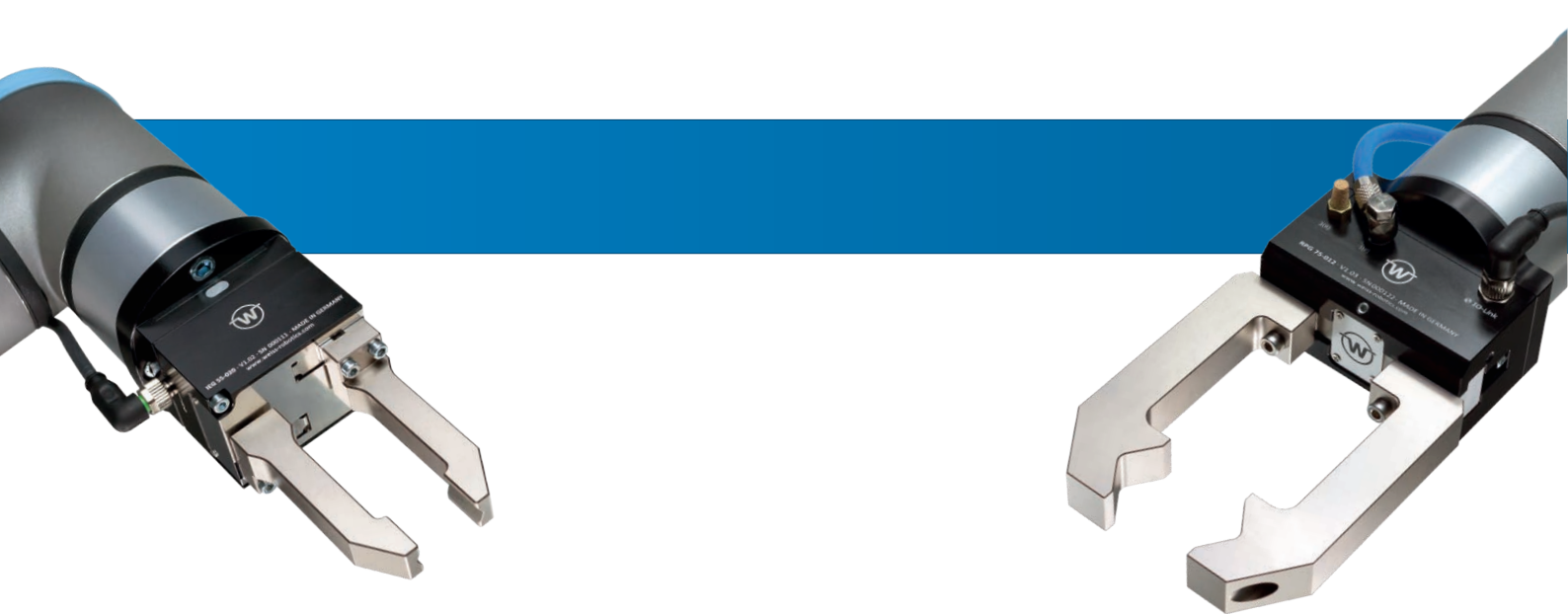


**UNIVERSAL ROBOTS+**  
Certified

GRIPKIT AND UNIVERSAL ROBOTS. A WINNING TEAM.

Weiss Robotics is certified UR+ Partner





## THE SMART GRIPPING SOLUTION FOR UNIVERSAL ROBOTS

### GRIP SMARTER.

Take advantage of the fully integrated handling solution for Universal Robots. GRIPKIT contains everything you need to realize a pick & place application within minutes. It is fully compatible with all Universal Robots models and integrates seamlessly with an easy to use URCaps plug-in. Thanks to the supplied adapter plate and the enclosed mounting material, the mechanical integration is just as simple.

### SERVO-ELECTRIC, COLLABORATIVE OR SMART PNEUMATICS

Choose the optimal gripper for your project. GRIPKIT is available either as a sensitive servo-electric, safe collaborative or as a powerful pneumatic version both parallel and centric. GRIPKIT is available in different sizes with gripping forces ranging from 10 to 550 Newton, making it the perfect fit for a broad range of applications.

### 20 MILLION CYCLES GUARANTEED

No need to compromise. Rely on proven industrial quality Made in Germany designed for robustness and a long service life. GRIPKIT performs hassle-free even in demanding 24/7 applications.

### PLAY IT SAFE

Automated part detection and monitoring is standard for gripping modules by Weiss Robotics. Don't worry about complicated programming of the gripping process - the gripper does it for you.

### MULTI-GRIPPER SUPPORT

Does your application require multiple parts to be gripped simultaneously like handling large or flexible parts? No problem! GRIPKIT is the first solution to support up to eight grippers connected to one robot.

## TECHNICAL DATA

|                                              |  GRIPKIT-CR1 |  GRIPKIT-CR2 |  GRIPKIT-E1 |  GRIPKIT-E2 |  GRIPKIT-P1 |  GRIPKIT-P2 |  GRIPKIT-PZ1 |
|----------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Actuation                                    | servo-electric                                                                                    |                                                                                                   |                                                                                                  |                                                                                                |                                                                                                |                                                                                                |                                                                                                 |
| Kinematics                                   | parallel                                                                                          |                                                                                                   |                                                                                                  |                                                                                                |                                                                                                |                                                                                                | central                                                                                         |
| Gripping force                               | 15 - 30 N adjustable                                                                              | 75 - 200 N adjustable                                                                             | 10 - 30 N adjustable                                                                             | 75 - 200 N adjustable                                                                          | 220 N                                                                                          | 550 N                                                                                          | 550 N                                                                                           |
| Max. workpiece weight (form fit   force fit) | 2.7 kg   0.15 kg                                                                                  | 4.3 kg   1 kg                                                                                     | 2.7 kg   0.15 kg                                                                                 | 4.3 kg   1 kg                                                                                  | 15 kg   1.1 kg                                                                                 | 22 kg   2.5 kg                                                                                 | 25 kg   2.5 kg                                                                                  |
| Full stroke                                  | 50 mm                                                                                             | 85 mm                                                                                             | 20 mm                                                                                            | 30 mm                                                                                          | 12 mm                                                                                          | 20 mm                                                                                          | 12 mm                                                                                           |
| Weight                                       | 0.46 kg                                                                                           | 1.3 kg                                                                                            | 0.38 kg                                                                                          | 0.87 kg                                                                                        | 0.44 g                                                                                         | 1.2 kg                                                                                         | 0.8 kg                                                                                          |
| Gripper module                               | CRG 30-050                                                                                        | CRG 200-085                                                                                       | IEG 55-020                                                                                       | IEG 76-030                                                                                     | RPG 75-012                                                                                     | RPG 120-020                                                                                    | ZPG 75-012                                                                                      |
| ESD-compliant                                | yes                                                                                               | yes                                                                                               | optional                                                                                         | optional                                                                                       | no                                                                                             | no                                                                                             | no                                                                                              |
| Parameterization                             | 8 recipes                                                                                         | 8 recipes                                                                                         | 4 recipes                                                                                        | 4 recipes                                                                                      | 4 recipes                                                                                      |                                                                                                |                                                                                                 |
| Gripping force retention                     | yes                                                                                               | yes                                                                                               | no                                                                                               | no                                                                                             | no                                                                                             |                                                                                                |                                                                                                 |
| Suitable for model                           | UR3, UR5                                                                                          | (UR3), UR5, UR10                                                                                  | UR3, UR5, UR10                                                                                   | UR3, UR5, UR10                                                                                 | UR3, UR5, UR10                                                                                 | (UR3), UR5, UR10                                                                               | UR3, UR5, UR10                                                                                  |



**BE COLLABORATIVE**

GRIPKIT-CR is a flexible tool for collaborative robots that meets the DGUV recommendations for collaborative robotic systems as well as the ISO/TS 15066 requirements. This is thanks to the rounded edges and inherently safe gripping force that simplifies the risk assessment of your robot application.

**PERMAGRIP**

The innovative gripping force retention developed by Weiss Robotics preserves the gripping force on the workpiece, even if the power supply to the gripper is interrupted unexpectedly. Thanks to the integrated absolute sensors the production can continue even without referencing when the power supply is restored.

**SENSORLESS GRIPPING FORCE CONTROL**

With its unique sensorless gripping force control feature, the GRIPKIT-CR is able to handle even brittle, fragile or flexible parts effortlessly while providing a highly reliable gripping process. The gripping width and -force can be easily specified on the teach-counterpart of the robot and thus optimally adapted to the gripping workpiece.

TECHNICAL DATA



|                                              | GRIPKIT-CR1          | GRIPKIT-CR2           |
|----------------------------------------------|----------------------|-----------------------|
| Actuation                                    | servo-electric       |                       |
| Kinematics                                   | parallel             |                       |
| Gripping force                               | 15 - 30 N adjustable | 75 - 200 N adjustable |
| Max. workpiece weight (form fit   force fit) | 2.7 kg   0:15 kg     | 4.3 kg   1 kg         |
| Full stroke                                  | 50 mm                | 85 mm                 |
| Weight                                       | 0.46 kg              | 1.3 kg                |
| Gripper module                               | CRG 30-050           | CRG 200-085           |
| ESD-compliant                                | yes                  |                       |
| Parameterization                             | 8 recipes            |                       |
| Gripping force retention                     | yes                  |                       |
| Suitable for model                           | UR3, UR5             | (UR3), UR5, UR10      |



GRIPKIT-CR CONTAINS\*



\* Please order gripper fingers separately.





**PRECISE AND SENSITIVE**

GRIPKIT-E is based on the ultra-compact and reliable servo-electric gripping modules of the IEG series. With their patented gripping mechanism, the gripping modules with integrated control electronics and sensors also meet the highest demands in small parts handling.

**INTELLIGENT AND RELIABLE**

The integrated gripping part detection, the standard sensorless gripping force control as well as the incremental high-resolution position measuring system enable safe handling even in difficult situations.

**FLEXIBLE**

The GRIPKIT E-Series is the smart choice for reliable handling of different parts with similar geometry. Up to four different recipes can be stored in the gripping module and directly called from within the robot program. Both gripping width and gripping force can be preselected and optimally adapted to the gripping part. This makes it possible to reliably grip up to four different workpieces without the need to retool the gripper and with no additional proximity switches attached to the gripper.

TECHNICAL DATA



|                                              | GRIPKIT-E1           | GRIPKIT-E2            |
|----------------------------------------------|----------------------|-----------------------|
| Actuation                                    | servo-electric       |                       |
| Kinematics                                   | parallel             |                       |
| Gripping force                               | 10 - 30 N adjustable | 75 - 200 N adjustable |
| Max. workpiece weight (form fit   force fit) | 2.7 kg   0.15 kg     | 4.3 kg   1 kg         |
| Full stroke                                  | 20 mm                | 30 mm                 |
| Weight                                       | 0.38 kg              | 0.87 kg               |
| Gripper module                               | IEG 55-020           | IEG 76-030            |
| ESD-compliant                                | optional             | optional              |
| Parameterization                             | 4 recipes            |                       |
| Gripping force retention                     | no                   |                       |
| Suitable for model                           | UR3, UR5, UR10       | UR3, UR5, UR10        |

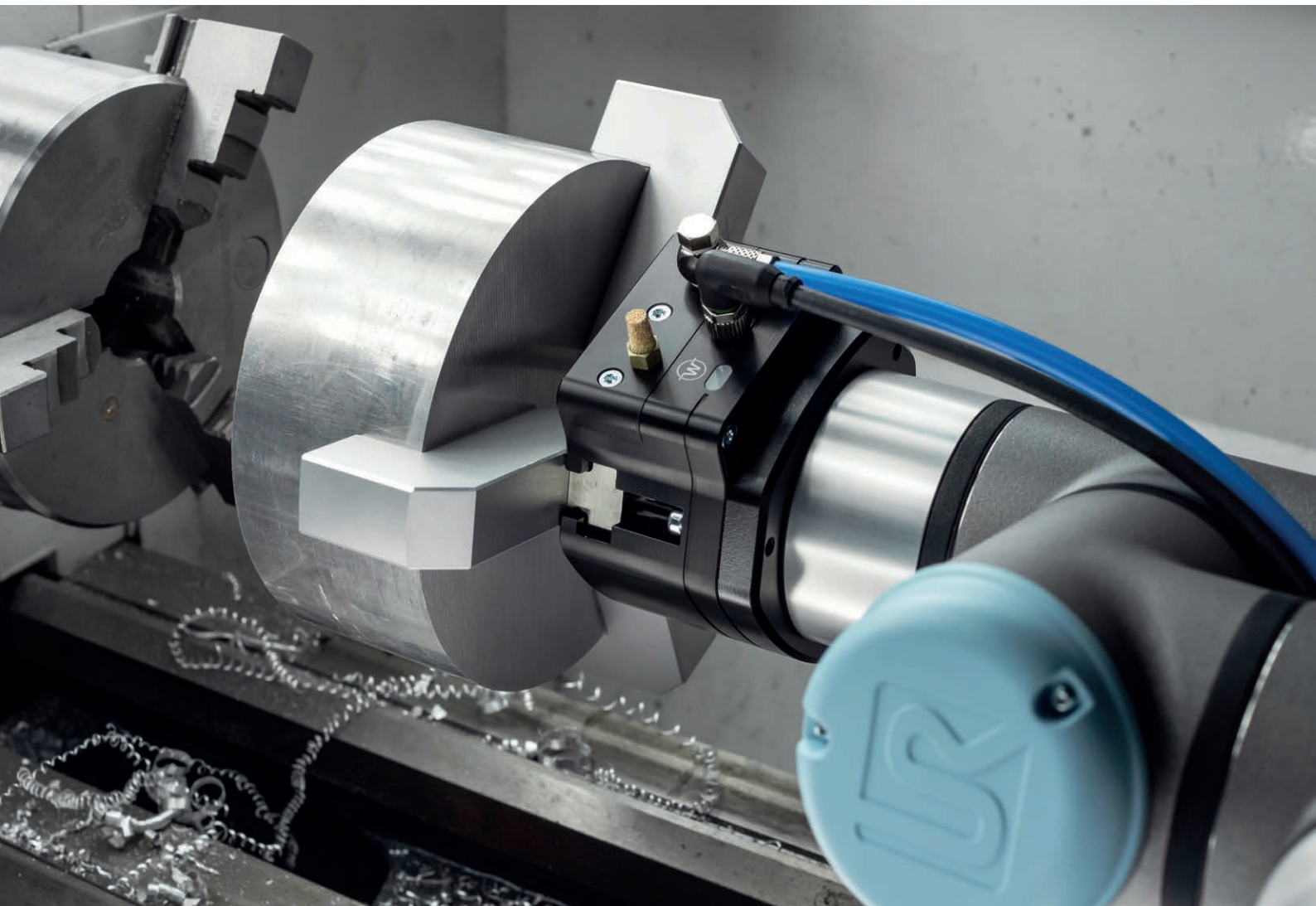


GRIPKIT-E CONTAINS\*



\* Please order gripper fingers separately.





**SMART PNEUMATICS**

GRIPKIT-P is based on the fast, compact and reliable gripping modules of the RPG series. These combine proven pneumatic drive technology, integrated gripping control with IO-Link interface, integrated valve technology and integrated position sensor technology. The perfect symbiosis of powerful pneumatics and intelligent electronics.

**FAST AND RELIABLE**

The integrated control with its optimized gripper part recognition enables a grip rate of up to 500 gripping cycles per minute. Precision grinded T-slot guides and a particularly warp resistant construction ensure a long service life as well as a continuously high precision gripping performance.

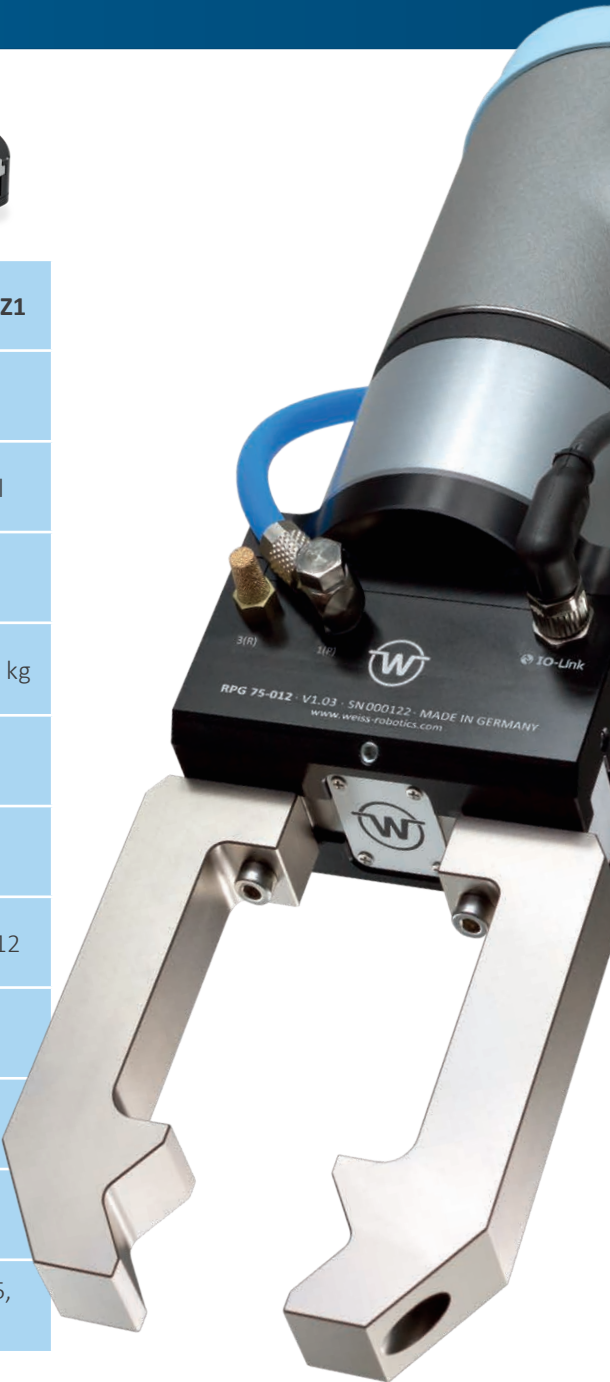
**70% LESS COMPRESSED AIR**

RPG grippers are very resource-efficient and consume far less compressed air as conventional solutions. This was made possible by relocating the valve technology from the valve terminal right into the gripping module.

TECHNICAL DATA



|                                              | GRIPKIT-P1       | GRIPKIT-P2       | GRIPKIT-PZ1    |
|----------------------------------------------|------------------|------------------|----------------|
| Actuation                                    | smart pneumatics |                  |                |
| Kinematics                                   | parallel         |                  | central        |
| Gripping force                               | 220 N            | 550 N            | 550 N          |
| Max. workpiece weight (form fit   force fit) | 15 kg   1.1 kg   | 22 kg   2.5 kg   | 25 kg   2.5 kg |
| Full stroke                                  | 12 mm            | 20 mm            | 12 mm          |
| Weight                                       | 0.44 g           | 1.2 kg           | 0.8 kg         |
| Gripper module                               | RPG 75-012       | RPG 120-020      | ZPG 75-012     |
| ESD-compliant                                | no               | no               | no             |
| Parameterization                             | 4 recipes        |                  |                |
| Gripping force retention                     | no               |                  |                |
| Suitable for model                           | UR3, UR5, UR10   | (UR3), UR5, UR10 | UR3, UR5, UR10 |

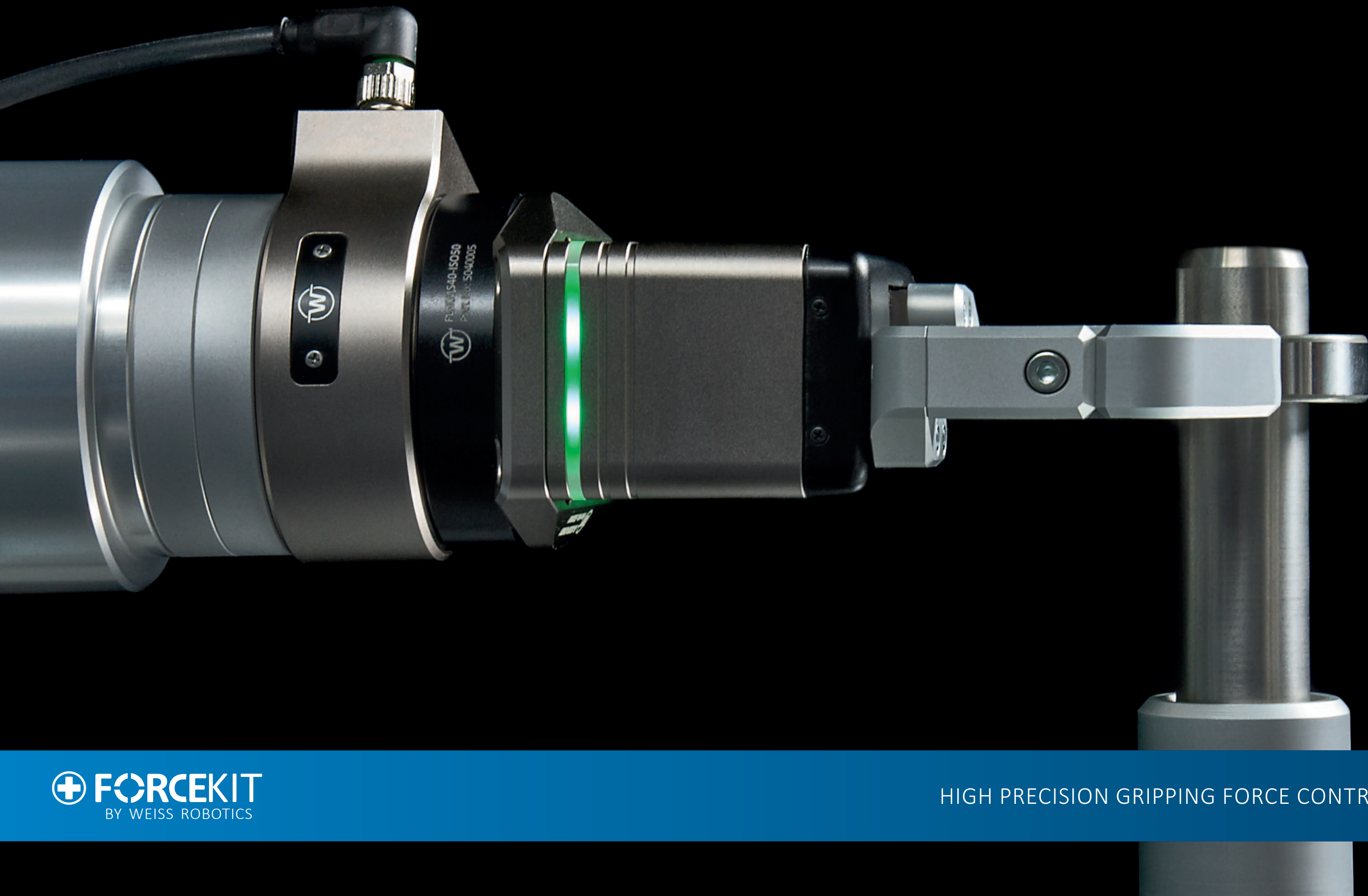


GRIPKIT-P CONTAINS\*



\* Please order gripper fingers separately.









**HIGH PERFORMANCE AND RELIABILITY**

FORCEKIT is the powerful force/torque measurement solution for Universal Robots. The measuring range of the fully integrated sensor module is optimized to the power range of the Cobots from UR. The measured data can be fed in real-time directly into the control loop of the robot using RTDE, thereby optimizing the built-in force control. In addition, FORCEKIT offers direct communication with the sensor via Ethernet, giving you full access to the current force and torque values at all times.

**HIGHEST ACCURACY**

FORCEKIT delivers high-precision measurement data with up to 500 frames per second. The rigid construction, high resolution and low measured value noise make FORCEKIT the ideal solution for force-controlled applications that demand the highest precision.

**SEAMLESS INTEGRATION**

To ensure a quick start, FORCEKIT contains not only the actual sensor but also the required mounting plates, the matching connecting cables and an URCaps plug-in or an easy integration into your application.

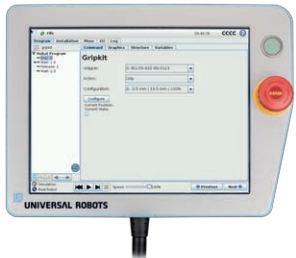
**TECHNICAL DATA**



|                      |                               |
|----------------------|-------------------------------|
| Measurement range    | ±120 N / ±3 Nm                |
| Effective resolution | 0.005 N / 0.001 Nm            |
| Max. overload        | MZ: 5x, other: 10x full scale |
| Absolute accuracy    | ±1.5 % typ.                   |
| Repeatability        | 0.5 %                         |
| Sampling rate        | 500 Frames/s                  |
| Sampling resolution  | 16 Bit                        |
| Power supply         | 24 VDC ±10 %, 1.9 W typ.      |
| Weight               | 520 g                         |
| Protection class     | IP 40                         |
| Temperature range    | 5 - 50 °C                     |



**FORCEKIT CONTAINS**



KMS 40 SENSOR  
MODULE

MOUNTING PLATE

CABLES

URCAPS PLUG-IN





### CREATE FINGERS EASILY AND FLEXIBLY

From base element to fingertip to the right screw, the modularly constructed FINGERKIT is a set that provides you with all the components you need to create your own gripper fingers within minutes.

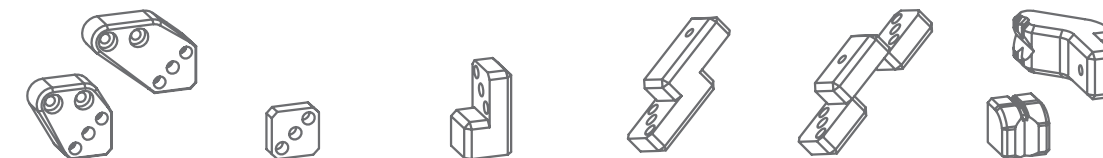
### CREATING CUSTOMIZED FINGERS

FINGERKIT is available in two series. Within the series, the individual elements can be flexibly combined with each other. To make it easier to get started, a starter kit is available that contains all the necessary parts to instantly build simple gripper fingers.

### DIMENSIONALLY STABLE, DURABLE AND VERSATILE

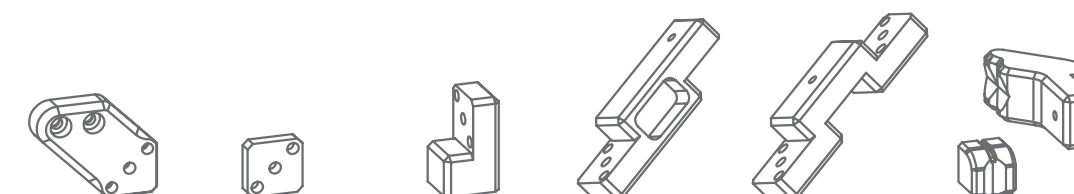
With FINGERKIT you are able to fit your gripper perfectly to your workpiece. Its elements are made with CNC precision from robust aircraft aluminum and enable rigid and highly accurate customized finger constructions. The chamfered edges and countersunk screw connections allow the safe use in collaborative applications, too. All elements of the FINGERKIT are electrically conductive and thus ideally suited for handling static-sensitive (ESD) components and assemblies.

### SYSTEM 16

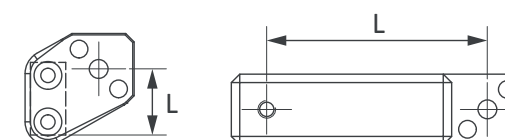


| Element     | Base plate     | Spacer         | Angle connector | Finger element | T-element      | Grip insert    |
|-------------|----------------|----------------|-----------------|----------------|----------------|----------------|
| Size (L) mm | 10, 15, 20, 25 | 5              | 20              | 20, 30, 50     | 40, 60         | -              |
| Gripper     | IEG 55, CRG 30 | IEG 55, CRG 30 | IEG 55, CRG 30  | IEG 55, CRG 30 | IEG 55, CRG 30 | IEG 55, CRG 30 |

### SYSTEM 20

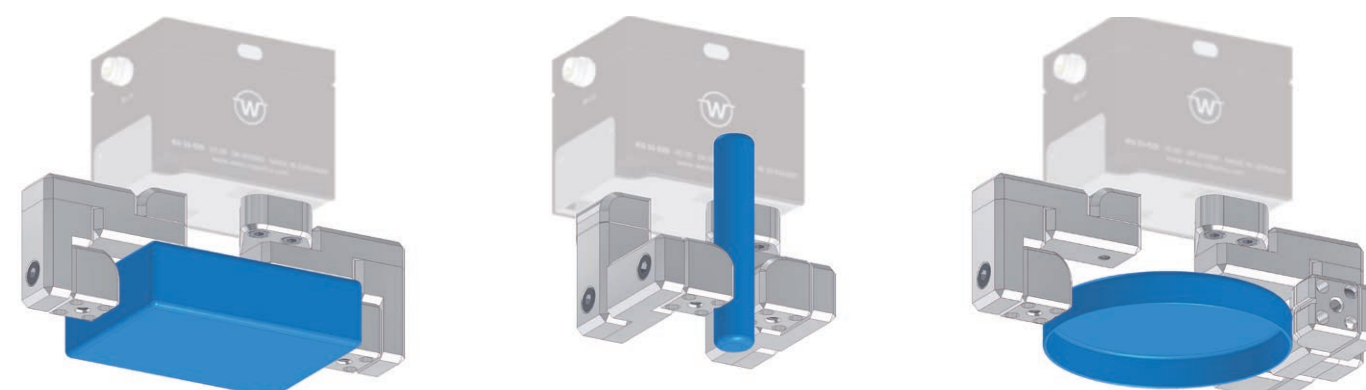


| Element     | Base plate      | Spacer          | Angle connector | Finger element  | T-element       | Grip insert     |
|-------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Size (L) mm | 10, 20, 30      | 5               | 25              | 30, 50, 100     | 60, 80, 100     | -               |
| Gripper     | IEG 76, CRG 200 | IEG 76, CRG 200 | IEG 76, CRG 200 | IEG 76, CRG 200 | IEG 76, CRG 200 | IEG 76, CRG 200 |



Individually assembled fingers must be within the specified gripper specification.

### APPLICATIONS









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