

Specification for Seal Cutting Machine

This specification reflects those characteristics that are essential to meet the minimum needs of the government for one (1) Seal Cutting Machine, brand name or equal to E.H. Wachs P/N 13-023-MOS.

1. Machine shall be capable of cutting a maximum diameter of 87.50" down to a minimum diameter of 86.00". Maximum depth of cut is .50". Cutting speed and feed, tool geometry and machine power shall be optimized for cutting Ni-Cr-Fe alloy per MIL-N-23228 (Inconel 600).
2. Machine shall be powered by a hydraulic dual motor drive assembly with quick-disconnect, shut-off style, hydraulic hose connections.
3. Cutting machine installed height shall be established with adjustable setting blocks placed on a horizontal surface 2.10" below the cut line. Setting blocks shall be provided with non-marring surfaces or manufactured from a non-marring material to prevent damage to the machine's painted surfaces when it is set on the blocks.
4. Machine mounts on vertical cylindrical surface, 81.450" in diameter, using 12 radial adjustable clamping legs. Cylindrical surface starts 8.80" above horizontal surface and continues to 14.00".
5. Cut shall be completed using a "chip-less" cutting technique. Initial cutting shall be accomplished via a grooving tool slide using replaceable insert tooling and a tool feed rate suitable for Ni-CR-Fe Alloy per MIL-N-23228 (Inconel 600). Final severance shall be accomplished using a wheel cutter (chip-less) tool slide. All cutting shall be performed "dry".
6. Machine shall include multi-position feed trip mechanisms. Each trip mechanism shall have an "off", "grooving", and "wheel cutter" position to allow zero feed or feed of only the corresponding tool slide.
7. Machine shall be capable of operating within a maximum space envelope diameter of 120".
8. Machine shall be portable with simple rigging/lifting capability. Lifting points shall also allow for safe upending and overturning of the assembled machine.
9. Machine shall include a chip tray that mounts on the horizontal surface below the cut line to catch as much cutting chips as possible. Tray shall have a minimum ID of 88.625" and maximum OD of 116.00". Debris tray shall not interfere with the cutting machine operation.
10. Machine shall include a locking feature(s) to prevent rotation/movement of machine components as needed for assembly/disassembly and maintenance.
11. Machine shall be provided with support legs to aid in assembly and to support the machine up off the ground when it is not installed. Legs shall be sized and located to allow hook-up and operation of the machine using the compatible power supply.
12. Machine shall successfully complete Factory Acceptance Testing (FAT) at the vendor's location on a Puget Sound Naval Shipyard (PSNS) provided mockup with a PSNS representative present. Successful FAT shall include installation and setup of the machine on the mockup, grooving and "chip-less" parting of the mockup, and removal of the machine from the mockup. Testing on a representative mockup is required as testing on an actual component is not possible due to facility restrictions.