

DURA-TAC

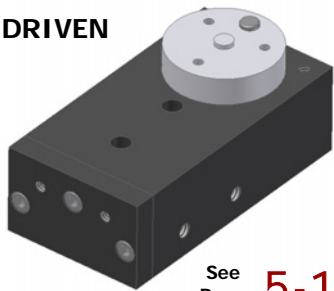


ROTARY ACTUATORS



JG SERIES

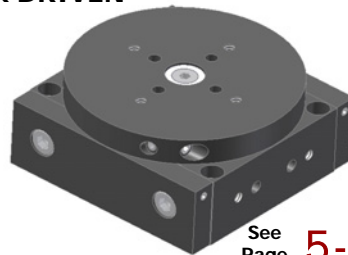
BALL DRIVEN



See
Page **5-1.1**

SRA SERIES

RACK DRIVEN



See
Page **5-2.1**



JG-SERIES BALL DRIVEN ROTARY ACTUATORS

DURA-TAC JG-1000 is an economic rotary actuator with rotary motion achieved by two pistons driving a series of hardened 1/2" diameter steel balls against a dowel pin located in the output flange. This gives a **back-lash free**, air spring-loaded power train. Air pressure and/or flow controls are used to obtain a smooth transfer; as well as giving overload protection to your tooling.

STROKE ADJUSTMENT

Stroke adjustment on **DURA-TAC JG-1000** is obtained by machining the pistons to length. One degree of rotary motion is controlled by removing 0.0042" [0.107mm] from each piston to keep the rotary motion centered.

TOOLING MOUNTING

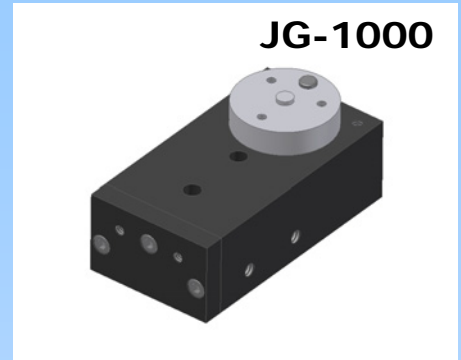
DURA-TAC JG-1000 features a tool mounting output flange. This flange has a pilot diameter, mounting screw holes and a dowel pin for location. The steel output flange and its supporting shaft are one piece. The shaft is fully supported by a full length steel sleeve.

MOUNTING INFORMATION

Holes for mounting or for auxiliary tool mounting are provided on four sides of the body.

DURA-TAC JG-1000 can be mounted and operated in any position.

The simplicity of the JG-1000 offers an economical yet durable approach to automatic work rotation. Perfect for rotary escapement, rotary transfer or orientation of tooling and work pieces.



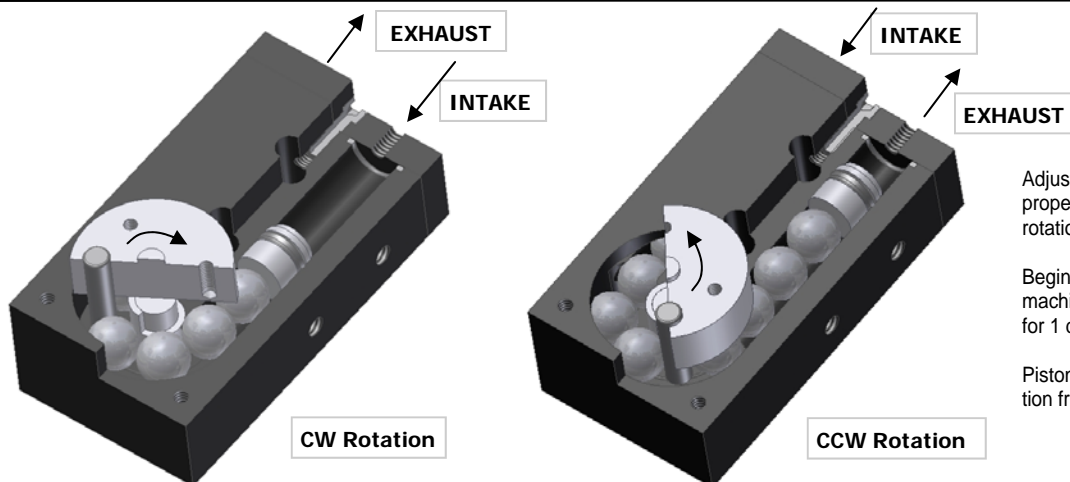
TECHNICAL SPECIFICATION

Pneumatic Specifications	ENGLISH	METRIC
Pressure Range	40-100 psi	3-7 bar
Cylinder Type	Dual Double Acting	
Dynamic Seals	Buna-N	
Required Valves	4-way, 2 position	

Temperature Range

Buna-N Seals (standard)	-30 to 180 F	-35 to 80 C
Viton Seals (-V option)	-20 to 300 F	-30 to 150 C

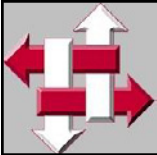
OPERATING PRINCIPLES



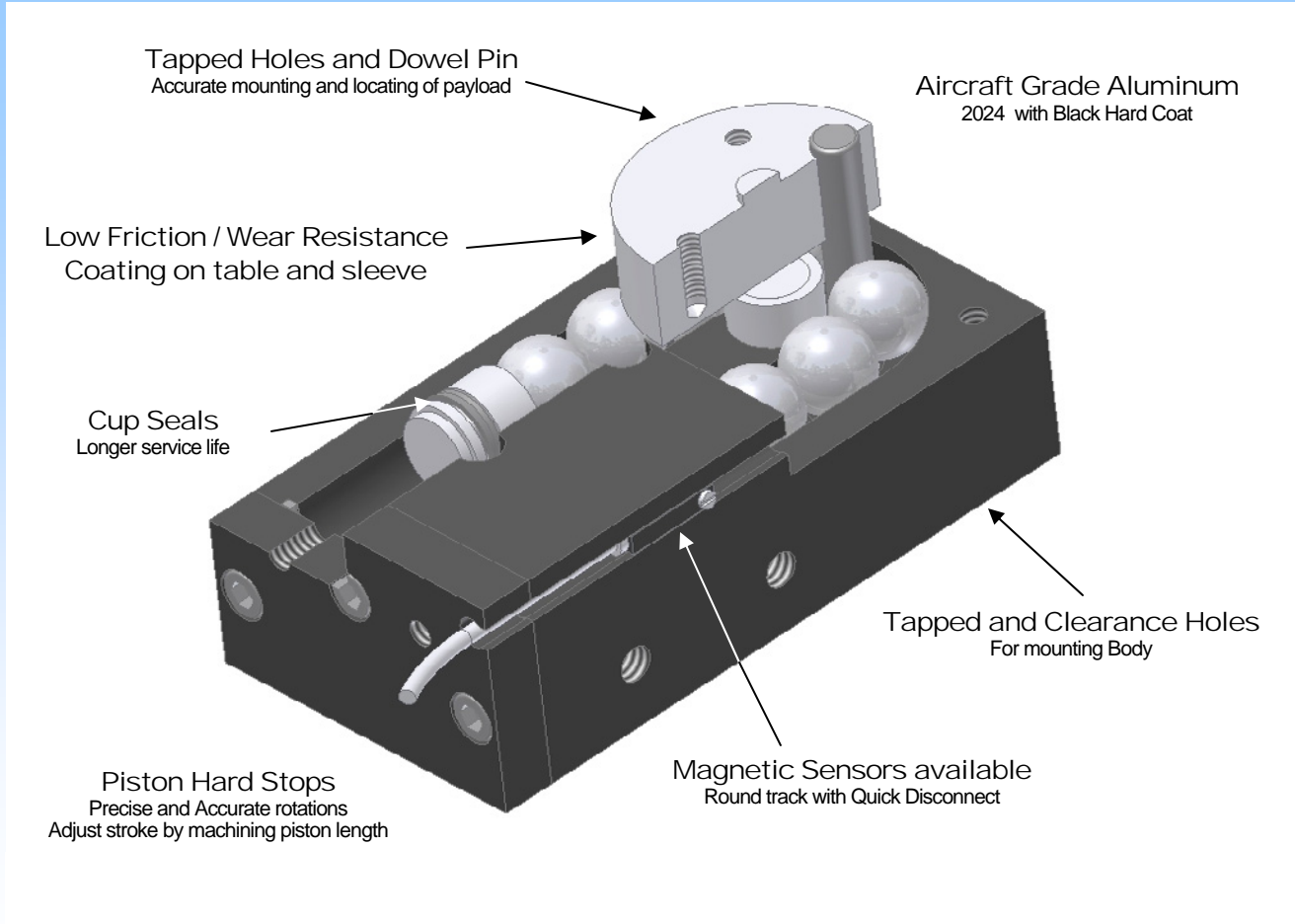
Adjust stroke by machining pistons to proper length for required degrees of rotation.

Begin with 180 degree pistons and machine 0.0042" [0.107mm] from each for 1 degree less in rotation.

Pistons can be ordered for specific rotation from factory (see parts list)



PRODUCT FEATURES

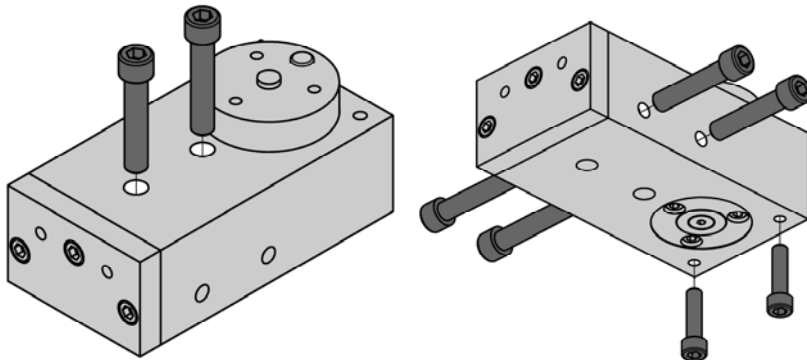


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MOUNTING INFORMATION

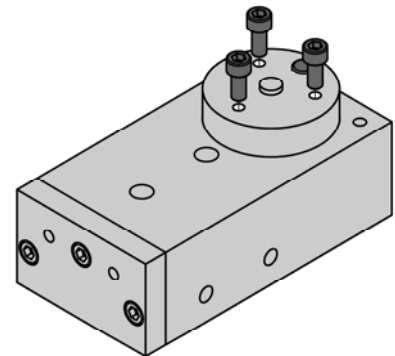
Mounts and operates in any orientation

MAIN BODY

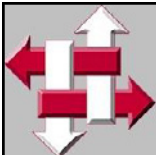


Mount thru Main body using Clearance holes on topside and or mount up to Main body using Tapped holes on bottom or sides.

TOOLING



Mount Payload up to table using Tapped holes. Use Dowel pin for positive location.

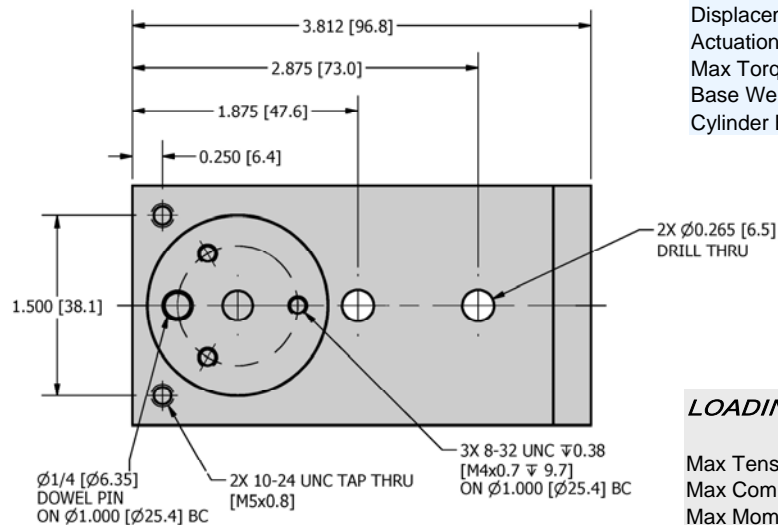


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ROTARY ACTUATORS

JG-1000

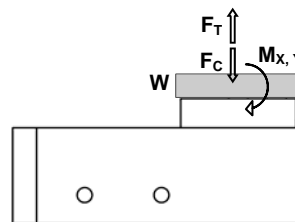
DIMENSIONAL DRAWING



NOTE: UNIT SHOWN AT MIDDLE OF STROKE
(1/2 OF TOTAL ROTATION)

SPECIFICATIONS

	JG-1000	MJG-1000
Air Pressure Range	30 - 100 psi	2.0 - 6.9 bar
Displacement (180° rotation)	0.32 in ³	5.2 cm ³
Actuation Time (180° rotation)	0.30 sec	0.30 sec
Max Torque (@100 psi / 6.9 bar)	9.0 lbf-in	0.97 N-m
Base Weight	1.3 lb	0.58 kg
Cylinder Bore Diameter (2X)	0.500 in	12.7 mm

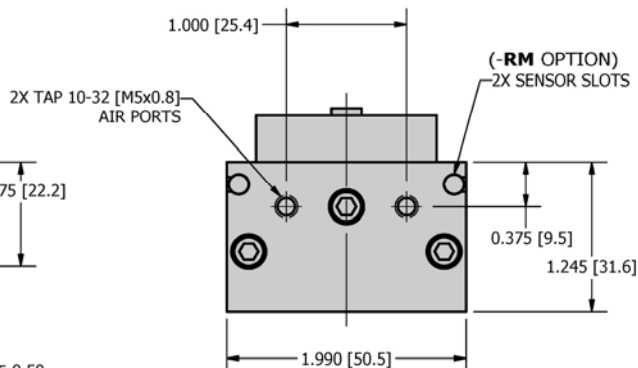
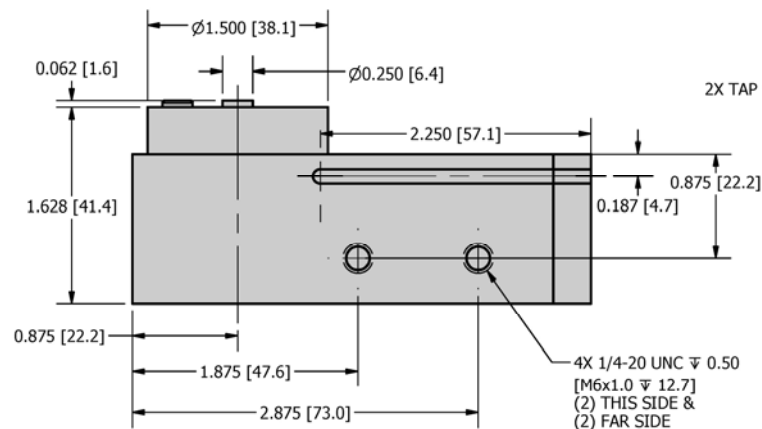


LOADING

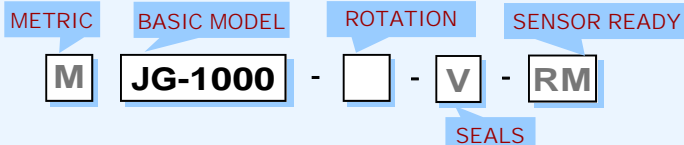
	JG-1000		MJG-1000	
	STATIC	DYNAMIC	STATIC	DYNAMIC
Max Tension F_T	50 lbf	5 lbf	222 N	22 N
Max Compression F_C	250 lbf	5 lbf	1112 N	22 N
Max Moment $M_{x,y}$	25 lbf-in	5 lbf-in	5.5 N-m	0.5 N-m
Max Payload W	-	1 lb	-	0.45 kg



Flow controls recommended for nearly all applications



HOW TO ORDER : BASIC UNIT



METRIC M
ROTATION 35°-180° in 5° increments
SEALS V - Viton (standard Buna - N)
SENSOR RM - Sensor Slots and Sensor Magnets
Sensors sold separately - See Accessories

ACCESSORIES (order separately)

MAGNETIC SENSOR KITS * (Round track mounted)

- RSK-N - Magnetic Sensor NPN w/ quick disconnect Kit
- RSK-P - Magnetic Sensor PNP w/ quick disconnect Kit
- RSK-D - Magnetic Sensor 2-wire output w/ quick disconnect Kit

* Requires sensor magnets (-RM). Sensors kits include (2) sensors and (2) 5 meter cables.

MAGNETIC SENSORS * (Round track mounted)

- RS-N - Magnetic Sensor NPN w/ quick disconnect
- RS-P - Magnetic Sensor PNP w/ quick disconnect
- RS-D - Magnetic Sensor 2-wire output w/ quick disconnect

* Requires sensor magnets (-RM). Includes (1) sensor.

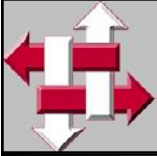
SENSOR CABLE

SENCAB-5 - Quick Disconnect PUR Cable 5M Length

SAMPLE ORDER: JG-1000-180

Ex) JG-1000 with 180 degrees of rotation

CUSTOM DESIGNS ALWAYS AVAILABLE
PLEASE CONTACT US FOR INFORMATION

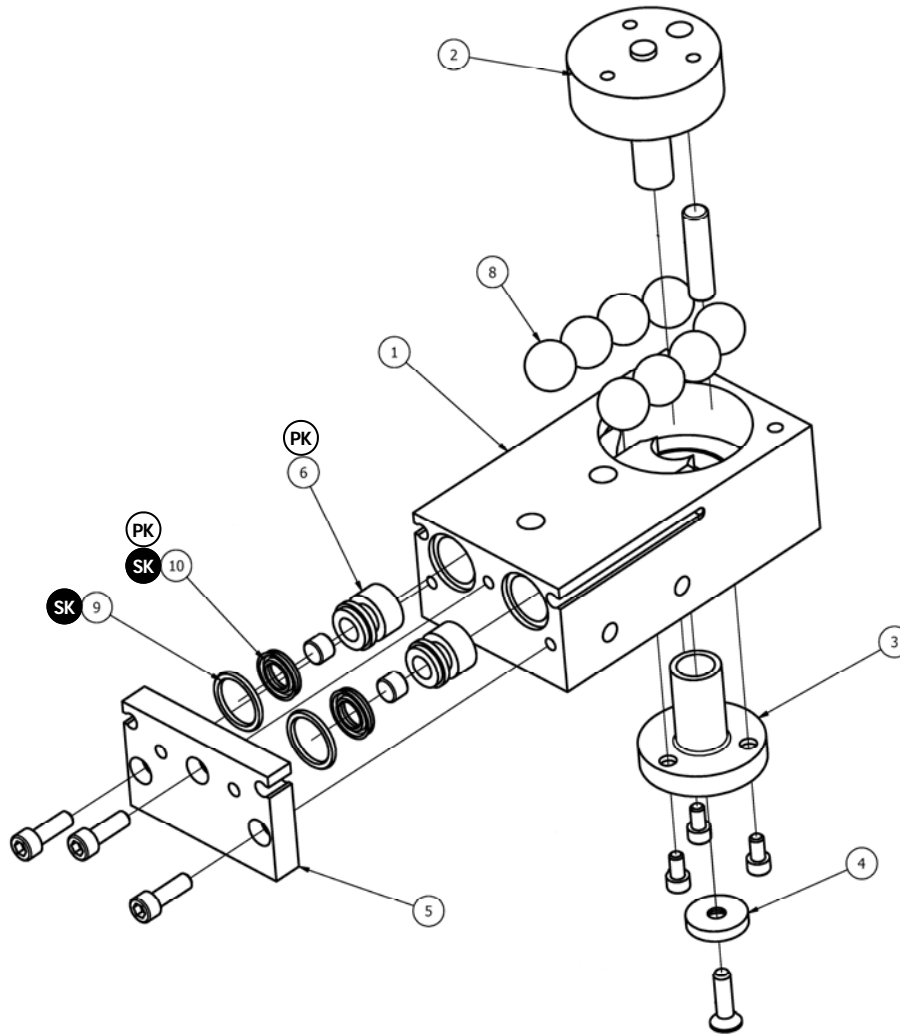


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ROTARY ACTUATORS

JG-SERIES 

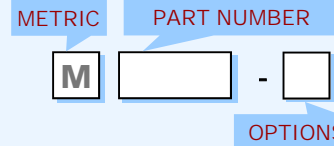
EXPLODED VIEW



PARTS LIST

HOW TO ORDER PARTS

ITEM	REQ'D	NAME	JG-1000	OPTIONS
1	1	Main Body	JG-101	-RM ³
2	1	Table	JG-102	
3	1	Sleeve	JG-103	
4	1	Washer	JG-104	
5	1	End Cap	JG-105	-RM ³
6	2	Piston	JG-106	-R ¹ -RM ³
8	8	Steel Ball *	BLL-0500	
9	2	O-ring *	ORG-014	-V ²
10	2	U-cup *	UCP-120	-V ²
PK	1	Piston Kit ^{##} *	JG-1000-PK	-V ²
SK	1	Seal Kit [#] *	JG-1000-SK	-V ²



SAMPLE ORDER: JG-106-90

Ex) JG-1000 Piston for 90 degree rotation

OPTIONS (see product pages for information)

- 1 - R = Rotation
- 2 - V = Viton Seals
- 3 - RM = Sensor Ready

NOTES

- * - Metric code not required
- # - Seal Kit includes req'd qty of items marked with SK
- ## - Piston Kit includes (2) full length piston with seals for users to modify



SRA-SERIES RACK DRIVEN ROTARY ACTUATORS

DURA-TAC SRA Series of rack driven rotary actuators provide a durable and compact approach to automatic work rotation.

FEATURES

DURA-TAC SRA Series have a compact, square body design to allow use in tight space applications. The output table is supported by two bearings to provide high loading capacity and a steady durable unit. The rack and pinion design provides zero backlash rotation in both directions and creates high torque and fast cycle times. Built in, adjustable hard-stops provide accurate rotation and prevent pinion damage. The bodies are sealed and require no lubrication. The units are fully field serviceable with available seal kits to reduce unwanted downtime and costs. The series also has available sensors to monitor rotation.

MOUNTING STYLES

DURA-TAC SRA Series can be mounted and located in any plane with provided mounting holes and dowel pin holes. The main body contains both tapped holes and counterbored clearance holes for cap screws. The rotating table has tapped holes for mounting and slip fit dowel holes for location.



The SRA series of rotary actuators are perfect for any application where precise and repeatable rotary motion is required

TECHNICAL SPECIFICATION

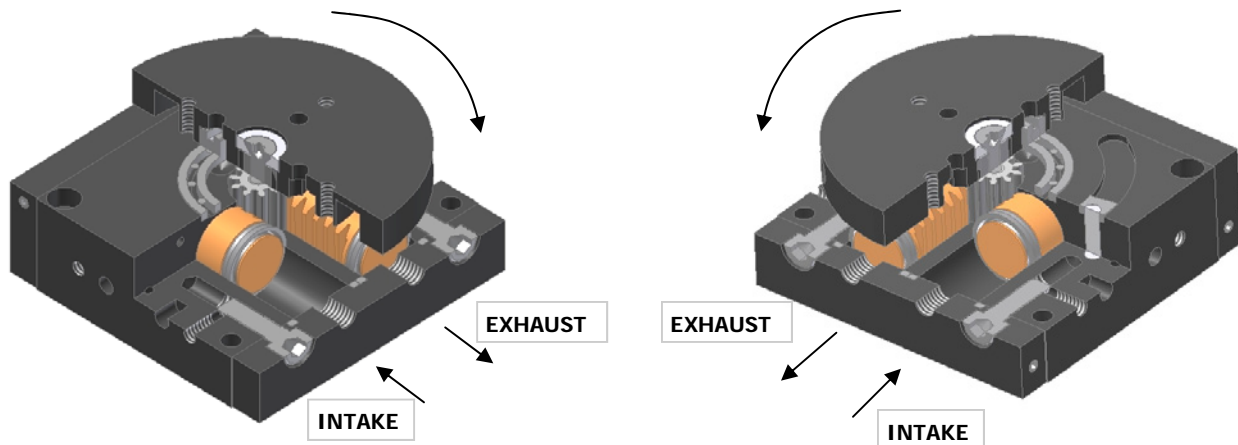
Pneumatic Specifications

Pressure Range	ENGLISH	METRIC
	40-100 psi	3-7 bar
Cylinder Type	Dual Double Acting	
Dynamic Seals	Buna-N	
Required Valves	4-way, 2 position	

Temperature Range

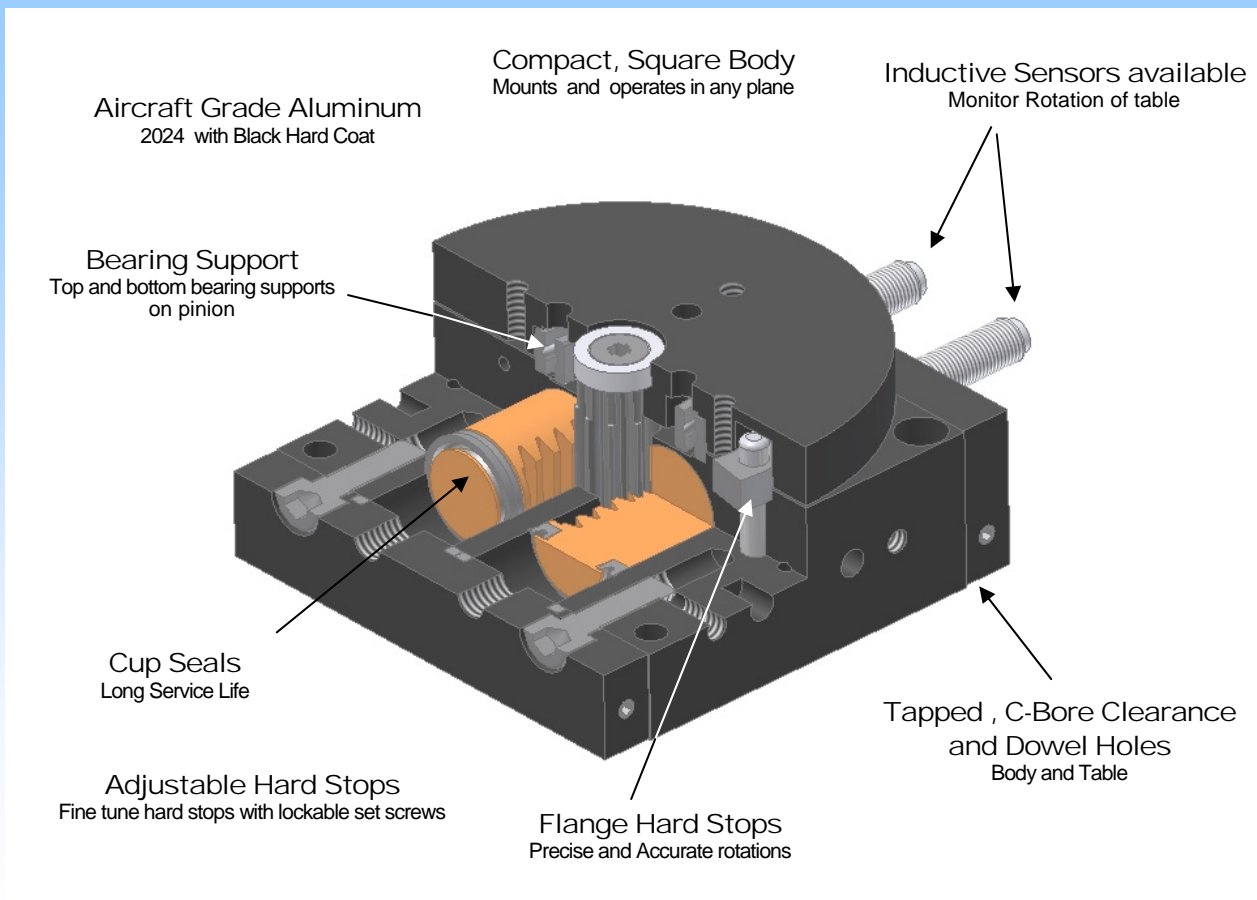
Buna-N Seals (standard)	-30 to 180 F	-35 to 80 C
Viton Seals (-V option)	-20 to 300 F	-30 to 150 C

OPERATING PRINCIPLES





PRODUCT FEATURES

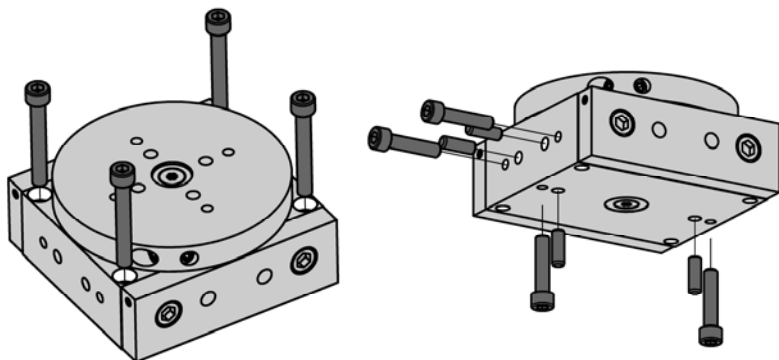


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MOUNTING INFORMATION

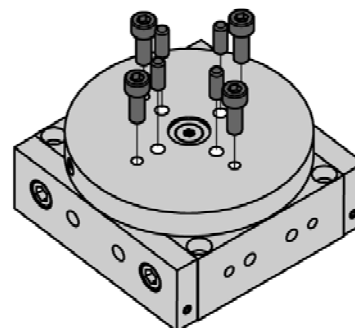
Mounts and operates in any orientation

MAIN BODY



Mount thru Main body using C-bore Clearance holes on topside and or mount up to Main body using Tapped holes on bottom or sides. Use Dowel holes for positive location.

TOOLING



Mount Payload up to table using Tapped holes. Use Dowel holes for positive location.



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ACTUATOR

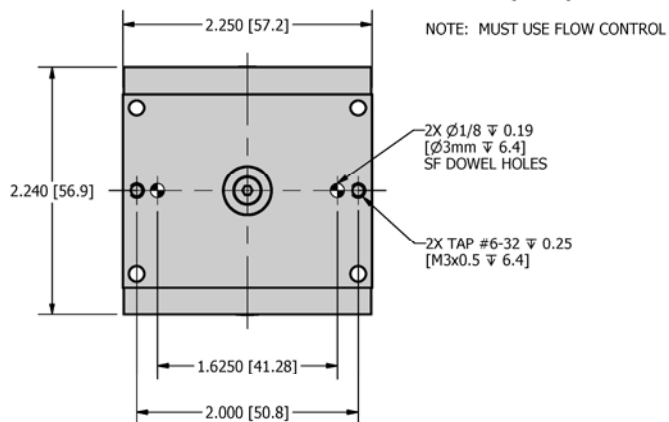
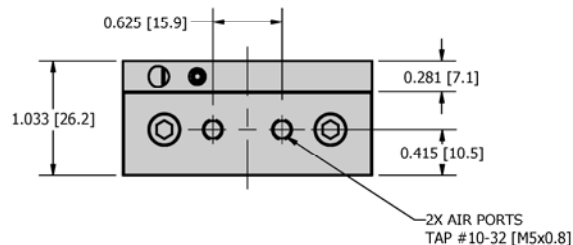
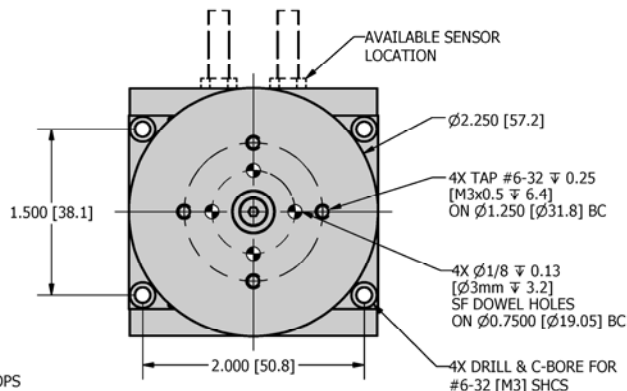
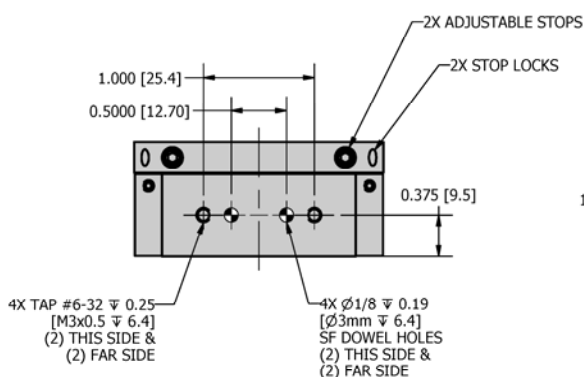
SRA-1

DIMENSIONAL DRAWING

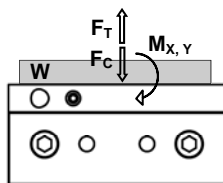
SPECIFICATIONS

	SRA-1	MSRA-1
Air Pressure Range	30 - 100 psi	2.0 - 6.9 bar
Displacement (180° rotation)	0.3 in ³	4.9 cm ³
Actuation Time (180° rotation)	0.30 sec	0.30 sec
Max Torque (@100 psi / 6.9 bar)	6.5 lbf-in	0.7 N-m
Base Weight	0.51 lb	0.23 kg
Cylinder Bore Diameter (2X)	0.500 in	12.7 mm

NOTE: UNIT SHOWN AT MIDDLE OF STROKE
(1/2 OF TOTAL ROTATION)



Flow controls highly recommended for all applications. Operating without flow reduction will greatly affect service life



LOADING

	SRA-1		MSRA-1	
	STATIC	DYNAMIC	STATIC	DYNAMIC
Max Tension F_T	50 lbf	12 lbf	222 N	53 N
Max Compression F_c	250 lbf	50 lbf	1112 N	222 N
Max Moment $M_{x,y}$	100 lbf-in	25 lbf-in	11 N-m	2.8 N-m
Max Payload W	-	1 lb	-	0.45 kg

HOW TO ORDER : BASIC UNIT

ACCESSORIES (order separately)

METRIC BASIC MODEL ROTATION SEALS

M **SRA-1** - **RM** - **V**

SENSOR READY

- METRIC M
- ROTATION 35°-180° in 5° increments
- SENSOR READY RM - Sensor Ready
Sensors sold separately - See Accessories
- SEALS V - Viton (standard Buna - N)

SAMPLE ORDER: SRA-1-180-RM

Ex) SRA-1 with 180 degrees of rotation ready for sensors

INDUCTIVE SENSOR KITS *

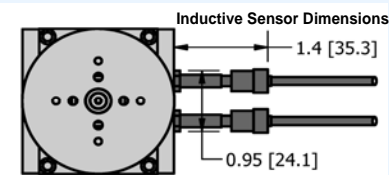
- ISK-M5-N - Inductive Sensor NPN w/ quick disconnect Kit
- ISK-M5-P - Inductive Sensor PNP w/ quick disconnect Kit
- * Requires (-RM) option - sensors kits include (2) sensors (2) 5 meter quick disconnect cables.

INDUCTIVE SENSORS

- IS-M5-N - (1) Inductive Sensor NPN w/ quick disconnect
- IS-M5-P - (1) Inductive Sensor PNP w/ quick disconnect

SENSOR CABLE

- SENCAB-5 - Quick Disconnect PUR Cable 5M Length



CUSTOM DESIGNS ALWAYS AVAILABLE PLEASE CONTACT US FOR INFORMATION

FOR MORE INFORMATION CALL US AT 1-800-588-0174 OR 860-589-6364 FAX: 860-589-6235

VISIT US AT www.RIMFG.com



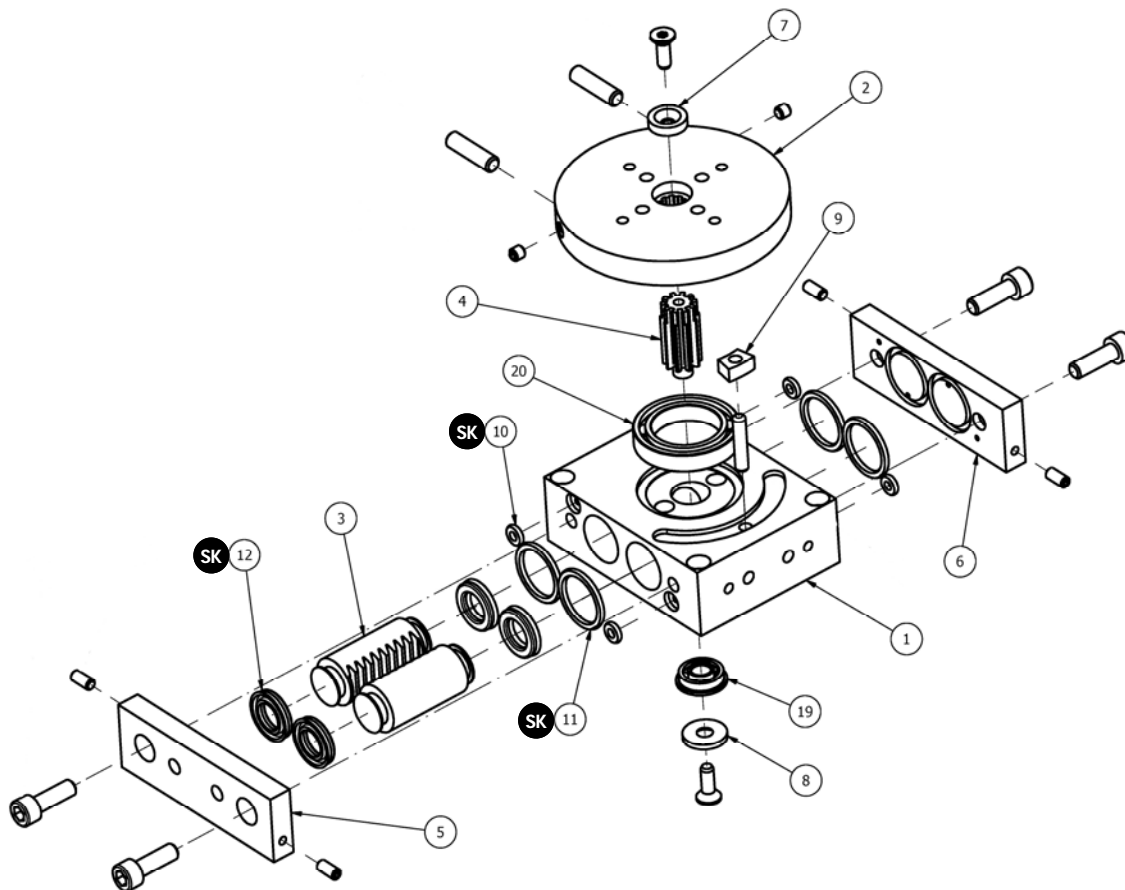
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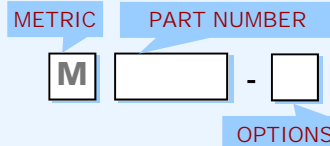
EXPLODED VIEW



PARTS LIST

HOW TO ORDER PARTS

ITEM	REQ'D	NAME	SRA-1	OPTIONS
1	1	Main Body	SRA-101	
2	1	Table	SRA-102	
3	2	Piston *	SRA-103	
4	1	Pinion *	SRA-104	
5	1	Air Port End Cap	SRA-105	
6	1	Back Side End Cap	SRA-106	-RM ³
7	1	Top Washer	SRA-107	
8	1	Bottom Washer	SRA-108	
9	1	Stop *	SRA-109	-R ¹
10	4	Porting O-ring *	ORG-004	-V ²
11	4	End Cap O-ring *	ORG-014	-V ²
12	4	U-cup *	UCP-120	-V ²
19	1	Lower Bearing *	BRG-0187x025F	
20	1	Upper Bearing *	BRG-61803	
SK	1	Seal Kit #*	SRA-1-SK	-V ²



SAMPLE ORDER: SRA-109-180

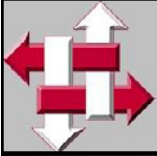
Ex) SRA-1 Stop for 180 degree rotation

OPTIONS (see product pages for information)

- 1 - R = Rotation
- 2 - V = Viton Seals
- 3 - RM = Sensor Ready

NOTES

- * - Metric code not required
- # - Seal Kit includes req'd qty of parts marked with SK



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TECH NOTES