R-Series Gripper
Wire Actuated 2-Finger Gripper
Assembly Instructions
General Warnings and Cautions

Danger (May cause serious injury or death)
• Keep water, flammables, solvents and other liquids clear from unsealed actuator.
• Keep fingers away from moving parts during operation.
• Cut power immediately if actuator emits strange odors or smoke.
• Keep actuator out of reach of children.

Warning (May cause injury or damage to actuator)
• Do not expose the actuator to permanent and strong magnetic fields.
• Do not force screws into the bottom of the actuator. R8 = 8mm Tap Depth
• Use provided hardware with accessories and hand tighten as needed.
• Attempts to disassemble actuator will void the warranty and may cause permanent damage.

*Sealing (R-Series Actuators are IP67 when properly used)*
• Please refer to all online documentation for proper sealing techniques of the actuator.

For more information please visit: docs.hebi.us
Technical Specifications

<table>
<thead>
<tr>
<th>Spool Module</th>
<th>Max Finger Torque</th>
<th>Max Finger Force at 50mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>R8-3</td>
<td>0.4 Nm</td>
<td>8 N</td>
</tr>
<tr>
<td>R8-9**</td>
<td>1.1 Nm</td>
<td>23 N</td>
</tr>
<tr>
<td>R8-16</td>
<td>2.0 Nm</td>
<td>40 N</td>
</tr>
</tbody>
</table>

* Values assume a symmetric two-finger grasp
** Default Module
Technical Specifications

4 X M3 THRU

8mm

5mm

10mm

12mm

10mm

23mm

113mm

82mm

105.35mm

79.5mm

10mm

10mm

4 X M3 THRU
Bill of Materials

Default Configuration

1 x R8-3 Right Angle Connector
1 x R8-9 Straight Connector
1 x PM-2292-01 Spool
1 x PM-2546-01 R-Series Spool Housing
1 x PM-2290-01 Cable Clamp
1 x A-2293-01 Gripper Assembly
1 x PM-2239-01 Cable
1 x A-2143-02 Parallel Linkage Add-on
1 x A-2224-01

*R-Series Actuators sold separately*
*Fasteners included, not shown*
R-Series Gripper Assembly Instructions

1 x PM-2292-01 Spool
1 x PM-2546-01 R-Series Spool Housing

M3 x 12mm
M5 x 10mm
1 x
PM-2519-01
Housing Mid-Tube Mount
2 x
PM-2148-02
Tube Clamp
Align with actuator output hub tick mark (Fingers perpendicular to the tick mark)
Running the Cable Through

- Make sure to use a Standard Road Bike Brake Cable.
- Run the cable to fit your system.
- Run both the cable and the cable housing before cutting them to ensure that the cable is long enough.
- Cut the cable housing first, and then cut the cable.

*Cross Section View of the Cable

Make sure that the Cable Housing is long enough to be fully inserted into the Housing End Cap and the Housing Adapter

About 100mm of Cable should stick out from the Cable Housing

Cable Housing minimum bend radius 25mm
Cable Routing Example (6-Dof Arm)
R-Serie Gripper Assembly Instructions

1 x PP-2239-01
Cable

1 x PP-2240-01
Cable Housing

1 x PM-2222-01
Cable Housing Adapter
Do NOT operate the gripper at this state. The pins at the pivot of the fingers will fall out.
1 x A-2143-02
Parallel Linkage Add-on

M2 x 8mm

M3 x 6mm Low Profile
Use PM-2343-01 when the parallel linkage is not needed.
Initializing the Spool, pt. 1

I. Connect the Spool Module into the network, and turn it on
II. Open HEBI Scope GUI

III. Set the Strategy of the Spool Module to “STRATEGY_4”
   1. Click on your Spool Module
   2. Go to “Gains” tab
   3. Use the Control Strategy drop down menu to select a Suitable Strategy for your Application
   4. Click “Send”

IV. Command the Effort to -5 Nm
   1. Go to “Monitoring” tab
   2. Click the “Target Button” for the Effort
   3. Type “-5” and Click “OK”

⚠️ The Spool will wind the Cable and close the Fingers.
V. While Commanding the Effort, set the current position to “-0.7”
   1. Go to “Dashboard” tab
   2. Toggle “Params” as shown
   3. Type “-0.7” for Position
   4. Click “Apply”

VI. Stop commanding the effort, and command the position to 0.
   1. Go to “Monitoring” tab
   2. Click the “Target Button” for Position
   3. Type “0” and Click “OK”

⚠️ The Spool will unwind the Cable and open the Fingers.
*To close the gripper, turn the spool clockwise.*
*To open the gripper, command the spool to zero position.*
VII. Set Safety Limits for the Spool

1. Go to “Gains” tab
2. Type “-0.9” for Min Position
3. Type “0” for Max Position
4. Toggle “Persist Sends” as shown
5. Click “Send”

*If the Safety Limits are not set, the spool can turn to a position greater than zero, and break the cable.*

*To close the gripper, turn the spool clockwise (negative effort).*

*To open the gripper, turn the spool counterclockwise (positive effort)*