

Technology for the future

Changeover from 50 kg to 25 kg bags.
Claudius Peters PACPAL – Technology for the future

A major challenge for operators of packing and dispatch systems is the conversion of systems from 50 kg to 25 kg bags. Especially in the cement industry this changeover can mean a required capacity increase of the packing plant of 4,500 – 5,000 bags/h. Corresponding regulations, which legally require the production or sale of a maximum of 25 kg bags, apply to many countries, especially in the Latin American region, and must be successfully implemented in the future.

In order to avoid significant bottlenecks during the changeover to 25 kg bags in the entire production process, but also to achieve the desired total sales volume, the machine technology and the system concept must be adapted and optimized. In a classical packing and palletizing plant the packing machine, the automatic bag applicator, the downstream belt conveyor, the palletizer as well as the feeding system of the packing plant will need to be considered.



PACPAL Roto Fill

PACPAL Packing and palletizing systems



Rotary packer – Powerful bag filling

Classic rotary packers are designed with up to 12 spouts (and in exceptional cases with 14 or 16 spouts), so that an increase in total capacity is possible by simply replacing the existing machine with one of a lower capacity (e.g. 8 spouts). However, the space requirements (diameter and height of the machine) must also be taken into account. Suitable machine concepts, such as those found in the **PACPAL Roto Fill** series, meet these requirements and bag capacities of up to 5,000 bags/h become possible.

The machine's adjustable bag seat can be easily adapted to a wide range of bag dimensions. The self-optimizing weighing electronics can also be adjusted to the new bag weights, thus guaranteeing the weighing accuracy required by OIML. Filling the cement in coarse and fine flows ensures an almost dust-free process.

Furthermore, the **PACPAL Roto Fill** machine can be supplied with a reduced number of modules (spouts), so that it can be retrofitted with additional modules for a future increase in capacity. This is made easy because these modules guarantee the filling and weighing process independently of one another.

In addition, simple and safe maintenance offered by the **PACPAL Roto Fill** is at the center of the machine's philosophy.



Automatic bag applicator – Filling with precision

In order to achieve performance increases across the entire packing plant, automatic application capacities must also be adjusted. The secure application of the bags during the production run is the main task of automatic bag applicators and ensures reliable, trouble-free production.

The **PACPAL Bag Applicator** series has been developed for a wide range of capacities from 2,400 – 4,500 bags/h. The bag applicators can be operated with different bag dimensions in length and width as well as with a wide range of bag valves and bag materials. In this context it is important that the changeover to other bag sizes can be done safely and quickly. With a special arrangement – where 2 bag applicators with 2 bag discharge belts are arranged at the packing machine – bag capacities of up to 5,000 bags/h can be achieved.



PACPAL Bag Applicator

PACPAL Packing and palletizing systems

Palletizer – Customized packing

At the end of the packing process, the finished bags are palletized onto pallets. The changeover of palletizers to different bag dimensions and number of bags per layer must not negatively impact the production process. The modular concept of the **PACPAL Palletizer** series offers an excellent solution to meet these changing requirements. Different pallet dimensions or even palletizing on slip sheets is no problem and increases the flexibility of the palletizing process. Full-pallet roller conveyors are designed for different applications such as shifting or turning the full pallets with maximum loads of up to 2.5 t. Tested safety devices protect the operator when removing the full pallets.

The **PACPAL palletizer** is a machine that can easily handle all common packing and palletizing dimensions as well as palletizer capacities.

Bag discharge equipment – Careful handling of the bags

If high bag capacities are needed, the downstream bag transport system with all its necessary individual devices such as bag discharge belts, bag cleaning, belt weighers and discharge devices for under- or overweight bags, will also need to be adapted. The **PACPAL Bag Treatment** components are up to this task because they are designed to accommodate respective capacity requirements and speeds. The downstream bag cutters and rotary screens for the separation of cement and paper are also specially designed for this application.



PACPAL Palletizer



Preparing the different PACPAL palletizer layers

PACPAL Packing and palletizing systems

Control – Safe operation

As a consequence of a 25 kg bag changeover, most packing systems can operate at a higher performance rate but must continue to be operated and maintained safely. **PACPAL technology** provides the latest operator panels, safety concepts and maintenance programs.

The focus is always on simple and safe operation of the palletizer and the entire packing plant. The operation of such high-performance machines should be possible without major adjustments and uncertainties. Specially developed safety concepts and operator panels protect the operator and other personnel from accidents and improper operation.

Feeding the packaging plant – Flexible material supply

In addition to the conventional feeding of the packing system with an aeroslide and a bucket elevator, alternative concepts can also be used. The **PACPAL Fluid Fill** was developed for this purpose.

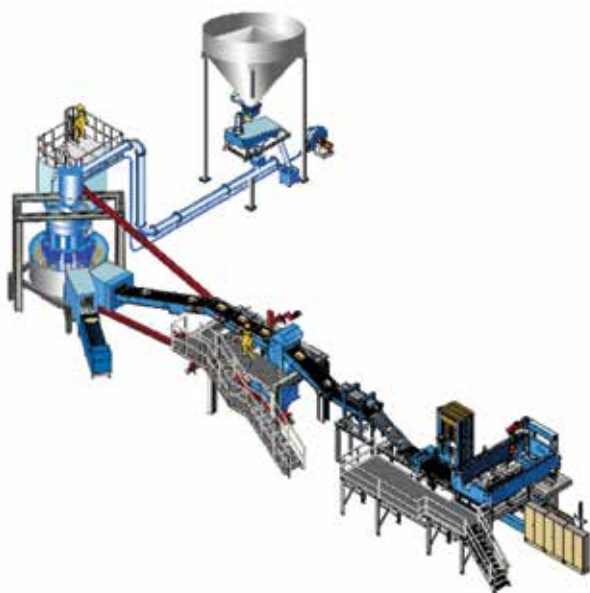
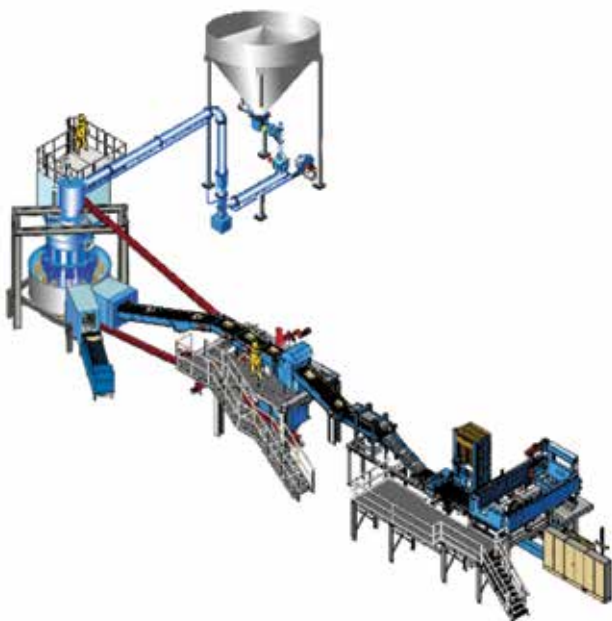
This new feeding concept makes it possible to use alternative locations for packing machines. System components can be installed within existing buildings to avoid the potential problems that would arise from installing a larger packing system. A flexible and specially designed pneumatic conveyor enables direct feeding of the packing machine and increases the opportunities to use alternative locations for the machine.



Mark 10 Input pre-count data - Line 1		02/2019 8:50 PM	
0	Upper belt	0	---
0	Lower conveyor	0	---
1	Upper conveyor	0	---
0	---	0	---
1	Stop bag allocation ready 1 (single bag)	0	---
0	Stop bag allocation ready 2 (single bag)	0	---
0	Stop bag allocation ready 3 (single bag)	0	---
0	Stop bag allocation ready 4 (single bag No. 2)	0	---

PACPAL Control panel

PACPAL Packing and palletizing systems



Summary

Due to legal regulations that limit the maximum individual weight of a cement bag to 25 kg, the packing and palletizing systems of operators in the cement industry will have to be converted to new machine technologies. The aim here is not to reduce the total capacity (t/h) significantly, therefore bag capacities (bag/h) have to be increased considerably. This is where the **PACPAL program** from Claudius Peters with its extensive machine program helps.

Suitable machine concepts combined with intelligent installation layouts and alternatives enable manufacturers to achieve higher bag capacities of up to 5,000 bags/h at the same time as guaranteeing safe, reliable and trouble-free operation within the legal requirements now and also in the future. The Claudius Peters **PACPAL program** offers the opportunity to respond efficiently and in a cost-optimized manner to changing plant conditions.

In the Latin-American cement industry

Claudius Peters has already supplied various packing and palletizing systems with state-of-the-art technology in the Latin American region. These are in operation in Bolivia, Colombia, Mexico and the Caribbean Islands, among others. All these delivered systems can be easily converted to 25 kg bag production or are already working with this bag size.

Technology you can trust. For further information go to: www.claudiuspeters.com

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