

# CONSTRUCTION OF ADVANCED GRINDING SYSTEMS

## PRODUCT CATALOGUE



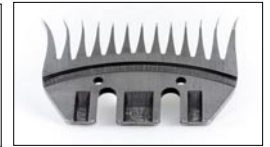
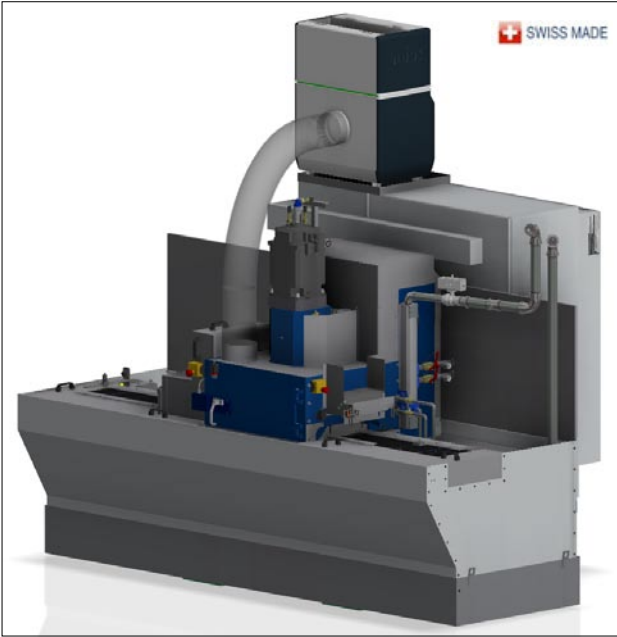
LINEAR ABRASIVE

SWISS MADE  
SINCE 1984

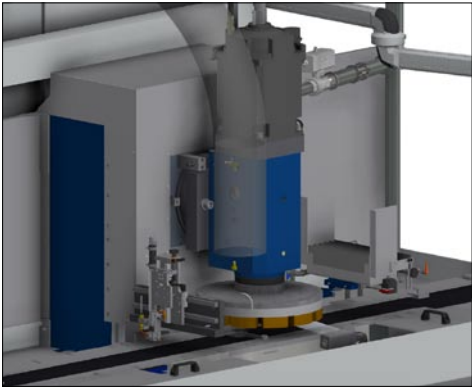


# STAG 140/400

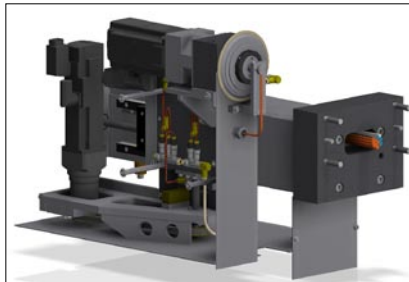
Continuous through feed grinder, can be equipped with up to 3 vertical stations



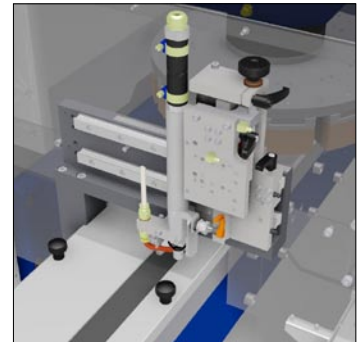
## Spindle



## Dressing

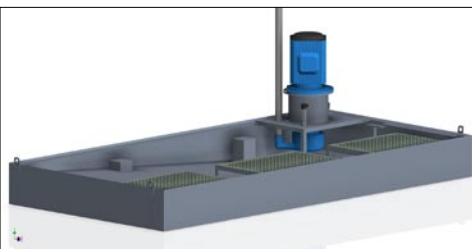


## Measurement

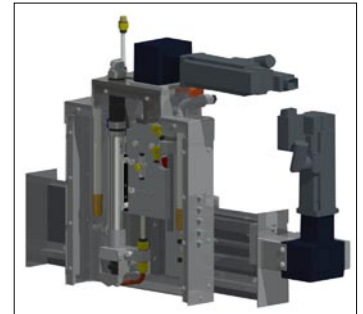
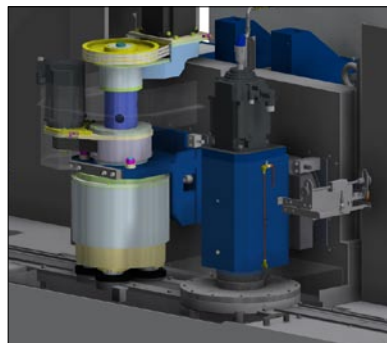


Manual

## Pumping tank



## Brushing



Automatic

## Performances

- Resolution 0.005 mm or 0.001 mm (optional)
- High performance spindles, direct drive
- Modular rigid steel frame combined with prestressed concrete
- Measurement and automatic servo
- Additional brushing module
- Can be combined with up to 3 stations continuously
- Automatic, semi-automatic or manual loading

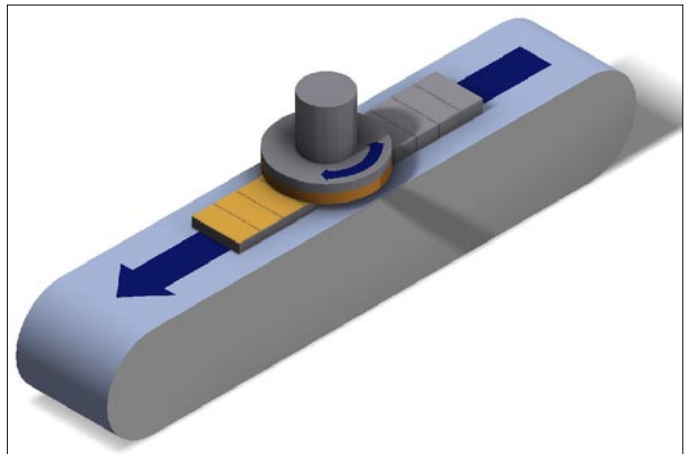


## Technical specifications

<b>Number of spindles</b>	<b>1 - 3 modular</b>
<b>Spindle (mm)</b>	<b>ø200x400 (+ optional brushing)</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 4500</b>
<b>Power (kW)</b>	<b>7/11/2.5 (brushing unit)</b>
<b>Width of machinable parts max. (mm)</b>	<b>130</b>
<b>Height of machinable parts max. (mm)</b>	<b>100</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>ø400</b>
<b>Infeed (mm/min)</b>	<b>0 - 6000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>3 - 7</b>
<b>Stock removal max. (mm)</b>	<b>3</b>
<b>Resolution (mm)</b>	<b>0.005 or 0.001 (optional)</b>

### Technology 1VB:

Continuous through feed flat surface grinder equipped with vertical spindle(s) + optional brushing unit(s)



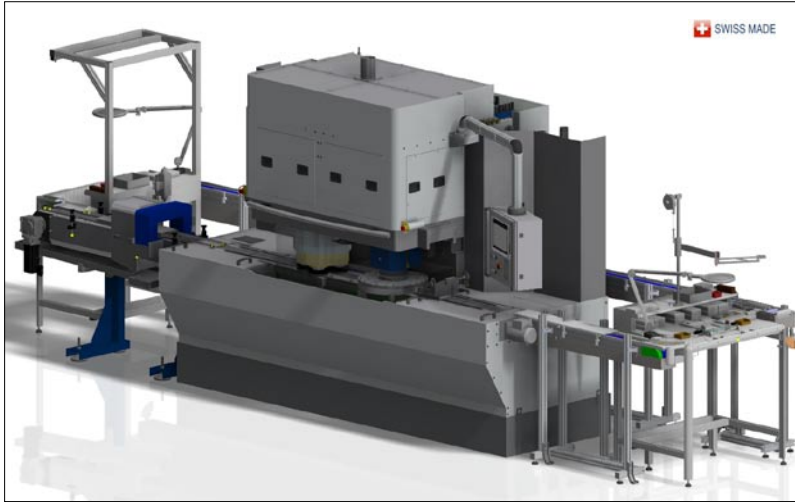
### Simple operation

Highly productive method for continuous through feed machining of surfaces, using corundum, diamond or CBN up wheels. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.

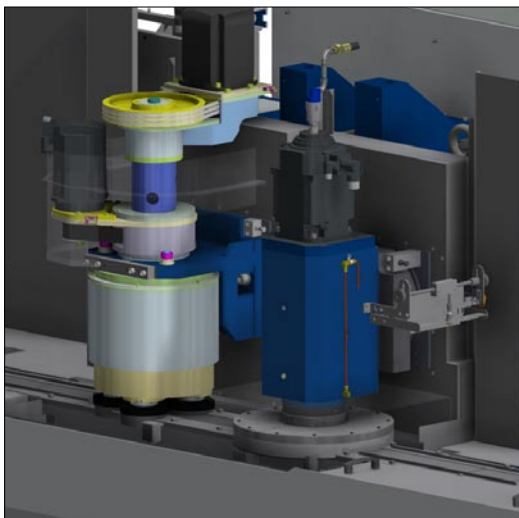


## STAG 180/500

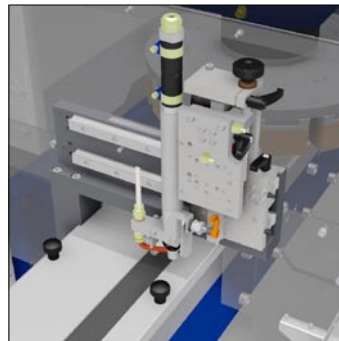
Continuous through feed grinder, can be combined with up to 2 vertical stations



### Grinding and brushing or polishing

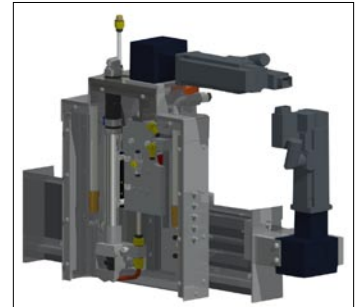


### Measurement

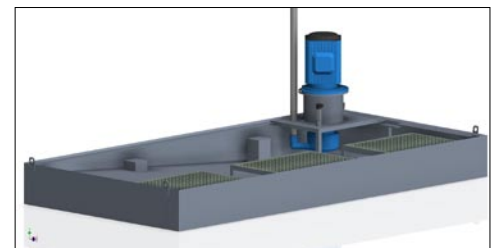


Manual

### Automatic



### Pumping tank



### Performances

- Resolution 0.005 mm or 0.001 (optional)
- High performance spindles, direct drive
- Modular rigid frame of grey cast iron combined with prestressed concrete
- Measurement and automatic servo
- Additional brushing module
- Can be combined with up to 2 stations continuously
- Automatic, semi-automatic or manual loading

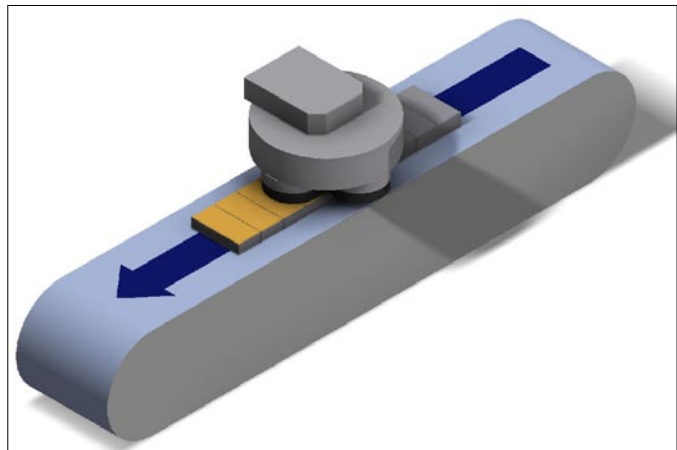


## Technical specifications

<b>Number of spindles</b>	<b>1 + brushing unit (option)</b>
<b>Spindle (mm)</b>	<b>ø200/500</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 4000</b>
<b>Power (kW)</b>	<b>28/2.5 (brushing unit)</b>
<b>Width of machinable parts max. (mm)</b>	<b>170</b>
<b>Height of machinable parts max. (mm)</b>	<b>100</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al<sub>2</sub>O<sub>3</sub></b>
<b>Grinding wheel (mm)</b>	<b>ø400 / ø500</b>
<b>Infeed (mm/min)</b>	<b>0 - 6000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>4 - 5</b>
<b>Stock removal max. (mm)</b>	<b>5</b>
<b>Resolution</b>	<b>0.005 or 0.001 (optional)</b>

### Technology 1V:

Continuous through feed flat surface grinder equipped with vertical spindle(s) + optional brushing unit(s)



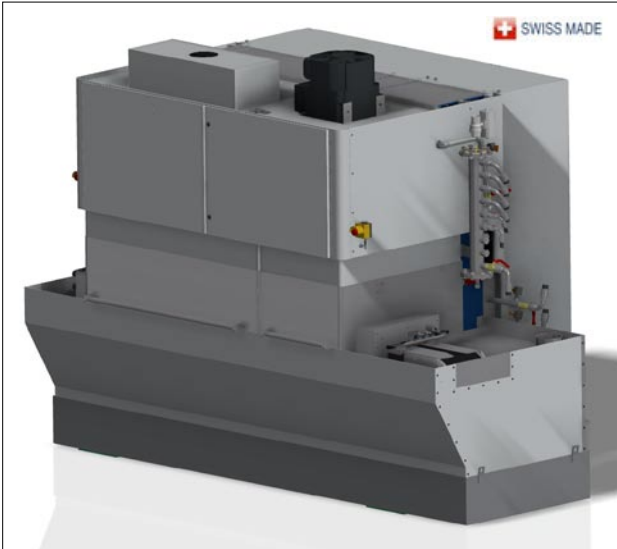
### Combined operations

Highly productive method for continuous through feed machining of surfaces, using corundum, diamond or CBN cup wheels. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.



## STAG 300/600

Continuous through feed grinder, can be combined with up to 3 vertical stations



Grinding direction from right to left



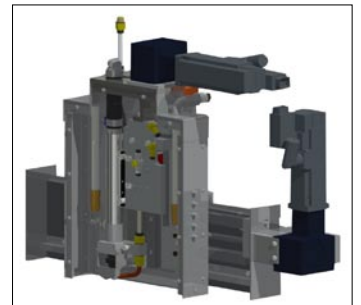
## Grinding, polishing and brushing



## Measurement

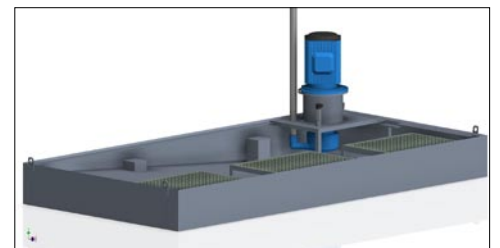


Manual



Automatic

## Pumping tank



## Performances

- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid steel frame combined with prestressed concrete
- Measurement and automatic servo
- Additional brushing module
- Can be combined with up to 3 stations continuously
- Automatic, semi-automatic or manual loading

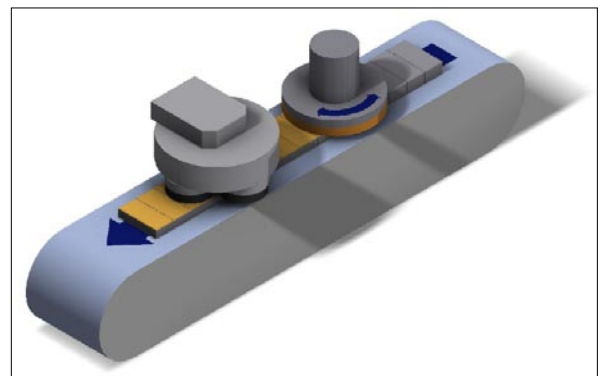


## Technical specifications

<b>Number of spindles</b>	<b>1 + brushing unit (option)</b>
<b>Spindle (mm)</b>	<b>ø200/500</b>
<b>Z-axis infeed (mm)</b>	<b>150</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 3000</b>
<b>Power (kW)</b>	<b>39 / 2.5 (brushing unit)</b>
<b>Width of machinable parts max. (mm)</b>	<b>285</b>
<b>Height of machinable parts max. (mm)</b>	<b>120</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>ø600 / ø500</b>
<b>Infeed (mm/min)</b>	<b>0 - 6000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>5 - 7</b>
<b>Stock removal max. (mm)</b>	<b>8</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 1VB:

Continuous through feed flat surface grinder equipped with 1 vertical spindle + 1 planetary brushing unit



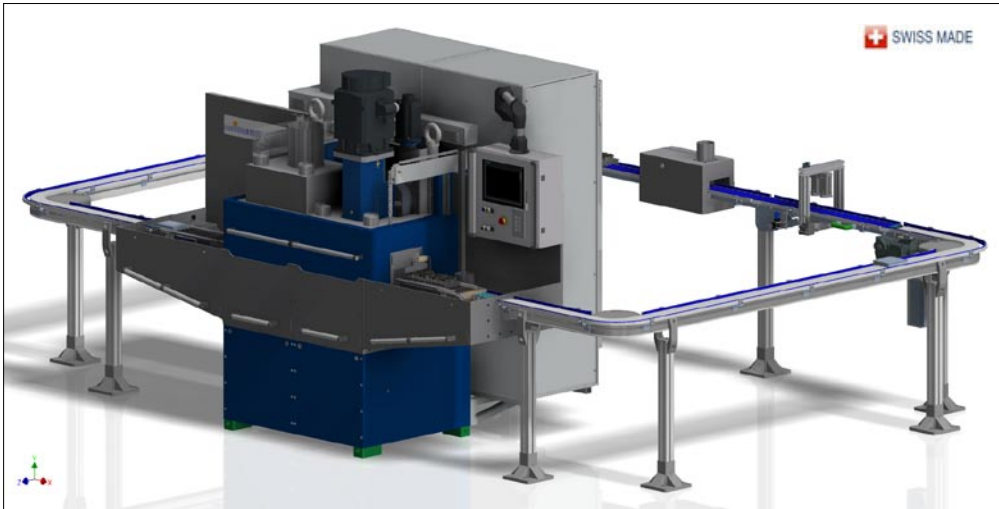
### Combined operations

Highly productive method for continuous through feed machining of surfaces using AL2O3 cup, diamond and CBN wheels. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.

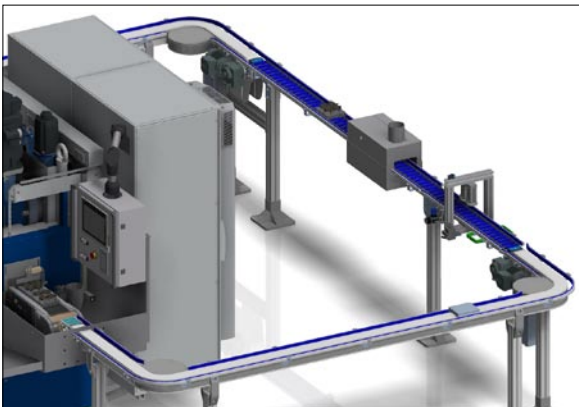


## STAG 180/500

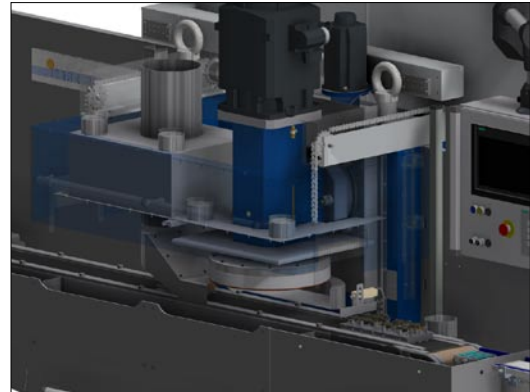
Continuous through feed grinder, can be combined with up to 3 vertical stations



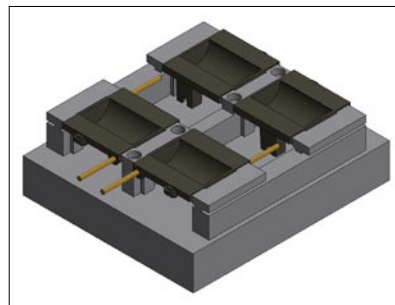
### Loading / unloading area



### Spindle



### Shuttle



### Performances

- Resolution 0.005 mm or 0.001 (optional)
- High performance spindles, direct drive
- Modular rigid frame of grey cast iron combined with prestressed concrete
- Measurement and automatic servo
- Additional brushing module
- Can be combined with up to 3 vertical stations continuously
- Automatic, semi-automatic or manual loading



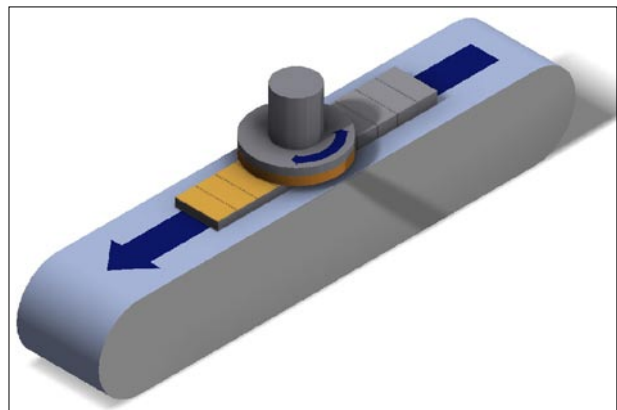


## Technical specifications

<b>Number of spindles</b>	<b>1 + 1 additional module</b>
<b>Spindle (mm)</b>	<b>ø200x400 + option</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 4500</b>
<b>Power (kW)</b>	<b>7/11/2.5 (brushing unit)</b>
<b>Width of machinable parts max. (mm)</b>	<b>100</b>
<b>Height of machinable parts max. (mm)</b>	<b>100</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>ø400</b>
<b>Infeed (mm/min)</b>	<b>0-6000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>3 - 7</b>
<b>Stock removal max. (mm)</b>	<b>3</b>
<b>Resolution (mm)</b>	<b>0.005 or 0.001 (optional)</b>

### Technology 1VB:

Continuous through feed flat surface grinder equipped with vertical spindle(s) + optional brushing unit(s)



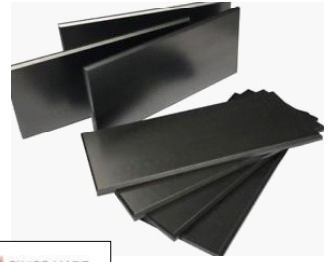
### Combined operations

Highly productive method for continuous through feed machining of surfaces, using corundum, diamond or CBN cup wheels. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.

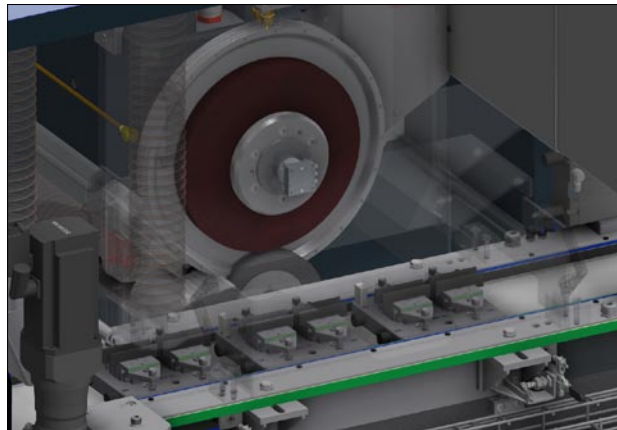


## SIEGFRIED 180/500

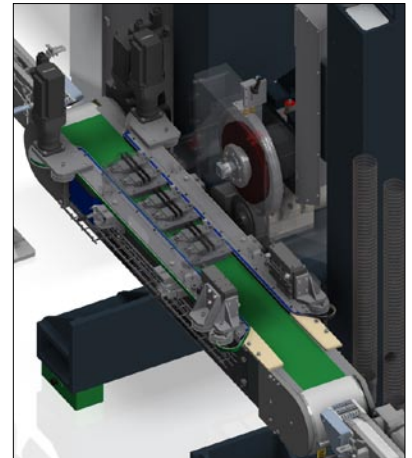
Tangential continuous through feed grinder equipped with 1 horizontal spindle



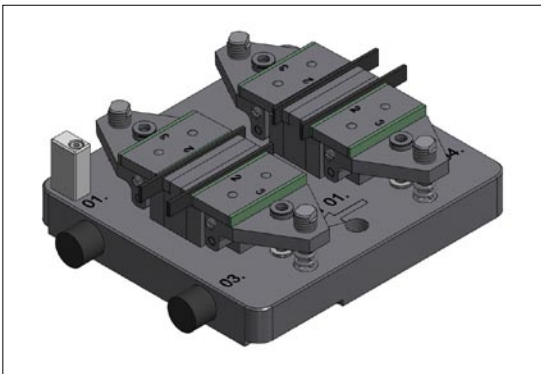
### Spindle



### Table



### Shuttle



### Performances

- Resolution 0,001 mm
- High performance spindles, direct drive
- Modular rigid steel frame combined with prestressed concrete
- Measurement and automatic servo
- Automatic, semi-automatic or manual loading

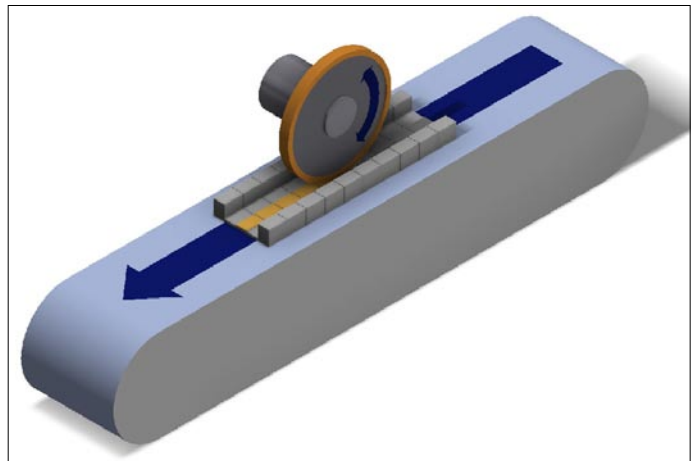


## Technical specifications

<b>Number of spindles</b>	<b>1</b>
<b>Spindle (mm)</b>	<b>ø200x500</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 3000</b>
<b>Power (kW)</b>	<b>15</b>
<b>Width of machinable parts max. (mm)</b>	<b>170</b>
<b>Height of machinable parts max. (mm)</b>	<b>100</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>ø500</b>
<b>Infeed (mm/min)</b>	<b>0 - 6000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>3.5</b>
<b>Stock removal max. (mm)</b>	<b>2</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 1H:

Continuous through feed profile grinder equipped with 1 horizontal spindle



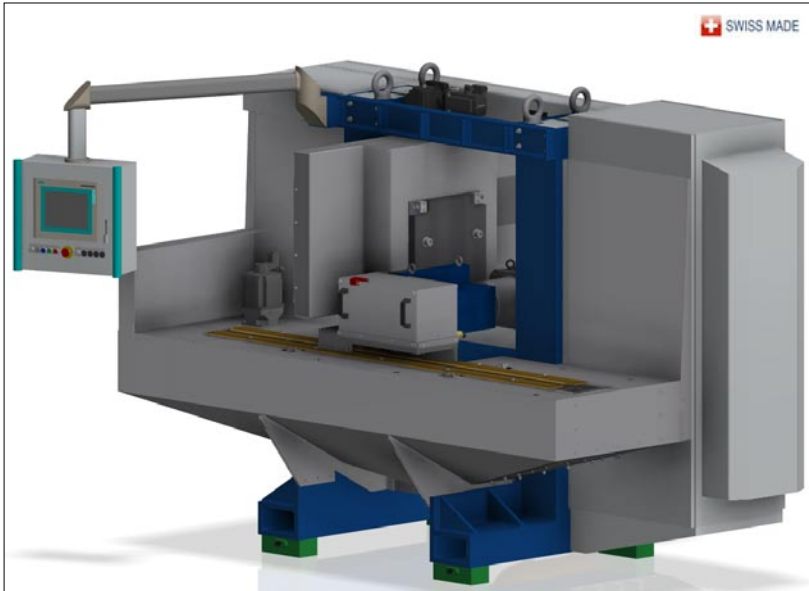
Simple operation

Highly productive method for continuous through feed machining of profiles using AL2O3 cup, diamond and CBN wheels. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.



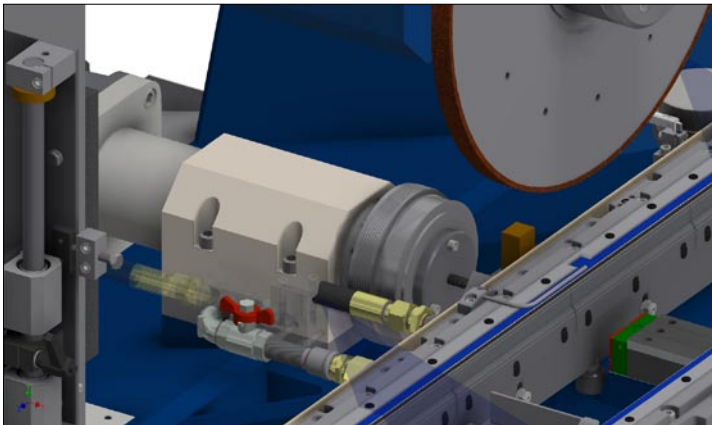
## SIEGFRIED 180/500

Tangential continuous through feed grinder equipped with 1 horizontal spindle

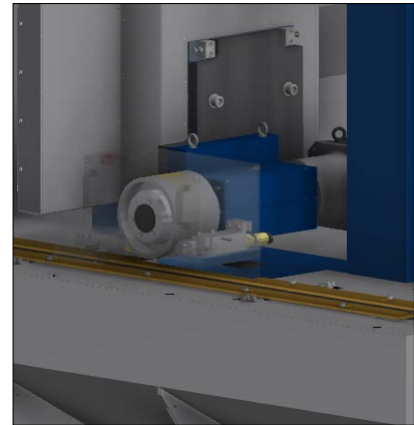


Grinding direction from right to left

### Dressing



### Spindle



### Performances

- Resolution 0,001 mm
- High performance spindles, direct drive
- Modular rigid steel frame combined with prestressed concrete
- Measurement and automatic servo
- Automatic, semi-automatic or manual loading

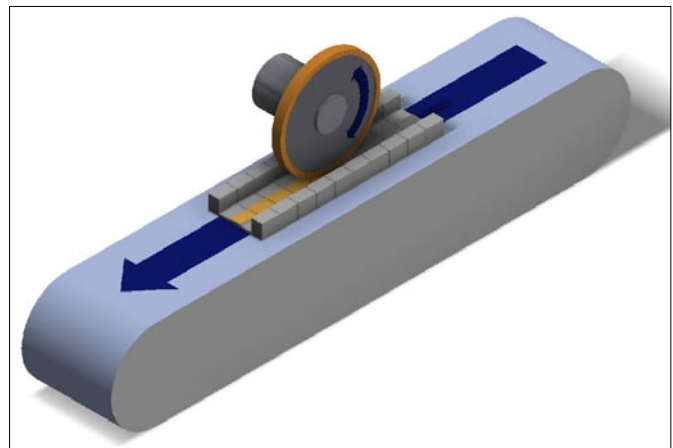


## Technical specifications

<b>Number of spindles</b>	<b>1</b>
<b>Spindle (mm)</b>	<b>ø200x500</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 3000</b>
<b>Power (kW)</b>	<b>15</b>
<b>Width of machinable parts max. (mm)</b>	<b>170</b>
<b>Height of machinable parts max. (mm)</b>	<b>100</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>ø500</b>
<b>Infeed (mm/min)</b>	<b>0 - 6000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>3.5</b>
<b>Stock removal max. (mm)</b>	<b>2</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 1H:

Continuous through feed profile grinder equipped with 1 horizontal spindle



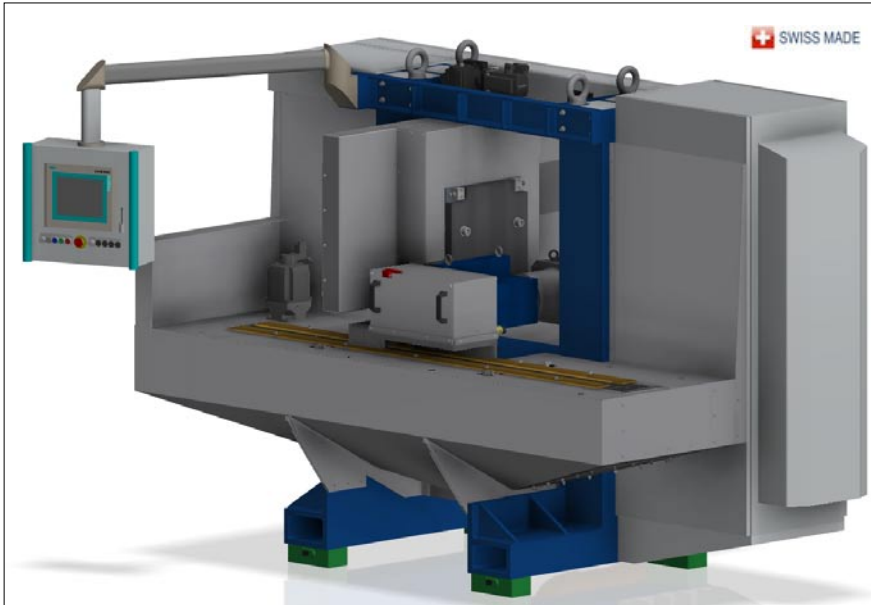
### Simple operation

Highly productive method for continuous through feed machining of profiles using AL2O3 cup, diamond and CBN wheels. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.



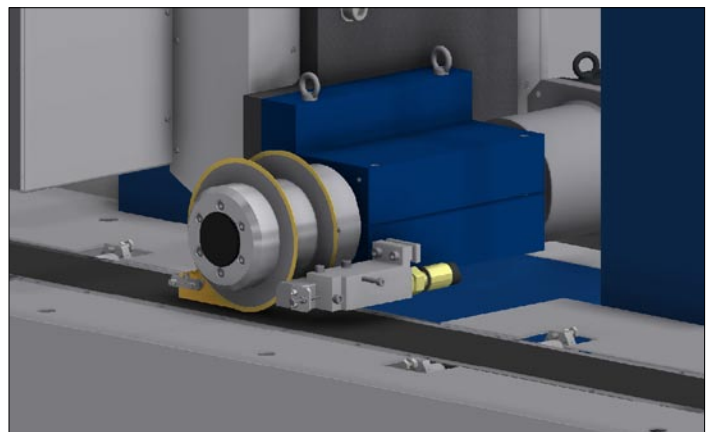
## SIEGFRIED 180/500 TR

Tangential continuous through feed grinder with 1 horizontal spindle equipped with cutting discs



Grinding direction from right to left

### Spindle equipped with cutting discs



### Performances

- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid frame of steel combined with prestressed reinforced concrete
- Automatic, semi-automatic or manual loading

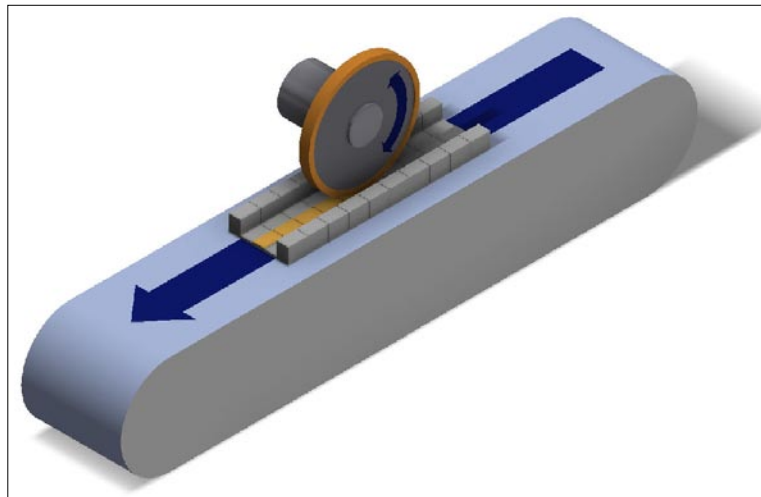


## Technical specifications

<b>Number of spindles</b>	<b>1</b>
<b>Spindle (mm)</b>	<b>ø140x450</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 4000</b>
<b>Power (kW)</b>	<b>11</b>
<b>Width of machinable parts max. (mm)</b>	<b>170</b>
<b>Height of machinable parts max. (mm)</b>	<b>100</b>
<b>Abrasive tools</b>	<b>Diamond</b>
<b>Grinding wheel (mm)</b>	<b>ø250</b>
<b>Conveyor advance (mm/min)</b>	<b>0 - 4000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>3.5</b>
<b>Stock removal (mm)</b>	<b>Cutting</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 1H:

Continuous through feed profile grinder equipped with 1 horizontal spindle



Simple operation

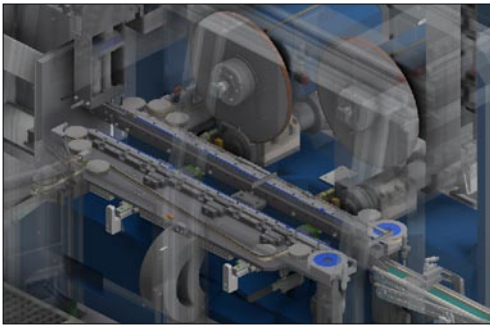
Highly productive method for continuous through feed cutting using diamond wheels. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.

## SIEGFRIED II

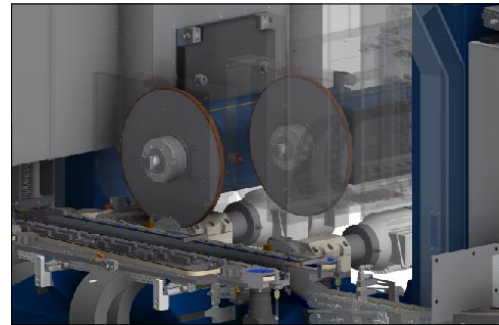
Continuous through feed grinder equipped with 2 horizontal spindles for rough and finish grinding in a single pass



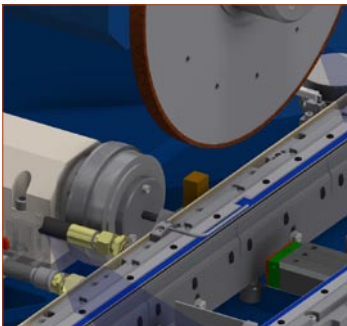
### Guides



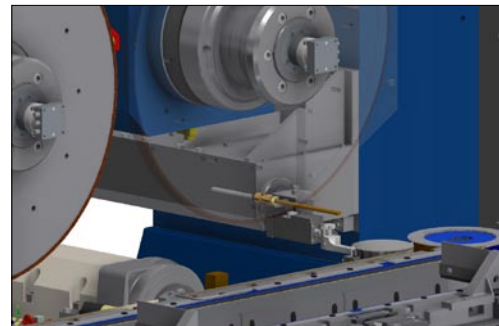
### Spindles



### Dressing



### Measurement



### Performances

- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid steel frame combined with prestressed concrete
- Measurement and automatic servo
- Automatic or semi-automatic loading
- Machining precision: straightness >0.001 mm



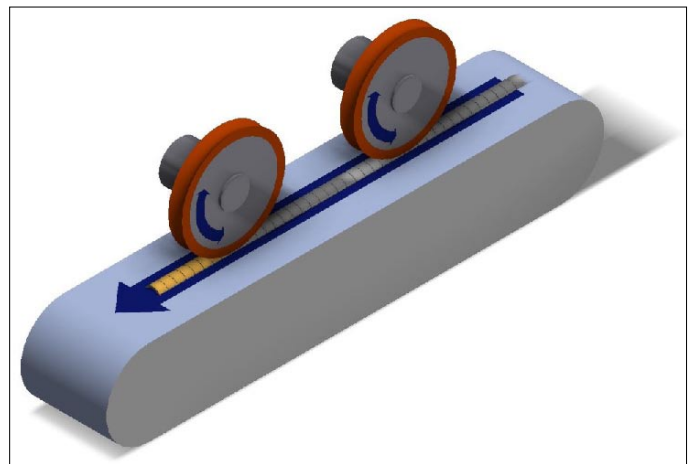


## Technical specifications

<b>Number of spindles</b>	<b>2</b>
<b>Spindle (mm)</b>	<b>ø200x500</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 4000</b>
<b>Power (kW)</b>	<b>2x7</b>
<b>Width of machinable parts max. (mm)</b>	<b>2</b>
<b>Height of machinable parts max. (mm)</b>	<b>20</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>ø500</b>
<b>Infeed (mm/min)</b>	<b>0 - 1200</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>8.5</b>
<b>Stock removal max. (mm)</b>	<b>0.5</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 2HH:

Continuous through feed grinder equipped with 2 horizontal spindles for rough and finish grinding in a single pass

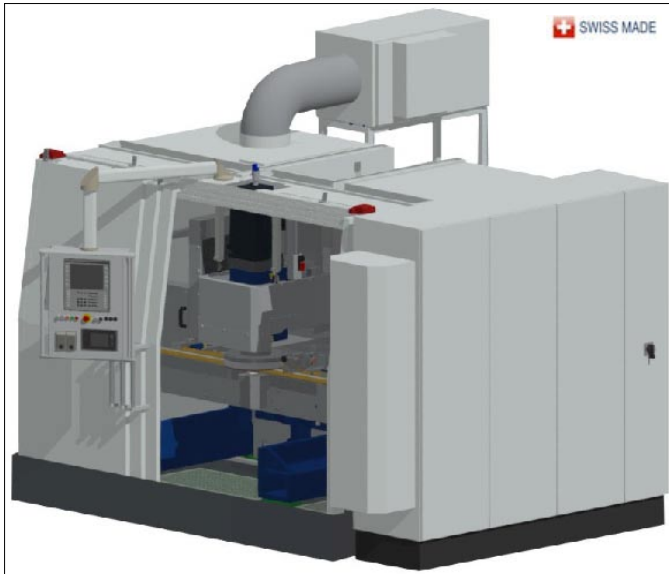


### Combined operations

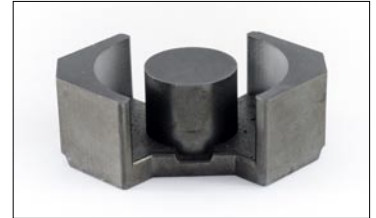
Highly productive method for continuous through feed machining of profiles using profiled cylindrical grinding wheel, diamond and CBN. This process also allows cutting of parts with tight tolerances. Transported by a highly resistant composite belt, the parts are guided on hard metal rails and pass beneath the grinding wheel. Controlled process and part programm provide optimum performance.

# ISOLDE 500/500

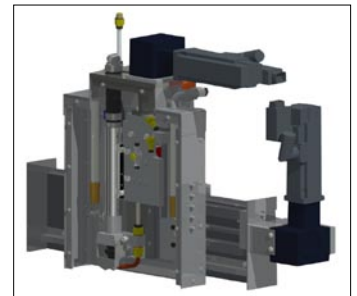
Continuous through feed grinder equipped with 1 vertical and 1 horizontal spindle



Grinding direction from right to left

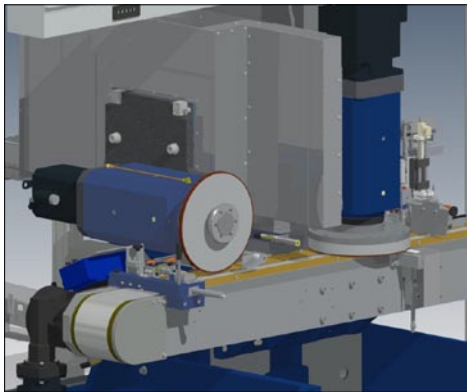


## Measurement

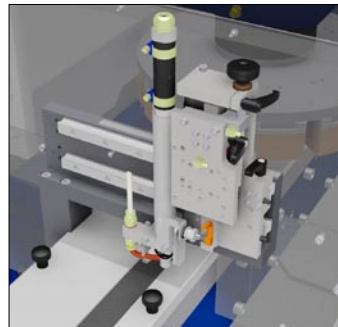


automatic

## Spindles

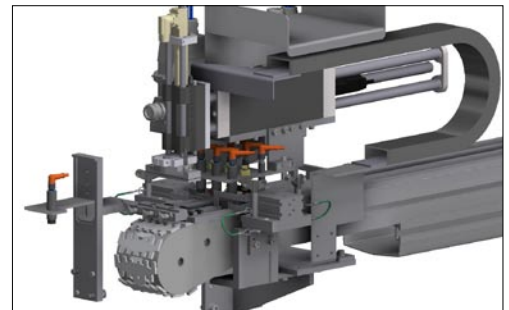


## Measurement

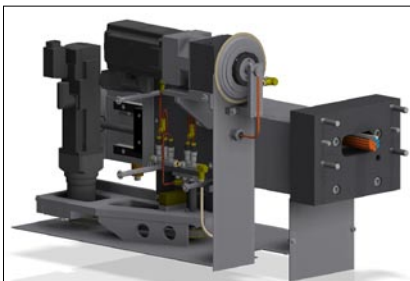


manual

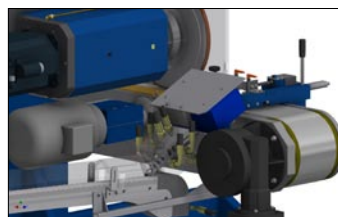
## Loading



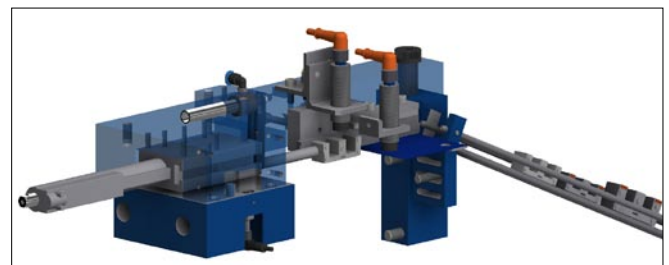
## Dressing



## Demagnetizer



## Unloading



## Performances

- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid frame of grey cast iron combined with prestressed concrete
- Measurement and automatic servo
- Additional brushing module
- Automatic, semi-automatic or manual loading

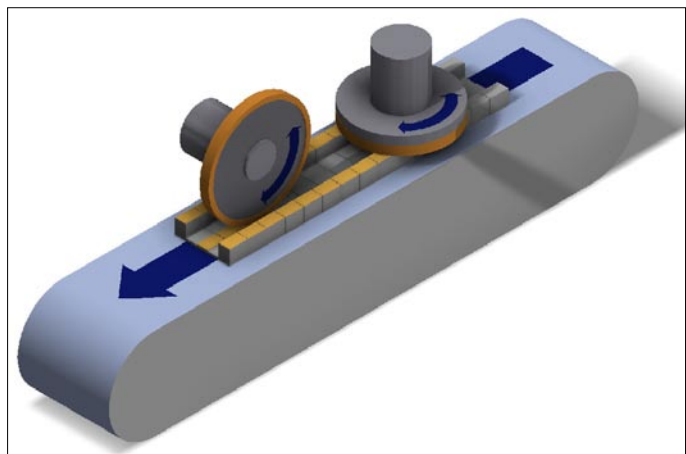


## Technical specifications

<b>Number of spindles</b>	<b>2</b>
<b>Spindle (mm)</b>	<b>ø200x500</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 4000</b>
<b>Power (kW)</b>	<b>2x28</b>
<b>Width of machinable parts max. (mm)</b>	<b>170</b>
<b>Height of machinable parts max. (mm)</b>	<b>100</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>ø500 / ø400</b>
<b>Infeed (mm/min)</b>	<b>0 - 6000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>5 - 7</b>
<b>Stock removal max. (mm)</b>	<b>5</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 2VH:

Continuous through feed surface and profile grinder, equipped with 1 vertical spindle and 1 horizontal spindle



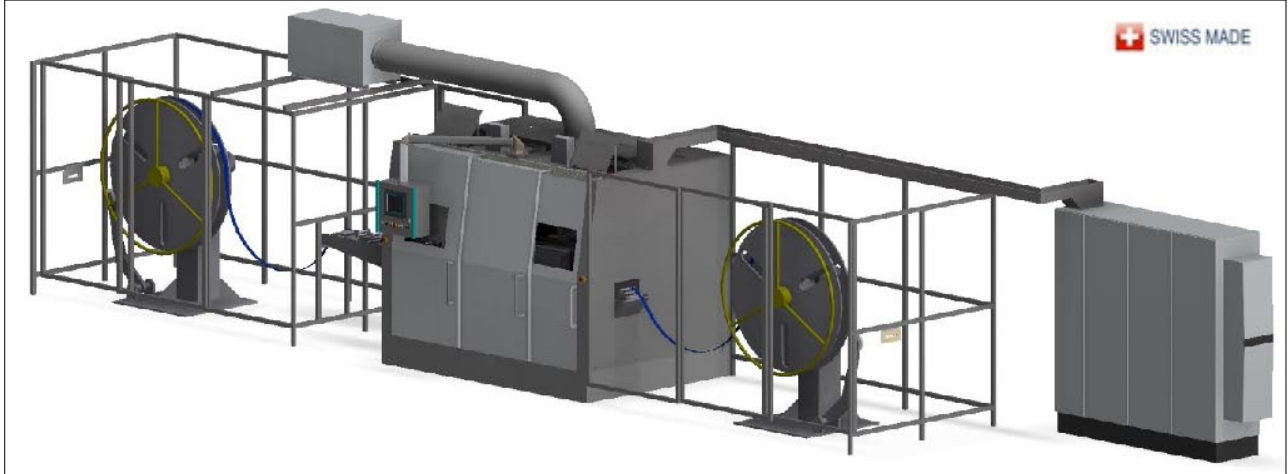
### Combined operations

Highly productive method for continuous through feed machining of surfaces and profiles, using AL2O3 cup, diamond and CBN wheel. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.



## ISOLDE IV

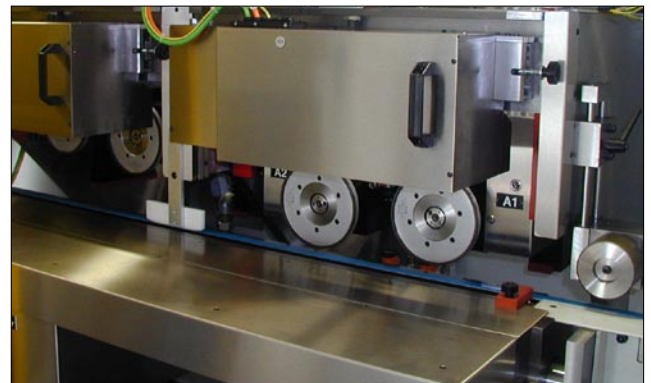
Application dedicated to continuous grinding of coils



### Vertical spindles



### Horizontal spindles



### Performances

- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid frame of grey cast iron combined with prestressed reinforced concrete
- Measurement and automatic servo
- Additional brushing module
- Automatic, semi-automatic or manual loading

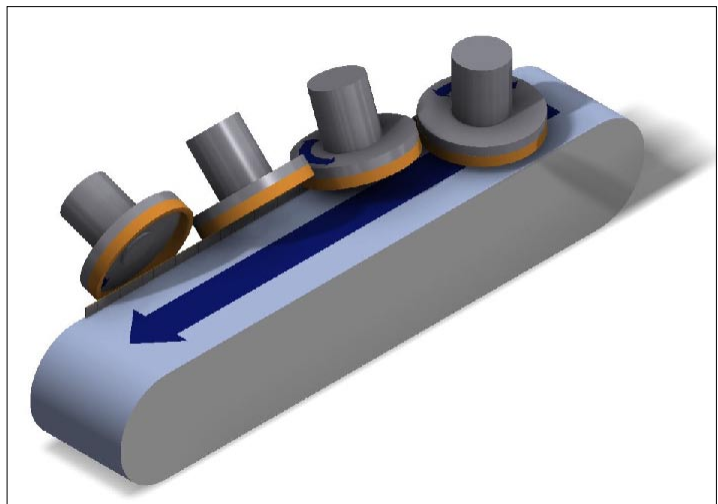


## Technical specifications

<b>Number of spindles</b>	<b>4</b>
<b>Spindle (mm)</b>	<b>AFS ø80x200</b>
<b>Z-axis infeed (mm)</b>	<b>200</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 6000</b>
<b>Power (kW)</b>	<b>4x4.5</b>
<b>Width of machinable parts max. (mm)</b>	<b>20</b>
<b>Height of machinable parts max. (mm)</b>	<b>15</b>
<b>Abrasive tools</b>	<b>Diamond</b>
<b>Grinding wheel (mm)</b>	<b>ø150</b>
<b>Infeed (mm/min)</b>	<b>0 - 6000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>6.5</b>
<b>Stock removal max. (mm)</b>	<b>0 - 1</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 4V'V'V'V:

Continuous through feed grinder of multiple flat surfaces



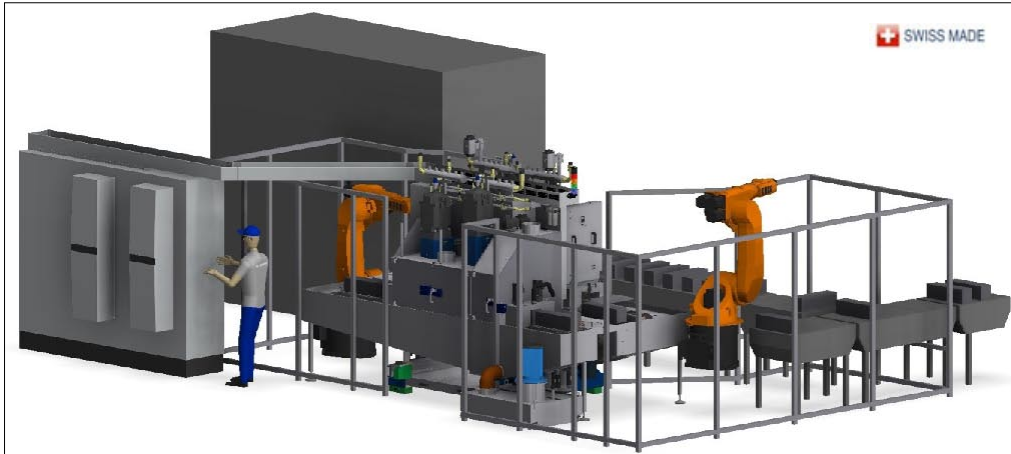
### Combined operations

Highly productive method for continuous through feed machining of surfaces, using AL2O3 cup, diamond and CBN wheels. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.

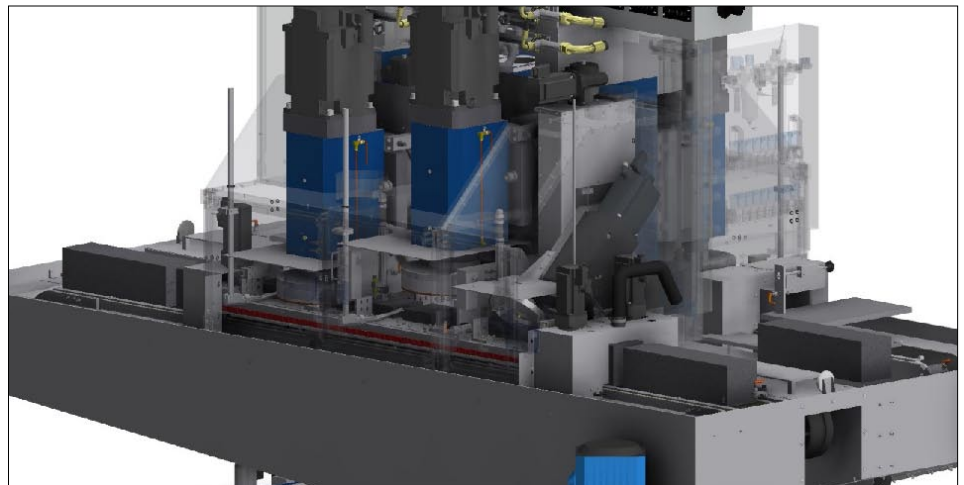


## ISOLDE VI

Continuous through feed grinder equipped with 4 vertical spindles and 2 tilting spindles dedicated to grinding and chamfering of silicium blocs before wafering



## Spindles



## Performances

- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid steel frame combined with prestressed reinforced concrete
- Measurement and automatic servo
- Automatic, semi-automatic or manual loading

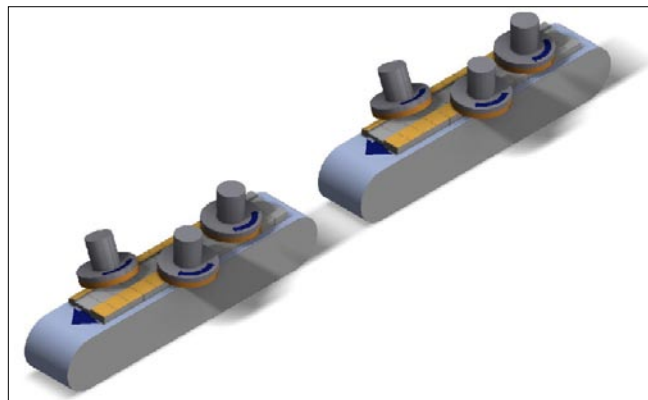


## Technical specifications

<b>Number of spindles</b>	<b>4 + 2</b>
<b>Spindle (mm)</b>	<b>ø200/500 / AFS ø80/200</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 6000</b>
<b>Power (kW)</b>	<b>4x29 / 2x5</b>
<b>Width of machinable parts max. (mm)</b>	<b>170</b>
<b>Height of machinable parts max. (mm)</b>	<b>160</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>ø400 / ø250</b>
<b>Infeed (mm/min)</b>	<b>0 - 4000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>10</b>
<b>Stock removal max. (mm)</b>	<b>1</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 6VVV'VVV':

Continuous through feed grinder of multiple flat surfaces and chamfers, equipped with 4 vertical spindles and 2 spindles with variable angle



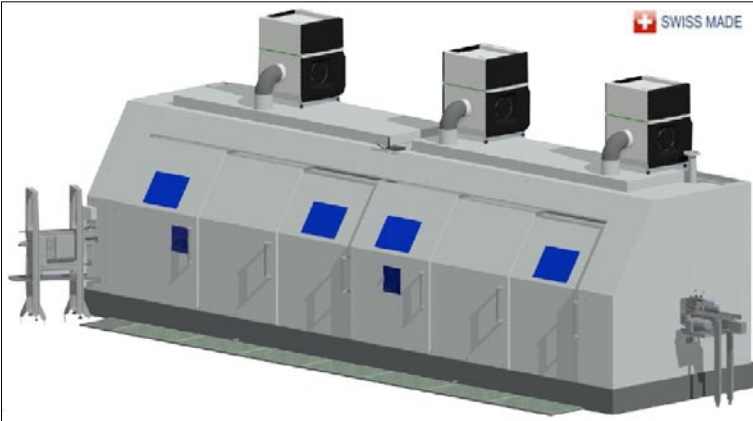
### Combined operations

Highly productive method for continuous through feed machining of surfaces, using AL2O3 cup, diamond and CBN wheel. The parts parading under the grinding wheel: Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.



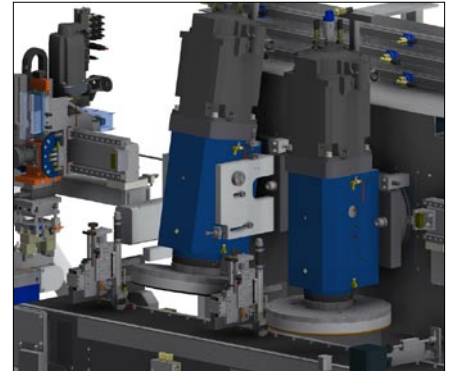
# TRISTAN & ISOLDE IV

Continuous through feed grinder with 4 vertical spindles + 1 chamfer machining station.  
Application dedicated to machining of connecting rods

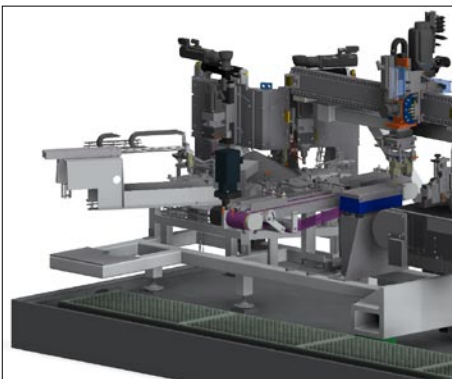


Grinding direction from right to left

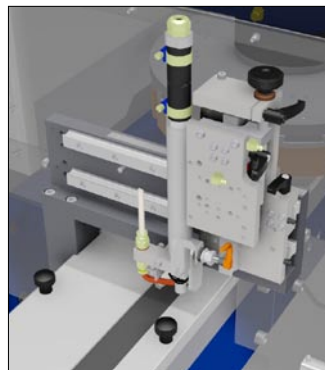
## Trapezoid



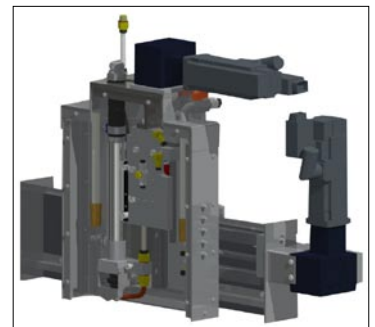
## Chamfer machining station



## Measurement

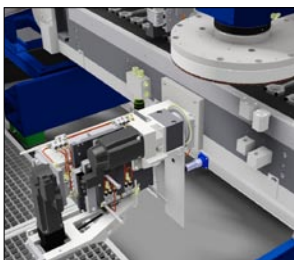


Manual

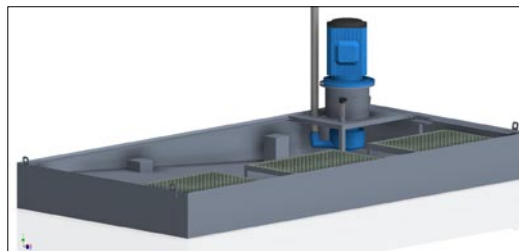


Automatic

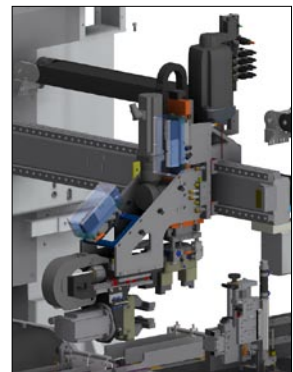
## Dressing



## Pumping tank



## Flip-over



## Performances

- Built to produce 24/7
- Grinding 6 surfaces + chamfer
- Cycle time 6.5 seconds/connecting rod
- Trapezoid grinding up to 8 mm in a single pass
- Measurement and automatic servo
- Loading and unloading 100% automatic
- Designed to be integrated into automotive production lines
- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid frame of grey cast iron combined with prestressed concrete
- Automatic or semi-automatic loading



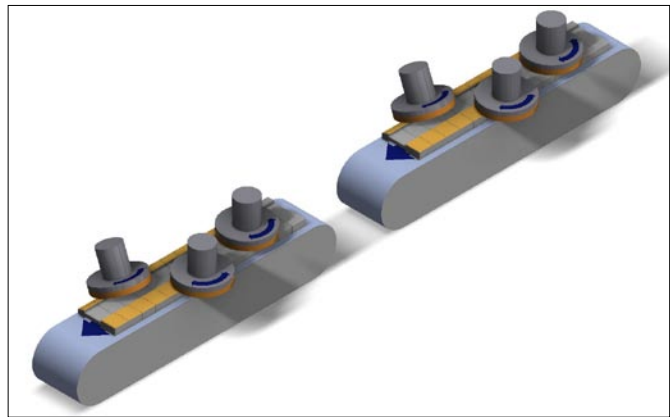


## Spécifications techniques

<b>Number of spindles</b>	<b>4</b>
<b>Spindle (mm)</b>	<b>ø200x500</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 3500</b>
<b>Power (kW)</b>	<b>4x28</b>
<b>Width of machinable parts max. (mm)</b>	<b>285</b>
<b>Height of machinable parts max. (mm)</b>	<b>100</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>ø500</b>
<b>Cycle time (s/connecting rod)</b>	<b>6.5</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>10 - 15</b>
<b>Stock removal max. (mm)</b>	<b>8</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 6VVV'VVV':

Continuous through feed surface and chamfer grinder equipped with 2 vertical spindles and 2 spindles with variable angle



### Combined operations

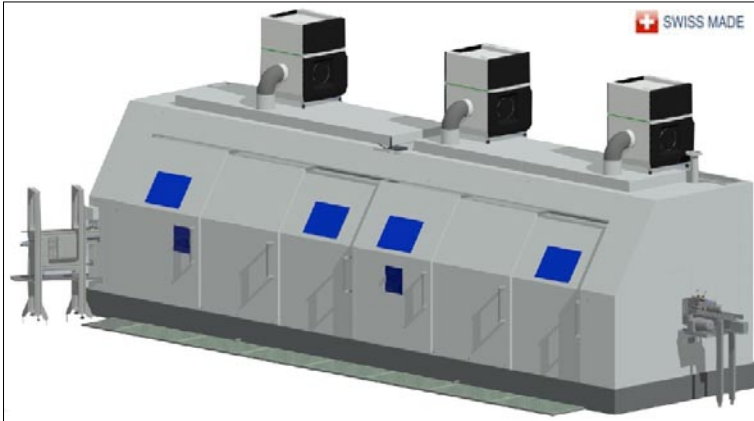
Highly productive method for continuous through feed machining of surfaces using AL2O3 cup, diamond and CBN wheel. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.

1. Grinding parallel surfaces 1st side
2. Grinding trapezoid 1st side
3. Grinding parallel surfaces 2nd side
4. Grinding trapezoid 2nd side
5. Chamfer machining station

### Automation and unequaled productivity

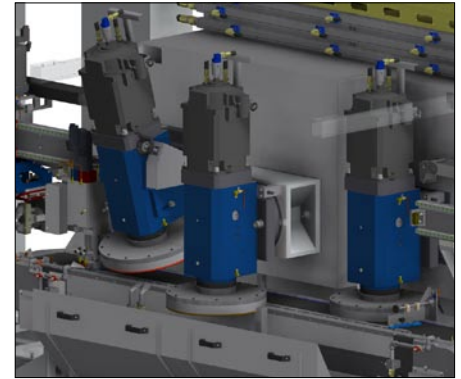
## TRISTAN & ISOLDE VI

Continuous through feed grinder with 6 vertical spindles + 1 chamfer machining station.  
Application dedicated to machining of connecting rods

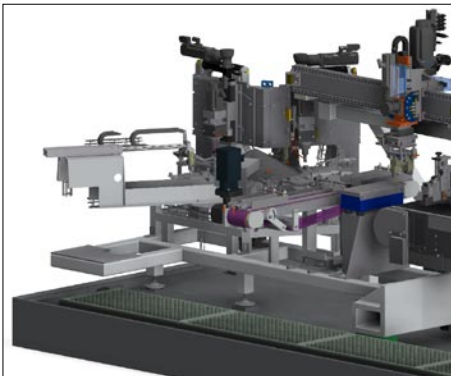


Grinding direction from right to left

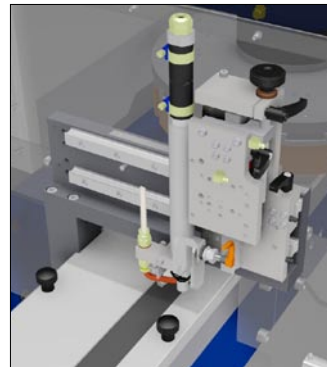
### Trapezoid



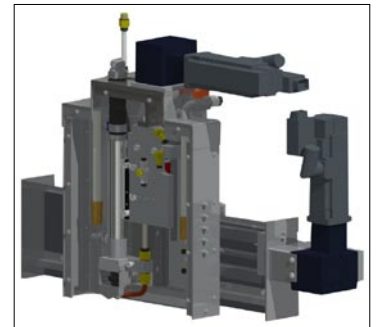
### Chamfer machining station



### Measurement

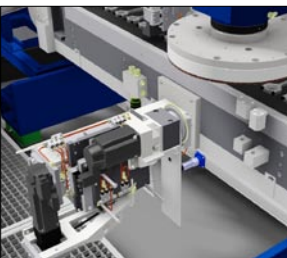


Manual

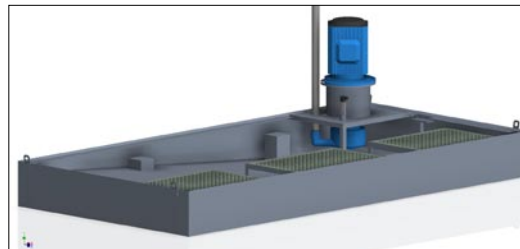


Automatic

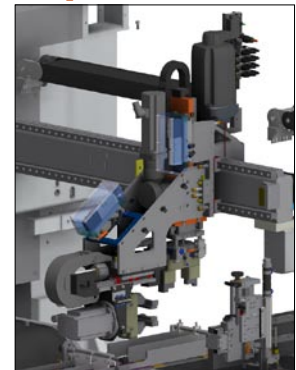
### Dressing



### Pumping tank



### Flip-over



### Performances

- Built to produce 24/7
- Grinding 6 surfaces + chamfer
- Cycle time 6 seconds/connecting rod
- Trapezoid grinding up to 8 mm in a single pass
- Measurement and automatic servo
- Loading and unloading 100% automatic
- Designed to be integrated into automotive production lines
- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid frame of grey cast iron combined with prestressed concrete
- Automatic or semi-automatic loading

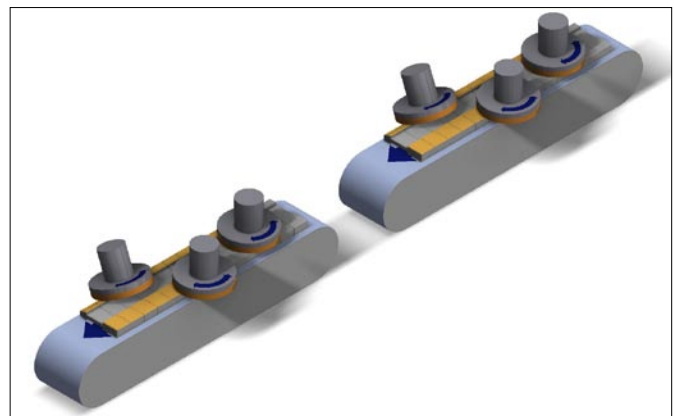


## Technical specifications

<b>Number of spindles</b>	<b>6</b>
<b>Spindle (mm)</b>	<b>6x<math>\phi</math>200x500</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 3500</b>
<b>Power (kW)</b>	<b>6x28</b>
<b>Width of machinable parts max. (mm)</b>	<b>285</b>
<b>Height of machinable parts max. (mm)</b>	<b>100</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b><math>\phi</math>500</b>
<b>Cycle time (s/connecting rod)</b>	<b>6</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>10 - 15</b>
<b>Stock removal max. (mm)</b>	<b>8</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 6VVV'VVV':

Continuous through feed surface and chamfer grinder equipped with 4 vertical spindles and 2 spindles with variable angle



#### Combined operations

Highly productive method for continuous through feed machining of surfaces using AL2O3 cup, diamond and CBN wheel. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material) the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.

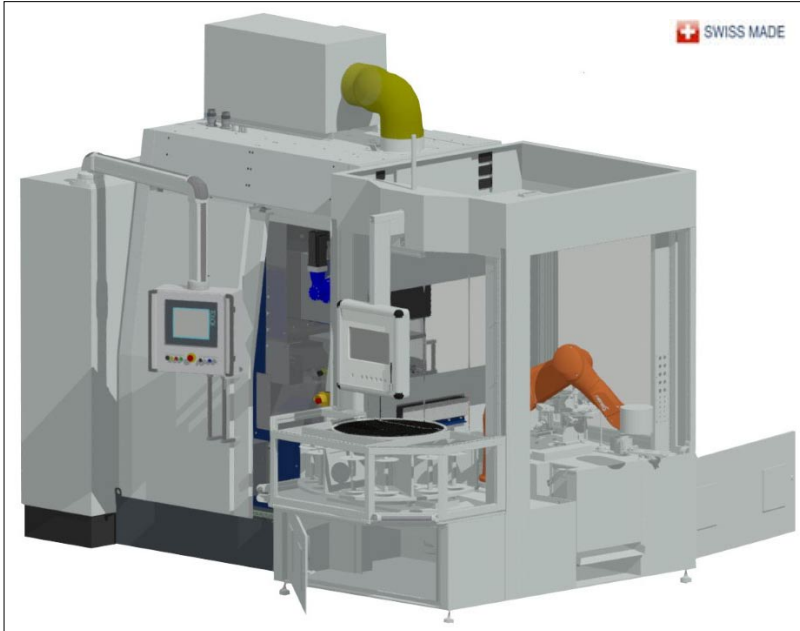
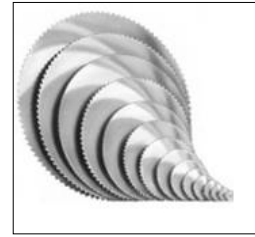
1. Grinding parallel surfaces 1st side
2. Grinding step 1st side
3. Grinding trapezoid 1st side
4. Grinding parallel surfaces 2nd side
5. Grinding step 2nd side
6. Grinding trapezoid 2nd side

#### Automation and unequalled productivity

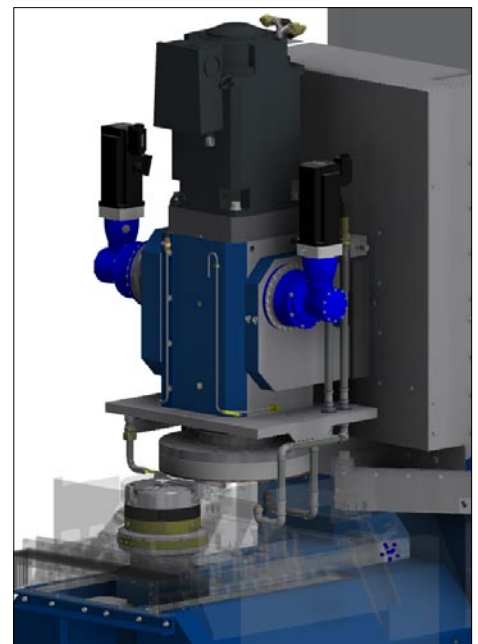


## PARSIFAL 150/400

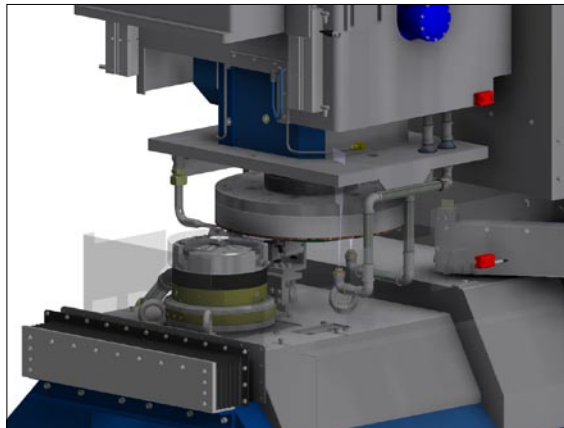
Plunge grinder, cycle-by-cycle, equipped with 1 vertical spindle + 1 mandrel



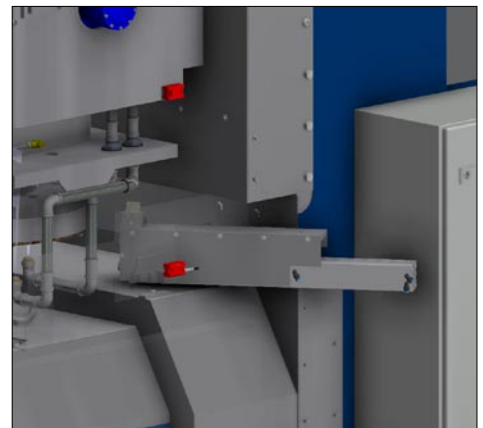
### Tilt



### Mandrel



### Sharpening



### Performances

- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid modular rigid steel frame combined with prestressed concrete
- Measurement and automatic servo
- Vertical tilt spindle
- $\varnothing 200$  mm mandrel mounted on a horizontal slide
- Automatic or semi-automatic loading

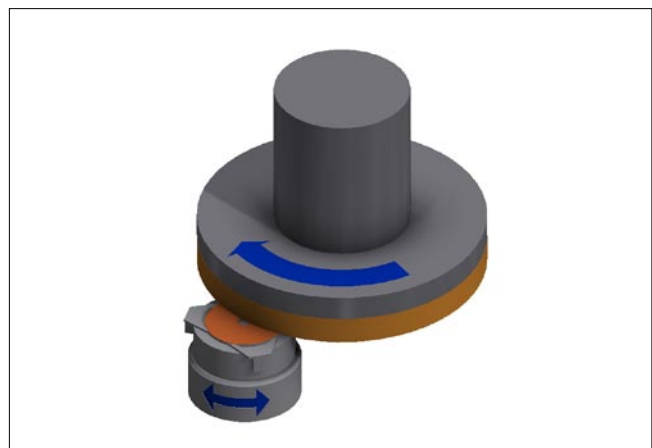


## Technical specifications

<b>Number of spindles</b>	<b>2</b>
<b>Spindle (mm)</b>	<b>ø200x500 / mandrel ø100x300</b>
<b>Z-axis infeed (mm)</b>	<b>120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 4000 / 1000</b>
<b>Power (kW)</b>	<b>27 / 3 (mandrel)</b>
<b>Width of machinable parts max.(mm)</b>	<b>ø160</b>
<b>Height of machinable parts max. (mm)</b>	<b>30</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>ø400 / ø170</b>
<b>Spindle tilt max. (°)</b>	<b>10</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>5</b>
<b>Stock removal max. (mm)</b>	<b>2</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 1V/M:

Plunge grinder by cycle, equipped with 1 vertical spindle + 1 opposite mandrel on a horizontal slide



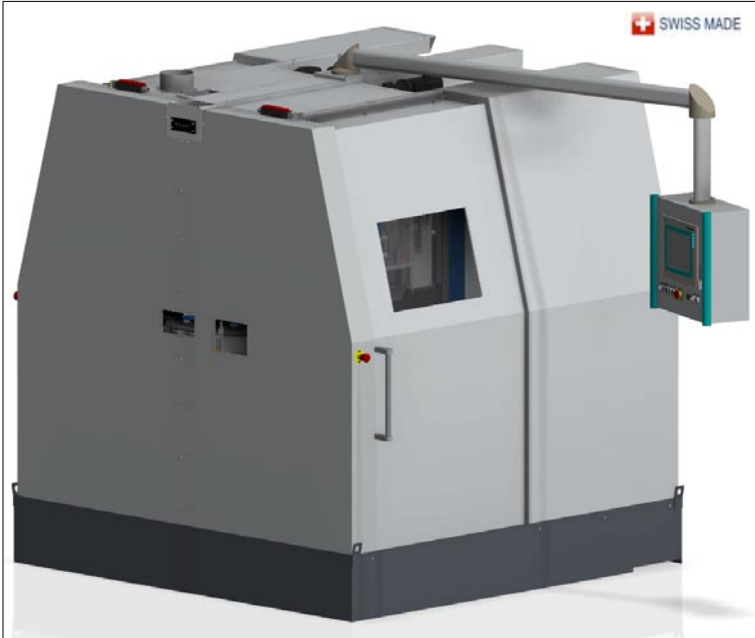
### Specific development

Our engineering office, equipped with modern CAD and programming systems, up-to-date with current informatics and software standards, is capable of building special machines, where yet no viable solution exists. In this area LINEAR ABRASIVE has achieved a level of excellence that is recognized worldwide.

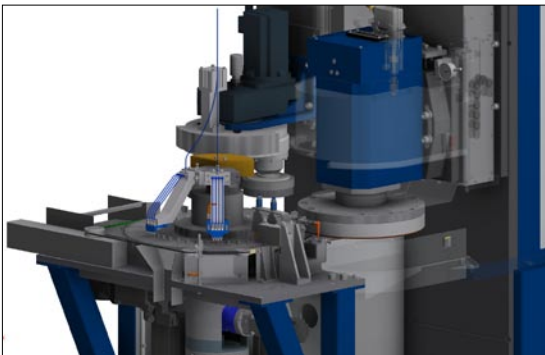


## PARSIFAL 500/500

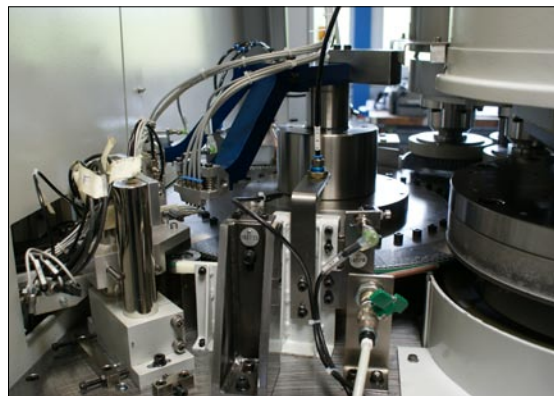
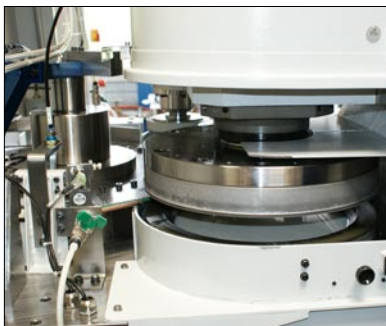
Continuous through feed grinder equipped with 2 opposite vertical spindles and 2 opposite planetary brushing units



### Rotary table



### Grinding and brushing



### Performances

- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid frame of grey cast iron combined with prestressed concrete
- Measurement and automatic servo
- Additional brushing module

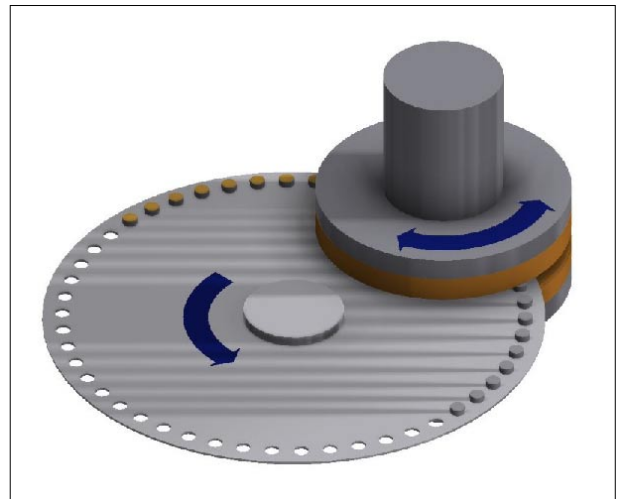


## Technical specifications

<b>Number of spindles</b>	<b>2 + 2 brushing</b>
<b>Spindle (mm)</b>	<b>2x<math>\phi</math>200x500</b>
<b>Z-axis infeed (mm)</b>	<b>2x120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 4500</b>
<b>Power (kW)</b>	<b>2x20 / 2x7</b>
<b>Width of machinable parts max. (mm)</b>	<b>10</b>
<b>Height of machinable parts max. (mm)</b>	<b>20</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b><math>\phi</math>400</b>
<b>Infeed (mm/min)</b>	<b>0 - 4000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>6</b>
<b>Stock removal max. (mm)</b>	<b>1</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 2VV:

Continuous through feed surface grinder with 2 opposite vertical spindles



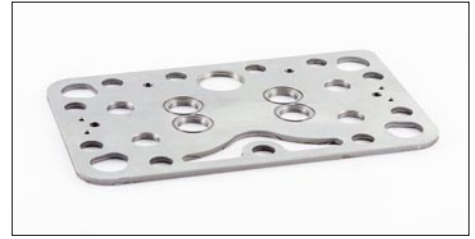
### Combined operations

Highly productive method for continuous through feed machining of surfaces using AL2O3 cup, diamond and CBN wheels. The parts are transported by a disc pulling them between the two grinding wheels. Controlled process and part program provide optimum performance.

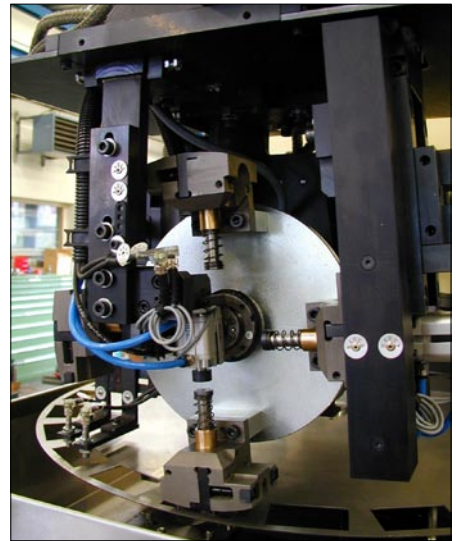


## PARSIFAL 500/500

Continuous through feed grinder equipped with 2 opposite vertical spindles



### Loader



### Table



### Performances

- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid frame of grey cast iron combined with prestressed concrete
- Measurement and automatic servo
- Additional brushing module



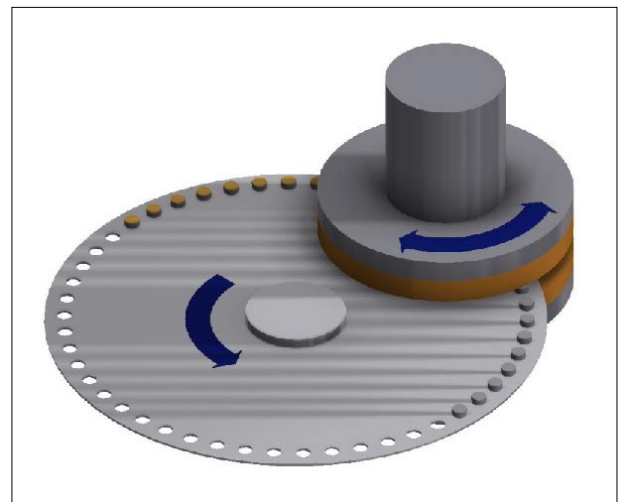


## Technical specifications

<b>Number of spindles</b>	<b>2</b>
<b>Spindle (mm)</b>	<b>2x<math>\phi</math>200x500</b>
<b>Z-axis infeed (mm)</b>	<b>2x120</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 4500</b>
<b>Power (kW)</b>	<b>2x20</b>
<b>Width of machinable parts max. (mm)</b>	<b>10</b>
<b>Height of machinable parts max. (mm)</b>	<b>20</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b><math>\phi</math>400</b>
<b>Infeed (mm/min)</b>	<b>0 - 4000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>6</b>
<b>Stock removal max. (mm)</b>	<b>1</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 2VV:

Continuous through feed surface grinder with 2 opposite vertical spindles



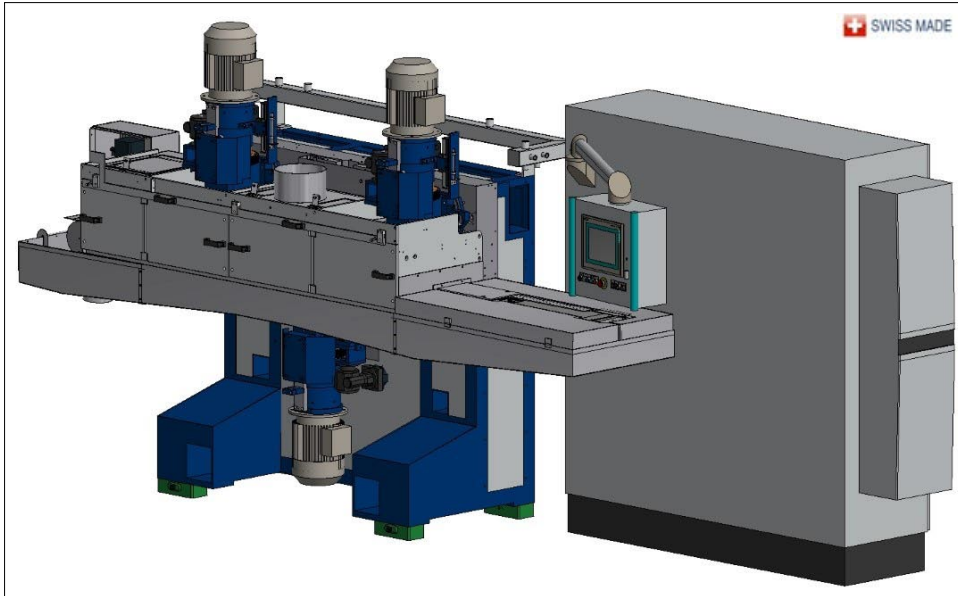
#### Combined operations

Highly productive method for continuous through feed machining of surfaces using AL2O3 cup, diamond and CBN wheels. The parts are transported by a disc pulling them between the two grinding wheels. Controlled process and part program provide optimum performance.

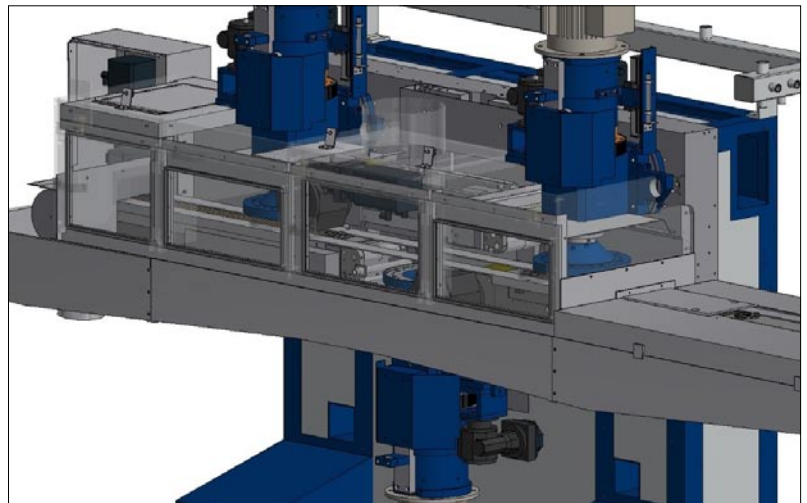


## MORGANE IV

Continuous through feed grinder equipped with 3 vertical spindles and 1 horizontal spindle



Grinding direction from right to left



### Performances

- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid frame of grey cast iron combined with prestressed reinforced concrete
- Measurement and automatic servo
- Can be combined with up to 4 vertical stations continuously
- Automatic, semi-automatic or manual loading

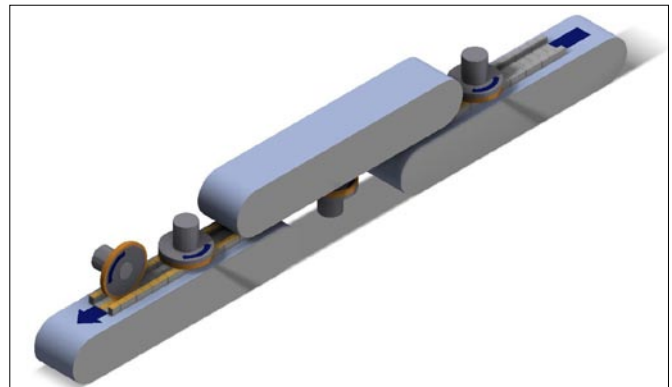


## Technical specifications

<b>Number of spindles</b>	<b>3 or 4</b>
<b>Spindle (mm)</b>	<b>ø140x450</b>
<b>Z-axis infeed (mm)</b>	<b>100</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 6000</b>
<b>Power (kW)</b>	<b>3 or 4x7</b>
<b>Width of machinable parts max. (mm)</b>	<b>130</b>
<b>Height of machinable parts max. (mm)</b>	<b>70</b>
<b>Abrasive tools</b>	<b>CBN/diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>ø400</b>
<b>Infeed (mm/min)</b>	<b>0 - 6000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (t)</b>	<b>8</b>
<b>Stock removal max. (mm)</b>	<b>2</b>
<b>Resolution (mm)</b>	<b>0.001</b>

### Technology 4VVH:

Continuous through feed surface and profile grinder, equipped with 3 vertical spindles, of which 1 inverted, and 1 horizontal spindle



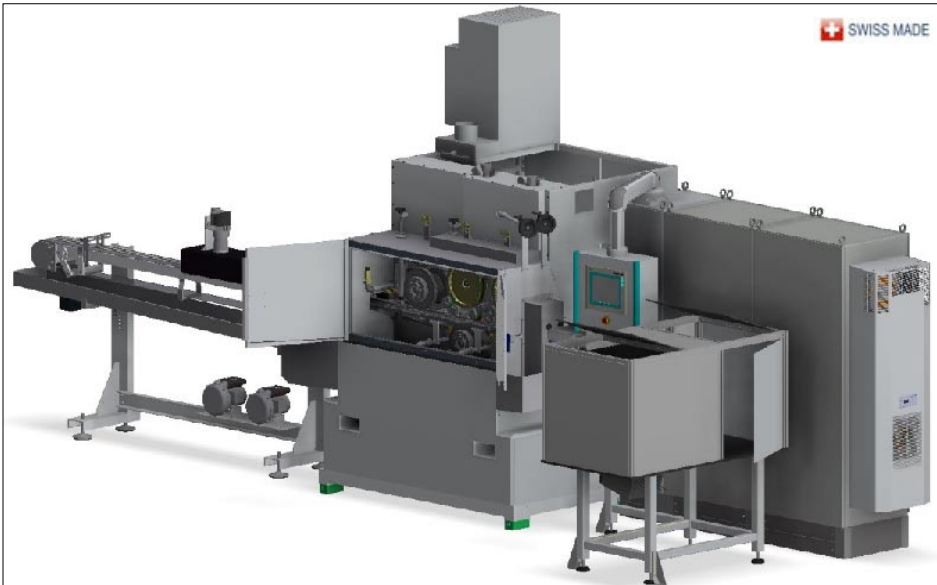
### Combined operations

Highly productive method for continuous through feed machining of profiles using profiled cylindrical grinding wheel, diamond or CBN. This process also allows cutting of parts with tight tolerances. Transported by a highly resistant composite belt, held by magnetic attraction (by mask or template for parts of non-magnetic material), the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.

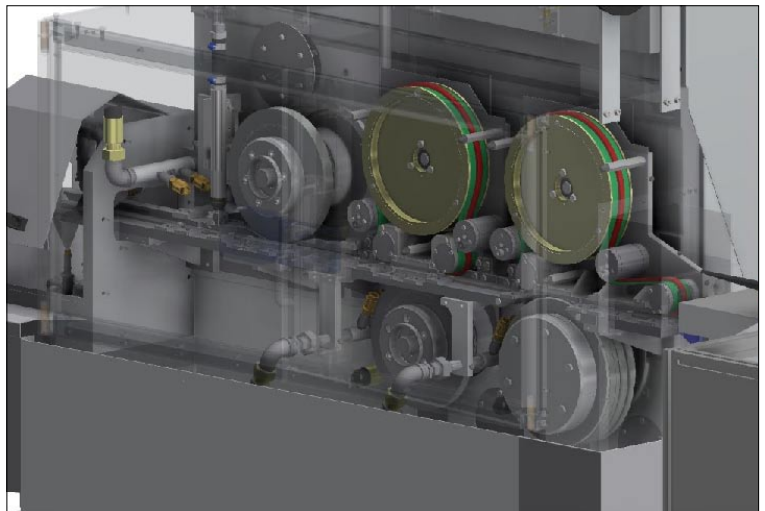


## WOTAN III

**Continuous through feed grinder equipped with 3 horizontal spindles dedicated to continuous internal and external profile grinding**



Grinding direction from right to left



### Performances

- Resolution 0.001 mm
- High performance spindles, direct drive
- Modular rigid frame of grey cast iron combined with prestressed concrete
- Automatic servo
- Automatic, semi-automatic or manual loading

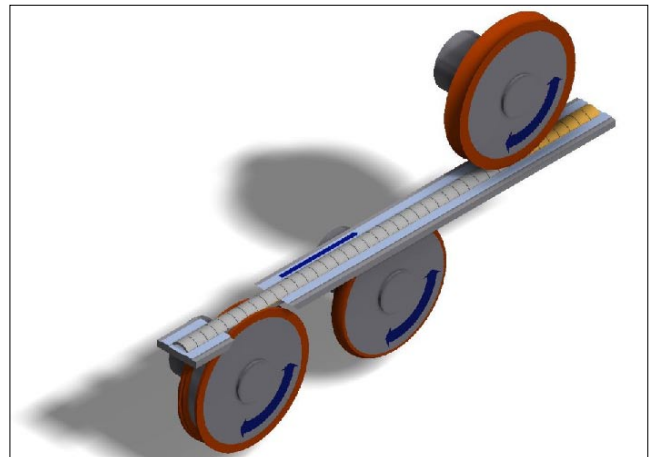


## Technical specifications

<b>Number of spindles</b>	<b>3</b>
<b>Spindle (mm)</b>	<b>ø140x450</b>
<b>Z-axis infeed (mm)</b>	<b>50</b>
<b>Direct spindle drive (rpm)</b>	<b>0 - 6000</b>
<b>Power (kW)</b>	<b>3x15</b>
<b>Width of machinable parts max. (mm)</b>	<b>70</b>
<b>Height of machinable parts max. (mm)</b>	<b>40</b>
<b>Abrasive tools</b>	<b>CBN/Diamond/Al2O3</b>
<b>Grinding wheel (mm)</b>	<b>~ø300</b>
<b>Infeed (mm/min)</b>	<b>0 - 4000</b>
<b>Electrical control</b>	<b>Siemens S7/1500/TIA</b>
<b>Total weight (T)</b>	<b>4.5</b>
<b>Stock removal max. (mm)</b>	<b>2</b>
<b>Resolution (mm)</b>	<b>0.01</b>

### Technology 3HHH:

Continuous through feed grinder equipped with 3 horizontal spindles dedicated to continuous grinding of internal and external profiles



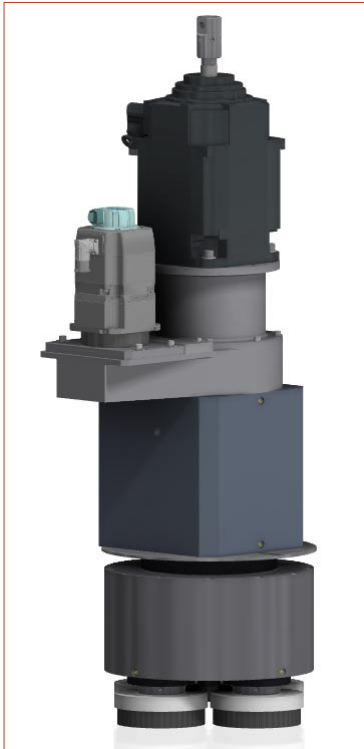
### Combined operations

Highly productive method for continuous through feed machining of profiles, using profiled cylindrical grinding wheel, diamond or CBN. Transported by a highly resistant composite belt, the parts are guided between rails and pass beneath the grinding wheel. Controlled process and part program provide optimum performance.



# BRUSHING UNITS

**(1) 4 brushes  
(central cooling)**



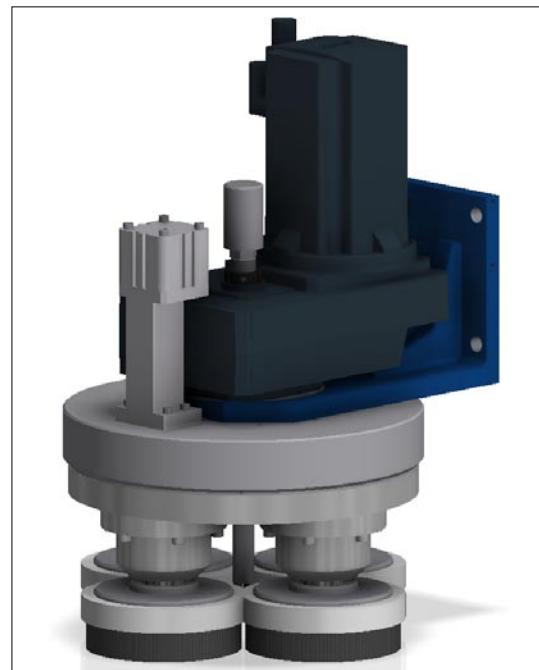
**(2) 4 brushes  
(nozzle cooling)**



**(3) 3 brushes**



**(4) 4 brushes**

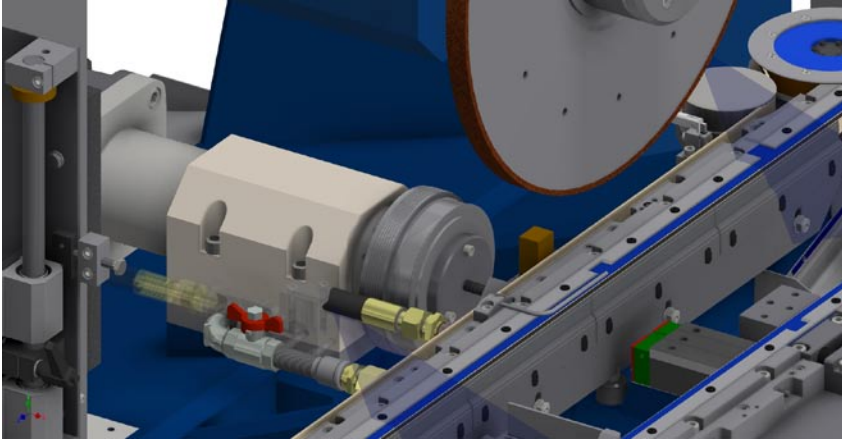


Model	(1)	(2)	(3)	(4)
Power (kW)	9.5 / 1.7			
Number of brushes	4	4	3	4
∅ brushes (mm)	165	165	165	165
Speed (rpm)	3000 / 150	3000 / 150	2000 / 250	2000 / 250
Ratio ( $V_{head} : V_{brush}$ )	variable	variable	fixed	fixed

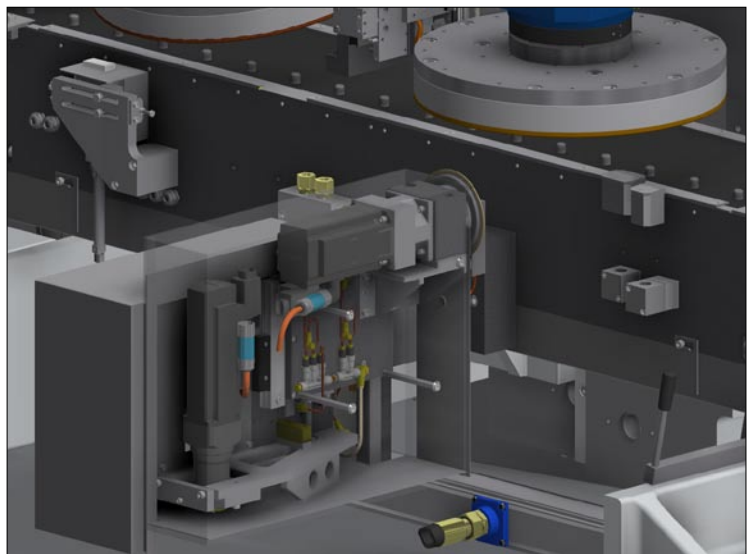


## DRESSING UNITS

### Horizontal spindle dressing



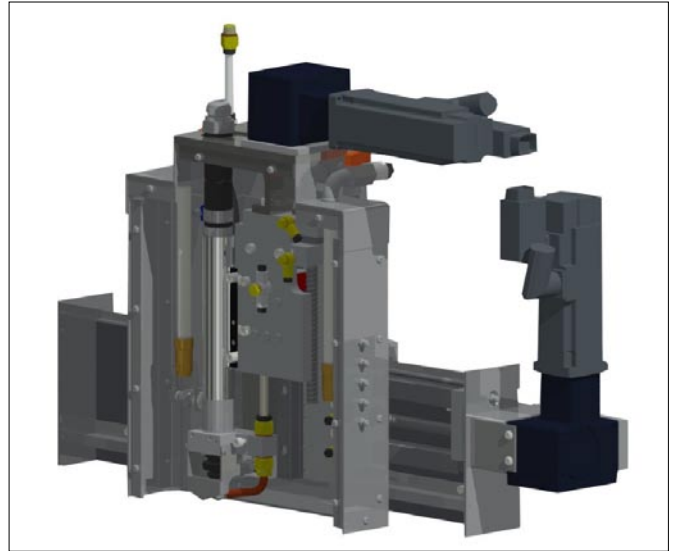
### Vertical spindle dressing



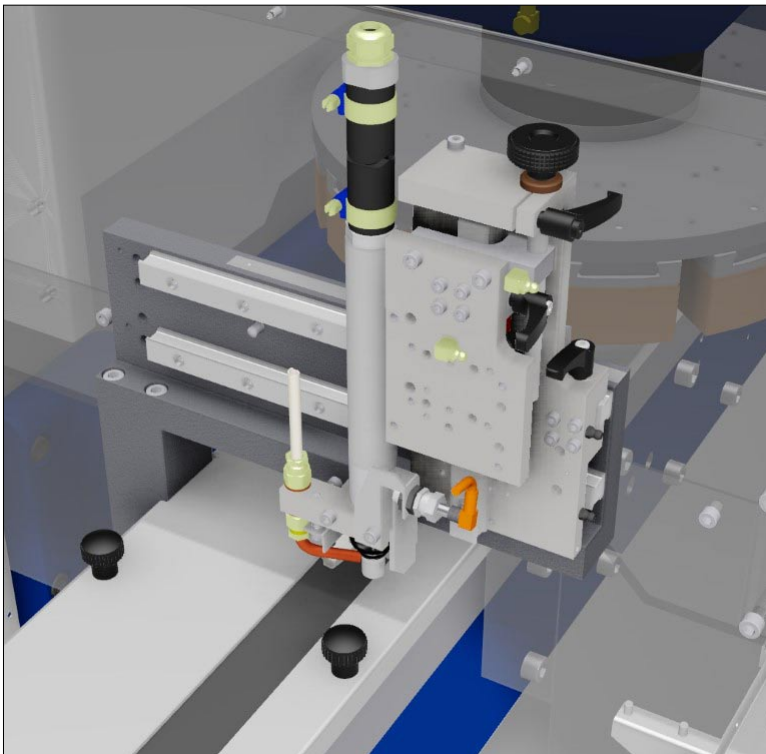
	Horizontal	Vertical
Power (kW)	6.1	1.0
∅ dressing wheel (mm)	150	150
Speed (rpm)	12000	6000



# MEASURING UNITS



Automatic



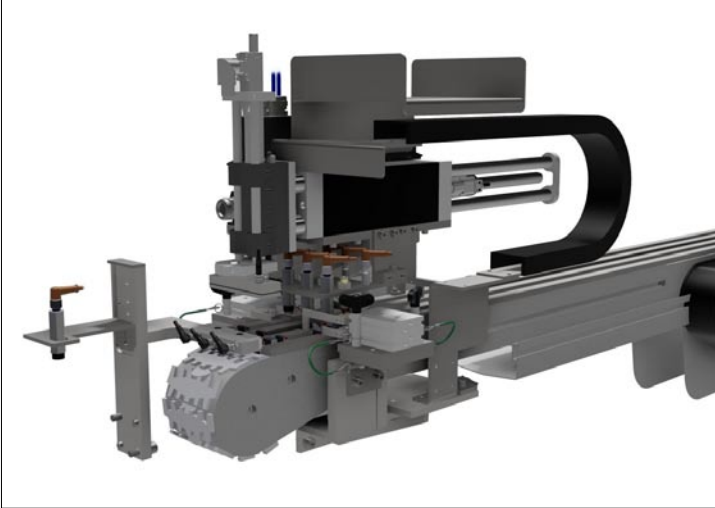
Manual



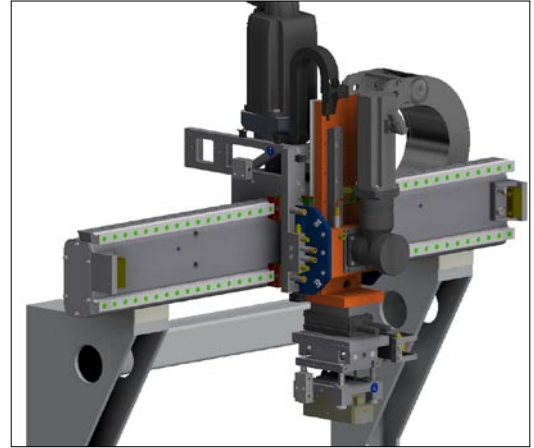


# AUTOMATIC LOADING AND UNLOADING

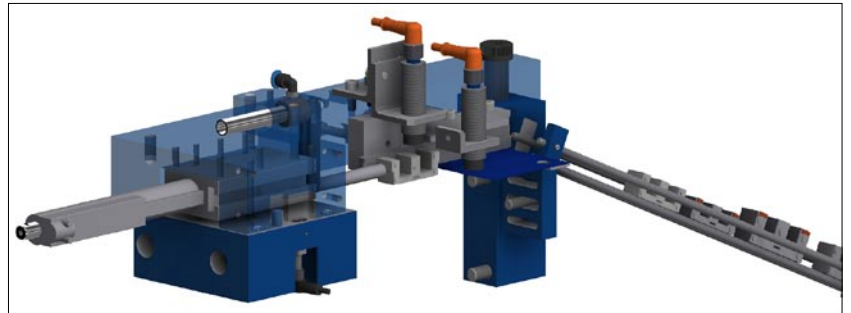
## Automatic and modular loading



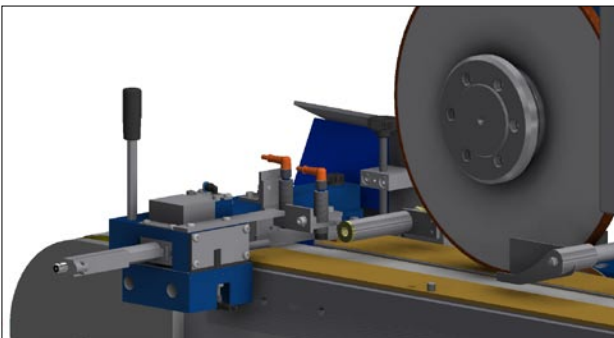
## Loading



## Unloading



## Unloading



## Transfer gantry



## Loading system by vibratory feeder or robots





## FILTRATION UNITS





# LINEAR ABRASIVE