



Here, we introduce the knowledge and various knowledge about the product TAKAMAZ a variety of machine tools. I hope you will help the daily work of customers.

The 3rd Collet-type boring holder <TAKAMAZ-type holder>



This collet-type boring holder <TAKAMAZ-type holder> (patent applied for) is intended for everyone who wishes to solve chattering problems during ID boring. This holder could be the solution. We urge you to try it.

Chattering on the boring surface is one problem that is likely to occur during small-diameter ID boring. The limitations of a boring tool cannot be exceeded when attempting to eliminate chattering. But, extending the protruding length of a boring tool from its holder beyond the current maximum length is allowed if the tool holding method is improved.

The two-point support method is generally used to hold a boring tool; in this method a round hole bush suitable for the tool is attached and a headless screw (dog point) fixes the tool. This method is effective for fixing in the vertical direction, but not in the horizontal direction.

To make up for this, spring-collet-type drill holders have often been used. Even these holders, however, may not be able to fix the center height of a tool tip. The collet-type boring holder photographed below is equipped with a mini bush at the back of the collet. With this holder, the headless screws at the top and the bottom of the bush are fastened to determine the position of a tool tip, and the collet fixes the tool firmly so as to stabilize the tool tip and deter chattering. Also, the boring holder is designed to be pulled backward to fix the tool. As a result, the end faces of the boring holder and the collet holder come into absolute contact and this means that even more stable ID boring can be achieved.



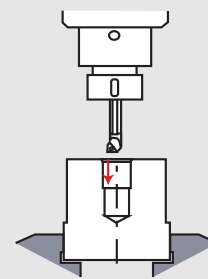
※ A certain shank length is required

Test

Cutting tests were conducted based on varied cutting conditions and protruding lengths as shown below and the results were compared.

Workpiece	S45C $\Phi 80 \times \Phi 15 \times 80\text{mm}$
Cutting conditions	Cutting speed 100~150m/min
	rpm 2,270~3,400rpm
	Feed rate 0.05~0.15mm/rev
	Dept of cut 0.1~0.8mm
	Range of 2D~7D (16~56mm)
Tool	BBPT-608R (steel, SUMITOMO) TPGT080202L-H/PR930 [KYOCERA]
Machine model	VL-3 [EMAG]
Coolant	Water-soluble coolant
Chuck	6-inch power chuck (SMW)

■ Cutting layout



When requirements are satisfied, a steel holder can be used for cutting while the tool protruding length is set to 6D.

