

Trunnion Style 4th and 5th Rotary Axis

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This multi-rotary axis is required in applications when the application demands machining on parts from two different axis. It can also be used to machine on or up to five different sides of a part automatically without having to manually re-fixture parts. This rotary axis is ideal for smaller parts that require very tight tolerances and superior surface finishes. Some applications include: intricate medical parts, dental abutments, electrodes, aerospace injectors and molds. The 4th axis is continuous while the 5th axis can only index up to 300 degrees. This trunnion style axis can only be mounted in the optional open area available on M8 models. With modifications to the standard tool change unit, the trunnion style axis can be mounted in the rear of the M7 work envelope.

The axis is an independent assembly measuring approximately 180 mm x 120 mm x 120 mm (100 mm for M7). It weighs approximately 90 pounds. Attached to the axis is a cable that plugs into a convenient connector located below the machining table. The rotary axis is mounted within a "U" shaped assembly that locates and secures easily on the existing conicals on the M8 table. Therefore the rotary axis can be removed and relocated from the system very easily and quickly. Also included on the axis is a vice-type chucking system (zero-point clamping system). Located on the chuck is a vice with a mounting capacity of 4.5 inches. The chuck is removable from the system pneumatically. This system allows easy integration for automation or pallet changes. Included with the five axis system is the software to control the unit.

The software to control the rotary axis can be enabled in many different modes. You can select one of the existing axes (X,Y or Z) and use the rotary in its place. You can also have five axes running simultaneously at one time. When replacing an axis, you can set the diameter of your part and any movement will automatically turn the axis circumferentially to the surface. For example, if you want to program an engraving to wrap around a 1" diameter pipe, you could simply program it as if it was flat or 3.1419" (pi) long and the software will automatically apply the engraving to the surface. You can also set the axis to gradients. This can make it very easy in applications when details, such as holes, are drilled on equally spaced angles on the 360 degree circumference. In a sense, you can turn the continuous axis into an indexing unit. With the 5th axis, you can also tilt the work piece if the holes need to be drilled on angle, often required in nozzles. The axis can also run continuously if you need to do an operation similar in fashion to a cnc lathe.

The axis can be easily installed in the field at a later date. If your machine does not have the rotary axis electrical hook-up below the table, you will need to order an extra extension cable that connects it into the main controller board. If you anticipate needing the axis option at a later date but do not want to purchase the option with the machine, you might consider ordering the extension cable with your machine.

