

## BIG MOUTH ROTATOR SPECIFICATION



Big Mouth - Available with 2", 6", & 12" diameter opening

### General Description:

Electron Beam Engineering has developed a motorized 2 jaw chuck system for rotating long tubular components, nicknamed "Big Mouth". Because electron beam welding is performed in a vacuum chamber, the size of the work manipulators need to be as compact as possible since space is limited. The size of the 2" (51 mm) Big Mouth is 10" x 10" x 5" (254 x 254 x 127 mm), which allows it to be used in work-chambers as small as a 12" (305 mm) cube.

Some examples of applications where "Big Mouth" could be used are on tubes, flanges, rod ends, and any long part that is too big for a standard chuck through hole. Welding power is typically 500 watts with a welding speed of 45 inches (114mm) per minute on thin walled tubes.

Big Mouth comes in three sizes, 2" (51 mm), 6" (152 mm), and 12" (305 mm). These are the maximum diameters of the tubular components which can be held in the 2 jaw chuck. The through hole in the chuck is just slightly bigger than these diameters. An extension tube can be attached to the work chamber which allows the part to extend into it during welding if required. When welding heavy tubes, a pair of rollers (extra item) is used to support the weight at the back end of the tube as it rotates. This feature

can be supplied as an additional item if requested. The drive motor is coupled to the 2 jaw rotator with a toothed belt or chain and the motor type can be selected to suit the power supply currently in use on the electron beam welder. A complete variable speed drive system can be supplied, as an alternative, if desired. The Big Mouth in the picture is fitted with a stepper motor to enable a very wide speed range (typically a minimum of 200:1) to meet a variety of diameter needs. This also enables it to be used as an indexer when driven from a CNC motion system.

---

## Specifications

<b>Drive Motor</b>	Stepper NEMA 23 size 2 stack driving the 2 jaws via a toothed belt.
<b>Drive Supply (optional extra)</b>	Control box with controls for SPEED/ROTATION (CW/CCW)/POWER ON/OFF with digital speed readout.
<b>Supply Capacity</b>	110v, 60Hz or 230v, 50Hz (Specify when ordering) 2 soft jaws. One is normally set for a particular diameter and the other jaw is used to clamp and remove the component. Knurled knobs are used for this purpose, avoiding the use of special tools. The jaws are removable and can be replaced with customer profiled jaws to fit particular components.
<b>Tilt</b>	The rotating jaws can be tilted from vertical to horizontal and set at any angle required.
<b>Size</b>	Three sizes: "Bigmouth 2" has 2" (51 mm) diameter capacity "Bigmouth 6" has 6" (152 mm) diameter capacity "Bigmouth 12" has 12" (305 mm) diameter capacity

---