Product Guidance Sheet

Keyway Broaching Sets (060-400-00100 & 060-400-00200)

NOTE: The information provided here should be used as general guidance only. The user should make their own assessment of their competence to use these products and suitability for their application. This is the maximum information we can provide. No additional information or guidance is available from Arc Euro Trade Ltd. If the user breaks a component, there are separate replacement components available. We take no responsibility for damage/breakage resulting from the use of these products.

Introduction

Keyway Broaching Sets comprise the following parts:

- High Speed Steel Push Type Broaches - straight, saw blade type cutters where the teeth cut progressively deeper as the broach is pushed through the part.
- Slotted Collared Bushings - these fit in the bore of the part requiring the keyway and act as a guide for the broach.
- The bushing size and "style" are determined by the bore diameter of the workpiece as well as the "style" of broach to be used. "A" style bushings are used with "A" style bushings, "B" style bushings with "B" style bushings, etc.
- Shims - these are used where two or more passes are needed to cut the required depth of keyway.

The smallest size broach (2mm) cut in one pass and requires no shim. Multiple pass keyway broaches are supplied with all necessary shims in the set.

The addition of a shim to the bottom of the bushing’s slot serves to move the broach forward towards its standard finished cutting depth. Subsequent passes may require the stacking of shims.

To ensure proper support, the length of cut must never exceed the length of the bushing being used.

In addition to the parts supplied in the broaching set, you will also need the used of:

- An Arbor Press or Hydraulic Press
- Some means of clamping the part to the base of the press.
- The correct lubricant for the material being keyed.

Lubrication and Cutting Fluids Guidance

Broach lubrication is crucial to tool life and the quality of the finish produced. Lubrication enables chips to slide freely and curl in the tooth gullets minimizing frictional heat. This reduces Broach wear and prevents build up on the cutting edge of the teeth. Push-type keyway broaches, regardless of the material to be broached, require lubrication on the back side of the broach in order to reduce friction. Various materials require different lubricants:

- Mild Steel - A good quality cutting oil or water soluble coolant brushed on the teeth and back side of the Broach.
- Tough Steels such as Nickel Alloys - A good grade of cutting oil or compound.
- Brass - Typically is broached dry, but requires lubrication for the backside of the Broach.
- Bronze - Works well with an oil or soluble oil.
- Cast Iron - Is almost always broached dry, but requires lubrication for the backside of the Broach.
- Aluminum - Straight paraffin may be used, but special lubricants are available.

Suggested Lubricants:

1. 170-150-00100 Rock Oil MAXCUT No.5 Tapping & Cutting Fluid,
2. 170-150-00200 Rock Oil MAXSYN SLF Semi Synthetic Cutting Fluid (water soluble)
3. 170-100-10100 Molyslip MCC Molybdenised Metalworking Compound

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