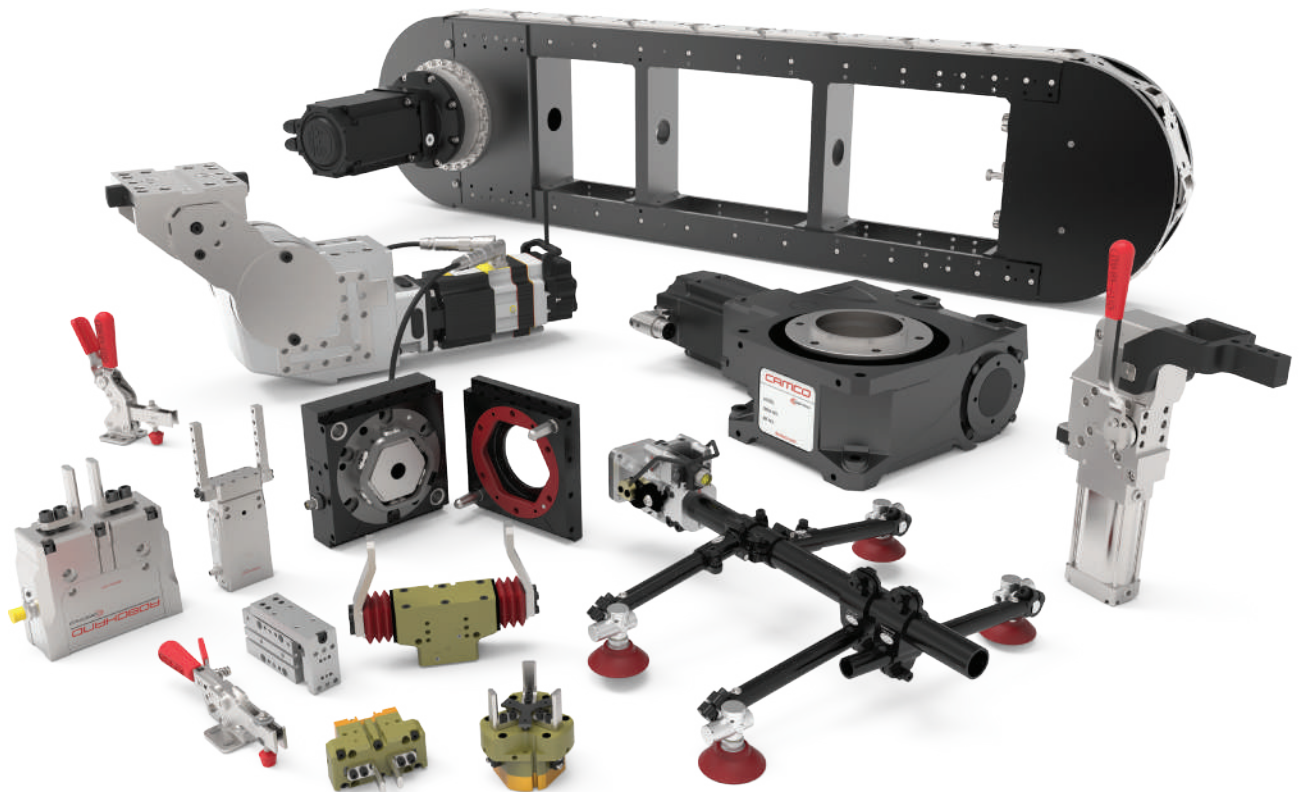


12/07/2020



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DESTACO Custom Catalog

12/07/2020

This catalog is a custom document and the products included is based on your unique selection from portions of complete catalogs that already exist. Please refer to our full catalogs for more information on products not included in this customized document.

Table of Contents

Rotary Actuators

GR-ROT-1

Table of Contents (continued)

ROTARY ACTUATORS

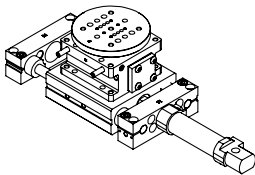
Rotary Actuators | Product Overview | DIRECTCONNECT™ Mounting Examples

| Model | Stroke Range | Payload Range | Operating Environment | Special Features | Page GR-ROT# |
|---------------|--------------|-----------------|---|---|--------------|
| DRF | 0°-180° | 0.45-6.8 [1-15] | IP54. Clean Room Class 100, ISO 5 | Compact rotary. Zero backlash ideal for precision end stop positioning. Multiple turntable options for tool mounting. DIRECTCONNECT | 3 |
| DRG | 0°-180° | 0.2-3.6 [0.5-8] | IP54. Clean Room Class 100, ISO 5 | Compact Rotary Shaft Payload Mounting. Multiple mounting options. DIRECTCONNECT | 9 |
| RR-18 & 28 | 0°-180° | 0.45-1.3 [1-3] | IP66 with Purge and Seal option. Clean Room Class 100,000, ISO 8 | Compact Size. Flange Payload Mount. Full Torque at End of Stroke. | 15 |
| RR-36 thru 76 | 0°-180° | 3.6-91 [8-200] | IP55. Clean Room Class 100,000, ISO 9 | Large Payload. Flange Payload Mount. Zero Backlash. Optional 4 port rotary manifold. | 19 |

Modular DIRECTCONNECT™ Mounting Style Examples:

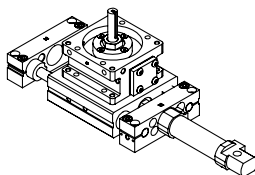
Products can be mounted in multiple positions. Refer to datasheet for complete info.

Slide to Rotary



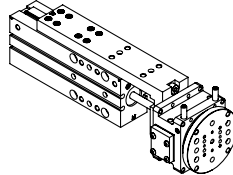
DLB Base Slide to
DRF Rotary Actuator

Slide to Rotary



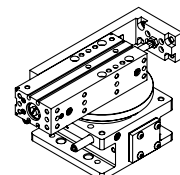
DLB Base Slide to
DRG Rotary Actuator

Slide to Rotary



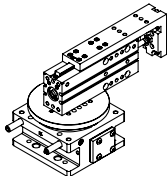
DLM Thruster Slide to
DRF Rotary Actuator

Rotary to Slide



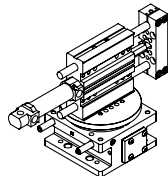
DRF Rotary Actuator to
DLM Thruster Slide

Rotary to Slide



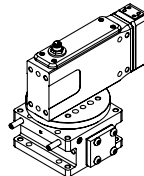
DRF Rotary Actuator to
DLM Thruster Slide

Rotary to Slide



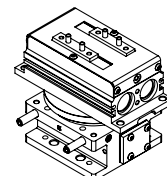
DRF Rotary Actuator to
DLT Thruster Slide

Rotary to Gripper



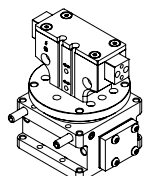
DRF Rotary Actuator to
DPE Electric Gripper

Rotary to Gripper



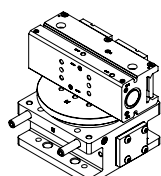
DRF Rotary Actuator to
DPL Parallel Gripper

Rotary to Gripper



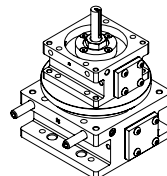
DRF Rotary Actuator to
DPDL Parallel Gripper

Rotary to Gripper



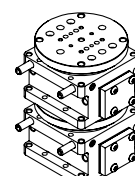
DRF Rotary Actuator to
DPP Parallel Gripper

Rotary to Rotary



DRF Rotary Actuator to
DRG Rotary Actuator

Rotary to Rotary



DRF Rotary Actuator to
DRF Rotary Actuator

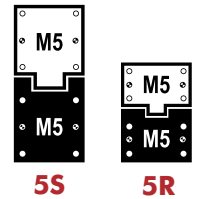
ROTARY ACTUATORS

Rotary Actuators | DIRECTCONNECT™ Mounting Compatibility Chart

DESTACO's DIRECTCONNECT™ technology, allows all components of the system—grippers, rotaries and slides—to be mounted together directly. Look for matching icons on product datasheets for mounting compatibility.

Note: The numbers in the cell represent the metric screw size and basic mounting pattern.

S=Square, R=Rectangle. ie; 5S = M5 Screw with square mounting pattern.



| Catalog Models | | Rotary Actuators | | |
|------------------|----------------|------------------|---------|---------|
| | | DRF-075,094 | DRF-106 | DRF-131 |
| Base Slides | DLB-06,08 | | | |
| | DLB-10,12,16 | 5R | 5R | 5R |
| | DLB-20,25 | | 10R | 10R |
| Thruster Slides | DLT-06,08 | 3R,3S | 3R,3S | |
| | DLT-10,12,16 | 5R,5S | 5R,5S | 5R,5S |
| | DLT-20,25 | | | 10R,10S |
| | DLM-07 | 3R,3S | 3R,3S | |
| | DLM-9,12 | 5R,5S | 5R,5S | 5R,5S |
| Rotary Actuators | DRF-075,094 | 5R | 5R | 5R |
| | DRF-106 | 5R | 5R | 10R |
| | DRF-131 | 5R | 5R | 10R |
| | DRG-074,094 | 5R | 5R | 5R |
| | DRG-106 | 5R | 5R | 10R |
| | DRG-131 | 5R | 5R | 10R |
| Grippers | DGC | 5R | 5R | 5R |
| | DPG | 5R | 5R | 5R |
| | DCT-12, 16, 20 | 3R | 3R | |
| | DCT-25 | 5R | 5R | 5R |
| | DPDL-047,056 | 3R | 3R | |
| | DPDL-088,125 | 5R | 5R | 5R |
| | DPDL-175,250 | | | 10R |
| | DPDS-047,056 | 3R | 3R | |
| | DPDS-088,125 | 5R | 5R | 5R |
| | DPDS-175,250 | | | 10R |
| | DPL-25xx | 5R | 5R | 5R |
| | DPL-32xx,40xx | | | 10R |
| | DPP-10,14 | 3R | 3R | |
| | DPP-20 | 5R | 5R | 5R |
| | DPP-28 | 5R | 5R | 10R |
| | DPW-250 | 3R | 3R | |
| | DPW-375,500 | 5R | 5R | 5R |
| | G100-08,011 | 3R | 3R | |
| | G100-18,25 | 5R | 5R | 5R |
| | DPE-200 | 5R | 5R | 5R |
| | DPE-400 | | | 10R |

DRF SERIES

Rotary Actuators | Features and Benefits | How To Order

Features:

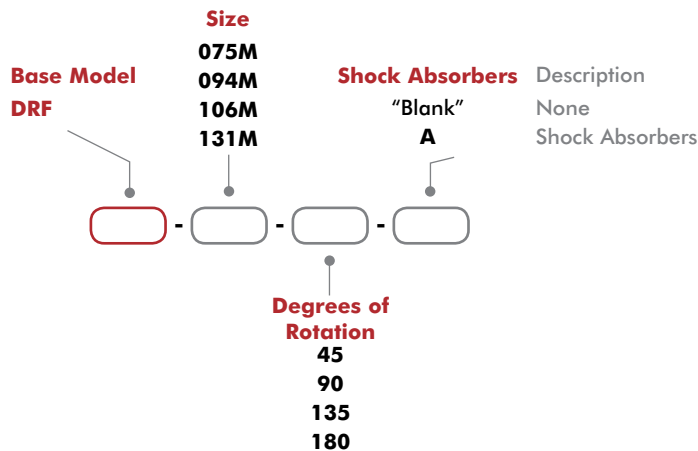
- Use for precision end stop positioning applications
- Zero Backlash Applications
- Full Torque at end of stroke
- Multiple turntable options for tool mounting
- Rotational adjustments of 45°, 90°, 135°, 180°
- Extremely rugged design for long term reliability
- Optional shock absorbers for end stop deceleration

Applications:

- Product loading
- Part orientation
- Heavy payloads compact space



How To Order



Accessories

| Turntable Accessories | | Model Numbers | Part Number | Qty/Unit |
|--------------------------|--|---------------|-------------|----------|
| Blank Turntable | | See Datasheet | | 1 |
| DIRECTCONNECT™ Turntable | | See Datasheet | | 1 |

| Sensor Accessories | | Model Numbers | Part Number | Qty/Unit |
|--|--|---------------|-------------|----------|
| NPN Magneto Resistive Sensor with Quick Disconnect* | | All Models | OHSN-017 | 1-2 |
| PNP Magneto Resistive Sensor with Quick Disconnect* | | All Models | OHSP-017 | 1-2 |
| NPN Magneto Resistive Sensor 90° Barrel with Quick Disconnect* | | All Models | OHSN-011 | 1-2 |
| PNP Magneto Resistive Sensor 90° Barrel with Quick Disconnect* | | All Models | OHSP-011 | 1-2 |
| Quick Disconnect 2 Meter Cable Length* | | All Models | CABL-010 | 1-2 |
| Quick Disconnect 5 Meter Cable Length* | | All Models | CABL-013 | 1-2 |

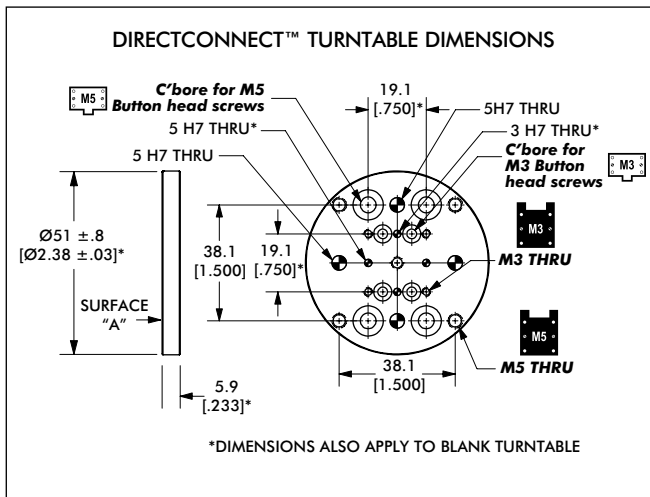
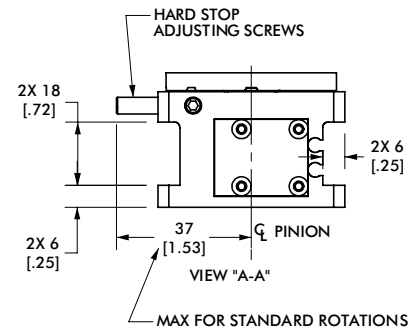
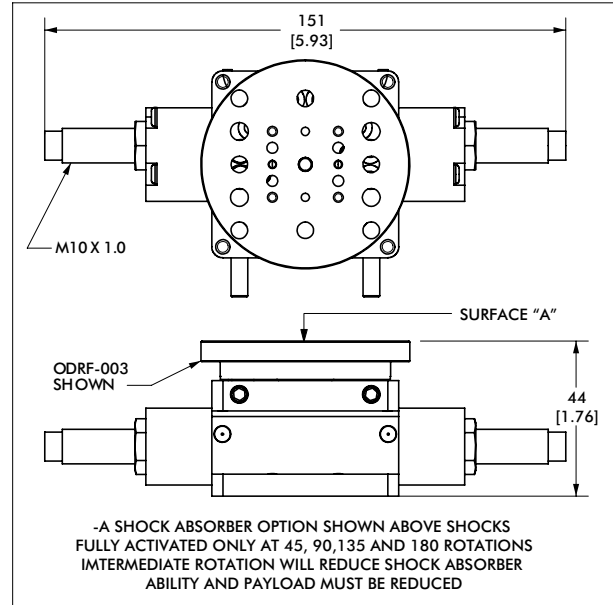
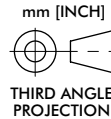
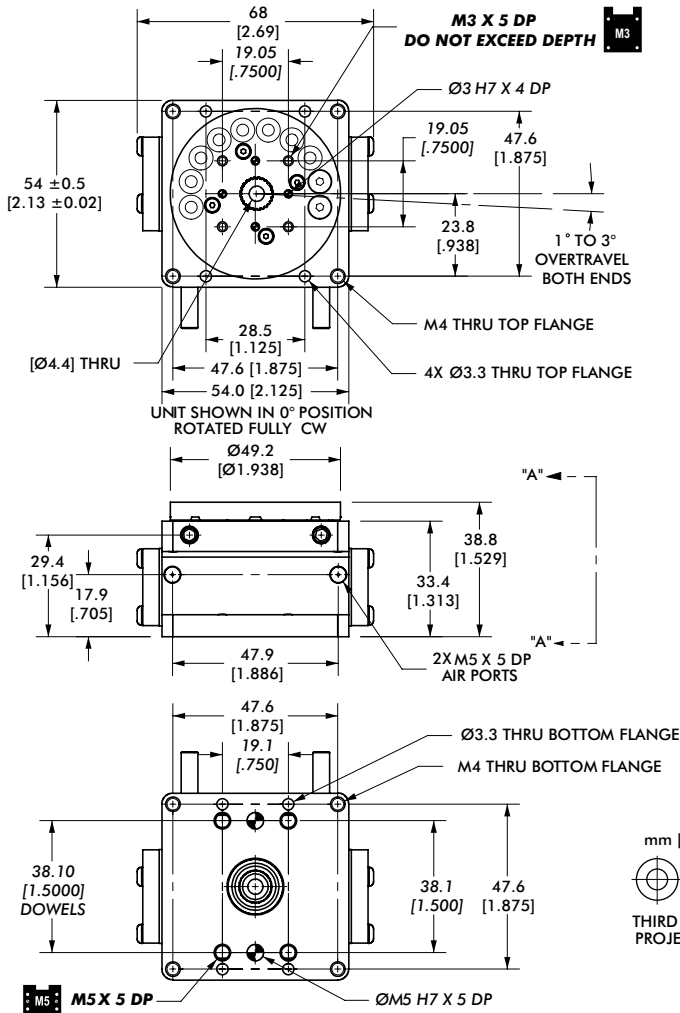
| Pneumatic Accessories | | Model Numbers | Part Number | Qty/Unit |
|---|--|------------------|-------------|----------|
| Fitting Push-in Straight G1/8, 6mm O.D. Tube | | 131M | PLFT-038 | 1-2 |
| Fitting Push-in Straight G1/8, 8mm O.D. Tube | | 131M | PLFT-045 | 1-2 |
| Flow Control Push-in 90° Elbow M5-6mm O.D. Tube** | | 075M, 094M, 106M | VLVF-008 | 1-2 |
| Flow Control Push-in 90° Elbow G1/8-6mm O.D. Tube** | | 131M | VLVF-005 | 1-2 |

* Sensor and cable sold separately. **Flow Controls recommended for most applications

| Specifications | Units | 075M | 094M |
|---|---|-----------------------------------|-----------------------------------|
| Maximum Payload with Shocks (-A option) | kg [lb] | 0.45 [1.0] | 1.4 [3.0] |
| Maximum Payload without Shocks | kg [lb] | 0.23 [0.5] | 0.68 [1.5] |
| Maximum Payload Inertia with Shocks (-A option) | Nm sec ² [in-lbs sec ²] | 1.8 X 10 ⁴ [0.0016] | 1.3 X 10 ³ [0.0111] |
| Maximum Payload Inertia without Shocks | Nm sec ² [in-lbs sec ²] | 9.0 X 10 ⁵ [0.0008] | 6.3 X 10 ⁴ [0.0056] |
| Maximum Torque @ 100psi/7 bar | Nm [lbs-in] | 0.9 [8.3] | 1.9 [17.3] |
| Maximum Rotation | | 180° | |
| Pitch Diameter of Pinion | mm [in] | 9.5 [0.375] | 12.7 [0.500] |
| Weight with Shocks (-A option) | kg [lb] | 0.34 [0.72] | 0.64 [1.4] |
| Weight without Shocks | kg [lb] | 0.24 [0.54] | 0.50 [1.1] |
| Pressure Range | bar [psi] | 3-7 [40-100] | |
| Ingress Protection Class (IP) | | IP54 | |
| Displacement (180°) | cm ³ [in ³] | 5.1 [0.31] | 9.0 [0.55] |
| Actuation Time (180° @ 100psi/7 bar) | sec | 0.38 | |
| Actuation Time (90° @ 100psi/7 bar) | sec | 0.29 | |
| Over Travel (each end) | | 1°-3° | |
| Temperature Range with Shocks (-A option) | °C [°F] | -0°~66° [-32°~150°] | |
| Temperature Range without Shocks | °C [°F] | -35°~82° [-30°~180°] | |
| End Stop Adjustability (each end) | | 23° | |
| Repeatability | | ±0.02° | |
| Valve required to actuate | | 4-way, 2-position | |

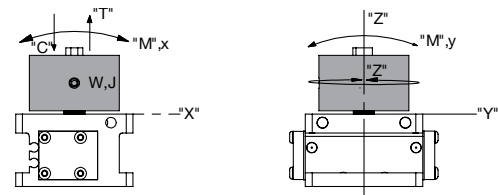
| Specifications | Units | 106M | 131M |
|---|---|-----------------------------------|-----------------------------------|
| Maximum Payload with Shocks (-A option) | kg [lb] | 3.6 [8.0] | 6.8 [15] |
| Maximum Payload without Shocks | kg [lb] | 1.8 [4.0] | 3.4 [7.5] |
| Maximum Payload Inertia with Shocks (-A option) | Nm sec ² [in-lbs sec ²] | 4.7 X 10 ³ [0.0414] | 1.1 X 10 ² [0.0970] |
| Maximum Payload Inertia without Shocks | Nm sec ² [in-lbs sec ²] | 2.3 X 10 ³ [0.0207] | 5.5 X 10 ³ [0.0485] |
| Maximum Torque @ 100psi/7 bar | Nm [lbs-in] | 3.8 [33.2] | 7.6 Nm [67.6] |
| Maximum Rotation | | 180° | |
| Pitch Diameter of Pinion | mm [in] | 19.1 [0.750] | 25.4 [1.000] |
| Weight with Shocks (-A option) | kg [lb] | 1.4 [3.1] | 3.1 [6.8] |
| Weight without Shocks | kg [lb] | 1.1 [2.5] | 2.9 [6.3] |
| Pressure Range | bar [psi] | 3-7 [40-100] | |
| Ingress Protection Class (IP) | | IP54 | |
| Displacement (180°) | cm ³ [in ³] | 19.0 [1.16] | 34.6 [2.11] |
| Actuation Time (180° @ 100psi/7 bar) | sec | 0.60 | 0.87 |
| Actuation Time (90° @ 100psi/7 bar) | sec | 0.45 | 0.68 |
| Over Travel (each end) | | 1°-3° | |
| Temperature Range with Shocks (-A option) | °C [°F] | -0°~66° [-32°~150°] | |
| Temperature Range without Shocks | °C [°F] | -35°~82° [-30°~180°] | |
| End Stop Adjustability (each end) | | 23° | |
| Repeatability | | ±0.02° | |
| Valve required to actuate | | 4-way, 2-position | |

Rotary Actuators | Dimensions and Technical Specifications



| Rotary Accessories | Order # |
|--------------------------|----------|
| Blank Turntable | ODRF-002 |
| DIRECTCONNECT™ Turntable | ODRF-004 |

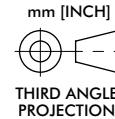
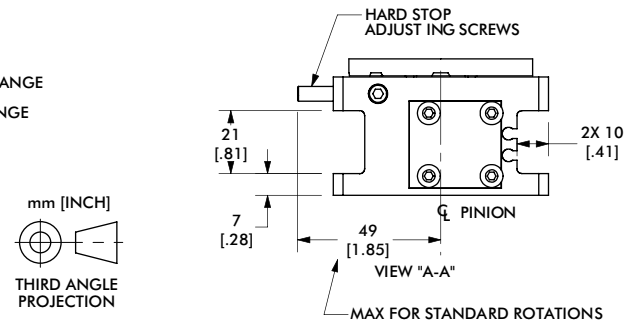
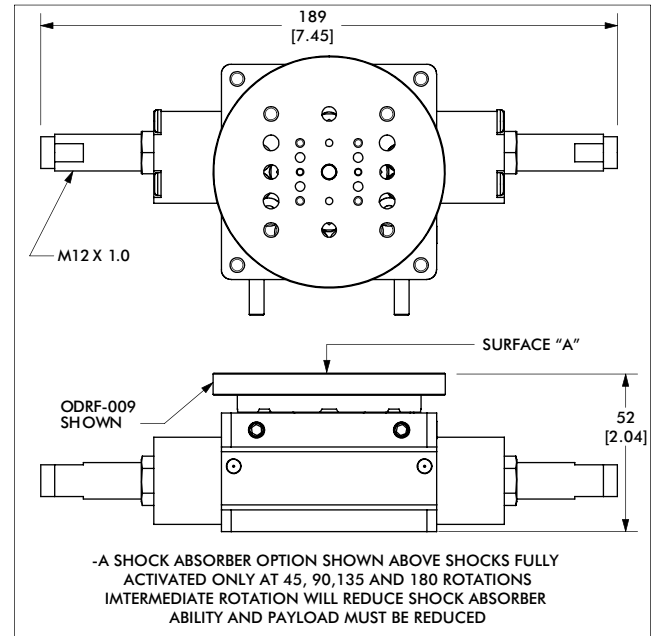
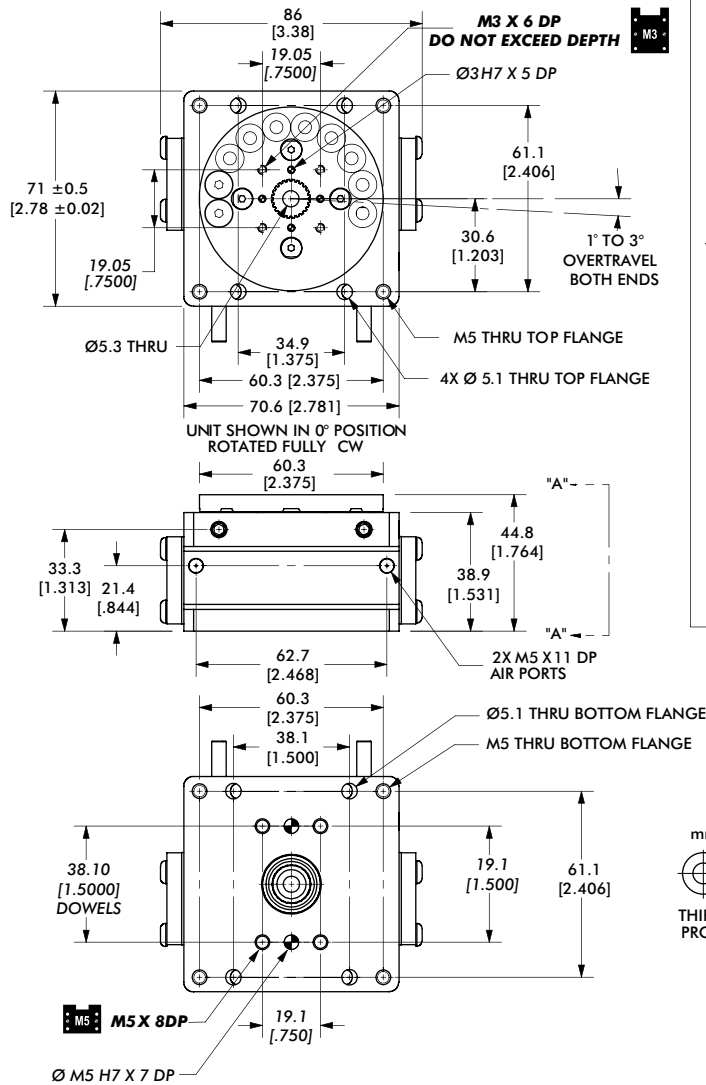
| Seal Repair Kits | Order # |
|------------------------------|----------|
| Buna-N Seal Repair Kit | SLKT-210 |
| Buna-N Shock Seal Repair Kit | SLKT-214 |



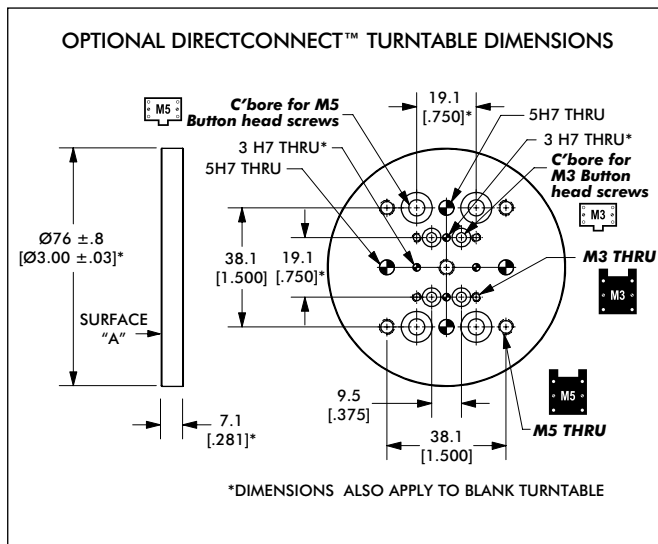
| DRF-075M Loading Information | Static |
|-------------------------------------|---|
| Maximum Tensile T | 44 N [10 lbs] |
| Maximum Compressive C | 89 N [20 lbs] |
| Maximum Moment M_x | 2.3 Nm [20 in-lbs] |
| Maximum Moment M_y | 2.3 Nm [20 in-lbs] |
| Maximum Payload W | 0.45 kg [1.0 lbs] |
| Maximum Inertia J | 1.8 X 10 ⁻⁴ N-m-sec ² [0.0016 in-lbs-sec ²] |

Note: Higher payloads and inertia possible with external shocks and stops.

Rotary Actuators | Dimensions and Technical Specifications



OPTIONAL DIRECTCONNECT™ TURNTABLE DIMENSIONS

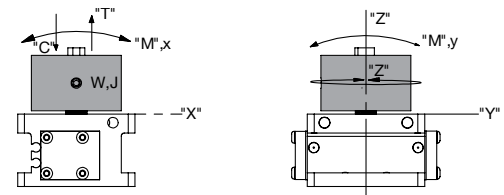


Rotary Accessories

| Rotary Accessories | Order # |
|--------------------------|----------|
| Blank Turntable | ODRF-008 |
| DIRECTCONNECT™ Turntable | ODRF-010 |

Seal Repair Kits

| Seal Repair Kits | Order # |
|---------------------------------------|----------|
| Buna-N Seal Repair Kit | SLKT-216 |
| Buna-N Rotational Adjustment Seal Kit | SLKT-219 |

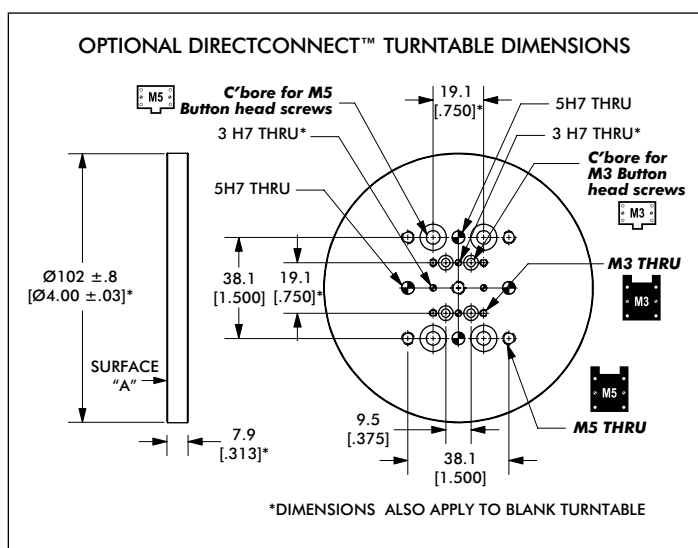
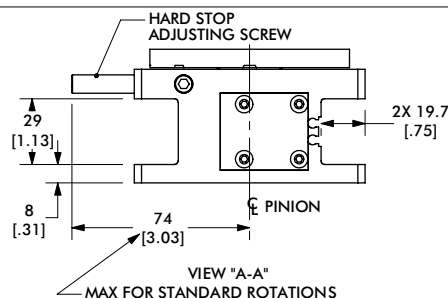
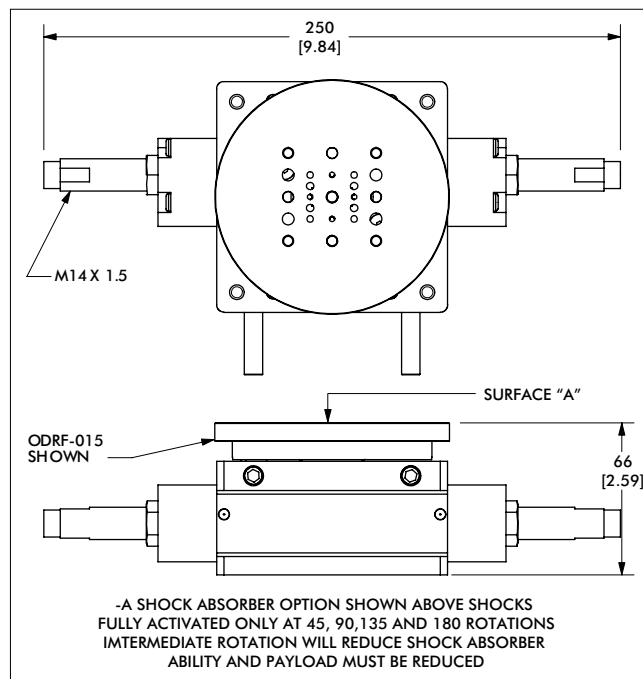
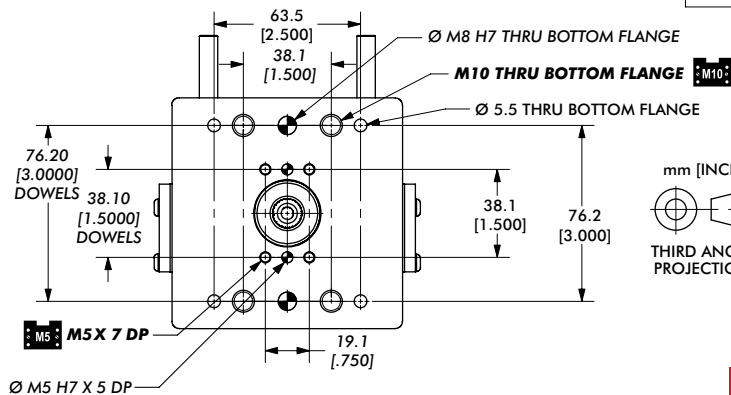
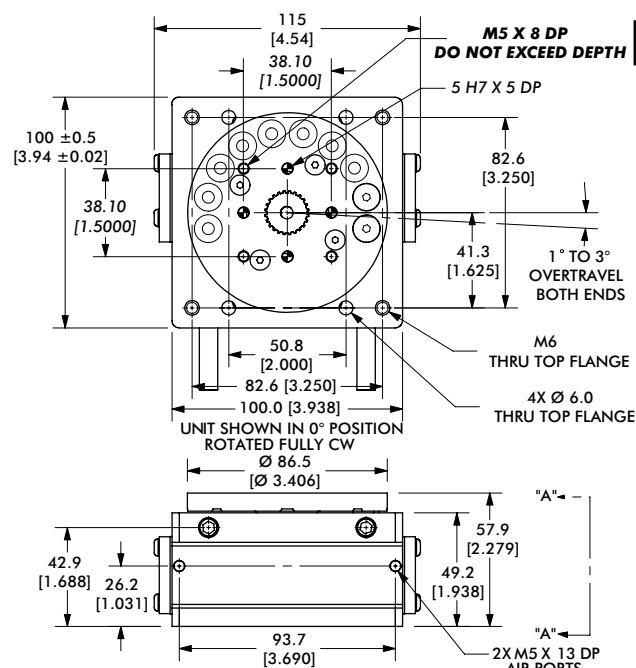


DRF-094M Loading Information

| DRF-094M Loading Information | Static |
|-------------------------------------|---|
| Maximum Tensile T | 67 N [15 lbs] |
| Maximum Compressive C | 133 N [30 lbs] |
| Maximum Moment M_x | 5.6 Nm [50 in-lbs] |
| Maximum Moment M_y | 5.6 Nm [50 in-lbs] |
| Maximum Payload W | 1.4 kg [3 lbs] |
| Maximum Inertia J | 1.3 X 10 ⁻³ N-m-sec ² [0.0111 in-lbs-sec ²] |

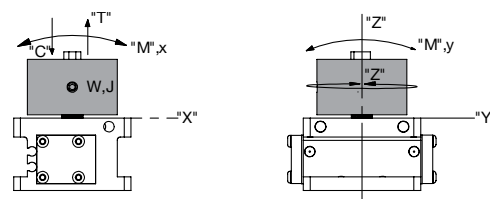
Note: Higher payloads and inertia possible with external shocks and stops.

Rotary Actuators | Dimensions and Technical Specifications



| Rotary Accessories | Order # |
|--------------------------|----------|
| Blank Turntable | ODRF-014 |
| DIRECTCONNECT™ Turntable | ODRF-016 |

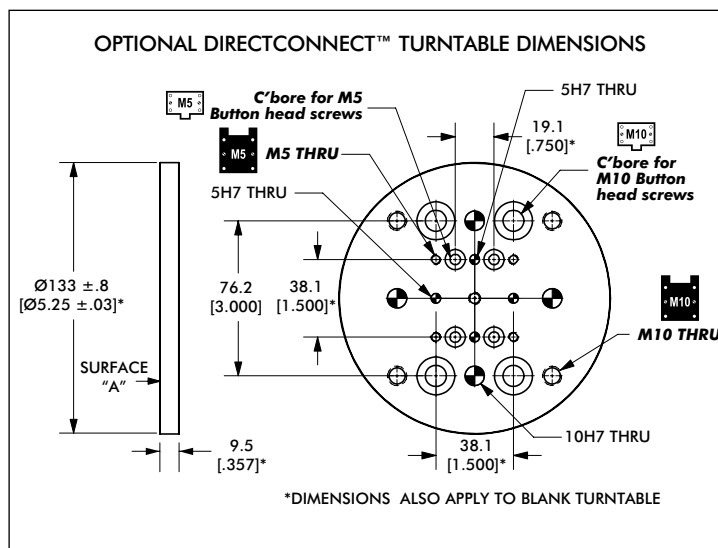
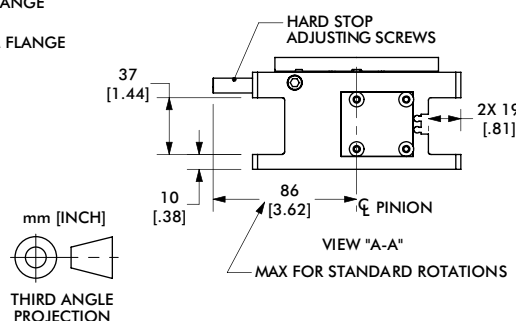
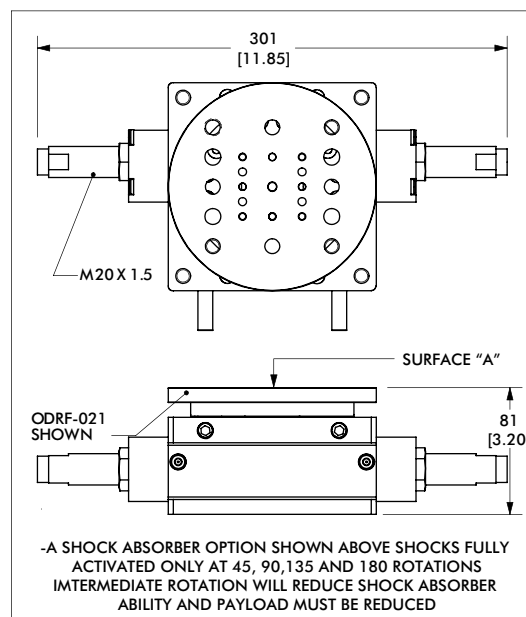
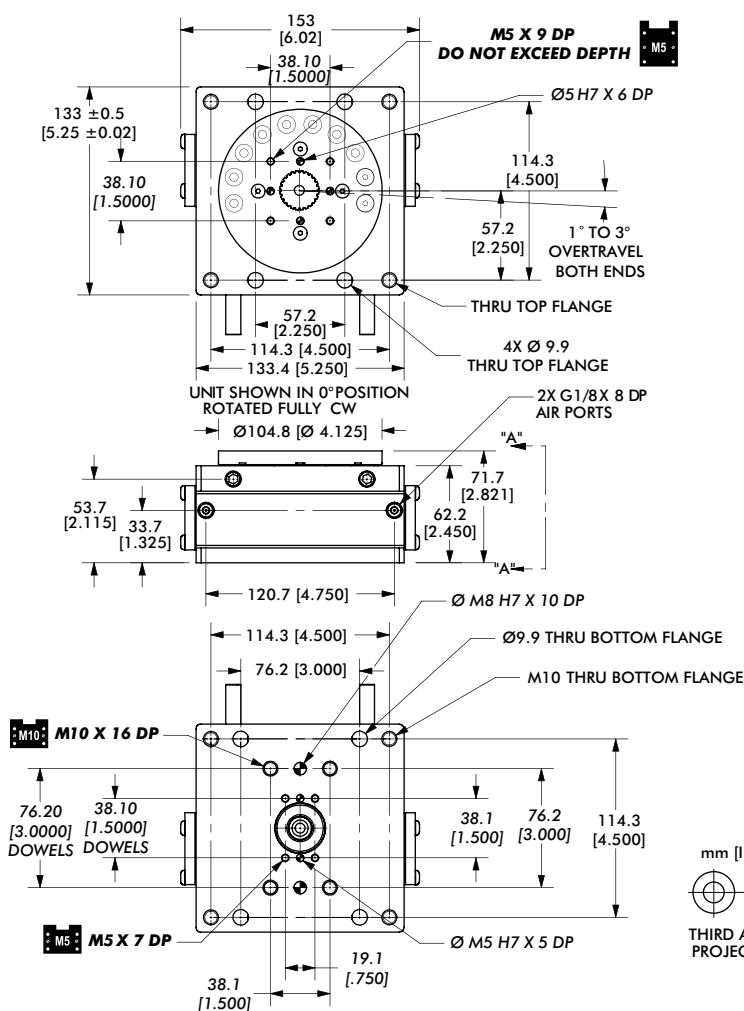
| Seal Repair Kits | Order # |
|------------------------------|----------|
| Buna-N Seal Repair Kit | SLKT-222 |
| Buna-N Shock Seal Repair Kit | SLKT-225 |



| DRF-106M Loading Information | Static |
|-------------------------------------|--|
| Maximum Tensile T | 111 N [25 lbs] |
| Maximum Compressive C | 89 N [50 lbs] |
| Maximum Moment M_x | 8.5 Nm [75 in-lbs] |
| Maximum Moment M_y | 8.5 Nm [75 in-lbs] |
| Maximum Payload W | 3.6 kg [8 lbs] |
| Maximum Inertia J | 4.7 X 10 ⁻³ N-m-sec ² [0.0414 in-lbs-sec ²] |

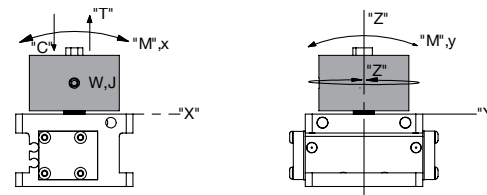
Note: Higher payloads and inertia possible with external shocks and stops.

Rotary Actuators | Dimensions and Technical Specifications



| Rotary Accessories | Order # |
|--------------------------|----------|
| Blank Turntable | ODRF-020 |
| DIRECTCONNECT™ Turntable | ODRF-022 |

| Seal Repair Kits | Order # |
|---------------------------------------|----------|
| Buna-N Seal Repair Kit | SLKT-228 |
| Buna-N Rotational Adjustment Seal Kit | SLKT-232 |



| DRF-131M Loading Information | Static |
|-------------------------------------|--|
| Maximum Tensile T | 222 N [50 lbs] |
| Maximum Compressive C | 445 N [100 lbs] |
| Maximum Moment M_x | 11.3 Nm [100 in-lbs] |
| Maximum Moment M_y | 11.3 Nm [100 in-lbs] |
| Maximum Payload W | 3.4 kg [7.5 lbs] |
| Maximum Inertia J | 5.5 X 10 ⁻³ N-m-sec ² [0.0485 in-lbs-sec ²] |

Note: Higher payloads and inertia possible with external shocks and stops.

DRG SERIES

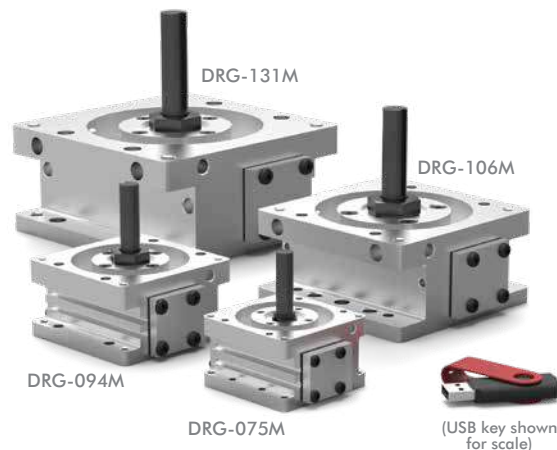
Rotary Actuators | Features and Benefits | How To Order

Features:

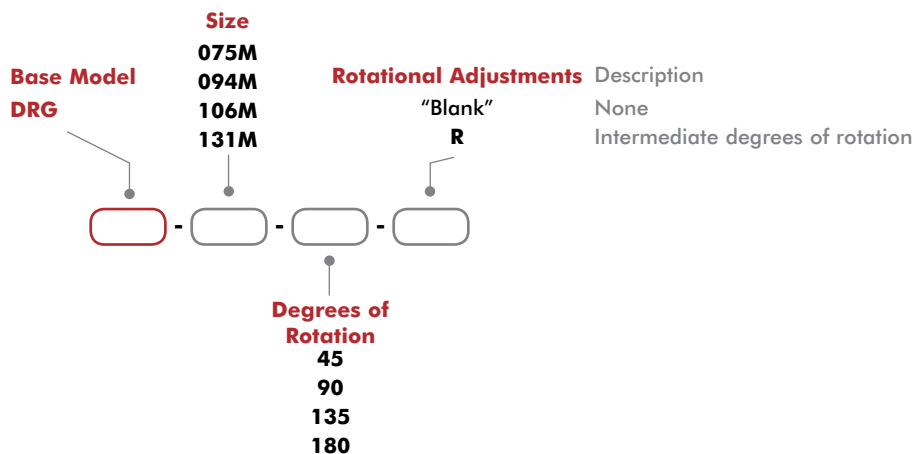
- Shaft output design for low precision end stop positioning applications
- Full Torque at end of stroke
- Metric Keyway on shaft for coupling payload
- Multiple mounting configurations
- **-R** option allows for rotational adjustment beyond 45°, 90°, 135°, 180°
- Extremely rugged design for long term reliability

Applications:

- Torque generator
- Diverter gates
- Ejection stations



How To Order



Accessories

| Sensor Accessories | Model Numbers | Part Number | Qty/Unit |
|--|---------------|-------------|----------|
| NPN Magneto Resistive Sensor with Quick Disconnect* | All Models | OHSN-017 | 1-2 |
| PNP Magneto Resistive Sensor with Quick Disconnect* | All Models | OHSP-017 | 1-2 |
| NPN Magneto Resistive Sensor 90° Barrel with Quick Disconnect* | All Models | OHSN-011 | 1-2 |
| PNP Magneto Resistive Sensor 90° Barrel with Quick Disconnect* | All Models | OHSP-011 | 1-2 |
| Quick Disconnect 2 Meter Cable Length* | All Models | CABL-010 | 1-2 |
| Quick Disconnect 5 Meter Cable Length* | All Models | CABL-013 | 1-2 |

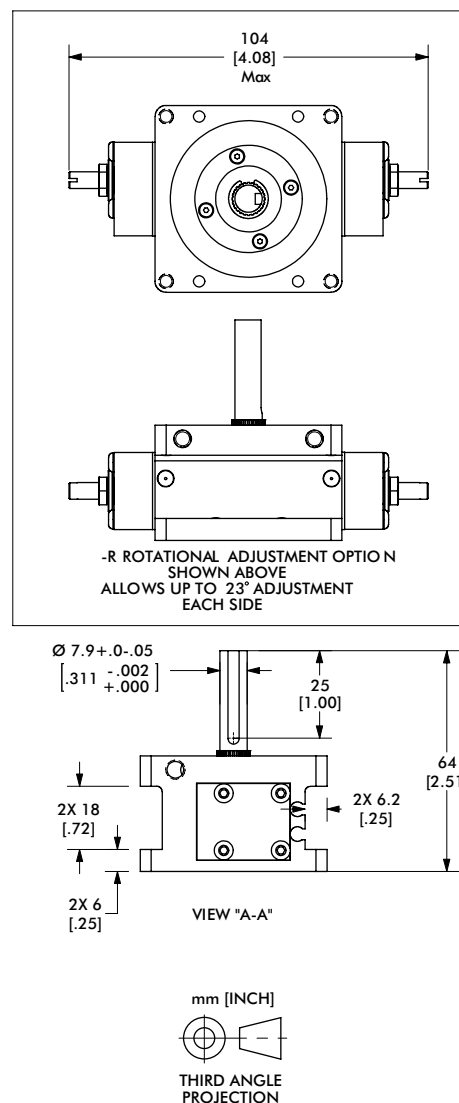
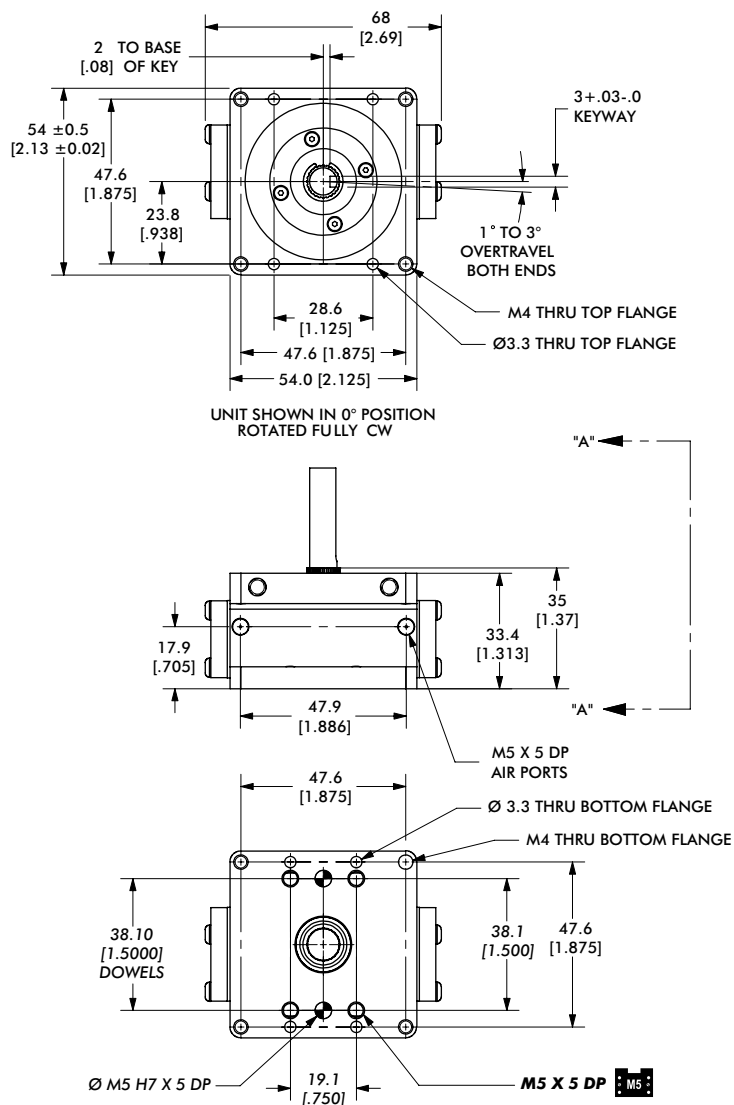
| Pneumatic Accessories | Model Numbers | Part Number | Qty/Unit |
|---|------------------|-------------|----------|
| Fitting Push-in 90° Elbow G1/8, 6mm O.D. Tube | 131M | PLFT-042 | 1-2 |
| Fitting Push-in 90° Elbow G1/8, 8mm O.D. Tube | 131M | PLFT-048 | 1-2 |
| Fitting Push-in Straight G1/8, 6mm O.D. Tube | 131M | PLFT-038 | 1-2 |
| Fitting Push-in Straight G1/8, 8mm O.D. Tube | 131M | PLFT-045 | 1-2 |
| Flow Control Push-in 90° Elbow M5-6mm O.D. Tube** | 075M, 094M, 106M | VLVF-008 | 1-2 |
| Flow Control Push-in 90° Elbow G1/8-6mm O.D. Tube** | 131M | VLVF-005 | 1-2 |

* Sensor and cable sold separately. **Flow Controls recommended for most applications

| Specifications | Units | 075M | 094M |
|---|---|-----------------------------------|-----------------------------------|
| Maximum Payload | kg [lb] | 0.23 [0.5] | 0.68 [1.5] |
| Maximum Payload Inertia | Nm sec ² [in-lbs sec ²] | 9.0 X 10 ⁵ [0.0008] | 6.3 X 10 ⁴ [0.0056] |
| Maximum Torque @ 100psi/7 bar | Nm [lbs-in] | 0.9 [0.83] | 1.9 Nm [17.3] |
| Maximum Rotation | | 180° | |
| Pitch Diameter of Pinion | mm [in] | 9.5 [0.375] | 12.7 [0.500] |
| Weight with rotational adjuster (-R option) | mm [in] | 0.33 [0.72] | 0.54 [1.2] |
| Weight without rotational adjuster | mm [in] | 0.24 [0.52] | 0.45 [1.0] |
| Pressure Range | bar [psi] | 3-7 [40-100] | |
| Ingress Protection Class (IP) | | IP54 | |
| Displacement (180°) | | 5.1 [0.31] | 9.0 [0.55] |
| Actuation Time (180° @ 100psi/7 bar) | sec | 0.38 | |
| Actuation Time (90° @ 100psi/7 bar) | sec | 0.29 | |
| Temperature Range | °C [°F] | -35°~82° [-30°~180°] | |
| End Stop Adjustability (-R option) | °C [°F] | 23° | |
| Over Travel (each end) | | 1°-3° | |
| Valve required to actuate | | 4-way, 2-position | |

| Specifications | Units | 106M | 131M |
|---|---|-----------------------------------|-----------------------------------|
| Maximum Payload | kg [lb] | 1.8 [4] | 3.5 [7.5] |
| Maximum Payload Inertia | Nm sec ² [in-lbs sec ²] | 2.3 X 10 ³ [0.0207] | 5.5 X 10 ³ [0.0485] |
| Maximum Torque @ 100psi/7 bar | Nm [lbs-in] | 3.8 [33.2] | 7.6 [68] |
| Maximum Rotation | | 180° | |
| Pitch Diameter of Pinion | mm [in] | 19.1 [0.750] | 25.4 [1.000] |
| Weight with rotational adjuster (-R option) | mm [in] | 1.2 [2.7] | 2.5 [5.6] |
| Weight without rotational adjuster | mm [in] | 1.1 [2.5] | 2.4 [5.4] |
| Pressure Range | bar [psi] | 3-7 [40-100] | |
| Ingress Protection Class (IP) | | IP54 | |
| Displacement (180°) | | 19.0 [1.16] | 34.6 [2.11] |
| Actuation Time (180° @ 100psi/7 bar) | sec | 0.60 | 0.87 |
| Actuation Time (90° @ 100psi/7 bar) | sec | 0.45 | 0.68 |
| Temperature Range | °C [°F] | -35°~82° [-30°~180°] | |
| End Stop Adjustability (-R option) | °C [°F] | 23° | |
| Over Travel (each end) | | 1°-3° | |
| Valve required to actuate | | 4-way, 2-position | |

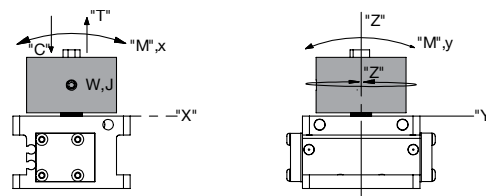
Rotary Actuators | Dimensions and Technical Specifications



Seal Repair Kits

| | |
|---------------------------------------|----------|
| Buna-N Seal Repair Kit | SLKT-210 |
| Buna-N Rotational Adjustment Seal Kit | SLKT-212 |

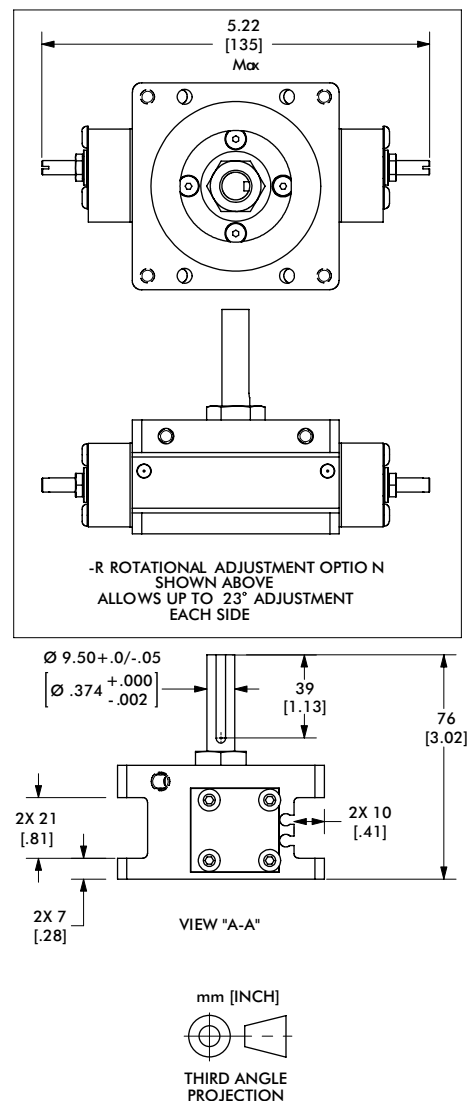
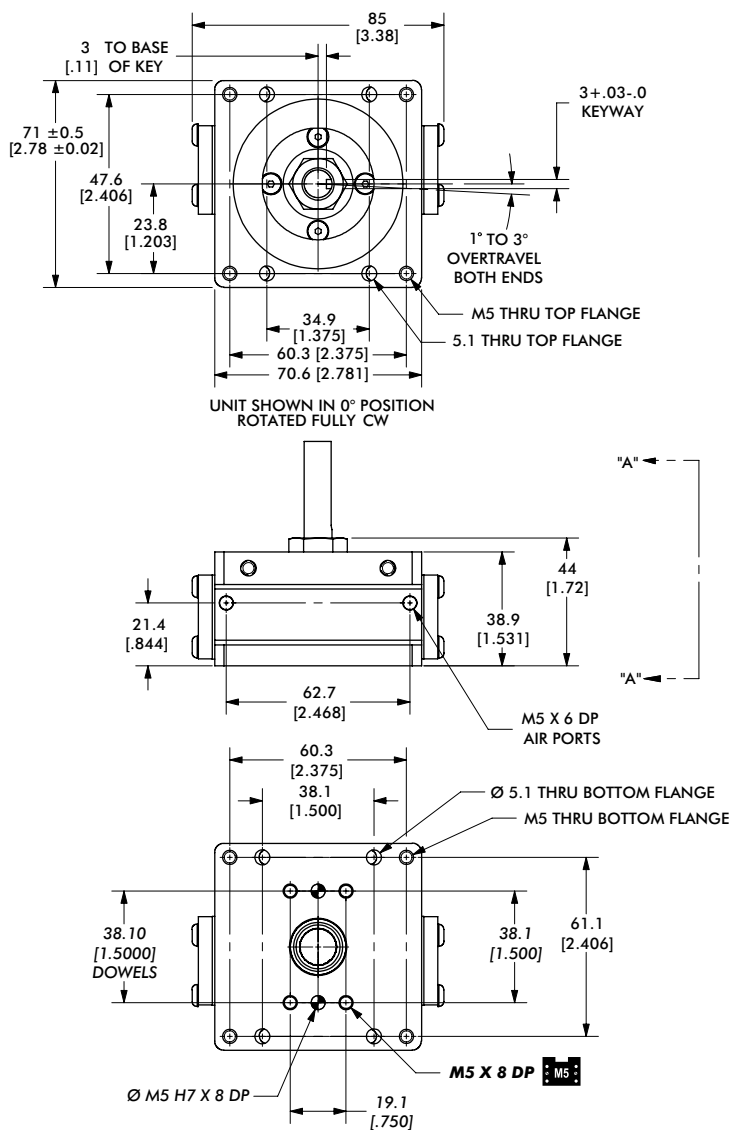
Loading Information



| DRG-075M Loading information | Static |
|-------------------------------------|---|
| Maximum Tensile T | 44 N [10 lbs] |
| Maximum Compressive C | 89 N [20 lbs] |
| Maximum Moment M_x | 2.3 Nm [20 in-lbs] |
| Maximum Moment M_y | 2.3 Nm [20 in-lbs] |
| Maximum Payload W | 0.23 kg [0.5 lbs] |
| Maximum Inertia J | 9.0 X 10 ⁻⁵ N-m-sec ² [.0008 in-lbs-sec ²] |

Note: Higher payloads and inertia possible with external shocks and stops.

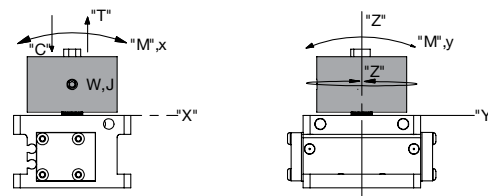
Rotary Actuators | Dimensions and Technical Specifications



Seal Repair Kits

| | |
|---------------------------------------|----------|
| Buna-N Seal Repair Kit | SLKT-216 |
| Buna-N Rotational Adjustment Seal Kit | SLKT-218 |

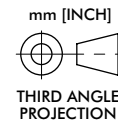
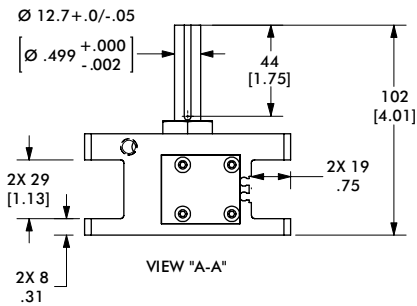
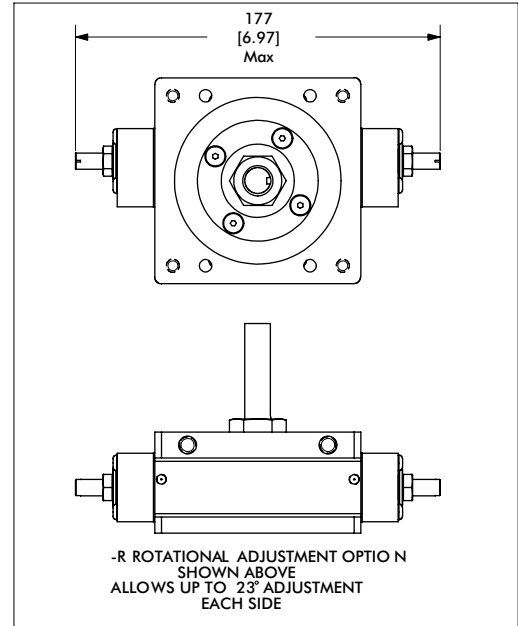
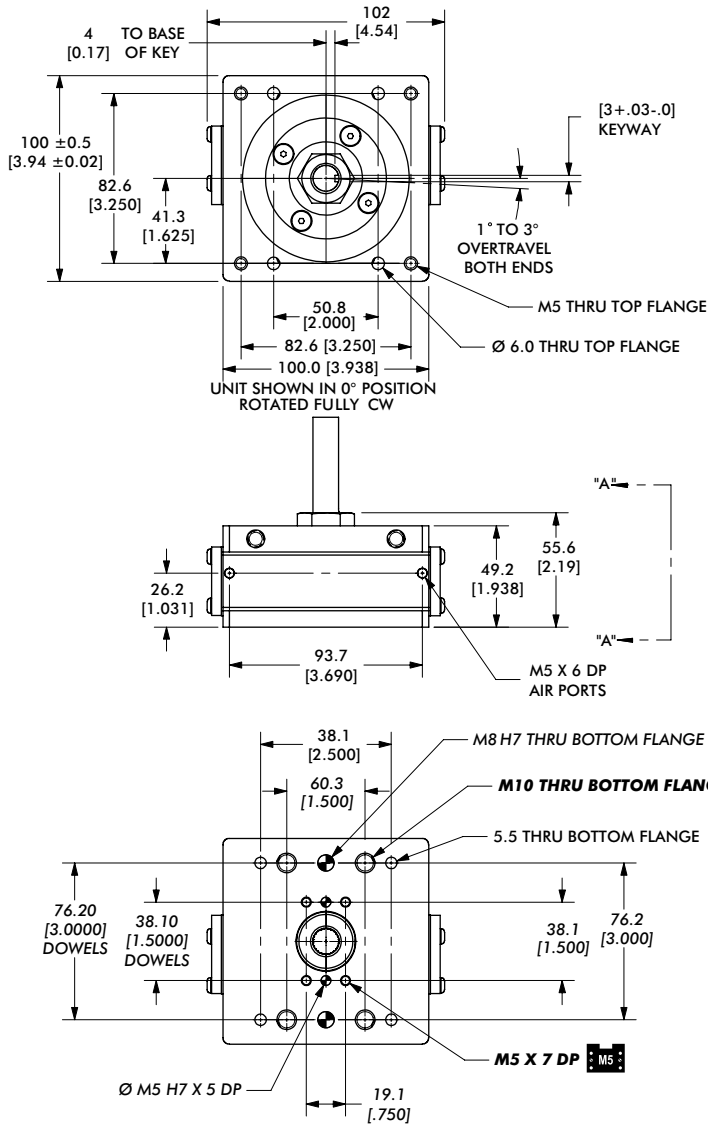
Loading Information



| DRG-094M Loading Information | Static |
|-------------------------------------|--|
| Maximum Tensile T | 67 N [15 lbs] |
| Maximum Compressive C | 133 N [30 lbs] |
| Maximum Moment M_x | 5.6 Nm [50 in-lbs] |
| Maximum Moment M_y | 5.6 Nm [50 in-lbs] |
| Maximum Payload W | 0.68 kg [1.5 lbs] |
| Maximum Inertia J | 6.3 X 10 ⁻⁴ N-m-sec ² [0.0056 in-lbs-sec ²] |

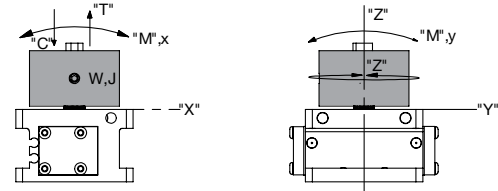
Note: Higher payloads and inertia possible with external shocks and stops.

Rotary Actuators | Dimensions and Technical Specifications



| Seal Repair Kits | Order # |
|---------------------------------------|----------|
| Buna-N Seal Repair Kit | SLKT-222 |
| Buna-N Rotational Adjustment Seal Kit | SLKT-224 |

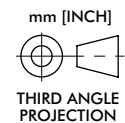
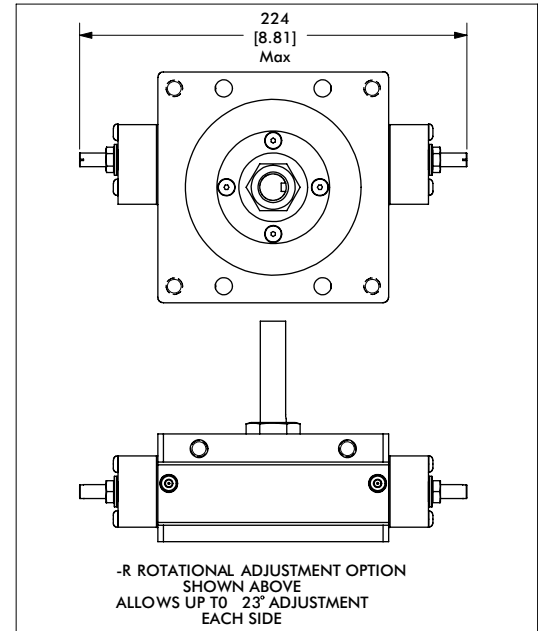
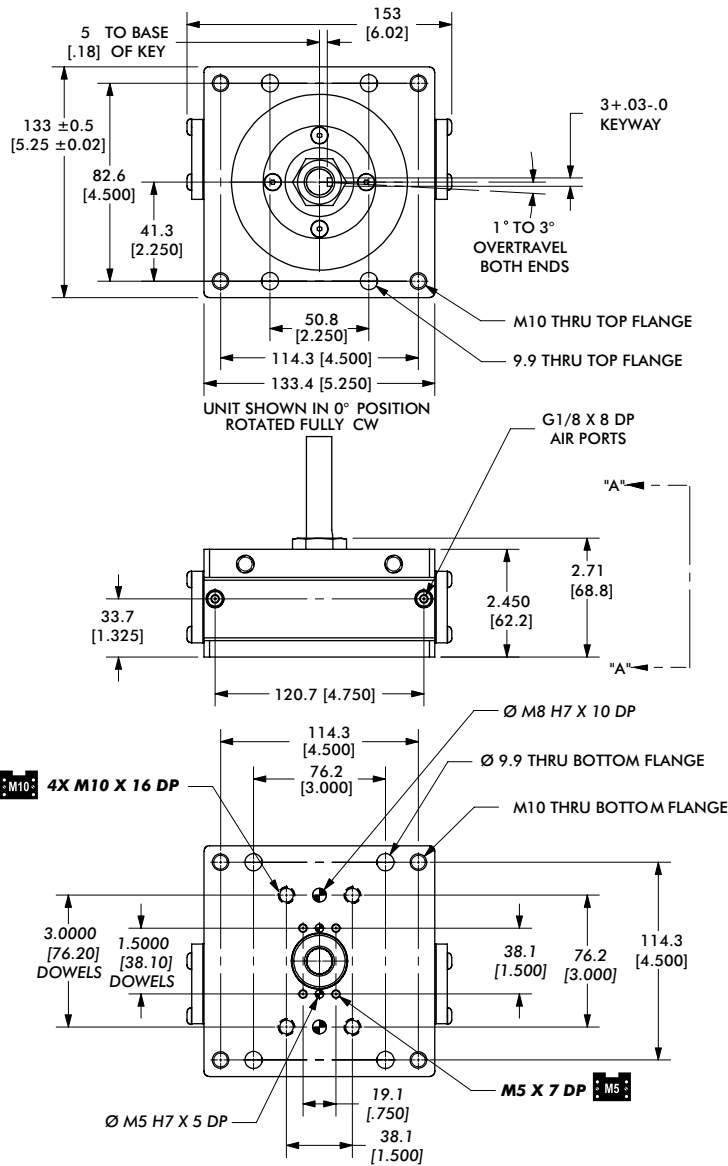
Loading Information



| DRG-106M Loading Information | Static |
|-------------------------------------|---|
| Maximum Tensile T | 111 N [25 lbs] |
| Maximum Compressive C | 222 N [50 lbs] |
| Maximum Moment M_x | 8.5 Nm [75 in-lbs] |
| Maximum Moment M_y | 8.5 Nm [75 in-lbs] |
| Maximum Payload W | 1.8 kg [4 lbs] |
| Maximum Inertia J | 2.3 X 10 ⁻³ N-m-sec ² [0.0207 in-lbs-sec ²] |

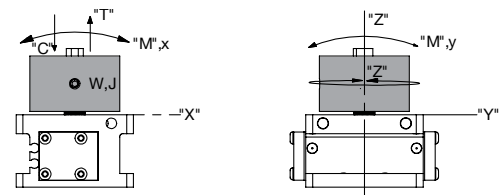
Note: Higher payloads and inertia possible with external shocks and stops.

Rotary Actuators | Dimensions and Technical Specifications



| Seal Repair Kits | Order # |
|---------------------------------------|----------|
| Buna-N Seal Repair Kit | SLKT-228 |
| Buna-N Rotational Adjustment Seal Kit | SLKT-230 |

Loading Information



| DRG-131M | Static |
|-------------------------------------|---|
| Maximum Tensile T | 222 N [50 lbs] |
| Maximum Compressive C | 445 N [100 lbs] |
| Maximum Moment M_x | 11.3 Nm [100 in-lbs] |
| Maximum Moment M_y | 11.3 Nm [100 in-lbs] |
| Maximum Payload W | 3.4 kg [7.5 lbs] |
| Maximum Inertia J | 5.5 X 10 ⁻³ N-m-sec ² [0.0485 in-lbs-sec ²] |

Note: Higher payloads and inertia possible with external shocks and stops.

RR LIGHT-DUTY SERIES

Rotary Actuators | Features and Benefits | How To Order

Features:

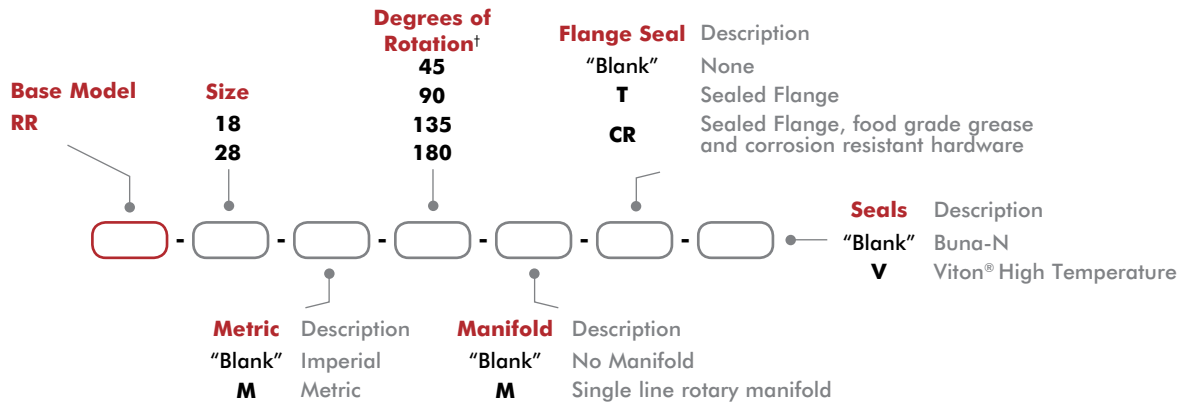
- Ultra-thin profile for tight space applications
- Preloaded bearings for high repeatability rotary actuation
- Zero backlash and slip fit dowel pins for precision applications
- Built-in adjustable hard-stops
- Optional manifold eliminates twisted airlines
- **CR-** Clean room option or for use in harsh environment applications

Applications:

- Precision rotary positioning
- Medical applications
- OEM machines



How To Order



†Consult factory for intermediate degrees of rotation.

Accessories

| Sensor Accessories | Model Numbers | Part Number | Qty/Unit |
|---|---------------|-------------|----------|
| Sensor Mounting Kit (mounts 2 sensors) | All Models | OSMK-024 | 1 |
| NPN Inductive Sensor with Quick Disconnect* | All Models | OISN-014 | 1-2 |
| PNP Inductive Sensor with Quick Disconnect* | All Models | OISP-014 | 1-2 |
| Quick Disconnect 2 Meter Cable Length* | All Models | CABL-010 | 1-2 |
| Quick Disconnect 5 Meter Cable Length* | All Models | CABL-013 | 1-2 |

| Pneumatic Accessories | Model Numbers | Part Number | Qty/Unit |
|---|---------------|-------------|----------|
| M3 Plumbing Fitting Push-In for 3mm OD Tube | All Models | PLFT-021 | 2 |
| M3 Plumbing Fitting Barb for 2mm ID Tube | All Models | PLFT-022 | 2 |
| #10-32 Flow Control (Imperial) | All Models | VLVF-007 | 2 |
| M5 Flow Control | All Models | VLVF-008 | 2 |

*Sensor and cable sold separately.

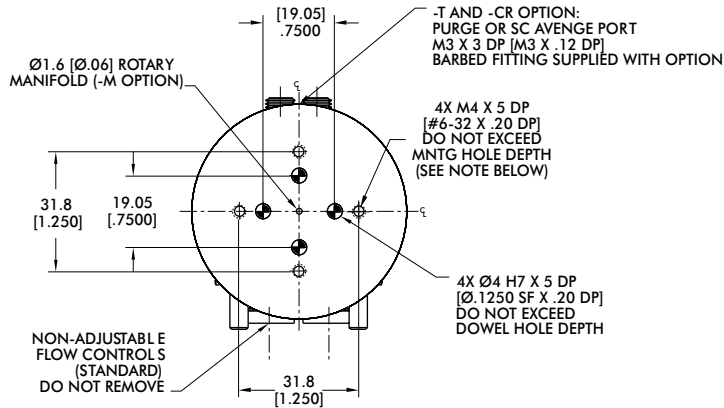
RR LIGHT-DUTY SERIES

Rotary Actuators | Technical Specifications

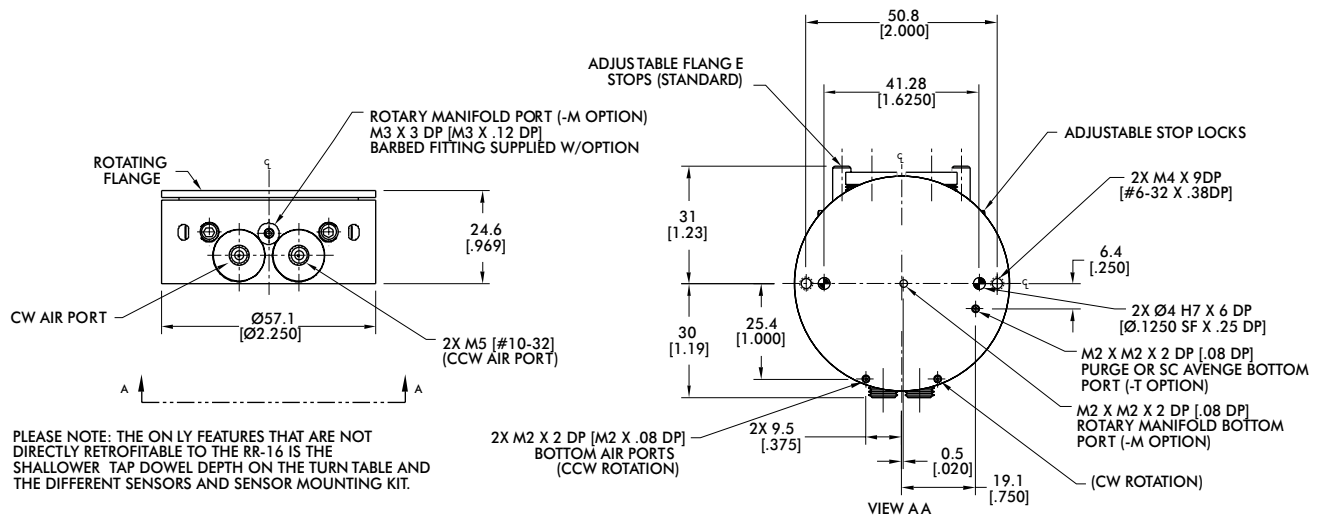
| Specifications | Units | 18 | 28 |
|--|---|-----------------------|----------------------|
| Maximum Payload | kg [lb] | 0.45 [1.0] | 1.36 [3.0] |
| Maximum Payload Inertia | Nm sec ² [in-lbs sec ²] | 0.000181 [0.0016] | 0.001255 [0.0111] |
| Maximum Rotation | | 180° | |
| Maximum Torque Mid-Stroke @ 100psi/7 bar | Nm [lbs-in] | 0.7 [6.5] | 2.5 [22] |
| Maximum Torque End Stroke @ 100psi/7 bar | | | |
| Pitch Diameter of Pinion | mm [in] | 8.46 [0.333] | 12.7 [0.50] |
| Weight | kg [lb] | 0.22 [0.48] | 0.65 [1.44] |
| Pressure Range | bar [psi] | 2-7 [30-100] | |
| Ingress Protection Class (IP) | | IP66 | |
| Displacement (180°) | cm ³ [in ³] | 3.37 [0.205] | 11.4 [0.69] |
| Temperature Range (Buna-N seals) | °C [°F] | -35°~80° [-30°~180°] | |
| Temperature Range (Viton® seals) | °C [°F] | -30°~150° [-20°~300°] | |
| Actuation Time (180° @ 100psi/7 bar) | sec | 0.30 | 0.35 |
| Actuation Time (90° @ 100psi/7 bar) | sec | 0.25 | 0.30 |
| End Stop Repeatability | | ±0.02° | |
| End Stop Adjustability | | 23° | |
| Over Travel (each end) | | 4° | 8° |
| Valve required to actuate | | 4-way, 2-position | |

RR-18

Rotary Actuators | Dimensions and Technical Specifications



UNIT SHOWN IN 0° POSITION ROTATED FULLY CW

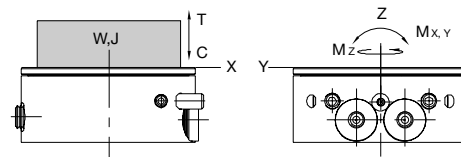


PLEASE NOTE: THE ONLY FEATURES THAT ARE NOT DIRECTLY RETROFITABLE TO THE RR-16 IS THE SHALLOWER TAP DOWEL DEPTH ON THE TURN TABLE AND THE DIFFERENT SENSORS AND SENSOR MOUNTING KIT.

Seal Repair Kits

| Seal Repair Kits | Order # |
|--|-----------|
| Buna-N Seal Repair Kit | SLKT-173 |
| Viton® Seal Repair Kit | SLKT-173V |
| Viton® Bottom Air Port Manifold Seal Kit | SLKT-174V |

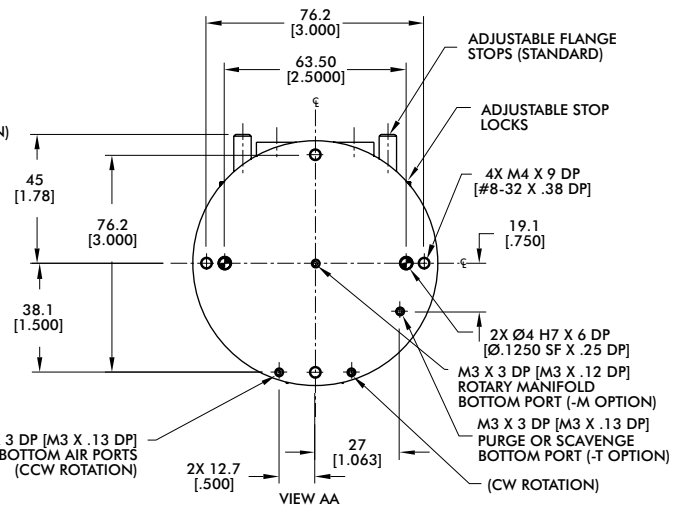
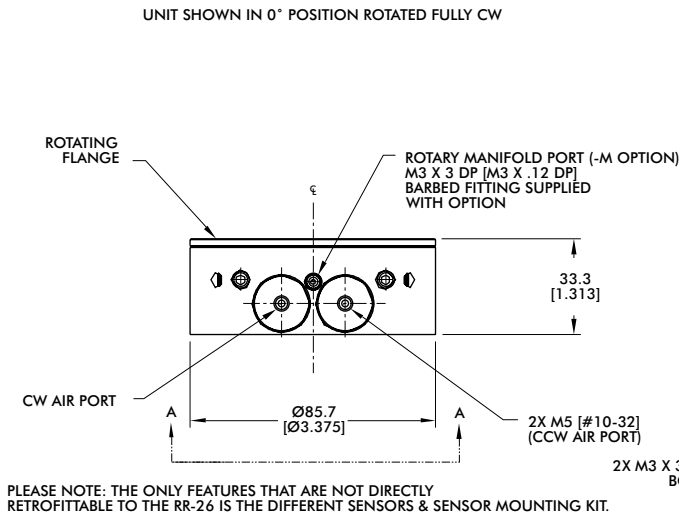
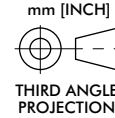
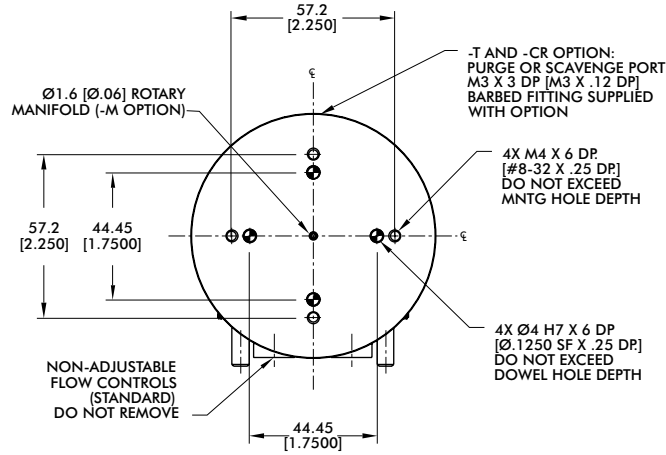
Loading Information



| RR-18 Loading Information | Static |
|-------------------------------------|--|
| Maximum Tensile T | 222 N [50 lbs] |
| Maximum Compressive C | 1112 N [250 lbs] |
| Maximum Moment M_x | 11 Nm [100 in-lbs] |
| Maximum Moment M_y | 11 Nm [100 in-lbs] |
| Maximum Payload W | 0.45 kg [1 lbs] |
| Maximum Inertia J | 0.000181 N-m-sec ² [0.0016 in-lbs-sec ²] |

Note: Higher payloads and inertia possible with external shocks and stops.

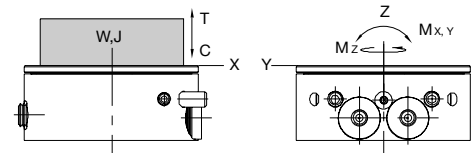
Rotary Actuators | Dimensions and Technical Specifications



PLEASE NOTE: THE ONLY FEATURES THAT ARE NOT DIRECTLY RETROFITTABLE TO THE RR-26 IS THE DIFFERENT SENSORS & SENSOR MOUNTING KIT.

| Seal Repair Kits | Order # |
|--|-----------|
| Buna-N Seal Repair Kit | SLKT-175 |
| Viton® Seal Repair Kit | SLKT-175V |
| Viton® Bottom Air Port Manifold Seal Kit | SLKT-176V |

Loading Information



| RR-28 Loading Information | Static |
|-------------------------------------|--|
| Maximum Tensile T | 334 N [75 lbs] |
| Maximum Compressive C | 2224 N [500 lbs] |
| Maximum Moment M_x | 28 Nm [250 in-lbs] |
| Maximum Moment M_y | 28 Nm [250 in-lbs] |
| Maximum Payload W | 1.36 kg [3 lbs] |
| Maximum Inertia J | 0.001255 N-m-sec ² [0.0111 in-lbs-sec ²] |

Note: Higher payloads and inertia possible with external shocks and stops.

RR MEDIUM-DUTY SERIES

Rotary Actuators | Features and Benefits | How To Order

Features:

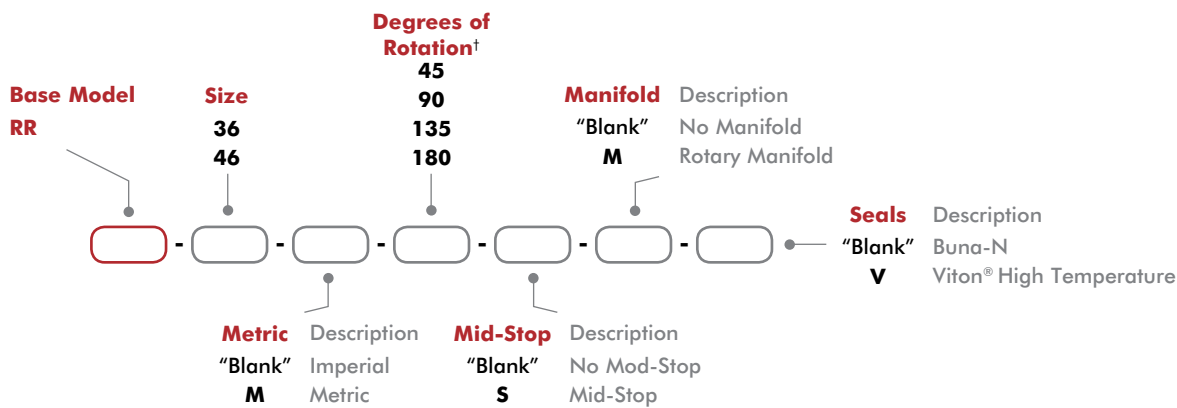
- Low profile, high capacity for tight space applications
- Mount payload directly to flange without additional support
- Preloaded bearings for high repeatability rotary actuation
- Zero backlash and slip fit dowel pins for precision applications
- Built-in adjustable hard-stops and shock absorbers
- Adjustable flow controls
- Optional manifold eliminates twisted airlines
- 3 position rotary with option mid-stop

Applications:

- Precision rotary positioning
- Part orientation
- Load and unload



How To Order



†Consult factory for intermediate degrees of rotation.

Accessories

| Sensor Accessories | Model Numbers | Part Number | Qty/Unit |
|---|---------------|-------------|----------|
| Sensor Mounting Kit (mounts 2 sensors) | All Models | OSMK-024 | 1 |
| NPN Inductive Sensor with Quick Disconnect* | All Models | OISN-014 | 1-2 |
| PNP Inductive Sensor with Quick Disconnect* | All Models | OISP-014 | 1-2 |
| Quick Disconnect 2 Meter Cable Length* | All Models | CABL-010 | 1-2 |
| Quick Disconnect 5 Meter Cable Length* | All Models | CABL-013 | 1-2 |

*Sensor and cable sold separately.

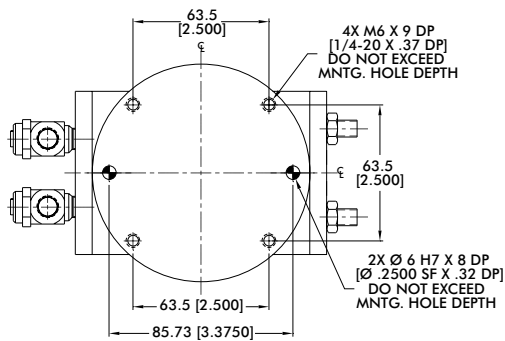
RR MEDIUM-DUTY SERIES

Rotary Actuators | Technical Specifications

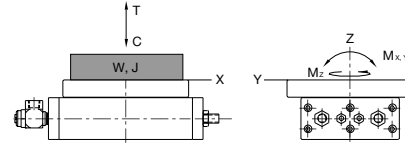
| Specifications | Units | 36 | 46 |
|--|---|---------------------|---------------------|
| Maximum Payload | kg [lb] | 3.6 [8.0] | 6.8 [15] |
| Maximum Payload Inertia | Nm sec ² [in-lbs sec ²] | 0.00468 [0.0414] | 0.01096 [0.0970] |
| Maximum Rotation | | 180° | |
| Maximum Torque Mid-Stroke @ 100psi/7 bar | Nm [lbs-in] | 7.4 [65] | 14 [122] |
| Maximum Torque End-Stroke @ 100psi/7 bar | Nm [lbs-in] | 3.7 [32] | 7 [61] |
| Weight (base unit) | kg [lb] | 1.3 [2.9] | 2.3 [5] |
| Weight Adder for Mid-Position Stop | kg [lb] | 0.18 [0.4] | 0.19 [0.42] |
| Weight Adder for Rotary Manifold | kg [lb] | 0.04 [0.1] | 0.17 [0.38] |
| Pressure Range | bar [psi] | 3-7 [40-100] | |
| Ingress Protection Class (IP) | | IP55 | |
| Displacement (180°) | cm ³ [in ³] | 33.6 [2.05] | 63.18 [3.855] |
| Displacement of Mid-Position Stop | cm ³ [in ³] | 19.66 [1.200] | 35.95 [2.194] |
| Temperature Range (Buna-N seals) | °C [°F] | -0°~66° [32°~150°] | |
| Temperature Range (Viton® seals) | | | |
| Actuation Time (180° @ 100psi/7 bar) | sec | 0.35 | 0.41 |
| Actuation Time (90° @ 100psi/7 bar) | sec | 0.2 | 0.36 |
| End-Stop Repeatability | | ±0.02° | |
| Mid-Stop Repeatability | | ±0.5° | |
| End-Stop Adjustability | | 60° | |
| Over Travel (each end) | | 4° | |
| Valve required to actuate | | 4-way, 2-position | |
| Valve required to actuate Mid-Stop | | 3-way, 2-position | |

RR-36

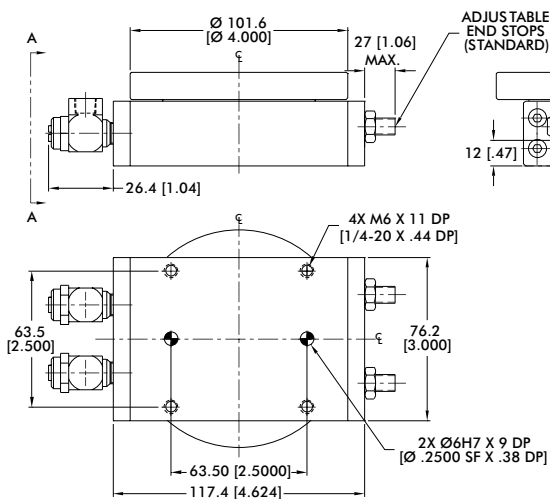
Rotary Actuators | Dimensions and Technical Specifications



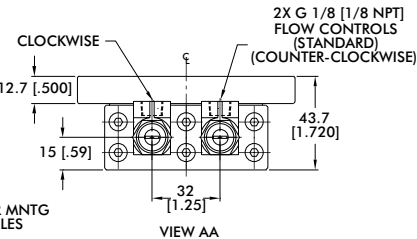
UNIT SHOWN IN 0° POSITION ROTATED FULLY CW



| RR-36 Loading information | Static |
|-------------------------------------|---|
| Maximum Tensile T | 2445 N [100 lbs] |
| Maximum Compressive C | 2224 N [500 lbs] |
| Maximum Moment M_x | 34 Nm [300 in-lbs] |
| Maximum Moment M_y | 34 Nm [300 in-lbs] |
| Maximum Payload W | 3.64 kg [8 lbs] |
| Maximum Inertia J | 0.00468 N-m-sec ² [0.0414 in-lbs-sec ²] |



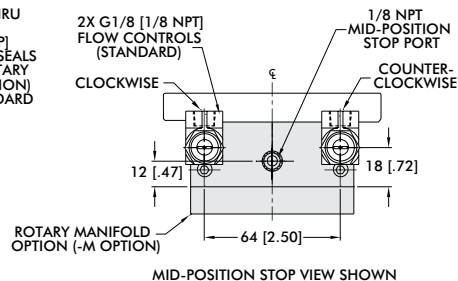
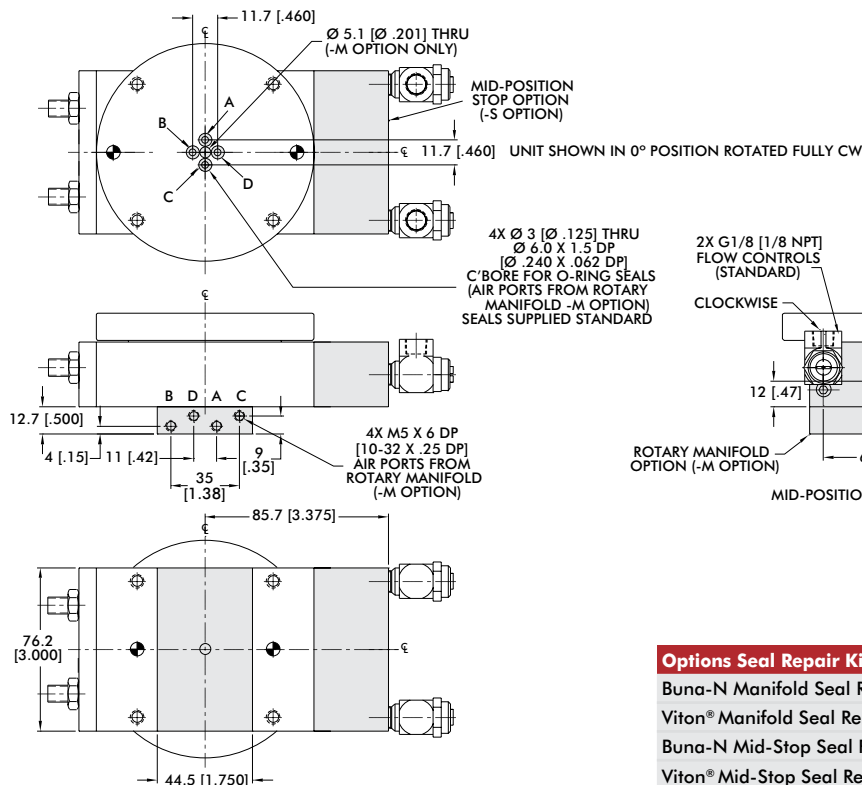
ADJUSTABLE
END STOPS
(STANDARD)



mm [INCH]
THIRD ANGLE
PROJECTION

| Base Unit Seal Repair Kits | Order # |
|----------------------------|-----------|
| Buna-N Seal Repair Kit | SLKT-016 |
| Viton® Seal Repair Kit | SLKT-016V |

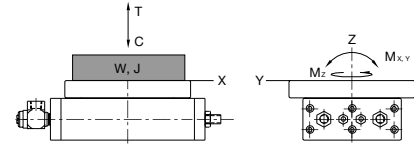
Options Dimensions



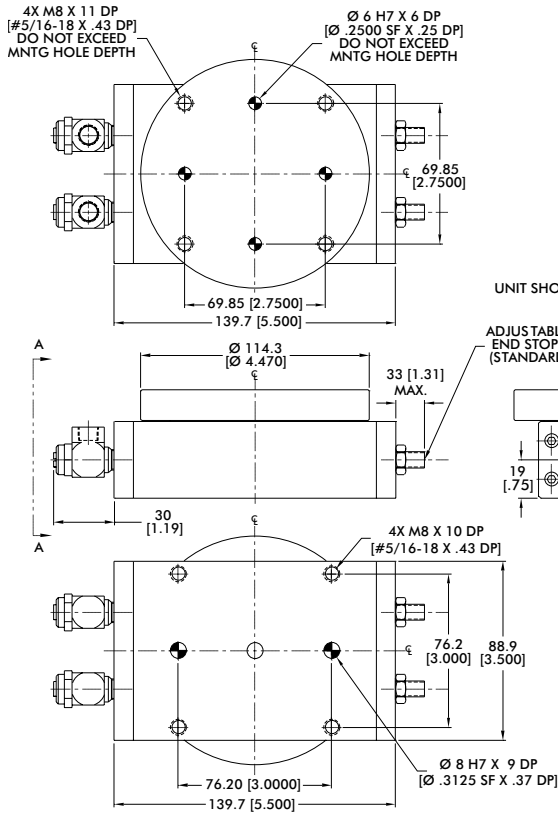
mm [INCH]
THIRD ANGLE
PROJECTION

| Options Seal Repair Kits | Order # |
|---------------------------------|----------------|
| Buna-N Manifold Seal Repair Kit | -M SLKT-061 |
| Viton® Manifold Seal Repair Kit | -M-V SLKT-061V |
| Buna-N Mid-Stop Seal Repair Kit | -S SLKT-062 |
| Viton® Mid-Stop Seal Repair Kit | -S-V SLKT-062V |

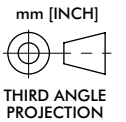
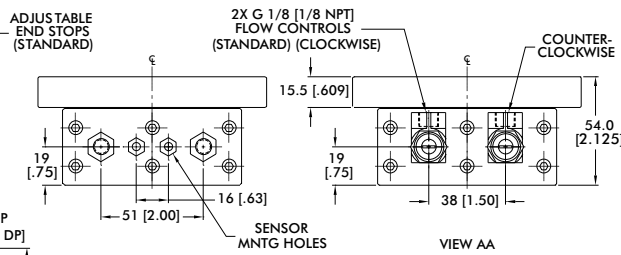
Rotary Actuators | Dimensions and Technical Specifications



| RR-46 Loading Information | Static |
|-------------------------------------|---|
| Maximum Tensile T | 890 N [200 lbs] |
| Maximum Compressive C | 4448 N [1000 lbs] |
| Maximum Moment M_x | 57 Nm [500 in-lbs] |
| Maximum Moment M_y | 57 Nm [500 in-lbs] |
| Maximum Payload W | 6.8 kg [15 lbs] |
| Maximum Inertia J | 0.01096 N-m-sec ² [0.0970 in-lbs-sec ²] |

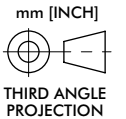
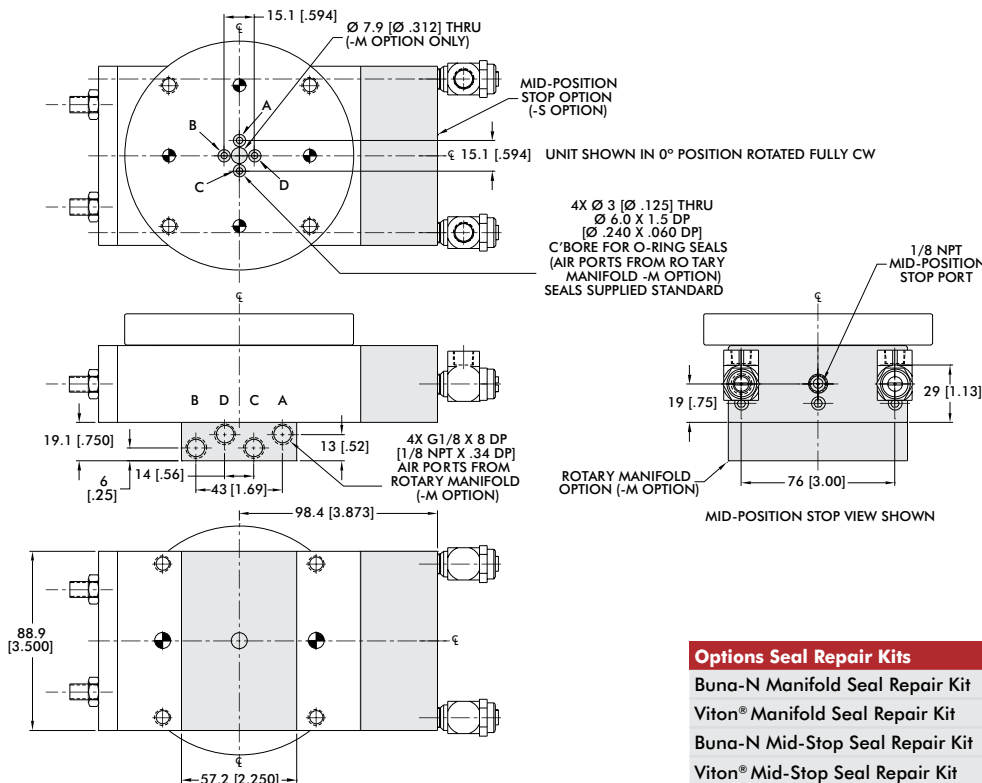


UNIT SHOWN IN 0° POSITION ROTATED FULLY CW



| Base Unit Seal Repair Kits | Order # |
|----------------------------|-----------|
| Buna-N Seal Repair Kit | SLKT-017 |
| Viton® Seal Repair Kit | SLKT-017V |

Options Dimensions



| Options Seal Repair Kits | | Order # |
|---------------------------------|------|-----------|
| Buna-N Manifold Seal Repair Kit | -M | SLKT-067 |
| Viton® Manifold Seal Repair Kit | -M-V | SLKT-067V |
| Buna-N Mid-Stop Seal Repair Kit | -S | SLKT-068 |
| Viton® Mid-Stop Seal Repair Kit | -S-V | SLKT-068V |

RR HEAVY-DUTY SERIES

Rotary Actuators | Features and Benefits | How To Order

Features:

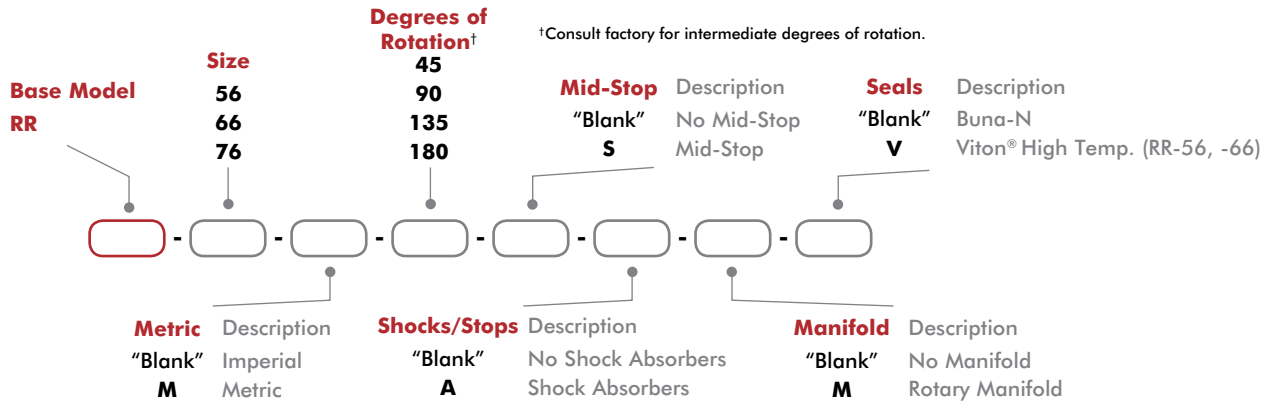
- Compact large capacity, high torque for tight space applications
- Use in heavy duty industrial and foundry applications
- Mount payload directly to flange without additional support
- Preloaded bearings for high repeatability rotary actuation
- Zero backlash & precision slip fit dowel pins
- Adjustable flow controls
- Optional manifold eliminates twisted airlines
- 3 position rotary with option mid-stop

Applications:

- Large torque application
- Foundry applications
- Load and unload



How To Order



Accessories

| Sensor Accessories | Model Numbers | Part Number | Qty/Unit |
|--|---------------|-------------|----------|
| Inductive Sensor Mounting Kit (mounts 2 sensors) | -56, -66 | OSMK-075 | 1 |
| Inductive Sensor Mounting Kit (mounts 2 sensors) | -76 | OSMK-096 | 1 |
| Magneto Resistive Sensor Mounting Kit (mounts 2 sensors) | -56, -66 | OSMK-069 | 1 |
| NPN Inductive Sensor with Quick Disconnect* | -56, -66 | OISN-011 | 1-2 |
| PNP Inductive Sensor with Quick Disconnect* | -56, -66 | OISP-011 | 1-2 |
| NPN Inductive Sensor with Quick Disconnect* | -76 | OISN-017 | 1-2 |
| PNP Inductive Sensor with Quick Disconnect* | -76 | OISP-017 | 1-2 |
| NPN Magneto Resistive Sensor with Quick Disconnect* | -56, -66 | OHSN-017 | 1-2 |
| PNP Magneto Resistive Sensor with Quick Disconnect* | -56, -66 | OHSP-017 | 1-2 |
| Quick Disconnect 2 Meter Cable Length* | -56, -66 | CABL-010 | 1-2 |
| Quick Disconnect 5 Meter Cable Length* | -56, -66 | CABL-013 | 1-2 |
| Quick Disconnect 2 Meter Cable Length* | -76 | CABL-014 | 1-2 |
| Quick Disconnect 5 Meter Cable Length* | -76 | CABL-018 | 1-2 |

| Pneumatic Accessories | Model Numbers | Part Number | Qty/Unit |
|----------------------------------|---------------|-------------|----------|
| 1/4 NPT Flow Controls (Imperial) | -56 | VLVF-009 | 2 |
| G 1/4 BSPP Flow Controls | -56 | VLVF-010 | 2 |
| 3/8 Flow Control (Imperial) | -66, -76 | VLVF-011 | 2 |
| G 3/8 BSPP Flow Control | -66, -76 | VLVF-012 | 2 |
| Adapter 1/8 NPT to G 1/8 | -76 | PLFT-028 | 1 |
| Adapter 3/8 NPT to G 3/8 | -76 | PLFT-029 | 1 |

*Sensor and cable sold separately.

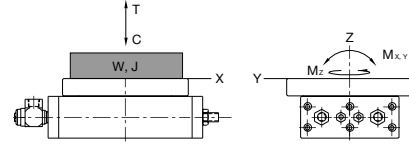
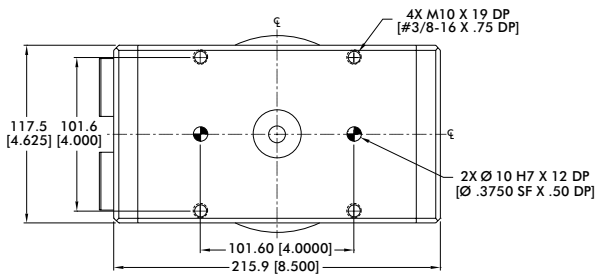
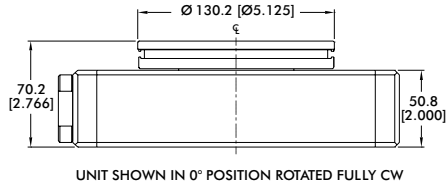
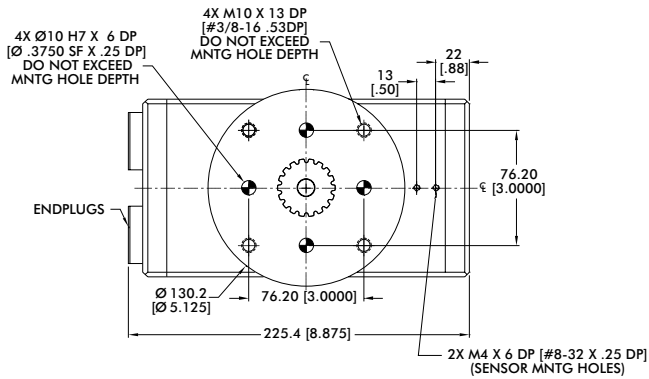
RR HEAVY-DUTY SERIES

Rotary Actuators | Technical Specifications

| Specifications | Units | 56 | 66 | 76 |
|--|---|---------------------|---------------------|------------------|
| Maximum Payload [†] | kg [lb] | 13.6 [30] | 34 [75] | 91 [200] |
| Maximum Payload Inertia [†] | Nm sec ² [in-lbs sec ²] | 0.02880 [0.2549] | 0.11584 [1.0251] | 0.5596 [4.95] |
| Maximum Rotation | | 180° | | |
| Maximum Torque Mid-Stroke @ 100psi/7 bar | Nm [lbs-in] | 35 [311] | 82 [728] | 215 [1900] |
| Maximum Torque End-Stroke @ 100psi/7 bar | Nm [lbs-in] | 17 [155] | 41 [364] | 107 [950] |
| Weight (base unit) | kg [lb] | 5.3 [11.6] | 11.8 [26] | 24 [53] |
| Weight Adder for Mid-Position Stop | kg [lb] | 0.82 [1.8] | 0.82 [1.8] | 3.8 [8.3] |
| Weight Adder for Rotary Manifold | kg [lb] | 0.54 [1.2] | 0.36 [0.82] | 2.0 [4.2] |
| Pressure Range | bar [psi] | 3-7 [40-100] | | |
| Ingress Protection Class (IP) | | IP55 | | |
| Displacement | cm³ [in³] | 160.1 [9.77] | 375 [22.8] | 1026 [62.6] |
| Displacement of Mid-Position Stop | cm³ [in³] | 90.16 [5.502] | 60.32 [2.375] | 885 [54] |
| Temperature Range (Buna-N seals) | °C [°F] | 0°~66° [-32°~150°] | | |
| Temperature Range (Viton® seals) | | | | |
| Actuation Time (180° @ 100psi/7 bar) | sec | 0.48 | 0.70 | 1.4 |
| Actuation Time (90° @ 100psi/7 bar) | sec | 0.40 | 0.50 | 0.8 |
| End-Stop Repeatability | | ±0.02° | | |
| Mid-Stop Repeatability | | ±0.5° | | |
| End-Stop Adjustability* | | 30° | 20° | |
| Over Travel (each end) | | 4° | | |
| Valve required to actuate | | 4-way, 2-position | | |
| Valve required to actuate Mid-Stop | | 3-way, 2-position | | |

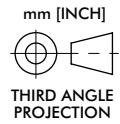
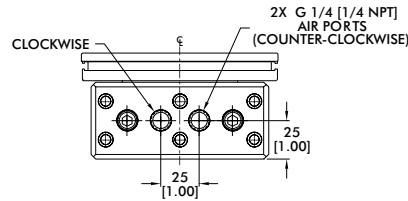
[†] Max. payload based on -A shock option.

*Any adjustment of the End Stop Adjustment Screw must be accompanied by an equal adjustment of the Shock Absorbers to prevent bottoming of the pistons against the Shock Absorbers.



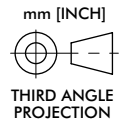
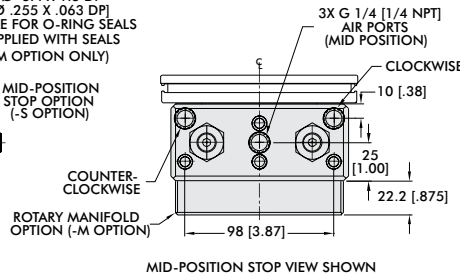
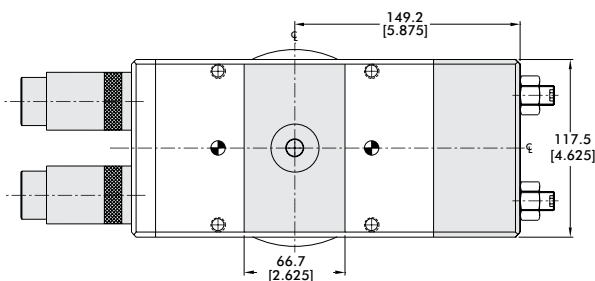
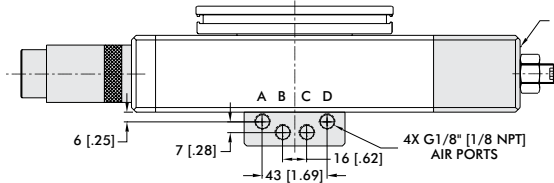
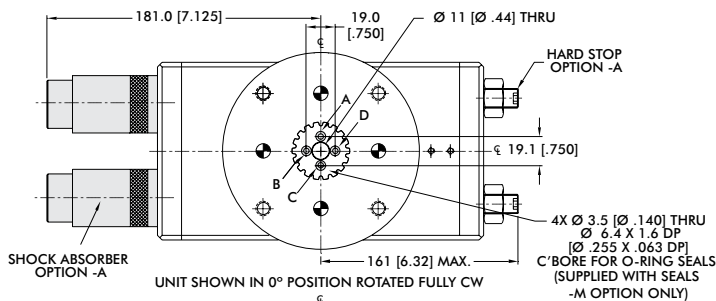
| RR-56 Loading information | Static |
|--------------------------------------|--|
| Maximum Tensile T | 3559 N [800 lbs] |
| Maximum Compressive C | 8896 N [2000 lbs] |
| Maximum Moment M_x | 113 Nm [1000 in-lbs] |
| Maximum Moment M_y | 113 Nm [1000 in-lbs] |
| Maximum Payload W[†] | 13.64 kg [30 lbs] |
| Maximum Inertia J[†] | 0.0288 N-m-sec ² [0.2549 in-lbs-sec ²] |

[†]Max. payload based on -A shock option.



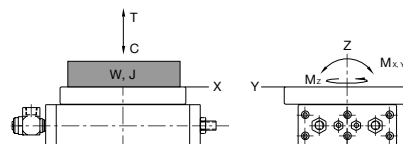
| Base Unit Seal Repair Kits | Order # |
|----------------------------|-----------|
| Buna-N Seal Repair Kit | SLKT-124 |
| Viton® Seal Repair Kit | SLKT-124V |

Options Dimensions



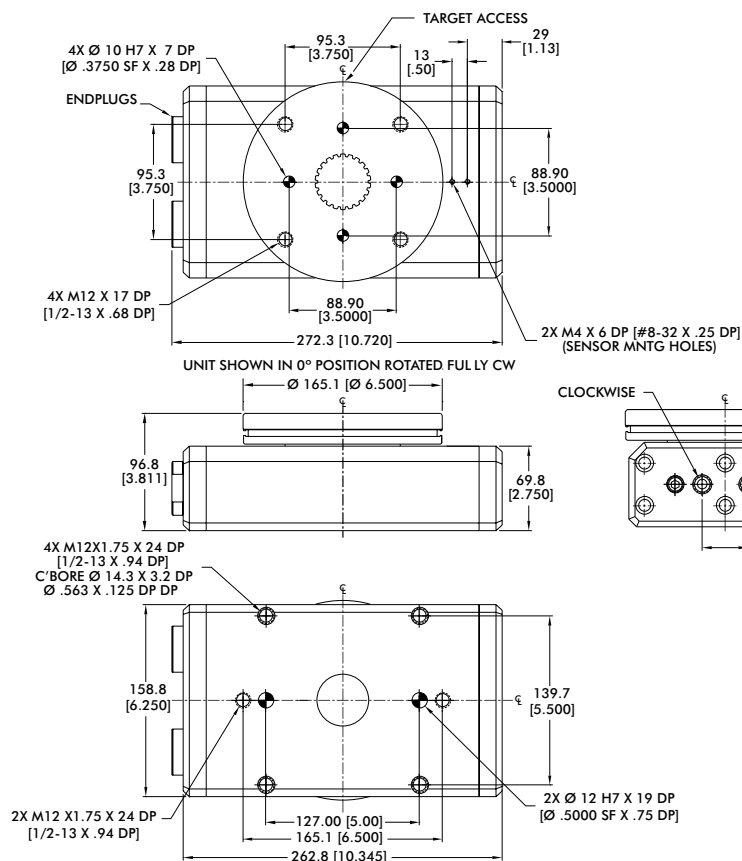
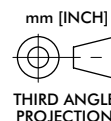
| Options Seal Repair Kits | | Order # |
|---------------------------------|------|-----------|
| Buna-N Manifold Seal Repair Kit | -M | SLKT-126 |
| Viton® Manifold Seal Repair Kit | -M-V | SLKT-126V |
| Buna-N Mid-Stop Seal Repair Kit | -S | SLKT-127 |
| Viton® Mid-Stop Seal Repair Kit | -S-V | SLKT-127V |
| Buna-N Shock Seal Repair Kit | -A | SLKT-125 |
| Viton® Shock Seal Repair Kit | -A-V | SLKT-125V |

Rotary Actuators | Dimensions and Technical Specifications



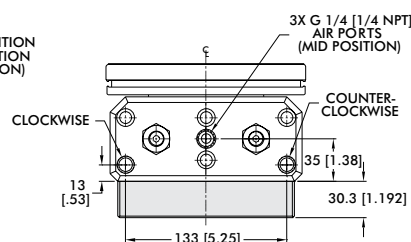
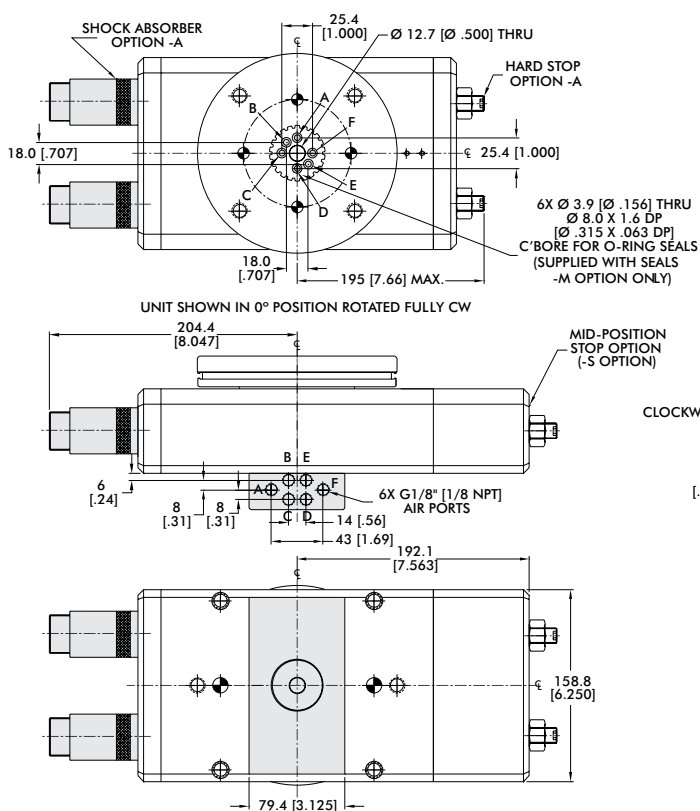
| RR-66 Loading Information | Static |
|--------------------------------------|---|
| Maximum Tensile T | 4448 N [1000 lbs] |
| Maximum Compressive C | 15569 N [3500 lbs] |
| Maximum Moment M_x | 226 Nm [2000 in-lbs] |
| Maximum Moment M_y | 226 Nm [2000 in-lbs] |
| Maximum Payload W_i | 34 kg [75 lbs] |
| Maximum Inertia J_i | 0.1158 N-m-sec ² [1.025 in-lbs-sec ²] |

† Max. payload based on -A shock option.



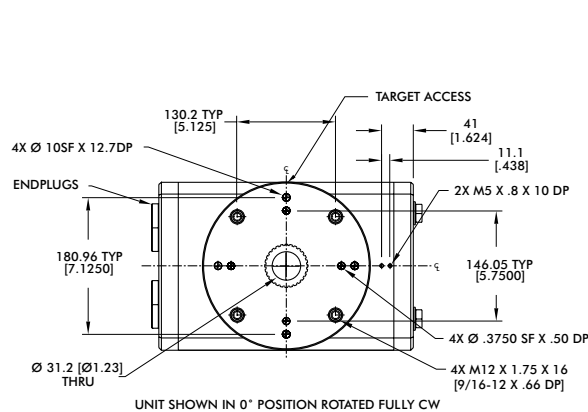
| Base Unit Seal Repair Kits | Order # |
|----------------------------|-----------|
| Buna-N Seal Repair Kit | SLKT-128 |
| Viton® Seal Repair Kit | SLKT-128V |

Options Dimensions

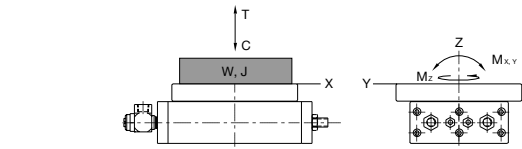
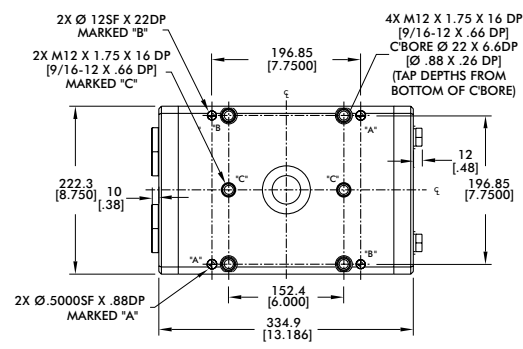
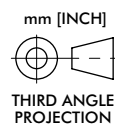
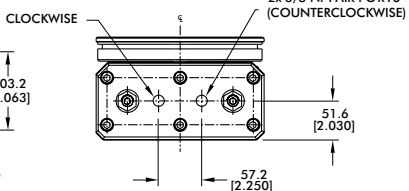
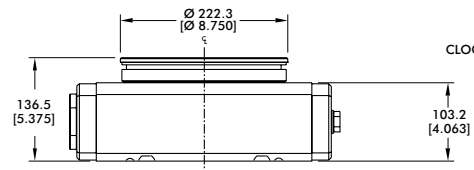


MID-POSITION STOP VIEW SHOWN

| Options Seal Repair Kits | | Order # |
|---------------------------------|-------------|-----------|
| Buna-N Manifold Seal Repair Kit | -M | SLKT-130 |
| Viton® Manifold Seal Repair Kit | -M-V | SLKT-130V |
| Buna-N Mid-Stop Seal Repair Kit | -S | SLKT-131 |
| Viton® Mid-Stop Seal Repair Kit | -S-V | SLKT-131V |
| Buna-N Shock Seal Repair Kit | -A | SLKT-129 |
| Viton® Shock Seal Repair Kit | -A-V | SLKT-129V |



UNIT SHOWN IN 0° POSITION ROTATED FULLY CW



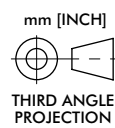
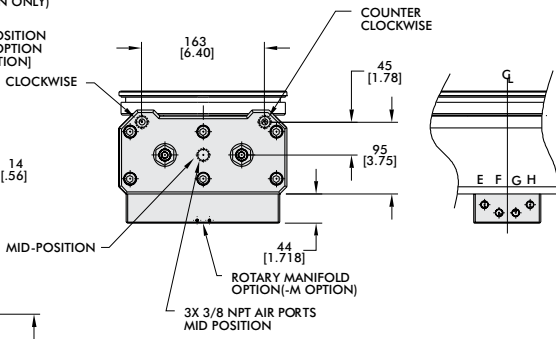
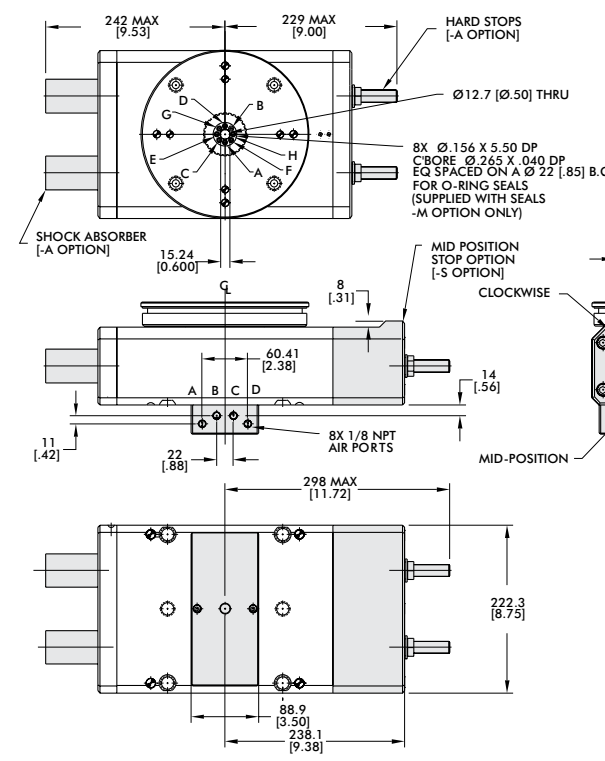
| RR-76 Loading Information | Static |
|--------------------------------------|--|
| Maximum Tensile T | 8896 N [2000 lbs] |
| Maximum Compressive C | 20017 N [4500 lbs] |
| Maximum Moment M_x | 452 Nm [4000 in-lbs] |
| Maximum Moment M_y | 452 Nm [4000 in-lbs] |
| Maximum Payload W[†] | 91 kg [200 lbs] |
| Maximum Inertia J[†] | 0.5596 N-m-sec ² [4.952 in-lbs-sec ²] |

[†]Max. payload based on -A shock option.

Note: Shock Absorbers "Option -A" are recommended for all applications. All specifications provided are with this option.

| Base Unit Seal Repair Kits | Order # |
|----------------------------|-----------|
| Viton® Seal Repair Kit | SLKT-167V |

Options Dimensions

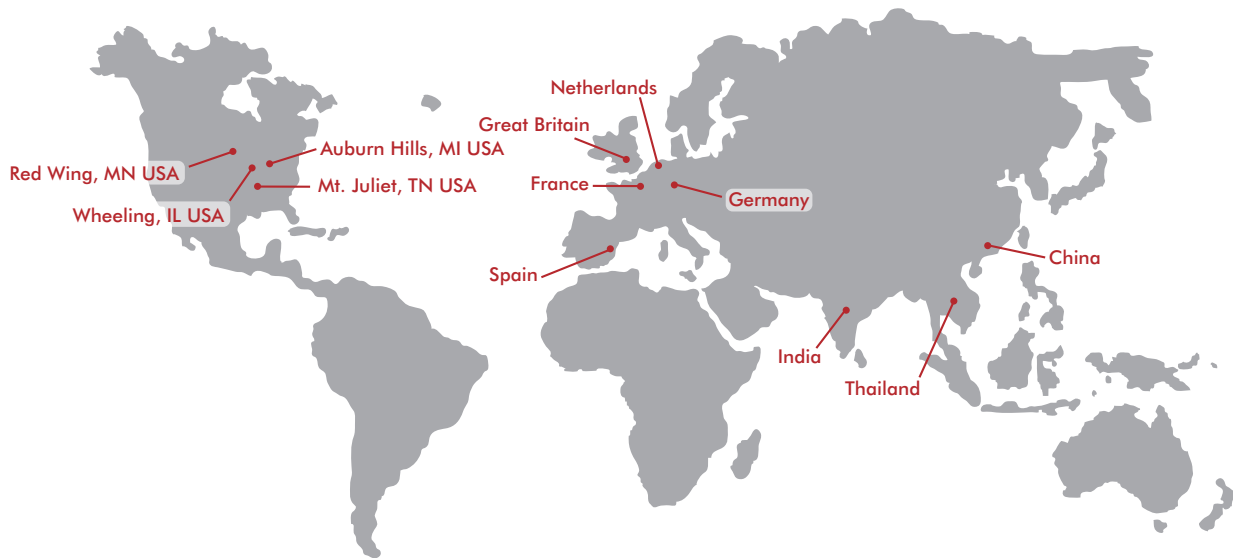


| Options Seal Repair Kits | | Order # |
|---------------------------------|----|-----------|
| Viton® Manifold Seal Repair Kit | -M | SLKT-169V |
| Viton® Mid-Stop Seal Repair Kit | -S | SLKT-168V |
| Buna-N Shock Seal Repair Kit | -A | SLKT-179 |

ROTARY ACTUATORS

Notes

[illegible]



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