



## Servo-Torq® Mini rotary cutter

### Compact table-top rotary cutter & caterpillar infeeder

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

The main benefits to the user are:

- Lenze AC servo control for better cut length accuracy & speed.
- A faster blade speed for an improved cut quality.
- Full colour 178 mm (7") touch-screen panel with easy-to-use screens.
- High cut rates possible; up to 2,000 pieces per minute.
- New technology reduces maintenance downtime significantly.
- Very compact design, ideal for off-line & medical clean-room use.
- Built-in blade lubrication system with medical options available.



#### Mode of Operation

#### Servo-Torq® Mini rotary cutter and caterpillar infeeder

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 approx. 2000 RPM.

After the cut has been completed, the knife blade decelerates to a stop and awaits the next cut signal.

The integral Accra-Feed™ 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 cellular polyurethane.



Servo-Torq® Mini rotary cutter system:				
	Capacity (mm):	Motor size (Nm):	Drive rating (Amp):	Maximum speeds:
Servo-Torq® Rotary cutter Model ST-M/30A:	30 max. outer diameter	4.5	7.3	450 - 2000 cuts/minute*
Accra-Feed™ Caterpillar infeeder Model 2000AS:	50 wide x 250 long belts	1.5	1.8	70 m/min** linespeed

\* Figures quoted refer to maximum in on-demand & SpeedCut™ cutting modes with one blade fitted.

\*\* Maximum selectable linespeed. Other maximum linespeeds are 10, 15, 20, 30 or 50 m/min.

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for more information on our product range.

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Accra-Feed™ is a trademark of Peter Gillard & Co. Limited


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Mechanical specification <sup>1</sup> :	<ul style="list-style-type: none"> <li>Table-top design. Floor-standing base is not supplied.</li> <li>Right-to-left product feed. Left-to-right <u>not</u> available.</li> <li>Cast aluminium cutter block with stainless steel clam-shell cutter lid.</li> <li>Heavy-duty knife shaft assembly with aluminium blade holder fitted with hardened steel pins.</li> <li>Fixed cutter head designed for off-line cutting.</li> <li>Poly-vee caterpillar belts covered in heavy-duty foamed polyurethane.</li> <li>Single hand-wheel adjusting both caterpillar belts around product centre-line height.</li> <li>Robust fabricated steel base fitted with four plastic carrying handles. Please note that the machine weighs 110 Kgs; a fork-lift or pallet truck should be used to move the machine any distance. The carrying handles are there for final positioning only.</li> </ul>
Blade & belt infeeder AC servo technology <sup>1</sup> :	<ul style="list-style-type: none"> <li>Lenze brushless AC servo motors with integral high resolution encoder feedback control.</li> <li>Very high torque even at high speeds.</li> <li>Low inertia/fast acceleration for dynamic performance.</li> <li>Rugged construction with encoders decoupled from the motor shaft. IP65 protected motor casing.</li> <li>Temperature sensors fitted into motor windings for protection against over-heating.</li> <li>Quick release connectors on motors.</li> </ul>
Cutting speed & modes <sup>1</sup> :	<ul style="list-style-type: none"> <li>Selectable cutting modes from 1 - 2000 cuts/min.</li> <li>Blade rotation speed adjustable up to 2,000 RPM.</li> </ul>
Operator control panel <sup>1</sup> :	<ul style="list-style-type: none"> <li>Lenze 178 mm (7") colour touch-screen panel.</li> <li>Robust IP65 protected front panel.</li> <li>AMD Cortex A8 chip running at 800 MHz.</li> <li>TFT screen - 800 x 480 pixel resolution.</li> <li>Front panel size 210 mm x 155 mm.</li> <li>Emergency stop push button.</li> <li>Safety guards okay indicator lamp (blue).</li> <li>Safety relay re-set button (via touch-screen).</li> </ul>
Software, PLC & motion control <sup>1</sup> :	<ul style="list-style-type: none"> <li>Microsoft Windows Embedded Compact 7 touch-screen operating software.</li> <li>Lenze servo motion control software.</li> <li>Embedded PLC functions in Lenze servo drives.</li> <li>Integrated twin-axis servo motion controller.</li> </ul>
Communications <sup>1</sup> :	<ul style="list-style-type: none"> <li>EtherCAT, CAN &amp; USB</li> <li>SD card slot for program back-ups.</li> <li>Ethernet (integrated switch).</li> </ul>
Safety <sup>1</sup> :	<ul style="list-style-type: none"> <li>Coded magnetic interlock on cutter lid.</li> <li>Coded magnetic interlock on exit cutter bush.</li> <li>Coded magnetic interlock on caterpillar access door.</li> <li>Inlet guard with 2 vertical &amp; 1 horizontal rollers.</li> <li>Internal safety relay with re-set push button.</li> <li>Two emergency stop push buttons.</li> <li>Guards painted RAL 2004 bright orange.</li> <li>In compliance with EN ISO Standards.</li> <li>CE Certificate of Conformity or Incorporation<sup>2</sup>.</li> </ul>
Tooling & blades:	<ul style="list-style-type: none"> <li>Pair stainless steel cutter guide bushes - pilot bore.</li> <li>Light-weight aluminium CHIP blade holder.</li> <li>8 off 0.38 mm thick stainless steel CHIP blades.</li> </ul>


Physical specification <sup>1</sup> :	<ul style="list-style-type: none"> <li>Approx. 825 mm long x 600 mm wide x 660 mm high (table-top design without options fitted).</li> <li>Approx. 110 Kgs net weight without options fitted.</li> </ul>
Power:	<ul style="list-style-type: none"> <li>400V 3 phase 50 Hz supply, with neutral &amp; earth.</li> <li>220V 13A supply available as an option. This must be protected with 100 mA circuit industrial breakers. Domestic 30 mA breakers are not suitable.</li> </ul>
Support:	<ul style="list-style-type: none"> <li>One years parts warranty with express delivery during warranty period. Consumables excluded.</li> </ul>
Colour touch-screen interface:	



The Start Screen:

- The touch-screen panel controls all normal machine operations.

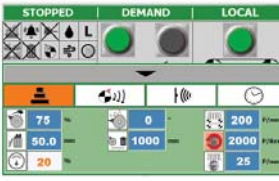
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The Control Screen:

- Enter the cut length, linespeed & batch quantity. Lengths from 10.0 to 999,999.9 mm can be entered.


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The Setup Screen:

- Blade speed adjustment from 50% to 100% of full speed.
- Cutting mode selection.

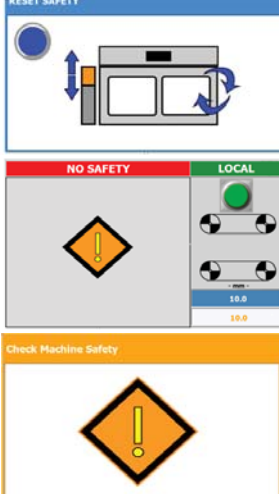
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The Tools Screen:

- To set the control panel language.
- To adjust other machine parameters.
- To enter the password protected zone.

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The Safety Screens:

- To re-set the machine safety guards.

<sup>1</sup> Specifications are subject to change without notice. Please ask for details of any changes.  
<sup>2</sup> CE Certificate will depend upon the exact configuration of the machine and the way it is installed.

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