

Mechanical zero point

Specification&Dimensions



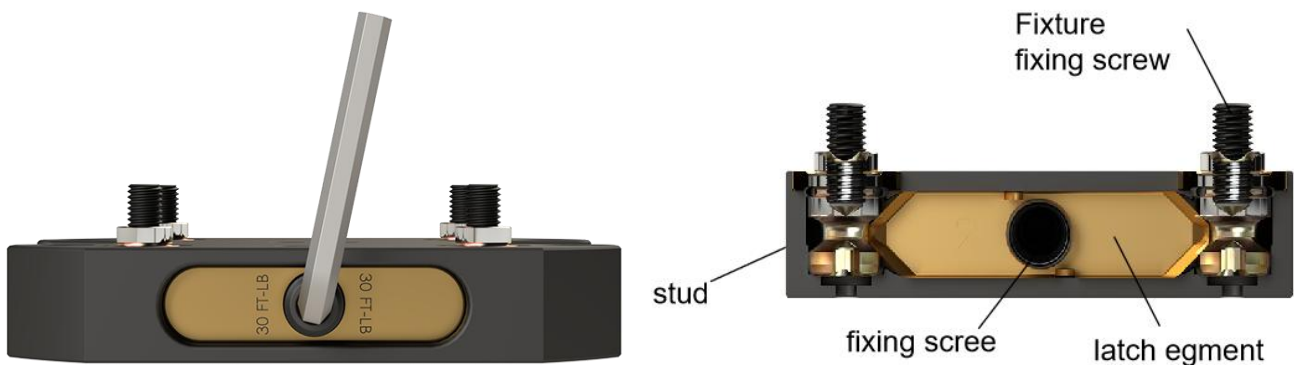
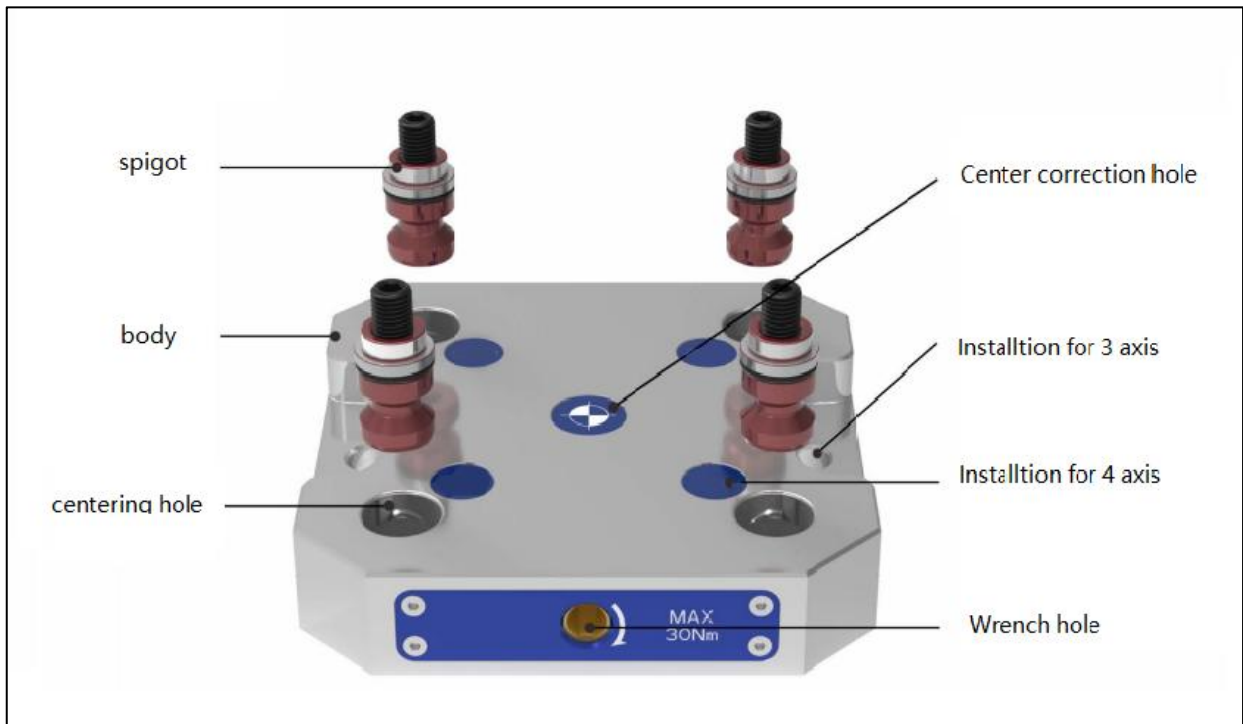
Mechanical zero point basic:

The four hole mechanical zero point clamping is a positioning tool that can quickly exchange fixtures and centering fixtures. The standard installation ways enables the rapid and repeatable conversion of vice, pallet, chuck and other tools between machine tools, and ensures the accuracy without disassembly and alignment time

Benefits used zero point clamping system

- Repetition accuracy is within 0.005mm
- Large bearing area, suitable for heavy cutting
- Reduce fixture replacement and adjustment time by more than 80%
- Fixtures can be standardized
- Numerous combinations of tooling and fixtures can be designed

Mechanical zero point structure:



Fixture combination case

With the mechanical zero point plate, you can design various tooling fixtures flexibly, and exchange them among three-axis, four axis and five axis machine tools quickly to reduce the downtime of the machine tool

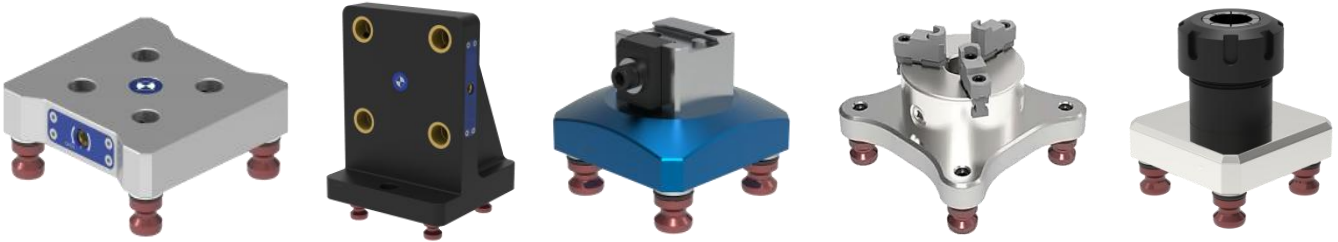
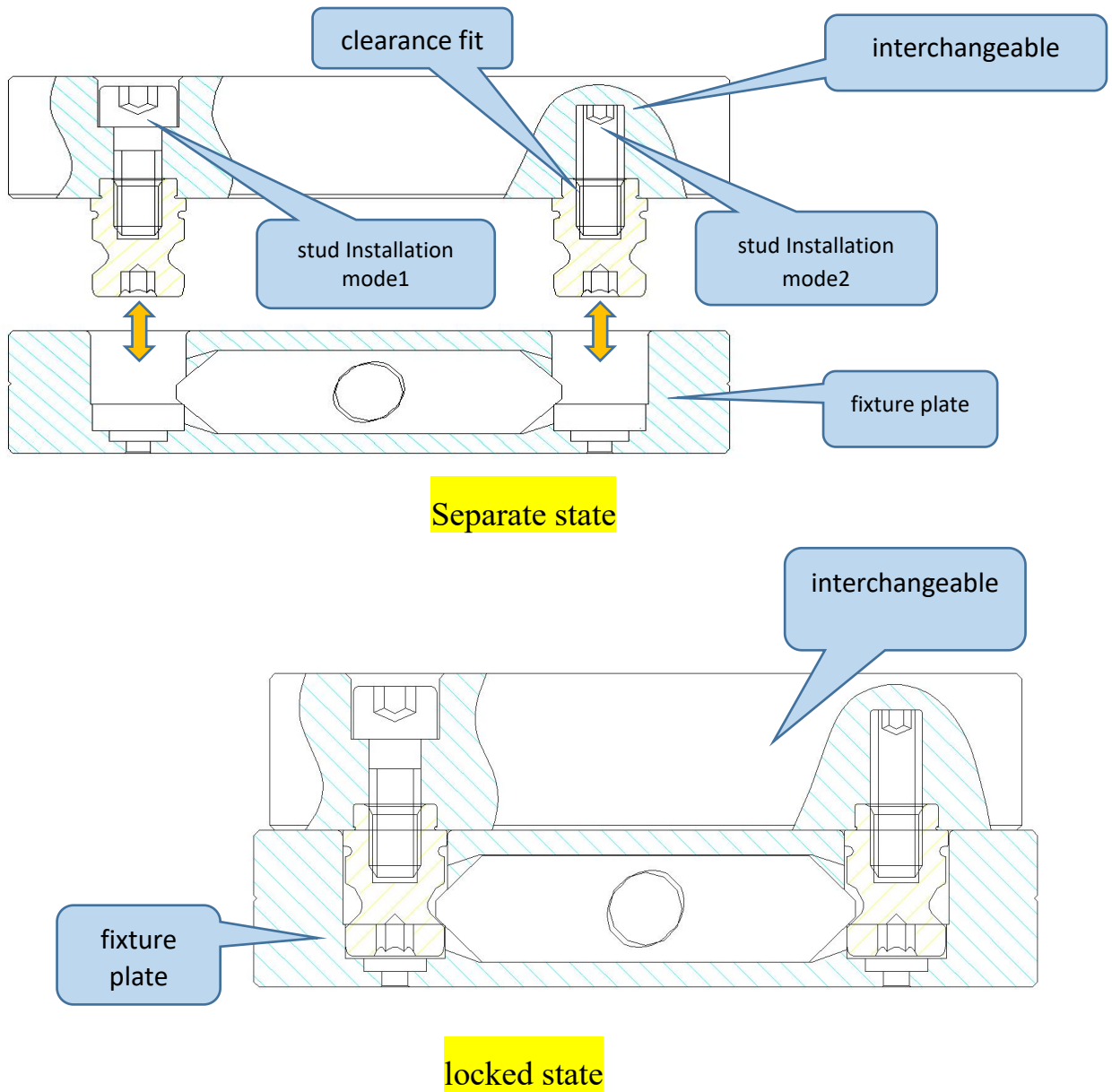

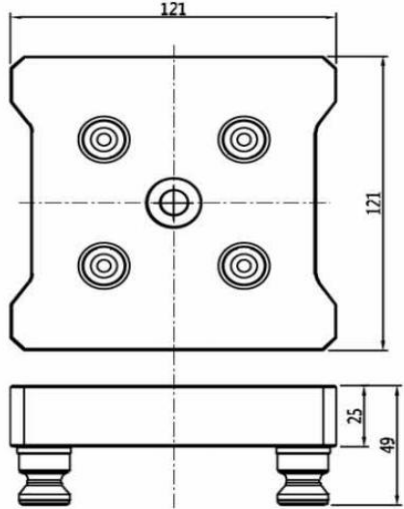

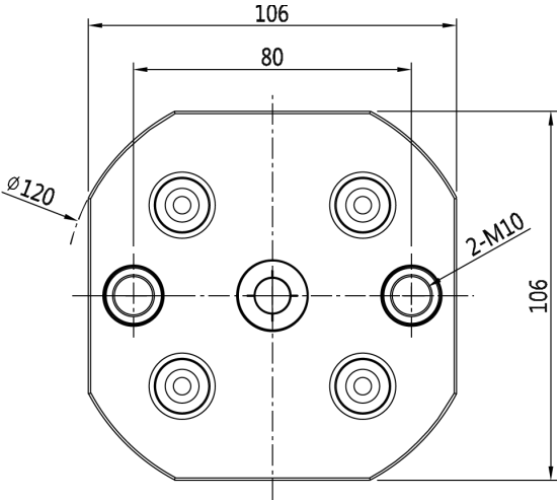

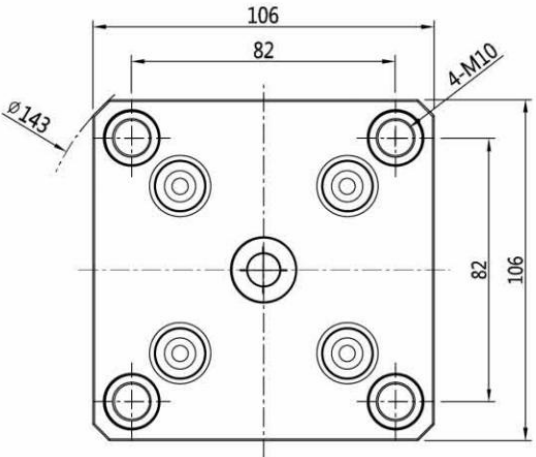


Plate installation



Mechanical zero point specification:

52 mm type

	<p>SC52-S96</p> <p>Dimension: 121*121*25 Repeatability: 0.005 Clamping force: 18 Material: steel Weight/Kg: 2.4KG</p>	
	<p>SC52-S120</p> <p>Dimension: 106*106*25 Repeatability: 0.005 Clamping force: 18 Material: steel Weight/Kg: 1.6KG</p>	
	<p>SC52-S145</p> <p>Dimension: 106*106*25 Repeatability: 0.005 Clamping force: 18 Material: steel Weight/Kg: 1.8KG</p>	



SC52-S150

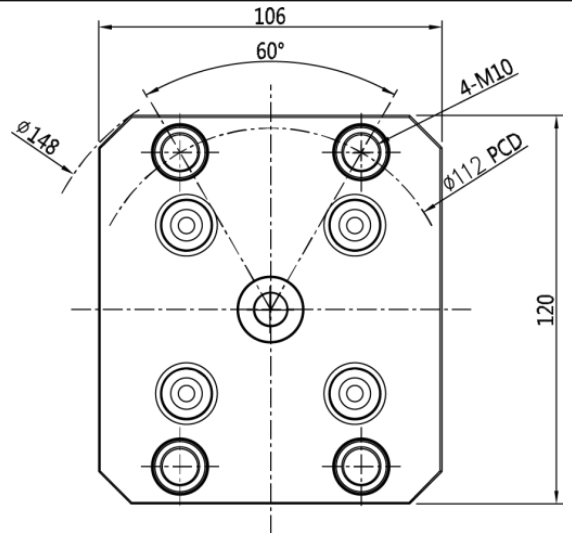
Dimension: 120*106*25

Repeatability: 0.005

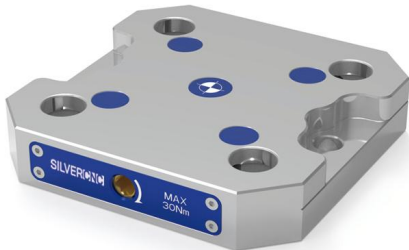
Clamping force: 18

Material: steel

Weight/Kg: 2KG



96mm type



SC96-S190

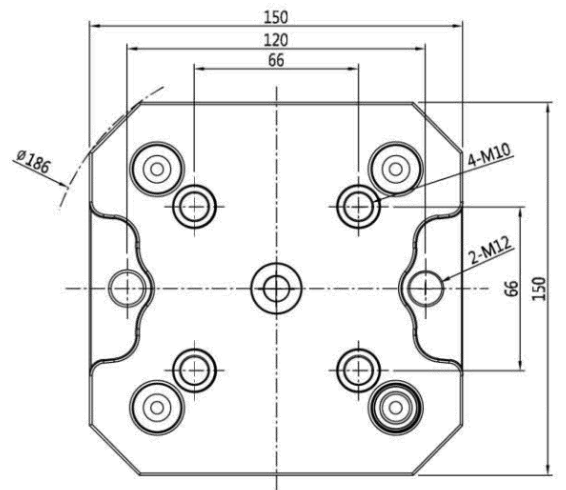
Dimension: 150*150*30

Repeatability: 0.005

Clamping force: 22

Material: steel

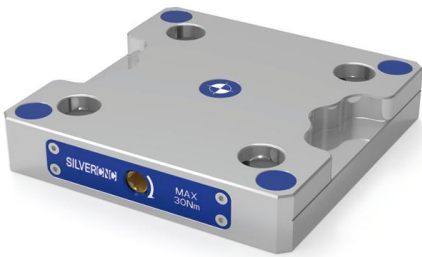
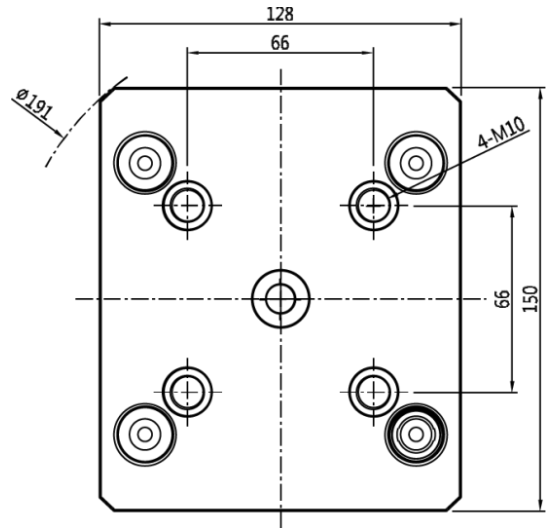
Weight/Kg: 4KG





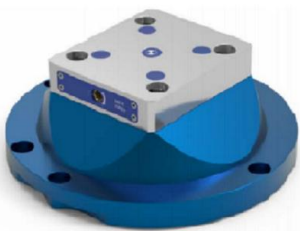
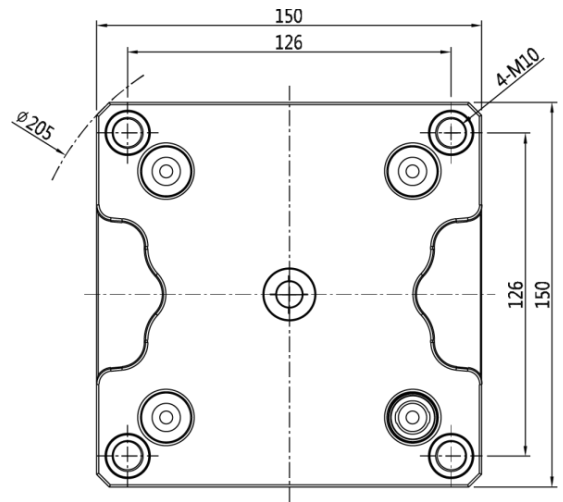
SC96-S195

Dimension: 150*128*30
 Repeatability: 0.005
 Clamping force: 22
 Material: steel
 Weight/Kg: 4.6KG



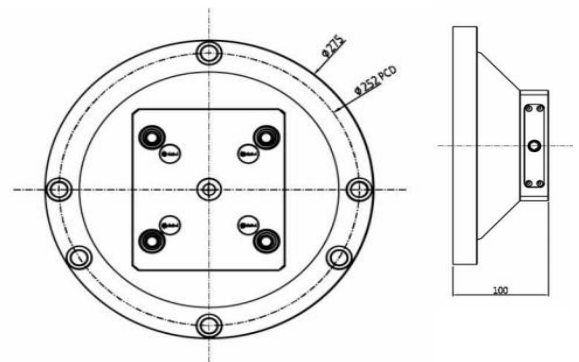
SC96-S205

Dimension: 150*150*30
 Repeatability: 0.005
 Clamping force: 22
 Material: steel
 Weight/Kg: 4KG

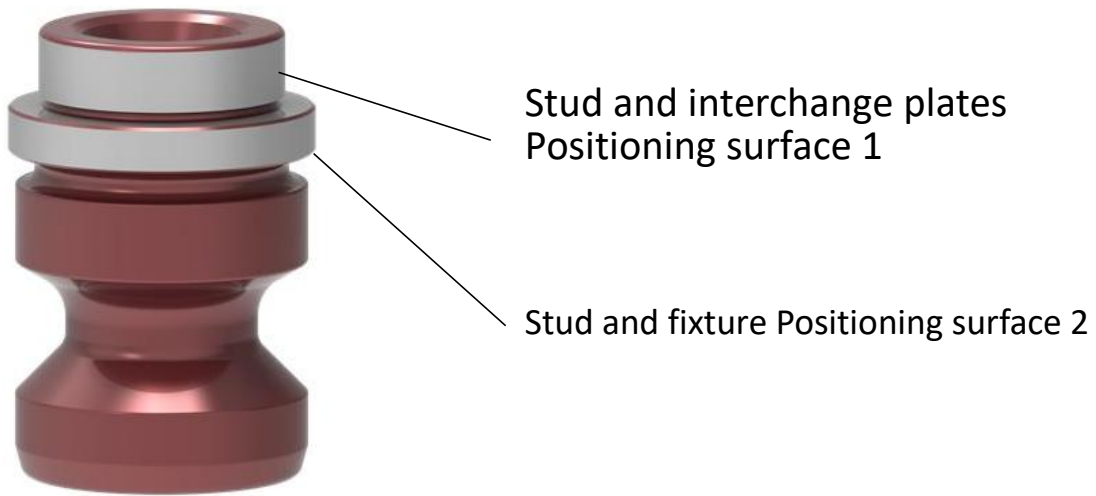


SC96-S275

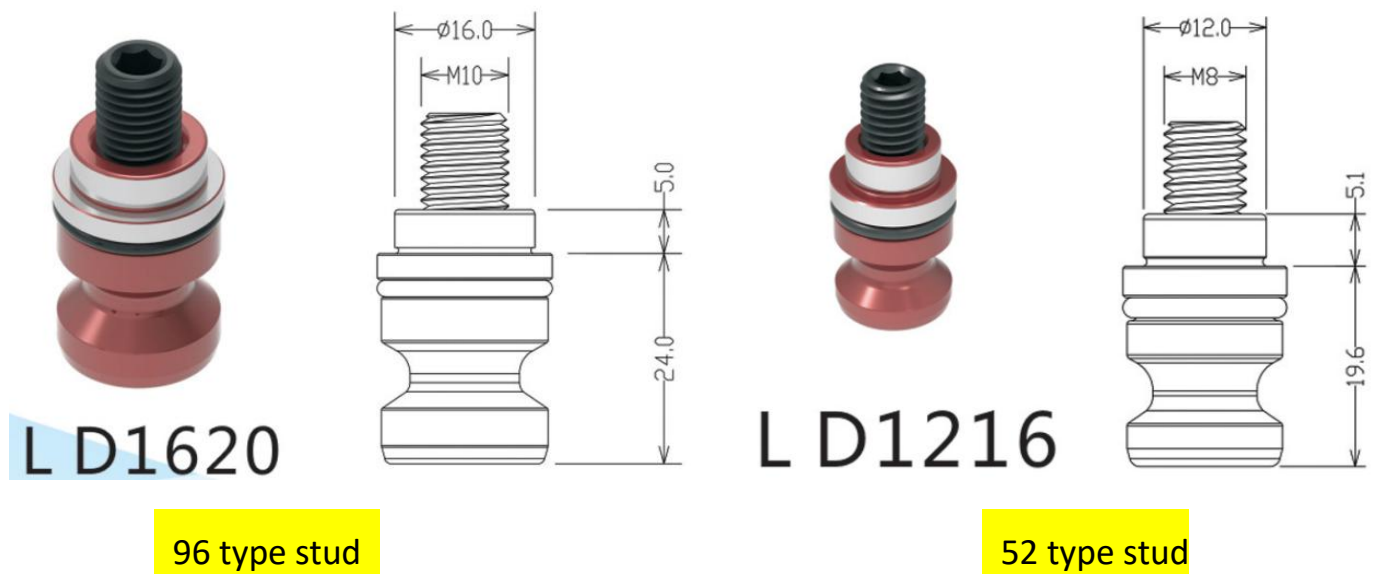
Dimension: ϕ 100
 Repeatability: 0.005
 Clamping force: 22
 Material: steel
 Weight/Kg: 9.6KG



Zero point stud:



☆ Note: the stud and the exchange plate should be interstitial. When installing stud, lubricate the cylinder surface to prevent straining the surface



Self-centering vise

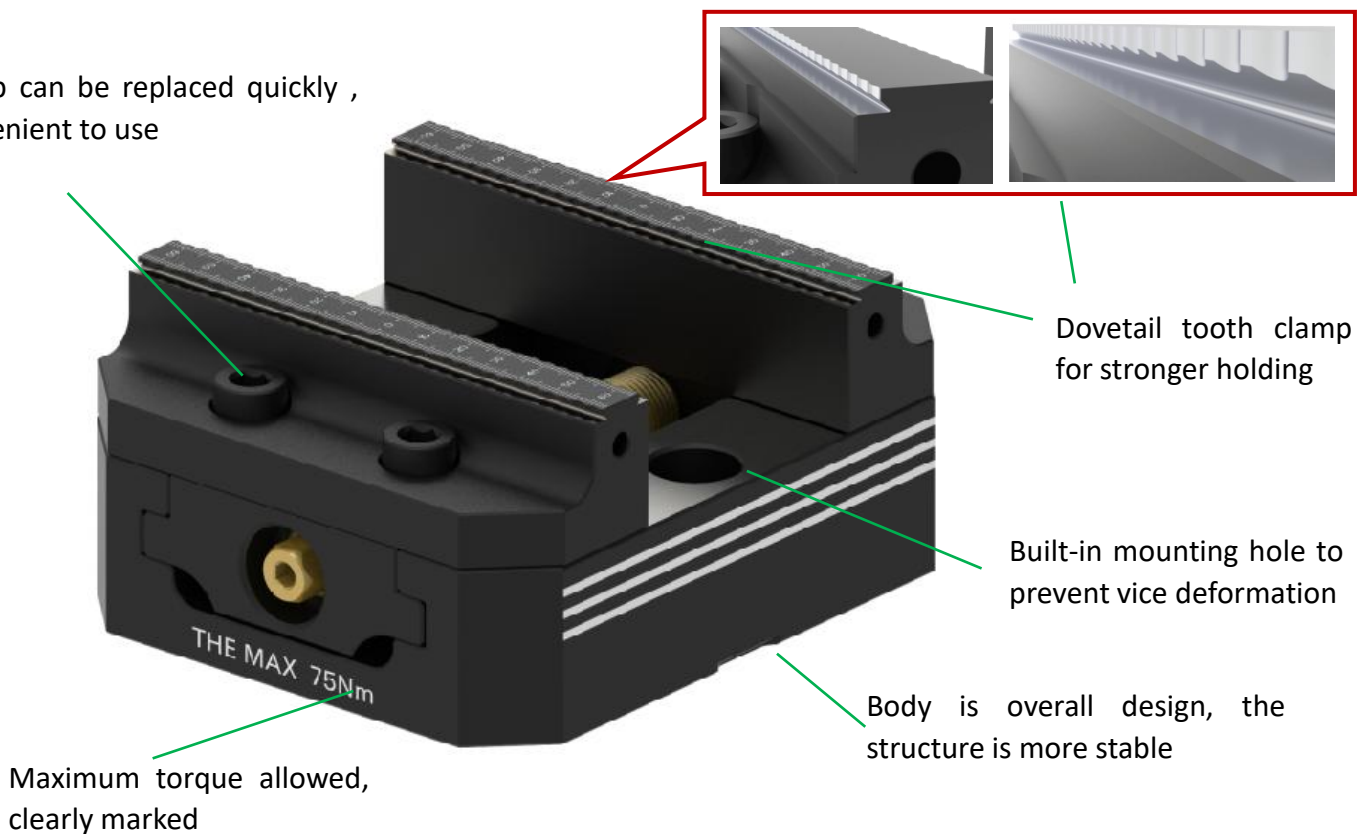
SILVERCNC Self centering vise is applicable to various CNC processing fields. It has the characteristics of high precision, light weight, large clamping range and flexible operation. It can realize positioning and clamping in one step, and its claw can hold the work piece with complex contour. The work piece with different contour can be processed by simply changing the claw. The accuracy of repeated positioning is within 0.02mm. Vises can be connected and replaced with major foreign brands, such as Lang brand, 5th, Jaggens, Schunk, etc.

Its compact structure and practical design make it the most popular choice for most machining plants in the world.

It is more flexible when used with four hole mechanic zero point system.

SILVERCNC self centering vise is a good choice for flexible production!

clamp can be replaced quickly ,
convenient to use



Dovetail tooth clamp
for stronger holding

Built-in mounting hole to
prevent vice deformation

Body is overall design, the
structure is more stable

Maximum torque allowed,
clearly marked

THE MAX 75Nm

Various Self-centering vise

1. small size vise

SC-75100 and SC-75150 are small size vise. They are suitable for clamping small products and can be used with 52 type four hole zero point base to realize rapid clamping and positioning and improve production efficiency.

 A black self-centering vise, model SC-75100, shown from a three-quarter perspective. It features a yellow adjustment screw on the front. The front face has the text 'THE MAX. 60Nm', the 'SC SILVERLINE' logo, and the model number 'SC-75100'. The top has two clamping blocks with four holes each.	 A black self-centering vise, model SC-75150, shown from a three-quarter perspective. It features a yellow adjustment screw on the front. The front face has the text 'THE MAX. 60Nm', the 'SC SILVERLINE' logo, and the model number 'SC-75150'. The top has two clamping blocks with four holes each.
<p>Model: SC-75100 Dimensions: 75*100*56mm Repeatability: 0.01mm Clamping range: 0-77mm Width: 75mm maximum torque: 60N/m Weight: 2.5KG</p>	<p>Model: SC-75150 Dimensions: 75*150*56mm Repeatability: 0.02mm Clamping range: 0-121mm Width: 75mm maximum torque: 60N/m Weight: 4KG</p>

2. Medium size vise

SC-130155 and SC125-128 are medium size self centering vise, they are the most widely used and are most loved by the majority of users. It can be used with 96 type four hole zero point base, which is more convenient and fast, and can quickly improve the production efficiency.



Model: SC-130155

Dimensions: 130*155*73.5mm

Repeatability: 0.02mm

Clamping range: 0-150mm

Width: 130mm

maximum torque: 75N/m

Weight: 7KG



Model: SC-125128

Dimensions: 125*128*73.5mm

Repeatability: 0.02mm

Clamping range: 0-128mm

Width: 125mm

maximum torque: 75N/m

Weight: 6KG

3. Large size centering vice

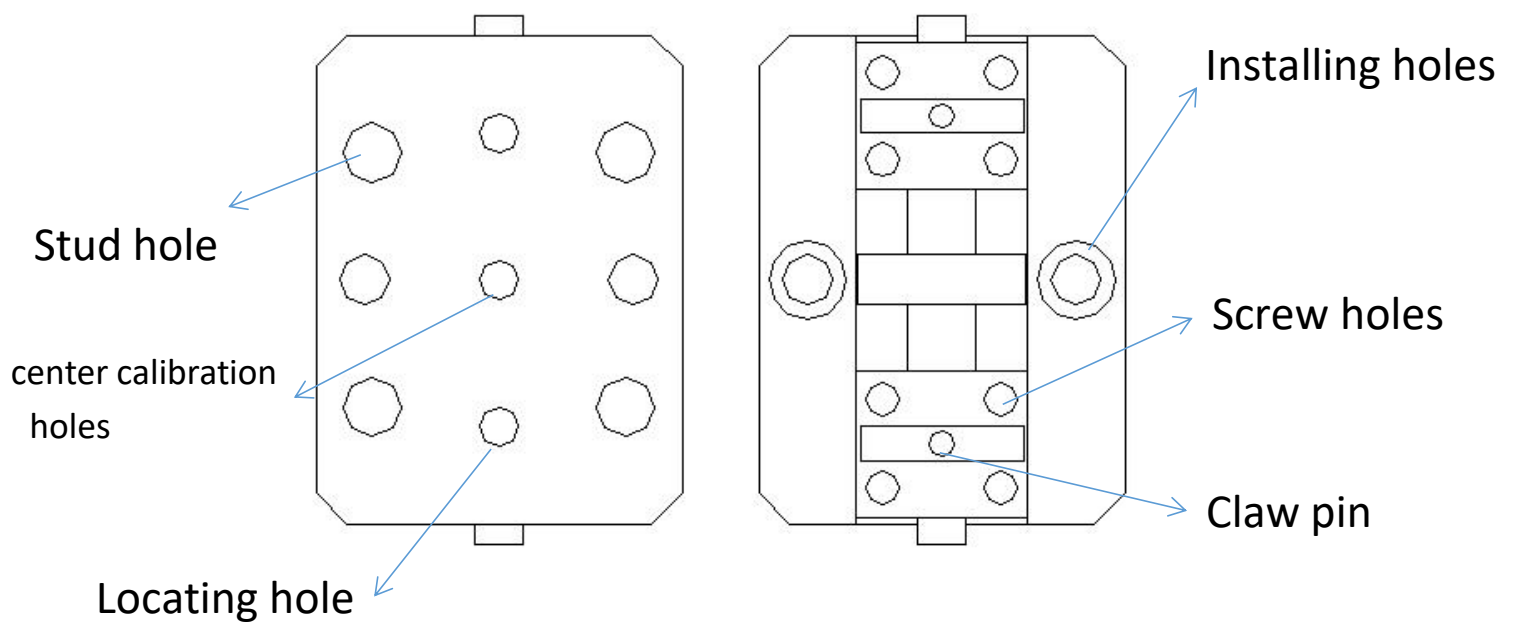
SC-130250 and SC-150250 are large size self centering vise, they are used for clamping large parts. It can be used with 96 type four hole zero point base, which is more convenient and fast, and can quickly improve the production efficiency.

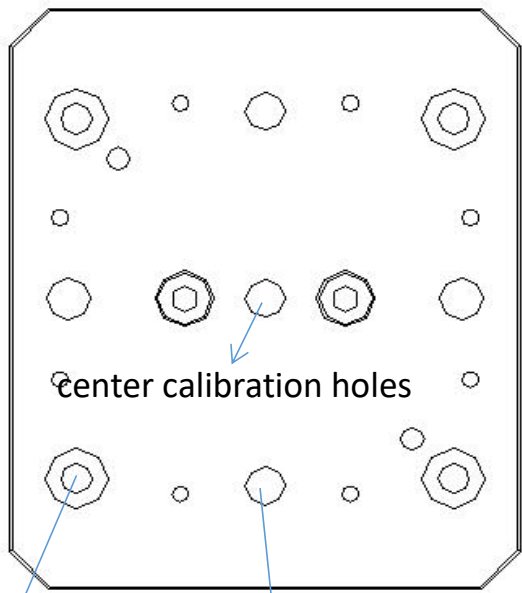


<p>Model: SC-150250</p> <p>Dimensions: 130*250*73.5mm</p> <p>Repeatability: 0.02mm</p> <p>Clamping range: 0-240mm</p> <p>Width: 130mm</p> <p>maximum torque: 75N/m</p> <p>Weight: 9KG</p>	<p>Model: SC-150250</p> <p>Dimensions: 150*250*94mm</p> <p>Repeatability: 0.02mm</p> <p>Clamping range: 0-240mm</p> <p>Width: 150mm</p> <p>maximum torque: 100N/m</p> <p>Weight: 16KG</p>
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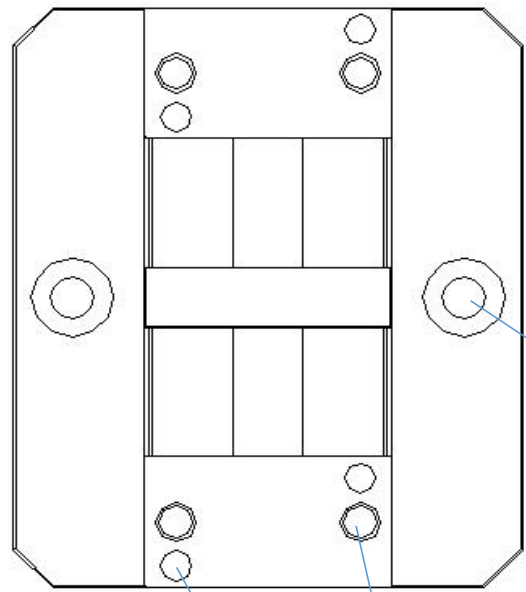
Installation and positioning mode of self centering vices

1. It can be directly installed on the machine tool workbench. There are positioning holes and center calibration holes on the back of the jaw, which is convenient for the center calibration of four axis and five axis machine tools.
2. It can be used together with four hole zero point base clamp to realize rapid exchange between machine tools and quickly improve production efficiency.





Stud hole Locating hole

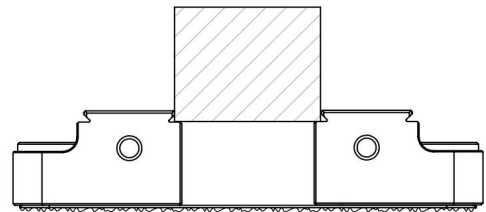
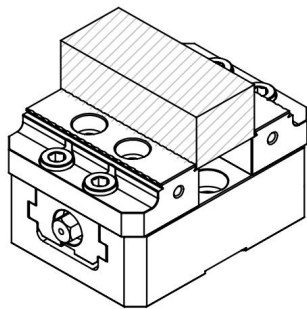


Claw pin Screw holes

Installing holes

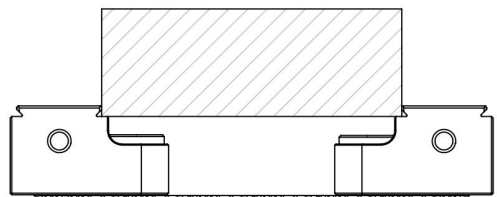
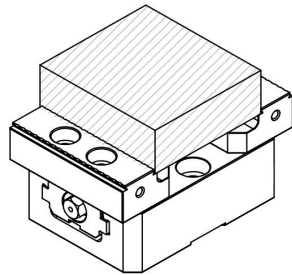
Usage of self centering vise

Forward clamping



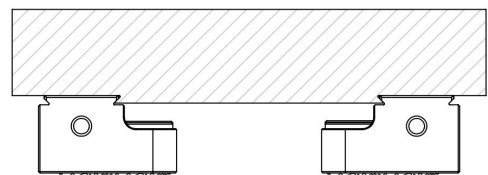
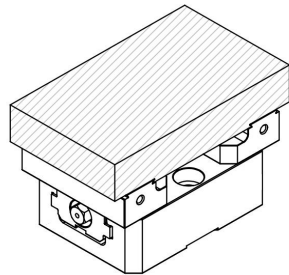
Clamp normal parts

Reverse clamping



Clamp big parts

Dovetail clamping

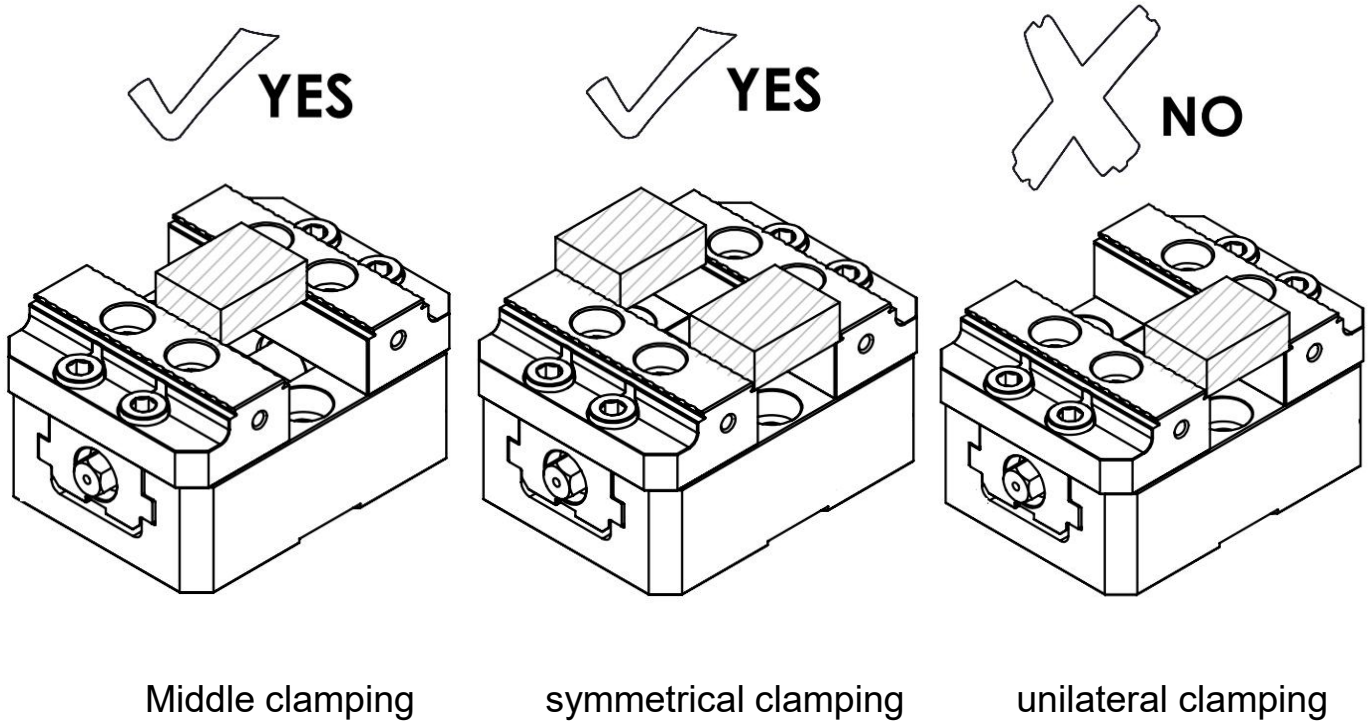


Clamp large and heavy cutting parts

Dovetail clamping requirements

<p>Dovetail clamping diagram</p>	<p>Diagram illustrating the dovetail clamping requirements. The left side shows a cross-section of a clamped assembly with a dovetail joint. The right side shows a magnified view of the joint interface, labeled "Contact face". The magnified view includes dimensions: $R < 0.4$ for the fillet radius, $0.1-0.4$ for the gap between the dovetail and the mating part, and $H(2.5)$ for the height of the dovetail.</p>
<p>Dovetail details</p>	<p>Diagram illustrating the dovetail details. The left side shows a cross-section of a dovetail joint with a 45° chamfered edge. The right side shows a magnified view of the joint interface, labeled "R0.25". The magnified view includes dimensions: (2.4) for the width of the dovetail and (2.5) for the height of the dovetail.</p>
<p>Pats details</p>	<p>Diagram illustrating the Pats details. The left side shows a cross-section of a dovetail joint with a width dimension X and a height dimension $2.1-2.4$. The right side shows a magnified view of the joint interface, labeled $2X/3$.</p>

Correct clamping method



Zero point plate and self centering vise example



