



Servo-Torq® Standard Extrusion rotary cutter

The Servo-Torq® standard version offers advanced AC servo rotary cutting with a colour touch-screen panel & a fully digital control system.

The main benefits to the user are:

- Full colour touch-screen control panel. Easy to operate.
- A faster blade speed for improved cut quality. The knife speed is over three times that of many normal rotary cutters.
- Better length accuracy. The brushless AC servo motor is controlled by a fully digital drive system. The length measuring encoder is standard.
- A powerful cut, thanks to the three times rated motor torque available when cutting through the extrusion.
- New technology reduces maintenance downtime significantly.
- Price structure which makes other rotary cutters look expensive.

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, various other signals can be supplied as options, e.g. photo-eye end sensing.

When the encoder pulse count equals the pre-set cut length, the counter sends a signal to the servo motor drive controller. This controller is the 'brain' of the cutter. It ensures that the knife blade stops & starts accurately. It also controls the rapid servo motor acceleration and deceleration required to achieve up to 400 stop/start or 800 Cam (slow/fast) cuts per minute.

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 up to 3000 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 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.

Servo-Torq® Range - Standard version				
Model	Capacity (mm)	Servo motor size (Nm)	Peak torque rating (Nm)	Equivalent power (kW)
Servo-Torq LT	40, 50	7.5	22.5	4.0
Servo-Torq MT	40, 50, 100	11.0	29.0	5.5
Servo-Torq HD	40, 50, 100, 150 200, 250, 300	14.0	55 - 137	7.5 - 18.7
Servo-Torq XHD	40, 50, 100, 150, 200, 250, 300	17.0	77 - 154	11.0 - 27.5



Version shown above features optional F-2 batch counter alarm beacon.



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For more information on our product range.

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Servo-Torq® Standard

Extrusion rotary cutter - Free-standing



Mechanical specification	<ul style="list-style-type: none"> 1000 mm ± 50 mm line height. Alternatives available. Right-to-left product feed. Left-to-right available. Cast aluminium cutter block with stainless steel cutter guide bushes. Heavy-duty knife shaft assembly with aluminium blade holder fitted with hardened steel pins. Robust fabricated steel base fitted with 75 mm diameter plastic swivel castors and plated steel floor locks/pad feet. Base painted semi-gloss RAL 7035 light grey. Integral electrical cabinet painted RAL 7035 light grey.
Blade control method	<ul style="list-style-type: none"> Brushless AC servo motor with integral resolver feedback control. Fully digital servo drive with on-board EMC filter. Single axis servo positioning for stop-start blade operation. Three times peak torque available for extra cutting power. IP65 protected motor enclosure. Temperature sensors fitted into motor windings for protection against over-heating. Quick release connectors on motor.
Cutting speed	<ul style="list-style-type: none"> Adjustable blade speed up to 2,000 RPM. 400 cuts/min. max. in on-demand mode (stop/start). 600 cuts/min. max. in Cam mode (slow/fast cutting). 2,000 cuts/min. max. in SpeedCut™ mode (continuous rotation cutting).
Touch-screen control panel Cut length & parts control	<ul style="list-style-type: none"> Full colour 4.3" (109 mm) TFT display. IP65 protection. Cut length input in 0.1 mm increments. Maximum cut length 999.999 metres. Test cut button & selectable cutting modes. 2000 pulse per revolution heavy duty shaft encoder. Support bracket and measuring wheel to suit encoder 8-digit total cuts counter with manual re-set button.
Safety guarding	<ul style="list-style-type: none"> Class 3 coded magnetic interlock on clam-shell cutter lid - IP65 protected. Class 3 coded magnetic interlocks on inlet and outlet cutter guide bushes - IP65 protected. Inlet /outlet safety tunnel guards -100 mm upwards Internal safety relay with external re-set push button. Emergency stop push button on front panel. Guards painted RAL 2004 bright orange. In compliance with EN292 parts 1 & 2 and EN294. Fitted with a CE plate and provided with a Certificate of Conformity or Certificate of Incorporation².
Blade lubrication system	<ul style="list-style-type: none"> Cast aluminium lubrication reservoir. Lubrication level indicator to front of reservoir, with drain tap to rear. Stainless steel tray below reservoir to catch drips. Designed to improve cut quality & keep blade clean.
Tooling	<ul style="list-style-type: none"> Pair stainless steel cutter guide bushes - pilot bore. One curved edged spring-steel knife blade. 0.6 mm thick with double-bevel cutting edge.
Documents	<ul style="list-style-type: none"> Operating manual and wiring diagrams. Design drawing of cutter guide bushes.
Physical specification	<ul style="list-style-type: none"> Approximately 700 mm wide x 835 mm deep x 1375 mm high (based on 1000 mm line height). Approximately 300 Kgs without options fitted.
Power	<ul style="list-style-type: none"> 400V three phase 50 Hz supply with neutral and earth. 25 Amp supply. Alternatives available. 24V low voltage control circuit.
Support	<ul style="list-style-type: none"> One year parts warranty with express delivery during warranty period. Consumables excluded. Lifetime telephone support (normal office hours only).

Popular Optional Items

A-3 Atomiser spray blade lubrication system	<ul style="list-style-type: none"> Fine spray lubrication - nozzle located in cutter lid. Reservoir tank attached to side of cutter. Designed for medical applications .
B-2 Blade heater	<ul style="list-style-type: none"> Heats the knife blade when it is stationary waiting to cut. Thermocouple with temperature control unit. Recommended for thinner wall rigid extrusions.
C-2 Inlet guide bush heater	<ul style="list-style-type: none"> Heats inlet cutter guide bush. Thermocouple with temperature control unit. Recommended for thinner wall rigid extrusions.
D-1 Fibre optic photo-eye length control	<ul style="list-style-type: none"> High performance optical sensor mounted on a bar which is fitted to the front of the cutter. Complete with micrometer style location adjustment. Suitable for rigid extrusions up to 600 mm in cut length.
F-1 Batch counter linked to audible alarm	<ul style="list-style-type: none"> Batch counter linked to audible alarm buzzer located on top of the cutter. Alarm duration & noise level are user selectable. On batch complete, the alarm sounds. Designed as an automatic reminder of batch complete.
F-2 Batch counter linked to flashing beacon alarm	<ul style="list-style-type: none"> Batch counter linked to flashing red beacon located on top of the cutter. On batch complete the beacon flashes. Designed as an automatic reminder of batch complete.
G-1 Cut rate indicator	<ul style="list-style-type: none"> Digital readout of cut rate in cuts per minute. Large LED display easier to read from a distance.
G-2 Hours run indicator	<ul style="list-style-type: none"> Digital readout of running hours. Non-reset type. Useful for planned maintenance scheduling.
G-3 Broken blade sensor	<ul style="list-style-type: none"> Sensor detection of broken blade. Automatic stop of cutter with warning flashing beacon.
J-1 Razor blade holder	<ul style="list-style-type: none"> Designed to fit 0.25 mm thick razor blades (50 spare blades supplied). Recommended for flexible extrusions up to 10 mm OD.
J-2 Chip blade holder	<ul style="list-style-type: none"> Designed to fit 0.38 mm thick chip blades (8 spare blades supplied). Recommended for flexible extrusions up to 20 mm OD.
L-2 Integral storage cupboard	<ul style="list-style-type: none"> Lockable cupboard in the base of the cutter. Designed to store spare knife blades & cutter guide bushes.
L-3 Quick release cutter bush cartridge	<ul style="list-style-type: none"> Removable aluminium cartridge block assembly. Designed to allow quick tool change-over from one set of guide bushes to another.
O-1 Slideaway cutter head	<ul style="list-style-type: none"> Ability to slide cutter head by 200 mm. With lock. This feature makes it much easier to thread-up the cutter when it is located in close proximity to a caterpillar unit.

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.

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