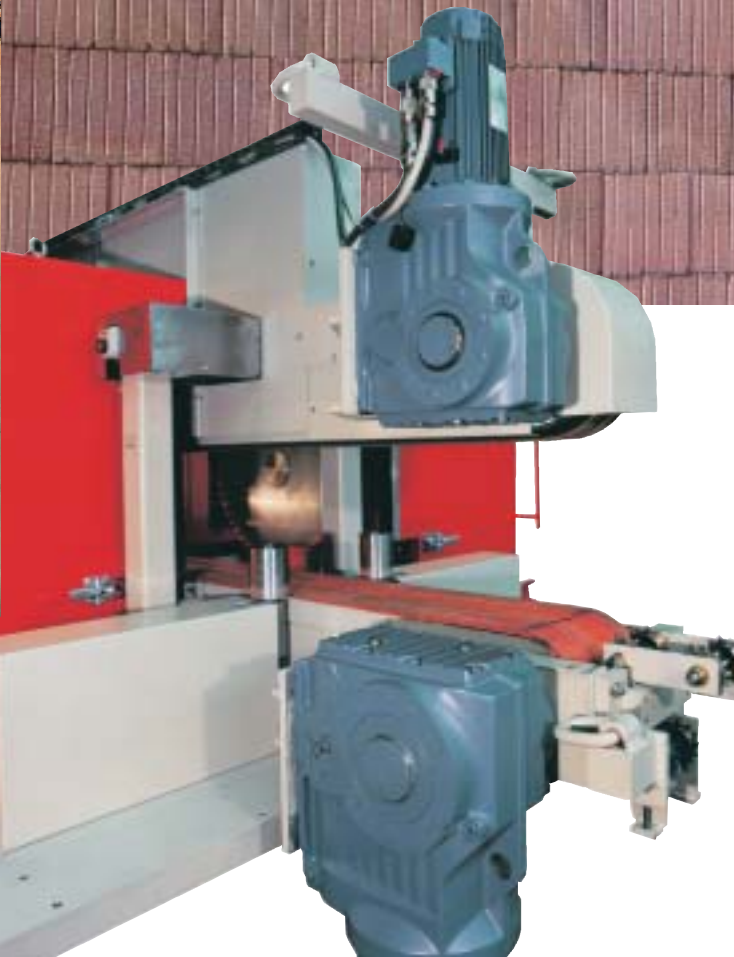


# Grinding Machine

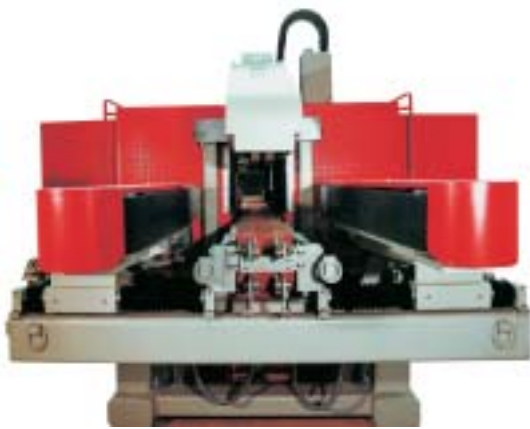


Depending on the type of equipment, dried as well as fired bricks may be ground plane-parallel with grinding machines made by KELLER HCW. The cut edges are worked by means of aluminous abrasive or diamond wheels, and is done in a continuous operation. Depending on the purpose for which the bricks are to be used, a machine can be constructed using the most appropriate parts of the KELLER HCW grinding machine unit system so that it is ideally suited to the customers' requirements.

For example it is possible to equip the machine with either a single or two-stage grinding station, with standard 650 mm diameter or the machine can be selected from the 199 mm to 500 mm spectrum of grinding measurements. The grinding performance depends on a variety of factors, in particular the shape and the material the brick is made from.

**The grinding wheel can be changed in a very short time.**

# Grinding machine in a unit system



A further outstanding feature is the high technical reliability and service-friendliness of the grinding machines. In the standard model the grinding machine is designed for brick heights of 115 to 380 mm. The transport speed of the brick is infinitely variable, from 1.5 to 18 m/min. This component system offers the customer a solution which is adaptable to future developments as the options mentioned can also be added later. Thus the choice of a KELLER HCW grinding machine means that you can remain very flexible with regard to future developments. Furthermore, special customer-specific solutions can also be supplied.

## **Construction of the grinding machine**

### **Basic frame**

The stable basic frame with its large mass and the use of vibration absorbers ensures that the machine runs quietly.

### **Feed system**

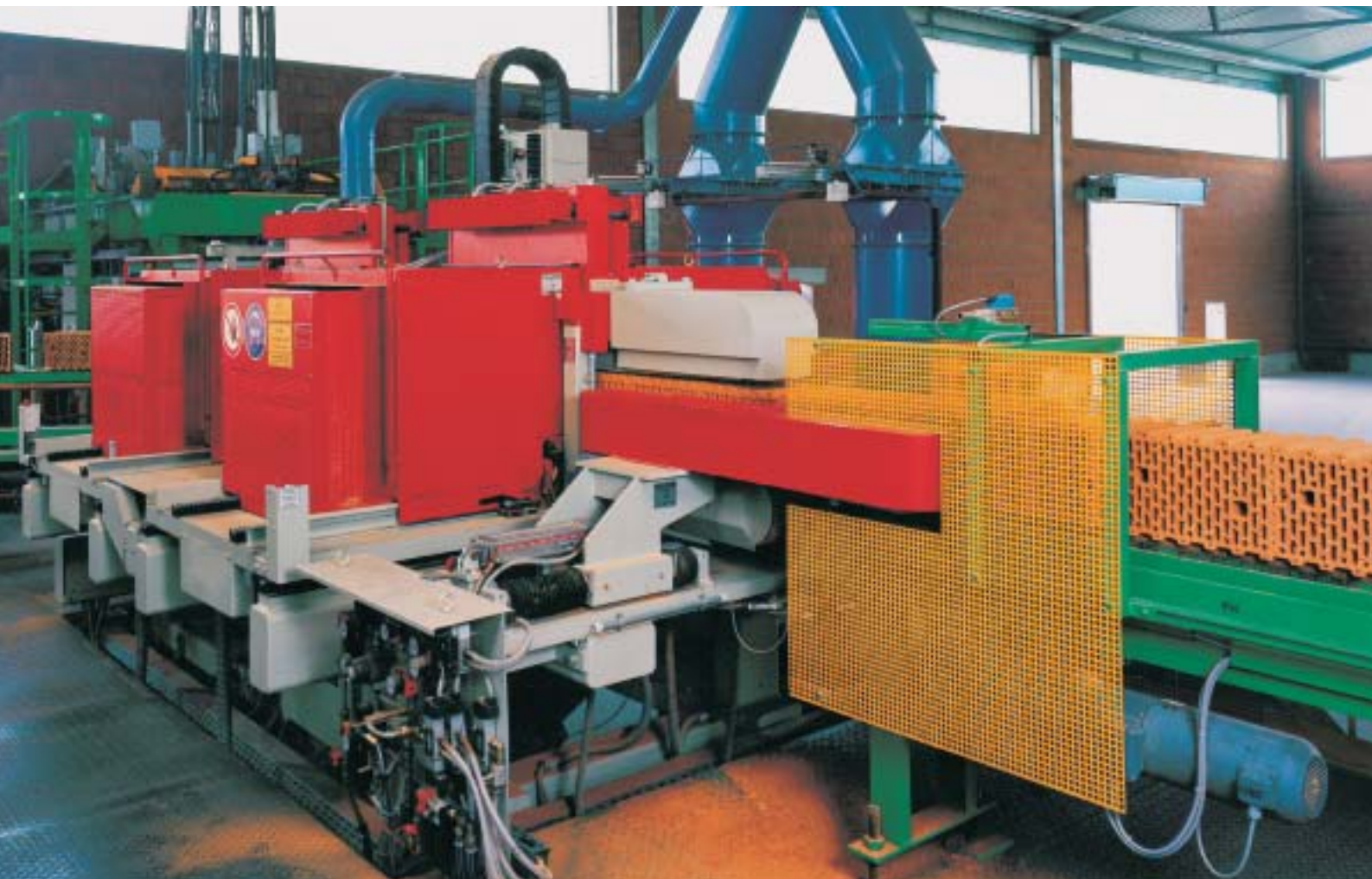
Two separately driven lateral feed bands centre and deliver the bricks to the transport system. The feed bands automatically adapt symmetrically to suit the rough brick.

### **Lower transport system**

The transport system developed by KELLER HCW and already well tried and tested, guarantees a precise guide for the flow of bricks. The elastic coating of the transport belt evens out any inequalities of the brick. The standard use of servomotors makes an optimum adjustment of the transport speed possible.

### **Upper transport system**

The design of the upper transport system is identical to that of the lower one. The transport belt is driven into the basic position by means of a motorised spindle adjustment. Pneumatic bellows cylinders and the elastic coating of the transport belt balance out the height tolerances of the bricks. The contact pressure may be regulated precisely.



### **Forward feed actuation**

With the servo actuation of the forward feed, the grinding wheels can be advanced quickly and accurately into position.

### **Measuring systems**

The positioning of the grinding wheel takes place via a special laser measuring system specially developed for this purpose. All measured values are derived from the cutting tips of the grinding wheels rather than from the size of the finished brick. This method means extreme accuracy and a simple adjustment of the grinding sizes.

### **Grinding chambers**

Each pair of grinding wheels is separately encapsulated to protect against the formation of dust. The grinding wheels are easily accessible after opening up the cover.

### **Cleaning of the surface bricks**

After grinding, the brick dust is blown out and suctioned from the surface of the bricks before being conveyed to a central dust extraction plant.



### **Characteristics**

- Accessibility of the entire plant also during operation.
- The plant can be optionally equipped with 2 or 4 grinding heads.
- By additional equipment cutting lengths from 199–500 mm are possible.
- All drives, i.e. grinding wheels and conveyor belts are equipped with frequency controlled drives so that the optimum grinding speed and transport speed can be selected for the material.
- Exact adjustment of grinding wheels by a specially developed laser measuring system.  
By means of this system the free space between grinding heads is determined and preset. Therefore it is not necessary to adjust the grinding heads by means of measuring devices after the grinding process. Even after emergency stops and a separation of the grinding heads they return to their exact position before the transport equipment is switched on. Also at the bricks remaining in the area of the grinding heads no changes or dimensional differences are measurable.
- With regard to wear and functional security a specially developed transport system for transporting the bricks through the grinding machine by means of V-belt guided conveyor belts offers considerable advantages. Due to V-belt guides, the lower conveyor belt is fixed to prevent lateral movement, while the exterior belt surfaces are supported on sliding guides in order to guarantee safe transport and holding of the bricks.
- Driven adjusting belts in the inlet zone to the grinding machine synchronized by rods to obtain exact alignment to the grinding center axis.
- Advance of individual grinding heads by means of servo drives free from backlash, giving an exact holding point and exact readjustment of the grinding heads.
- Specially installed suction ducts for the grinding dust with a box for possible larger waste pieces, which can then be thrown out separately.
- Drive motors for grinding bodies with especially stable and secured bearing.
- Safe operation requires a solid undercarriage, which we have achieved by means of a complete welding construction and the necessary machined and treated surfaces.



# Quicker and better building with ground surface bricks



**Plane-parallel ground bricks allow a time and cost saving processing with thin bed mortar.**

1..... By means of a spirit level the bricks of the first layer are accurately laid in the mortar bed.

2..... The thin bed mortar is mixed in the bucket by means of a blunger held in a drill.

3 + 4 Take the brick with the auxiliary gripping device and **immerse it for a short time.**

5 + 6 **The bricks are set on the wall. The bricks have to be set immediately on the course joint of the wall, as the mortar adheres to the bottom side of the brick.**

7 + 8 By using the **surface brick mortar roller** a good and **fast alternative of surface brick processing** with thin bed mortar is achieved.



**KELLER H.C.W.**

**KELLER HCW GmbH – a company of the CERIC-Group**

