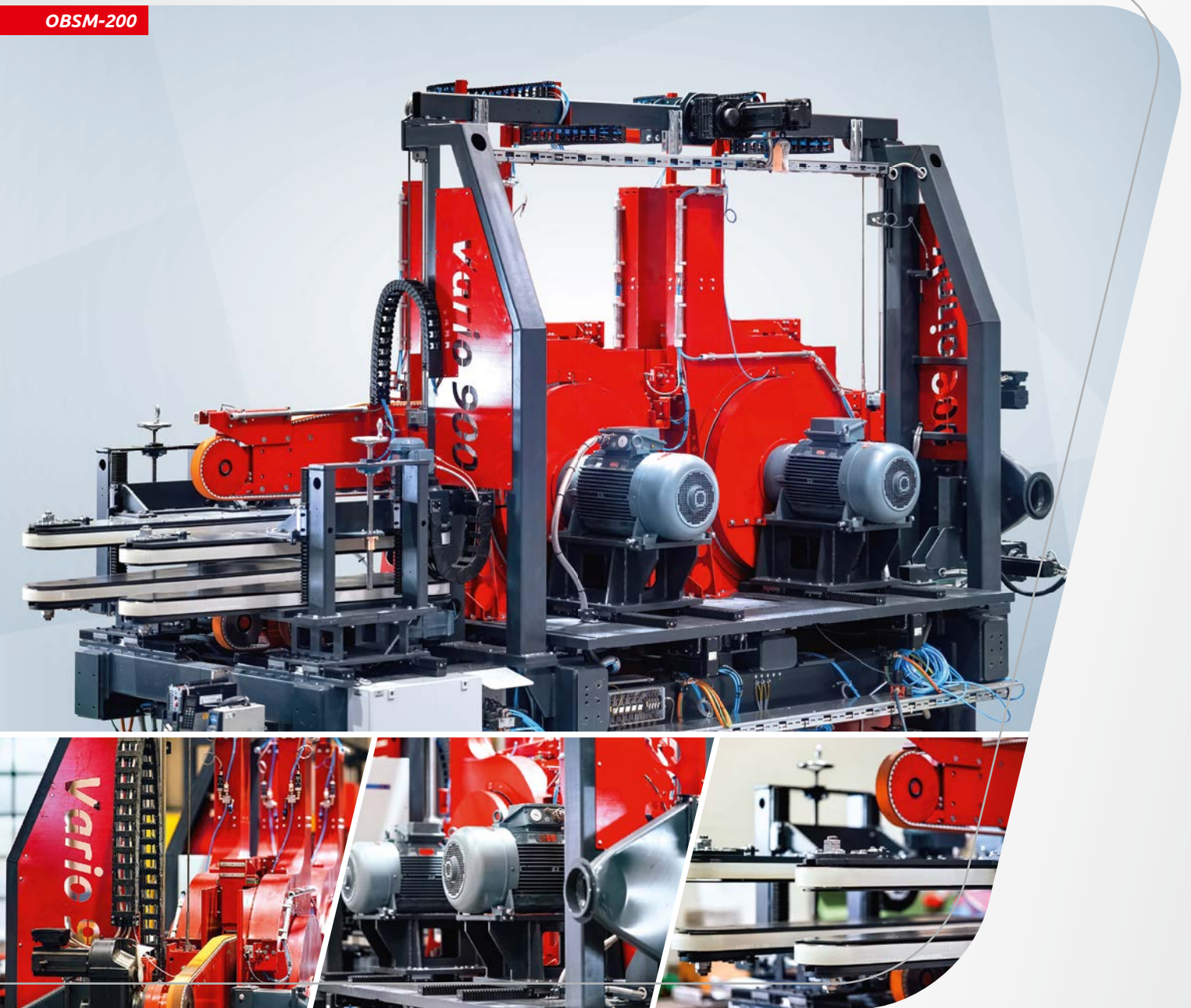


KELLER

intelligent
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solutions

ICS

OBSM-200

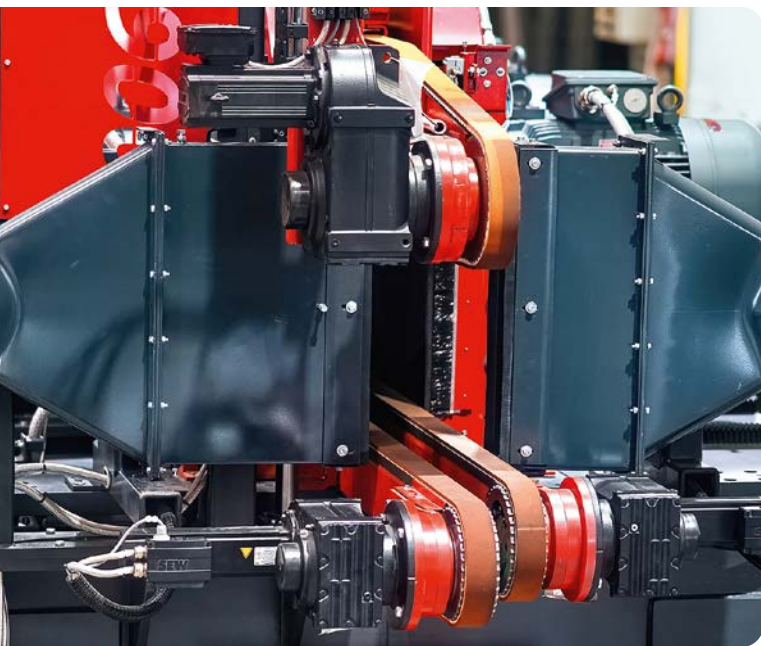


Vario 900

Modular configurable grinding machine



Vario 900 Grinding Machine



Essential advantages of the VARIO 900

- Simple modular design
- Profitably and efficiently
- Durable and low maintenance
- Excellent accuracy

Innovative KELLER grinding technology

The KELLER grinding technology is one of our product segments in which we are constantly developing and facing the challenges of the market. The targets and needs of our customers are the driving force for our work.

Our task

As manufacturer of machines and plants, we are challenged to respond to the changes of the times with solutions that secure our customers' competitiveness through optimized production technology.

Our answer

The Vario 900 brick grinding machine is our answer to the demands of our customers handling in the area of plane brick production. It represents the coming generation of KELLER grinding machines and continues the successful history of KELLER grinding technologies.

System configuration for Vario 900

Standard/Professional/Premium Technology

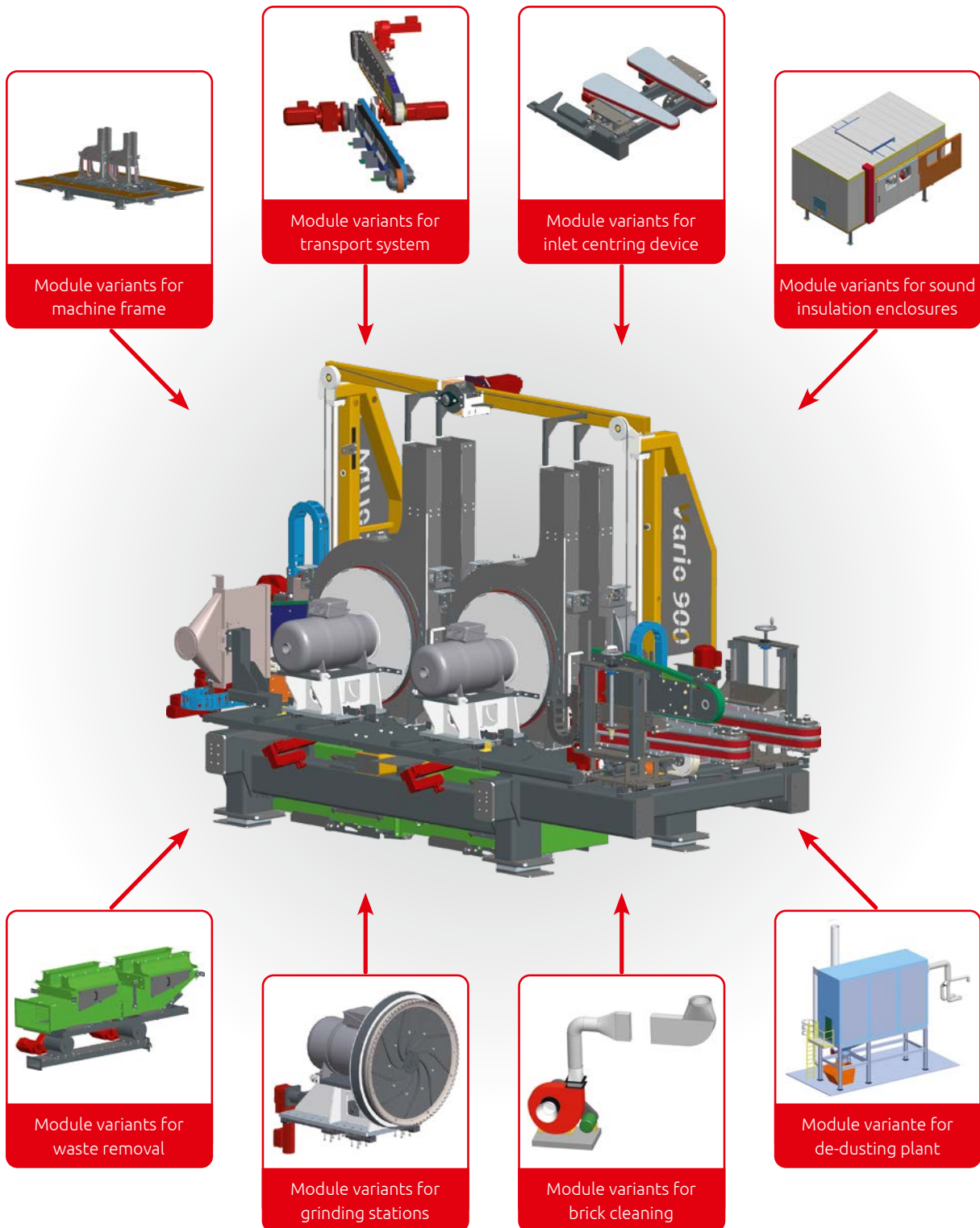
The machine allows the easy project-specific machine configuration and the combination of individual customer requirements with a balanced cost-effectiveness.

To achieve this, the system of the Vario 900 is divided into **modules**. Each module is available for configuration in different technological versions: **Standard, Professional and Premium**. If, despite the secured possibilities, additional customer wishes should exist, the modules can be adapted individually.





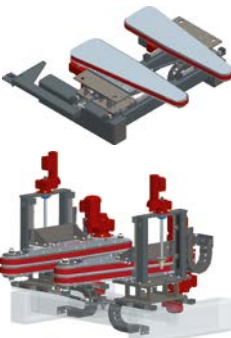
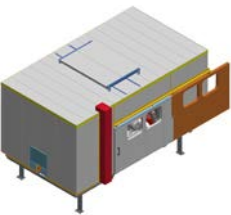
Overview of modules **Standard/Professional/Premium Technology**

The modular design of the grinding system offers a project-specific machine configuration with high process reliability thanks to proven technology.

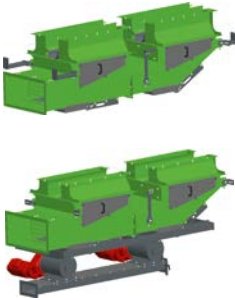

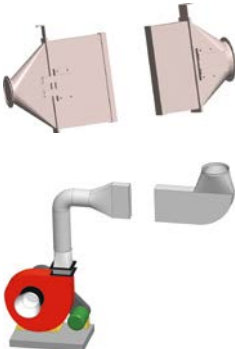



Vario 900 Grinding machine

Module types **Standard** / **Professional** / **Premium Technology**

Module	Image	Application
<p>Machine frame Depending on the equipment, the machine frame offers different degrees for the grinding width adjustment.</p>	 <p>incl. machine wear measurement (laser system)</p>	<p>Type: Manuel 1-point width adjustment for +/- 0.25 mm grinding tolerance</p> <ul style="list-style-type: none"> • 1 fixed brick grinding width: when placing the order, can be fixed between 124 - 330 mm <hr/> <p>Type: Pneumatic 2-point width adjustment for +/- 0.25 mm grinding tolerance</p> <ul style="list-style-type: none"> • 2 brick grinding widths: when placing the order, can be fixed between 124 - 330 mm <hr/> <p>Type: Motorised width adjustment for +/- 0.25 mm grinding tolerance</p> <ul style="list-style-type: none"> • freely adjustable brick grinding widths: between 124 - 330 mm
<p>Transport system The transport system is available in different versions in order to provide optimum equipment depending on the requirements.</p>	 <p>incl. pneumatic pressure tappets with tolerance compensation +/- 5 mm</p>	<p>Type: brick grinding widths: between 180 - 330 mm</p> <ul style="list-style-type: none"> • 1 and 2 layer grinding <hr/> <p>Type: brick grinding widths: between 124 - 330 mm</p> <ul style="list-style-type: none"> • 1 and 2 layer grinding
<p>Inlet centring device The different feeding devices of the infeed adjust and centre the passing bricks before the grinding process and transfer them to the further transport system.</p>	 <p>incl. manual swivel unit for right-angled grinding for diamond cutting</p>	<p>Type: 2-belt system for one-layer grinding</p> <ul style="list-style-type: none"> • Automatic grinding width adjustment: between 124 - 330 mm • 1 layer grinding • Grinding channel height 115 - 425 mm <hr/> <p>Type: 3-belt system for two-layer grinding</p> <ul style="list-style-type: none"> • Automatic grinding width adjustment: between 124 - 330 mm • Manual grinding height adjustment: between 115 - 425 mm • 1 and 2 layer grinding • Grinding channel height 115 - 425 mm <hr/> <p>Type: 3-belt system for two-layer grinding, adjustable by motor</p> <ul style="list-style-type: none"> • Automatic grinding width adjustment: between 124 - 330 mm • Automatic grinding height adjustment: between 115 - 425 mm • 1 and 2 layer grinding • Grinding channel height 115 - 425 mm
<p>Sound insulation enclosure Noise protection is for the safety of employees, we offer your optimum noise protection enclosure.</p>		<p>Type: Cabin with 1 level, open at the bottom</p> <ul style="list-style-type: none"> • Sound insulation control panel < 80 dB / Access to 1 level at a distance of > 4 m to the grinding cabin • Inspection access: 1 Revolving door (passage: 900 x 2000) • Repair access: 1 Sliding door (passage: 3000 x 2000) <hr/> <p>Type: Cabin with 2 levels, closed at the bottom, 3 accesses</p> <ul style="list-style-type: none"> • Sound insulation control panel < 80 dB / Access to 2 levels at a distance of > 4 m to the grinding cabin • Inspection access: 1 Revolving door (passage: 900 x 2000) • Repair access: 2 Sliding doors (passage: 3000 x 2000) <hr/> <p>Type: Cabin with 2 levels, closed at the bottom, 4 accesses</p> <ul style="list-style-type: none"> • Sound insulation control panel < 80 dB / Access to 2 levels at a distance of > 4 m to the grinding cabin • Inspection access: 2 Revolving doors (passage: 900 x 2000) • Repair access: 2 Sliding doors (passage: 3000 x 2000)

Module types Standard/Professional/Premium Technology

Module	Image	Application
Waste disposal The removal of grinding dust and fragments is ensured by the disposal system. The extraction system provides for the removal of the accumulating grinding dust. If required, larger fragments are crushed by the crusher.		Type: Container sluice <ul style="list-style-type: none"> Disposal of grinding residues / without further treatment: Dust particles are directly extracted Change of solids containers with machine downtime
		Type: Container sluice with belt system <ul style="list-style-type: none"> Disposal of grinding residues / without further treatment: Dust particles are directly extracted Change of solids containers without machine downtime
Grinding stations Precise removal is ensured by efficient grinding units. High-performance spindle drives are used to adjust and compensate for wear.	 <p>Aggregate air system incl. patented ventilation system with 3D milling of the carrier disc to significantly increase the service life.</p>	Type: Aggregate system 2x2 for grinding applications < 6 mm (7,5 - 12,5 kg/min) <ul style="list-style-type: none"> Grinding height: between 115 – 425 mm Percentage of holes: 40 - 60% Type of grinding: 1 or 2 layer grinding Grinding velocities: < 15 m/min (depending on the grinding material) Non-ventilated design
		Type: Aggregate air system 2x2 for grinding applications < 11 mm (15 - 25 kg/min.) <ul style="list-style-type: none"> Grinding height: between 115 – 425 mm Percentage of holes: 40 - 60% Type of grinding: 1 or 2 layer grinding Grinding velocities: < 20 m/min Ventilated design
Brick cleaning With this module, the grinding dust can be removed from the ground bricks by two cleaning methods.		Type: Suction without fan <ul style="list-style-type: none"> Removal of grinding residues / dust from ground products Degree of purity: Suction air cleaned, without separate fan Intended for connection to the de-dusting plant
		Type: Suction with fan <ul style="list-style-type: none"> Removal of grinding residues / dust from ground products Degree of purity: Air flow cleaned, particles, with separate fan Intended for connection to the de-dusting plant
De-dusting plant The design of the dust extraction system depends on the local requirements.		Type: Suction for all module types of the Vario 900 <ul style="list-style-type: none"> Air capacity: 30,000 Bm³/h Capacity grinding dust volume: < 0.54 m³/h Two connection points for extraction Option: Dust storage volume for 80 m³ < 80 h

Vario 900 Grinding machine

Configuration example: 2-stage machinery equipment Standard/Professional/Premium Technology



The exemplary modular grinding machine meets the requirements for grinding bricks of the same size in a cost-optimized way. It is characterised by the inlet centring for both single-layer and double-layer grinding. The ventilated grinding wheels allow constantly high grinding speeds to be achieved and, thanks to the disposal system, large steps in waste disposal are automated.

Exemplary machine configuration

1) Target application - Machine frame:

- 1 Brick grinding width: can be fixed when ordering between 124 – 330 mm

2) Target application - Transport system:

- Brick grinding widths: between 180 – 330 mm
- 1 and 2 layer grinding

3) Target application - Inlet centring:

- Automatic grinding width adjustment: between 124 – 330 mm
- 1 layer grinding
- Grinding channel height: 115 – 425 mm

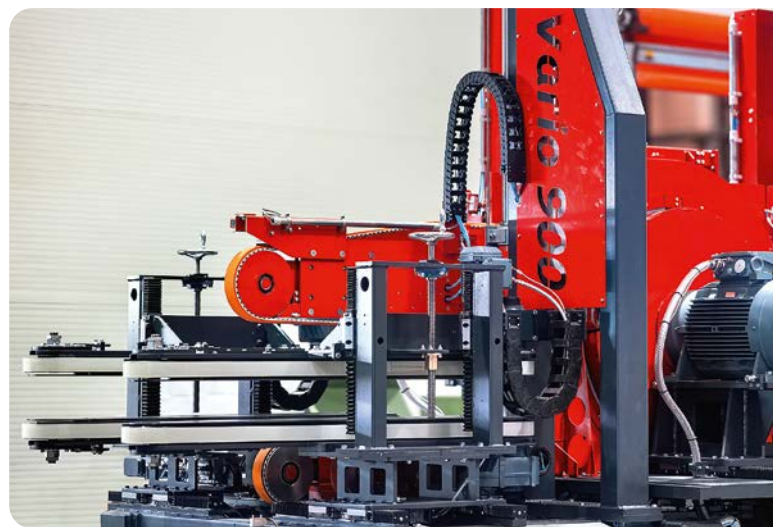
4) Target application -

Sound insulation enclosure:

- Sound insulation control panel < 80 dB / Access to 1 level at a distance of > 4 m to grinding cabin
- Inspection access: 1 Revolving door (passage dimension: 900 x 2000)
- Repair access: 1 Sliding door (passage dimension: 3000 x 2000)

5) Target application – Waste disposal:

- Disposal of grinding residues / without further treatment: Dust particles are directly extracted
- Change of solids containers with machine downtime



6) Target application – Grinding stations:

- Grinding height: between 115 – 425 mm
- Percentage of holes: 40 - 60%
- Type of grinding: 1 or 2 layer grinding
- Grinding velocities: < 20 m/min
- Ventilated design

7) Target application – Brick cleaning:

- Removal of grinding residues / dust from ground products
- Degree of purity: Suction air cleaned, without separate fan
- Intended for connection to the de-dusting plant

Additional equipment:

8) Target application – De-dusting plant:

- Air capacity: 30,000 Bm³/h
- Capacity grinding dust volume: < 0.54 m³/h
- Two connection points for extraction
- Option: Dust storage volume for 80 m³ < 80 h

Vario 900 - Technical Data

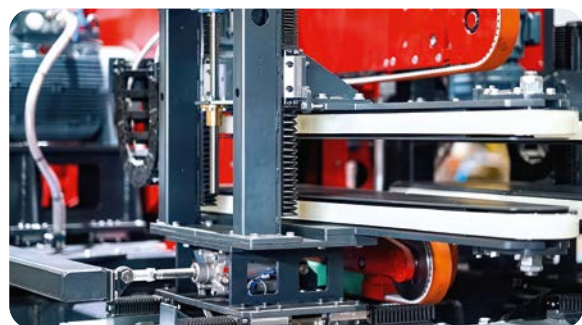
	Modules		
	Standard *	Professional *	Premium *
Grinding velocity with products	≤ 15 m/min	≤ 20 m/min	≤ 20 m/min
Transport velocity without products	≤ 30 m/min	≤ 30 m/min	≤ 30 m/min
Width adjustment	without	pneumatical	electrical
Grinding tolerance	+/- 0.25 mm	+/- 0.25 mm	+/- 0.25 mm
Grinding channel opening #	124 < 1SKB < 330 mm	124 < 2SKB < 330 mm	124 < SKB ∞ < 330 mm
Grinding channel width grinding measure #	124 < 1SKB < 324 mm	124 < 2SKB < 324 mm	124 < SKB ∞ < 324 mm
Grinding channel height position	115 - 425 mm	115 - 425 mm	115 - 425 mm
Grinding wheel diameter	900 mm	900 mm	900 mm
Max. passage between grinding wheels	Brick width + 50 mm	Brick width + 50 mm	Brick width + 50 mm
Installed power without de-dusting	166-174 kW	166-174 kW	166-174 kW
Installed power with de-dusting	211-219 kW	211-219 kW	211-219 kW
Machine length without cabin	6580 mm	6580 mm	6580 mm
Machine length with cabin	6800 mm	6800 mm	6800 mm
Machine width without cabin	3680 mm	3680 mm	3680 mm
Machine width with cabin	3900 mm	3900 mm	3900 mm
Machine height without cabin	3255 mm	3255 mm	3255 mm
Machine height with cabin	4500-5180 mm	4500-5180 mm	4500-5180 mm
Inlet belt height [TO Tunnel kiln] bottom edge of brick	985 mm	985 mm	985 mm
Total weight with full equipment	12-14 t	12-14 t	12-14 t

* depending on the characteristics of the product to be ground [SKB = grinding channel width]

customer-specific grinding channel widths on request

Service

KELLER is also available to you at any time as a competent partner for optimisation and modernisation of existing grinding systems.





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KELLER

Creating Solutions

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