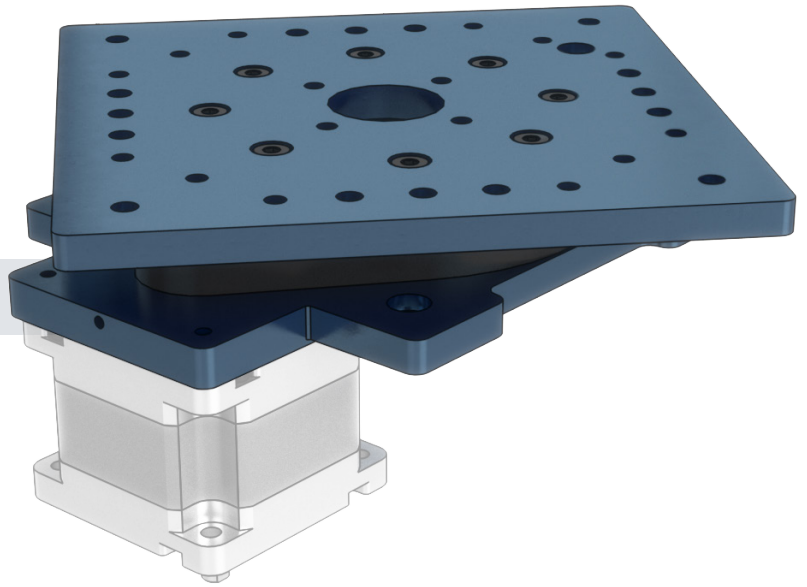# Rotary Actuator

MO-RM-002-0001 v1

OVERVIEW

Rotary actuators are used for medium duty applications that require high torque and high angular presicion.

The assembly of the rotary actuator consists of concealed idle and pinion gears between two Vention compatible plates. The bottom mounting plate allows for any combination of Vention's NEMA 34 stepper motors and/or Vention's 5:1 gearbox to drive the actuator. With a 72:17 (~ 4.24:1) reduction present on the actuator, multiple levels of torque can be achieved. The bottom plate also features mounting holes that interface perfectly with Vention extrusions. The top plate features multiple countersunk and threaded holes for all your mounting purposes. Finally, cable routing is made easy with a 40mm through hole in the center.

APPLICATIONS & TECHNICAL SPECIFICATIONS

Applications

There are several application for rotary actuators, including a 4th Axis Palletizer or a Rotary Inspection Station for Universal Robots.

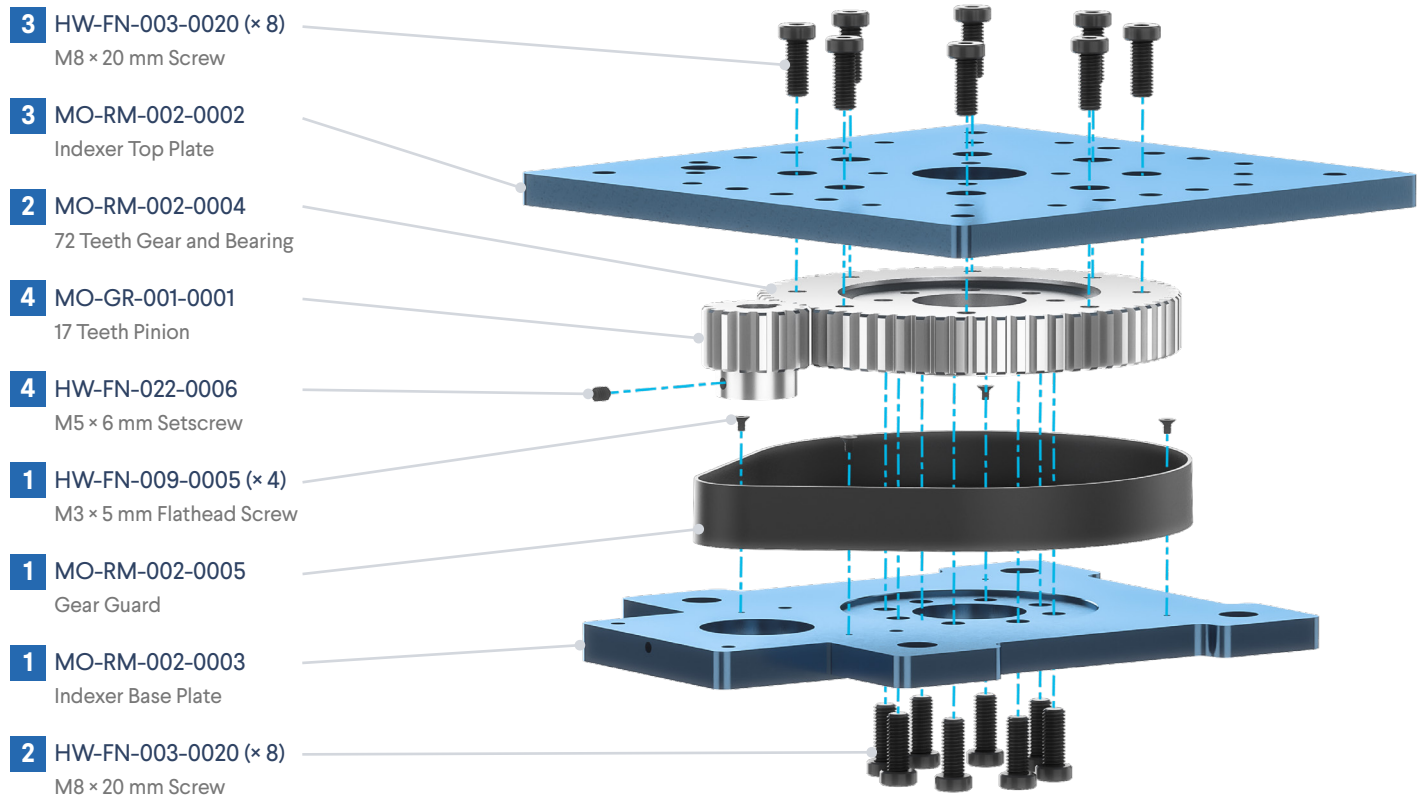## Technical Specifications

Maximum Torque Combinations

	Motor and Actuator [Nm]	Motor, Gearbox and Actuator [Nm]
MO-SM-001-0001	35.1	175.5
MO-SM-002-0001	17.9	89.3
MO-SM-003-0001	9.8	48.9

Specifications

Efficency	85%
Nominal Backlash (arcmin)	40.7
Maximum Rotational Velocity (RPM)	50
Radial Weight Capacity (kg)	50
Axial Weight Capacity (kg)	200
Motor Compatibility	■ NEMA 34, 14mm shaft ■ MO-SM-001-0001, MO-SM-002-0001, MO-SM-003-0001

ASSEMBLY INSTRUCTIONS

3 HW-FN-003-0020 (× 8)
M8 × 20 mm Screw

3 MO-RM-002-0002
Indexer Top Plate

2 MO-RM-002-0004
72 Teeth Gear and Bearing

4 MO-GR-001-0001
17 Teeth Pinion

4 HW-FN-022-0006
M5 × 6 mm Setscrew

1 HW-FN-009-0005 (× 4)
M3 × 5 mm Flathead Screw

1 MO-RM-002-0005
Gear Guard

1 MO-RM-002-0003
Indexer Base Plate

2 HW-FN-003-0020 (× 8)
M8 × 20 mm Screw

1. Secure the gear guard to the base plate using 4 M3 × 5mm flathead screws.

2. Secure the large gear-bearing combination to the base plate using the locating feature and 8 M8 × 20mm screws.

3. Mount the top plate to the large gear-bearing combination using the locating feature and 8 M8 × 20mm screws

4. Mount the smaller pinion gear to any of Vention's NEMA 34 stepper motors and secure the pinion using a M5 × 6mm setscrew. Mount the NEMA 34 motor to the underside of the base plate using the locating feature, ensuring the pinion properly meshes with the larger gear.

VENTION™