TSCHUDIN®

ecoLine
proLine

TSCHUDIN

The latest generation of centerless grinding machine with an automated digital setup of the machine and the grinding process.

Reduced number of components on the machines resulting in lower maintenance costs and maximum machines availability.

The machine base and the spindle blocks are made from natural granite; thus mastering thermal expansion due to variances of heat.

Loading and unloading of the workpieces outside of the grinding zone, allowing simplified automation or safe manual loading according to CE regulations.

Everybody is able to operate the machines.

The grinding and the regulating wheels are both dressed from the front.

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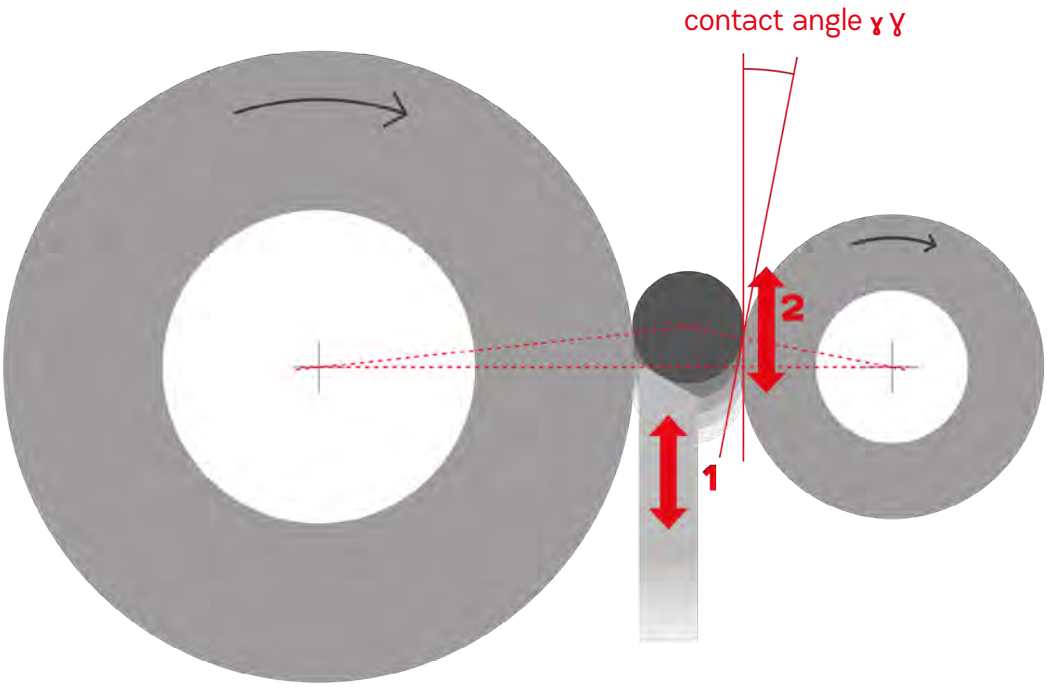
PATENT

- CH 691957
- EP 1330336
- US 7.223.159 B2
- US 9.085.059
- EP2394783

TSCHUDIN ecoLine



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MANUAL ADJUSTMENTS

1: workpiece height
2: dressing tool height for the regulating wheel

After each dressing cycle the diameter of the grinding and regulating wheels is reduced and therefore the contact angle γ changes. Compensation for this is done manually.

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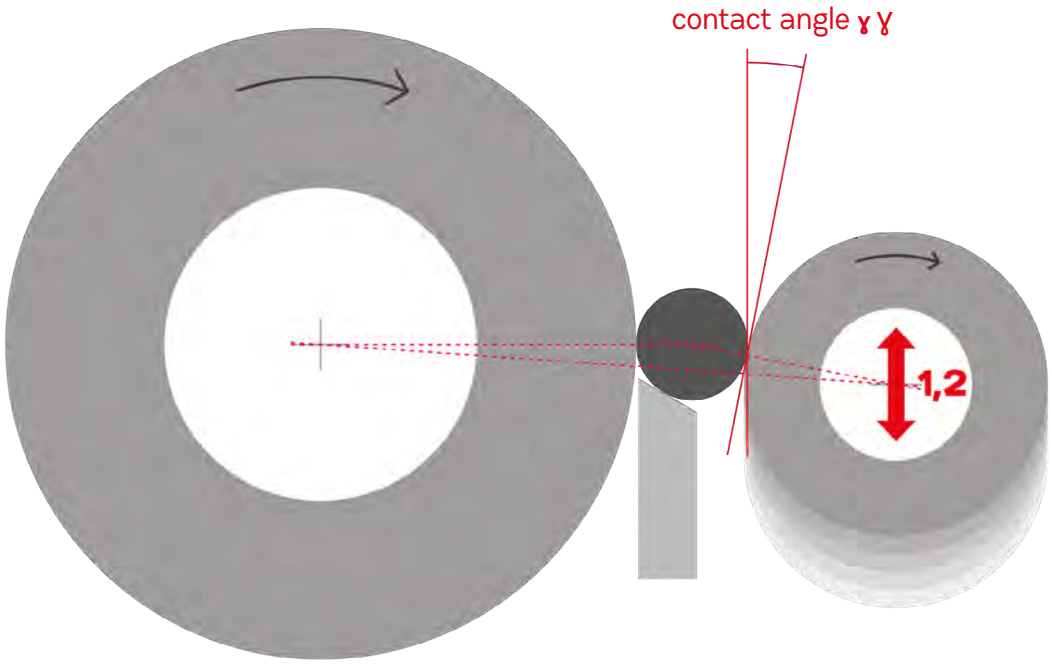
proLine



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CNC CONTROLLED

1: height adjustment of the regulation wheel for grinding
2: height adjustment of the regulation wheel for dressing

- The height of the adjustable regulatingwheel (Y-Axis) allows for faster set up.
- The contact angle γ remains constant.
- The grinding and the dressing process is digital. This reduces the set up time and eliminates operator failures. All digital data necessary for the grinding process can be reproduced at any production location around the globe.

THROUGH-FEED GRINDING

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PROCESS CAPABILITY

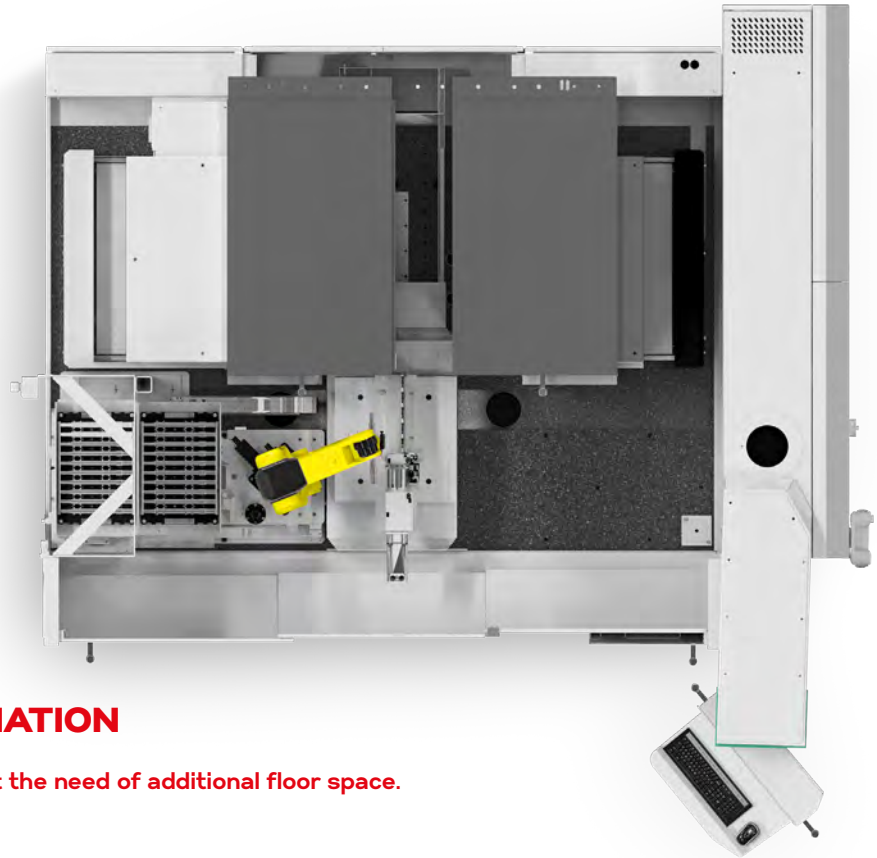
The machine base and the spindle supports are made from natural granite and master thermal variations thus enabling the highest component tolerances to be met.

The possibility of the CNC controlled, parallel movement of the grinding and regulating wheel significantly simplifies the setting up process.

PLUNGE GRINDING

MANUAL

Manual loading/unloading. Safe in accordance with CE regulations.

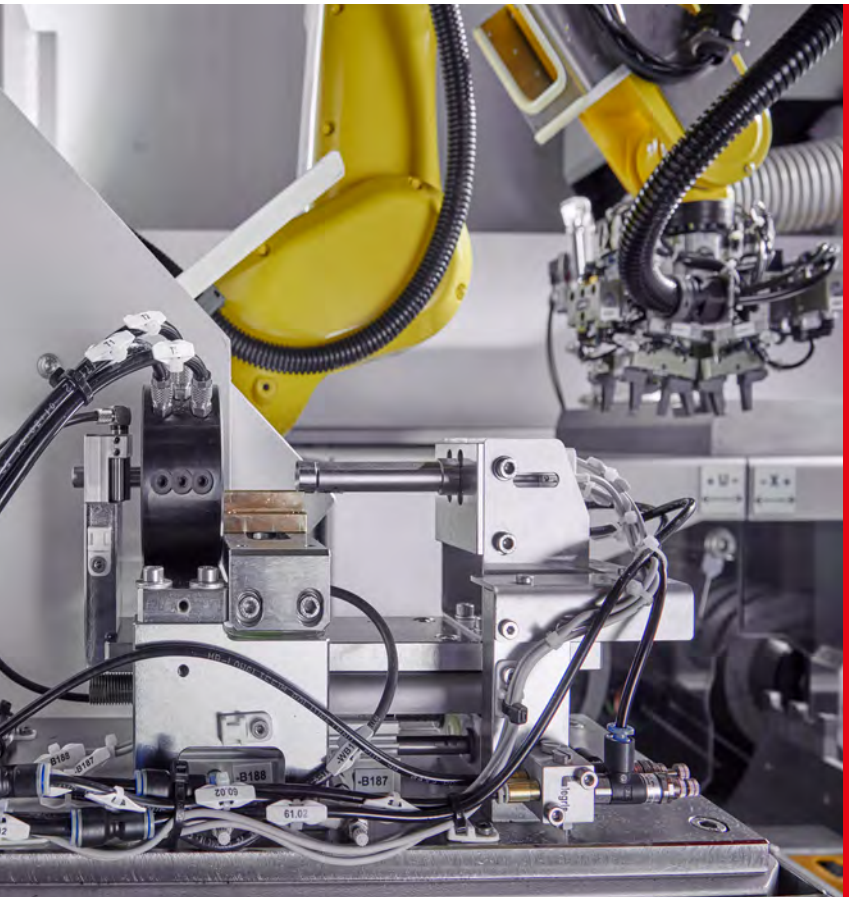


LEAN AUTOMATION

With Robot. Without the need of additional floor space.

CUSTOMER SPECIFIC

Handling cell for high autonomy and with the possibilities to integrate additional functionalities.



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SAFE LOADING/ UNLOADING

Loading and unloading of the workpiece outside of the grind zone results in higher reliability. The automation is not within the dirty grinding zone.

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NEW PROCESSES

The patented movable workrest axis (W-Axis) allows additional process possibilities.

- Roughing and finishing in a double cycle
- Grinding of sharp edges
- Controlled dressing of taper and radius

APPLICATIONS

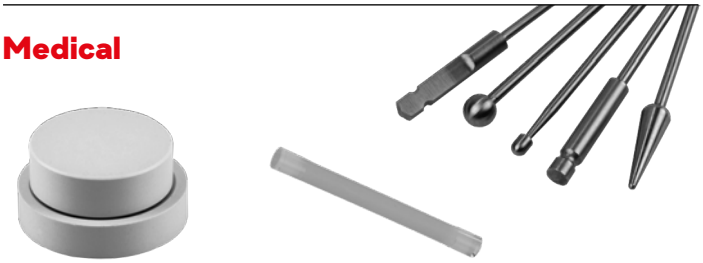
Automotive

Electric Motor

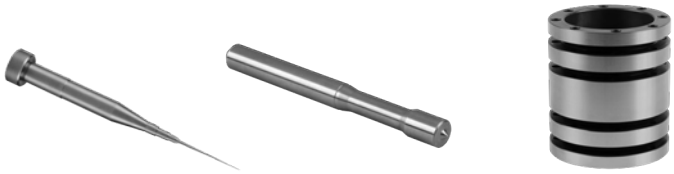
Hydraulic

Bearings

Medical



Various



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APPLICATIONS

The TSCHUDIN machines are used for various applications for example:

- Sub-contract work / small batch sizes
- In automotive for mass production

Various materials can be ground from steel to aluminium, glass, titanium, carbon, ceramic, germanium, silicon, etc

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TSCHUDIN CUBE 350

TSCHUDIN 400 ecoLine / proLine

TSCHUDIN 600 ecoLine / proLine

TECHNICAL SPECIFICATIONS

PROCESS	TSCHUDIN 400 ecoLine / proLine	TSCHUDIN 600 ecoLine / proLine
Through feed grinding Grinding area Ø	100 mm	150 mm
Plunge grinding Grinding area Ø	150 mm	250 mm
Grinding wheel width/ Grinding length Plunge grinding	max. 280 mm	max. 500 mm
Grinding wheels Ø Bore diameter	400 mm 203.2 mm	610 mm 304.8 mm
Regulating wheels Ø Bore diameter	250 mm 127 mm	410 mm 254 mm
Drive power grinding spindle	15 / 29 / 37 kW	30 / 60 kW
Peripheral speed grinding wheel (V-constant)	max. 63 m/s	max. 63 m/s
Speed regulating wheel (infinitely variable)	5-1000/min	5-1000/min
CNC control	Fanuc 0i	Fanuc 0i
Resolution	0.1 µ	0.1 µ
Dimensions L x T x H	2860 x 2660 x 2080 mm	3700 x 3000 x 2220 mm
Weight	10 t	24 t

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