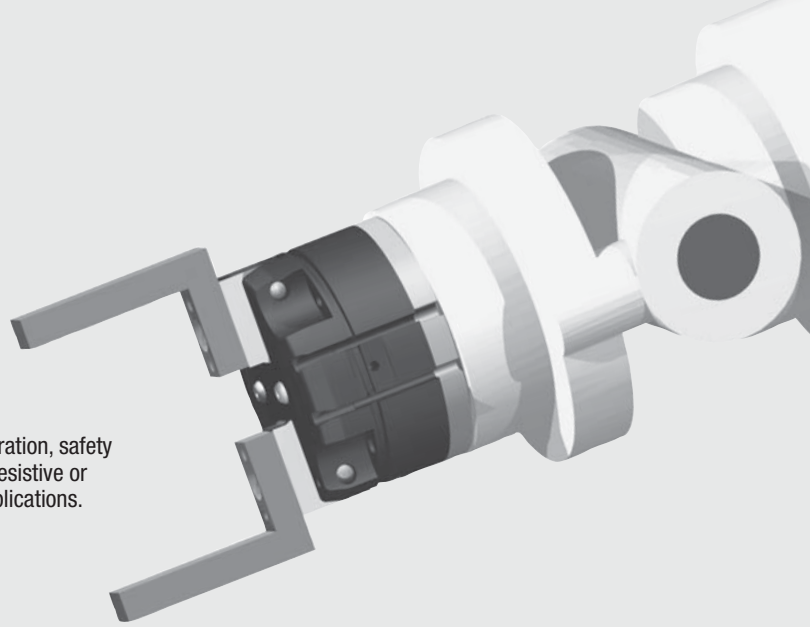


Angular Grippers - High Power Series



- **Cost effective:**

The simplified drive mechanism makes these grippers an excellent value

- **Compact, robust & powerful gripper:**

This gripper is designed for use in confined spaces, combining large opening angle with a high torque. Optional safety springs retain the components, should the air supply fail or to increase grip force.

- **Multipurpose gripper:**

A wide range of options and accessories (hydraulic or pneumatic operation, safety springs for internal or external clamping, Viton® seals, and magneto resistive or inductive sensing) allow these grippers to be used in a number of applications.

- **Harsh environment:**

Shielded design repels chips and other particulate from internal drive mechanism

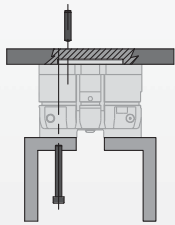
- **High Temperature Design (Vulcan Series):**

Designed for heavy-duty, extreme high temperature applications, the Vulcan Series Gripper can be ordered with optional metal seals and fireproof kevlar boot or stainless steel heat shield for added protection.

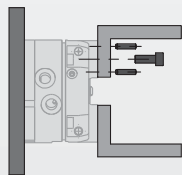
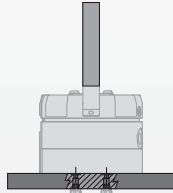
Mounting Information:

Gripper can be mounted and operated in any orientation

Gripper is located using pilot boss and a dowel pin and assembled with 4 through body screws.



Gripper can be operated utilizing top manifold air ports.



Fingers are located on jaws with 2 dowel pins and assembled with 1 screw.

Technical Specifications:

| Specifications | Imperial | Metric |
|---------------------------------------|---|-------------|
| Pneumatic Pressure Operating Range: | | |
| Standard | 30-100 psi | 2-7 bar |
| with -RE, -RI Spring Option | 45-100 psi | 3-7 bar |
| Hydraulic Pressure Operating Range:** | | |
| Hydraulic | 30-290 psi | 2-20 bar |
| with -RE, -RI Spring Option | 45-290 psi | 3-20 bar |
| Cylinder Type | Double Acting or Single Acting Spring Return or Double Acting Spring Assist Internally Lubricated Buna-N | |
| Dynamic Seals | 4-way, 2-position for Double Acting or 3-way, 2-position for Single Acting | |
| Valve Required to Operate | | |
| Air Quality Requirements | 40 Micron or Better | |
| Air Filtration | Not Necessary* | |
| Air Lubrication | Low Moisture Content (dry) | |
| Air Humidity | | |
| Temperature Operating Range | | |
| Viton® Seals (RUA Series) | -20°~300° F | -30°~150° C |
| Vulcan Series | -20°~842° F | -30°~450° C |
| Maintenance Specifications† | | |
| Expected Life | 5 million cycles | |
| Normal Application | 10+ million cycles* | |
| w/ Preventative Maintenance | | |
| Field Repairable | Yes | |
| Seal Repair Kits Available | Yes | |

*Addition of lubrication will greatly increase service life

†See Maintenance Section

** The gripper can be operated at 290psi (20 bars) MAXIMUM hydraulic pressure. Cycle times are longer and may depend on the hydraulic system. Grippers must be mounted before being operated under hydraulic pressure. Please contact factory for more information.

Product Features

Quality Components

Made of Aluminum alloy, hard coat anodized with Teflon Impregnation. The gripper's main components are made of heat treated steel.

Viton® Seals

Standard Viton® seals for high temperatures (-20°F to +300°F / -30°~150° C)

Hi-Temp Design

Designed for extreme high temperature applications up to 842°F [450°C] (Vulcan Series only)

Gripper Attachment

From the top or from the back using DirectConnect pattern (except sizes 142M & 162M).

Shielded Case and Covers

Gripper is shielded to repel chips and other particulate from internal drive mechanism.

Hydraulic Operation

Optional hydraulic seals for 290 psi [20 bar] Max. operation

Multiple Ports

Side or top manifold ports

Safety Springs

Optional springs retain the component, should the air supply fail, to assist the gripper for internal (-RI) or external (-RE) gripping, or in single acting or spring assist mode

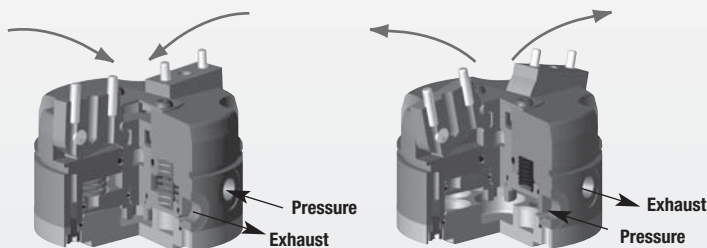
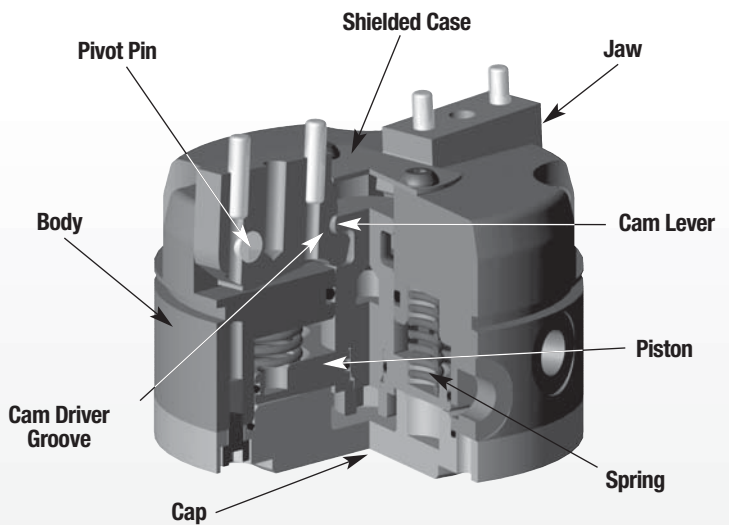
Magneto Resistive Sensing

The gripper comes with adjustable slots for 2 magnetic sensors. (to control jaw position). Must be used with -RE or -RI option. (Except sizes 142M & 162M)

Integrated Inductive Sensor

An integrated sensor (KT1 or KT2 option) allows to sense jaws in open or closed position

Operating Principle



- A double acting piston, connected to a cam driver with a groove, drives the cams levers.
- The piston's translatory motion makes the cams levers rotate in a synchronous motion.
- Optional springs can be used to increase the grip force, to hold part in the event of loss of air, or to use the gripper in single acting mode.
- This gripper is suitable for internal or external gripping.

Style -RUA Angular Gripper

Size -62M

| | | |
|--------------|----------|---------|
| Style: | RUA-62M | |
| Stroke: | 33.6° | |
| Grip Force:* | 86 lbs | 384 N |
| Weight: | 0.86 lbs | 0.39 Kg |



See Page **2.6**

*Grip force @ 100PSI [7 bar], L=1" [25.4], with spring, jaws at 0°

Style -RUA Angular Gripper

Size -82M

| | | |
|--------------|----------|---------|
| Style: | RUA-82M | |
| Stroke: | 31.8° | |
| Grip Force:* | 276 lbs | 1228 N |
| Weight: | 1.54 lbs | 0.70 Kg |



See Page **2.8**

*Grip force @ 100PSI [7 bar], L=1" [25.4], with spring, jaws at 0°

Style -RUA Angular Gripper

Size -112M

| | | |
|--------------|----------|---------|
| Style: | RUA-112M | |
| Stroke: | 38.2° | |
| Grip Force:* | 483 lbs | 2150 N |
| Weight: | 3.75 lbs | 1.70 Kg |



See Page **2.10**

*Grip force @ 100PSI [7 bar], L=1" [25.4], with spring, jaws at 0°

Style -RUA Angular Gripper

Size -142M

| | | |
|--------------|----------|--------|
| Style: | RUA-142M | |
| Stroke: | 35.2° | |
| Grip Force:* | 1298 lbs | 5775 N |
| Weight: | 9.05 lbs | 4.1 Kg |



See Page **2.12**

*Grip force @ 100PSI [7 bar], L=1" [25.4], with spring, jaws at 0°

Style -RUA Angular Gripper

Size -162M

| | | |
|--------------|-----------|--------|
| Style: | RUA-162M | |
| Stroke: | 34.4° | |
| Grip Force:* | 1778 lbs | 7911 N |
| Weight: | 14.80 lbs | 6.7 Kg |



See Page **2.14**

*Grip force @ 100PSI [7 bar], L=1" [25.4], with spring, jaws at 0°

Style -VULCAN Angular Gripper

Size -112M

| | | |
|--------------|-------------|--------|
| Style: | VULCAN-112M | |
| Stroke: | 38.4° | |
| Grip Force:* | 895 lbs | 3983 N |
| Weight: | 3.75 lbs | 1.7 Kg |



See Page **2.16**

*Grip force @ 100PSI [7 bar], L=1" [25.4], with spring, jaws at 0°

Style -VULCAN Angular Gripper

Size -142M

| | | |
|--------------|-------------|--------|
| Style: | VULCAN-142M | |
| Stroke: | 35.2° | |
| Grip Force:* | 1343 lbs | 5975 N |
| Weight: | 9.04 lbs | 4.1 Kg |



See Page **2.17**

*Grip force @ 100PSI [7 bar], L=2" [50.8], with spring, jaws at 0°

Style -VULCAN Angular Gripper

Size -162M

| | | |
|--------------|-------------|--------|
| Style: | VULCAN-162M | |
| Stroke: | 34.6° | |
| Grip Force:* | 2015 lbs | 8964 N |
| Weight: | 14.77 lbs | 6.7 Kg |



See Page **2.18**

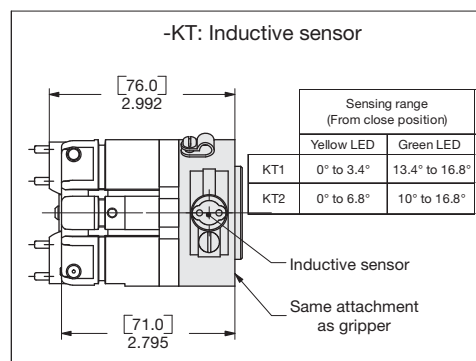
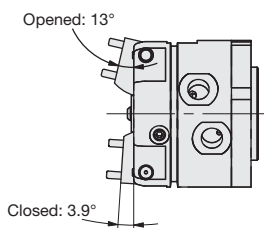
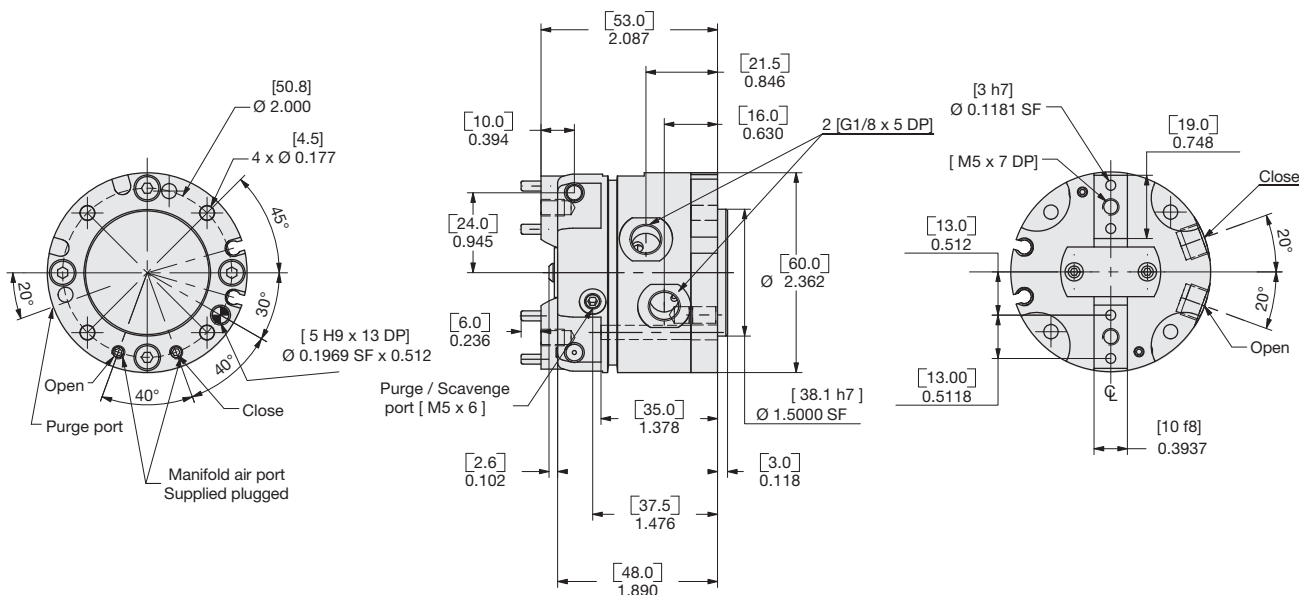
*Grip force @ 100PSI [7 bar], L=2" [50.8], with spring, jaws at 0°

ANGULAR GRIPPER RUA-62M SPRING ASSISTED SERIES



RUA SERIES

2.6



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] |

Dimensions are symmetrical about centerline
 Third Angle Projection
 All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm]
 Metric Threads Course Pitch

How to Order: (Order Separately)

BASIC MODEL **SPRING ASSIST** (See Below)

RUA-62M - [] - [] - []

POWER **INTEGRATED SENSOR**

P-Pneumatic
H-Hydraulic

POWER P Pneumatic
H Hydraulic (20 bar max.)

SPRING RE Closed
RI Open
— Leave Blank. No Spring Option (standard)

INDUCTIVE CASE* **KT1** Sensing Range KT1
KT2 Sensing Range KT2
— Leave Blank. No Inductive Option

* Inductive Case not available with DUA model

SENSOR ACCESSORIES

| | ORDER # | QTY/UNIT |
|---|-----------------|---------------|
| PNP Magneto Resistive Sensor w/Qk Disconnect* ** †† | OHSP-017 | 1 or 2 |
| NPN Magneto Resistive Sensor w/Qk Disconnect* ** †† | OHSN-017 | 1 or 2 |
| PNP Magneto Resistive Sensor (90° Barrel) w/Qk Disc* ** †† | OHSP-011 | 1 or 2 |
| NPN Magneto Resistive Sensor (90° Barrel) w/Qk Disc* ** †† | OHSN-011 | 1 or 2 |
| Replacement PNP Double Inductive Sensor* *** | KT15 | 1 |
| Quick Disconnect 2 Meter Cable* | CABL-010 | 1 or 2 |
| Quick Disconnect 5 Meter Cable* | CABL-013 | 1 or 2 |
| Quick Disconnect 2 Meter Cable (for KT15 Inductive Sensor)* | CABL-014 | 1 or 2 |

SEALED BOOT KITS

| | | |
|--|-----------------|----------|
| PVC Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-367 | 1 |
| Kevlar Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-368 | 1 |
| FireProof Kevlar Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-369 | 1 |

SEAL REPAIR KIT

| | PNEUMATIC | HYDRAULIC | |
|------------------------|------------------|------------------|----------|
| Viton® Seal Repair Kit | SLKT-156V | SLKT-330V | 1 |

*Sensor and cable sold separately †Requires Mounting Kit **Piston magnet standard
††Not compatible with Hydraulic (-H) option and requires -RE or -ORI option
***Requires KT1 or KT2 Inductive Case Option

SAMPLE ORDER: RUA-62M-P-RI-KT1

Ex: RUA-62M Gripper, Pneumatic, Spring Open, Sensing Range KT1

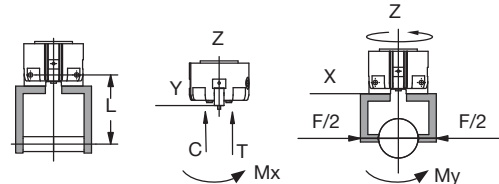
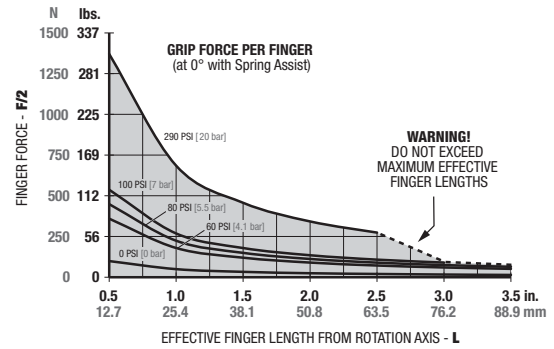


ANGULAR GRIPPER RUA-62M SPRING ASSISTED SERIES

Specifications

RUA-62M

| | | |
|---|---------------------------------|--------------------|
| Total Rated Grip Force $L=1$ in [25.4mm] @ 0° | | |
| 100 psi, 7 bar, w/spring | 86 lbs. | 384 N |
| 100 psi, 7 bar, w/o spring | 70 lbs. | 313 N |
| Stroke | 16.8° of stroke for each finger | |
| Weight | 0.86 lbs. | 0.39 kg |
| Pressure Range (without springs) | 30-100 psi | 2-7 bar |
| Pressure Range (with springs) | 45-100 psi | 3-7 bar |
| Cylinder Bore \emptyset | 1.57 in. | 40 mm |
| Displacement | 0.73 in ³ | 12 cm ³ |
| Temperature Range | | |
| Viton® Seals Standard | -20°~300° F | -30~150° C |
| Actuation (open/close) | 0.18 sec./0.18 sec. | |
| Accuracy | ±0.002 in. | ±0.05 mm |
| Repeatability | ±0.0008 mm. | ±0.02 mm |
| Valve required to actuate single acting | 3-way, 2-position | |
| Valve required to actuate double acting | 4-way, 2-position | |

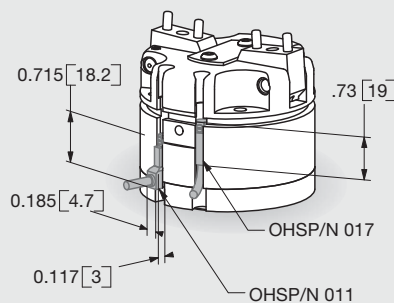


Loading Capacity†

| | Static | Dynamic |
|-------------------------------------|------------------------|----------------------|
| Maximum Tensile T | 53 lbs. [236 N] | 11 lbs. [47.2 N] |
| Maximum Compressive C | 53 lbs. [236 N] | 11 lbs. [47.2 N] |
| Maximum Moment M_x | 111 in.-lbs. [12.5 Nm] | 27 in.-lbs. [3.1 Nm] |
| Maximum Moment M_y | 305 in.-lbs. [34.5 Nm] | 31 in.-lbs. [3.5 Nm] |
| Maximum Moment M_z | 111 in.-lbs. [12.5 Nm] | 27 in.-lbs. [3.1 Nm] |

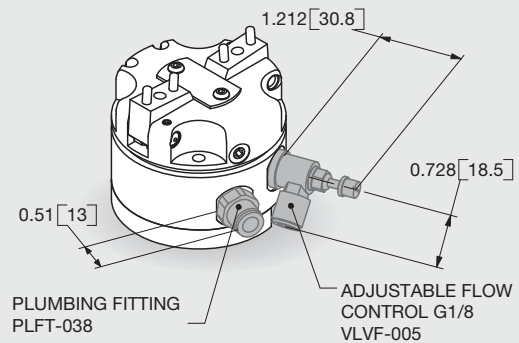
†Capacities are per set of jaws and are not simultaneous

Accessory Mounting Technical Data



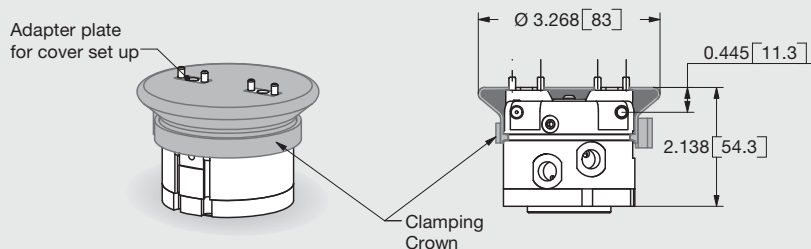
MR Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



Plumbing Fittings

- Adjustable flow controls:
 - Have thumb screw adjust with locking nut for adjusting actuation time
 - Available for 6mm OD tubing
- Plumbing fittings:
 - For side air port location
 - Top airport are plugged as standard



Boot

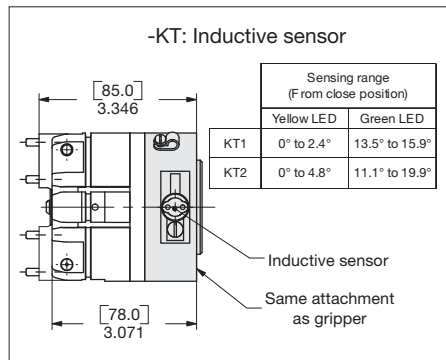
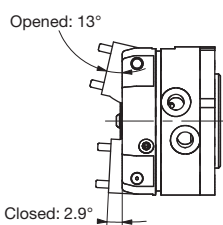
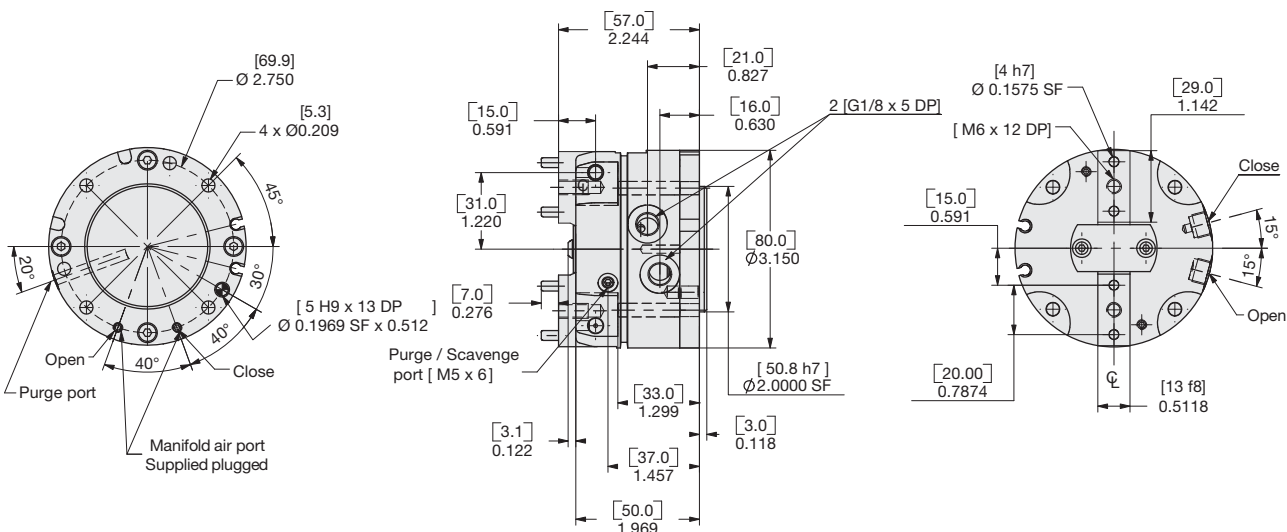
- Protects the gripper mechanism
- Provides better performance and longer life time in harsh environment
- Three materials available depending on the application:
 - PVC for grinding applications (up to 176°F / 80°C)
 - Kevlar for machine applications (up to 480°F / 250°C)
 - Fireproof Kevlar for welding applications (up to 525°F / 275°C)
- A provided spacer has to be added to the jaws

ANGULAR GRIPPER RUA-82M SPRING ASSISTED SERIES



RUA SERIES

2.8



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

| | | | | | |
|---|------------------------|--|-----------------------------|--|---|
| Dimensions are symmetrical about centerline | Third Angle Projection | All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm] | Metric Threads Course Pitch | Imperial in. 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005 | Metric [mm] [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013] |
|---|------------------------|--|-----------------------------|--|---|

How to Order: (Order Separately)

BASIC MODEL **SPRING ASSIST** (See Below)

RUA-82M - [] - [] - []

POWER **INTEGRATED SENSOR**

P-Pneumatic
H-Hydraulic

POWER P Pneumatic
H Hydraulic (20 bar max.)

SPRING RE Closed
RI Open
— Leave Blank. No Spring Option (standard)

INDUCTIVE CASE* **KT1** Sensing Range KT1
KT2 Sensing Range KT2
— Leave Blank. No Inductive Option

* Inductive Case not available with DUA model

SENSOR ACCESSORIES

| | ORDER # | QTY/UNIT |
|---|-----------------|---------------|
| PNP Magneto Resistive Sensor w/Qk Disconnect* ** †† | OHSP-017 | 1 or 2 |
| NPN Magneto Resistive Sensor w/Qk Disconnect* ** †† | OHSN-017 | 1 or 2 |
| PNP Magneto Resistive Sensor (90° Barrel) w/Qk Disc* ** †† | OHSP-011 | 1 or 2 |
| NPN Magneto Resistive Sensor (90° Barrel) w/Qk Disc* ** †† | OHSN-011 | 1 or 2 |
| Replacement PNP Double Inductive Sensor* *** | KT15 | 1 |
| Quick Disconnect 2 Meter Cable* | CABL-010 | 1 or 2 |
| Quick Disconnect 5 Meter Cable* | CABL-013 | 1 or 2 |
| Quick Disconnect 2 Meter Cable (for KT15 Inductive Sensor)* | CABL-014 | 1 or 2 |

SEALED BOOT KITS

| | | |
|--|-----------------|----------|
| PVC Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-370 | 1 |
| Kevlar Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-371 | 1 |
| FireProof Kevlar Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-372 | 1 |

SEAL REPAIR KIT

| | PNEUMATIC | HYDRAULIC | |
|------------------------|------------------|------------------|----------|
| Viton® Seal Repair Kit | SLKT-157V | SLKT-331V | 1 |

*Sensor and cable sold separately †Requires Mounting Kit **Piston magnet standard
††Not compatible with Hydraulic (-H) option and requires -RE or -ORI option
***Requires KT1 or KT2 Inductive Case Option

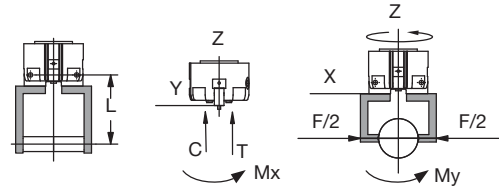
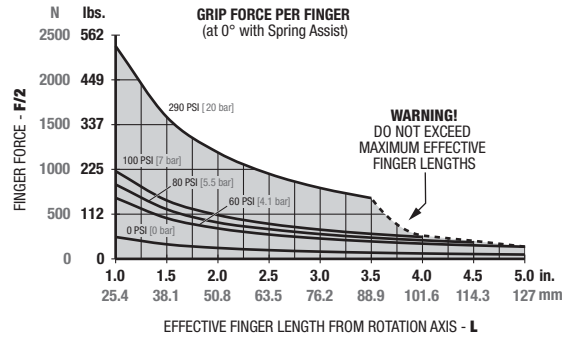
SAMPLE ORDER: RUA-82M-H-RE-KT2

Ex: RUA-82M Gripper, Hydraulic, Spring Closed, Sensing Range KT2

Specifications

RUA-82M

| | | |
|---|---------------------------------|--------------------|
| Total Rated Grip Force $L=1$ in [25.4mm] @ 0° | | |
| 100 psi, 7 bar, w/spring | 276 lbs | 1228 N |
| 100 psi, 7 bar, w/o spring | 207 lbs. | 922 N |
| Stroke | 15.9° of stroke for each finger | |
| Weight | 1.55 lbs. | 0.70 kg |
| Pressure Range (without springs) | 30-100 psi | 2-7 bar |
| Pressure Range (with springs) | 45-100 psi | 3-7 bar |
| Cylinder Bore \emptyset | 2.36 in. | 60 mm |
| Displacement | 2.14 in ³ | 35 cm ³ |
| Temperature Range | | |
| Viton® Seals Standard | -20°~300° F | -30~150° C |
| Actuation (open/close) | 0.10 sec./0.10 sec. | |
| Accuracy | ±0.002 in. | ±0.05 mm |
| Repeatability | ±0.0008 mm. | ±0.02 mm |
| Valve required to actuate single acting | 3-way, 2-position | |
| Valve required to actuate double acting | 4-way, 2-position | |

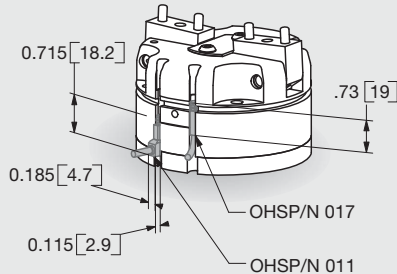


Loading Capacity†

| | Static | Dynamic |
|-------------------------------------|------------------------|----------------------|
| Maximum Tensile T | 65 lbs. [290 N] | 13 lbs. [58 N] |
| Maximum Compressive C | 65 lbs. [290 N] | 13 lbs. [58 N] |
| Maximum Moment M_x | 168 in.-lbs. [19 Nm] | 42 in.-lbs. [4.8 Nm] |
| Maximum Moment M_y | 1071 in.-lbs. [121 Nm] | 106 in.-lbs. [12 Nm] |
| Maximum Moment M_z | 168 in.-lbs. [19 Nm] | 42 in.-lbs. [4.8 Nm] |

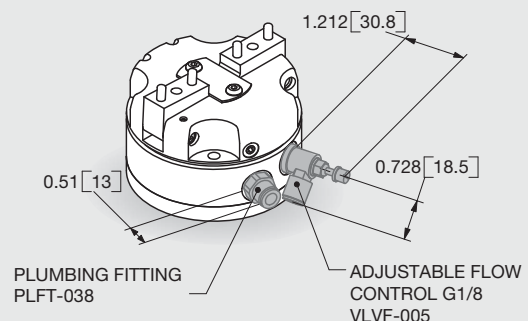
†Capacities are per set of jaws and are not simultaneous

Accessory Mounting Technical Data



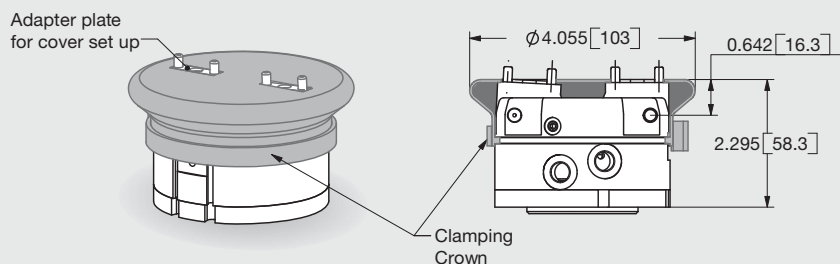
MR Sensors

- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



Plumbing Fittings

- Adjustable flow controls:
 - Have thumb screw adjust with locking nut for adjusting actuation time
 - Available for 6mm OD tubing
- Plumbing fittings:
 - For side air port location
 - Top airport are plugged as standard



Boot

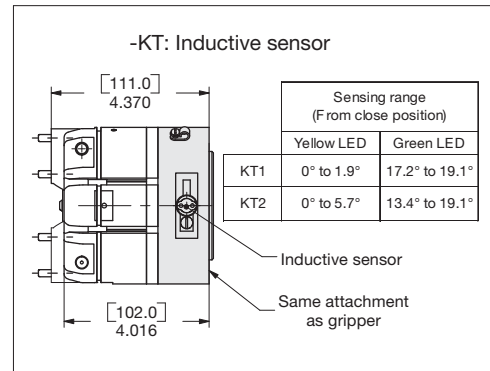
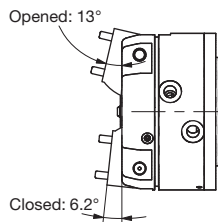
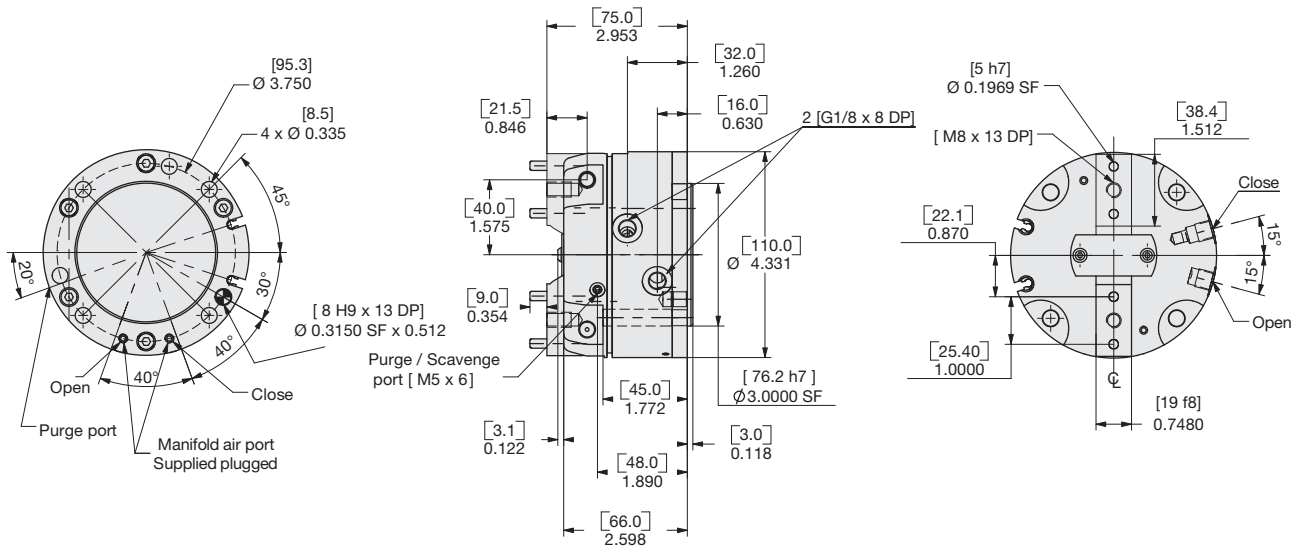
- Protects the gripper mechanism
- Provides better performance and longer life time in harsh environment
- Three materials available depending on the application:
 - PVC for grinding applications (up to 176°F / 80°C)
 - Kevlar for machine applications (up to 480°F / 250°C)
 - Fireproof Kevlar for welding applications (up to 525°F / 275°C)
- A provided spacer has to be added to the jaws

ANGULAR GRIPPER RUA-112M SPRING ASSISTED SERIES



RUA SERIES

2.10



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

| | | | | | |
|---|------------------------|---|--------------------------------|--|---|
| Dimensions are symmetrical about centerline | Third Angle Projection | All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm | Metric Threads Course Pitch | Imperial in. 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005 | Metric [mm] [0.] = ±.25 [0.0] = ±.13 [0.00] = ±.013 |
|---|------------------------|---|--------------------------------|--|---|

How to Order: (Order Separately)

BASIC MODEL **SPRING ASSIST** (See Below)

RUA-112M - [] - [] - []

POWER **INTEGRATED SENSOR**

P-Pneumatic
H-Hydraulic

POWER P Pneumatic
H Hydraulic (20 bar max.)

SPRING RE Closed
RI Open
— Leave Blank. No Spring Option (standard)

INDUCTIVE CASE* **KT1** Sensing Range KT1
KT2 Sensing Range KT2
— Leave Blank. No Inductive Option

* Inductive Case not available with DUA model

SENSOR ACCESSORIES

| | ORDER # | QTY/UNIT |
|---|-----------------|---------------|
| PNP Magneto Resistive Sensor w/Qk Disconnect* ** †† | OHSP-017 | 1 or 2 |
| NPN Magneto Resistive Sensor w/Qk Disconnect* ** †† | OHSN-017 | 1 or 2 |
| PNP Magneto Resistive Sensor (90° Barrel) w/Qk Disc* ** †† | OHSP-011 | 1 or 2 |
| NPN Magneto Resistive Sensor (90° Barrel) w/Qk Disc* ** †† | OHSN-011 | 1 or 2 |
| Replacement PNP Double Inductive Sensor* *** | KT15 | 1 |
| Quick Disconnect 2 Meter Cable* | CABL-010 | 1 or 2 |
| Quick Disconnect 5 Meter Cable* | CABL-013 | 1 or 2 |
| Quick Disconnect 2 Meter Cable (for KT15 Inductive Sensor)* | CABL-014 | 1 or 2 |

SEALED BOOT KITS

| | | |
|--|-----------------|----------|
| PVC Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-373 | 1 |
| Kevlar Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-374 | 1 |
| FireProof Kevlar Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-375 | 1 |

SEAL REPAIR KIT

| | PNEUMATIC | HYDRAULIC | |
|------------------------|------------------|------------------|----------|
| Viton® Seal Repair Kit | SLKT-158V | SLKT-332V | 1 |

*Sensor and cable sold separately †Requires Mounting Kit **Piston magnet standard
††Not compatible with Hydraulic (-H) option and requires -RE or -ORI option
***Requires KT1 or KT2 Inductive Case Option

SAMPLE ORDER: RUA-112M-P-RI-KT2

Ex: RUA-112M Gripper, Pneumatic, Spring Open, Sensing Range KT2

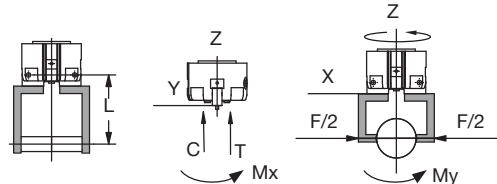
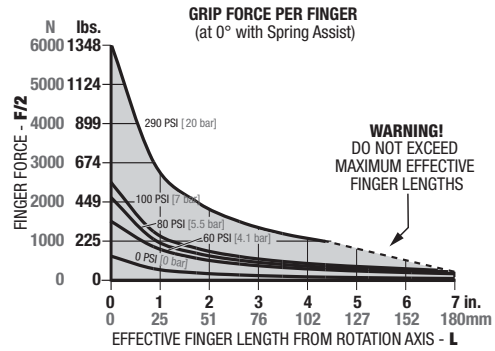


ANGULAR GRIPPER RUA-112M SPRING ASSISTED SERIES

Specifications

RUA-112M

| | | |
|---|---------------------------------|--------------------|
| Total Rated Grip Force $L=1$ in [25.4mm] @ 0° | | |
| 100 psi, 7 bar, w/spring | 483 lbs. | 2150 N |
| 100 psi, 7 bar, w/o spring | 360 lbs. | 1600 N |
| Stroke | 19.1° of stroke for each finger | |
| Weight | 3.75 lbs. | 1.70 kg |
| Pressure Range (without springs) | 30-100 psi | 2-7 bar |
| Pressure Range (with springs) | 45-100 psi | 3-7 bar |
| Cylinder Bore \emptyset | 2.99 in. | 76 mm |
| Displacement | 5.19 in ³ | 85 cm ³ |
| Temperature Range | | |
| Viton® Seals Standard | -20°~300° F | -30~150° C |
| Actuation (open/close) | 0.35 sec./0.35 sec. | |
| Accuracy | ±0.003 in. | ±0.08 mm |
| Repeatability | ±0.0008 mm. | ±0.03 mm |
| Valve required to actuate single acting | 3-way, 2-position | |
| Valve required to actuate double acting | 4-way, 2-position | |

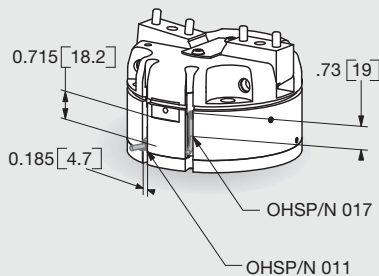


Loading Capacity†

| | Static | Dynamic |
|-------------------------------------|------------------------|----------------------|
| Maximum Tensile T | 65 lbs. [290 N] | 13 lbs. [58 N] |
| Maximum Compressive C | 65 lbs. [290 N] | 13 lbs. [58 N] |
| Maximum Moment M_x | 168 in.-lbs. [19 Nm] | 42 in.-lbs. [4.8 Nm] |
| Maximum Moment M_y | 1071 in.-lbs. [121 Nm] | 106 in.-lbs. [12 Nm] |
| Maximum Moment M_z | 168 in.-lbs. [19 Nm] | 42 in.-lbs. [4.8 Nm] |

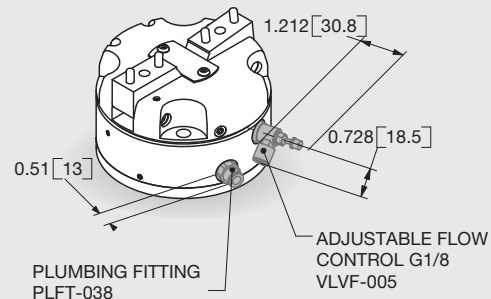
†Capacities are per set of jaws and are not simultaneous

Accessory Mounting Technical Data



MR Sensors

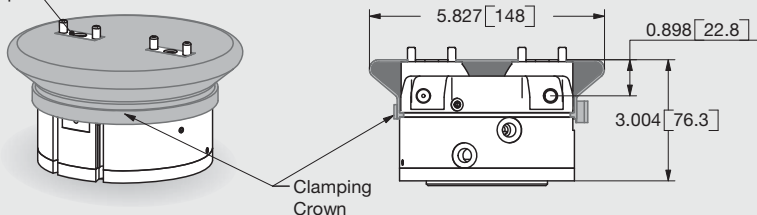
- PNP and NPN Magneto Resistive available
- Sensors are slot mounted, no mounting kits required
- Simple adjustment with slotted screw driver
- Built in LED for ease of positioning and troubleshooting
- Available with 2M or 5M Quick Disconnect mating cable (order separately)



Plumbing Fittings

- Adjustable flow controls:
 - Have thumb screw adjust with locking nut for adjusting actuation time
 - Available for 6mm OD tubing
- Plumbing fittings:
 - For side air port location
 - Top airport are plugged as standard

Adapter plate for cover set up



Boot

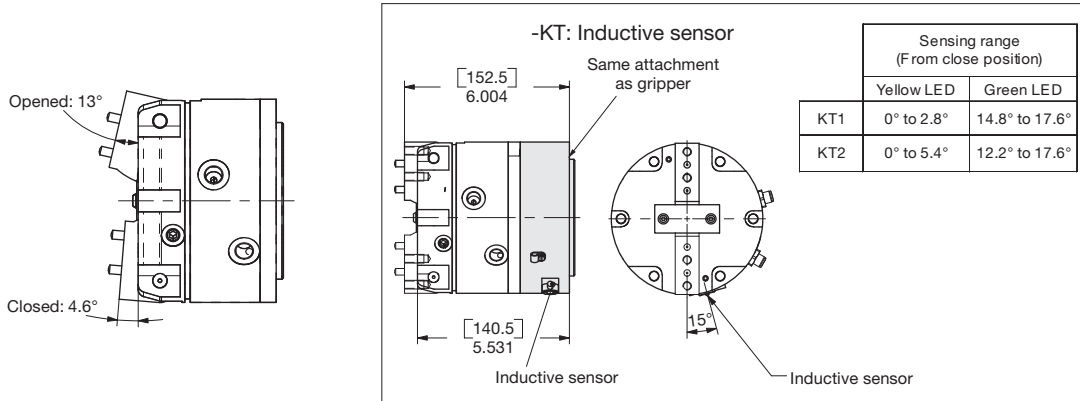
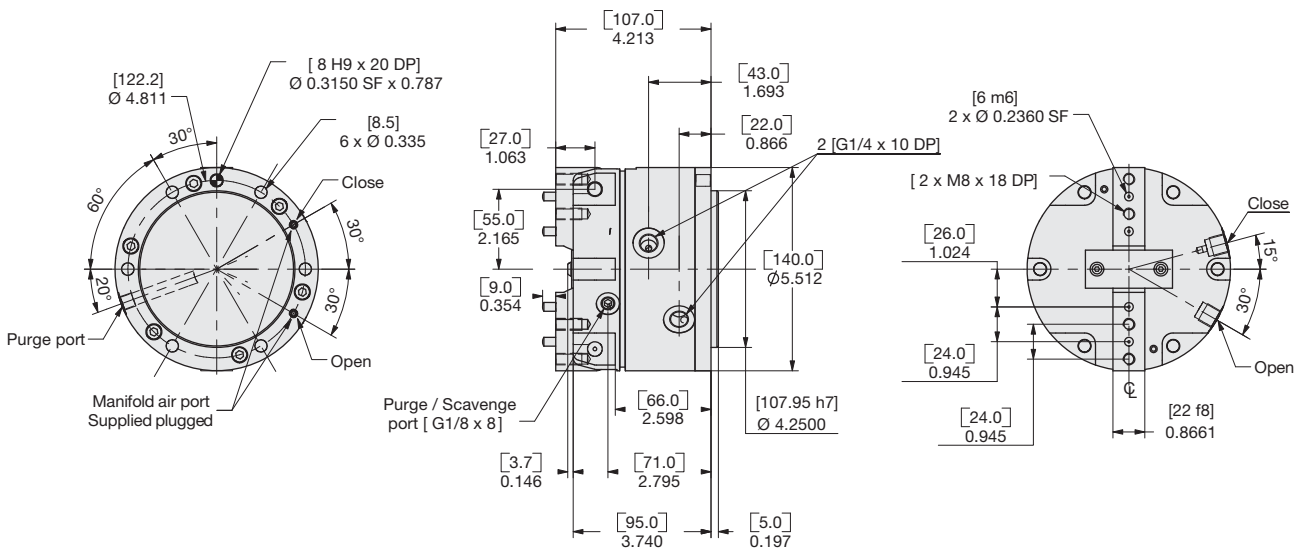
- Protects the gripper mechanism
- Provides better performance and longer life time in harsh environment
- Three materials available depending on the application:
 - PVC for grinding applications (up to 176°F / 80°C)
 - Kevlar for machine applications (up to 480°F / 250°C)
 - Fireproof Kevlar for welding applications (up to 525°F / 275°C)
- A provided spacer has to be added to the jaws

ANGULAR GRIPPER RUA-142M SPRING ASSISTED SERIES



RUA SERIES

2.12



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

| | | | | | |
|---|------------------------|---|--------------------------------|--|---|
| Dimensions are symmetrical about centerline | Third Angle Projection | All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or ±.013mm | Metric Threads Course Pitch | Imperial in. 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005 | Metric [mm] [0.] = ±.25 [0.0] = ±.13 [0.00] = ±.013 |
|---|------------------------|---|--------------------------------|--|---|

How to Order: (Order Separately)

BASIC MODEL **SPRING ASSIST** (See Below)

RUA-142M - [] - [] - []

POWER **INTEGRATED SENSOR**

P-Pneumatic
H-Hydraulic

POWER P Pneumatic
H Hydraulic (20 bar max.)

SPRING RE Closed
RI Open
— Leave Blank. No Spring Option (standard)

INDUCTIVE CASE KT1 Sensing Range KT1
KT2 Sensing Range KT2
— Leave Blank. No Inductive Option

| SENSOR ACCESSORIES | ORDER # | QTY/UNIT |
|---|-----------------|---------------|
| Replacement PNP Double Inductive Sensor* *** | KT15 | 1 |
| Quick Disconnect 2 Meter Cable (for KT15 Inductive Sensor)* | CABL-014 | 1 or 2 |

| SEALED BOOT KITS | ORDER # | QTY/UNIT |
|--|-----------------|----------|
| PVC Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-376 | 1 |
| Kevlar Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-377 | 1 |
| FireProof Kevlar Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-378 | 1 |

| SEAL REPAIR KIT | PNEUMATIC | HYDRAULIC |
|------------------------|------------------|------------------|
| Viton® Seal Repair Kit | SLKT-333V | SLKT-334V |
| | | 1 |

*Sensor and cable sold separately ***Requires KT1 or KT2 Inductive Case Option

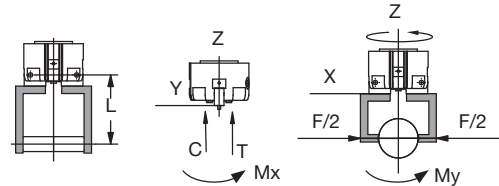
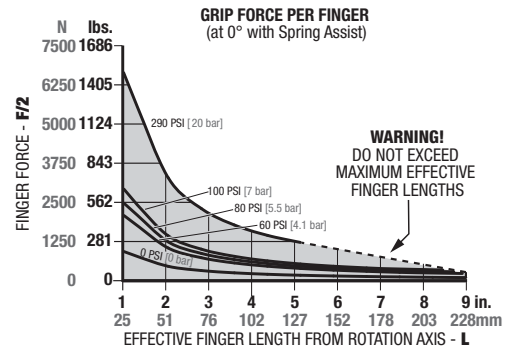
SAMPLE ORDER: RUA-142M-H-RE-KT1

Ex: RUA-142M Gripper, Hydraulic, Spring Closed, Sensing Range KT1



ANGULAR GRIPPER RUA-142M SPRING ASSISTED SERIES

| Specifications | RUA-142M | |
|---|---------------------------------|---------------------|
| Total Rated Grip Force $L=1$ in [25.4mm] @ 0° | | |
| 100 psi, 7 bar, w/spring | 1298 lbs. | 5775 N |
| 100 psi, 7 bar, w/o spring | 886 lbs. | 3941 N |
| Stroke | 17.6° of stroke for each finger | |
| Weight | 9.05 lbs. | 4.1 kg |
| Pressure Range (without springs) | 30-100 psi | 2-7 bar |
| Pressure Range (with springs) | 60-100 psi | 4-7 bar |
| Cylinder Bore \emptyset | 4.13 in. | 105 mm |
| Displacement | 13.2 in ³ | 215 cm ³ |
| Temperature Range | | |
| Viton® Seals Standard | -20°~300° F | -30~150° C |
| Actuation (open/close) | 0.60 sec./0.60 sec. | |
| Accuracy | ±0.003 in. | ±0.8 mm |
| Repeatability | ±0.0008 mm. | ±0.03 mm |
| Valve required to actuate single acting | 3-way, 2-position | |
| Valve required to actuate double acting | 4-way, 2-position | |



Loading Capacity[†]

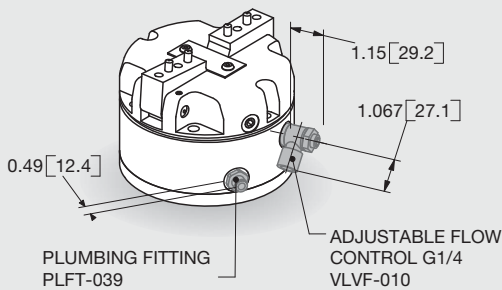
| | Static | Dynamic |
|-------------------------------------|------------------------|----------------------|
| Maximum Tensile T | 142 lbs. [630 N] | 28 lbs. [126 N] |
| Maximum Compressive C | 142 lbs. [630 N] | 28 lbs. [126 N] |
| Maximum Moment M_x | 460 in.-lbs. [52 Nm] | 115 in.-lbs. [13 Nm] |
| Maximum Moment M_y | 6160 in.-lbs. [696 Nm] | 611 in.-lbs. [69 Nm] |
| Maximum Moment M_z | 460 in.-lbs. [52 Nm] | 115 in.-lbs. [13 Nm] |

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

RUA SERIES

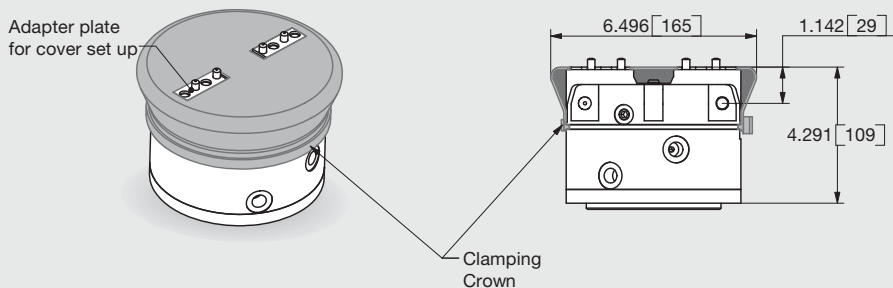
2.13

Accessory Mounting Technical Data



Plumbing Fittings

- Adjustable flow controls:
 - Have thumb screw adjust with locking nut for adjusting actuation time
 - Available for 6mm OD tubing
- Plumbing fittings:
 - For side air port location
 - Top airport are plugged as standard



Boot

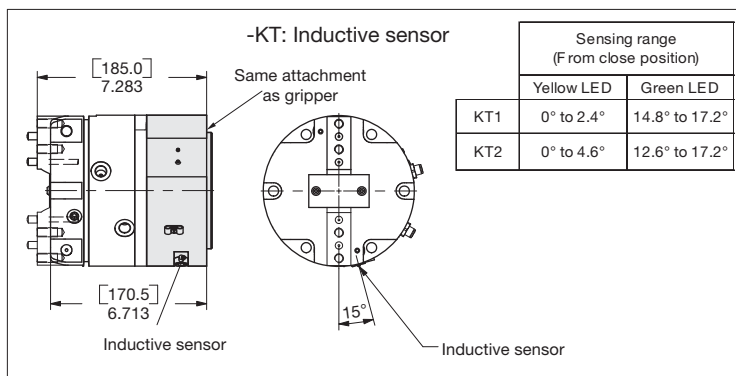
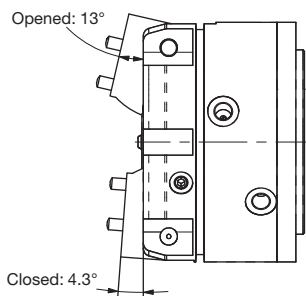
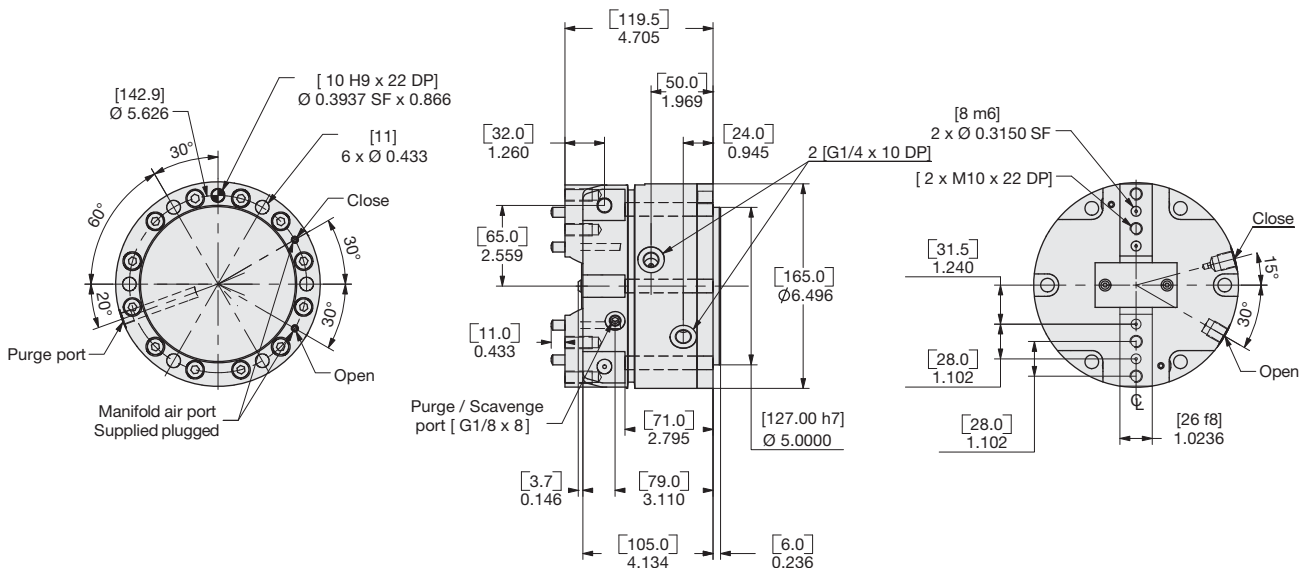
- Protects the gripper mechanism
- Provides better performance and longer life time in harsh environment
- Three materials available depending on the application:
 - PVC for grinding applications (up to 176°F / 80°C)
 - Kevlar for machine applications (up to 480°F / 250°C)
 - Fireproof Kevlar for welding applications (up to 525°F / 275°C)
- A provided spacer has to be added to the jaws

ANGULAR GRIPPER RUA-162M SPRING ASSISTED SERIES



RUA SERIES

2.14



UNLESS OTHERWISE NOTED ALL TOLERANCES ARE AS SHOWN BELOW

| | | | | | |
|---|------------------------|---|--------------------------------|--|---|
| Dimensions are symmetrical about centerline | Third Angle Projection | All Dowel Holes are SF (Slip Fit). Locational Tolerance ±.0005" or [±.013mm] | Metric Threads Course Pitch | Imperial in. 0.00 = ±.01 0.000 = ±.005 0.0000 = ±.0005 | Metric [mm] [0.] = [±.25] [0.0] = [±.13] [0.00] = [±.013] |
|---|------------------------|---|--------------------------------|--|---|

How to Order: (Order Separately)

| BASIC MODEL | | SPRING ASSIST (See Below) | |
|--|--|---------------------------|--|
| RUA-162M - [] - [] - [] | | | |
| POWER | | INTEGRATED SENSOR | |
| P -Pneumatic H -Hydraulic | | | |
| POWER P | Pneumatic | | |
| H | Hydraulic (20 bar max.) | | |
| SPRING RE | | | |
| RI | Closed | | |
| | Open | | |
| | Leave Blank. No Spring Option (standard) | | |
| INDUCTIVE CASE | | | |
| KT1 | Sensing Range KT1 | | |
| KT2 | Sensing Range KT2 | | |
| | Leave Blank. No Inductive Option | | |

SENSOR ACCESSORIES

| | ORDER # | QTY/UNIT |
|---|-----------------|---------------|
| Replacement PNP Double Inductive Sensor* *** | KT15 | 1 |
| Quick Disconnect 2 Meter Cable (for KT15 Inductive Sensor)* | CABL-014 | 1 or 2 |

SEALED BOOT KITS

| | | |
|--|-----------------|----------|
| PVC Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-379 | 1 |
| Kevlar Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-380 | 1 |
| FireProof Kevlar Sealed Jaw Boot Kit (includes 2 interfaces, 1 collar, 1 boot) | SLKT-381 | 1 |

SEAL REPAIR KIT

| | PNEUMATIC | HYDRAULIC |
|------------------------|------------------|------------------|
| Viton® Seal Repair Kit | SLKT-335V | SLKT-336V |
| | 1 | 1 |

*Sensor and cable sold separately ***Requires KT1 or KT2 Inductive Case Option

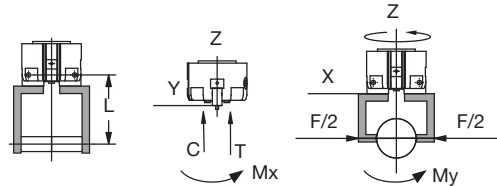
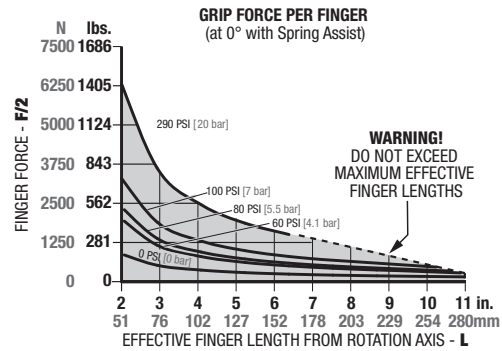
SAMPLE ORDER: RUA-162M-H-RI-KT2

Ex: RUA-162M Gripper, Hydraulic, Spring Open, Sensing Range KT2



ANGULAR GRIPPER RUA-162M SPRING ASSISTED SERIES

| Specifications | RUA-162M | |
|---|---------------------------------|---------------------|
| Total Rated Grip Force $L=2$ in [50.8mm] @ 0° | | |
| 100 psi, 7 bar, w/spring | 1234 lbs. | 5490 N |
| 100 psi, 7 bar, w/o spring | 853 lbs. | 3790 N |
| Stroke | 17.2° of stroke for each finger | |
| Weight | 14.8 lbs. | 6.7 kg |
| Pressure Range (without springs) | 30-100 psi | 2-7 bar |
| Pressure Range (with springs) | 60-100 psi | 4-7 bar |
| Cylinder Bore \emptyset | 4.72 in. | 120 mm |
| Displacement | 19.7 in ³ | 322 cm ³ |
| Temperature Range | | |
| Viton® Seals Standard | -20°~300° F | -30~150° C |
| Actuation (open/close) | 0.80 sec./0.80 sec. | |
| Accuracy | ±0.003 in. | ±0.8 mm |
| Repeatability | ±0.0008 mm. | ±0.03 mm |
| Valve required to actuate single acting | 3-way, 2-position | |
| Valve required to actuate double acting | 4-way, 2-position | |

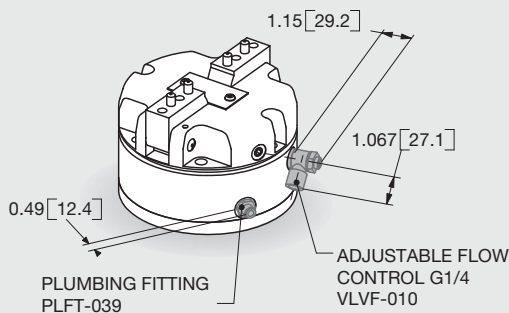


Loading Capacity^{†1}

| | Static | Dynamic |
|-------------------------------------|-------------------------|------------------------|
| Maximum Tensile T | 189 lbs. [840 N] | 38 lbs. [168 N] |
| Maximum Compressive C | 189 lbs. [840 N] | 38 lbs. [168 N] |
| Maximum Moment M_x | 664 in.-lbs. [75 Nm] | 166 in.-lbs. [18.8 Nm] |
| Maximum Moment M_y | 9293 in.-lbs. [1050 Nm] | 885 in.-lbs. [100 Nm] |
| Maximum Moment M_z | 664 in.-lbs. [75 Nm] | 166 in.-lbs. [18.8 Nm] |

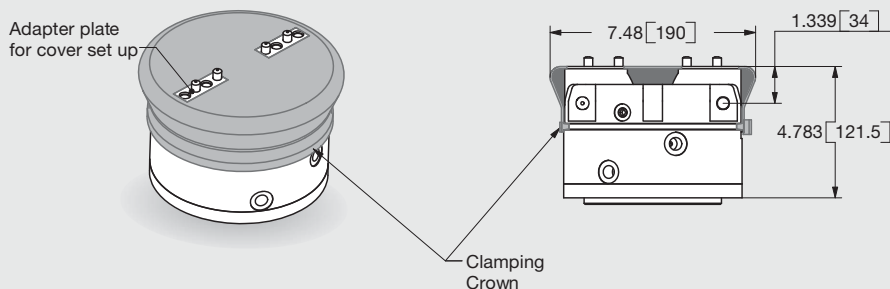
^{†1}Capacities are per set of jaws and are not simultaneous

Accessory Mounting Technical Data



Plumbing Fittings

- Adjustable flow controls:
 - Have thumb screw adjust with locking nut for adjusting actuation time
 - Available for 6mm OD tubing
- Plumbing fittings:
- For side air port location
- Top airport are plugged as standard



Boot

- Protects the gripper mechanism
- Provides better performance and longer life time in harsh environment
- Three materials available depending on the application:
 - PVC for grinding applications (up to 176°F / 80°C)
 - Kevlar for machine applications (up to 480°F / 250°C)
 - Fireproof Kevlar for welding applications (up to 525°F / 275°C)
- A provided spacer has to be added to the jaws