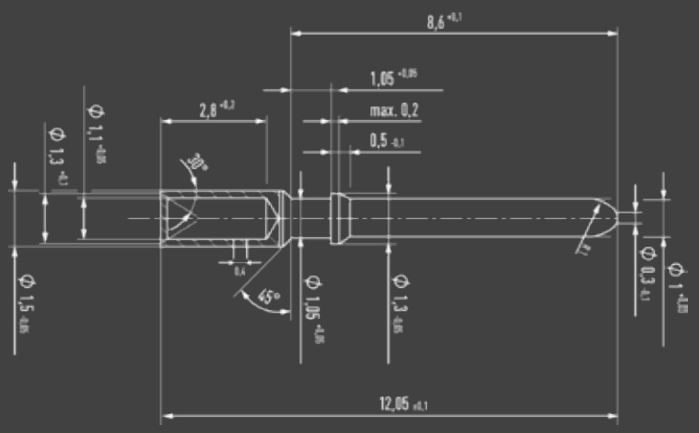
TOURS AUTOMATIQUES
esco

escomatic D5 TWIN

16 PCS/MIN (BRASS)



AN EVEN FASTER escomatic

TWIN MACHINING UNITS FOR UNMATCHED PRODUCTIVITY

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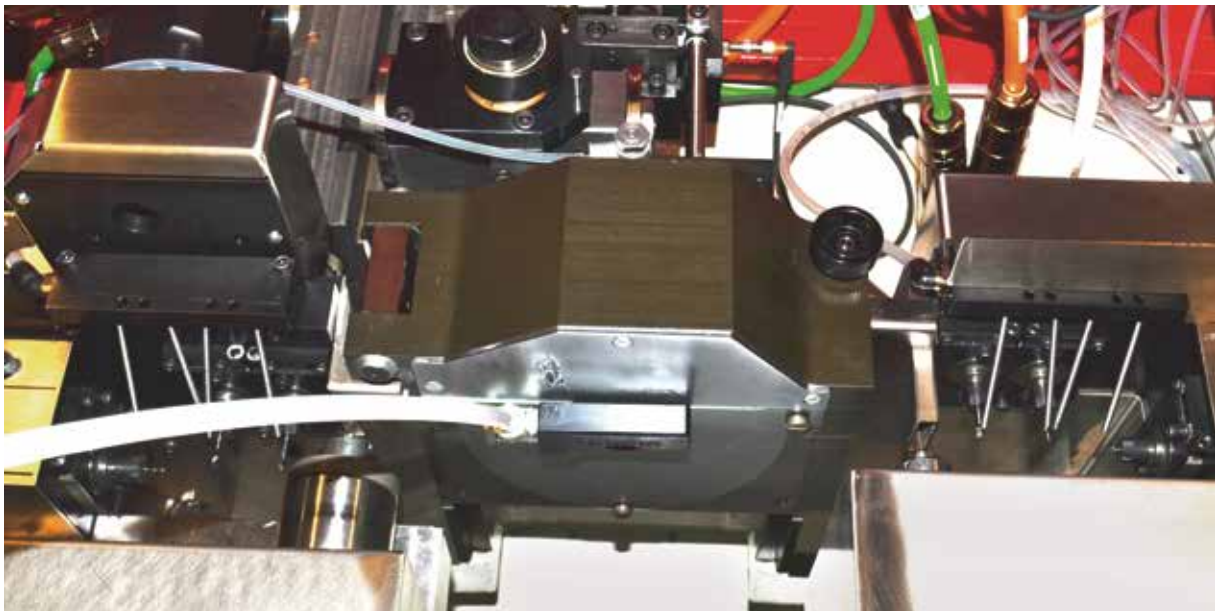
escomatic D5 TWIN:

PERFORMANCE FIRST

The escomatic D5 TWIN was developed on the basis of the escomatic D5 ULTRA, to provide the users with a machine configuration, which provides the extraordinary turning performance of the escomatic principle without being affected by the subsequent back machining.

By the integration of two identical back machining stations on one hand and the position of the turning on the other it is possible, to work like a transfer machine with two positions and thus to cut the subsequent back machining time close to half.



The two back machining units are identical. The units consist of a counter collet which is mounted on a table with cross slides. The work piece in the counter collet can be machined with two axial spindles (18'000 min^{-1}) and one cross spindle (18'000 min^{-1}). To increase the drilling speed or to index the part the machine can be equipped with two C-axis (10'000 min^{-1})

The two units are totaly independent and have their own working axes. The programming system has been developed to make the work as easy as possible for the user: the program for the first unit can simply be copied for the second unit.

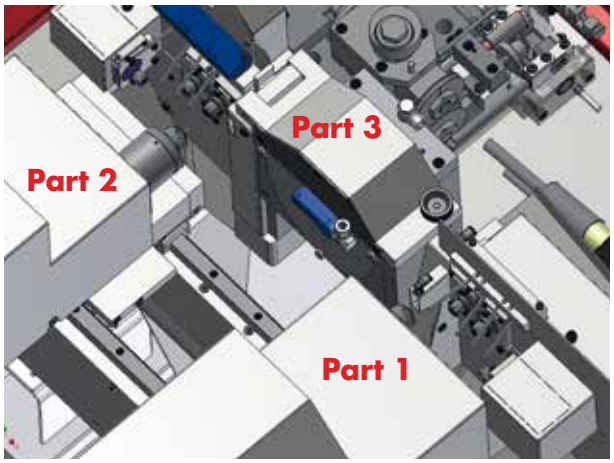
Machining three parts simultaneously

The special configuration of the D5 TWIN doubles the back machining operations and three parts are machined simultaneously.

After cut-off the first turned part is machined on the 1. back machining unit.

The second part, turned and cut-off, will be machined simultaneously on the 2. back machining unit.

The third part in the cycle is machined at the same time in the tool head.

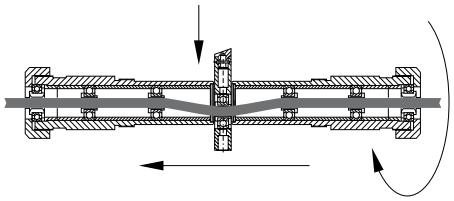


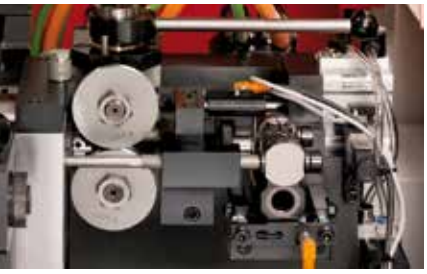
MATERIAL FEED

The material is supplied into the machine from coil. A coil, depending on the type of material, usually has 30 to 50 kg and is unrolled from a reel supported by the machine. The material is pulled across the machine by the material feed system.

MATERIAL STRAIGHTENING

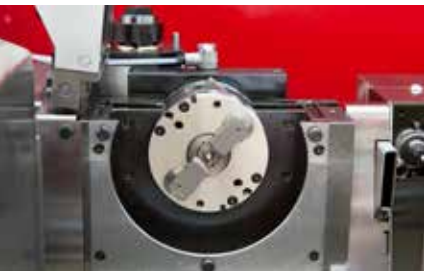
The material is fed into the machine from a coil which becomes bar stock after the straightening process. It produces a bar with a straightness quality equivalent to standard bar stock.





MATERIAL FEEDING

The material is clamped between a set of grooved rollers and their rotation controls the feeding. The clamping pressure is adjustable and the grooves have the shape of the wire. With this principle and the closeness of the guide bush, very small wire can be machined without bending or whipping (down to 0.30 mm).



TURNING

While the material is held by a guide bush, the turning and chip removal is performed by the unique escomatic principle. This consists in having the cutting tools rotating around the material with a speed up to 12'000 rpm. When cutting off, the counter collet holds the machined part for a perfect flatness and a cut-off tip free end.

TWIN BACK MACHINING UNITS

COUNTER COLLET UNITS

For the cut-off and the subsequent back machining after the turning operation the parts will be clamped in a counter collet or in an optional counter collet spindle with C-axis (10'000 min^{-1}).

The counter collet permits to carry out all subsequent standard machining operations The counter collet spindle (C axis) also allows specific positioning and by combining the speeds of the counter spindle and drilling spindles the machining speeds can be increased.

COUNTER SPINDLES

The two back machining units are identically equipped:
- two axial spindles for drilling and tapping/threading
- one cross drilling spindle

A vertical spindle could be installed instead of one of the axial or cross spindles.

escomatic D5 TWIN:

PERFORMANCE FIRST

The escomatic Concept

Unlike conventional lathes, escomatic lathes are based on a unique concept. The material, which is coil stock or bar, does not rotate. The cutting tools mounted onto the spinning tool head rotate around the material. This concept equally qualified for the manufacturing of small, medium and large lot size parts, contributes to the extremely high performance and cost savings achieved with escomatic machines.

The escomatic D5 TWIN is equipped with an Affolter CNC System LESTE 10 with 8 axes (optional 10 with 2 C-axis).

The turning operations are identical with the ones of an escomatic D2 CNC or D5 ULTRA. A basic tooling (set of straightening dies and holders, feed rollers and turning tools) are compatible with these machines.

Secondary operations could be carried out with two identical units consisting of:

- Two counter collets (or counter spindles with C-axis) which are mounted on two independent tables with cross slides.
- Two back machining units which are equipped with two axial spindles for drilling, tapping or threading and one cross spindle.

This configuration doubles the back machining operations and three parts are machined simultaneously.

With a turning speed of 12'000 min^{-1} and 18'000 min^{-1} for The back machining, the D5 TWIN is a real machine for very high volume production.

The Affolter CNC control LESTE enables simplified and menu driven programming.

Application profile

- Turned parts with secondary operations only on one side and very short cycle times
- Material diameter from 0,3 till 4mm
- Usage of coil stock and real 24 hours production

TECHNICAL DATA

Turning:		
Maximum part diameter	4	mm
Standard workpiece lenght	80	mm
Number of cutting tools	2	
Max. tool head speed	12'000	min^{-1}
D2 tooling can be used		
Material feed rate (Z1)	8	m/min
Straightening:		
D2 Sraightening unit		
Maximum straightening length	80	mm
Rotation speed of straightening unit	600 - 3'400	min^{-1}
Counter collet units:		
Type of collet	ESCO NM 121-1485-1	
Over gripping counter collet	ESCO NM 321-1344-1	
C-axis (option)	10'000	min^{-1}
Back machining units:		
2 axial powered spindles		
Maximum drilling speed	18'000	min^{-1}
Drilling diameter	3	mm
Drilling length	20	mm
Tapping/threading diameter	M2	
1 radial powered spindles		
Maximum speed	18'000	min^{-1}
Drilling diameter	2.5	mm
Technical features:		
Coolant/cutting fluid	Oil	
Tank capacity	100	Liter
Flow rate of the pump	30	l/min
Max. system pressure	10	bar
Chips container capacity	40	Liter
Installed Power	4	kVA
Compressed air consumtion	7	m^3/h
Compressed air pressure	5	bar
Average noise pressure level	67.5	dB (A)
Average noise power level	83.6	dB (A)
Dimensions & weight:		
Length x Width x Height	2'150 x 1'050 x 1'580	mm
L x W x H with coil reel	2'750 x 1'050 x 1'580	mm
Net weight	1'150	kg
Gross weigth	1'250	kg

Modifications reserved