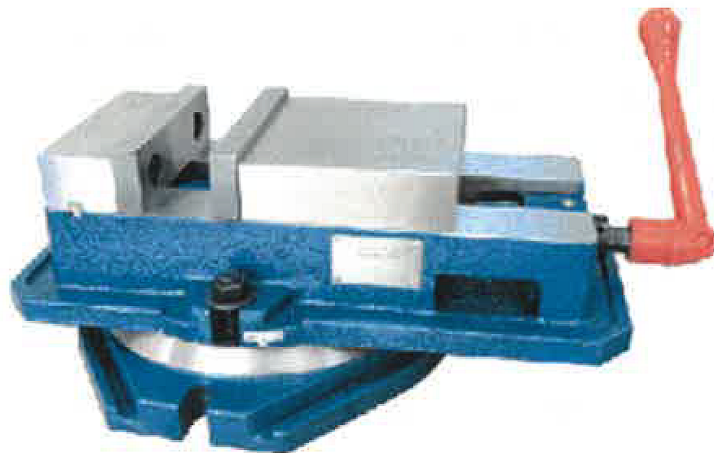


# **Lock-Tight Precision Machine Vise**

## **Operating Instructions Manual**



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## Operating Instructions

For proper vise operation insert the handle on the hex end of the vise. Rotate clockwise to clamp and counterclockwise to unclamp your vise. This handle combined with the correct amount of torque will provide you with all the clamping force you will need to machine your parts. Do not use any other type of pressure to open or close your vise.

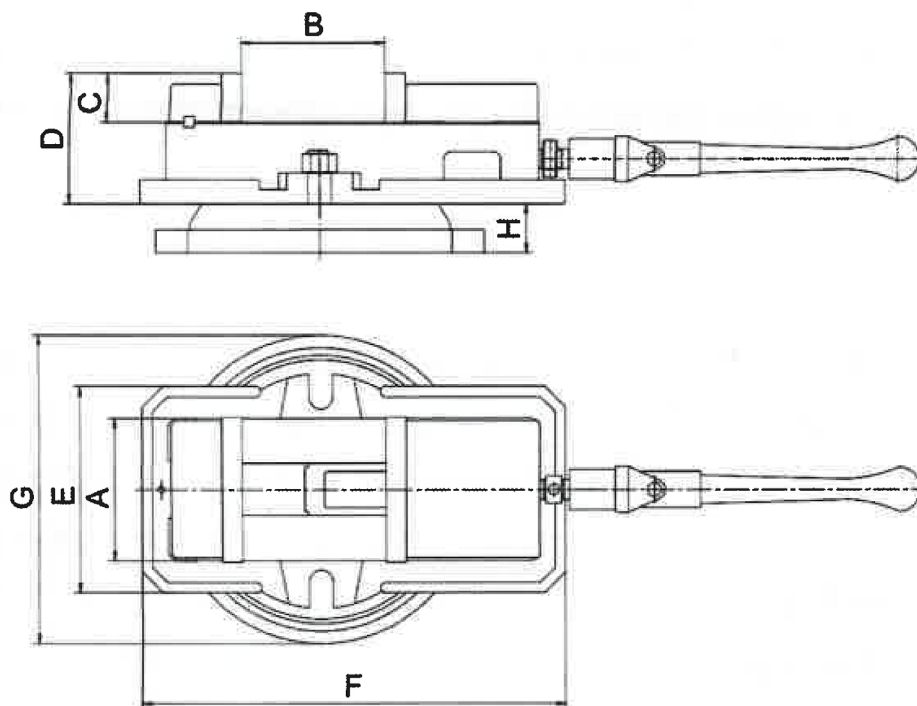
The uses of handle extensions, air impact wrenches, breaker bars or hammer strikes are not recommended and will void the warranty if used. This will also cause damage to the thrust bearing and screw threads. If you need more clamping force you may need upgrade the vise to a larger one.

To properly clamp a part in your vise you should place the part in the center of the jaws resting on the ways of the vise. Clamping only on one side or above the movable and stationary jaws can result in jaw lift or loss of accuracy.

If one-sided clamping is necessary you must use a dummy part on the other side. When using parallels or step jaws you must select a size that keeps the bottom of the clamped part at or below the top of the movable and stationary jaws. Always use jaw plates for clamping. If jaw plates are not used damage to the mounting surface of the movable and stationary jaw will occur. This will result in reduced clamping accuracy and repeatability.

## Technical Parameters

### Technical Parameters



Unit: inch

| Model  | Jaw Width<br>A | Jaw Opening<br>B | Jaw Height<br>H1 | H        | E        | F         | G       | Base Height<br>H2 | N.W.<br>(lb) |
|--------|----------------|------------------|------------------|----------|----------|-----------|---------|-------------------|--------------|
| LV-3"  | 3"             | 2-61/64"         | 63/64"           | 3-5/32"  | 4-1/4"   | 10-15/32" | 6-7/64" | 1-3/16"           | 26.4         |
| LV-4"  | 4"             | 4-5/6"           | 1-9/64"          | 3-37/64" | 6-3/16"  | 12-3/4"   | 9-7/32" | 1-29/64"          | 59.5         |
| LV-5"  | 5"             | 4-3/4"           | 1-1/2"           | 4-1/16"  | 7-1/64"  | 14-5/16"  | 9-3/4"  | 1-1/2"            | 71           |
| LV-6"  | 6"             | 5-9/16"          | 1-7/8"           | 4-27/32" | 8-11/32" | 16-21/32" | 12-1/4" | 1-1/2"            | 106          |
| LV-6"X | 6"             | 7-1/2"           | 1-7/8"           | 4-27/32" | 8-1/2"   | 17"       | 12-1/4" | 1-1/2"            | 123          |
| LV-8"  | 8"             | 8-5/8"           | 2-23/64"         | 5-45/64" | 10-3/4"  | 21-5/8"   | 14-3/8" | 1-49/64"          | 205          |

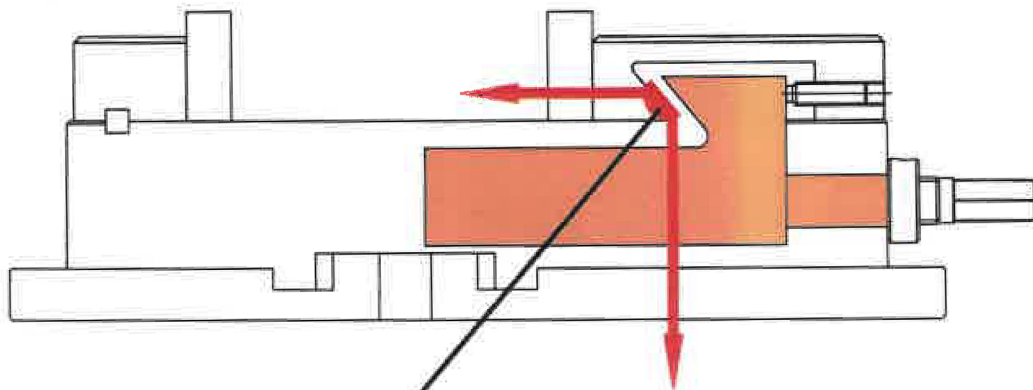


## Features and Operational Principle

### Features

1. Special design to hold the workpiece firmly.
2. Replaceable cranks help to hold the workpiece fast and easy.
3. Ensureance of parallelism and perpendicularity when holding.

### Operational Principle

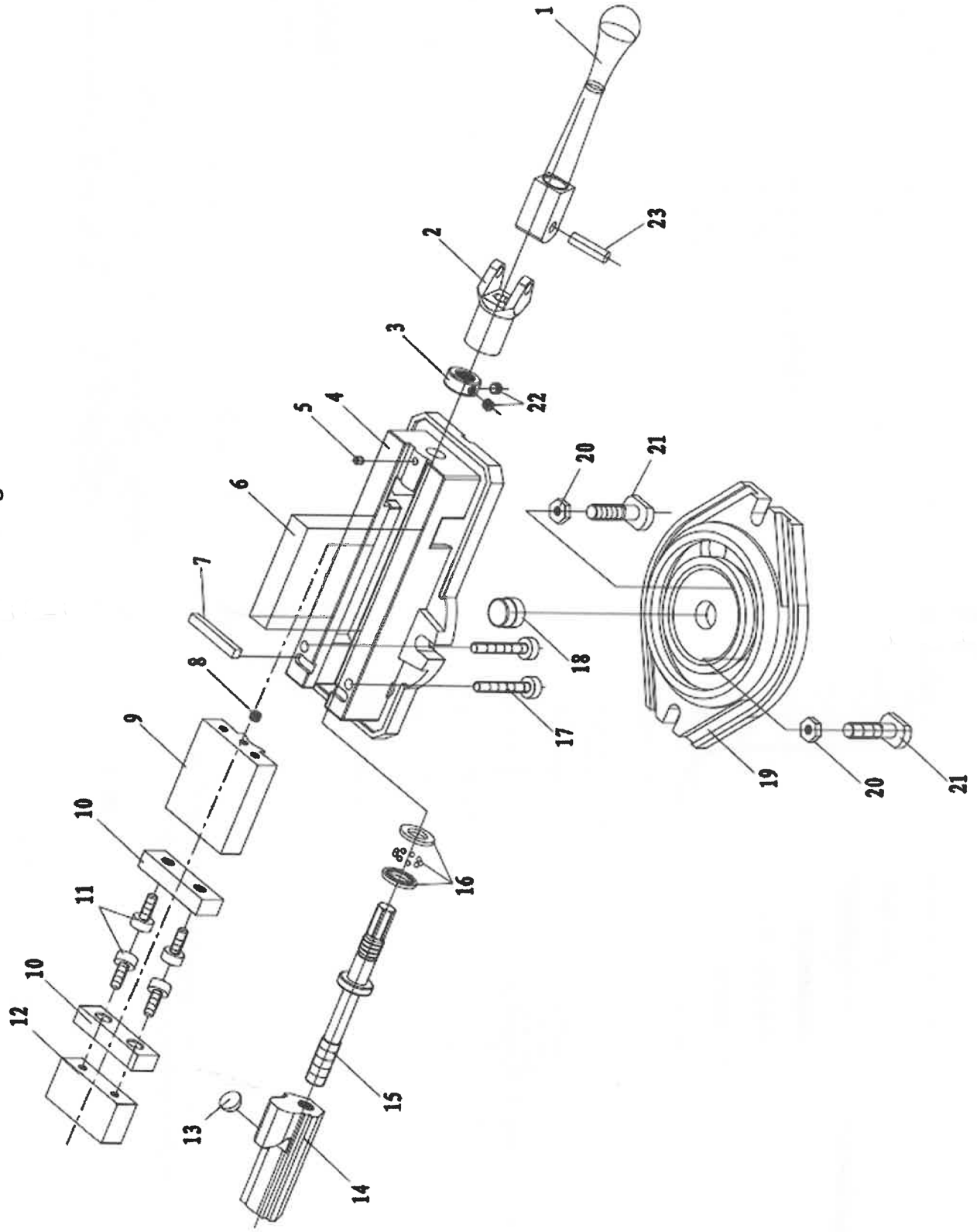


Each pound of force in this direction.

Induces 1/2 pound of force in this direction.

The half round ball can make the power from compact lock-well. Remove clamping drift and work slop.

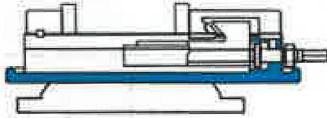
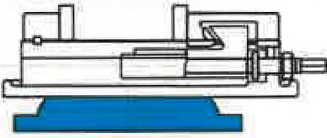
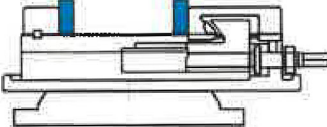
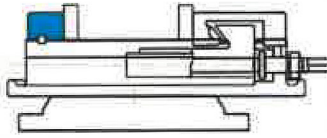
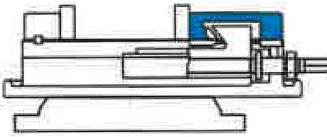
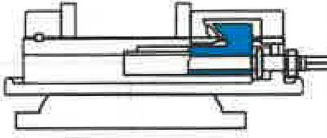
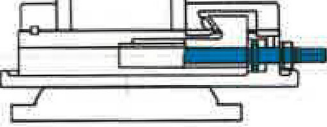
# Mechanical Drawing



## Parts List

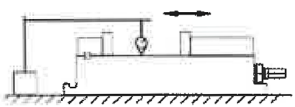
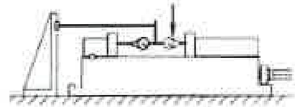
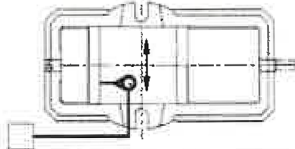
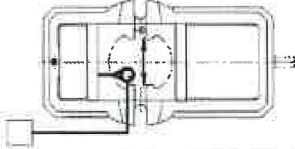
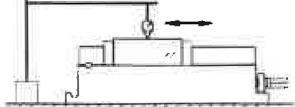
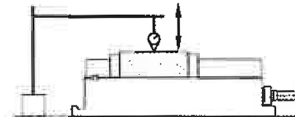
| ITEM | DESCRIPTION                   | QTY. |
|------|-------------------------------|------|
| 1    | Handle bars                   | 1    |
| 2    | Connecting handlebar bushings | 1    |
| 3    | Positioning nut               | 1    |
| 4    | Body                          | 1    |
| 5    | Oil Cup                       | 1    |
| 6    | Chip Guard                    | 1    |
| 7    | Targeting key                 | 2    |
| 8    | Hexagon set screws            | 2    |
| 9    | Movable Jaw                   | 1    |
| 10   | Jaw plate                     | 2    |
| 11   | Hex Socket Cap Screw          | 4    |
| 12   | Stationary jaw                | 1    |
| 13   | Segment                       | 1    |
| 14   | Nut                           | 1    |
| 15   | Screw                         | 1    |
| 16   | Thrust Bearings               | 1    |
| 17   | Hex Socket Cap Screw          | 2    |
| 18   | Small shaft                   | 1    |
| 19   | Base                          | 1    |
| 20   | Hex nuts                      | 2    |
| 21   | T-Bolts                       | 2    |
| 22   | Hexagon set screws            | 2    |
| 23   | Cylindrical pin               | 1    |

## Detailed Parts And Process Features

| Names of Parts | Materials | Technical Requirement                     | Parts Figure  |
|----------------|-----------|---|---|
| Body           | FC300     | Body (guide railside )<br>Hardening 38-42 |    |
| Base           | FC300     | Aging Treating                            |    |
| Jaw Plate      | 40Cr      | HB269-302<br>Hardening 48-52              |   |
|                | 50Cr      | HB269-302<br>Hardening 55-60              |   |
| Stational Jaw  | FC300     | Aging Treating                            |  |
| Movable        | FC300     | Aging Treating                            |  |
| Nut            | FCD500    | Aging Treating                            |  |
| Screw          | 45#       | HD240-265<br>Hardening 40-45              |  |

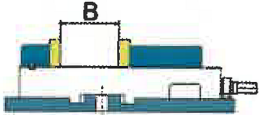
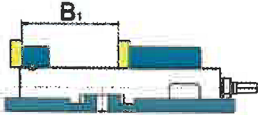
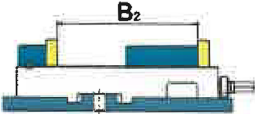
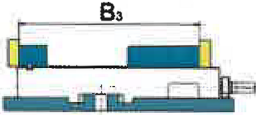
## Accuracy testing standard

Accuracy testing standard :

| NO. | ITEM ( 100mm )   | JIS<br>GRADE1 | GUAR-<br>ANTEED | SCHEMATIC<br>DIAGRAM  |
|-----|--|---------------|-----------------|---|
| 1   | Surface of vise bed parallel to bottom of vise body                                  | 0.020         | 0.008           |    |
| 2   | Both jaw plate parallel  | 0.030         | 0.010           |    |
| 3   | Keyways on bottom of vise bed square to clamping surface of jaw plate                | 0.015         | 0.010           |  |
| 4   | Keyways on bottom of vise bed parallel to clamping surface of jaw plate              | 0.015         | 0.010           |  |
| 5   | Top of rectangular test block clamped tightly by jaw parallel to bottom of vise-body | 0.020         | 0.015           |  |
| 6   | Floating degree of the workpiece clamped tightly                                     | 0.030         | 0.015           |  |

## Four Different Holding Manners

For workpiece with different size ,different holding manners can be selected

| Model<br>Manners  | Holding | LV-3"    | LV-4"    | LV-5"    | LV-6"     | LV-6"X    | LV-8"     |
|---|---------|----------|----------|----------|-----------|-----------|-----------|
|    |         | 2-61/64" | 4-5/16"  | 4-23/32" | 6-19/64"  | 7-31/64"  | 8-37/64"  |
|  |         | 4-17/32" | 5-63/64" | 6-1/2"   | 8-21/32"  | 10-5/32"  | 10-55/64" |
|  |         | 6-19/64" | 8-19/32" | 9-23/32" | 12-13/32" | 13"       | 15-5/16"  |
|  |         | 7-7/8"   | 8-3/16"  | 12"      | 14-31/32" | 15-45/64" | 18-1/2"   |

## Packing List and Certificate

### Packing List

| Part                   | Description | Unit | Quantity | Remack |
|------------------------|-------------|------|----------|--------|
| Precision Tooling Vise | LV-5"       | PC   | 1        | ✓      |
| Base                   |             | PC   | 1        | ✓      |
| Handle                 |             | SET  | 1        | ✓      |
| T-Screw                |             | SET  | 2        | ✓      |
| Positioning Key        |             | SET  | 2        | ✓      |
| Chip Guard             |             | SET  | 1        | ✓      |

### Certificate

We hereby certify that each statistics of this product complies with technical standards for sale in the inspection .

Model : LV-5"

Inspection Date : 2022.5.28

Inspector : 003

