

The Uni-Cut represents the latest state of the art and fulfils CE machinery guideline requirements.

#### Performance / Economy:

The Uni-Cut offers the following advantages:

- Machining is possible for a wide variety of parts
- No reject threads thanks to the reversible tapping spindle with straight tap
- Universally adjustable
- Favourable price-performance relationship
- Rapid travel sequences and minimum standstill times result in maximised productivity

- Uni-Cut tooling is compatible with the Varimac machine series
- Mechanical controls combined with electrical monitoring guarantee uniform high quality for end products
- Reliable graveyard shift production thanks to torque meter

## UNI-CUT

### Machine

Thread dimension

Number of spindles

Max. outside diameter of parts

Max. length of parts

Max. spindle stroke tap/drill

Power of spindle motor

Speed range

Machine control system

Max. Output

Coolant volume

Net/gross weight of machine

Dimensions (LxWxH) mm

### UNI-CUT 10

M3 - M12 x 1,5

1/8" - 1/2"-16

1

25 mm

70 mm

30/40 mm

1,1 kW

714 - 2743 Upm

mechanically/PLC

4500 pcs/h

160 l

900/1000 kg

1700x785x1386

### UNI-CUT 20

M6 - M20 x 1,5

3/16" - 3/4"-16

1

50 mm

70 mm

30/40 mm

2x1,1 kW

561 - 1995 Upm

mechanically/PLC

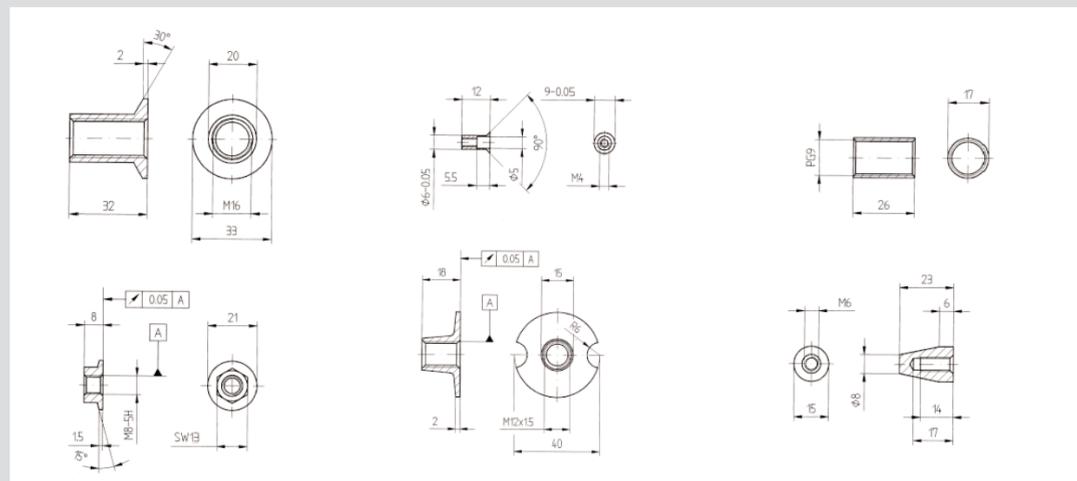
3500 pcs/h

160 l

900/1000 kg

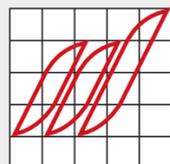
1700x785x1386

Subject to technical modification



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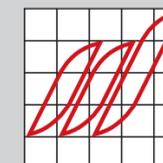
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## SINGLE SPINDLE REVERSIBLE AUTOMATIC NUT TAPPING MACHINE

### UNI-CUT



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## UNI-CUT

Demand for a cost effective, universal machine with superior throughput has resulted in the development of the „UNI-CUT“ Single Spindle Reversible Automatic Nut Tapping Machine

The Uni-Cut makes use of a reversible working spindle which allows for the production of blind hole, as well as through-hole threads. Mechanical machine controls are achieved by means of cams and levers which assure quick and precise travel. Radial clamping of the blank is the only pneumatically controlled operation.

All of the required machining parameters are continuously monitored by PLC, which assures uniform high precision at maximum throughput rates.

Simple operation is especially attractive for inexperienced operators, which, together with rapid tool changing capabilities, allows for excellent machine availability for three shift operation. Reject threads, which often occur with bent shank taps, are almost non-existent. Compliance with „zero error“ requirements is thus placed within reach, and costly, manual re-inspection and return shipments are eliminated.

Thanks to these characteristics, the Uni-Cut is not only suitable for blind hole parts or other

special components, but is also frequently more economical than automatic bent shank tapping machines for nuts with through-hole threads.

### Applications:

The Uni-Cut provides for efficient thread tapping of cold-headed, stamped and turned nuts or other threaded parts.

The Uni-Cut 10 and the Uni-Cut 20 series both cover a broad spectrum of dimensions ranging from M3 to M20 x 1.5 with a maximum outside diameter of 50 mm and a maximum part length of 70 mm.

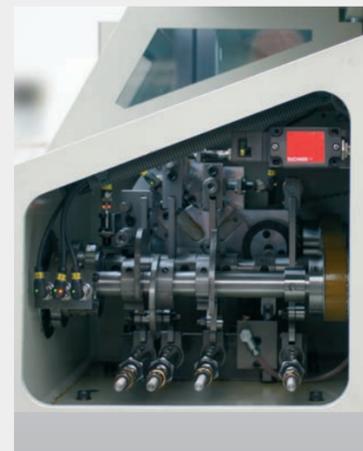
### Operation:



Working area

The machine is extraordinarily easy to operate. Simple design and well defined tooling set-up reduce non-productive time to a minimum.

The tools are identical to those used with the Varimac series, and are thus interchangeable.



Tool holder with camshaft

The internally illuminated working area is easily accessible, and the ample flow of coolant, which continuously flushes the working area, keeps all machine parts and tooling components clean. No accumulation of chips can be detected, even after long periods of production.

The doors to the headstock and the tool holder are opened when machine set-up is required, whereupon all of the mechanical drive elements can be immediately recognised and accessed. Both of these doors, as well as the protective door for the working area, are monitored with safety switches.

### Function:

Automatic feeding of blanks is accomplished with a drum type feed unit or by means of an electromagnetic vibration conveyor.

The blanks fall into the indexing disc from the feed chute. They are positioned for tapping by the indexing disc, as well as for discharge after thread cutting is complete. The indexing disc is driven intermittently by a stepping gearbox.

A pneumatic cylinder in combination with a toggle lever provide for radial clamping of the parts. A cam and a spring-loaded lever ensure accurate axial clamping. Both clamping positions are monitored by proximity switches.

Depending upon the geometry of the blank, the clamping sequence can be varied, i. e. the blank can first be clamped in the radial, and then in the axial direction, or vice versa. Axial positioning is performed first for thin parts, followed by radial clamping. After clamping, the axial plunger returns to home position in order to avoid contact with the tap when it cuts through the blank.

Inserters and ejectors are also driven mechanically with cams, and are monitored electrically. Depending upon requirements, the inserter may also serve to turn parts for correct positioning or to isolate the last blank in the chute from the rest of the column. It also serves to indicate a shortage of blanks. The ejector discharges the work piece from the indexing disc after tapping is complete.

A combination cam-spring unit provides for rapid forward and reverse travel of the tap, and thus ensures a high rate of throughput. An easily interchangeable lead spindle is used for highly accurate tapping. This assures an absolutely neutral tapping operation with no detrimental pressure or tension applied to the thread flanks. Metric and imperial, as well as left and right handed threads can be produced. Similar machining operations such as boring, reaming and countersinking are also possible.

### Drive:

The working spindle is driven by a high performance, reversible three-phase motor with belt and interchangeable belt pulley. Spindle home and full depth thread tapping positions can be precisely adjusted with two rotary knobs

### Controls:

The Siemens S 7 stored-program controller and control panel simplify machine handling and set-up substantially.



Spindle drive

Incorrect entries are ignored by the controls. All important machine conditions are continuously displayed.

If malfunction occurs, the machine is shut down and a signal lamp lights up. The corresponding error message simultaneously appears at the display.

A torque meter is available as an option, which shuts the machine down when the tap has been dulled to a predetermined extent. This allows for the realisation of optimum tap utilisation, as well as production in the graveyard shift with reduced personnel. An interface for the external logging of operating data is also available upon request.

### Chip Discharge / Coolant / Maintenance:

A magnetic drum separates chips from the flow of coolant and discharges them in an almost dry condition from the machine via a discharge chute. Completed parts are discharged to a container with a conveyor belt almost entirely free of chips.

The large coolant reservoir in the lower portion of the machine base assures a uniform, low coolant temperature even with multiple shift operation.

All sliding machine components and support points are lubricated with an oil-bath or are permanently greased. No machine maintenance is required.

### Mechanical Design:

Well defined lines highlight the compact design of the machine. The two-tone paint finish provides for an attractive, modern appearance.

The integrated U-profile at the machine base provides for stability, and allows operating personnel to assume a natural, ergonomic stance.