

escomatic D5 CNC ULTRA

PRODUCTIVITY AND FLEXIBILITY

The escomatic D5 CNC ULTRA is a new development based on the escomatic D2 CNC. In addition to the turning operations and based on the same principle well known by the users of the NM 64X, it is possible to machine the front and the back side of the part. On the front side drilling, tapping and threading is possible with three axially positioned spindles. After the cut-off of the part the back side can be machined simultaneously to the front side spindles and/or the turning operation by means of two axially and one laterally positioned spindles. With a tool head speed of 12'000 min⁻¹ and 18'000 min⁻¹ for the front and back working spindles this new machine offers the turning performance of a D2 CNC with ultra-performing secondary machining operations.

The machine base is new and has been adapted to the space requirement of the new concept. The straightening unit, the material feed unit and the rotating tool head are absolutely identical with the D2.

The counter collet and the system for the front machining with the three axially positioned spindles are mounted each on its own table with two CNC axes each.

For the back machining two axially and one laterally mounted spindles are available. Simultaneous machining of the back side during the turning process and/or the front machining is possible.

The tooling is the same as for the D2 CNC and except for the guide bush and the counter collet compatible with older cam driven escomatic D2 machines.

The escomatic D5 CNC ULTRA is equipped with a FANUC Oi CNC control system, the programming is done in ISO codes.

Application-Profile

- Maximal numbers of operations in one machine
- Stock material diameter 0.3 – 4mm
- Simple turned parts with front- and back side machining
- Real 24 hours production from coil
- Mass production as well sample manufacturing

Features

- Proven escomatic technology with FANUC Oi CNC control system
- escomatic standard turning tools can be used
- Tool head speed up to 12'000 RPM
- Fast cycles and short machining times at enhanced precision
- Best price/performance ratio for the production of parts with small diameters
- Improved parts quality, both in meeting tolerances and in surface finish
- Economy of floor space due to compact design of the unit «machine & coil stand»
- Turning speeds, feed rates and cutting speeds are freely programmable
- Turning without form tools
- Good accessibility of all adjustable elements

TECHNICAL DATA

Turning

Maximum part diameter	4	mm
Standard workpiece length	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 Straightening unit		
Maximum straightening length	80	mm
Rotation speed of straightening unit	600 - 3'400	min ⁻¹

Counter Collet Unit

Type of collet	ESCO NM 121-1485-1	
Over gripping counter collet	ESCO NM 321-1344-1	
C-axis (option)	10'000	min ⁻¹

Front machining unit

3 axial powered spindles		
Maximum drilling speed	18'000	min ⁻¹
Drilling diameter	3	mm
Drilling length	20	mm
Maximum tapping/threading speed	6'000	min ⁻¹
Tapping/threading diameter	M2	

Back machining unit

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

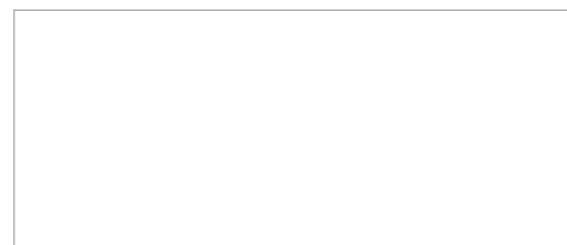
Technical features

Coolant/cutting fluid	Oil	
Tank capacity	100	l
Flow rate of the pump	30	l/min
Max. system pressure	10	bar
Chips container capacity	40	l
Installed Power	4	kVA
Compressed air consumption	7	m ³ /h
Compressed air pressure	5	bar

Dimensions & weight

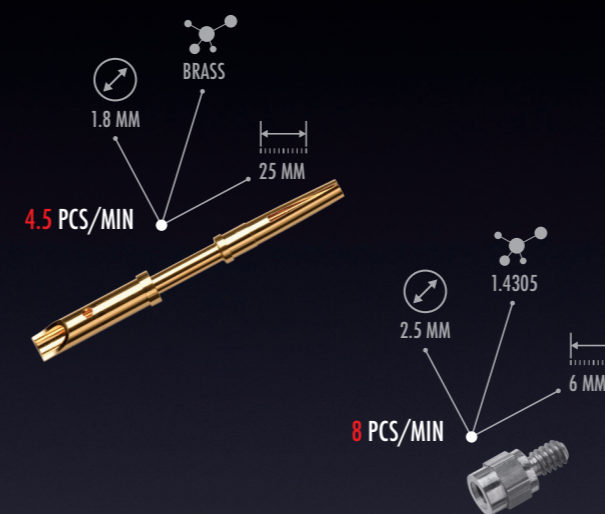
Length x Width x Height	2'150 x 1'050 x 1'580	mm
L x W x H with coil reel	2'750 x 1'050 x 1'580	mm
Net weight	1'150	kg
Gross weight	1'250	kg

Modifications reserved



escomatic

D5 CNC ULTRA



ULTRA

PRODUCTIVITY

PERFORMANCE

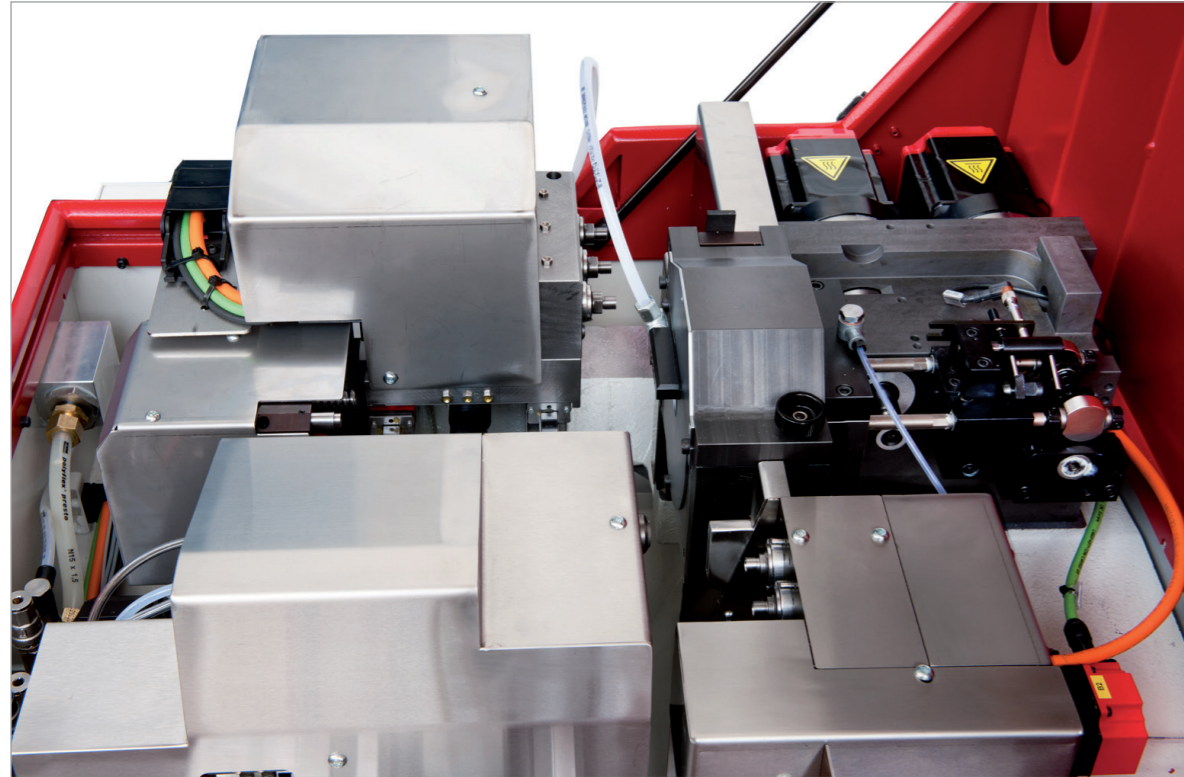
AND FLEXIBILITY

escomatic D5 CNC ULTRA

PRODUCTIVITY AND FLEXIBILITY

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.



Applications:



escomatic by ESCO SA

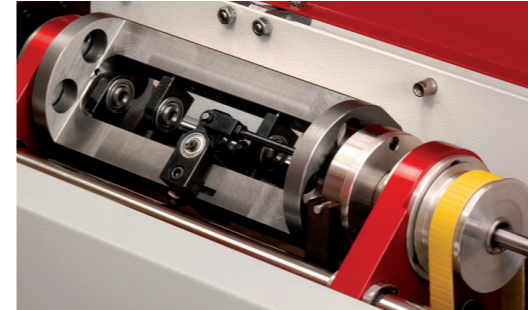
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MATERIAL FEED

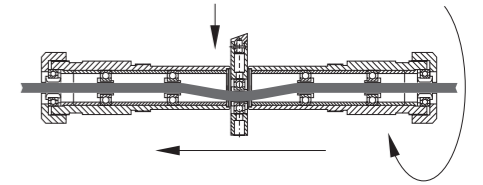


The material is supplied into the machine from coil. A coil, depending on the type of material, usually has 30 to 50 kg and is unrolled from a reel supported by the machine. The material is pulled across the machine by the material feed system.

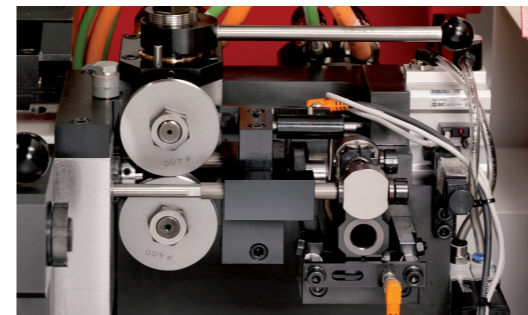
MATERIAL STRAIGHTENING



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.

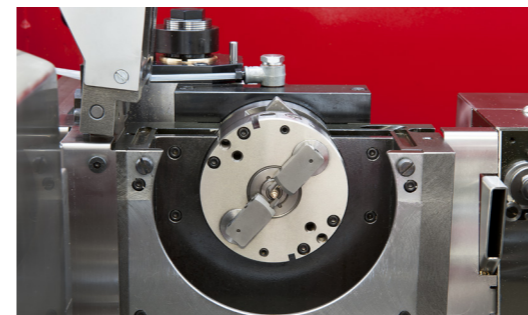


MATERIAL FEEDING



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



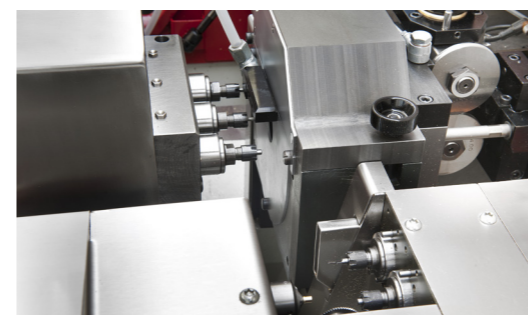
While the material is held by a guide bush, the turning and chip removal is performed by the unique escomatic principle. This consists in having the cutting tools rotating around the material with a speed up to 12'000 rpm. When cutting off, the counter collet holds the machined part for a perfect flatness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

WORKPIECE PICK-UP SYSTEM



For the pick-up of the finished turned parts a counter collet unit or optionally a counter spindle with C-axis (10'000 min⁻¹) is available. This unit is mounted on its own two axis CNC cross slide.

FRONT- & BACKMACHINING



After the cut-off of the part the back side can be machined simultaneously to the front side spindles and/or the turning operation. For front machining three axial and optionally one cross spindle on a CNC table are available. For back machining two axially and one laterally positioned spindle are installed. Optionally one or two vertically mounted spindles could be mounted in place of the standard spindles.