

Special shape machining with CNC lathe (eccentric and polygon cutting)

FUTA-Q has been involved in the machining of a wide variety of products using various CNC lathes. This issue introduces eccentric cutting and polygon cutting using a CNC lathe, which is one of effective machining methods when a machined part having a special shape is necessary.



Swiss type CNC automatic lathe

1. Examples of eccentric cutting

The photos on the right are examples of eccentric cutting using a SUS304 round bar, processed with a Swiss-type CNC automatic lathe.

Eccentric cutting on the outer cylinder



Eccentricity: 5.7 mm

SUS304 $\Phi 15 \times 72$ mm

Eccentric cutting on the inner cylinder

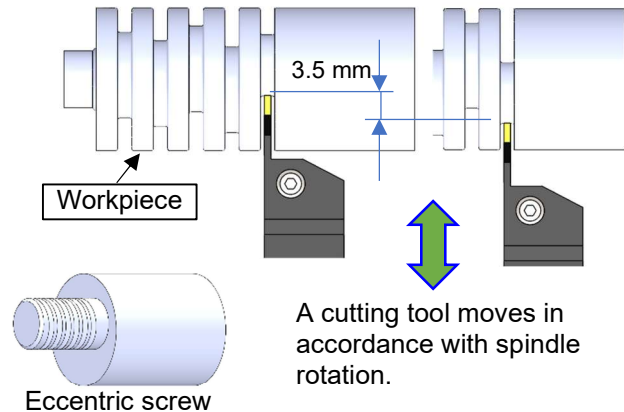


Eccentricity: 3.5 mm

SUS304 $\Phi 18 \times 72$ mm

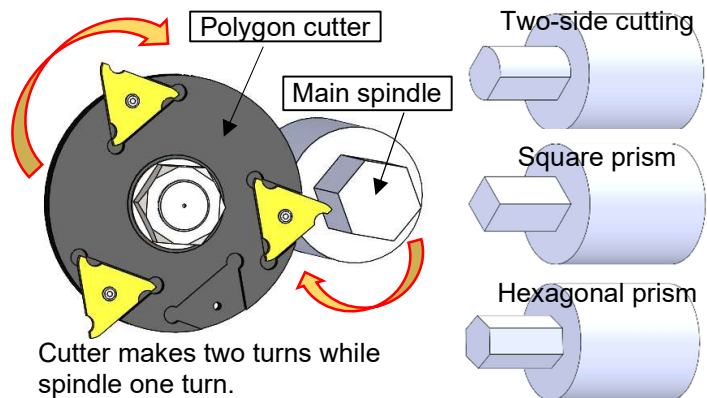
2. Eccentric cutting using a CNC lathe

In eccentric cutting using a CNC lathe, a workpiece set on the spindle is cut by the single point tool whose movement is controlled synchronously with the spindle rotation. For example, as shown in the image on the right, each inner cylinder can be cut out so that each plate has a different alignment. Cylindrical or threading process on an eccentric position can be also conducted.



3. Polygon cutting using a CNC lathe

In polygon cutting using a CNC lathe, a flat surface of the polygon is made by controlling the rotation ratio of the spindle and polygon cutter. For example, as shown in the image on the right, a hexagonal column can be made with a polygon cutter having three cutting tools.



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