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INDUSTRIAL PRODUCT DATASHEET

ReBot Soft Gripper

The ReBot Soft Gripper is a rigid-flexible coupled soft gripper finger kit, combining a rigid PLA mounting base with flexible TPU fingers.

SKU	UPDATED	PRICE
100009143	2026-11-18 05:54:47	$9.90(Excl. VAT)



Overview



The ReBot Soft Gripper is a rigid-flexible coupled soft gripper finger kit, combining a rigid PLA mounting base with flexible TPU fingers. The TPU fingers are printed with a 30% spiral infill structure, and during gripping they passively conform to the contours of objects through material and structural deformation, which automatically increases the contact area and distributes pressure. Combined with the TPU's high coefficient of friction of 0.6–0.8, this enables stable gripping with minimal clamping force. It can grasp irregularly shaped objects up to 80 mm in size, as well as small, delicate items such as screws and wrenches, with a recommended load of up to 600 g. No air supply or sensors are required—simply replace the finger pads on the reBot Arm B601 gripper and it is ready to use.

Key Features

01 **The finger adopts a dual-material structure combining a rigid PLA base with flexible TPU fingers. The PLA base locks the rigidity of the finger root, reliably transmitting the gripping force from the gripper module while preventing lateral shifting during gripping; The TPU fingers are responsible for conforming and friction.**

02 **During gripping, the finger surface contacts the object and, under reaction force, deforms locally, automatically conforming to the object's shape. The contact area increases and the pressure decreases—the entire process is determined by the material's constitutive behavior and infill structure, requiring no force sensors, force-control algorithms, or additional wiring. The control logic is completely identical to that of rigid grippers.**

03 **It is highly tolerant of object shape and incoming part pose**

irregularly shaped parts within 80 mm require no dedicated gripping strategy per part type, and randomly stacked parts can be picked directly in conjunction with vision.

04 **It suits small parts such as screws, wrenches, washers, and electronic components. For the flat, irregular contour of a wrench or the threaded ridges of a screw, a rigid gripper makes only two-point contact and tends to slip or flip the part; Once the TPU finger surface conforms, gripping is stable and the part does not flip.**

Product Gallery



Applications

- **Precise and delicate part gripping::** screws, nuts, washers, wrenches, small hardware, and electronic components. The TPU finger surface interlocks with threads and microscopic surface features, providing high friction that prevents flipping.
- **Loading and unloading of irregular industrial parts::** injection-molded parts, die-cast parts, bent pipe fittings, irregular hardware, and irregular packaging boxes. The advantages are clear in scenarios with parts within 80 mm, random incoming poses, and high size variation.
- **Food picking, placing, and sorting:**
- **strawberries, cherry tomatoes, eggs, mushrooms, bread, cakes, and macarons.**
- **Flexible object gripping:**
- **wire harnesses, hoses, cables, textiles, flexible packaging bags, and silicone parts.**
- **Handling of precision and fragile parts:**
- **glass bottles, reagent tubes, petri dishes, light bulbs, polished parts, and optical lenses.**
- **Research and education::** soft robotics, passive compliant mechanisms, and robot grasping teaching experiments; combined with Jetson Orin Nano, it supports topics such as vision-guided grasping, grasp pose learning, and infill-density–stiffness relationship research.

Resource Links

- https://www.seeedstudio.com/reBot-Soft-Gripper-p-6989.html

Seeed Technology Co.,Ltd.
9F, Building G3, International E City,
Zhongshanyuan Road, Nanshan, Shenzhen, China

Tel: +86 0755-80695676
Web: www.seeed.cc
Shop: www.seeedstudio.com