

RR LIGHT-DUTY SERIES

Rotary Actuators | Features and Benefits | How To Order

Features:

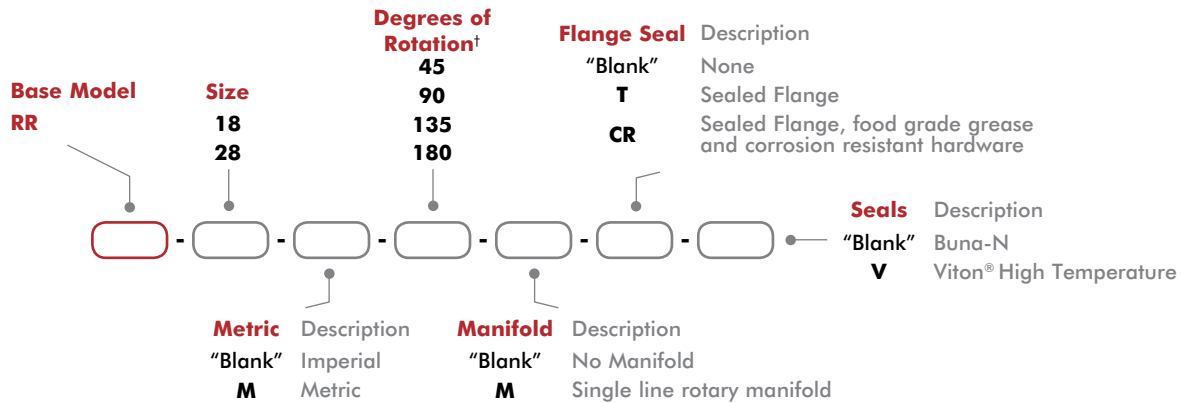
- Ultra-thin profile for tight space applications
- Preloaded bearings for high repeatability rotary actuation
- Zero backlash and slip fit dowel pins for precision applications
- Built-in adjustable hard-stops
- Optional manifold eliminates twisted airlines
- **CR-** Clean room option or for use in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

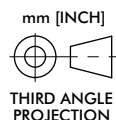
*Sensor and cable sold separately.

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	

Rotary Actuators | Dimensions and Technical Specifications



ROTARY MANIFOLD PORT (-M OPTION)
M3 X 3 DP [M3 X .12 DP]
BARBED FITTING SUPPLIED W/OPTION

ROTATING FLANGE

24.6
[.969]

Ø57.1
[Ø2.250]

CW AIR PORT

2X M5 [#10-32]
(CW AIR PORT)

A

50.8
[2.000]

41.28
[1.6250]

ADJUSTABLE FLANGE
STOPS (STANDARD)

ADJUSTABLE STOP LOCKS

2X M4 X 9 DP
[#6-32 X .38DP]

2X Ø4 H7 X 6 DP
[Ø.1250 SF X .25 DP]

M2 X M2 X 2 DP [.08 DP]
PURGE OR SC AVENGE BOTTOM
PORT (-T OPTION)

M2 X M2 X 2 DP [.08 DP]
ROTARY MANIFOLD BOTTOM
PORT (-M OPTION)

(CW ROTATION)

19.1
[.750]

0.5
[.020]

2X 9.5
[.375]

2X M2 X 2 DP [M2 X .08 DP]
BOTTOM AIR PORTS
(CCW ROTATION)

30
[1.19]

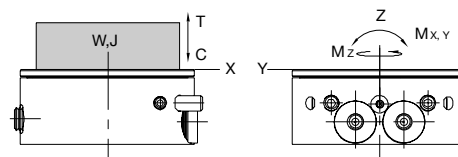
25.4
[1.000]

31
[1.23]

6.4
[.250]

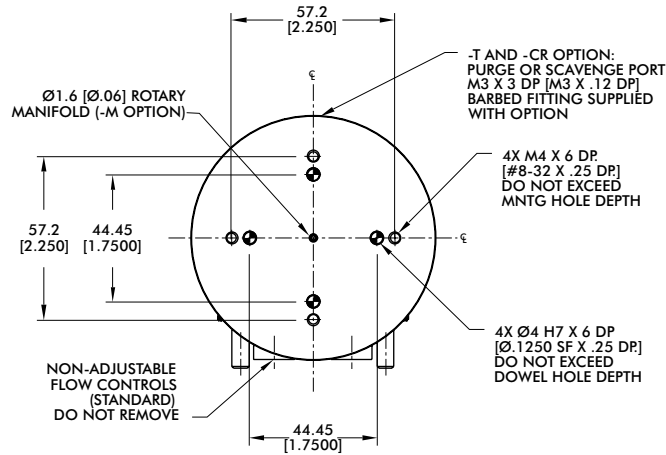
VIEW AA

Loading Information

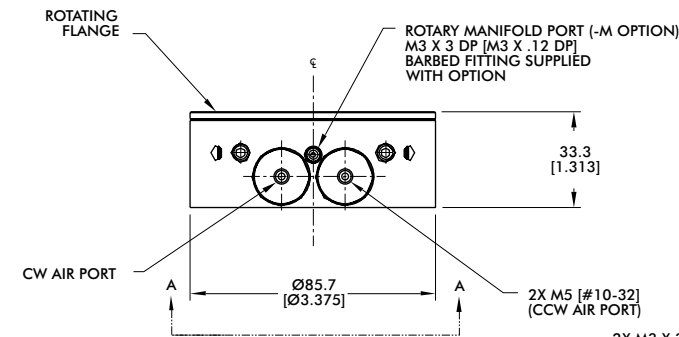


Note: Higher payloads and inertia possible with external shocks and stops.

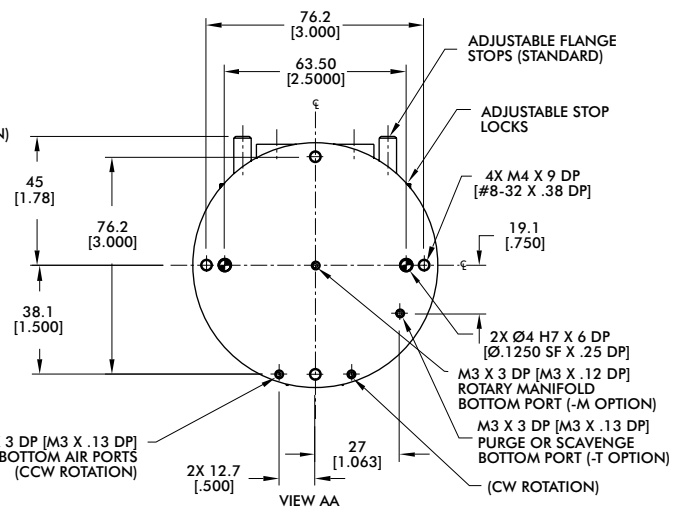
Rotary Actuators | Dimensions and Technical Specifications



UNIT SHOWN IN 0° POSITION ROTATED FULLY CW

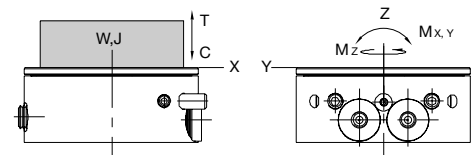


PLEASE NOTE: THE ONLY FEATURES THAT ARE NOT DIRECTLY RETROFITTABLE TO THE RR-26 IS THE DIFFERENT SENSORS & SENSOR MOUNTING KIT.



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:

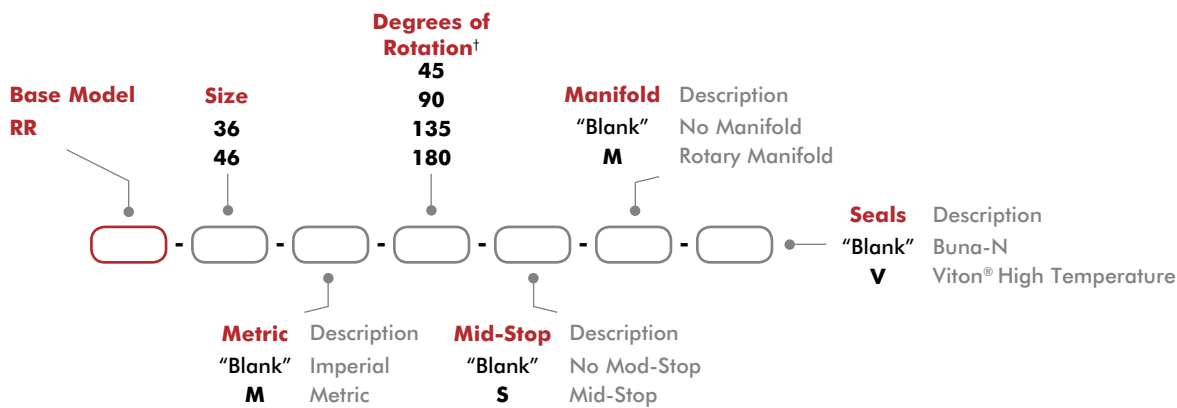
- Low profile, high capacity for tight space applications
- Mount payload directly to flange without additional support
- Preloaded bearings for high repeatability rotary actuation
- Zero backlash and slip fit dowel pins for precision applications
- Built-in adjustable hard-stops and shock absorbers
- 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.

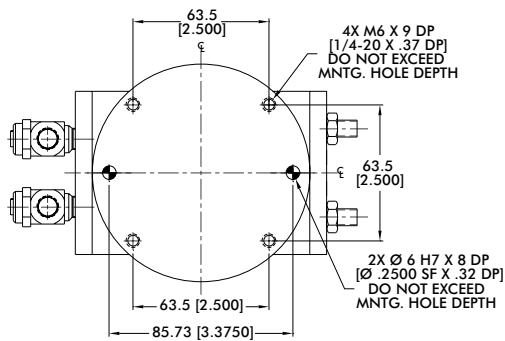
RR MEDIUM-DUTY SERIES

Rotary Actuators | Technical Specifications

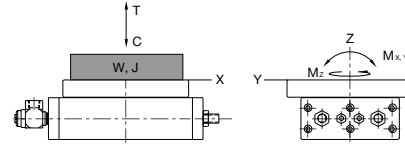
Specifications	Units	36	46
Maximum Payload	kg [lb]	3.6 [8.0]	6.8 [15]
Maximum Payload Inertia	Nm sec ² [in-lbs sec ²]	0.00468 [0.0414]	0.01096 [0.0970]
Maximum Rotation		180°	
Maximum Torque Mid-Stroke @ 100psi/7 bar	Nm [lbs-in]	7.4 [65]	14 [122]
Maximum Torque End-Stroke @ 100psi/7 bar	Nm [lbs-in]	3.7 [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

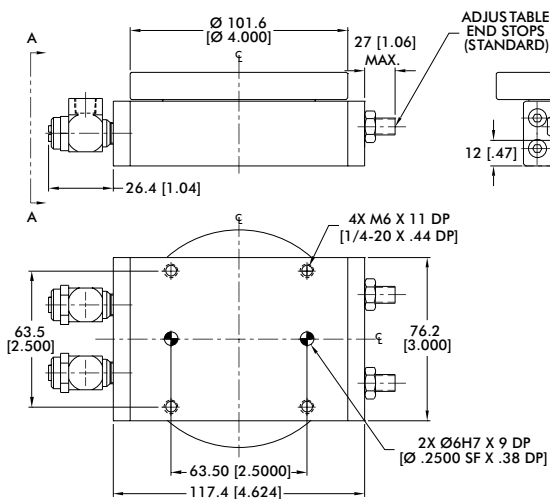
Rotary Actuators | Dimensions and Technical Specifications



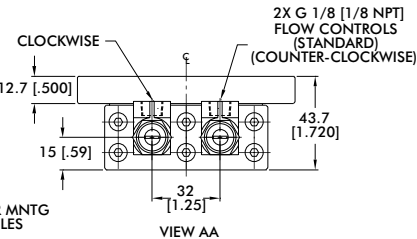
UNIT SHOWN IN 0° POSITION ROTATED FULLY CW



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]



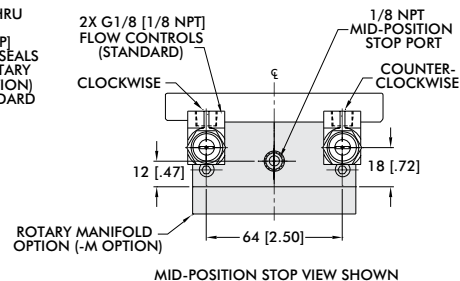
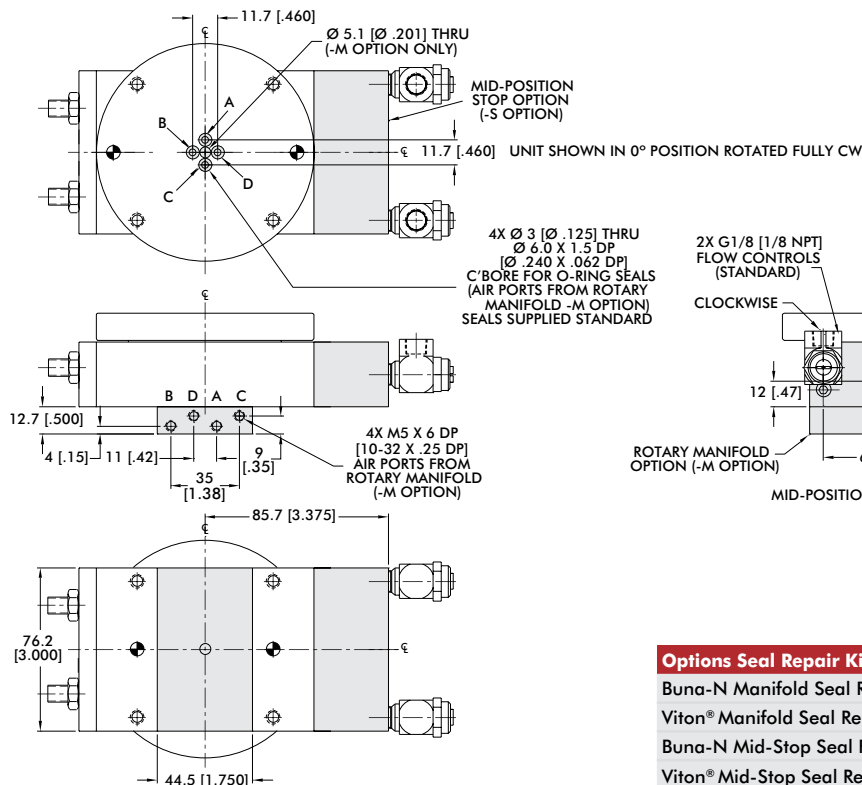
ADJUSTABLE
END STOPS
(STANDARD)



mm [INCH]
THIRD ANGLE
PROJECTION

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

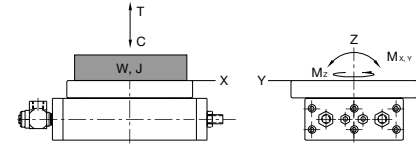
Options Dimensions



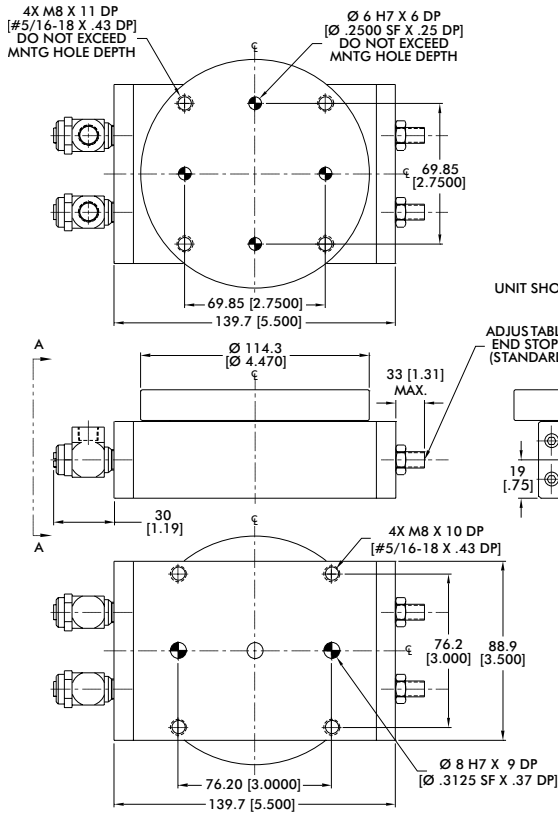
mm [INCH]
THIRD ANGLE
PROJECTION

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

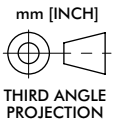
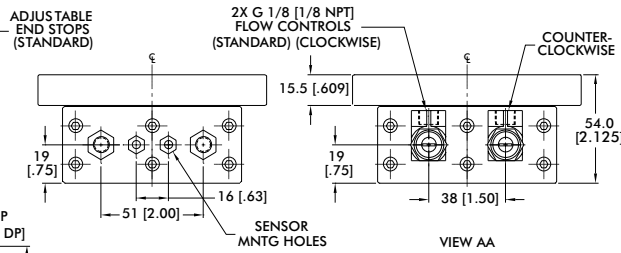
Rotary Actuators | Dimensions and Technical Specifications



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]

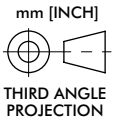
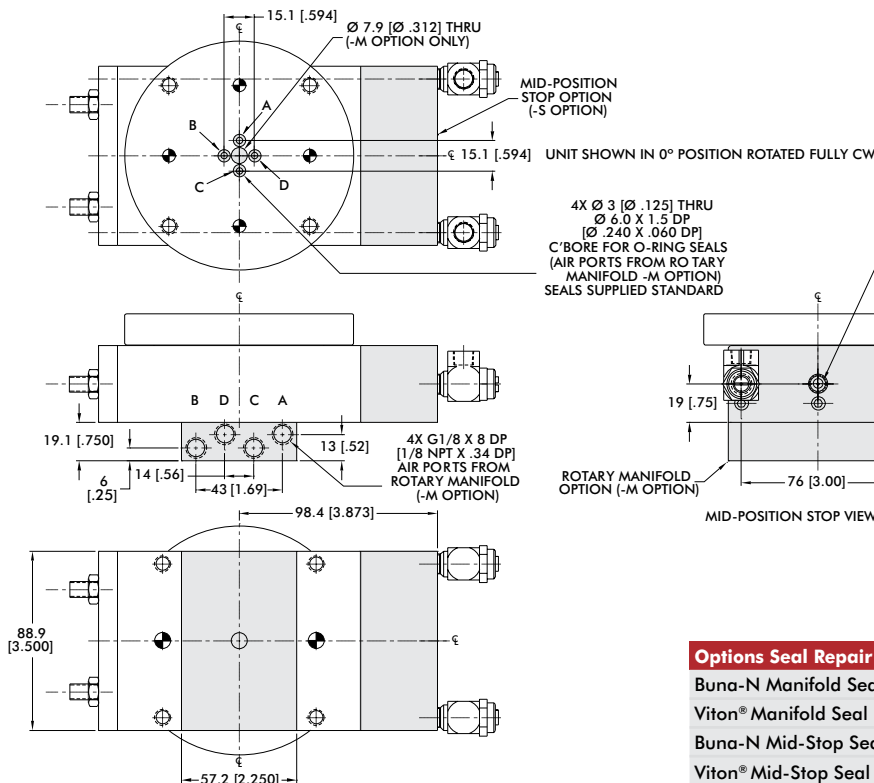


UNIT SHOWN IN 0° POSITION ROTATED FULLY CW



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:

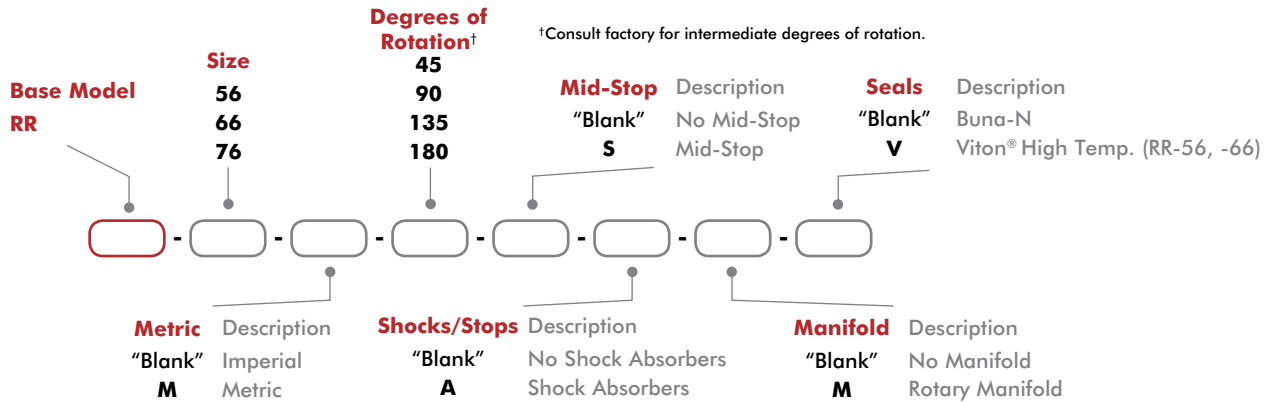
- Compact large capacity, high torque for tight space applications
- Use in heavy duty industrial and foundry applications
- Mount payload directly to flange without additional support
- Preloaded bearings for high repeatability rotary actuation
- Zero backlash & precision slip fit dowel pins
- Adjustable 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.

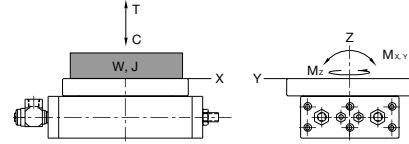
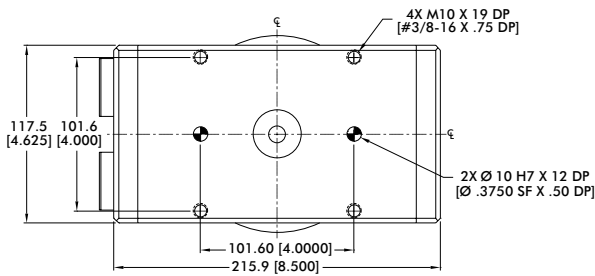
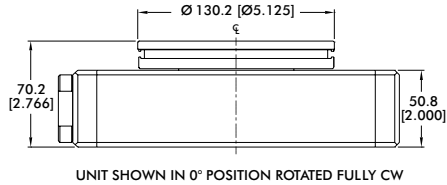
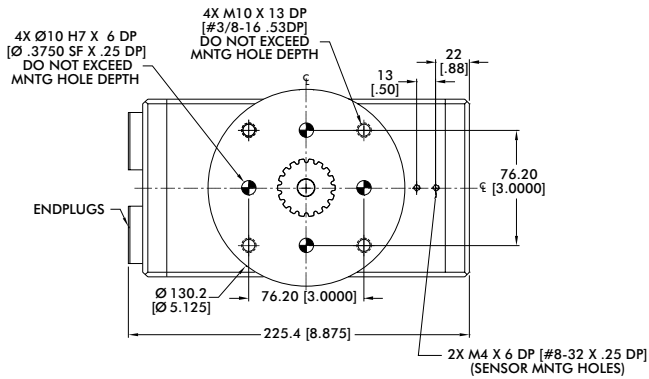
RR HEAVY-DUTY SERIES

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		

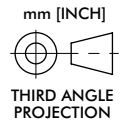
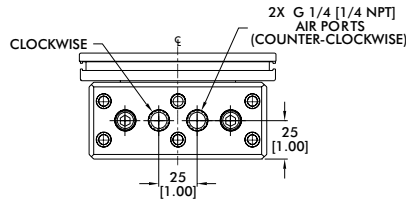
[†] Max. payload based on -A shock option.

*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.



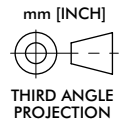
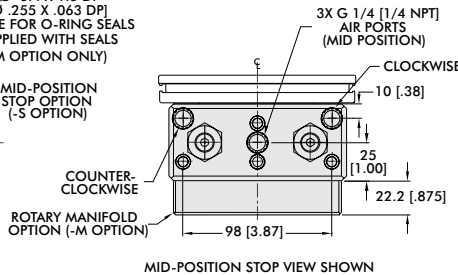
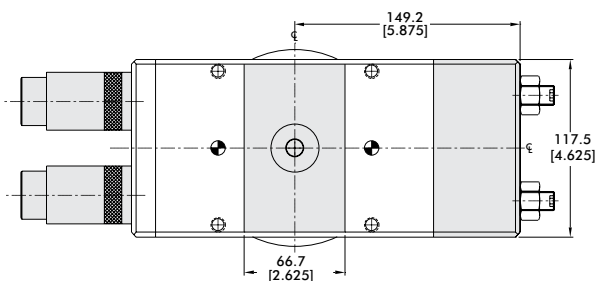
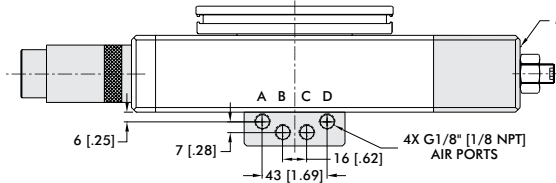
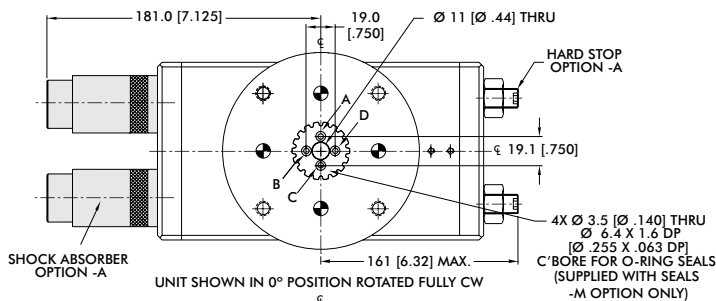
RR-56 Loading information	Static
Maximum Tensile T	3559 N [800 lbs]
Maximum Compressive C	8896 N [2000 lbs]
Maximum Moment M_x	113 Nm [1000 in-lbs]
Maximum Moment M_y	113 Nm [1000 in-lbs]
Maximum Payload W[†]	13.64 kg [30 lbs]
Maximum Inertia J[†]	0.0288 N-m-sec ² [0.2549 in-lbs-sec ²]

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



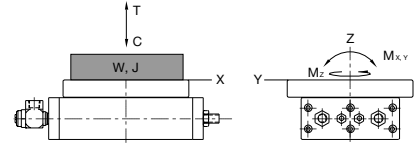
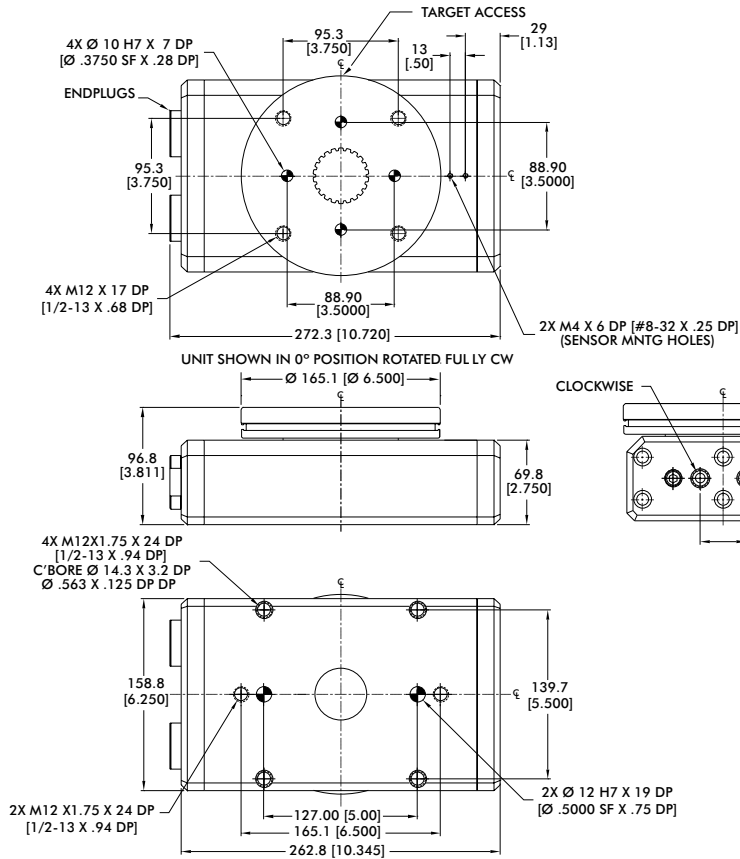
Base Unit Seal Repair Kits	Order #
Buna-N Seal Repair Kit	SLKT-124
Viton® Seal Repair Kit	SLKT-124V

Options Dimensions



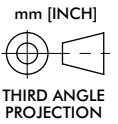
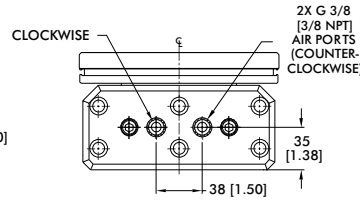
Options Seal Repair Kits		Order #
Buna-N Manifold Seal Repair Kit	-M	SLKT-126
Viton® Manifold Seal Repair Kit	-M-V	SLKT-126V
Buna-N Mid-Stop Seal Repair Kit	-S	SLKT-127
Viton® Mid-Stop Seal Repair Kit	-S-V	SLKT-127V
Buna-N Shock Seal Repair Kit	-A	SLKT-125
Viton® Shock Seal Repair Kit	-A-V	SLKT-125V

Rotary Actuators | Dimensions and Technical Specifications



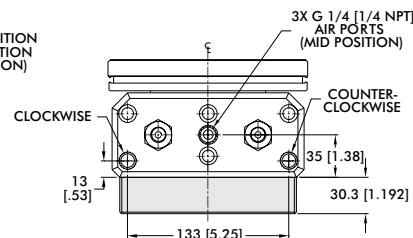
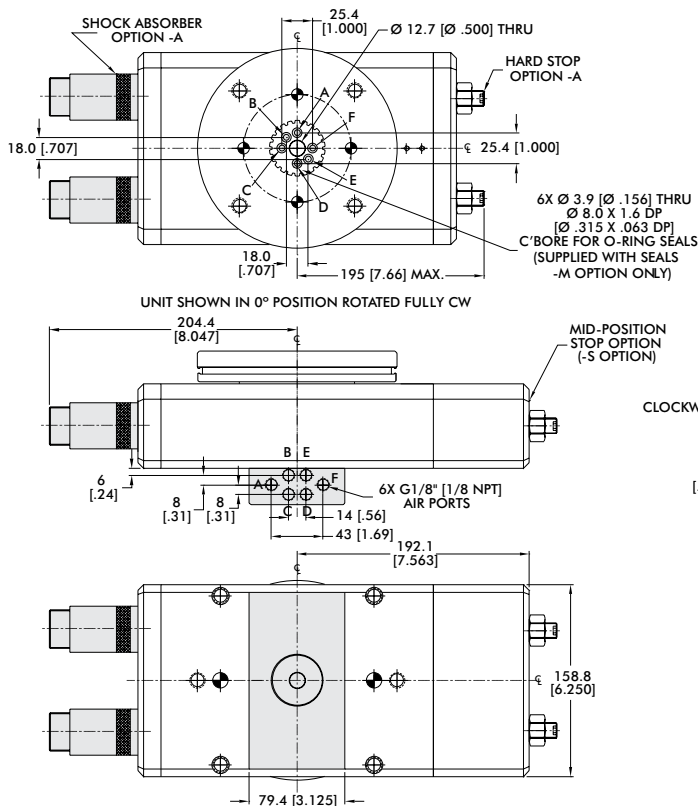
RR-66 Loading Information	Static
Maximum Tensile T	4448 N [1000 lbs]
Maximum Compressive C	15569 N [3500 lbs]
Maximum Moment M_x	226 Nm [2000 in-lbs]
Maximum Moment M_y	226 Nm [2000 in-lbs]
Maximum Payload W[†]	34 kg [75 lbs]
Maximum Inertia J[†]	0.1158 N-m-sec ² [1.025 in-lbs-sec ²]

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

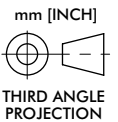


Base Unit Seal Repair Kits	Order #
Buna-N Seal Repair Kit	SLKT-128
Viton® Seal Repair Kit	SLKT-128V

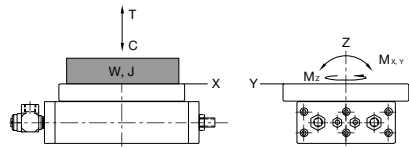
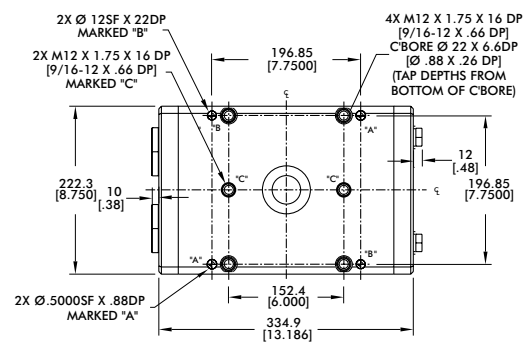
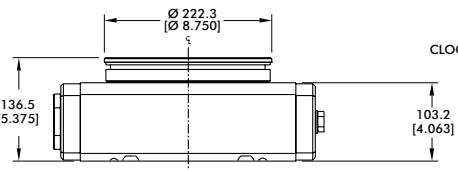
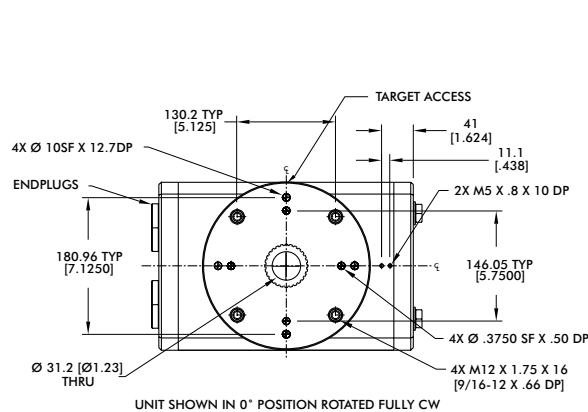
Options Dimensions



MID-POSITION STOP VIEW SHOWN

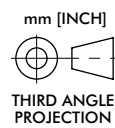
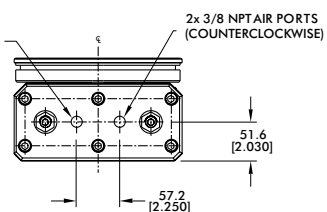


Options Seal Repair Kits	Order #
Buna-N Manifold Seal Repair Kit	-M SLKT-130
Viton® Manifold Seal Repair Kit	-M-V SLKT-130V
Buna-N Mid-Stop Seal Repair Kit	-S SLKT-131
Viton® Mid-Stop Seal Repair Kit	-S-V SLKT-131V
Buna-N Shock Seal Repair Kit	-A SLKT-129
Viton® Shock Seal Repair Kit	-A-V SLKT-129V



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_i	91 kg [200 lbs]
Maximum Inertia J_i	0.5596 N-m-sec ² [4.952 in-lbs-sec ²]

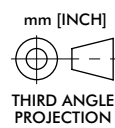
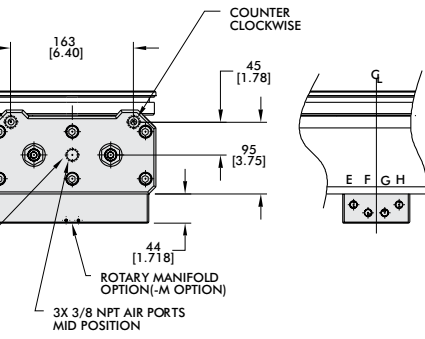
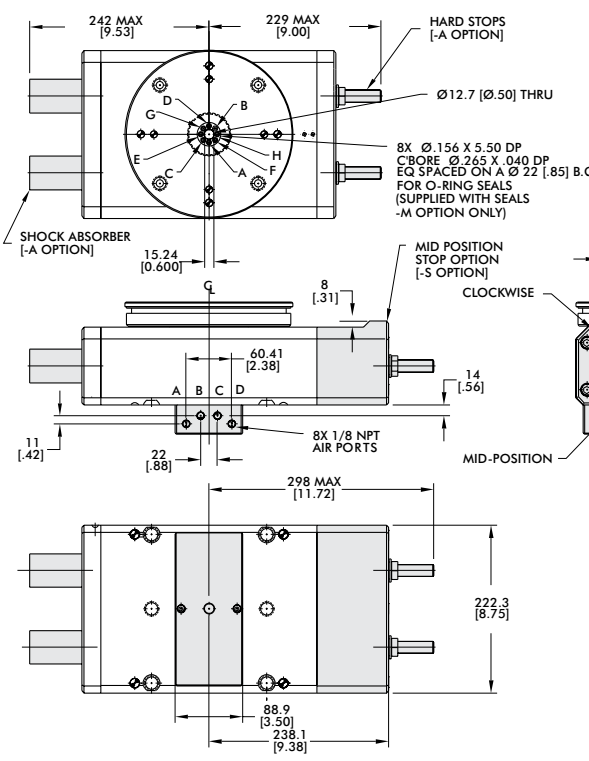
[†]Max. payload based on -A shock option.



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