



**CLAUDIUS PETERS**  
TECHNOLOGIES



Stockyard

Technik



**Technology you can trust**

[www.claudiuspeters.com](http://www.claudiuspeters.com)

# Stockyards

*Claudius Peters Technologies GmbH, Germany and Claudius Peters Technologies S.A., 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, providing turnkey and 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.*

## A fundamental, proven principle

A longitudinal stockpile can be designed with a high-capacity travelling tripper or shuttle and a portal, semi-portal or side-type reclaimer to provide a reliable, cost-effective solution to the storage of most bulk commodities.

Once the material is stockpiled, it is reclaimed in successive passes along the pile. With the flexibility in both the reclaiming depth and the travelling speed of the unit, the reclaim rate can be adjusted as required.

- **PHB SOMERAL's design of portal reclaimers is suitable for stockpile widths exceeding 60m, at a wide range of reclaiming capacities. This equipment is typically shipped with the majority of the components pre-assembled in the shop, helping reduce the construction schedule. Furthermore, in specialised applications such as covered stockyards, significant cost-saving opportunities can be achieved through the use of a twin-boom reclaimer system, which reduces the overall size of the building.**

- **When only limited space is available for a stockpile, PHB SOMERAL semi-portal reclaimers give the maximum storage capacity on a specified site.**
- **PHB SOMERAL's side reclaimer, designed for spans of less than 30m, is designed to have both rails along one side of the pile**
- **For sticky products, positive ejection buckets can be fitted to the scraping arm of the reclaimer.**



Side reclaimer, shale



Portal reclaimer, fertilizer

PHB SOMERAL reclaimers are currently operating all over the world. This type of equipment offers the potential for handling capacities ranging from 50t/h of coal in a 33m wide stockpile to 1,500t/h of phosphate rock at 45m, to name a few.



Single-boom portal reclaimer

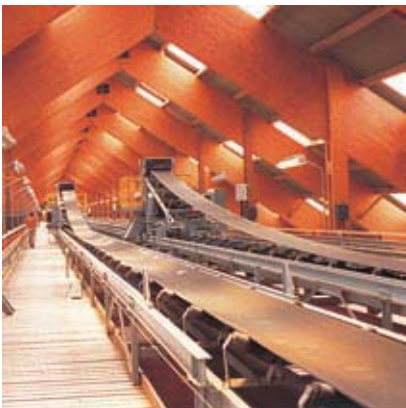
Twin-boom portal reclaimer

Circular side reclaimer

Semi portal reclaimer

Side reclaimer

# Integrated Systems



Stacking by travelling tripper

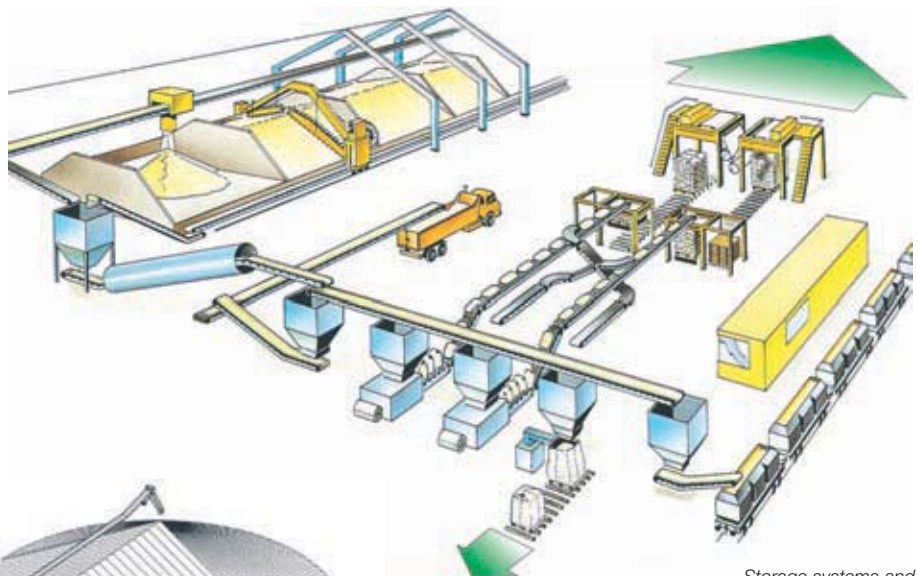


Reclaiming: scraping arm



Reclaimer discharge and operator's cab

PHB SOMERAL storage systems can form an integral part of larger material handling installations that comprise facilities as follows: conveying networks, bagging and palletising stations, wagon and truck loading points, shiploaders. The PHB SOMERAL system is therefore the key element in a completely automated material handling package, operating through a local network with a central, ergonomic design.



Storage systems and fertilizer storage and packing



Longitudinal stockyard with twin-boom portal reclaimer

## Blending Beds ...

PHB SOMERAL's longitudinal blending bed, equipped with a travelling stacker and a bridge reclaimer, is the ideal way of using a storage system for energy-efficient homogenisation. In the chevron mode, the stockpile is formed by the stacker operating along the entire length of the bed while discharging the material. Each layer of material is discharged on top of another until the full height of the stockpile has been achieved.

Throughout this process, an automated tilt control on the stacker boom helps reduce the height the product falls by maintaining the minimum distance between the stacker discharge point and the top of the pile.



*Circular blending bed for cement raw mix*

### Stockyards parameters

Typical capabilities of longitudinal stockyards equipped with a stacker and bridge reclaimer include:

- **Stockpile widths from 16m to 45m**
- **Virtually unlimited storage length, with simple stockpile extension capabilities**
- **The capability to stack from 350 to over 500 individual layers on the pile**
- **Reclaiming rates ranging from a few to over a 1,000 t/h**

Inclined chain reclaimers are designed for smaller overall dimensions for a specified storage capacity, while horizontal chain units with a raised discharge have simpler civil specifications.

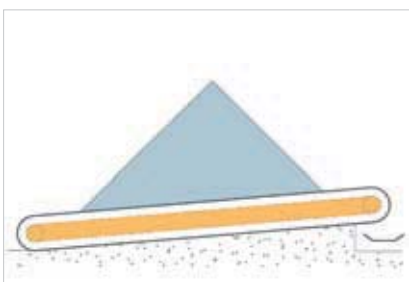
The system features simultaneous operation of the stacker and reclaimer in separate areas of the stockpile.

Inclined or horizontal chain reclaimers retrieve the material from a harrow that is designed for the full height of the stockpile face. The harrow creates a cascading effect of the material down the face of the stockpile to the drag chain reclaimers, thoroughly mixing the different layers within the pile. In circular applications (continuous chevron stockpiles), the stacking and reclaiming process takes place at opposite ends of the pile.

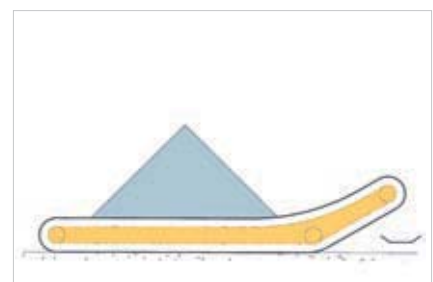
The two machines will continuously follow each other around the perimeter of the track.



*Bridge reclaimer for limestone (cement plant)*



*Inclined chain*

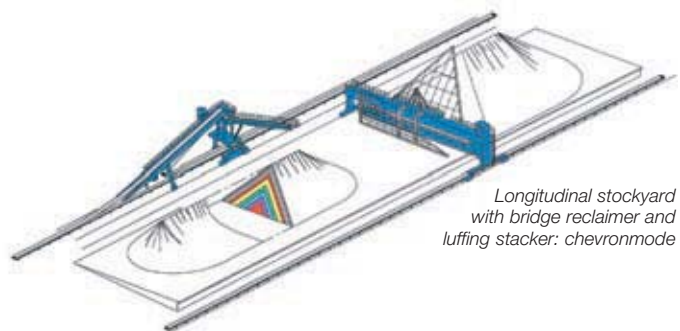


*Horizontal with raised discharge*

... providing more than just simple storage



Circular stockyard, coal

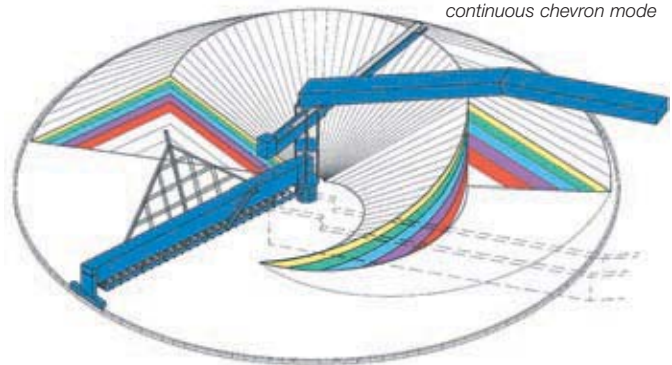


Longitudinal stockyard with bridge reclaimer and luffing stacker: chevron mode

**Other important factors**

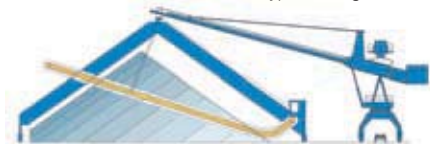
- In situations where material for blending has a wide particle size range, product segregation can be reduced and homogenisation performance improved by using a windrow system of stacking with a travelling, slewing stacker.
- For simpler requirements, such as blending with fewer than 20 layers, a strata-type system can be used with a portal reclaimer and travelling stacker.
- Claudius Peters Technologies S.A. can supply a range of systems for installations where material over 2,000t/h are required.

Circular stockyard with slewing stacker and circular bridge reclaimer: continuous chevron mode

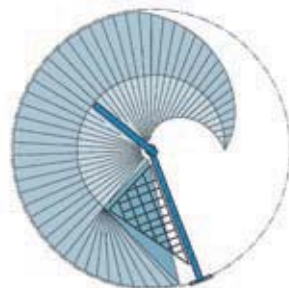
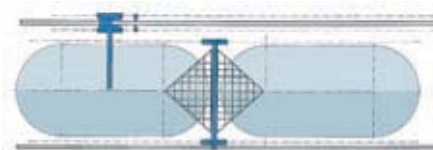


Options include the use of separate stackers and reclaimers, or a combined stacker/reclaimer.

Strata-type homogenisation



**Examples of pile volumes**



Wind row-type homogenisation



**Longitudinal stockyard**

Capacity	Dimensions
2 x 15,000m <sup>3</sup>	2 x 30 x 120m
2 x 25,000m <sup>3</sup>	2 x 35 x 140m
2 x 50,000m <sup>3</sup>	2 x 44 x 176m

**Circular stockyard**

Capacity	Diameter
15,000m <sup>3</sup>	Ø 75m
25,000m <sup>3</sup>	Ø 90m
50,000m <sup>3</sup>	Ø 110m

## Storage and Reclaiming equipment ...

### PHB SOMERAL's product range

- Portal, semi-portal and side reclaimers
- Bridge reclaimers
- Travelling and slewing stackers
- Circular and longitudinal stockyards
- Design and engineering
- Manufacturing, erection and commissioning
- Spare parts and after sales service
- Single machines or complete plants

### Fertilizers

- Urea, nitrates and phosphates
- Portal, semi-portal or side reclaimers for bulk marine terminals
- PHB SOMERAL references for the fertilizer industry include, among others, seven 1,000t/h and one 1,500t/h capacity portal reclaimers.



Longitudinal blending bed : bridge reclaimer



Portal reclaimer, fertilizer

## ... for a Variety of Applications



*Circular coal stockyard (mining industry)*



*Coal stacker at a power station*



*Portal stacker reclaimer for coal terminals*



*Semi portal reclaimer for bagasse (bio fuel)*

### Stockyards and blending beds

#### Cement plants

- Longitudinal and circular pre-blending beds for limestone, clay and marl.
- Portal, semi-portal or side reclaimers for the raw mix additives
- An example of a project carried out by PHB SOMERAL for the cement industry includes the design and construction of a 122m diameter pre-blending bed

#### Coal and Ore

- Enclosed circular stockyards, equipped with bridge or portal reclaimers
- Applications at power stations and marine terminals
- PHB SOMERAL references in the coal industry include a 1,000t/h portal type stacker/reclaimer with 43m rail span



#### Other Industries

- Wood chips storage for the paper industry
- Bio solid fuel storage
- FGD Gypsum storage
- etc.



**Claudius Peters Technologies GmbH**

Schanzenstraße 40  
D-21614 Buxtehude  
Germany  
Tel: +49 (0) 4161 706-0  
Fax: +49 (0) 4161 706-270

**technologies@claudiuspeters.com**

**Claudius Peters Technologies S.A.**

34 Avenue de Suisse  
F-68316 Illzach  
France  
Tel: +33 (0) 3 89 313 300  
Fax: +33 (0) 3 89 619 525

**technologiesSA@claudiuspeters.com**

CALCINING • COOLING

DISPATCH • DOSING

DRY BLENDING • DRYING • GRINDING

PACKAGING • PNEUMATIC CONVEYANCE

PULVERIZED FUEL SUPPLY

SILO SYSTEMS • STOCKYARD SYSTEMS

ALUMINIA HANDLING SYSTEMS

TURNKEY PROJECTS

**Claudius Peters Projects GmbH**

Schanzenstraße 40  
D-21614 Buxtehude  
Germany  
Tel. +49 (0) 4161 706 0  
Fax +49 (0) 4161 706 270  
projects@claudiuspeters.com

**Claudius Peters (Americas) Inc.**

4141 Blue Lake Circle  
Dallas, Texas 75244, USA  
Tel. +1 972 386 4451  
Fax +1 972 386 4497  
dallas@claudiuspeters.com

**Claudius Peters do Brasil Ltda.**

Av. Adolfo Pinheiro 1010, 12° andar  
04734-002 Sao Paulo/SP, Brasil  
Tel. +55 11 5521 8595  
Fax +55 11 5521 8303  
brasil@claudiuspeters.com

**Claudius Peters (UK) Ltd.**

320 Kings Road  
Reading, Berks RG1 4JG, UK  
Tel. +44 (0) 118 966 4555  
Fax +44 (0) 118 966 9899  
UK@claudiuspeters.com

**Claudius Peters (Iberica) S.A.**

Avenida de América, 37  
1a Planta-Oficina 140  
Edificio Torres Blancas  
E-28002 Madrid, Spain  
Tel. +34 91 4133 616  
Fax +34 91 519 69 56  
iberica@claudiuspeters.com

**Claudius Peters (Italiana) srl**

Via Verdi, 2  
I-24121 Bergamo, Italy  
Tel. +39 0 35 237 196  
Fax +39 0 35 237 785  
italiana@claudiuspeters.com

**Claudius Peters România S.R.L.**

Str. Oituz Nr. 25C, et 2  
550337 Sibiu, România  
Tel: +40 (0) 369 407 036  
Fax: +40 (0) 369 407 038  
romania@claudiuspeters.com

**Claudius Peters (China) Ltd.**

Unit A, 10/F, Two Chinachem Plaza  
68 Connaught Road Central, Hong Kong  
Tel: +852 2544 1848  
Fax: +852 2854 0011  
hongkong@claudiuspeters.com

**Branch Office:**

10/F, Office Block  
Hong Kong Macau Centre  
No. 2 Chaoyangmen Bei Da Jie  
Beijing 100027, P.R. China  
Tel: +86 10 6501 3831  
Fax: +86 10 6501 3803  
beijing@claudiuspeters.com

**Claudius Peters (Asia Pacific) Pte. Ltd.**

25 International Business Park  
#04-13/14 German Centre  
Singapore 609916  
Tel: +65 6562 9100  
Fax: +65 6562 9109  
asiapacific@claudiuspeters.com

**Claudius Peters (India) Pvt. Ltd.**

Unit 408, 4th Floor, Peninsula Plaza  
A/16 Fun Republic Lane  
Off Link Road, Andheri West  
Mumbai 400 053, India  
Tel: +91 98 2062 4107  
india@claudiuspeters.com



**CLAUDIUS PETERS  
TECHNOLOGIES**

A Langley Holdings Company

**www.claudiuspeters.com**

The information contained within this brochure is deemed to be correct at the time of going to press. Due to the policy of continued improvement, we reserve the right to change any specification without prior notice. ERRORS & OMISSIONS EXCEPTED