



## Servo-Torq® Free-standing Extrusion rotary cutter

The Servo-Torq® Free-standing cutter offers advanced AC servo “fly-knife” rotary cutting with a colour touch-screen panel & a fully digital control system.

The cutter is designed to be used with an existing caterpillar haul-off/puller unit.

### The main benefits to the user are:

- Full colour 109 mm (4.3”) Siemens touch-screen control panel. Easy to operate.
- Blade lubrication system as standard with a robust aluminium cutter block.
- A faster blade speed for improved cut quality.
- Better length accuracy. The brushless AC servo motor is controlled by a fully digital Lenze servo drive system.
- The length measuring wheel & encoder are standard.
- A powerful cut available thanks to the wide range of motors available.
- New technology reduces maintenance downtime significantly.



### Mode of Operation:

#### Servo-Torq® extrusion rotary cutting

The Servo-Torq® 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 normally comes from the integral length counter. This is linked to the encoder which measures the amount of extrudate that passes into the cutter. However, other control signals can be supplied as options, e.g. photo-eye end sensing.

The mechanical assembly of the cutter drive is ultra robust. The servo motor is linked to the cutter knife shaft by a synchronous timing belt drive.

The knife blade is held onto the end of the shaft by a light-weight aluminium holder. The knife blade area is easily accessed by opening the interlocked cutter lid.

A wide range of options are available.

Please see page 2 of this datasheet for more details.



The optional slide-away cutter head can make the extrusion line start-up easier when handling flexible extrusions.

#### Servo-Torq® Range - Free-standing cutter version:

Model:	Maximum OD capacity (mm):	Motor size (Nm):	Torque rating (Nm):	Max. cut rate (cuts/min) <sup>2</sup> :
Servo-Torq® LT	40,100	7.5	24.7	400 - 2000
Servo-Torq® MT	40, 100	11.0	41.5	400 - 2000
Servo-Torq® HD	40,100, 150	14.0	51.1	300 - 2000
Servo-Torq® XHD	40, 100, 150, 200	17.0	71.6	250 - 2000
Servo-Torq® XXHD	40, 100, 150, 200, 250, 300	21.0	208 - 278 <sup>1</sup>	200

<sup>1</sup> Maximum torque rating with 3:1 or 4:1 torque enhancer gearboxes fitted.

<sup>2</sup> Maximum cut rate depends upon the cutting mode selected via the touch-screen.



Siemens touch-screen panel as standard.

[www.gillardcutting.com](http://www.gillardcutting.com)

For more information on our product range.

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# Servo-Torq® Standard

## Extrusion rotary cutter - Free-standing



<b>Mechanical specification<sup>1</sup>:</b>	<ul style="list-style-type: none"> <li>1000 mm ± 50 mm line height. Alternatives available.</li> <li>Right-to-left product feed. Left-to-right available.</li> <li>Cast aluminium cutter block with stainless steel cutter guide bushes.</li> <li>Heavy-duty knife shaft assembly with aluminium blade holder fitted with hardened steel pins.</li> <li>Robust fabricated steel base fitted with 75 mm diameter plastic swivel castors and plated steel floor locks/pad feet.</li> <li>Base painted semi-gloss RAL 7035 light grey.</li> <li>Integral electrical cabinet painted RAL 7035 light grey.</li> </ul>
<b>Blade control method<sup>1</sup>:</b>	<ul style="list-style-type: none"> <li>Brushless AC servo motor with integral resolver feedback control.</li> <li>Fully digital servo drive with on-board EMC filter.</li> <li>Single axis servo positioning for stop-start blade operation.</li> <li>Three times peak torque available for extra cutting power. IP65 protected motor enclosure.</li> <li>Temperature sensors fitted into motor windings for protection against over-heating.</li> <li>Quick release connectors on motor.</li> </ul>
<b>Cutting speed<sup>1</sup>:</b>	<ul style="list-style-type: none"> <li>Adjustable blade speed up to 2,000 RPM.</li> <li>400 cuts/min. max. in on-demand mode (stop/start).</li> <li>600 cuts/min. max. in Cam mode (slow/fast cutting).</li> <li>2,000 cuts/min. max. in SpeedCut™ mode (continuous rotation cutting).</li> </ul>
<b>Touch-screen control panel<sup>1</sup>:</b>	<ul style="list-style-type: none"> <li>Siemens full colour 4.3" (109 mm) TFT display.</li> <li>480 x 272 pixel resolution. 95 mm x 54 mm screen.</li> <li>Four short-cut button function keys.</li> <li>Cut length input in 0.1 mm increments.</li> <li>Maximum cut length 9,99,999.9 mm.</li> <li>Test cut button &amp; selectable cutting modes.</li> <li>2000 pulse per revolution heavy duty shaft encoder.</li> <li>Support bracket and measuring wheel to suit encoder.</li> </ul>
<b>Cut length &amp; parts control</b>	
<b>Safety guarding<sup>1</sup>:</b>	<ul style="list-style-type: none"> <li>PILZ Class 3 coded magnetic interlock on clam-shell cutter lid - IP65 protected.</li> <li>Class 3 coded magnetic interlocks on inlet and outlet cutter guide bushes - IP65 protected.</li> <li>Inlet/outlet safety tunnel guards -100 mm upwards</li> <li>Internal safety relay with external re-set push button.</li> <li>Emergency stop push button on front panel.</li> <li>Guards painted RAL 2004 bright orange.</li> <li>In compliance with EN292 parts 1 &amp; 2 and EN294.</li> <li>Fitted with a CE plate and provided with a Certificate of Conformity or Certificate of Incorporation<sup>2</sup>.</li> </ul>
<b>Blade lubrication system:</b>	<ul style="list-style-type: none"> <li>Cast aluminium lubrication reservoir.</li> <li>Lubrication level indicator to front of reservoir, with drain tap to rear.</li> <li>Stainless steel tray below reservoir to catch drips.</li> <li>Designed to improve cut quality &amp; keep blade clean.</li> </ul>
<b>Tooling:</b>	<ul style="list-style-type: none"> <li>Pair stainless steel cutter guide bushes - pilot bore.</li> <li>One curved edged spring-steel knife blade.</li> <li>0.6 mm thick with double-bevel cutting edge.</li> </ul>
<b>Documents:</b>	<ul style="list-style-type: none"> <li>Operating manual and wiring diagrams.</li> <li>Design drawing of cutter guide bushes.</li> </ul>
<b>Physical specification<sup>1</sup>:</b>	<ul style="list-style-type: none"> <li>Approximately 700 mm wide x 835 mm deep x 1375 mm high (based on 1000 mm line height).</li> <li>Approximately 300 Kgs without options fitted.</li> </ul>
<b>Power:</b>	<ul style="list-style-type: none"> <li>400V three phase 50 Hz supply with neutral and earth. 25 Amp supply. Alternatives available.</li> <li>24VDC low voltage control circuit.</li> </ul>
<b>Support:</b>	<ul style="list-style-type: none"> <li>One year parts warranty with express delivery during warranty period. Consumables excluded.</li> <li>Lifetime telephone support (normal office hours only).</li> </ul>

### Popular optional items:

<b>STF-1 Batch counter linked to flashing blue beacon &amp; audible alarm:</b>	<ul style="list-style-type: none"> <li>Batch counter linked to flashing blue beacon &amp; audible alarm buzzer located on top of the cutter.</li> <li>Alarm duration &amp; noise level are user selectable.</li> <li>On batch complete, the alarm sounds &amp; beacon flashes.</li> <li>Designed as an automatic reminder of batch cut complete.</li> </ul>
<b>STF-2 Broken blade sensor:</b>	<ul style="list-style-type: none"> <li>Sensor detection of broken blade.</li> <li>Automatic stop of cutter with red warning flashing beacon &amp; audible alarm.</li> </ul>
<b>STF-15 Blade heater:</b>	<ul style="list-style-type: none"> <li>Heats the knife blade when it is stationary waiting to cut.</li> <li>Thermocouple with temperature control unit.</li> <li>Recommended for thinner wall rigid extrusions.</li> </ul>
<b>STF-16 Inlet guide bush heater:</b>	<ul style="list-style-type: none"> <li>Heats inlet cutter guide bush.</li> <li>Thermocouple with temperature control unit.</li> <li>Recommended for thinner wall rigid extrusions.</li> </ul>
<b>STF-17 Fibre optic photo-eye length control:</b>	<ul style="list-style-type: none"> <li>High performance optical sensor mounted on a bar which is fitted to the front of the cutter.</li> <li>Complete with micrometer style location adjustment.</li> <li>Suitable for rigid extrusions up to 600 mm in cut length.</li> </ul>
<b>STF-14 Stainless steel base frame:</b>	<ul style="list-style-type: none"> <li>Stainless steel frame, fabrications &amp; guard covers.</li> <li>Either left unpainted (dull polished) or painted in the requested RAL colour.</li> </ul>
<b>STF-3 Cut rate indicator:</b>	<ul style="list-style-type: none"> <li>Digital readout of cut rate in cuts per minute.</li> <li>Large LED display easier to read from a distance.</li> </ul>
<b>STF-4 Hours run indicator:</b>	<ul style="list-style-type: none"> <li>Digital readout of running hours. Non-reset type. Useful for planned maintenance scheduling.</li> </ul>
<b>STF-26 Air con unit:</b>	<ul style="list-style-type: none"> <li>Climate control (air con) fitted to rear electrical cabinet.</li> <li>Designed for use in high ambient temperature &amp;/or high humidity environments.</li> </ul>
<b>STF-5 Razor blade holder:</b>	<ul style="list-style-type: none"> <li>Designed to fit 0.25 mm thick razor blades (50 spare blades supplied).</li> <li>Recommended for flexible extrusions up to 10 mm OD.</li> </ul>
<b>STF-7 Chip blade holder:</b>	<ul style="list-style-type: none"> <li>Designed to fit 0.38 mm thick chip blades (8 spare blades supplied).</li> <li>Recommended for flexible extrusions up to 20 mm OD.</li> </ul>
<b>STF-9 Integral storage cupboard:</b>	<ul style="list-style-type: none"> <li>Lockable cupboard in the base of the cutter.</li> <li>Designed to store spare spare knife blades &amp; cutter guide bushes.</li> </ul>
<b>STF-10 Quick release cutter bush cartridge:</b>	<ul style="list-style-type: none"> <li>Removable aluminium cartridge block assembly.</li> <li>Designed to allow quick tool change-over from one set of guide bushes to another.</li> </ul>
<b>STF-8 Slideaway cutter head:</b>	<ul style="list-style-type: none"> <li>Ability to slide the cutter head by 200 mm. With lock.</li> <li>This feature makes it much easier to thread-up the cutter when it is located in close proximity to a caterpillar unit.</li> </ul>

1. Specifications subject to change without notice. Please consult the factory for details of any changes.  
2. CE Certificate supplied will depend upon the configuration of the machine and the way it is installed.

Many more options are available. Please contact us for details.

### Gillard Cutting Technology

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