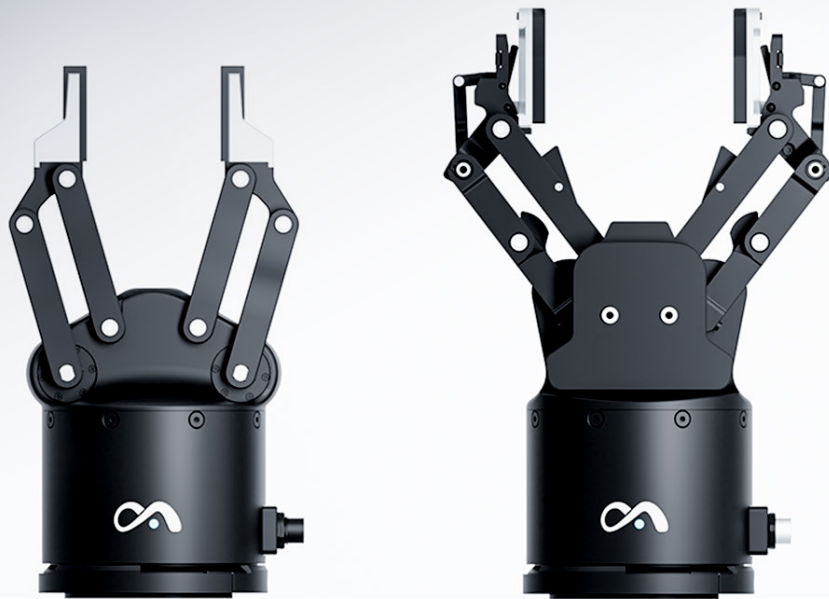


FLEXIV

GRAV

Force-controlled Robotic Gripper



Flexiv's revolutionary force-controlled robotic gripper series Grav includes two gripper models: **Grav** and **Grav Enhanced**. Featuring Flexiv's industrial-grade force control and an adhesive material based on a gecko's foot pad, Grav is capable of picking up or manipulating practically any object that fits within its grasp.

Ideal for multiple applications, Grav enables robot operators more flexibility in their automation applications and significantly increases production line productivity.

Powerful Adaptability

- Stable gripping force
- Minimum force control range 1 N
- Adaptable for handling a wide variety of objects
- Two working modes supported (Grav Enhanced)
- Finger closing speed up to 200 mm/s

Great Usability

- Plug-and-play with no complex integration procedures
- Drag-and-drop visual programming interface
- Compatible with standard collaborative robots

Intrinsic Safety

- IP67-protected
- Tens of millions of open/close cycles lifespan and maintenance-free

Excellent Versatility

- Embedded advanced grasping-related modules suitable for multiple applications
- Fine-tuned force-control algorithm modules

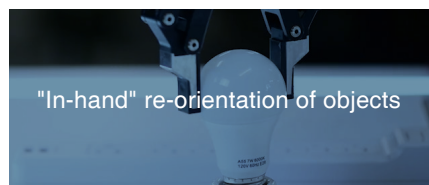
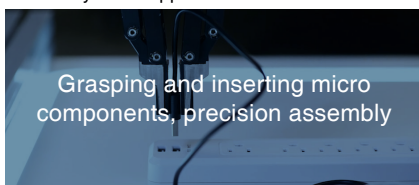
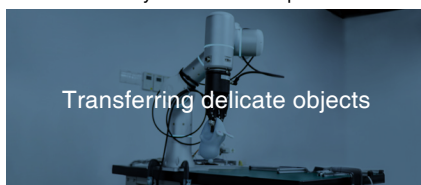
Gripper type	Grav	Grav Enhanced
		
Gripping technology	2-finger force-controlled gripping	Supports adaptive switching between P-mode and V-mode based on the object being grasped, and leverages biomimetic gecko adhesive material to achieve enhanced adhesion performance
Stroke	0-100 mm	P-mode: 0 - 100 mm V-mode: 120° - 160°
Optimal range of applicable force	1 - 100 N	1 - 45 N
Gripping speed	1 to 200 mm/s	1 to 200 mm/s
Repeatability	0.1 mm	0.1 mm
Finger position repeatability	0.1 mm	0.1 mm
Force control accuracy	1 N	1 N
Max. permissible finger length	100 mm	100 mm
Max. permissible mass per finger	0.5 kg	N/A
Dimensions (L x H x W)*	104 mm x 192 mm x 84 mm	102 mm x 225 mm x 84 mm
Weight	0.9 kg	1 kg
Protection rating	IP67	IP65
Operating temperature	-20 to + 45 °C	-20 to + 45 °C
Working voltage	24 VDC control voltage	24 VDC control voltage
Communication	Integrated into the robot (Modbus RTU)	Integrated into the robot (Modbus RTU)
Mechanical interface	ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6

*Dimensions of the gripper with the fingers closed

Typical Applications

Grav

Grav's industrial-grade force control capability, coupled with its handling flexibility, enables the gripper to maintain a constant grip strength, modify its grip force in a very controllable manner, and pick up delicate or fragile objects at a fast speed without damaging them. With a universal mounting system, Grav is suitable for any modern robotic platform and is ideal for a myriad of applications.



Grav Enhanced

Building upon the proven architecture of the standard Grav gripper, which features a single actuator and a composite sensing module, Grav Enhanced adopts a newly developed, proprietary two-segment finger design. This gives the gripper a biomimetic grasping logic that closely mirrors human fingers: it can perform compliant, flexible grasping using the finger pads, while the adaptive fingertip latching structure enables more stable enveloping and holding of objects, greatly enhancing adaptability when handling irregular objects.

Further enhanced by a biomimetic gecko adhesive material, Grav Enhanced delivers exceptional object generalization, effortlessly adapting to a wide range of geometries and surface conditions. While achieving ultra-soft, non-damaging, gentle grasping, it fully retains the stable gripping function of rigid structures. This balances the safety of flexible interaction with the reliability of rigid operation, offering a truly versatile 'rigid-flexible' grasping performance.

