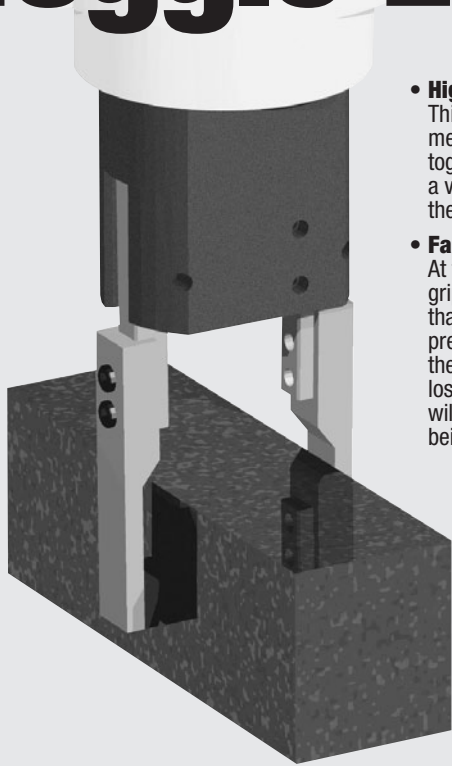
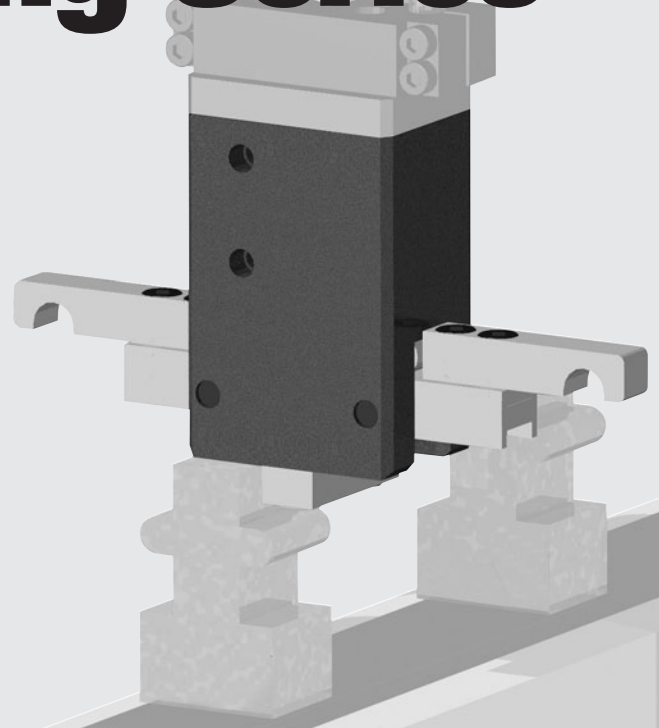


Angular Grippers - Toggle Locking Series

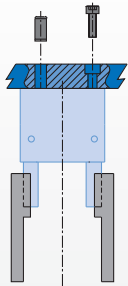


- High gripping force:**
 This style gripper uses the mechanical advantage of a toggle mechanism that creates a very high gripping force at the completion of stroke.
- Fail safe locking:**
 At the full closed position the gripper locks in such a way that it cannot unlock unless air pressure is supplied to open the gripper. If air pressure is lost catastrophically, the gripper will not release the part that is being held.

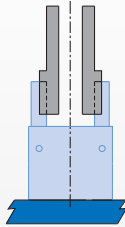


Mounting Information:

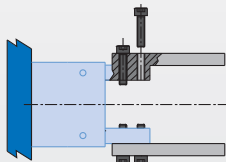
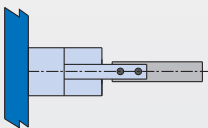
Grippers can be mounted & operated in any orientation



Body mounts with screws and locates with slip fit dowel pins for accuracy



Warning! Protect drive and bearing mechanism from falling debris when mounted upside down



Fingers attach to jaws with screws and locate by keying

Technical Specifications:

Pneumatic Specifications	Imperial	Metric
Pressure Operating Range	40-100 psi	3-7 bar
Cylinder Type	Double Acting	
Dynamic Seals	Internally Lubricated Buna-N	
Valve Required to Operate	4-way, 2-position	

Air Quality Requirements

Air Filtration	40 Micron or Better
Air Lubrication	Not Necessary*
Air Humidity	Low Moisture Content (dry)

Temperature Operating Range

Buna-N Seals (standard)	-30°~180° F	-35°~80° C
Viton® Seals (optional)	-20°~300° F	-30°~150° C

Maintenance Specifications†

Expected Life	5 million cycles
Normal Application w/ Preventative Maintenance	10+ million cycles*
Field Repairable	Yes
Seal Repair Kits Available	Yes

*Addition of lubrication will greatly increase service life
 †See Maintenance Section

Product Features

Hard Coat Anodize

The body has hard-coat anodize 60 RC with Teflon® impregnation

Quality Components

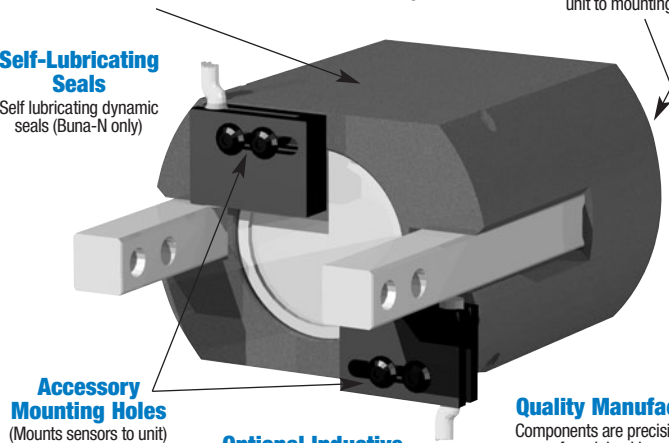
Dynamic components are hardened for wear resistance and long life

Slip Fit Dowel Holes

Bodies have slip fit dowel holes for accurate location of unit to mounting surface

Self-Lubricating Seals

Self lubricating dynamic seals (Buna-N only)

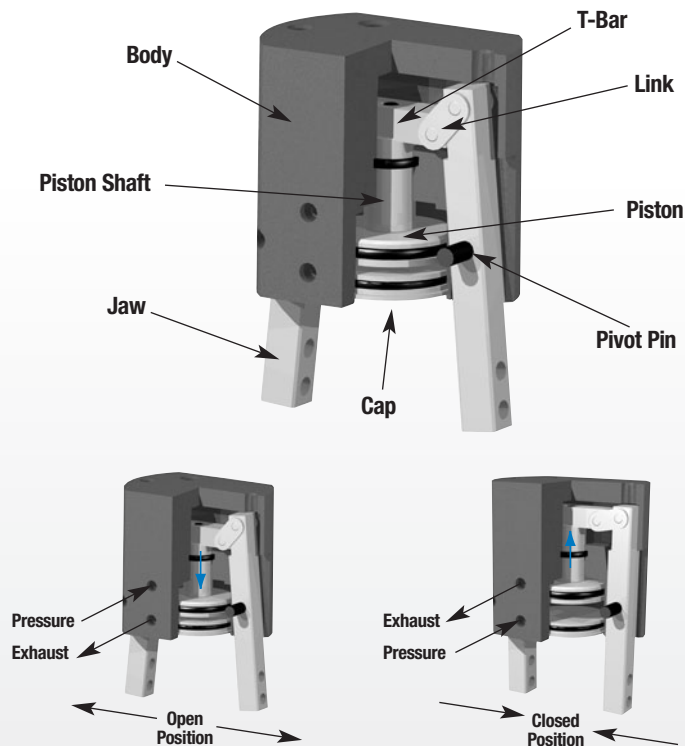


Accessory Mounting Holes
(Mounts sensors to unit)

Optional Inductive Sensors & Flow Controls
(sold separately)

Quality Manufacturing
Components are precision ground for minimal jaw play

Operating Principle



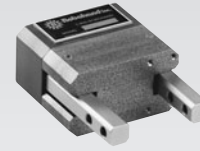
- A double acting piston is connected by a shaft to a "T"-bar.
- The "T"-bar is connected to a set of linkages which are attached to the jaws. The jaws pivot about a pivot pin converting the linear motion of the "T"-bar into synchronous angular motion of the jaws.
- This gripper is suitable for internal gripping without locking or external gripping with locking.

Designed and manufactured in the USA

Style-RA Angular Gripper

Size -15M

Style:	RA-15	RA-15M
Stroke:	6° each finger	
Grip Force:	70 lbs.	311 N
Weight:	.31 lbs.	.14 Kg

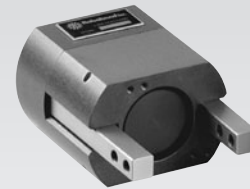


See Page **2.32**

Style-RA Angular Gripper

Size -25M

Style:	RA-25	RA-25M
Stroke:	6° each finger	
Grip Force:	250 lbs.	1112 N
Weight:	1.1 lbs.	.48 Kg



See Page **2.33**

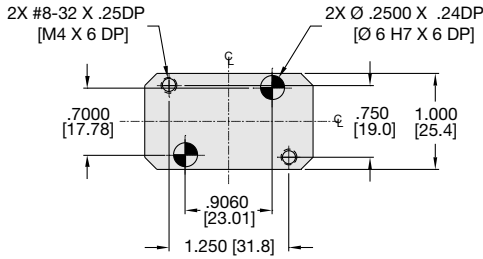


Robohand

ANGULAR GRIPPER RA-15M TOGGLE LOCKING SERIES

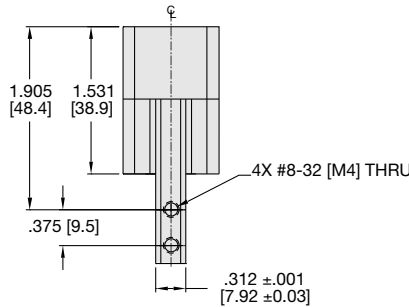
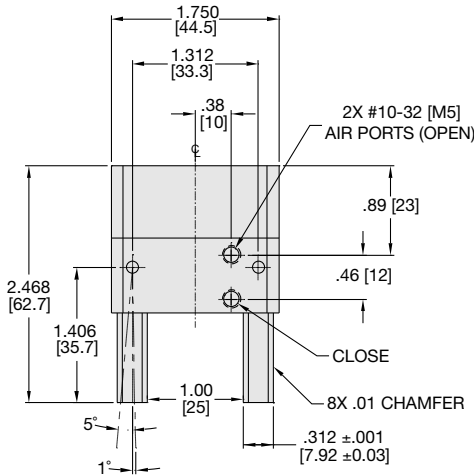
RA SERIES

2.32



Specifications

	RA-15	RA-15M
Total Rated Grip Force F @ 100 psi, 7 bar	70 lbs.	311 N
Stroke	6° of stroke for each finger	
Weight	0.31 lbs.	0.14 Kg
Pressure Range	40-100 psi	3-7 bar
Cylinder Bore Ø	.750 in.	19.1 mm
Displacement	0.110 in ³	1.8 cm ³
Temperature Range		
Standard Seals	-30°~180° F	-35°~80° C
Viton® Seals	-20°~300° F	-30°~150° C
Actuation	0.10 sec.	0.10 sec.
Accuracy	±0.003 in.	±0.08 mm
Repeatability	±0.001 in.	±0.03 mm
Valve required to actuate		4-way, 2-position

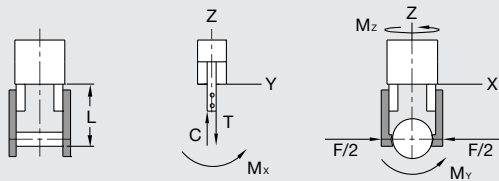
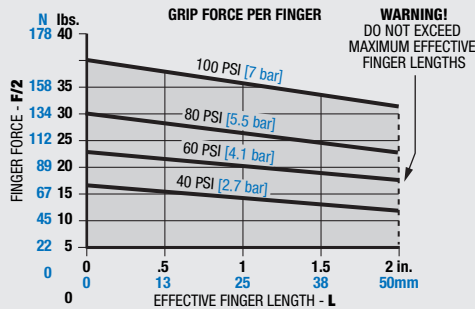


JAW SHOWN PARALLEL
JAW WILL CLOSE 1" PAST PARALLEL

UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

Imperial in.	Metric [mm]
0.00 ± .01	[0.] = [±.25]
0.000 ± .005	[0.0] = [±.13]
0.0000 ± .0005	[0.00] = [±.013]

Loading Information

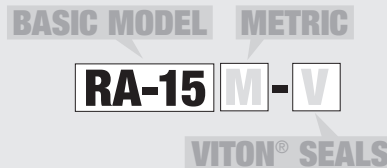


Loading Capacity [†]	Static		Dynamic	
	Imperial	Metric	Imperial	Metric
Maximum Tensile T	50 lbs.	222 N	20 lbs.	89 N
Maximum Compressive C	50 lbs.	222 N	20 lbs.	89 N
Maximum Moment M_x	60 in.-lbs.	6.8 Nm	20 in.-lbs.	2.3 Nm
Maximum Moment M_y	120 in.-lbs.	13.6 Nm	40 in.-lbs.	4.5 Nm
Maximum Moment M_z	60 in.-lbs.	6.8 Nm	20 in.-lbs.	2.3 Nm

[†]Capacities are per set of jaws and are not simultaneous

How to Order:

(Order Accessories separately from Basic Model)



SENSOR ACCESSORIES*

	ORDER #	QTY/UNIT
Sensor Mounting Kit for Imperial & Metric Units (mounts 2 sensors)	OSMK-018	1
3mm NPN Inductive Sensor with Quick Disconnect*	OISN-019	1 or 2
3mm PNP Inductive Sensor with Quick Disconnect*	OISP-019	1 or 2
Quick Disconnect 2 Meter Cable Length*	CABL-010	1 or 2
Quick Disconnect 5 Meter Cable Length*	CABL-013	1 or 2

PNEUMATIC ACCESSORIES

	ORDER #	QTY/UNIT
Standard Seal Repair Kit	SLKT-019	1
Viton® Seal Repair Kit	SLKT-019V	1

*Sensor and cable sold separately

INDUCTIVE SENSORS AND MOUNTING KIT

