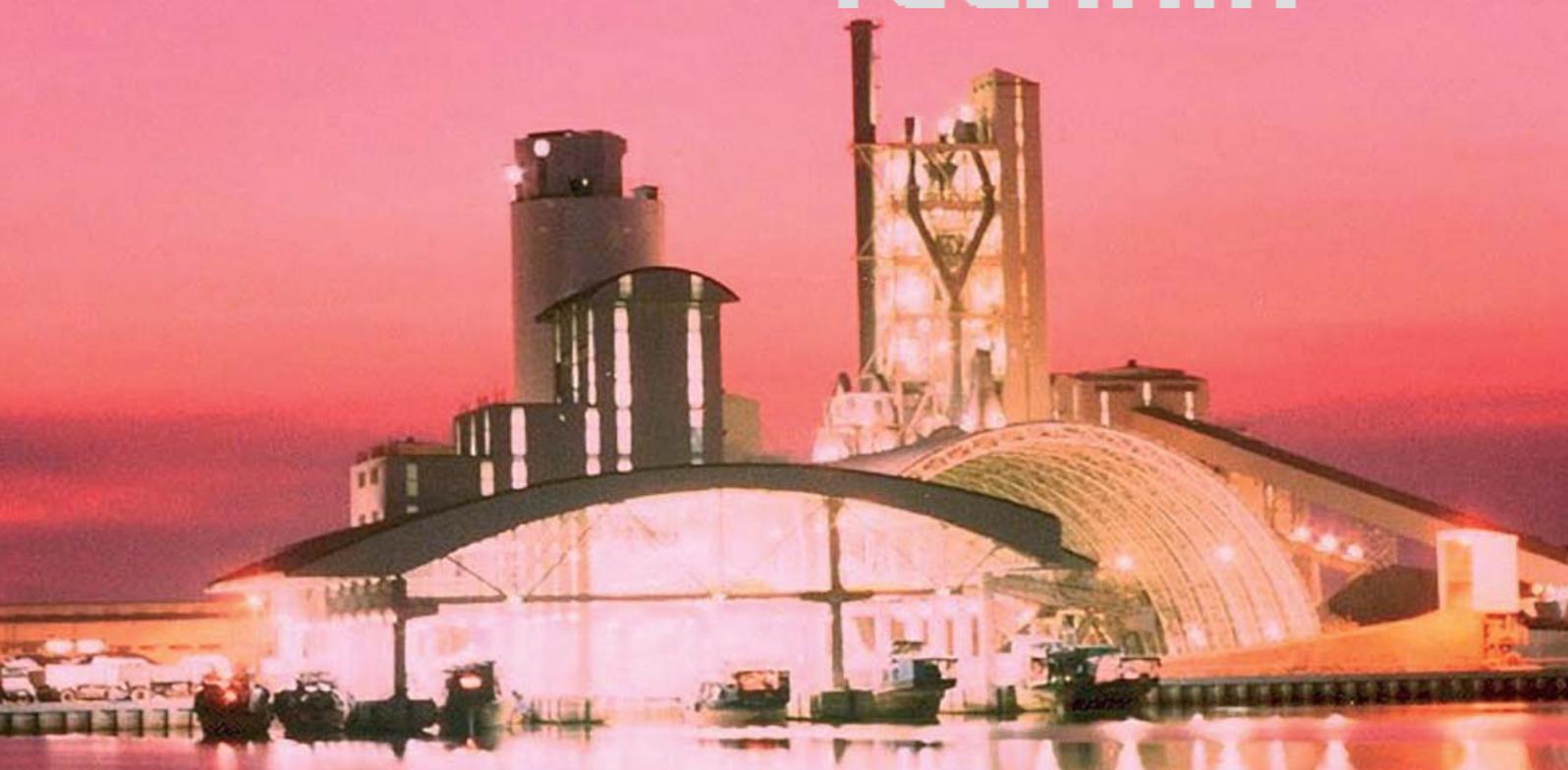




CLAUDIUS PETERS

cement

Technik



Technology you can trust

www.claudiuspeters.com



Cement Technik

Claudius Peters Projects GmbH, Germany and Claudius Peters Technologies SAS, France are part of the Technologies Division of Claudius Peters Group GmbH, headquartered in Buxtehude, near Hamburg, offering technologies in the field of materials handling and processing and providing turnkey or semi-turnkey systems to a wide range of industries. Claudius Peters Group GmbH is a wholly owned subsidiary of Langley Holdings plc, a privately controlled UK engineering group, with regional offices in the Americas, Europe, China and the Far East.

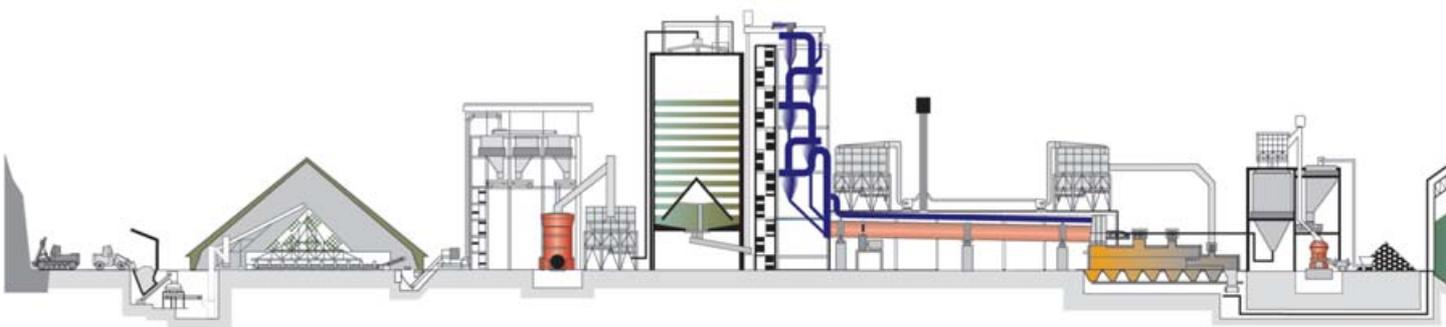


Claudius Peters headquarters, Buxtehude, Germany

In the past century, Claudius Peters has grown from having its foundations in the cement industry to being one of the world's most revered engineering companies. From conception to installation, through commissioning, after-sales support and facilities management, Claudius Peters provides world-class service to world-class clients.

Claudius Peters offers a wide range of equipment and is the ideal partner in cement technologies.

- Raw material storage and blending beds
- Storage and homogenization of raw meal
- Raw meal feeding to the pre-heater
- Coal grinding, storage, conveying and dosing systems
- Clinker coolers
- Cement conveying and storage systems
- Cement mixing systems
- Cement loading and unloading systems
- Cement bagging and palletizing plants
- Cement carrier and terminal equipment





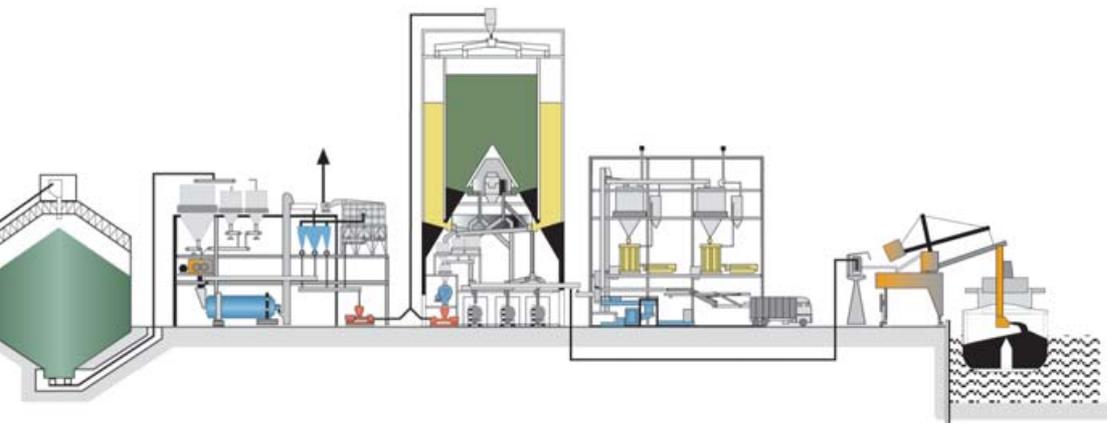
Technology you can trust

Claudius Peters reputation in cement technology comes from many years of technical experience combined with continuous product development in our Technical Center (Technikum). Several products developed by Claudius Peters such as the hydraulic drive for clinker coolers, roller crushers for clinker coolers, expansion chambers for silos and reduced power consumption pneumatic conveying systems (FLUIDCON) are just a few of the products that have become standard in the cement industry.

The Claudius Peters Technikum focuses on basic research and information transfer between international plant operators and ourselves. Located only a few steps away from our administration, design and production facilities, the Technikum houses laboratories and test installations in which the characteristics of more than 13,000 materials have been analyzed in different procedures. Information from this data pool provides the basis for the various design parameters of Claudius Peters equipment processes and developments, helping us and our clients to find optimum operating parameters for their requirements.



Claudius Peters Technikum





Stockyards

Your challenge is to deliver a consistent cement quality to a variety of clients and buildings sites. Claudius Peters expertise provides you with the equipment to produce an optimum, homogeneous raw material for processing. Acting as your one-stop supplier, Claudius Peters can provide you with everything for stockyards and blending beds, and mixing silos for raw meal.

The optimized design and homogenizing in the blending bed will reduce the required degree of blending or homogenization in the mixing silo, reducing operating and energy costs to a minimum whilst maintaining reasonable investment costs.

Claudius Peters stockyards are available for limestone, marl, mix-additives for raw meal and cement and for primary and secondary solid fuels such as hard coal and wood chips.



Stacker



Bridge reclaimer for limestone (cement plant)

The product range for the Claudius Peters PHB Someral equipment is:

- **Portal, semi-portal and side reclaimers**
- **Bridge reclaimers**
- **Travelling and slewing stackers**
- **Circular and longitudinal stockyards**

For reaching optimum mixing our stacker and reclaimer can be equipped with an online analyser and our SmartStack™ software.

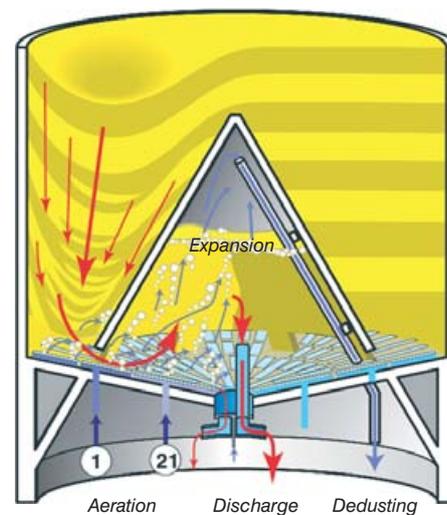


Mixing silos

Used in the homogenization of raw meal, Claudius Peters mixing silos (MC-Silos) are characterized by a high blending factor achieved by a unique mixing chamber with overflow pipe. The silos' capacities can be optimized in combination with the stockyard equipment from a capacity of 2,500 tonnes to 60,000 tonnes.

In addition to the new Claudius Peters MC-Silos, older systems with a flat bottom design can be modified and optimized with our unique expansion chamber to achieve a continuous mixing operation. Additionally, higher discharge rates will be achieved and energy consumption will be reduced.

All of our raw meal mixing silos can be combined with Claudius Peters kiln feeding to ensure homogeneous feeding of the kiln pre-heater. During the continuous, pulsation-free pre-heater feeding by airlift or bucket elevator or directly from the control bin, the raw meal metering device is calibrated on-line and the requirements of the kiln are met without interruption to kiln feeding.



Multi-flow feeding



Overflow pipe



Coolers

The Claudius Peters clinker cooler can be combined with any kiln system on the market. The cooler's reliable operation can easily be adapted to the kiln line's requirements. This not only applies to new cooler installations, but also to conversions and capacity increases of existing kiln cooler systems. Our clinker coolers do the job they are designed for!

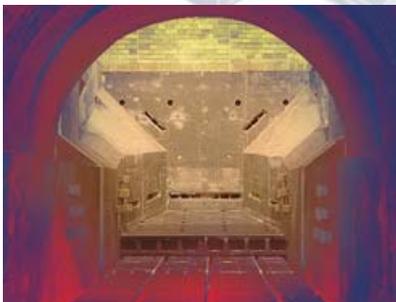
Traditionally, the main function of the clinker cooler was to cool down the clinker from $\sim 1400^{\circ}\text{C}$ to $\sim 100^{\circ}\text{C}$. For some time now the focus has been on reducing the kiln heat consumption or, recuperating as much heat as possible to reduce fuel costs..

With rising awareness of the environment and CO_2 emissions, utilizing the remaining heat and optimizing the use of alternative fuels is of increased importance.

Whatever your main focus may be, we will offer you a customized solution.

Claudius Peters is an expert in cooler technology in all fields including:

- New green field systems with the newest type of coolers using the moving floor principle to transport the hot clinker
- The η (ETA) Cooler

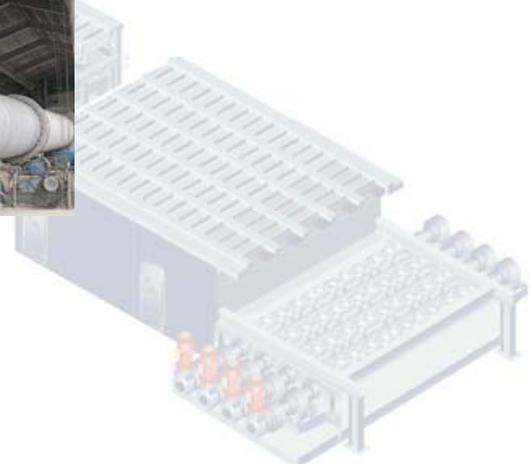


The η (ETA) Cooler



- Replacing old coolers with the η (ETA) Cooler or the traditional grate cooler with the well proven CSS supports
- Modifying existing coolers with the Claudius Peters HE-Module (static inlet) or CSS grate for increasing capacity or optimizing the operation and energy consumption

In recent years, Claudius Peters has initiated various cooler developments, such as the hydraulic drive, roller crusher or moving floor principle, that have become standard in cooler technology.



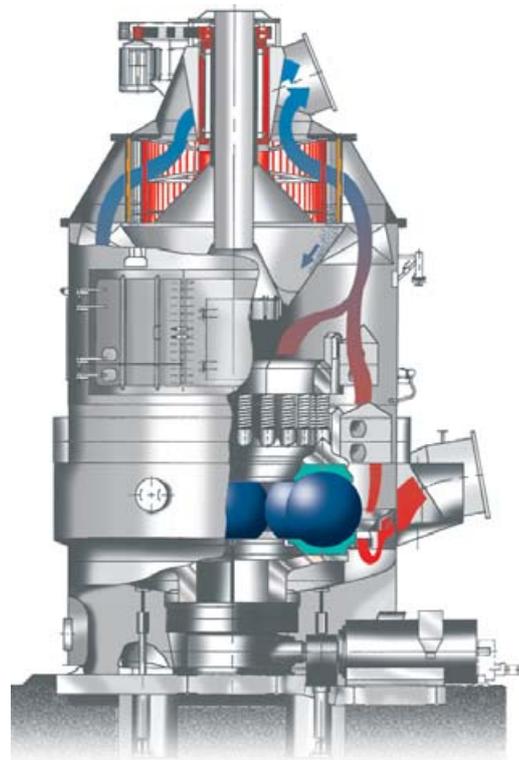


Grinding

Claudius Peters is the perfect partner for cement plant operators requiring solid fuel handling with stockyard equipment, mechanical transport to the grinding plant, grinding of fuels (e.g. hard coal, pet coal, sewage sludge, etc), storage, pneumatic conveying, dosing of the fines and to the burners of the combustion process.

The Claudius Peters EM Mill has been installed in more than 500 coal grinding mills. Its grinding elements are balls that can move freely between the grinding rings and remain round throughout their whole service life, guaranteeing constant throughput capacities and fineness for up to 20,000 hours.

Claudius Peters has the expertise to install grinders in different process conditions within a pressure shock-resistant design or an inert process operation. By using the most cost-efficient energy sources (cooler exhaust gas, pre-heater gas or hot gas generator) for drying the fuel, we can ensure the client's process is fully optimized.



EM110-7115 with dynamic classifier



Coal grinding plant





Pneumatic conveying

Claudius Peters can deliver a wide range of pneumatic conveying solutions including the examination of bulk solids, selection of the conveying system and the surrounding auxiliary components. With more than one hundred years experience and continuous development of pneumatic conveying technology, Claudius Peters is your partner of choice for pneumatic conveying systems handling any type of material from primary or secondary raw materials to fuels or cement of any kind.

Claudius Peters ongoing product development in this sector has lead to several unique products such as the Claudius Peters X-Pump and the FLUIDCON System. These and other systems can be integrated into new or existing cement plant installations.

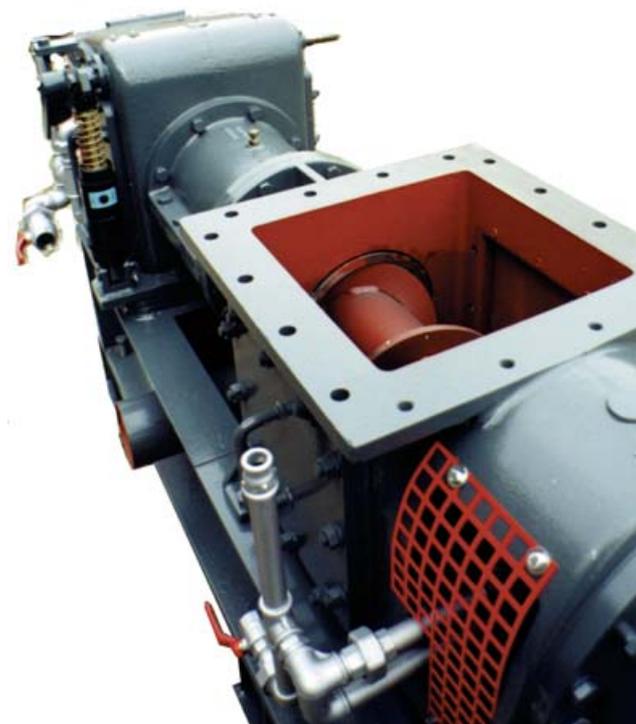


FLUIDCON system

Claudius Peters standard pneumatic conveying systems include:

- **Aeroslide systems**
- **Pressure vessel systems**
- **X-Pump systems**
- **Airlift systems**
- **Blow-through feeder systems**
- **Jet feeder systems**

Positive pressure vessel systems can be designed either as pipe conveying systems or as Fluidcon systems that will reduce energy consumption and operating costs in comparison to conventional systems.





Silos

With a long tradition in bulk material handling and minerals storage, Claudius Peters is the ideal partner for your storage solutions. With our Technikum (Technical Center) and laboratory, Claudius Peters can evaluate all types of bulk materials and find the best silo design for your application.

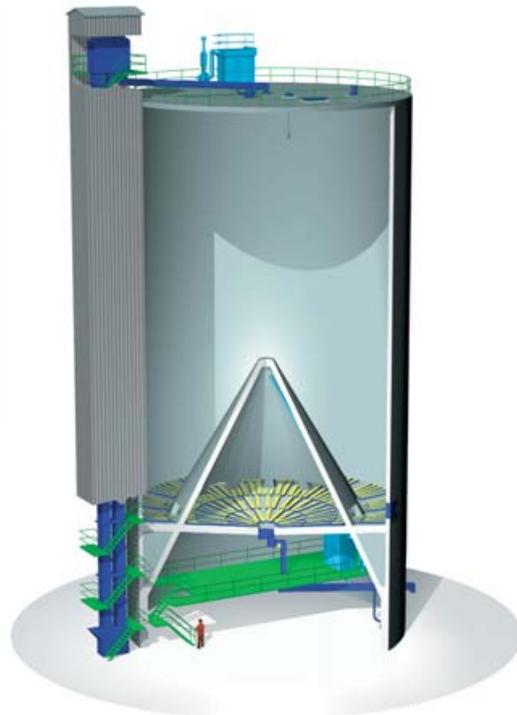
The Claudius Peters standard silo design is based on the expansion chamber principle, giving the operator the advantages of high storage utilization, constant discharge conditions and a thorough emptying rate. These silos can be designed in different ways with multiple chambers, various discharge possibilities, truck loading equipment, mixing systems or other features underneath the silo.

Claudius Peters also has different designs available for special materials or smaller storage capacities and has a long tradition of modifying old silos to improve the discharge and energy consumption of existing operations.



Silo facts:

- Capacities up to 60,000 t
- Diameters up to 30 m
- Discharge capacities up to 1,000 t/h
- Reclaim rates 99% and higher



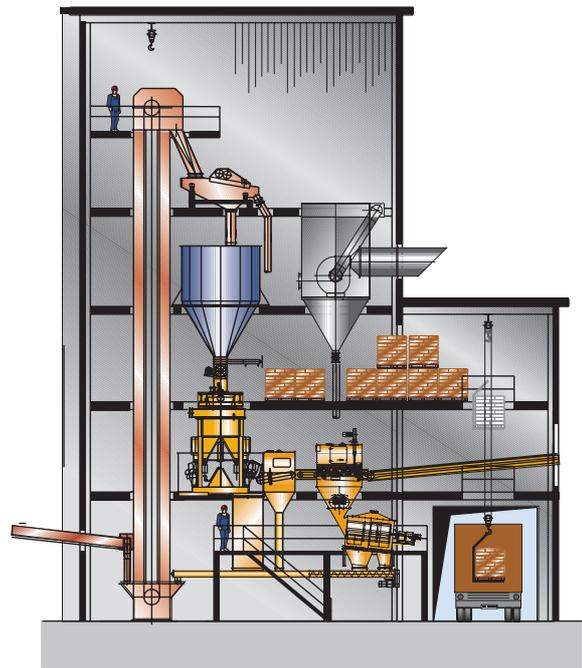


Packing

Cement dispatch has to fit into your process operation without any disruption to production. Whether dealing with bulk or bagged cement, Claudius Peters has the complete solution. By taking your complete plant into account and considering the equipment as well as the technical concept, Claudius Peters can develop a customized packing and palletizing system that perfectly meets your requirements.

Claudius Peters manufactures all of its key packing plant equipment in-house, from the feeding system, packing machine and bag applicator to the complete bag discharge equipment including truck loaders. All other parts, such as de-dusting and palletizing equipment, are seamlessly integrated into our solution from well-known suppliers.

Whether you need a rotary packing machine or an inline packer, Claudius Peters will deliver the correct solution. We have designed the packing equipment in a modular way so that the equipment's capacity can be increased and the plant can be easily adapted to new demands.



Rotary packer with automatic bag applicator



Truck loader



12-spout packer



Loading & unloading

Cement trading is becoming increasingly important in the world and cement has to be carried more and more into emerging markets or conurbations. For these requirements Claudius Peters can offer the full package for dispatch terminals including storage silos, truck, wagon or stationary ship loading. We can also offer solutions for the receiving terminal with truck or wagon unloading and the necessary cement distribution equipment like silos, truck loading, packing and palletizing equipment.

For cement transport across water, Claudius Peters can design equipment for self-unloading carriers with panel aeration and special pneumatic discharge equipment such as the X-Pump or HP-CONTANK.

The advantage of this all-in-one concept is that all of the equipment integrates, enabling reductions in power consumption to be easily achieved.



Singapore: Jurong Port: silo, packer and palletizer



Australia: Brisbane 26,000t silo

CALCINING | COOLING | DISPATCH
DOSING | DRY BLENDING | DRYING
GRINDING | PACKING
PNEUMATIC CONVEYING
PULVERIZED FUEL SUPPLY
SILO SYSTEMS
STOCKYARD SYSTEMS
ALUMINA HANDLING SYSTEMS
MARINE POWDER HANDLING
TURNKEY PROJECTS



Technology you can trust

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ERRORS & OMISSIONS EXCEPTED

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