

**NEW**

**RAPTOR**  
WORKHOLDING PRODUCTS

# 100MM SELF-CENTERING VISE

**AUTOMATICALLY POSITIONS WORKPIECE IN CENTER OF VISE**



**RWP-502**

REV B

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**Raptor is thrilled to debut it's new product line:  
Self Center Vises! RWP-502 is the 100mm Self Center Vise.  
Designed to provide reliable, consistent workholding for your manufacturing needs.**

**HIGHLIGHTS**

- All steel construction
- Automatically positions workpiece in center of vise. Centering tolerance is +/-0.013(0.0005) and repeatability is 0.001.
- Jaws adjust from either end of vise.
- Jaws opening capability from 2.50"/63.4mm to 5.62"/142.8mm.
- Segment screw for added rigidity
- Utilizes Mitee-Bite Loc-Down Screws to secure vise in place and for quick change capability.
- Utilizes two 12MM dowel pins: one for centering and one for locating.
- If using mounting clamps to hold workholding products to machine table/pallet then this vise may also be used as it has been designed with clamping rails on each side. Clamping repeatability is 0.001.
- Jaw insert options available for a variety of holding applications: Dovetail, Serrated, Thin or Thick Parallel, Soft Jaws, Talon Grips & Talon Stop (all sold separately).

**WISE SPECIFICATIONS**

| Vise Model No.                                   | RWP- 502                    |
|--|-----------------------------|
| Weight-kg (lbs)                                  | 6.35 (14)                   |
| Base Width-mm (in)                               | 100 (3.94)                  |
| Base Length – mm (in)                            | 165 (6.49)                  |
| Bed Height – mm (in)                             | 50 (1.96)                   |
| Jaw Opening – mm (in)                            | Standard: 63.5 (0-2.5)      |
| Master Jaws maybe be reversed for larger opening | Jaws Reversed: 142.8 (5.62) |
| Clamping Slot Opening                            | .38 (9.5)                   |
| Maximum Allowed Torque – Nm (ft/lbs)             | 40.7 (30)                   |
| Clamping Force @ Maximum Torque – N (lbs)        | 17792 (4000)                |
| Centering Tolerance – mm (in)                    | +/- .013(.0005)             |

**Each vise will include the following:**

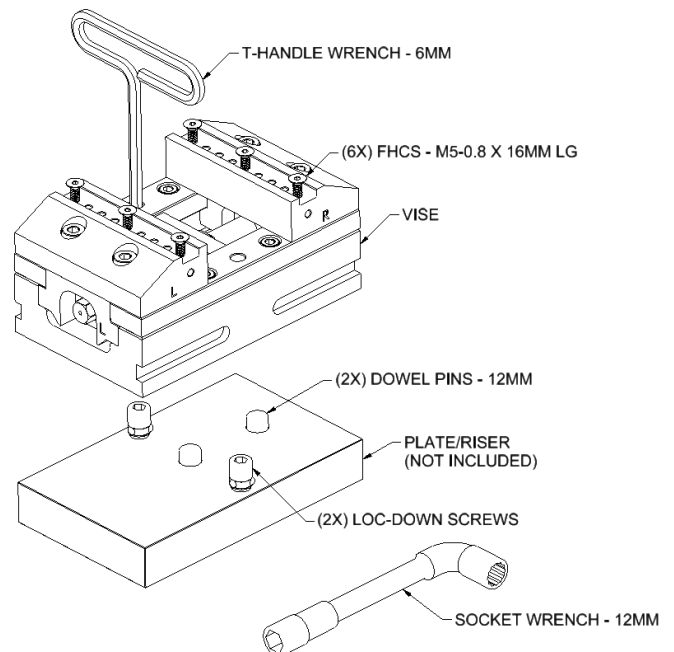
**3 Wrenches:**

- 6mm T-handle wrench
- 12mm socket wrench
- 3mm ball end Hex Key wrench

**Components:**

- (2) Dowel Pins 12mm:  
1 for locating & 1 for centering
- (2) Mitee-Bite Loc-Down screws: for securing
- (6) M5 flat head cap screws for use with inserts

**Registration & Warranty information.**

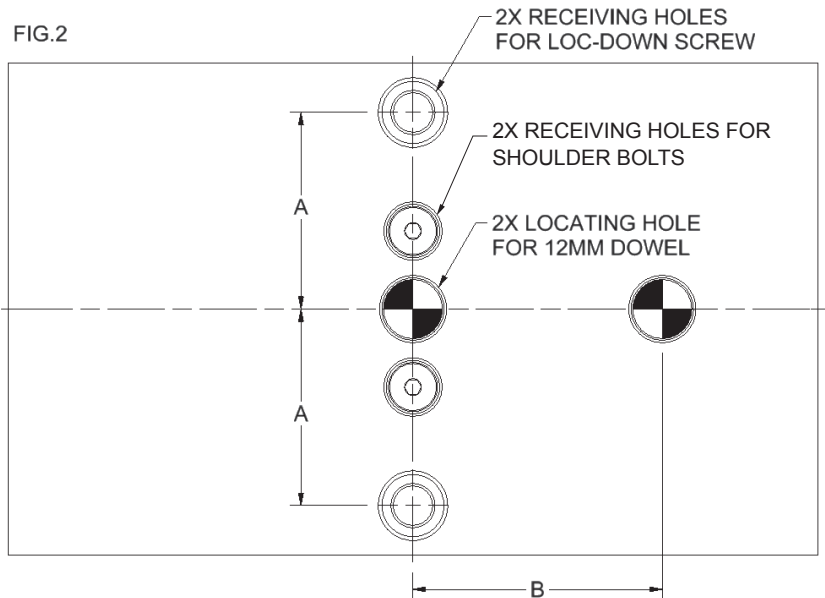
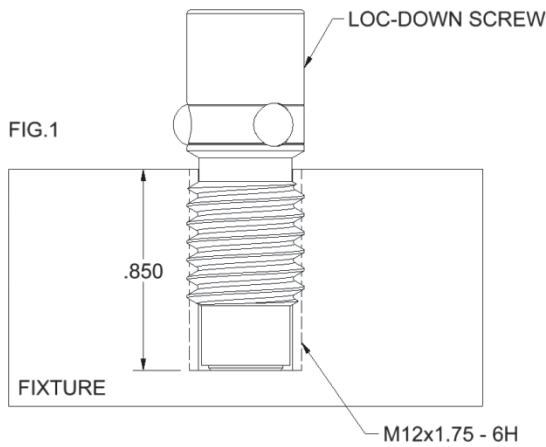


**This vise design has two options for securing the product for use:**

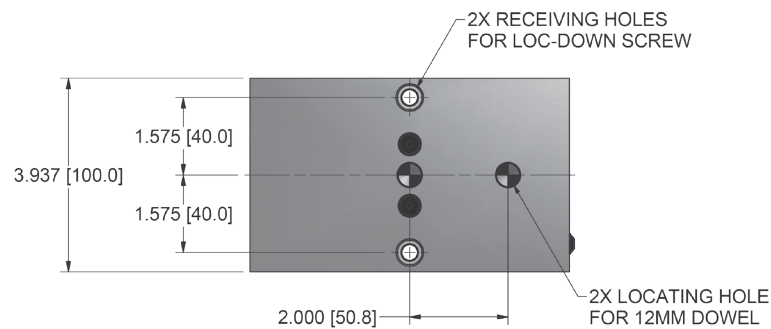
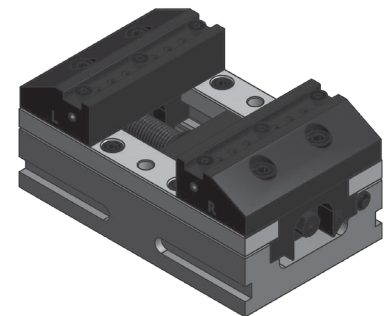
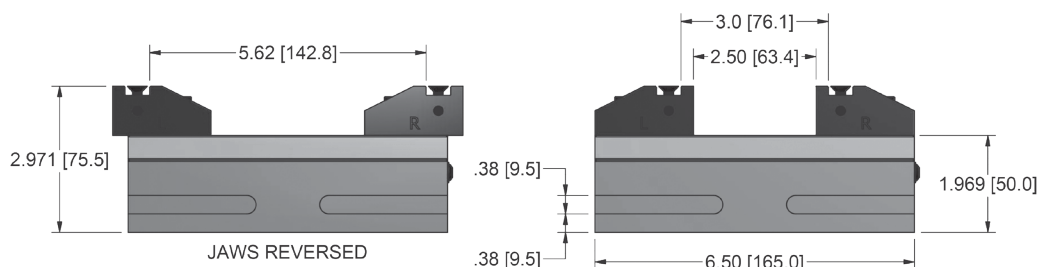
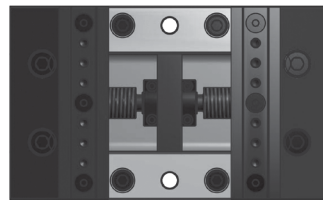
1. Using two Loc-Down Screws for mounting to an adapter/riser.  
(See pg 5 for a list of available adapters and risers.)
2. Utilizing the side clamping slots for use with clamps, strap clamps recommended.

Either method allows for quick change capability.

The underside of the vise has been prepped with (2) shoulder bolt receiving holes, (2) dowel pin receiving holes and (2) Loc-Down screw receiving holes.



**Maximum Torque: 30 ft/lbs**



**RWP-502**  
**100mm Self Centering Vise**

## JAW INSERTS

There are a variety of jaw inserts available to hold workpieces in place as illustrated below. Additional product information is available on our website: [RAPTORWORKHOLDING.COM](http://RAPTORWORKHOLDING.COM)



RWP-33020 MITEE-BITE END STOP



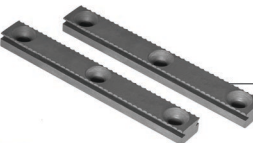
RWP-33050 MITEE-BITE TALON GRIP

- Low profile clamping
- Secure clamping by talon grip "penetrating" soft material workpiece
- Can move talon grip to different locations
- May be used in conjunction with end stop.
- Hardened steel



RWP-1056 STRAIGHT EDGE 60° DOVETAIL

- Utilizes dovetail form for secure clamping and retention
- Dovetail width can be modified to fit different workpiece sizes
- Utilizes standard 60° dovetail form, dove tail can be cut with any standard 60° cutter
- Hardened and ground steel



RWP-1050 SERRATED 45° DOVETAIL

- Can be used as a dovetail clamp or straight edge clamp with serrations
- Utilizes dovetail form for secure clamping and retention
- Dovetail width can be modified to fit different workpiece sizes
- Utilizes standard 45° dovetail form, dovetail can be cut with any standard 45° cutter
- Serrated edged can be used to "penetrate soft material workpiece" for secure clamping
- Hardened and ground steel



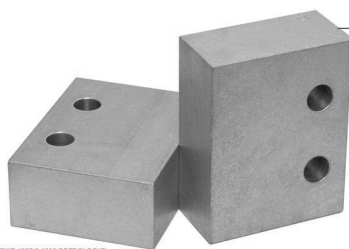
RWP-1051 STANDARD PARALLEL (1/8" LEDGE)

- Provides precise straight edge for clamping machined workpiece
- Good for light / medium duty machining
- Rail provides maximum support while allowing clearance on bottom of workpiece
- Hardened and ground steel



RWP-1052 THIN PARALLEL (1/16" LEDGE)

- Provides precise straight edge for clamping machined workpiece
- Good for light / medium duty machining
- Rail provides support while allowing more clearance on bottom of workpiece
- Hardened and ground steel



RWP-1027 (Right) / RWP-1028 (Left) SOFT JAW

- Allows user to machine part specific profile in jaw for maximum clamping/location
- Good for secondary ops
- 6061 aluminum
- Includes thread inserts for thread durability
- Dowel pin used for on/off repeatability

## RELATED ADAPTERS / RISER PLATES TO BE USED WITH LOC-DOWN SCREWS

The following products were designed specifically with the RWP-502 100mm mounting interface when utilizing Loc-Down Screws and Dowel Pins. There are multiple options to choose from and will mount to most rotary tables / pallets.

See following pages for mounting configurations.

### ADAPTERS

**RWP-209-V100 EMERGENCY ADAPTER: Dia. 9.90" / 1.50" Height**

The emergency adapter allows you to drill the specific mounting hole configurations necessary to connect to your machine's rotary table/pallet. Once completed then connect adapter to table/pallet and mount the vise. When mounted together the overall height is 4.471". If additional height is needed, then mount the RWP-242-V100 Riser Plate in between vise and adapter for total Z: 6.221".



RWP-209 - V100

**RWP-222-V100 UNIVERSAL ADAPTER: Dia. 9.875" / 2.0" Height**

Mount directly to your machine pallet or rotary table using T-slots. When mounted together the overall height is 4.971". If additional height is needed, then mount the RWP-242-V100 Riser Plate in between vise and adapter for total Z: 6.721".



RWP-222 - V100

**RWP-223-V100 UNIVERSAL ADAPTER: Dia. 11.90" / 2.0" Height**

Mount directly to your machine pallet or rotary table using T-slots. When mounted together the overall height is 4.971". If additional height is needed, then mount the RWP-242-V100 Riser Plate in between vise and adapter for total Z: 6.721".



RWP-223 - V100

### RISER PLATE

**RWP-242-V100 RISER PLATE: Dia. 8.45" / 1.75" Height**

Mount directly to your machine pallet or rotary table. May also be used in a stacked application for higher Z, when mounted to either: RWP-209-V100, RWP-222-V100 or RWP-223-V100.



RWP-242 - V100

### DOVETAIL RISER PLATE

**RWP-244-V100 2.25" DOVETAIL RISER PLATE: 6.5" L x 4.125" W x 1.0" H**

This riser plate has been designed with a 2.25" dovetail base. Mounts directly to Raptor dovetail fixtures: RWP-006 or RWP-006SS. When mounting vise, dovetail riser plate, and dovetail fixture together, the total Z is 6.471". The RWP-006(SS) connect to Raptors' standard adapters with 3.80" BC dia. interface: RWP-209 (total Z: 7.971"), RWP-222 (total Z: 8.471"), RWP-223 (total Z: 8.471").



RWP-244-V100

### ACCESSORIES & REPLACEMENT PARTS

Accessories & replacement parts are available, please visit our website for additional information: [RAPTORWORKHOLDING.COM](http://RAPTORWORKHOLDING.COM). For product inquiries send email to: [INFO@RAPTORWORKHOLDING.COM](mailto:INFO@RAPTORWORKHOLDING.COM)



## MOUNTING CONFIGURATIONS

The following illustrations demonstrate the various mounting configurations when utilizing the related adapters and riser plates with the Loc-Down Screws / 12mm Dowel Pins.

Note: For complete mounting configurations, refer to our Product Solid Models, which maybe requested on our website.

| Product - Basic Configurations  |   |                          |                   |                              |
|---|---|--------------------------|-------------------|------------------------------|
| Item  | Description   | Height Z                 | Product Base      |                              |
| <b>Vise</b>   |   |                          |                   |                              |
|  RWP-502                                    | 100mm Self Centering Vise   | 2.971"                   | 6.5' L x 4.125" W |                              |
| <b>Vise Adapters</b>  |   |                          |                   |                              |
|  RWP-209-V100                              | Emergency Adapter 100mm interface / Blank   | 1.50"                    | 9.90" dia         |                              |
|  RWP-222-V100                               | Universal Adapter 100mm interface / T-Slots   | 2.00"                    | 9.875" dia        |                              |
|  RWP-223-V100                              | Universal Adapter 100mm interface / T-Slots   | 2.00"                    | 11.90" dia        |                              |
| <b>Vise Riser</b>   |   |                          |                   |                              |
|  RWP-242-V100                               | Vise Riser w/ adapter mounting configurations   | 1.75"                    | 8.45" dia         |                              |
| <b>Vise Dovetail Riser</b>  |   |                          |                   |                              |
|  RWP-244-V100                              | Vise 2.25" Dovetail Riser   | 1.00"                    | 6.5' L x 4.125" W |                              |
| Adapter Connection - Direct options   |   |                          |                   |                              |
| I. DIRECT   | Description   | Height Z                 | Total Z           | Product Base                 |
|  RWP-502<br>RWP-209-V100                  | 100mm Self Centering Vise<br>Emergency Adapter 100mm interface / Blank  | 2.971"<br>1.50"          | 4.471"            | 9.90" dia                    |
|  RWP-502<br>RWP-222-V100                 | 100mm Self Centering Vise<br>Universal Adapter 100mm interface / T-Slots  | 2.971"<br>2.00"          | 4.971"            | 9.875" dia                   |
|  RWP-502<br>RWP-223-V100                 | 100mm Self Centering Vise<br>Universal Adapter 100mm interface / T-Slots  | 2.971"<br>2.00"          | 4.971"            | 11.90" dia                   |
|  RWP-502<br>RWP-242-V100                 | 100mm Self Centering Vise<br>Vise Riser w/ adapter mounting configurations  | 2.971"<br>1.75"          | 4.721"            | 8.45" dia                    |
| Adapter / Riser Connections - Stacked options   |   |                          |                   |                              |
| II. STACKED   | Description   | Height Z                 | Total Z           | Product Base                 |
|  RWP-502<br>RWP-242-V100<br>RWP-209-V100 | 100mm Self Centering Vise<br>Vise Riser w/ adapter mounting configurations<br>Emergency Adapter 100mm interface / Blank   | 2.971"<br>1.75"<br>1.50" | 6.221"            | -<br>8.45" dia<br>9.90" dia  |
|  RWP-502<br>RWP-242-V100<br>RWP-222-V100 | 100mm Self Centering Vise<br>Vise Riser w/ adapter mounting configurations<br>Universal Adapter 100mm interface / T-Slots | 2.971"<br>1.75"<br>2.00" | 6.721"            | -<br>8.45" dia<br>9.875" dia |
|  RWP-502<br>RWP-242-V100<br>RWP-223-V100 | 100mm Self Centering Vise<br>Vise Riser w/ adapter mounting configurations<br>Universal Adapter 100mm interface / T-Slots | 2.971"<br>1.75"<br>2.00" | 6.721"            | -<br>8.45" dia<br>11.90" dia |

## MOUNTING CONFIGURATIONS – 2.25" DOVETAIL FIXTURE

The following illustrations demonstrate the various mounting configurations when utilizing Raptors' 2.25" Dovetail Fixtures: RWP-006 & RWP-006SS.

This configuration allows for quick change from a dovetail application to a vise application by simply mounting the RWP-244-V100, 2.25" dovetail riser plate, to the dovetail fixture and mounting the vise on top. Simple and easy!

Notes:

- Dovetail Fixture base has 3.8" BC dia. mounting interface & will only connect to the standard adapters, as illustrated.
- For complete mounting configurations, refer to our Product Solid Models, which maybe requested on our website.

| Vise, Dovetail Riser, 2.25" Dovetail Fixture, Standard Adapter Connections Options  |  |   |         |              |            |
|---|--|---|---------|--------------|------------|
|   | Description                                    | Height Z                                  | Total Z | Product Base |            |
|    | <b>I.</b>                                      |   |         |              |            |
|   | RWP-502  | 100mm Self Centering Vise                 | 2.971"  | 7.971"       | 9.055" dia |
|   | RWP-244-V100                                   | Vise Connector w/ 2.25" Dovetail Base     | 1.00"   |              |            |
|   | RWP-006(SS)                                    | 2.25" Dovetail Fixture - with BC dia 3.8" | 2.50"   |              |            |
| RWP-209   | Standard Emergency Adapter / no mounting holes | 1.50"                                     |         |              |            |
|   | <b>II.</b>                                     |   |         |              |            |
|   | RWP-502  | 100mm Self Centering Vise                 | 2.971"  | 8.471"       | 9.875" dia |
|   | RWP-244-V100                                   | Vise Connector w/ 2.25" Dovetail Base     | 1.00"   |              |            |
|   | RWP-006(SS)                                    | 2.25" Dovetail Fixture - with BC dia 3.8" | 2.50"   |              |            |
| RWP-222   | Standard Universal Adapter SML / T-Slots       | 2.00"                                     |         |              |            |
|  | <b>III.</b>                                    |   |         |              |            |
|   | RWP-502  | 100mm Self Centering Vise                 | 2.971"  | 8.471"       | 11.95" dia |
|   | RWP-244-V100                                   | Vise Connector w/ 2.25" Dovetail Base     | 1.00"   |              |            |
|   | RWP-006(SS)                                    | 2.25" Dovetail Fixture - with BC dia 3.8" | 2.50"   |              |            |
| RWP-223   | Standard Universal Adapter LRG / T-Slots       | 2.00"                                     |         |              |            |



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**TECHNICAL SUPPORT**

For technical information contact our Customer Service Dept. at 800-824-8333 or send requests to [INFO@RAPTORWORKHOLDING.COM](mailto:INFO@RAPTORWORKHOLDING.COM)



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