LEDINEK

ROTOLES
System

The other way of planing

Rotoles System

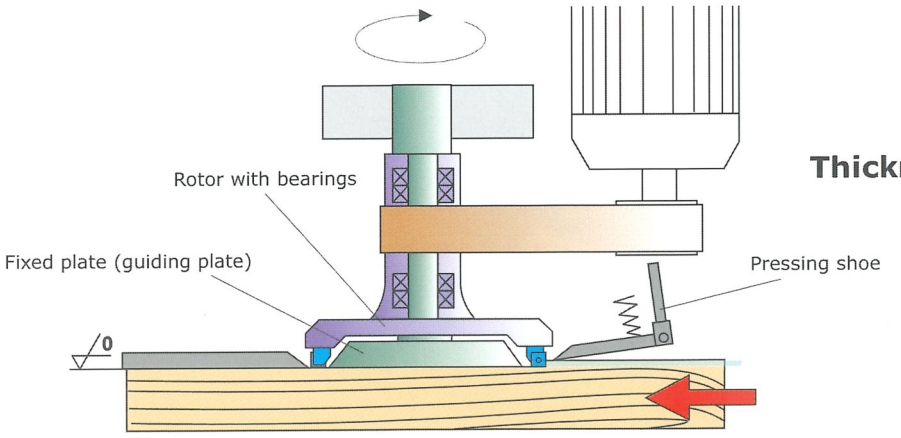
Rotoles System is a new method in woodworking offering better economic effects.

No progress means regression. This rule applies to technologies which were considered to cultimate, as well. A new example is the worldwide patented Rotoles System - front milling of wood, wooden products, plastics and light alloys.

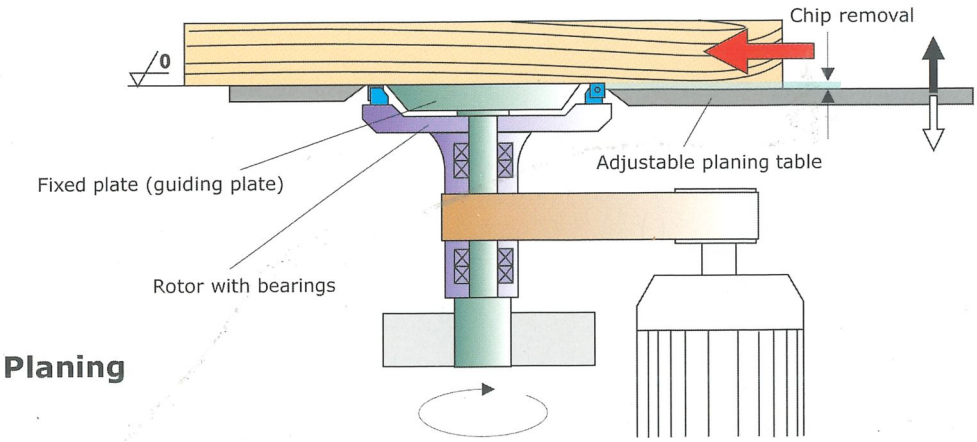
United States Patent Number 4,964,446

Europäisches Patent Nr. 0382877

Main Principle of Working with Rotoles System



Thicknessing



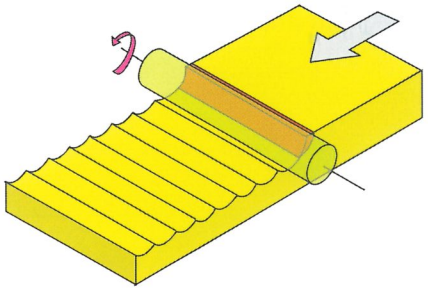
Planing

Rotoles Advantages

Working with the Rotoles System has following advantages:

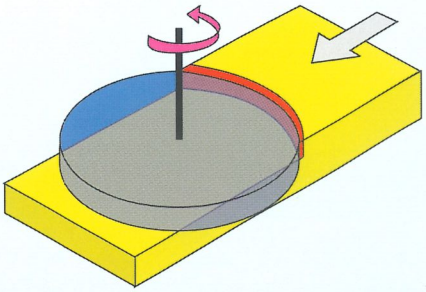
Straightness of Planing Surface

Conventional Planing



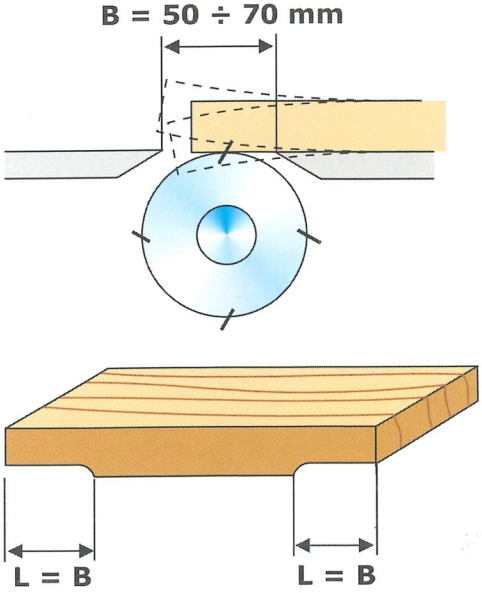
Rotoles System

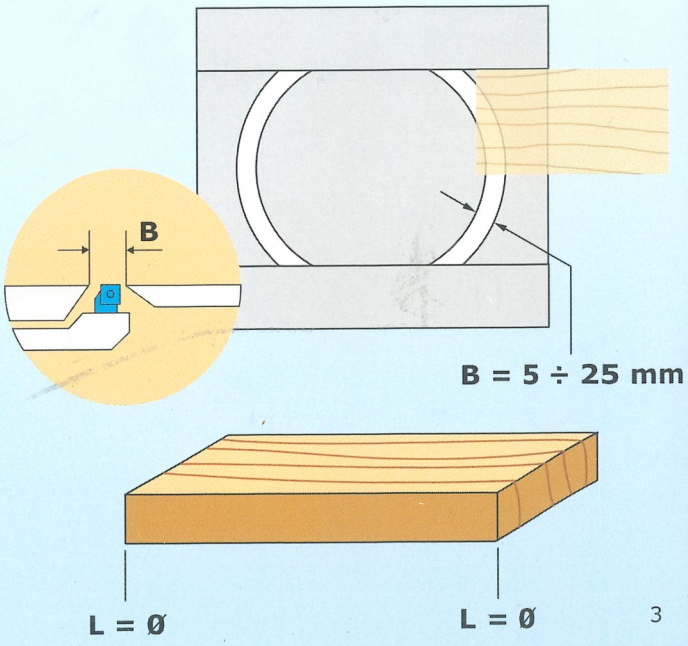
No shaft marks, better straightness to planed surface.



Cross Guiding Across the Tool

No planer marks on both ends of a woodpiece.



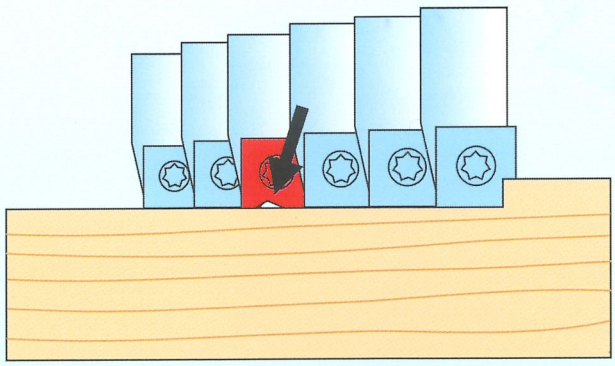


Rotoles Advantages

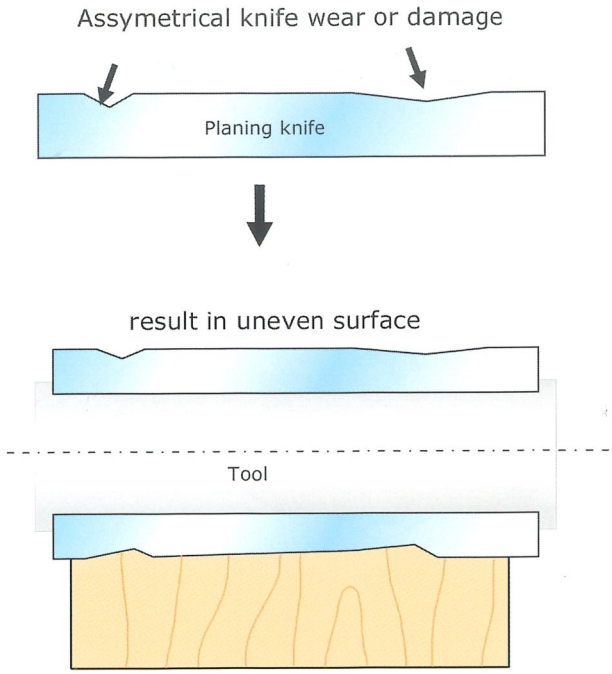
Surface Straightness Independend of Tool Wear Out

Rotoles System

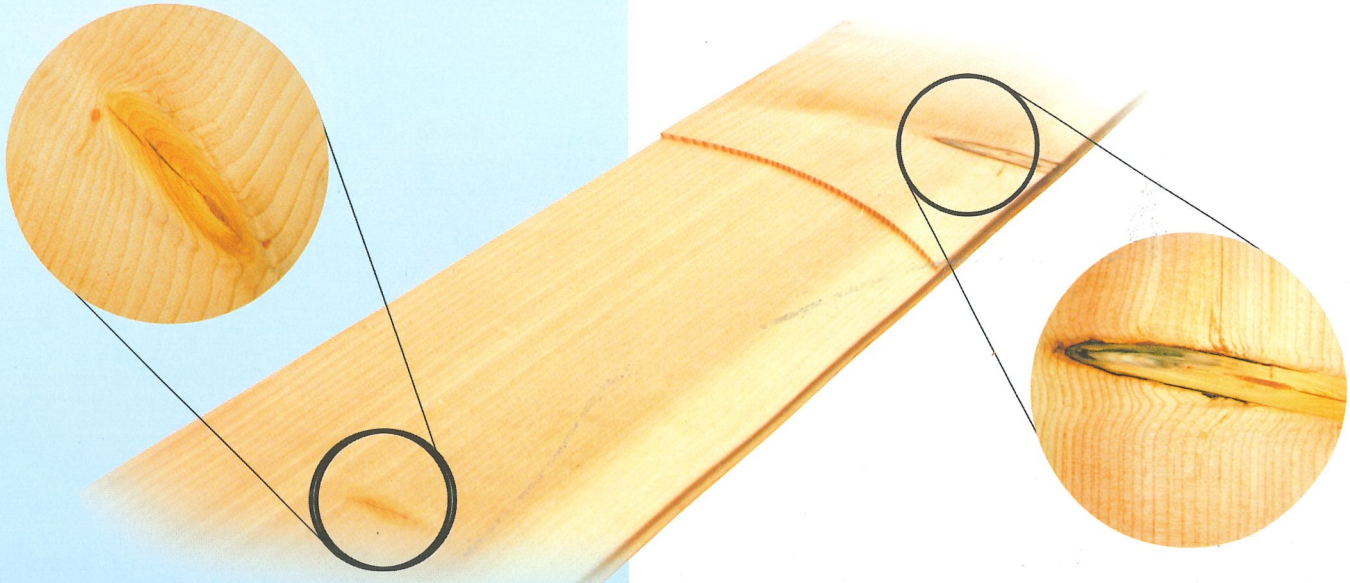
One worn out knife does not affect the surface regularity, because cutting is overlap in width and lenght.



Conventional Planing



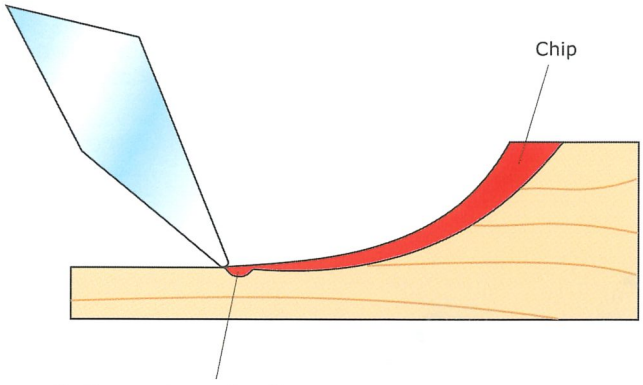
Perfectly machined knobby areas



Rotoles Advantages

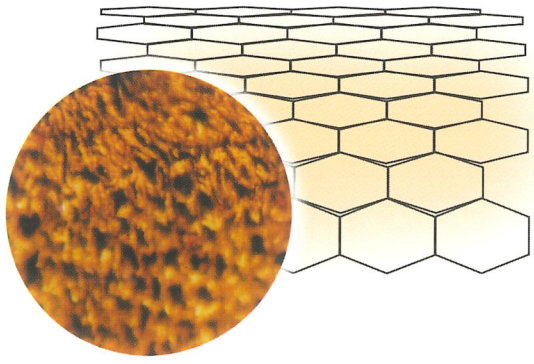
Open Pore Surface

Conventional Planing

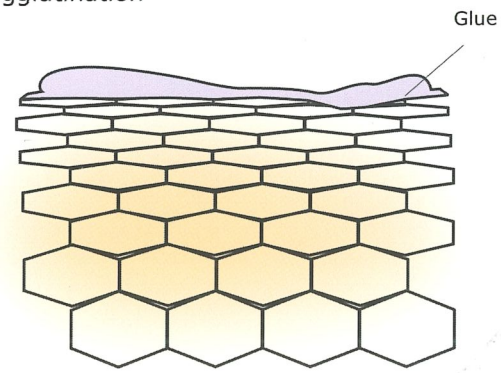


- Deformation of cell structure
- Crystalized resin

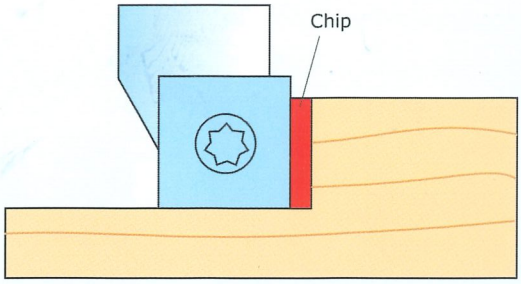
Closed cell structure



Poor agglutination

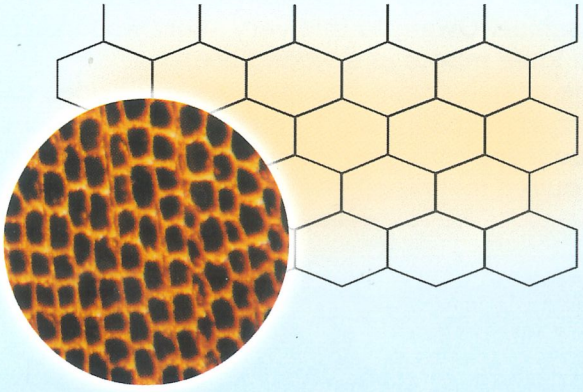


Rotoles System

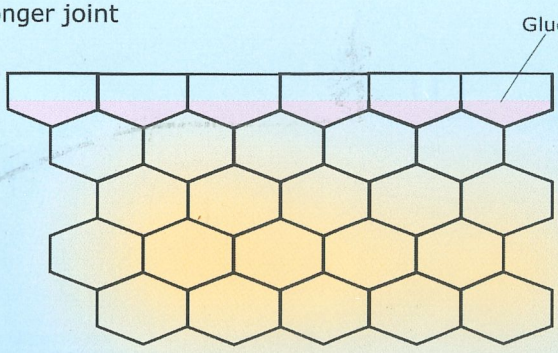


- No deformation of cell structure
- No crystalization of resin

Open cell structure

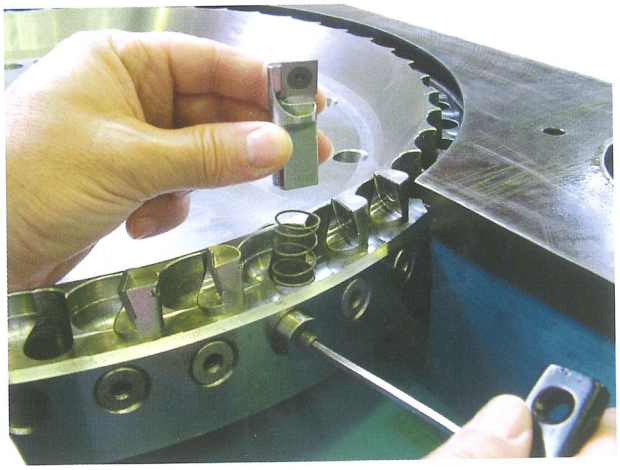


Stronger joint

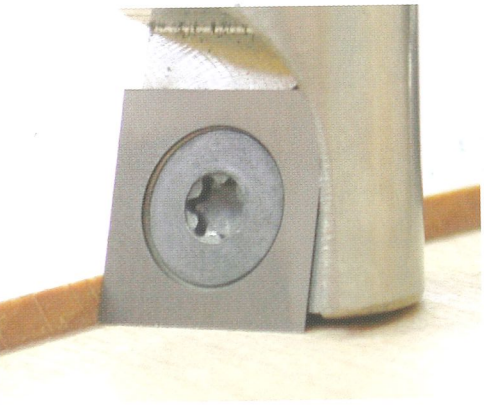


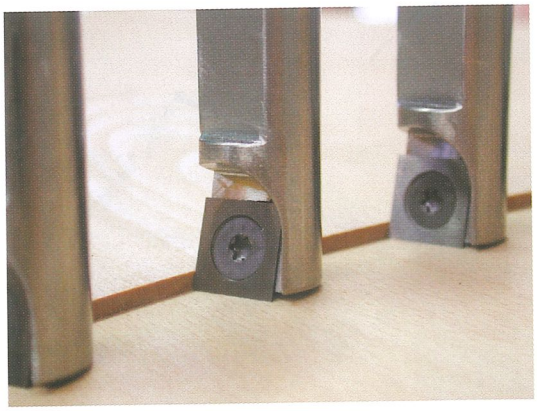
Up to 30% reduced glue consumption.

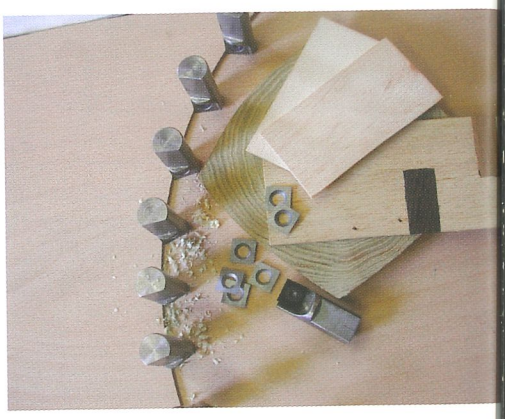
Rotoles Tools



The Rotoles heads are fixed parallelly to the machining surface. For multilateral machining the rotors are placed directly above each other resp. directly opposed for vertical machining. As the many single cutting edges of the knives are arranged round the rotor rim very small chip thickness of 0.1 to 0.5 mm per knife occurs. Due to the lower cutting pressure and cutting force the machining is much calmer and more regular. The result is a perfect surface regularity.

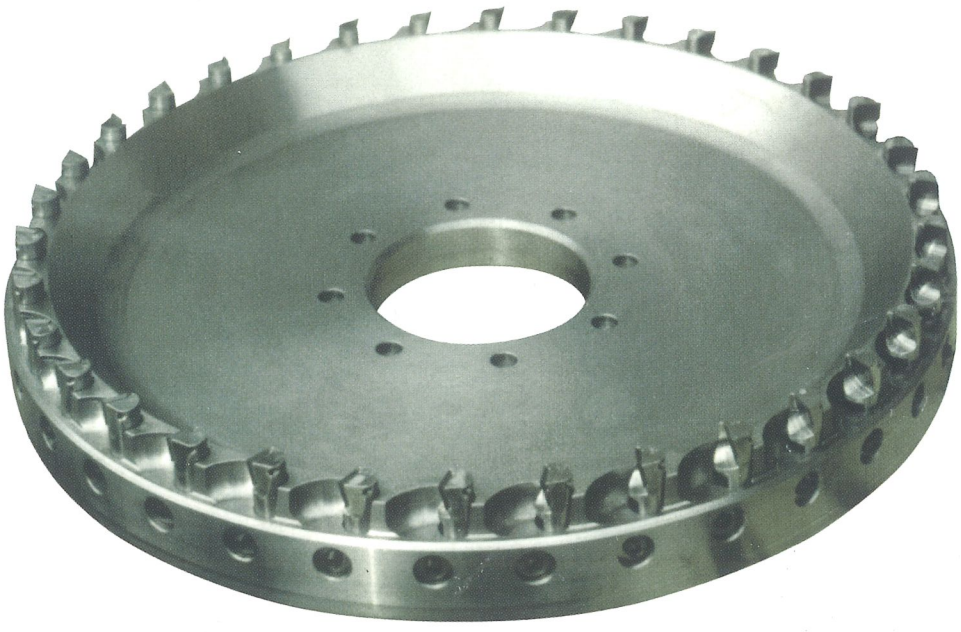




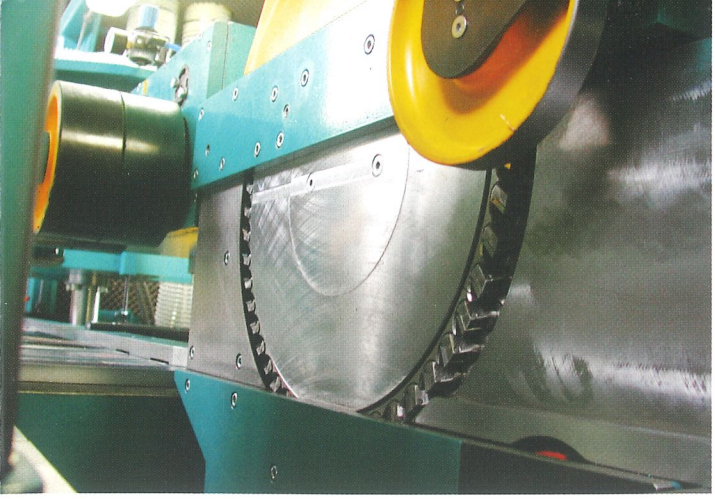


The tool rotates horizontally from left to right and works like a milling machine. Owing to this very short woodpieces can be worked.
No knife marks at a woodpiece.
The unique rotary had employs multisided calibride blades which are turned as they wear. Infinitely variable feed speed adjustable by a frequency converter corresponding to respective chip removal and required milling quality.

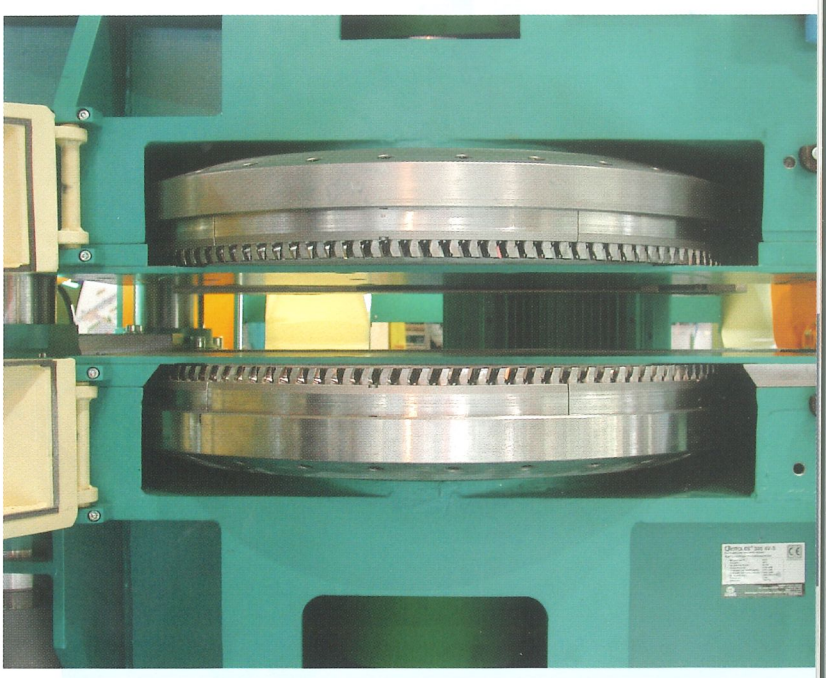
The blade holders are fixed in the rotor by clamping wedges



Rotoles Modules

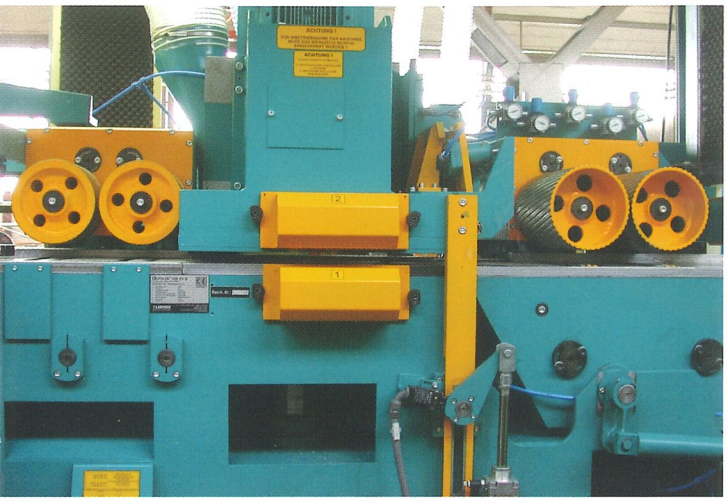


Before each vertical rotor a roughing cutter is set to chamfer the woodpieces smooth. The rotor at the rear does the remaining lateral working.

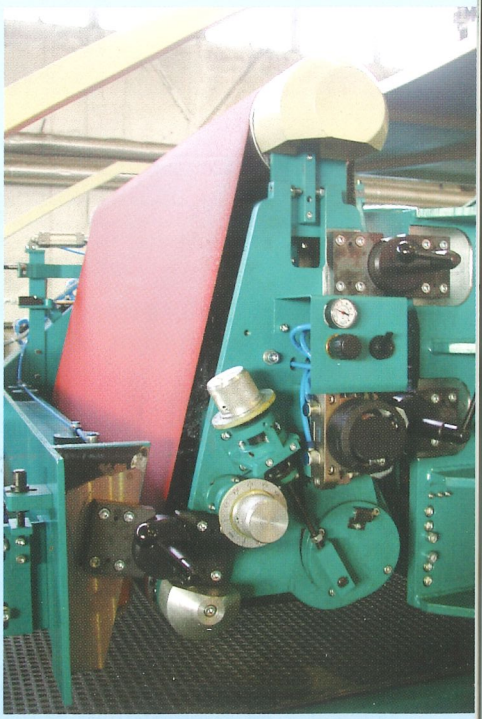


Standard carbide knives are arranged on the periphery of the rotary head. Knives are worn evenly.

High precision of horizontal planingis achived by a very short distance between two rotors.



A special chain with spring loaded pins locates the trailing edge of the board to push it trough the machine.



The sandig aggregate with a contact roller and a sanding shoe - an accurate unit for calibrating and sanding.

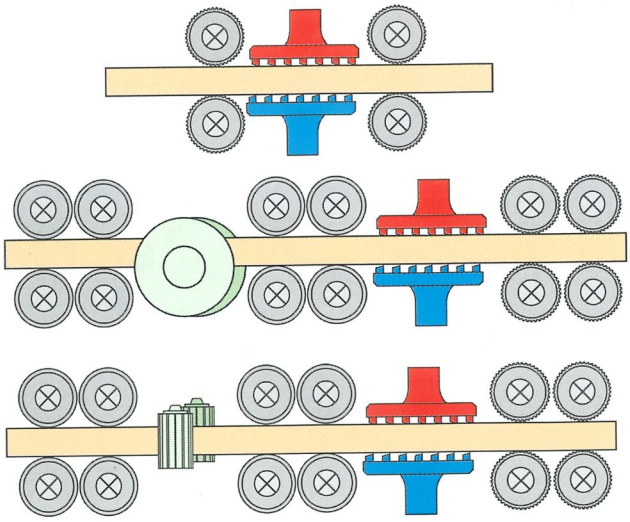
Rotoles Program

ROTOLES

Calibrating Milling Machines

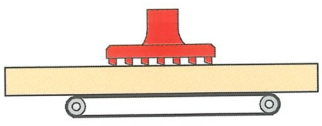
Rotoles is a system of woodworking suitable for machining of solid wood boards, glued panels, slats (up to 2 mm), parquetry, MDF-, chip- and OSB boards. Various combinations of both horizontally and vertically mounted rotors are available. Additionally, sanding and brush unit can be installed. Working width from 200 mm up to 2100 mm.

ROTOLES machines with roll feed

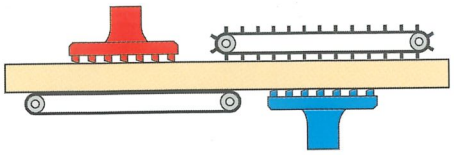


Multi- sided calibrating milling machines - moulders
Working width from 200 up to 600 mm

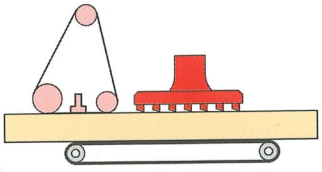
ROTOLES machines with band and/or chain feed



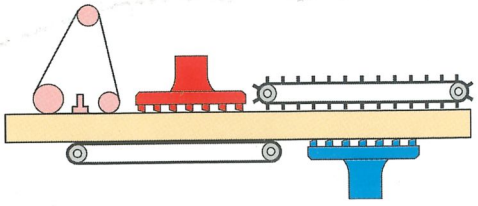
One-side calibrating milling machines
Working width from 300 up tu 2100 mm



Double-side calibrating milling machines
Working width from 200 up to 1350 mm



One-side calibrating milling machines with sanding aggregate
Working width from 400 bis 1350 mm



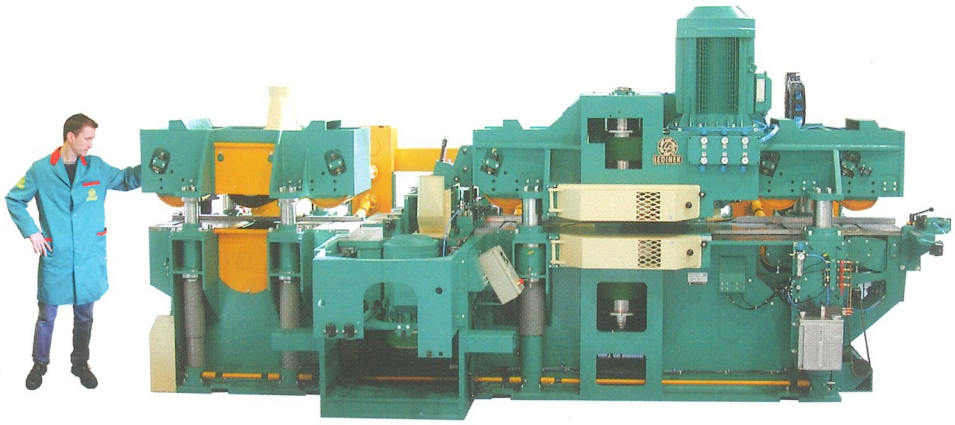
Double-side calibrating milling machines with sanding aggregate
Working width from 400 up to 1350 mm

Multi-side High Speed

calibrating milling machines - moulders

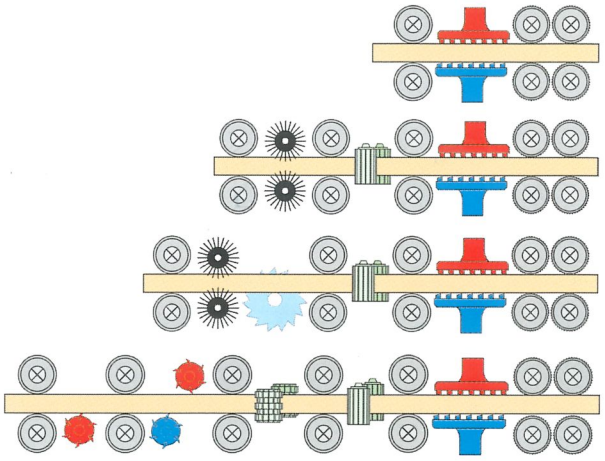
Rotoles Machines

A sturdy four-side combined calibrating milling machine with the Rotoles system, a scoring saw and a cleaning device, for demanding calibrating of lamellas.



Tempo 250 m/min

Rotoles 300 4V-KS
Planing width (max): 70-320 mmor
Planing height (min/max): 19-120 mm
Workpiece length (min): 3000 mm
Feed speed: up to 250 m/min
Weight: 17000 kg

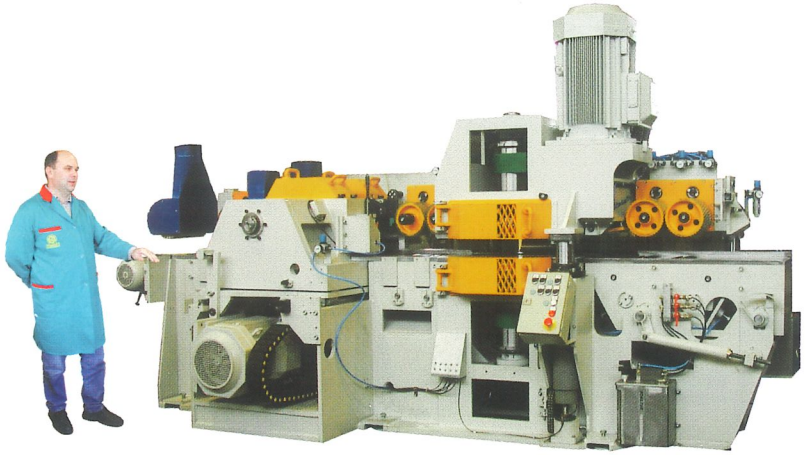


Rotoles 300 2V-K

Rotoles 300 4V-K

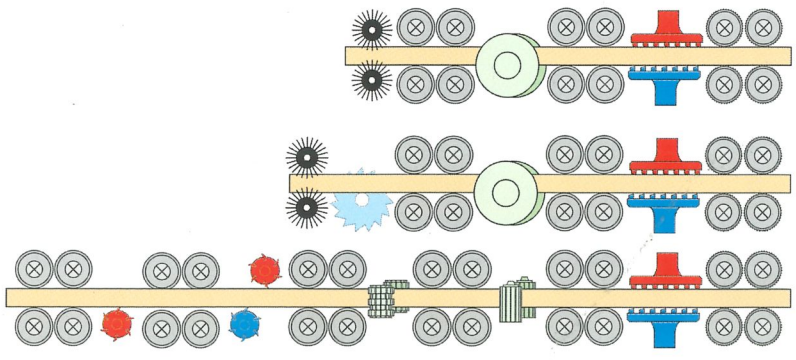
Rotoles 300 5V-K

Rotoles 300 9V-M



Tempo 120 m/min

Rotoles 300 4V-S
Planing width (max): 80-300 mmor
Planing height (min/max): 14-120 mm
Workpiece length (min): 1500 mm
Feed speed: up to 120 m/min
Weight: 11.000 kg



Rotoles 300 4VR

Rotoles 300 5VR

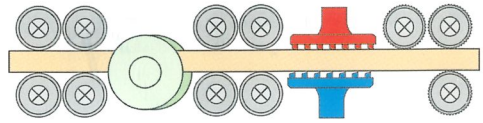
Rotoles 300 9V-M

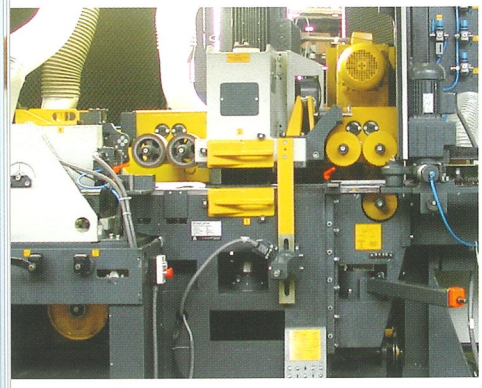
Rotoles Machines

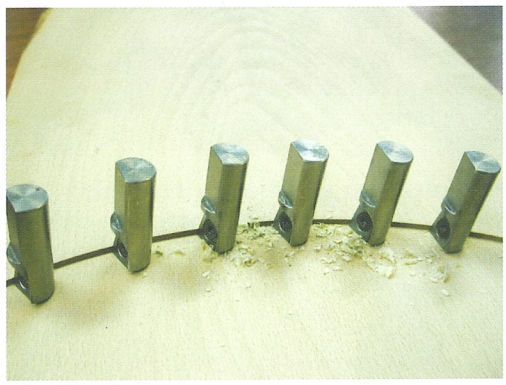
Multi-side calibrating milling machines

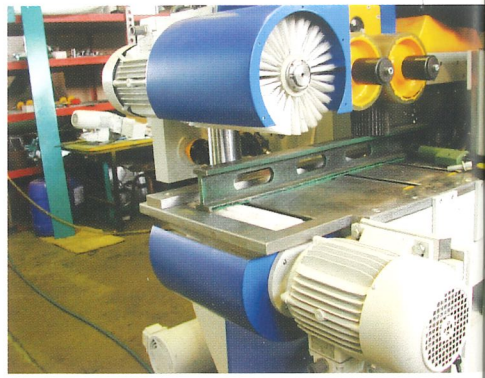
A sturdy four-side combined calibrating milling machine with the Rotoles system for perfect calibrating of lamellas.

Rotoles 200 4VR
Planing width (min/max): 20-200 mm
Planing height (min/max): 8-150 mm
Workpiece length (min): 800 mm
Feed speed: up to 60 m/min
Weight: 4000 kg

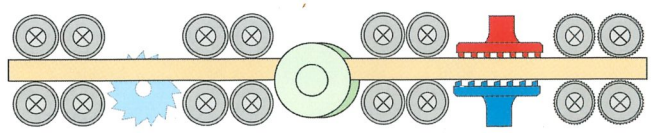








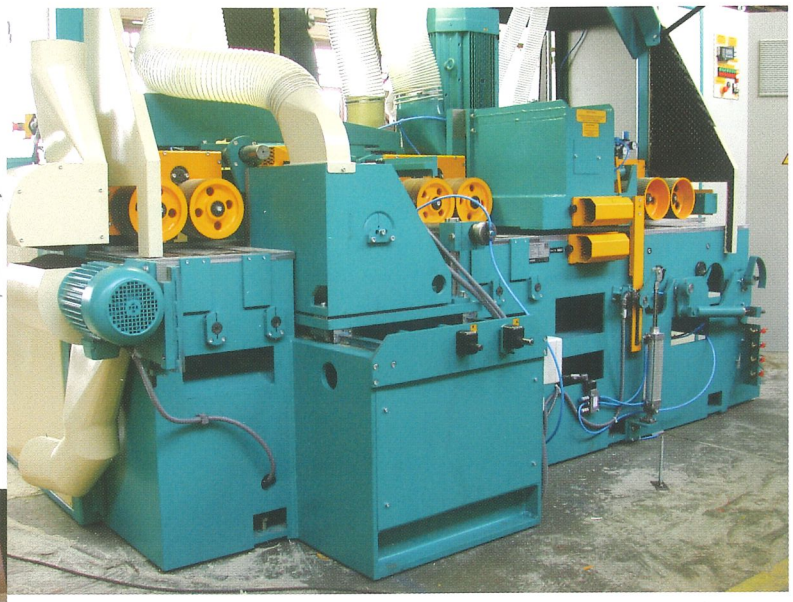
Rotoles 300 5VR
Planing width (min/max): 30-300 mm
Planing height (min/max): 20-150 mm
Workpiece length (min): 1200 mm
Feed speed: up to 60 m/min
Weight: 10500 kg

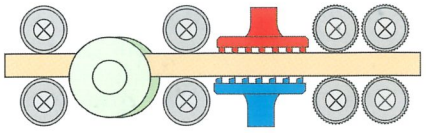


Rotoles Machines

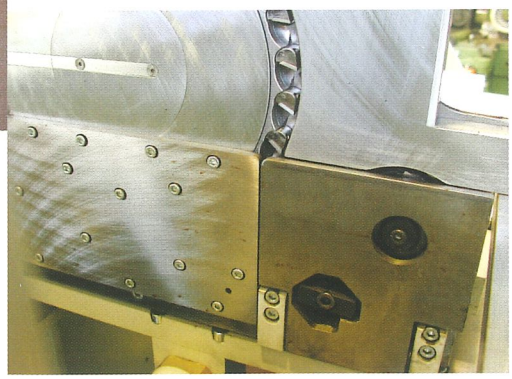
Multi-sided calibrating milling machines - moulders

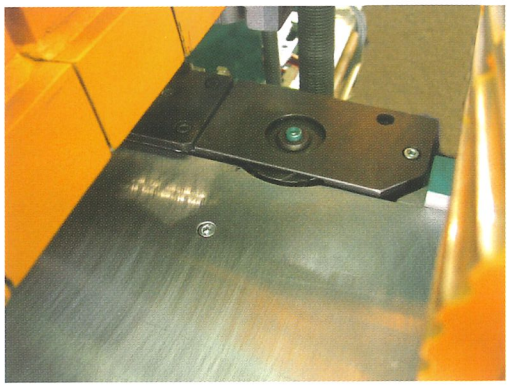
Comparison tests to conventional planing technology have proved much better machining quality with the Rotoles system. Less pressure enables planing under less tension. Another advantage of the Rotoles system is lower energy, tooling as well as raw material costs. According to the purpose the wood is calibrated bilateral or quadrilateral with the Rotoles system. Optional number and arrangement of spindles and shafts for profiling.

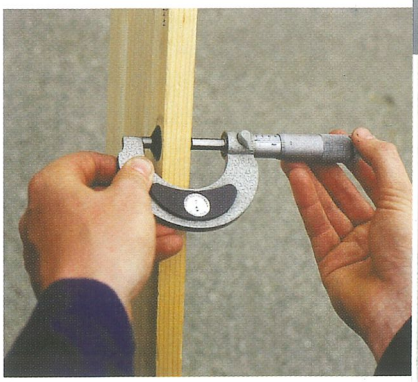


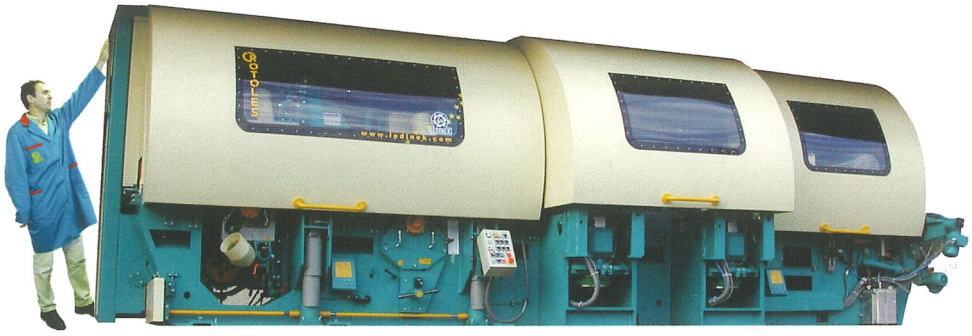


Rotoles 300 4VR
Planing width (min/max): 30-300 mm
Planing height (min/max): 10-150 mm
Workpiece length (min): 1200 mm
Feed speed: up to 60 m/min
Weight: 6500 kg

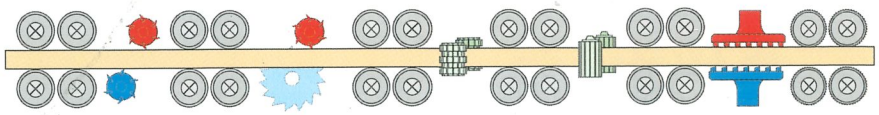








Rotoles 300 10V-M
Planing width (min/max): 30-300 mm
Planing height (min/max): 10-160 mm
Workpiece length (min): 1200 mm
Feed speed: up to 120 m/min
Weight: 16500 kg

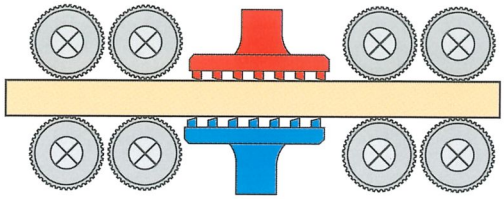


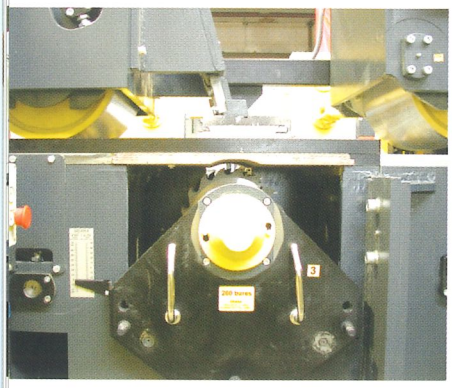
Rotoles Machines

Double side calibrating milling machines
Working width 300, 400, 600 mm

Blade inserts are installed on the milling head rim and the shearing action is performed by several knives cutting at the same time which means that the cutting depth is relatively small. Consequently, the local cutting forces are rather weak which is another advantage of the Rotoles working method where damage to the surface would normally occur due to knobs and irregular fiber growth.

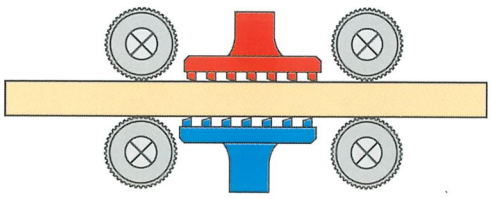
Rotoles 300 2V
Planing width (min/max): 30-300 mm
Planing height (min/max): 10-150 mm
Workpiece length (min): 1200 mm
Feed speed: up to 60 m/min
Weight: 4500 kg

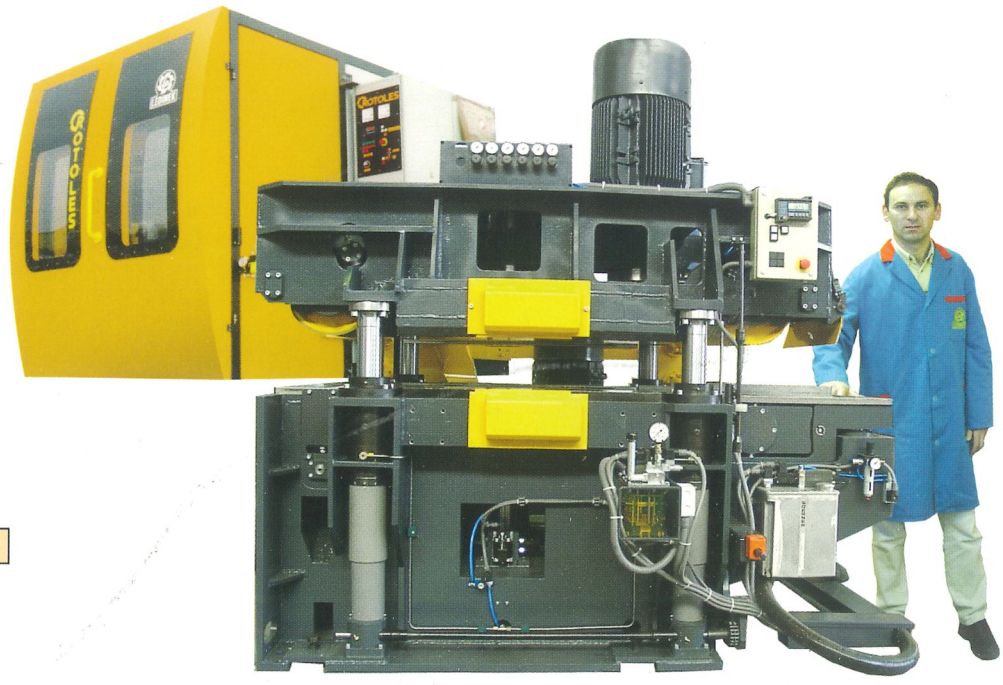


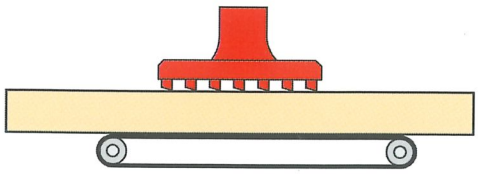


Rotoles 400 2V
Planing width (min/max): 40-400 mm
Planing height (min/max): 20-150 mm
Workpiece length (min): 1200 mm
Feed speed: up to 60 m/min
Weight: 4200 kg

Rotoles 600 2V
Planing width (min/max): 40-600 mm
Planing height (min/max): 20-240 mm
Workpiece length (min): 1600 mm
Feed speed: up to 45 m/min
Weight: 7500 kg

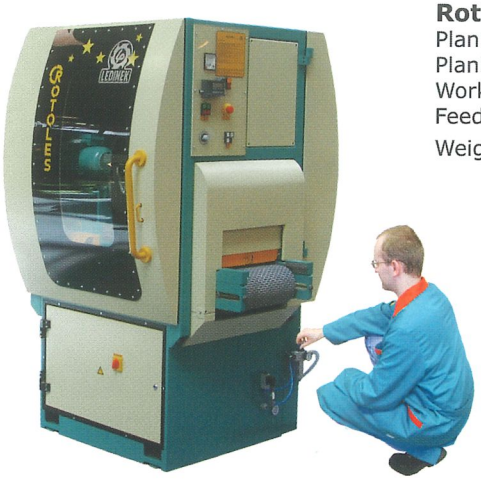






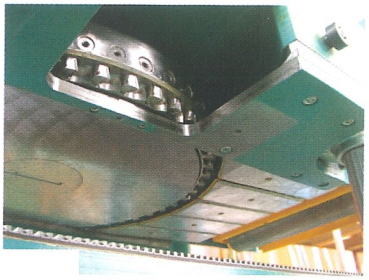
Rotoles Machines

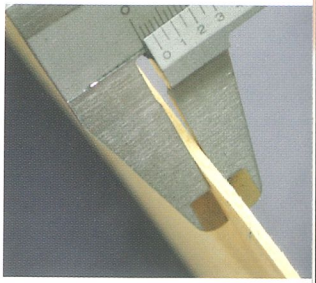
One-side calibrating milling machines
Working width 300, 400, 600, 900, 1300, 2100 mm

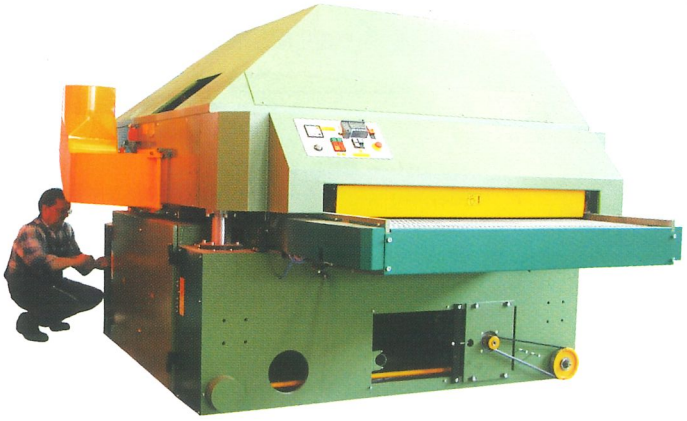


Rotoles 400 D
Planing width (min/max): 40-400 mm
Planing height (min/max): 2-150 mm
Workpiece length (min): 150 mm
Feed speed: up to 45 m/min
Weight: 1900 kg

Rotoles 600 D
Planing width (min/max): 40-600 mm
Planing height (min/max): 2-150 mm
Workpiece length (min): 150 mm
Feed speed: up to 45 m/min
Weight: 4000 kg







Rotoles 900 D
Planing width (min/max): 60-900 mm
Planing height (min/max): 2-150 mm
Workpiece length (min): 150 mm
Feed speed: up to 36 m/min
Weight: 6000 kg

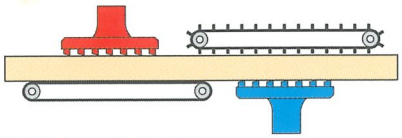
Rotoles 1300 D
Planing width (min/max): 60-1350 mm
Planing height (min/max): 2-150 mm
Workpiece length (min): 150 mm
Feed speed: up to 36 m/min
Weight: 11500 kg

Rotoles 2100 D
Planing width (min/max): 100-1350 mm
Planing height (min/max): 5-150 mm
Workpiece length (min): 150 mm
Feed speed: up to 36 m/min
Weight: 30000 kg

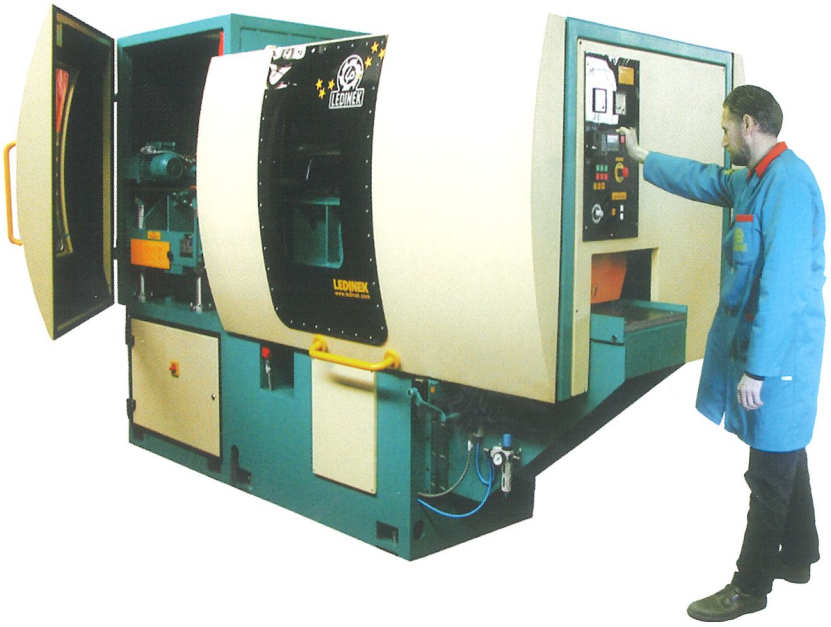
Rotoles Machines

Double-side milling planing machines Working width 400, 600, 900, 1300 mm

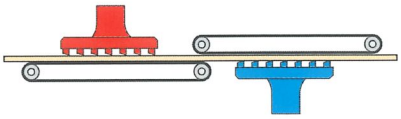
Regarding their constructional features these machines are specially suitable for machining thin elements. Peeling and saw-cut veneer, extremely dry saw timber as well as large solid panels can be machined easily and precisely.



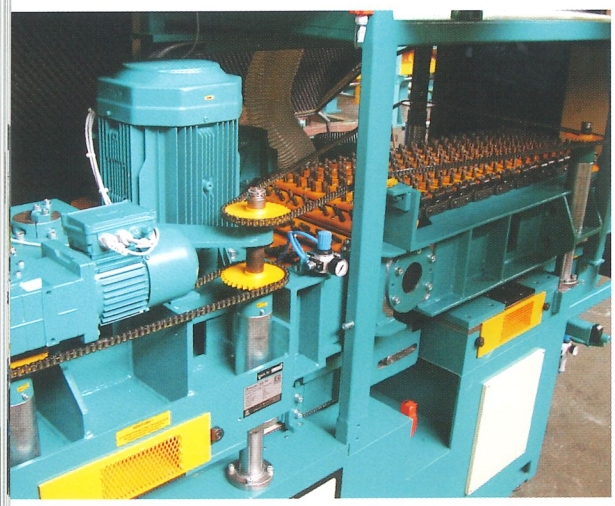
Rotoles 400 PD
Planing width (min/max): 40-400 mm
Planing height (min/max): 6-150 mm
Workpiece length (min): 150 mm
Feed speed: up to 30 m/min
Weight: 3600 kg

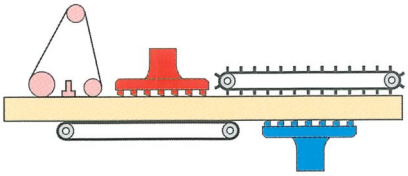


Rotoles 400 PD-SV



Planing height (min/max): 2-150 mm





Rotoles 900 PD+B
Planing width (min/max): 60-950 mm
Planing height (min/max): 6-150 mm
Workpiece length (min): 500 mm
Feed speed: up to 36 m/min
Weight: 13700 kg

Rotoles 1300 PD+B
Planing width (min/max): 60-1300 mm
Planing height (min/max): 6-150 mm
Workpiece length (min): 500 mm
Feed speed: up to 36 m/min
Weight: 23500 kg

Rotoles Worldwide

Our worldwide reputation is a proof of our persistence and our faith in the impossible. It took almost 10 years for our patented ROTOLES milling method to come to force worldwide and prove its superiority over conventional planing. In the meantime LEDINEK machines have been operating on all five continents and in more than 45 countries all over the world. Continuous cooperation with research instiutes and top producers of tooling opens new possibilities for development.

The first machines with the Rotoles system could reach feed speeds up to100 m/min the latest ones perform impeccable machining at the speed of 250 m/min.

The use of special hard metal and diamond inserts enables up to 10 times longer blade life.

ROTOLES

CHALLENGERS

IWF 94

Atlanta GA, USA

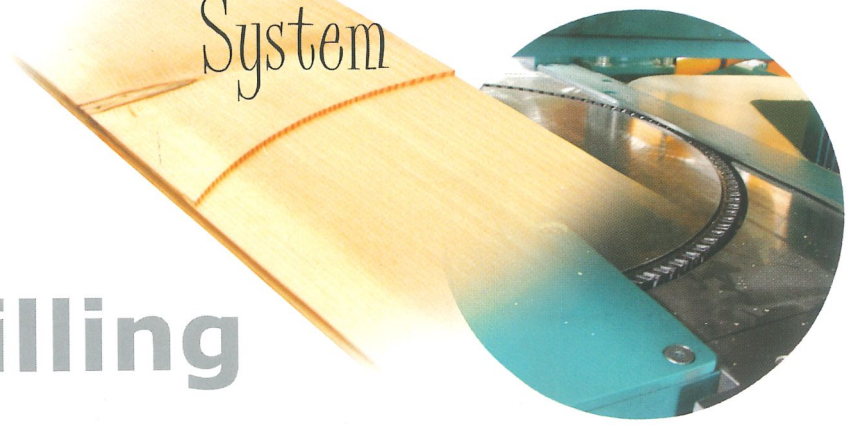
ROTOLES

calibrating machine

WINNER

Originally constructed for woodworking industry, the Ledinek Rotoles machines have been recently adapted for the production in synthetic material and light metal industry.

Rotoles System

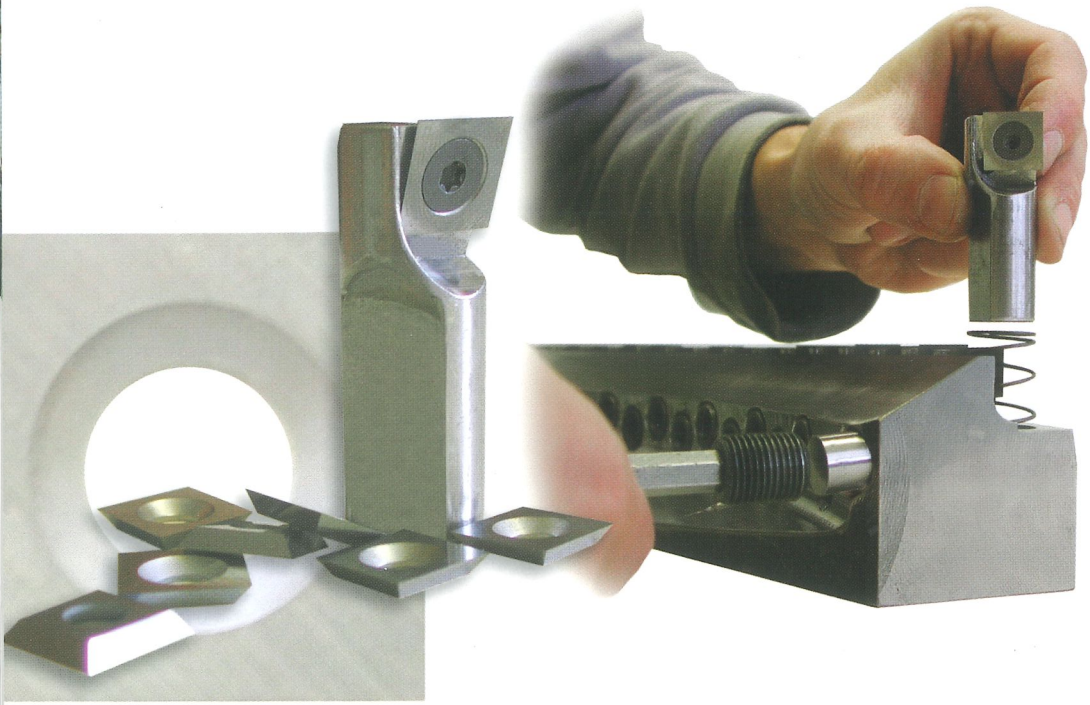


Stop planing Start milling

The ROTOLES face milling method offers improved quality of machining compared to conventional planing: no planer marks, high calibrating precision, perfect machining of edges and knobby areas, no deformation of cell structure, smooth open porous surface. These features certainly speak in favour of the Rotoles system offering lower glue consumption in production of glue beams, panels and parquet and better penetration of glazes, oils and waxes into the wood surface.

Innovation brings success

The cutting knives of the ROTOLES machines are industrial manufactured "sintered carbide metal reverse tool tips" or more often also diamond inserts. The cutting knives are fixed on quickly changeable knife holders thus allowing very short down time due to knife exchange. Recently section holders that can be equipped with new knives have been used with high speed machinery. The exchange time is significantly reduced.



LEDINEK

Maschinen und Anlagen / *Hightech Machinery*

ÖSTERREICH
Ledinek Maschinen und Anlagen G.m.b.H
At-9150 Bleiburg
Völkermarkter Straße1
Tel.:+43 4235 5104
Fax: +43 4235 5103
E-mail: info@ledinek.at
Web: www.ledinek.com

DEUTSCHLAND
LEDINEK-TEC Vertrieb und service GmbH
De- 27735 Delmenhorst
Schönemoorer Straße 101
Tel.:+49 4221 589094
Fax:+49 4221 51329
E-mail: info@ledinek.de
Web: www.ledinek.de

SLOVENIA (Verkaufsbüro / Sales Office)
Ledinek Engineering
Bohovska 19/a
Si-2311 Hoce - Maribor
Tel.: ++386 2 6130062, 6130063
Fax. ++386 2 6130060
E-mail: info@ledinek.com
Web: www.ledinek.com

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