



ZERO CLAMP®  
Experience precision

INNOVATIONS IN AUTOMATION

# ZeroVise® P160 Self Centering Vise

Powerful flexibility for your 5-axis automation. 5-Sided machining in one set-up.



# ZeroVise® P160

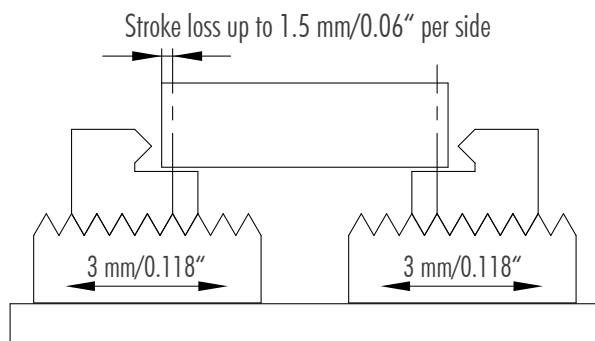
## Pneumatically Actuated Self Centering Automatic Vise

### Features

- 5mm (.200") per jaw infinite adjustability for presetting of the jaws position optimized for the worst case using sawed blanks and with re-centering adjustment
- Wedge-hook kinematics design provides high clamping forces and repeatability
- Highest clamping force 48kn/9 bar air pressure/ 130 PSI 10,800 lbs. over 5 tons!
- Continuously adjustable clamping force with 3-9 bar/ 33-130 PSI air pressure
- Largest clamping stroke 8.5 mm/.34" total, requires less jaw sizes/sets for the total clamping range and without a reduction in clamping force vs competitors total stroke of 6 mm
- Large range and style of top jaws available up to 250 mm/ 9.84" largest available clamping range versus competitors 120 mm/4.72" range (order jaws separately)
- ZeroClamp quick change jaws are standard
- Without air pressure jaws still maintain 60 kg/135 lbs. of clamping pressure to securely hold parts during pallet changing or transporting (OD clamping only)
- Ideal for automatic part loading of 3-, 4- and 5-axis CNC's by cobot/robot
- O.D. & I.D clamping and completely sealed design from coolant and cutting chips
- All components are alloy steel, hardened and ground for longevity (no castings)
- German engineering and precision.

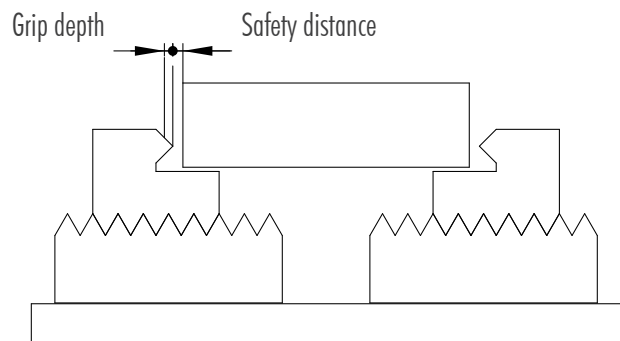
## Stroke Comparison to Competitors Products

### Competitors Vises with 6 mm of Clamping Stroke



#### Stroke loss due to serrations pitch:

Jaw stroke 3 mm/0.118", total stroke 6 mm/0.236", serrations pitch 1.5 mm/0.060". Loss of the usable clamping stroke due to the serrations spacing by up to 3 mm/0.118" with 1.5 mm/0.060" serrations pitch.



#### Further additional reduction of the clamping stroke

of e.g. 1 mm/0.039" per side due to the required penetration depth when gripping as well as the required safety distance when inserting/removing the workpiece.

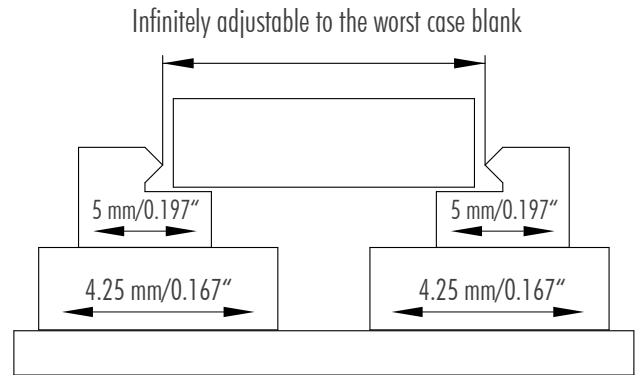
### DISADVANTAGES of competitors vises:

- ☒ In the worst case, there is only 1 mm left of the theoretical clamping stroke of 6 mm!
- ☒ Due to the sawing tolerance of usually at least 2 mm/ 0.08" (often more), sawed blanks cannot be inserted. Expensive pre-milled blank parts may need to be used.

# ZeroVise® P160 with 8.5 mm Clamping Stroke

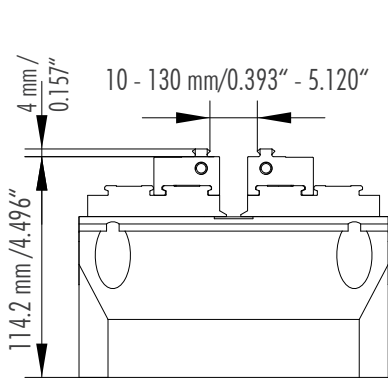
## ADVANTAGES of the ZeroClamp System:

- ☑ With the **ZeroVise® P160 5-axis self centering automatic vise** the jaws can be infinitely adjusted by 5 mm per side. This allows the presetting to the most unfavorable tolerance of a sawed blank. Thus the full clamping stroke of 8.5 mm/0.334" (4.25 mm/0.167" per side) is available.
- ☑ **Blank parts with large tolerances** can be used (inexpensive saw cuts).



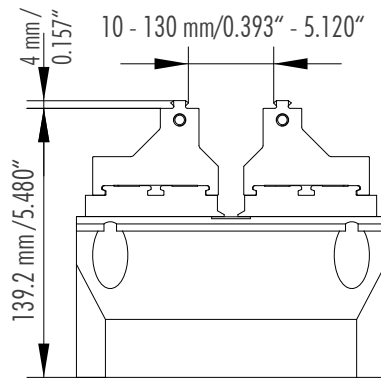
## Vise Jaw Options

Top jaws double sided can be repositioned on the 2 dovetails on each side and reversed to change the clamping ranges.



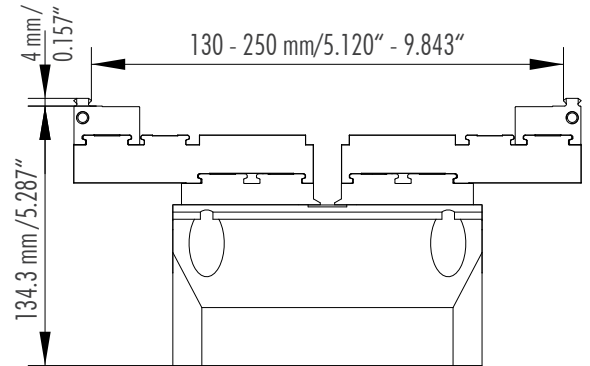
### P160 with STD Jaw set

Standard low overall height (15 mm/0.590") jaw width 120 mm/4.73", consisting of 3 pairs of jaws, clamping range 10 - 130 mm/0.394 - 5.120".



### P160 with High Jaw set

Height 40 mm/1.575", jaw width 80 mm/3.15", consisting of 6 pairs of jaws, clamping range 10 - 130 mm/0.394 - 5.120". For increased tool access for small 5-axis parts.



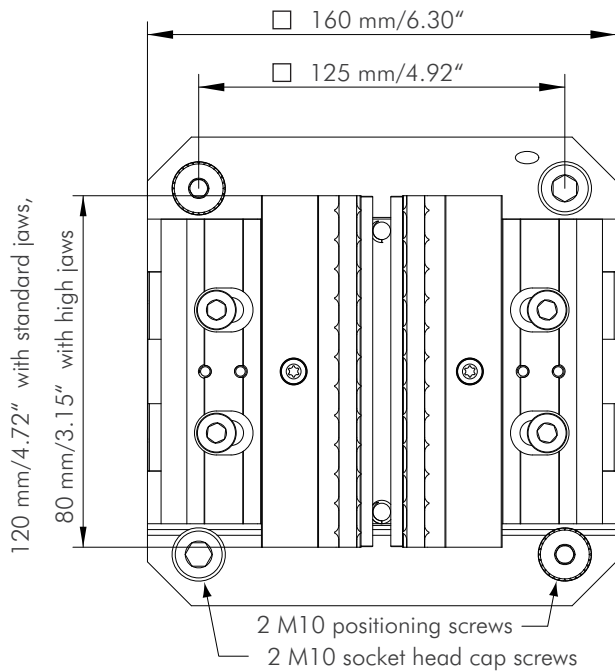
### P160 with Jaw extensions

Use with the standard jaw set (Jaw set = 3 pairs/sizes). Extended clamping range 130 - 250 mm/5.120 - 9.843".

## Technical Data

Model	Clamping force [kN] [lbs]	Pressure [psi] [bar]	Repeatability [inch]	Clamping range [inch] (without jaw extensions)	Clamping range [inch] (with jaw extensions)	Opening/ closing time 87 psi [s]	Stroke/jaw [inch]	Air consumption/ double stroke [inch <sup>3</sup> ]	Weight [lbs]
P160	48* 10800*	130.5 9	0.0004	0.393 - 5.120	5.120 - 9.843	0.4	0.34	97.6	27

\*The value indicates the clamping force as the arithmetic sum of the individual forces acting on the clamping jaws at maximum air pressure.



## Air Connections

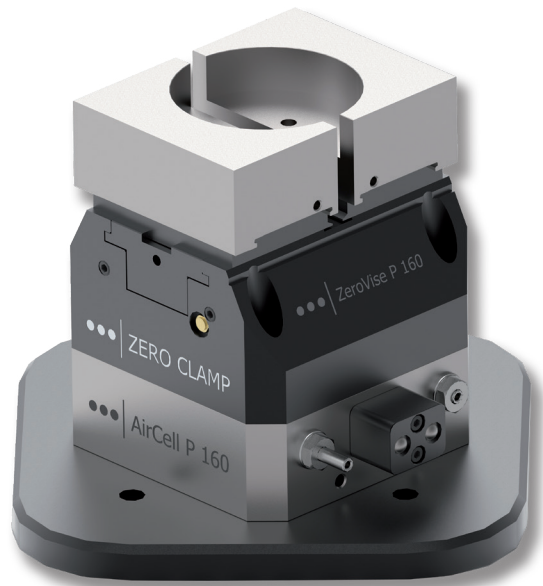
Open/unclamp and close/clamp  
pneumatic actuation 3-9 bar/  
33-130 PSI from 2 side or bottom  
ports with continuous air supply.

## Mounting Layout

Mounted using 4 M10 screws, 2 are  
locating screws for precision positioning.  
Dimensions interchangeable with com-  
petitors' products with 125 mm SQ.  
mounting pattern.

## Available Options

- Various base plates available (universal, diamond, square)
- Various height risers available
- Air Cell P160 with air lock reservoir and mechanical pressure display pin or IoT smart wireless pressure monitoring of clamping conditions by WLAN (patent pending)  
Optional: remote Air Cell P160 for increased Z-axis (Ref. P160 IoT flyer)
- Automation of the clamping functions by a cobot/robot through side air-docking ports or through the bottom ports
- Many jaw options available, grip 15 and 40 mm high, carbide faced, soft jaws for making your own contoured jaws in aluminum or steel.



*Example: ZeroVise® P160 shown with Air Cell P160 consisting of Air Lock reservoir, air-docking ports for manual or automatic activation, mechanical pressure display pin, base plate and contoured soft jaws.  
Ref. P160 IoT flyer for details.*

