

Screw Machines - Noise Controls

The MIOSHA occupational noise exposure standard requires the use of feasible engineering controls when employees are subjected to noise exceeding the regulated exposure level. The goal is to reduce the employee's noise exposure by controlling the noise generated by the machine.

1. Stock Tubes:

- A. Install stock tube liners. Substantial noise reduction can be achieved by this technique. Liners range from polyurethane to PVC materials. Similar noise reduction can also be obtained by wrapping the outside of each tube with a damping material and securely damping or banding each junction point.
2. Enclose the stock tube assembly with acoustical material. This will result in additional noise reduction. All joints and seams must be well sealed.
3. Damp the vibrations of the stock-reel disc and stock-reel base to achieve additional noise reduction.

2. Motor Drive Assembly:

A tight-fitting acoustical, belt guard will decrease noise produced by pulleys and belt flexing. These guards may be constructed of 16-gauge sheet metal, with an appropriate, acoustical material lining the inner surface. A sleeve should be made for the shaft opening in the belt guard. The guard should be designed and constructed for quick removal for maintenance access.

3. Gears:

Replace the square cut gears in the headstock with those of a bevel design. Most screw machine manufacturers offer gears of this type to upgrade existing machines. Typically, the only change required is in the main planetary gearing for the primary speed ranges. Bearings and other worn components should also be replaced and/or adjusted to achieve satisfactory results.

4. Cutter Area:

Enclose the cutter or tooling area with acoustical material. To ensure effectiveness, the enclosure must fit tightly. Polycarbonate viewing windows may be installed where necessary.



5. Operation:

The machines should be properly lubricated, and all gear covers secured before operation. For some screw machines, lining the inside of the gear covers with an acoustical material will significantly reduce internal shaft and drive gear noises. Drive belts should be maintained per the manufacturer's instructions.

6. Enclosures:

Total enclosures produce the greatest reduction of noise. Some manufacturers have total or partial enclosures available. When designing an enclosure, the following must be considered: ventilation of machine heat, operator viewing, operational and maintenance accessibility, seals, stock feed openings, and internal lighting.

NOTE: This guide is intended for the benefit of the public and may not contain all of the information pertinent to a specific situation. For further information, consult:

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