

# Competence in gypsum



**GEBR. PFEIFFER**  
Progress is our tradition



GEBR. PFEIFFER

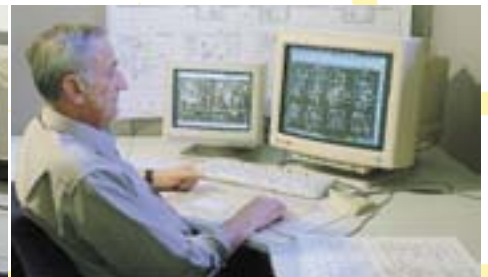
# GEBR. PFEIFFER

## Progress is our tradition

Gebr. Pfeiffer looks back on a long and successful history that is based on high-quality products, closeness to the customer and an international standing. Even in an environment undergoing fast changes we remain loyal to these standards. That is why our company and its employees will shape the future.

Since our foundation in 1864 we have always participated in the development of modern process technology for grinding, separating, drying, hydrating and calcining.

With more than 450 employees, our center of competence in Kaiserslautern as well as our subsidiaries in the United States and India are active all over the world, supported by an extensive network of cooperations and representations.



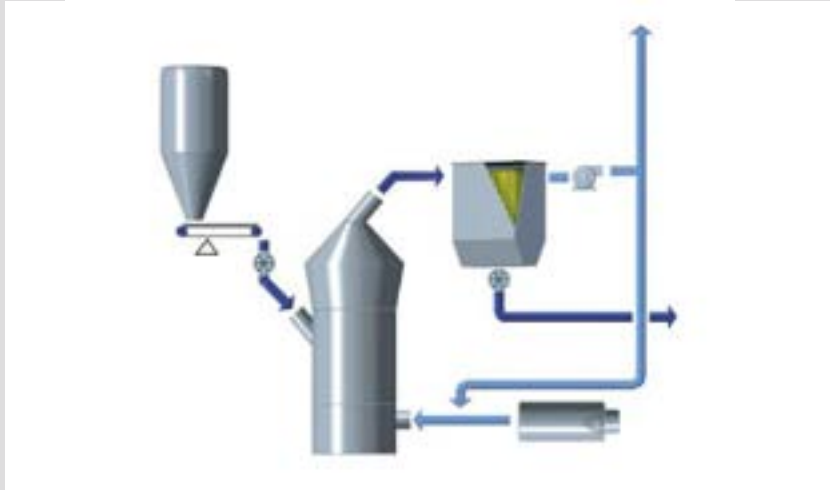
Our success is the result of a wide product range, a modern test station, in-house workshops with a high vertical capacity and an extensive store of experience especially with the cement, lime, gypsum, and ceramic industries.

We regard the finding of innovative, customized systems that meet your special requirements as our most important task.

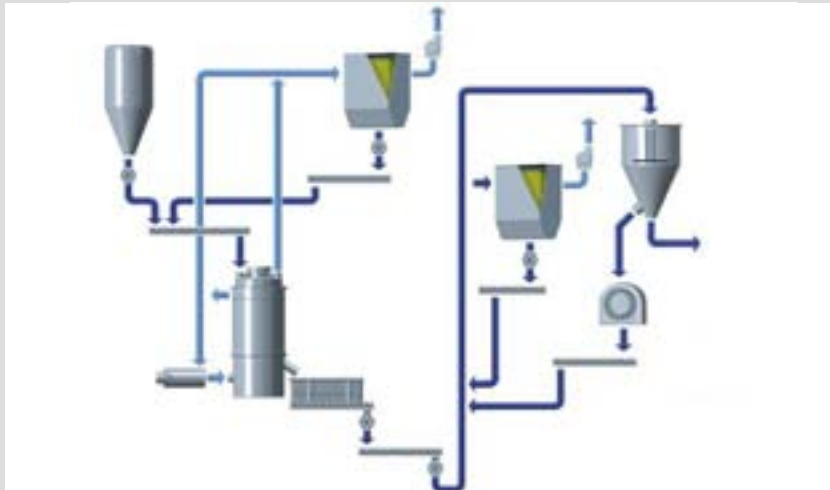
We ensure a long service life for our plants and machines by establishing long-lasting cooperations in a spirit of partnership to the benefit of a high-quality finished product, safe plant operation, economic viability and technical progress.



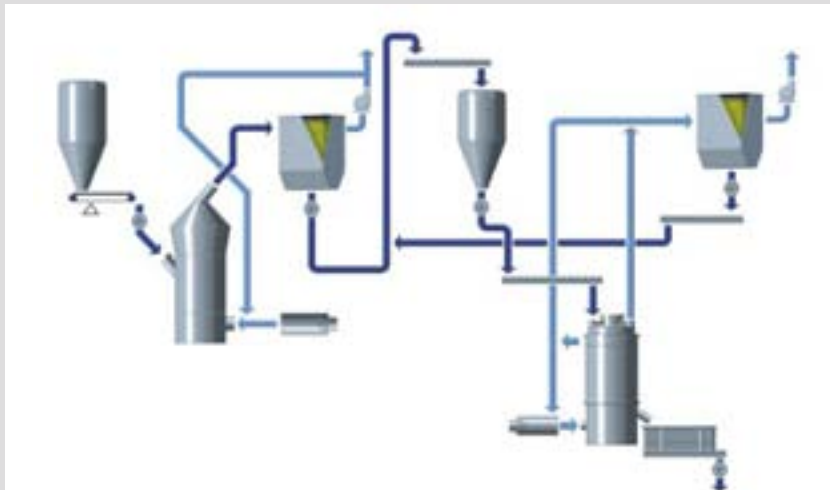
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# Our processes for the gypsum industry

## ① Single-stage calcining in the MPS vertical roller mill

Coarse natural gypsum or mixtures of natural gypsum and FGD gypsum are ground, dried, calcined, and classified in the MPS vertical roller mill. Product fineness and product characteristics can be varied within a wide range (0.063 to 0.5 mm).

The ground and calcined products with their relatively short setting times are used above all for the plasterboard production, the production of structural gypsum elements, and as basic plaster for the production of wall plaster.

## ② Single-stage calcining in the gypsum kettle

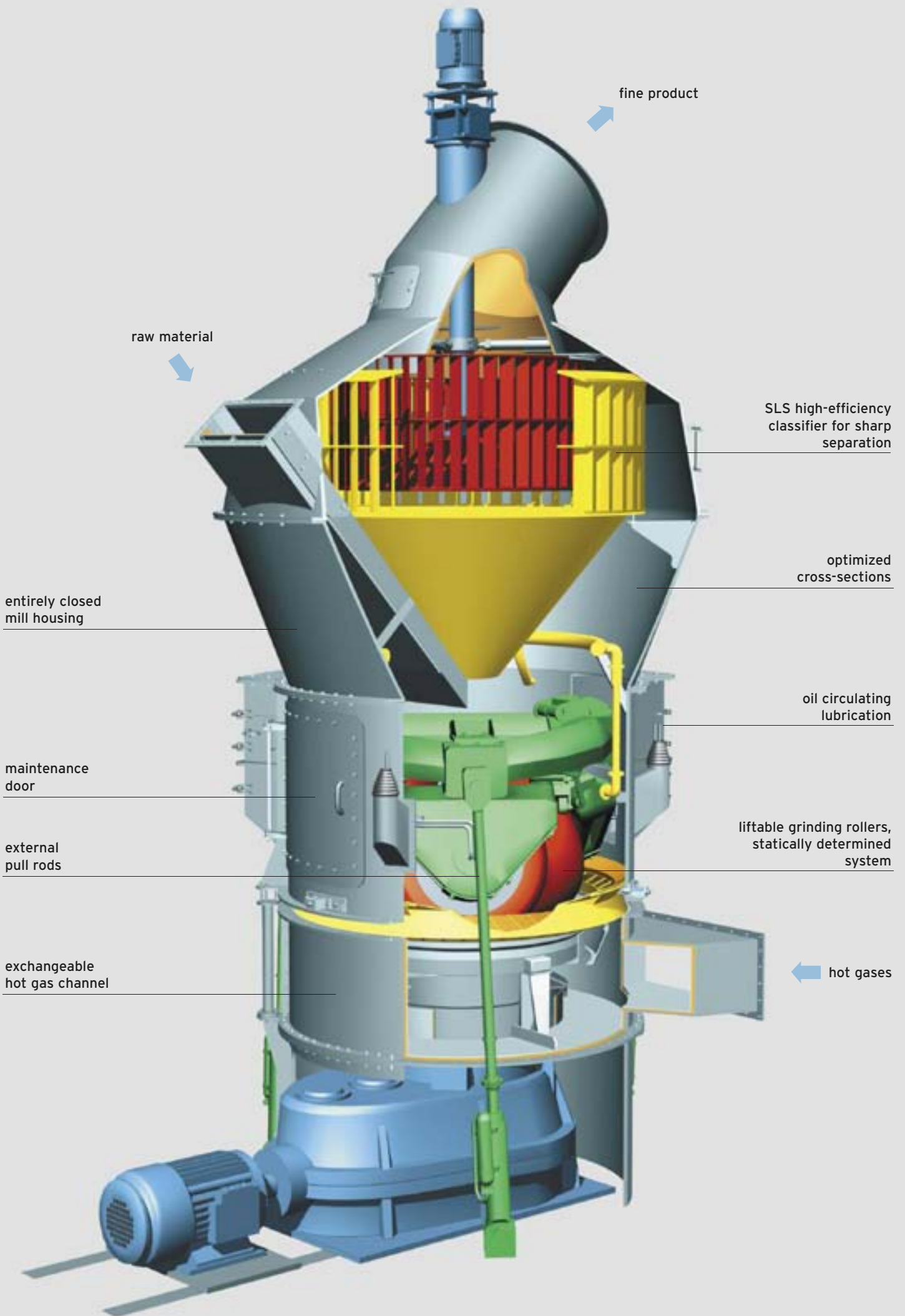
Fine natural gypsum, mixtures of natural gypsum and FGD gypsum, as well as FGD gypsum are dried and calcined in the Pfeiffer gypsum kettle which can be run continuously or batchwise. Normally the kettle is followed by a grinding-separating plant comprising high-speed mill and air-swept separator. Product fineness and product characteristics can be varied within a wide range (0.063 to 0.5 mm).

The ground and calcined products with their relatively long setting times are used above all as basic plaster for the production of wall plaster and as special products.

## ③ Multi-stage calcining

Coarse natural gypsum and mixtures of natural gypsum and FGD gypsum are ground, dried, partially calcined, and classified in the MPS vertical roller mill. Product fineness can be varied within a wide range (0.063 to 0.5 mm). The semi-finished product is calcined in the downstream gypsum kettle. Product characteristics can be varied.

The ground and calcined products with their medium to long setting times are used above all for the plasterboard production, the production of structural gypsum elements, as basic plaster for the production of wall plaster, as plaster of Paris for the ceramic industry, and as special plaster.



# The PFEIFFER MPS vertical roller mill - the optimum machine for grinding and calcining

## The solution to your problem

### Grinding-drying or grinding-calcining of gypsum

throughput rates	1 - 150 t/h
target fineness	63 - 500 $\mu\text{m}$
feed size	10 - 60 mm
feed moisture	pit moisture

## The working principle

Three stationary grinding rollers roll on a rotating grinding table. The material is drawn in between grinding rollers and grinding track and ground by pressure and shear. The compression force required for the comminution of the material is generated by a hydropneumatic tensioning system.

The material is ground and conveyed by centrifugal force towards the stationary nozzle ring. Hot gases flowing up through the nozzle ring mix with the material and carry it up to the classifier. In the separating zone a rotating separating wheel separates the ground and dried material into fine finished product and grits. The grits fall back into the center of the grinding zone. The finished product leaves the classifier together with the gas stream and is separated in a downstream filter unit.



## The advantages

### Low investment costs

MPS mills require few ancillary machines, no or little walled-in space, they operate dust-free and have a low noise level.

### Low electric power consumption

The grinding principle and the high-efficiency classifier reduce the electric power consumption by up to 40 % compared with conventional ball mills.

**Optimum utilization of process heat**  
MPS vertical roller mills allow an optimum utilization of the thermal energy of low-temperature process gases.

### Maximum availability

Low specific wear rates, high-quality wear materials and progressive repair concepts reduce downtimes of MPS vertical roller mills to a minimum.

### Favorable control behavior

High drying and calcining capacity, short retention times, and remote control of the grinding pressure and the speed of the separating wheel allow MPS vertical roller mills to be operated fully automatically even with fluctuating raw material qualities.

# Our gypsum processing machines



Pfeiffer MRE ball mills

## The solution to your problem

**Grinding of calcined FGD gypsum and broken boards/plates**

throughput rates	1 - 60 t/h
target fineness	0.02 - 2 mm
feed size	up to 30 mm



Pfeiffer TRT Triplex dryer

## The solution to your problem

**Drying of gypsum rock/alpha plaster**

throughput rates	6 - 200 t/h
feed size	up to 150 mm



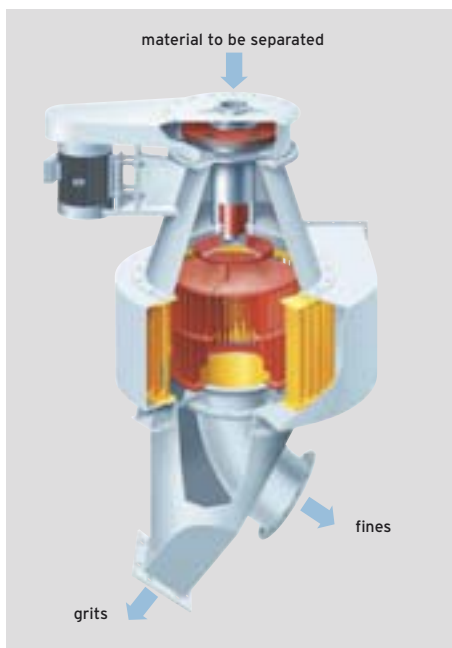
Pfeiffer MSM Molekulator mills

## The solution to your problem

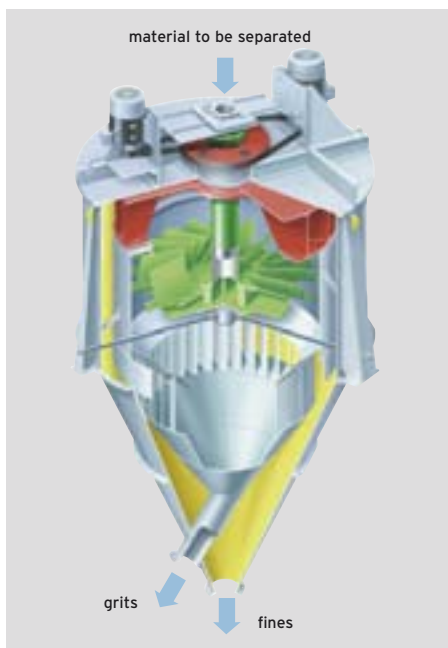
**Grinding of calcined gypsum**

throughput rates	1 - 20 t/h
target fineness	0.06 - 1 mm
feed size	up to 20 mm





Pfeiffer SLV high-efficiency separators

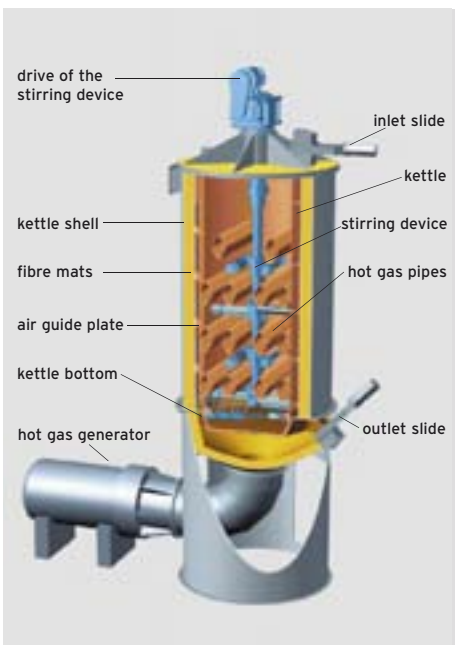


Pfeiffer SUV distribution table separators

**The solution to your problem**

**Separation of ground gypsum**

throughput rates	1 - 60 t/h
target fineness	0.02 - 0.2 mm
feed size	up to 5 mm



Pfeiffer GK gypsum kettles



Pfeiffer GK gypsum kettles

**The solution to your problem**

**Calcining of gypsum, either batchwise or continuously**

throughput rates	10 - 300 t/d
feed size	< 0.2 - 2 mm

# PFEIFFER machines and industrial plants

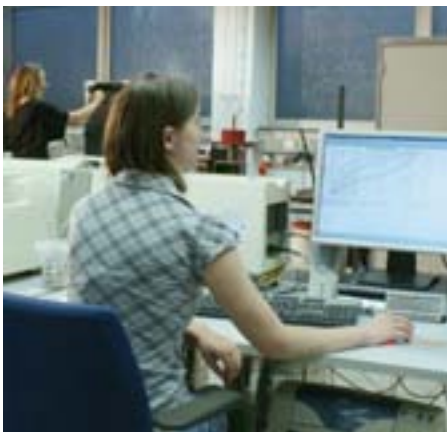


# PFEIFFER services - you can always count on us

## Test station

In our test station raw materials are tested for their processing qualities, and in our laboratories these raw materials are characterized by taking all the relevant norms/specifications and standards into account.

For these tests, pilot plants with machines from our manufacturing program are available for throughput rates from 0.5 to 10 t/h. The results of the tests serve as a basis for the selection of the suitable process for a given application and for the machine and process dimensioning.



## Consultation

We are competent in designing and planning not only new plants but also plant conversions, the upgrading and modernization of existing plants, maintenance and repair, the selection of suitable wear materials and in answering all process related questions.

## Manufacture

We have our own mechanical workshops and foundry. All phases of our product manufacture are carefully planned. The quality of our products is systematically supervised and documented pursuant to the quality management system of the DIN ISO 9001.

## Spare parts service

Original spare parts guarantee that your plant will operate economically even many years after its erection. Take advice from our experienced engineers. Our electronic wear analysis for the grinding elements of the MPS mill records the actual wear progress and allows a selective spare parts inventory and maintenance.

## Erection and commissioning

Experienced engineers and supervisors are available for erection and commissioning and for the training of your operating and maintenance personnel.





## **GEBR. PFEIFFER**

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