

No. 124

Number of Tap flutes

【Consultation】



We have received an order for HT P3 M12X1.75 5P. The YAMAWA catalog shows that this tap size is available with 3 or 4 flute configuration. What is the purpose of having different amount of flutes?

【Answer】

A 4-fluted tap emphasizes the wear resistance of the cutting edge, where as a 3-fluted tap focuses on chip containment. The actual choice will be based on what kind of work material and tapping conditions are being used. For more information, please see the explanation below. Nowadays with modern machining, Hand Taps are mostly used to repair and clean existing internal threads, or to machine smaller lots of parts. In these type of cases, there may not be much difference between 3 and 4 flute taps.

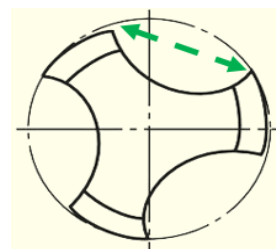


【Explanation】

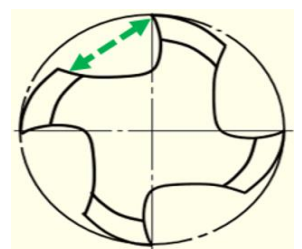


A front view of the tap is shown on the right. The 3-flute tap has a larger flute capacity and more space for chip storage than the 4-flute tap. The 4-flute tap has more cutting edges, which reduces the cutting load per edge and increases wear resistance but has less chip storing capacity.

Width of flute



3 fluted tap



4 fluted tap

For aluminum (AL) and stainless steels (SUS), the 3-flute taps are more suitable because chip shape tends to become long. For cast irons (FC) and hard steels, we suggest using 4-flute taps.

