

Servo-Torq® Mini Compact Cutting System

Table-top rotary cutter & caterpillar infeeder

Data Sheet

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Version shown above features optional equipment

The Mini-Servo-Torq combines advanced AC servo rotary cutting and feeding in a very compact table-top design. It is ideal for users looking for a high accuracy, off-line cutting system.

The main benefits to the user are:

- No clutch/brake to wear out. This substantially reduces servicing costs.
- A faster blade speed for improved cut quality. The speed is over twice that of most normal clutch/brake rotary cutters.
- Better length accuracy. There is no clutch to slip or wear. Instead, the brushless AC servo motor is controlled by a fully digital drive system.
- New technology reduces maintenance downtime significantly.
- Very compact layout ideal for off-line & clean-room use.

Mode of Operation

Servo-Torq® Mini Cutter and Caterpillar

The Servo-Torq® Mini uses a rotary 'flying knife' method to cut through the extrudate. The ultra-thin knife blade is rotated at high speed through 360°. During part of this rotation the blade slices through the extrudate. Inlet & outlet bushes guide the blade & the extrudate during the cutting operation.

The signal to activate the cut comes from the integral length counter. This is linked to the encoder which measures the amount of extrudate that passes through the caterpillar infeeder.

When the encoder pulse input equals the pre-set cut length, the cut is activated. On receipt of the signal to cut, the servo motor accelerates from rest to full speed. When the blade hits the material it is travelling at 2000 RPM.

The ability of the blade to cut through the extrudate is assisted by the way the servo motor can apply three times it's rated torque for the fraction of a second it takes to cut through the material. After the cut has been completed, the knife blade decelerates to a stop and awaits the next cut signal.

The integral twin belt caterpillar infeeder is also driven by a servo motor. The motor power is transmitted to the poly-vee belts via two spiral-bevel gearboxes. These are in constant mesh, thus avoiding back-lash problems.

Both belts move simultaneously around the centre-line of the product. A single hand-wheel controls this movement. Inlet guide rollers are provided to direct the extrudate onto the belts at the correct point. The belts themselves can be coated in either heavy-duty neoprene or polyurethane.

Servo-Torq® Mini Cutter System

Model	Capacity (mm)	Motor size (Nm)	Drive rating (Amp)	Maximum speeds
Servo-Torq® ST-M Rotary Cutter	30 maximum diameter	3.7	4	350 - 2000 cuts/min*
Caterpillar Infeeder Model 2000AS	50 wide x 250 long belts	2.6	2	70 m/min**

* Figures quoted refer to maximum on-demand & SpeedCut™ (option) cutting with one blade fitted.

** Maximum selectable linespeed. Other maximum linespeeds are 11, 18, 27, 36, 44 or 55 m/min.



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