Roll-2-Roll Technologies

PRODUCT BROCHURE

# RLA Series

Maximum Thrust for the Heaviest Web Handling Applications.

## Key Features

- **Reverse parallel belt-and-pulley design** – belt, pulley, and rotary motor driving a ball or roller screw delivers the highest thrust in the Roll-2-Roll actuator lineup: 500–2,000 lbf (nominal)
- **Load capacity by bearing type** – the RLA-200 moves about 20,000 lb on rolling bearings at ? 0.1; see the load table for each model
- **Stroke lengths from 4 to 12 inches** – available in 4, 6, 8, and 12 in configurations to match specific guide frame geometry and web width requirements
- **Front and rear mounting options** – spherical bearing and clevis mounting at both ends accommodates misalignment under heavy loads
- **Powered by MC QD 1180 or SCU6x MxD** – 5.5–7 A motor current at 24/48 VDC (48 VDC preferred for maximum performance)
- **Off-shelf replacement** – standard pivot, rod eye, and clevis mounting options fit existing terminal guide frame designs

## Benefits

- **Stop settling for underpowered actuators** – the RLA Series delivers 500–2,000 lbf of thrust (nominal), enough to position the heaviest webs with precision
- **Handle every heavy application with one actuator family** – from 4-inch strokes on compact rewind stands to 12-inch strokes on wide-web shifting systems, no mixing actuator brands
- **Eliminate drift under maximum load** – ball and roller screw drives maintain repeatable positioning even at full capacity; no creep, no gradual misalignment
- **Built for the toughest environments** – IP54 protection, heavy-duty bearings, and robust construction perform in paper mills, steel processing, and heavy converting operations

## Specifications

| Specification | RLA-050 | RLA-100 | RLA-150 | RLA-200 |
|---|---|---|---|---|
| **Thrust (Nominal)** | 500 lbf | 1,000 lbf | 1,500 lbf | 2,000 lbf |
| **Rated Maximum Thrust** | 4,500 N (1,012 lbf) | 8,600 N (1,933 lbf) | 8,800 N (1,978 lbf) | 10,200 N (2,293 lbf) |
| **Stroke Length Options** | 4 in / 6 in / 8 in / 12 in (100–300 mm) | | | |
| **Maximum Speed** | 15 mm/sec (0.59 in/sec) | | | |
| **Drive Voltage** | 24/48 VDC (48 VDC preferred) | | | |
| **Motor Current** | 5.5–7 A | | | |
| **Power Source** | MC QD 1180 or SCU6x MxD | | | |
| **Motor Type** | Brushless Bi-polar Stepper, 1.8° resolution | | | |
| **Actuator Type** | Belt + Ball/Roller Screw | | | |
| **Mounting Options** | Pivot / Rod Eye / Clevis | | | |
| **Terminal Web Guide** | Yes | | | |
| **Intermediate Web Guide** | Yes | | | |
| **Off-Shelf Replacement** | Yes | | | |

### Load capacity by bearing type

| Model | Nominal thrust | ? 0.06 rolling bearings (standard) | ? 0.1 rolling bearings, with margin | ? 0.25 sliding bearings |
|---|---|---|---|---|
| **RLA-050** | 500 lbf | 8,333 lb (3,779 kg) | 5,000 lb (2,267 kg) | 2,000 lb (907 kg) |
| **RLA-100** | 1,000 lbf | 16,666 lb (7,559 kg) | 10,000 lb (4,535 kg) | 4,000 lb (1,814 kg) |
| **RLA-150** | 1,500 lbf | 25,000 lb (11,339 kg) | 15,000 lb (6,803 kg) | 6,000 lb (2,721 kg) |
| **RLA-200** | 2,000 lbf | 33,333 lb (15,119 kg) | 20,000 lb (9,071 kg) | 8,000 lb (3,628 kg) |

*Load = nominal thrust ÷ friction coefficient ?. Horizontal travel at constant speed, no web tension; acceleration and breakaway not included. ? 0.06 and 0.1 are conservative design coefficients for rolling bearings (0.1 adds margin*

*for performance and service life); 0.25 is for sliding bearings. Size a real application with the actuator sizing calculator.*

## Applications

- Heavy rewind stands — positioning for rewind/unwind systems handling the heaviest rolls in the lineup (see the load table)
- Large roll shifting — lateral movement of heavy roll stands and shifting frames
- Unwind/rewind systems — terminal web guiding at the entry and exit of high-capacity converting lines
- High-load terminal guides for paper mills, steel processing, and heavy converting operations

## Supporting Documentation

### Manuals (2)

- Servo Center Servo Installation
- Unwind/Rewind Installation Checklist

### 2D Drawings (9)

- BLA-0xx-0600-TG 2D Drawing
- LHS-005-0125-LP: 2D Drawing (dxf)
- LHS-005-0400-LP: 2D Drawing (dxf)
- LHS-005-0xxx-LP: 2D Drawing (pdf)
- LHS-015-0150-WG: 2D Drawing (pdf)
- LHS-020-0xxx-RF: 2D Drawing (dxf)
- LHS-020-0xxx-RF: 2D Drawing (pdf)
- LHS-030-xxxx-RF: 2D Drawing (pdf)
- RLA-050-0600-TG: 2D Drawing (pdf)

### 3D Models (1)

- RLA-050-0600-TG

### Wiring Diagrams (5)

- Power Supply Regen Clamp Wiring
- SCU5 MD Wiring with MC QD 1141/1140/1240 + Web Guide Actuator
- SCU5 MD Wiring with MC QD 1180/1181/1211/1230/1231/1260 + Regen Clamp + Unwind/Rewind Actuator
- SCU5 MD Wiring with MC QD 1180/1181/1211/1230/1231/1260 + Web Guide Actuator
- SCU6x MxD Wiring Diagram with Unwind/Rewind (Small Load)

Scan for datasheets, 3D models & full documentation
https://r2r.tech/products/actuators/rla

### Ready to Get Started?

Contact our experts to discuss how this product fits your application.
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