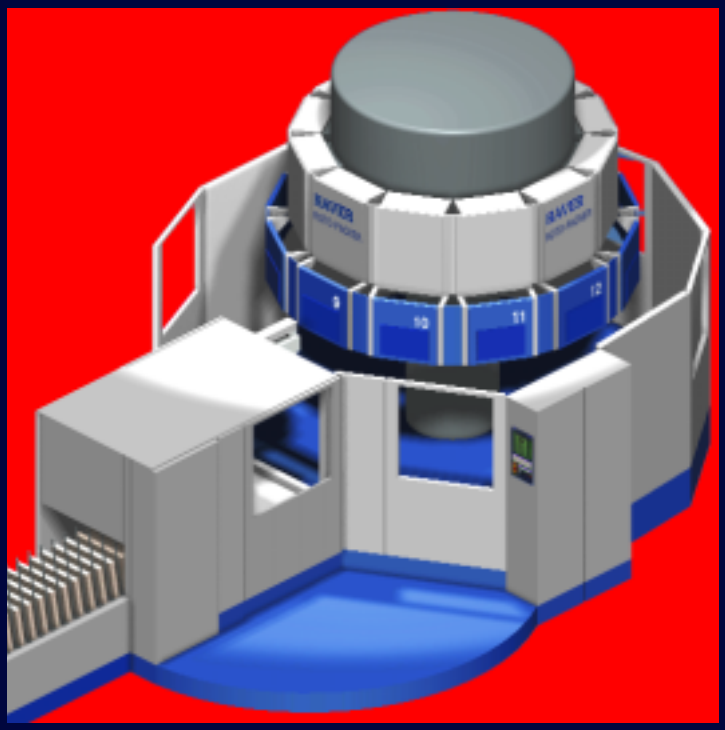
HAVER & BOECKER

Information



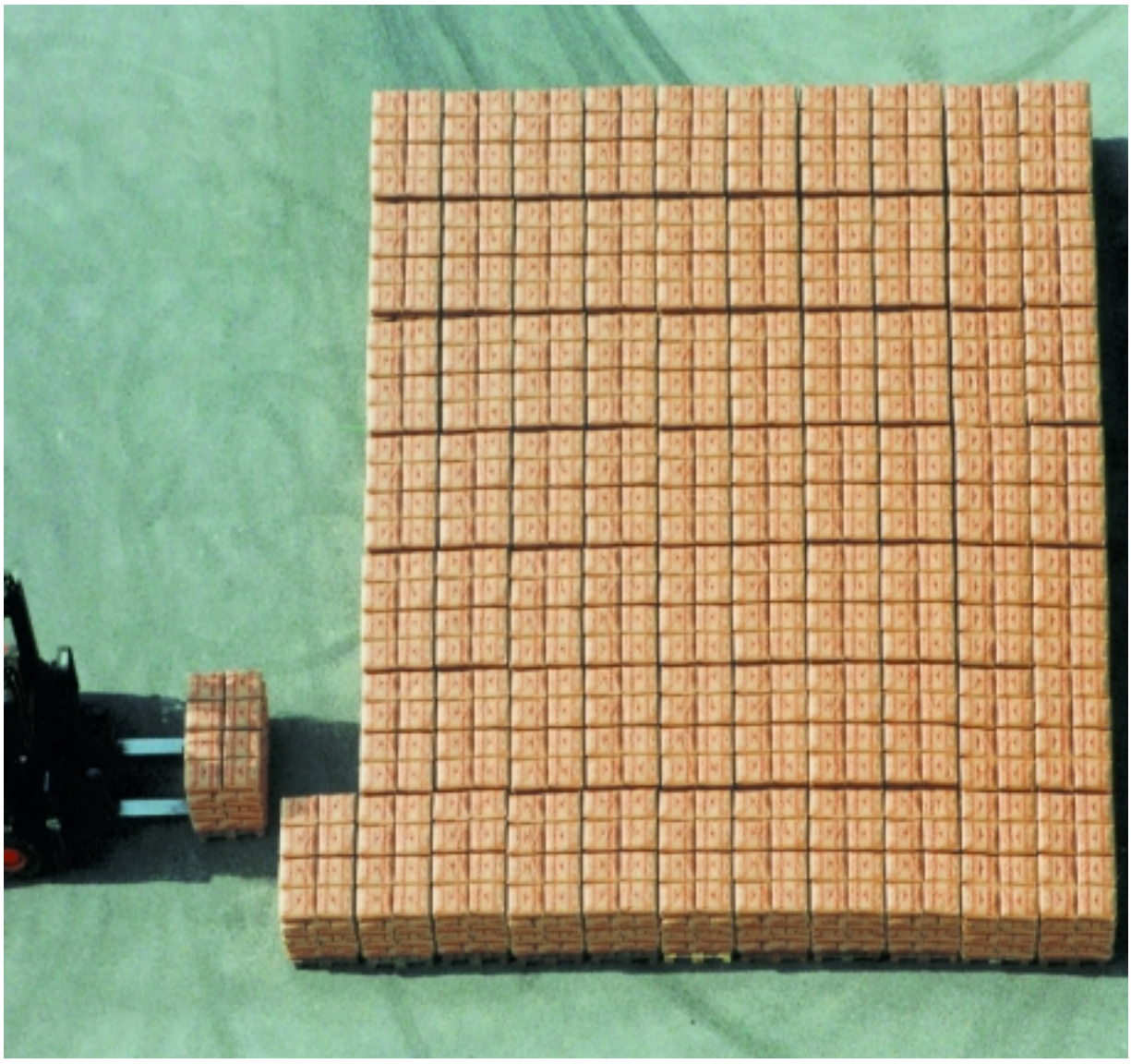
HAVER ROTO-PACKER

HAVER ROTO-PACKER

The ROTO-PACKER valve bag filling machine introduced by HAVER, first time in 1960, has since achieved unprecedented success.
Bulk material is efficiently filled and weighed using 3 to 16 filling spouts on one rotating machine using either the impeller type filling process or the air type filling process.

Special features:

- a high filling speed of over 4000 bags/hr. with minimum bag dimensions
- optimized bag weighing by an electronic weighing system and a filling channel valve that can be adjusted for fine and coarse flow
- clean packing process with vertical spillage return, dedusting and specific filling tube designs
- compact modular construction that simplifies installation and maintenance
- modern drives that assure minimal machine down times
- economically sound concepts
- operationally reliable
  – robust
  – long service life
  – environmentally friendly
  – high technical standards



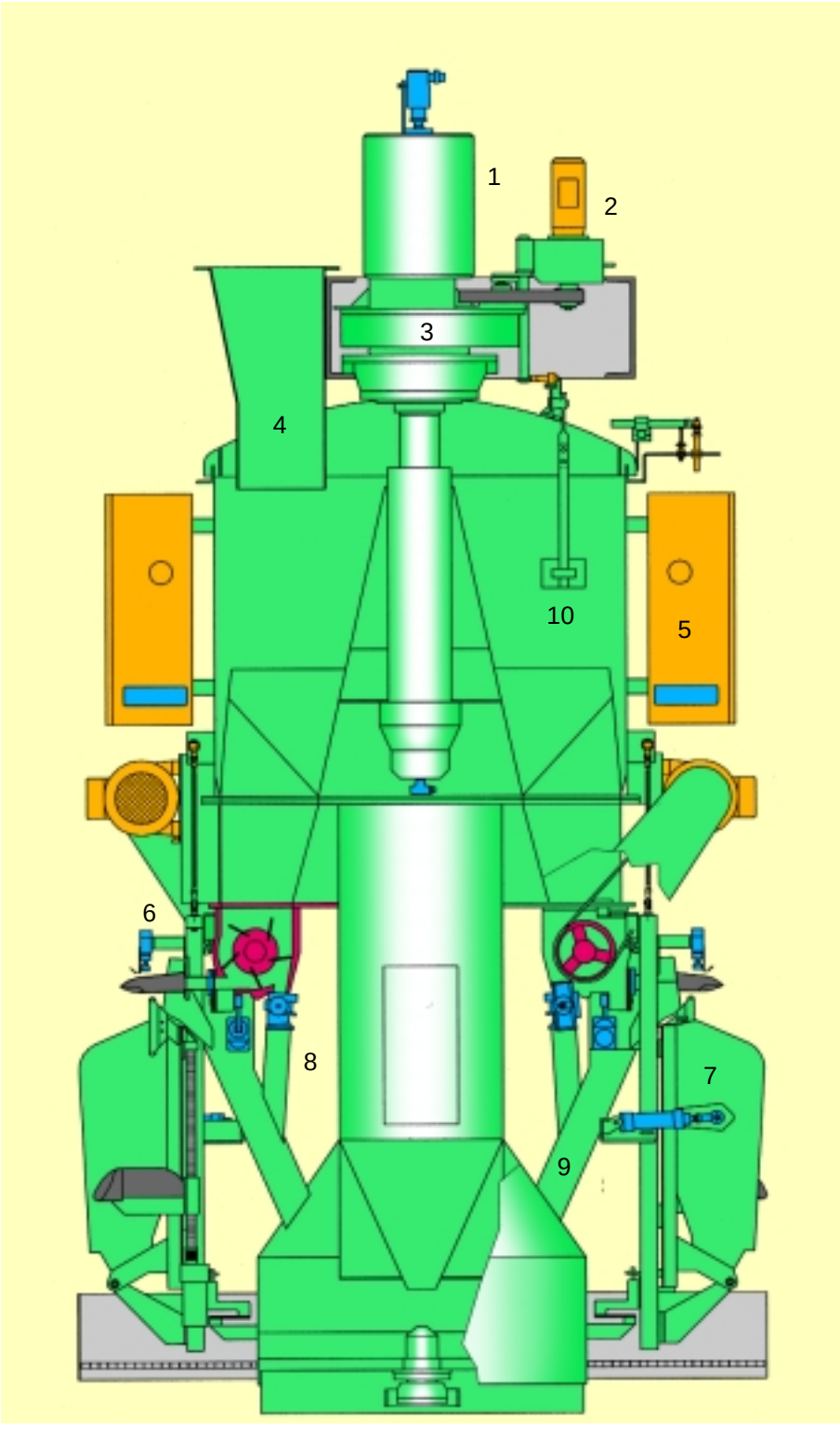
Bagging output of only one HAVER ROTO-PACKER = appr. 4.000 bags/hr.

Experience makes all the difference

A HAVER packing system with a HAVER ROTO-PACKER, automatic bag applicator RADIMAT and check weigher

HAVER ROTO-PACKER with vertical impeller filling system

HAVER ROTO-PACKER type RSE with 12 filling spouts



Cross section of a HAVER ROTO-PACKER type RSE with vertical filling impellers

Through their continuous development, the HAVER vertical impeller filling system RS could be optimally designed to fulfill the special requirements of filling free-flowing, bulk materials – especially for building materials of every type.

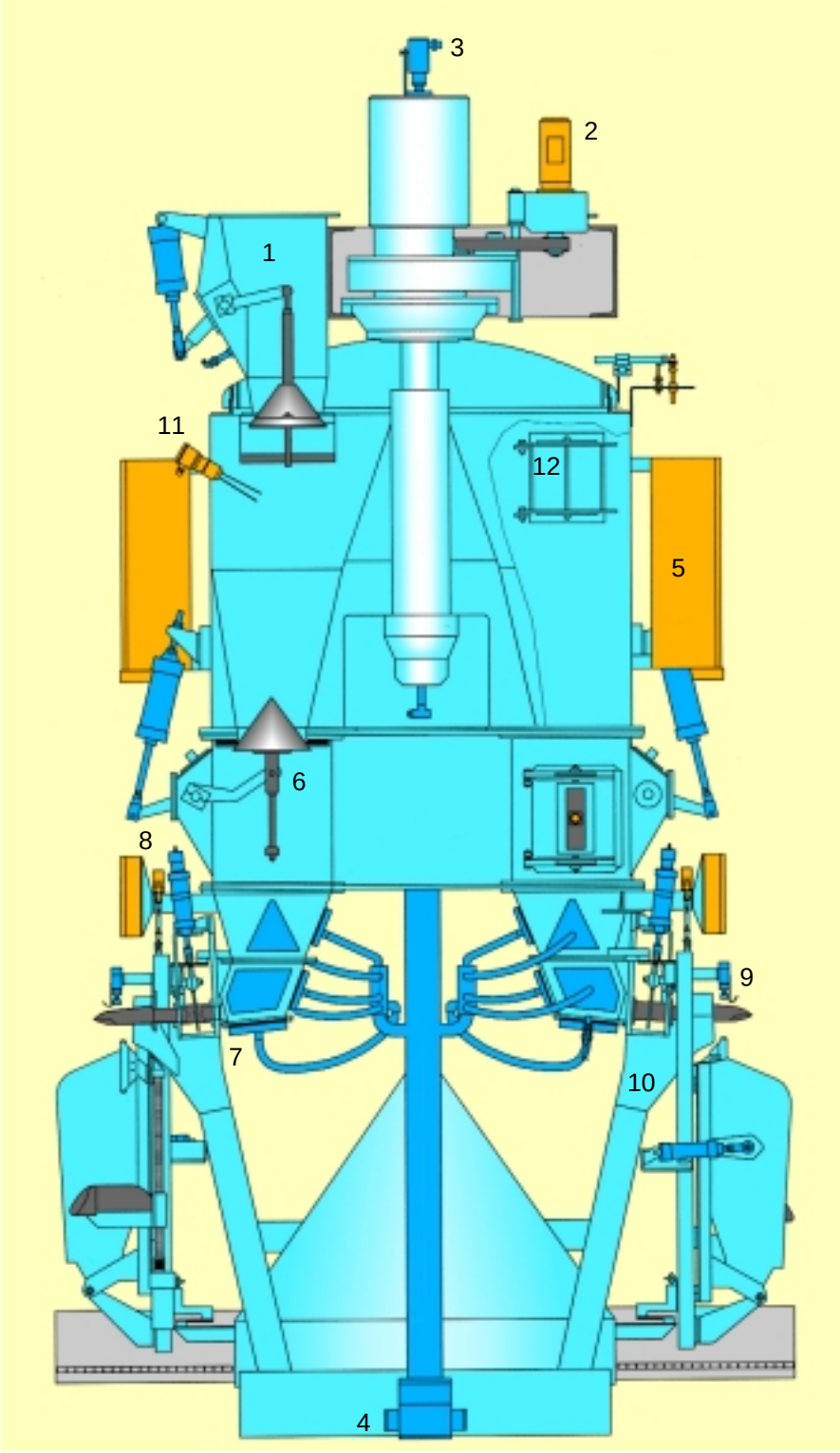
The results:

- optimum filling efficiency for small bag dimensions with minimum aeration
- reduced wear and tear
- high operational safety levels
- quick and easy access to exposed parts such as the turbine impeller
- filling pressures that are optimally transmitted via specially designed filling channels
- pneumatically operated slide valve coarse-, fine flow and shut-off of filling
- soft-start drive system using V-belts

1 air and power connections
2 rotary drive unit – speed adjustable
3 maintenance free bearing unit
4 product inlet
5 weigher/control panel
6 filling station
7 bag chair
8 quick discharge device (option)
9 spillage return/ dedusting
10 packer bin level control

HAVER ROTO-PACKER with the air type filling system

HAVER ROTO-PACKER type RLE with 8 filling spouts



Cross sectional view of a HAVER type RLE ROTO-PACKER – air type filling system

The HAVER ROTO-PACKER series RL designates a rotating valve-type bag filling machine (with 3, 4, 6, 8, 10 or 12 spouts) according to the air type filling system. The area of application includes powder type, fine or coarse grain, flow resitant products or mixtures with fine and coarse components, granulates, crystals or goods of similar particles.

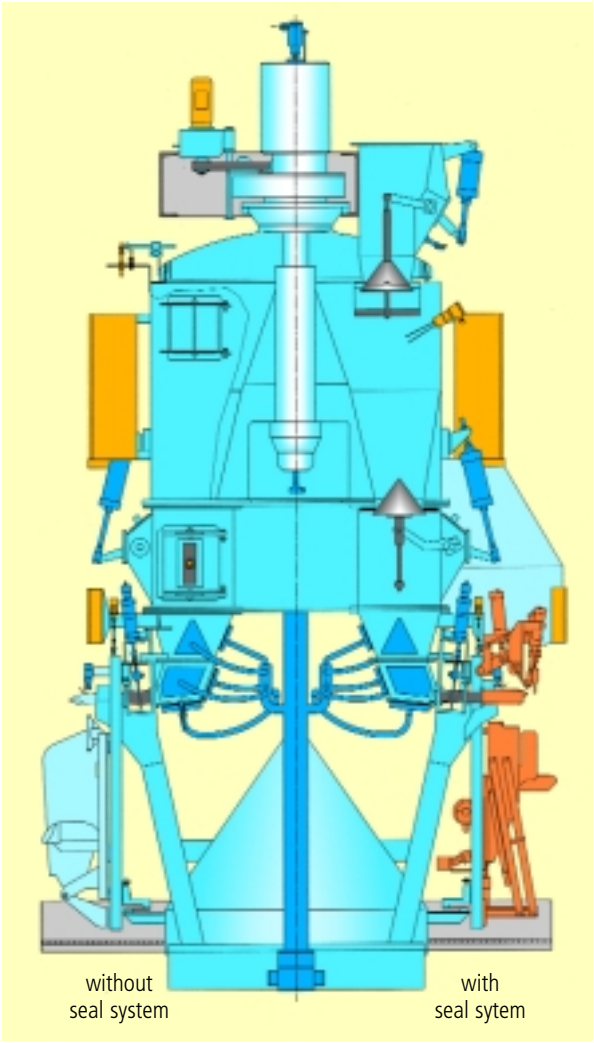
The average operational output using paper and plastic bags with interior valves is between 900 bags/hr. with 3 filling spouts, and 4000 bags/hr. with 12 filling spouts.

By combining the ROTO-PACKER with the HAVER RADIMAT automatic bag applicators (bundle or reel system), fully automatic operation is possible.

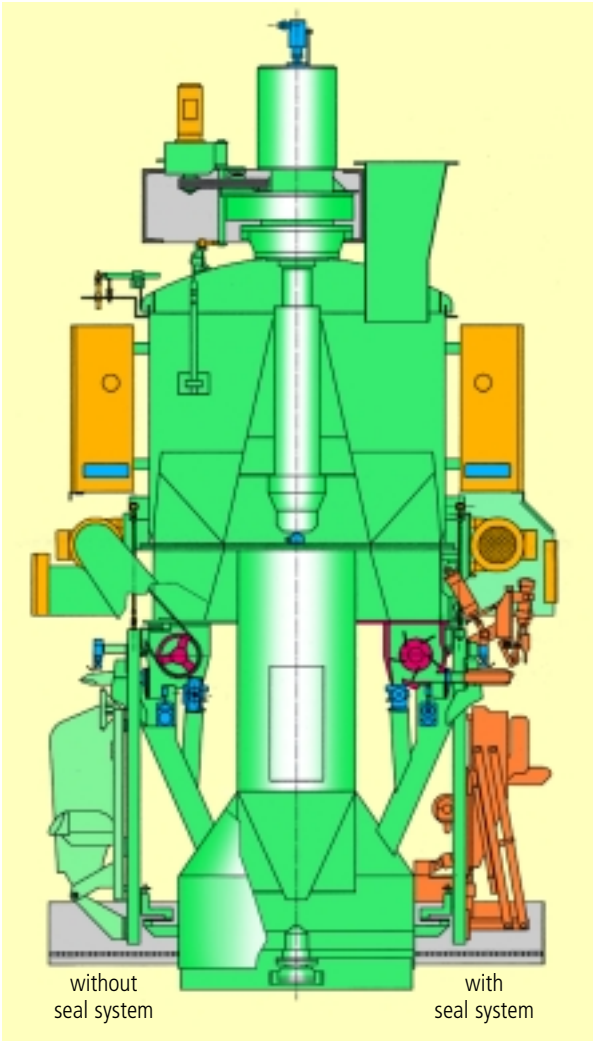
1 infeed cone feeder
2 rotary drive unit, speed adjustable
3 air and power connection
4 blower air connection
5 electronic weigher/ control panel
6 pressure chamber with cone valve
7 filling box with aeration pads
8 gate valve for full and fine flow
9 bag holder with bag control
10 spillage return/ dedusting
11 bin level control
12 cleaning cover

HAVER ROTOSEAL®-PACKER

HAVER ROTOSEAL®-PACKER with valve sealing units



HAVER ROTO-PACKER according to the air type filling system



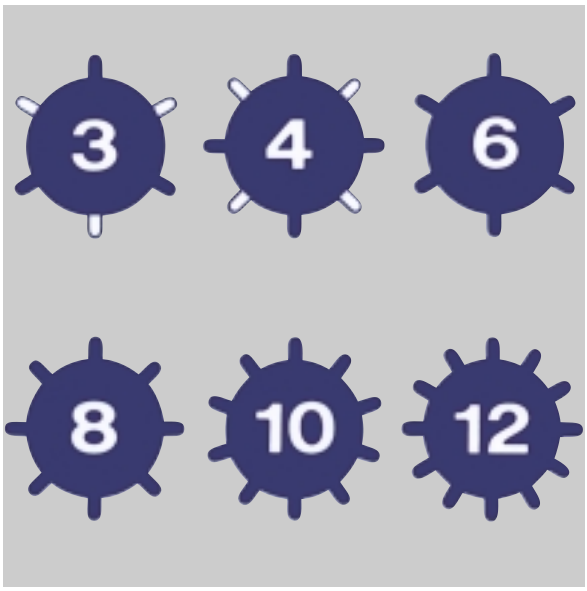
HAVER ROTO-PACKER according to the impeller type filling system

The result: clean closed bags

Whenever filling building products and fine mineral-based materials, the ROTOSEAL packing plants developed by HAVER & BOECKER will certainly convince you when it comes to operation and economics. Clean operation and exact weight filling as well as an output of up to 3000 bags/hr. are the distinctive characteristics of HAVER packing systems.

ROTOSEAL®-PACKERs – designed according to the impeller type filling system or air type filling system – require no subsequent bag cleaning systems or dedusting equipment for producing clean filled bags.
With ROTOSEAL®, absolute cleanliness during packing operation is standard.

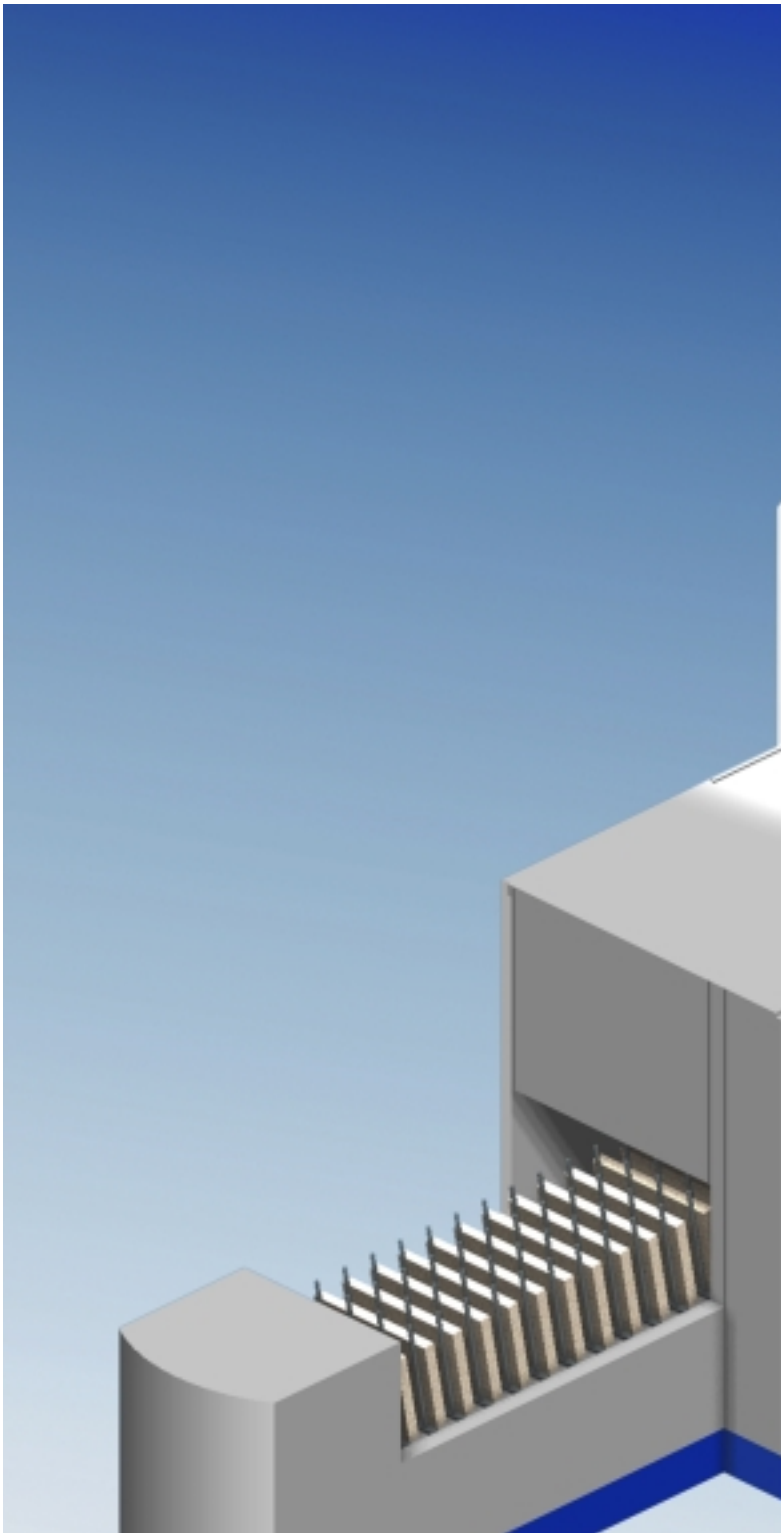
HAVER ROTO-PACKER for today and the future

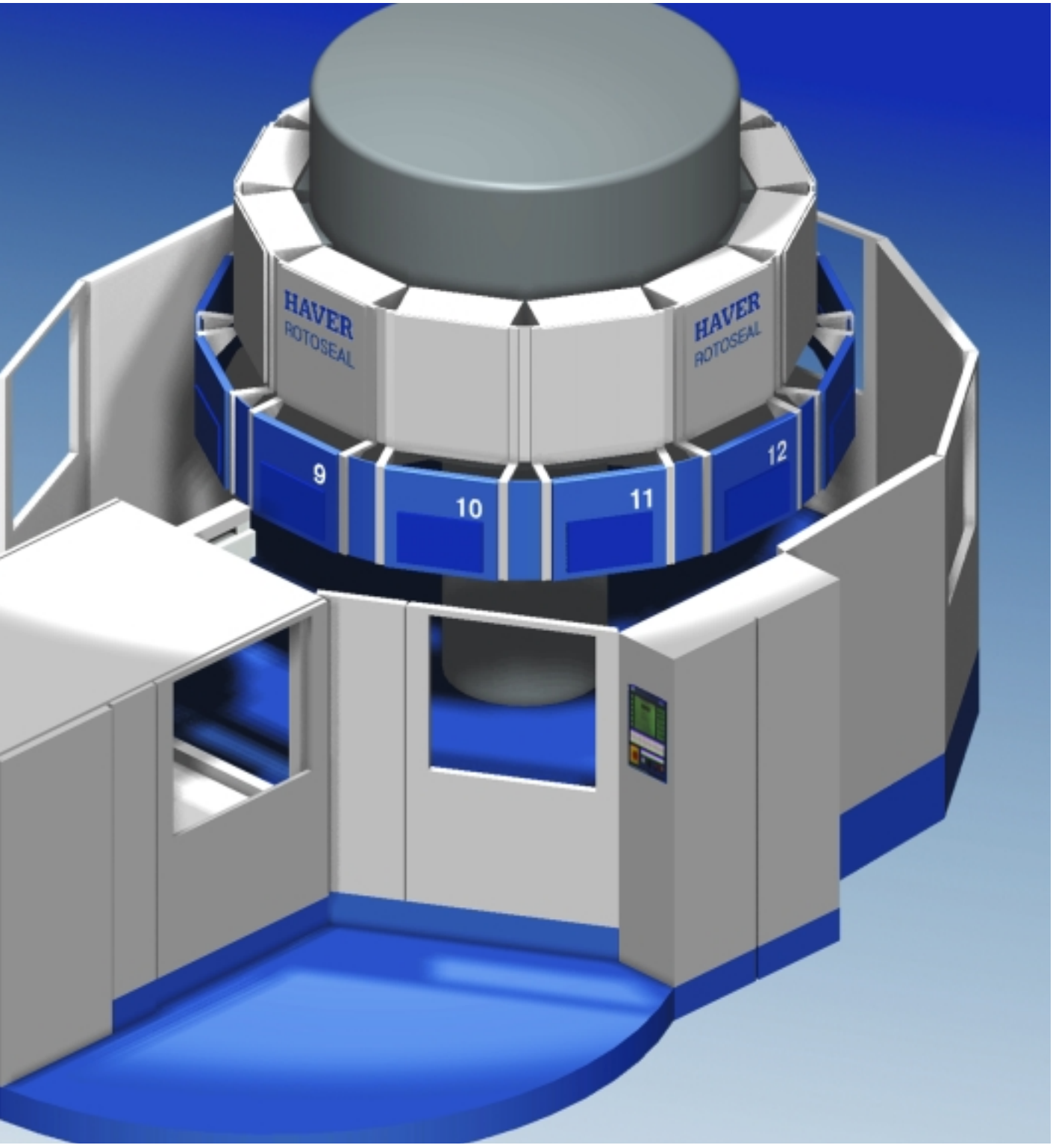


Modular filling spout configuration –
later expandable for future needs

Technologically, the future has already begun at HAVER & BOECKER. Expandable with up to a maximum of 12 filling stations, the ROTOSEAL® machines of the new century are characterized by the following features:

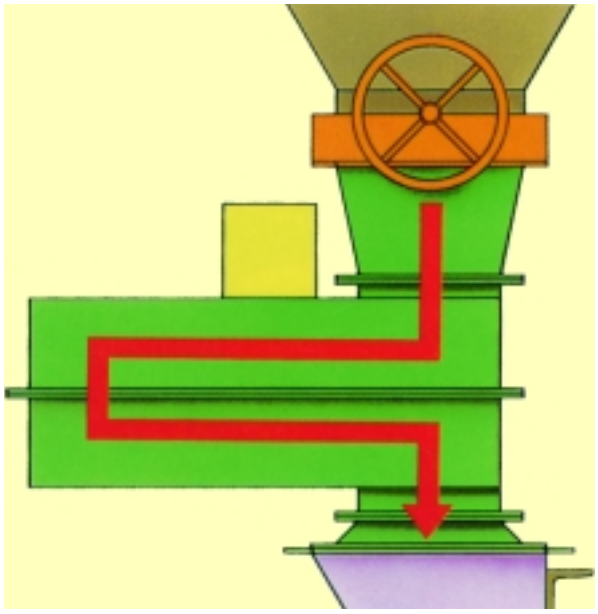
- compact modular construction in a complete up-to-date design that includes integrated automatic bag placing system, control panel and control cabinet
- partially transparent cover panels assure ideal equipment viewing as well as easier adjustment and maintenance work
- compact spillage return system design – a basic cost savings, and not only in plant costs
- reduced installation and commissioning work due to its modular design. Control network wiring is done with ease using plug-type connector systems



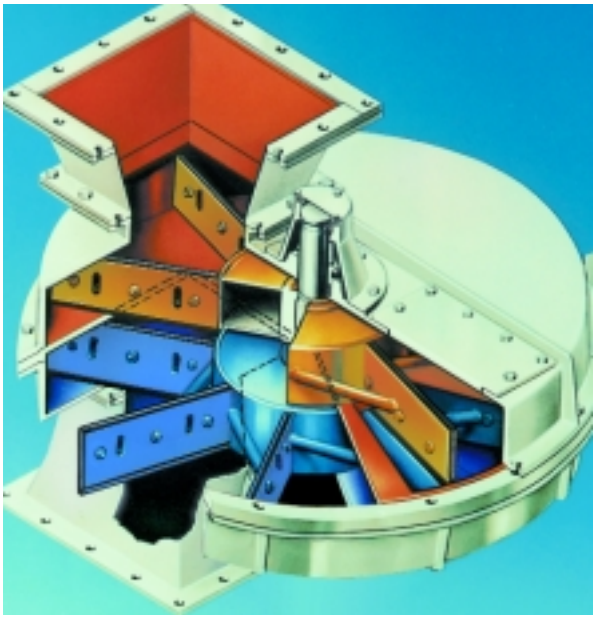


HAVER ROTO-PACKER type RSEF-U – the new generation

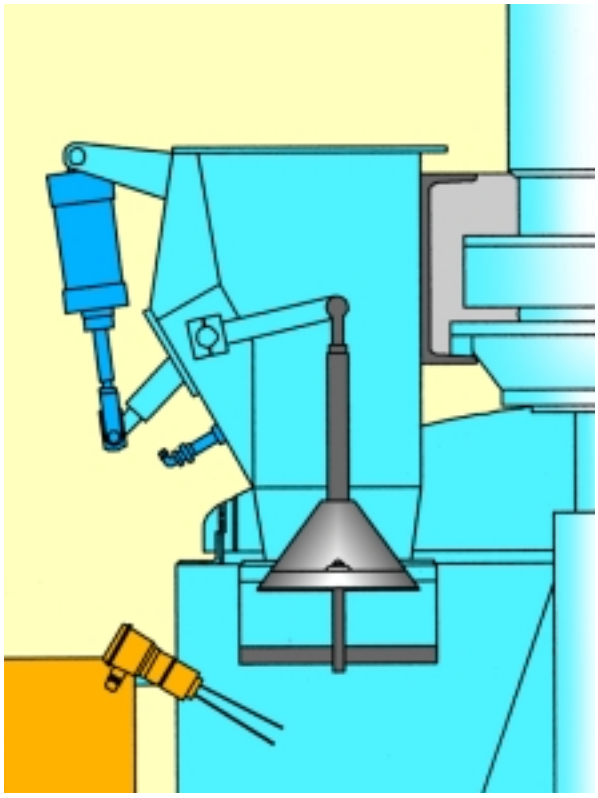
The HAVER ROTO-PACKER product feeding systems



Material feeding with vertical double rotary feeder –
for large volume storage silos



Vertical double rotary feeder for consistent volumetric dosing
of powder type free-flowing materials



Material feeding with a cone inlet –
for low volume storage bin

The HAVER vertical double rotary feeder can be used any place where powder type, free-flowing material must be volumetrically fed with consistency.

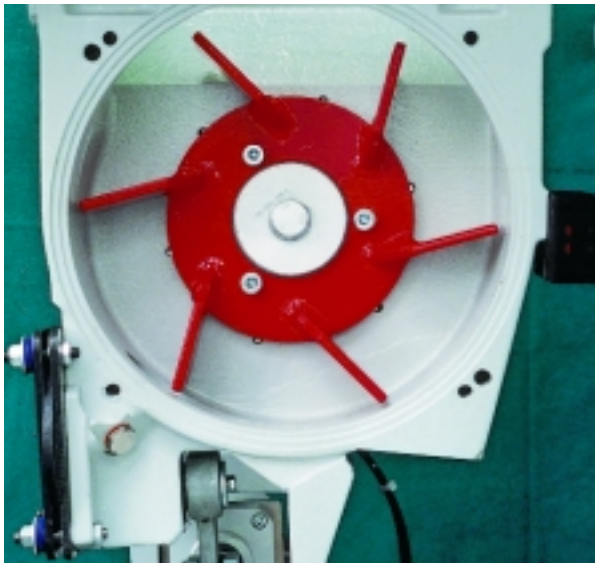
Impeller sectors, sealed on all sides, rotate about a vertical axis. The material flow is thereby forced and the material cannot simply drop through. The sealing strips are adjustable and replaceable, if necessary.

Power transmission occurs via a flat bevel gear unit driven by an AC motor and drive belts. An adjustable drive unit may be used as well.

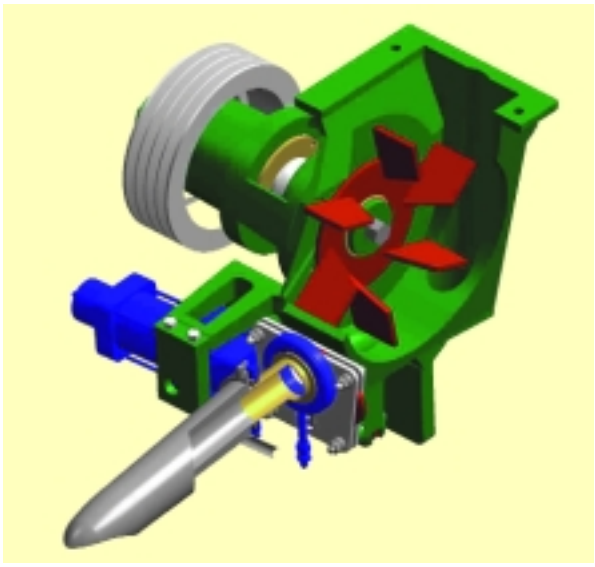
The cone valve may be used as an alternative to the rotary feeder when loads from product in the initial silo are not excessive.

The cone valve is positioned in the ROTO-PACKER inlet. Its activation is done pneumatically and an uncontrolled opening is prevented by a mechanical lock.

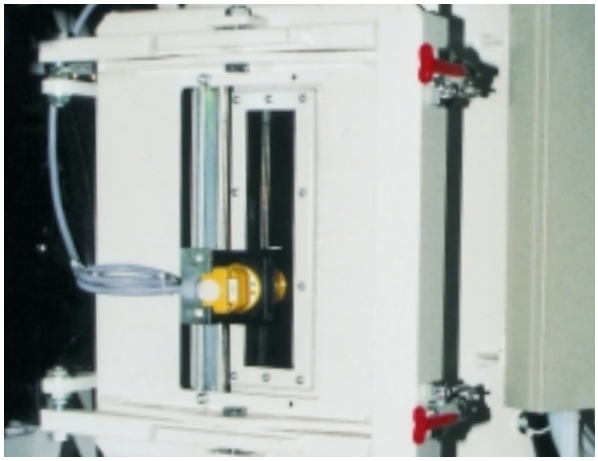
HAVER filling systems



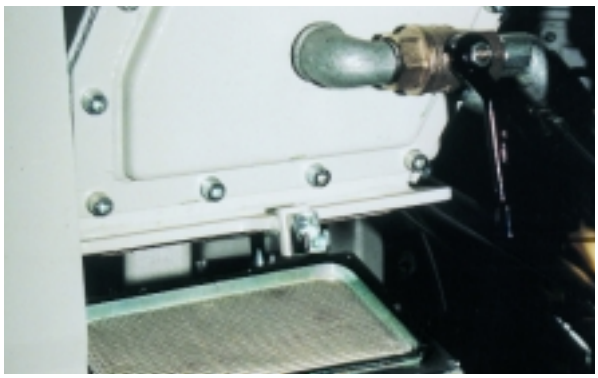
HAVER vertical filling impeller (1)



Cross section of a HAVER high performance filling impeller (2)



Pressure chamber of a filling spout for an air type filling system (3)



Cleaning trap door on filling vessel for an air type filling system (4)

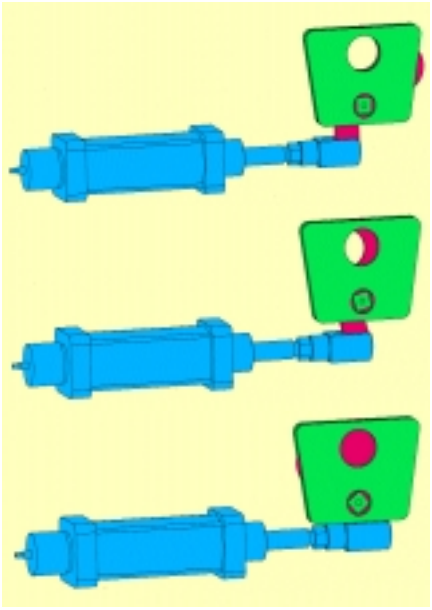
HAVER vertical filling impellers (photos 1 and 2) are characterized by:

- high compaction levels through minimized air entry
- speed variability, belt drive system
- air feed control depends on the filling speed
- ring gap aeration to minimize wall friction between the filling tube and product
- minimal air consumption
- impeller drive unit is outside the area of contamination
- easy accessibility for maintenance and cleaning
- compact bags
- minimal spillage

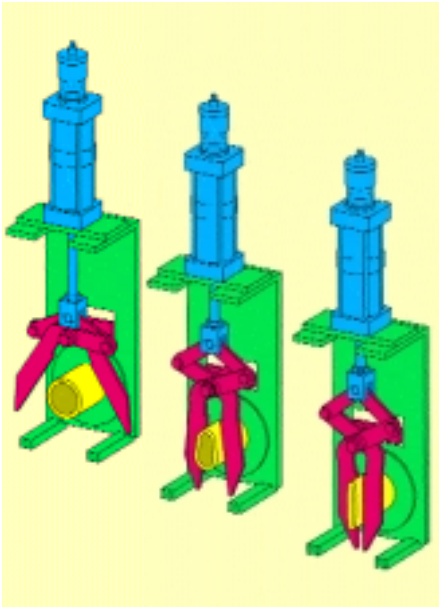
The HAVER air type filling system (photos 3 and 4) offers the following features:

- pressure chamber with cone inlet valve assures uniform product feeding without the components of the product to separate.
- removable bottom plate of filling box for easy cleaning and maintenance
- closed, dust-free filling channel with pinch valve
- distribution of conveying air using multiple aeration pads, allows homogeneous product/air mixture (this results in reduced air quantities, lower pressures)

HAVER ROTO-PACKER details



Slide gate valve



Pinch valve

Spillage rejecting flap during filling process

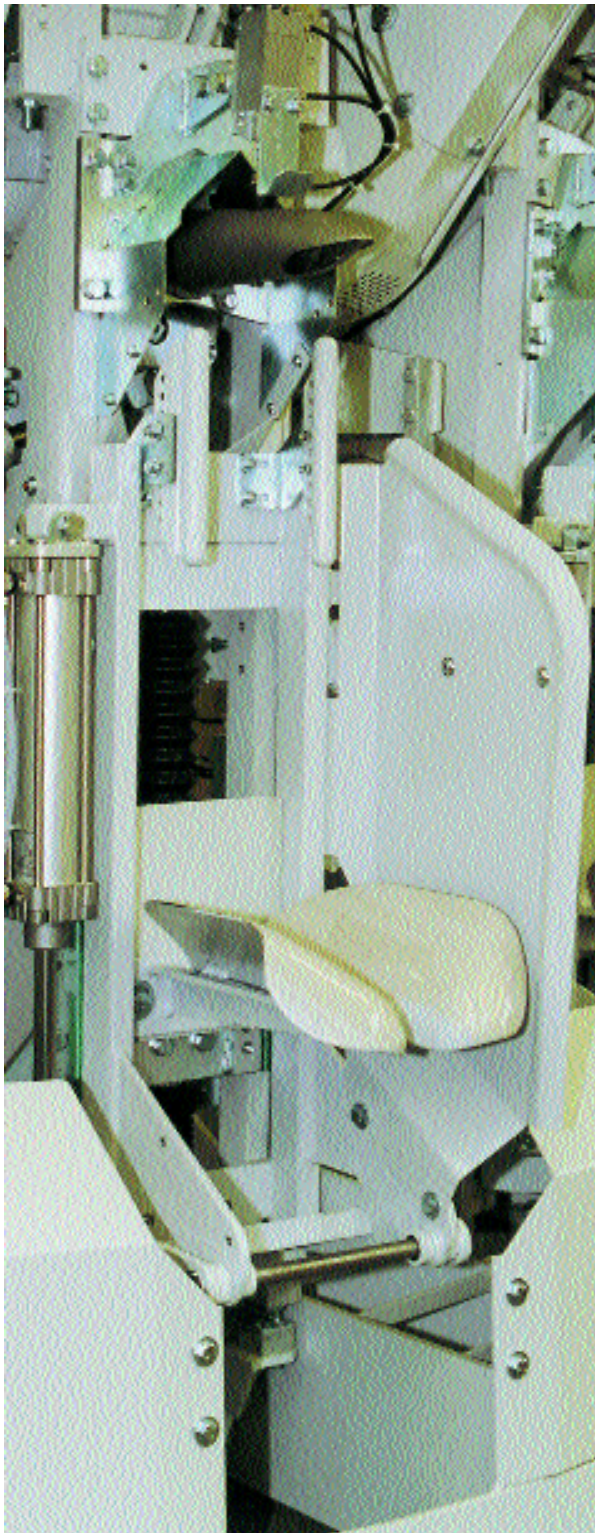
Spillage rejecting flap during bag discharge

HAVER filling shutoff valves – as slide gate valve or pinch valve are always functional and reliable over the long term.

Advantages:

- high weight accuracy by exact material flow dosing
- 3-position cylinder for full and fine flow
- manual or motorized adjustment of fine flow opening
- extremely low product adhesion
- optimum interaction between weighing parts and stationary parts
- air tight closing of filling channel
- tried and proven system, even under extreme conditions

Among other aspects, the spillage rejecting flap offers a big improvement in bag cleanliness. During discharge, the rejecting flap prevents the bag from becoming contaminated with product that could drip out of the filling tube. Activation of the rubber flap occurs pneumatically.



Pneumatic saddle height adjustment (two positions)

Infinitely saddle height adjustment (stepless) –
option: screened saddle

HAVER weigher electronics and data processing system

MEC II-20 operator terminal inside the ROTO-PACKER control cabinet

Every spout is equipped with the electronic weigher controller MEC II-20 which in addition to controlling weigher functions, controls the machine.

Weigher functions:

- automatic taring and zero-setting
- dosing time regulation
- dynamic cut-off point determination
- tolerance evaluation
- coarse flow
- fine flow

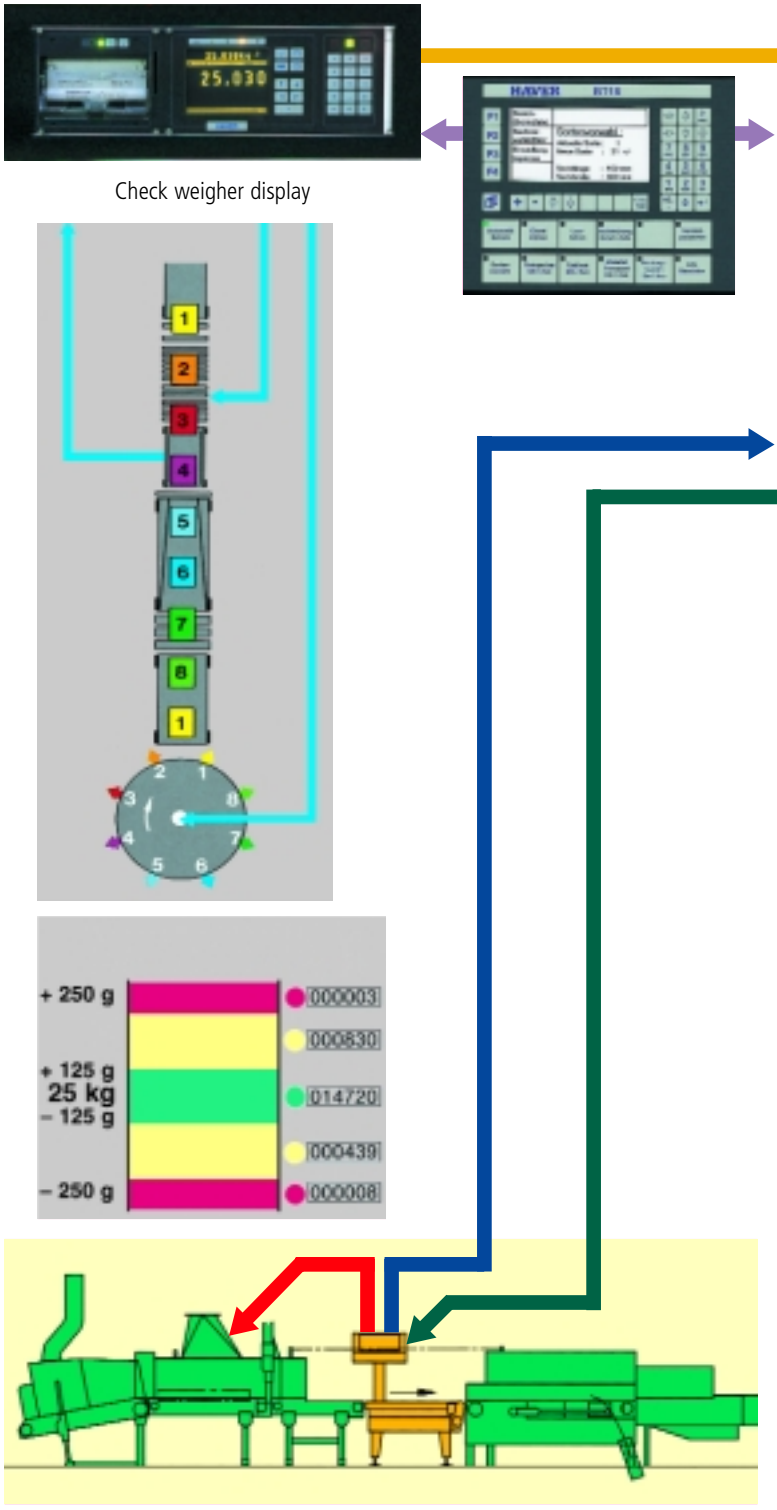
Machine functions:

- bag breakage detection
- regulated filling box aeration
- rapid discharge
- automatic saddle height adjustment
- bag discharge determination dependent on rotary speed

Additional features:

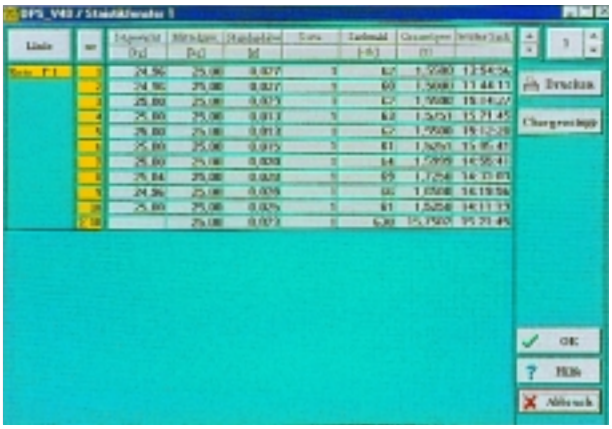
- separate operating terminal IP 65
- touch surface keypad
- 8 status messages
- plain text display, dialog inputs and error messages in a pre-selected language
- five digit weight display
- memory for storing 31 sorts
- weight correction via check weigher is possible, but not necessary
- network capable
- series interfaces, 20 mA
- PTB test certificate as well as domestic approval and OIML certificate available

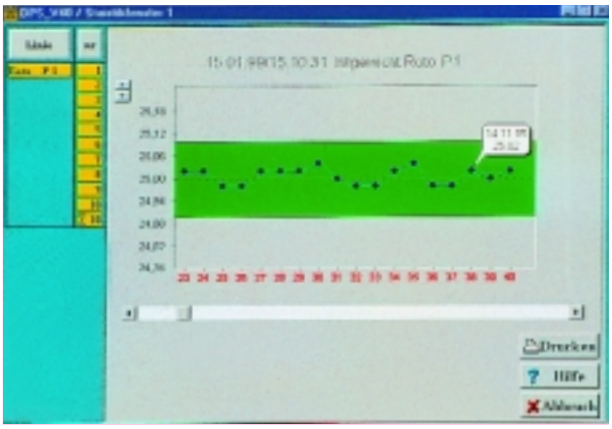
The DPS 4.0 data processing system can be hooked up to the MEC II-20.
Further details are available from another brochure.

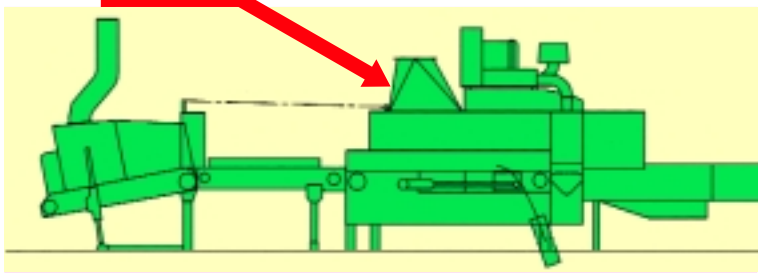


Check weigher display

Check weigher with signal transmission to the server for weight correction and incorrect-weight bag rejection







Incorrect-weight bag rejection through a signal from the self-correcting MEC weigher on the ROTO-PACKER

RADIMAT automatic bag applicator for valve type bags

HAVER RADIMAT bundle system

HAVER RADIMAT reel system

As an automated system for the ROTO-PACKER, the HAVER RADIMAT valve type bag applicator represents a significant potential for plant rationalization:

General advantages:

- modular design
- standardized for a wide range of bag types
- automatic adjustment for varying bag sizes
- self adjustment with respect to the ROTO-PACKER rotary speed

Minimized machine down times are the direct result of the RADIMAT's use of a tried and proven, low maintenance, drive system.

Other decisive factors with respect to productivity include the SPS controlled processes and a bag feeding reliability that doesn't adversely affect the subsequent filling system.

This allows the use of large diameter filling tubes for achieving:

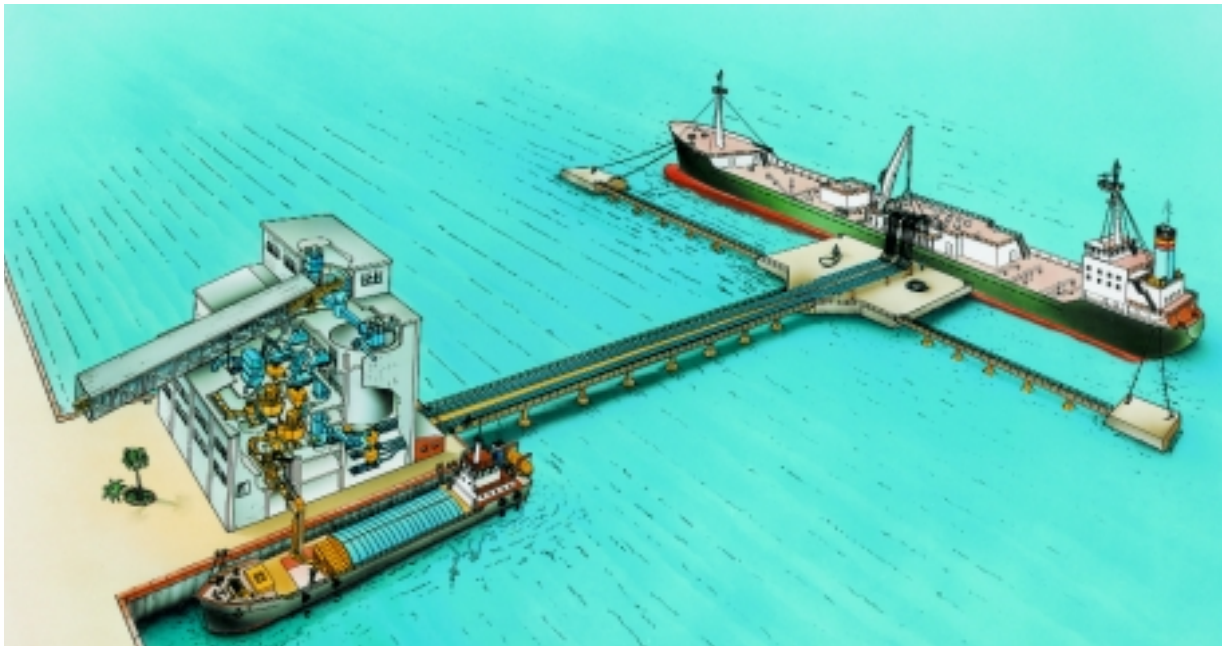
- high filling speeds
- excellent weight accuracies
- exceptional bag cleanliness

The work operations and functional steps together with a HAVER ROTO-PACKER allow filling rates of more than 4000 bags/hr.

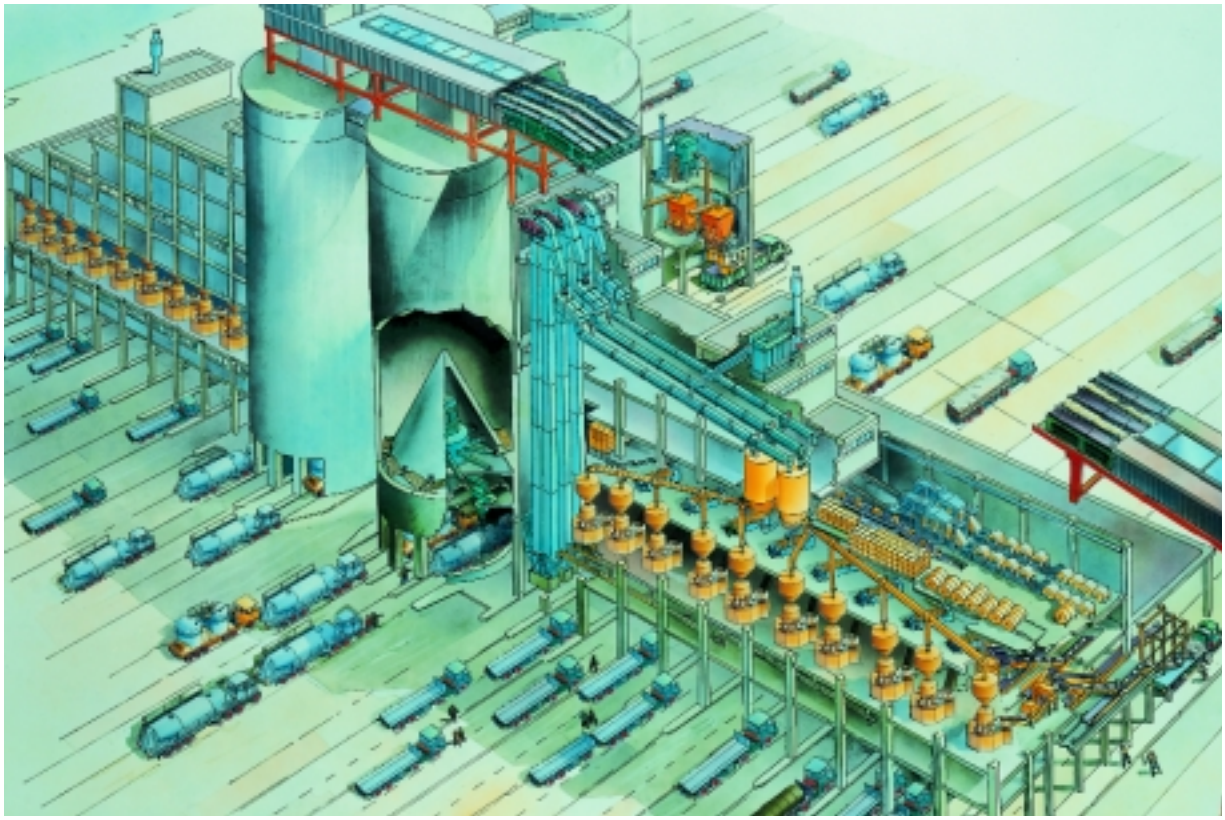
HAVER depalletizing system for empty bags

Depalletizing robot for empty bag bundles

HAVER ROTO-PACKER projects



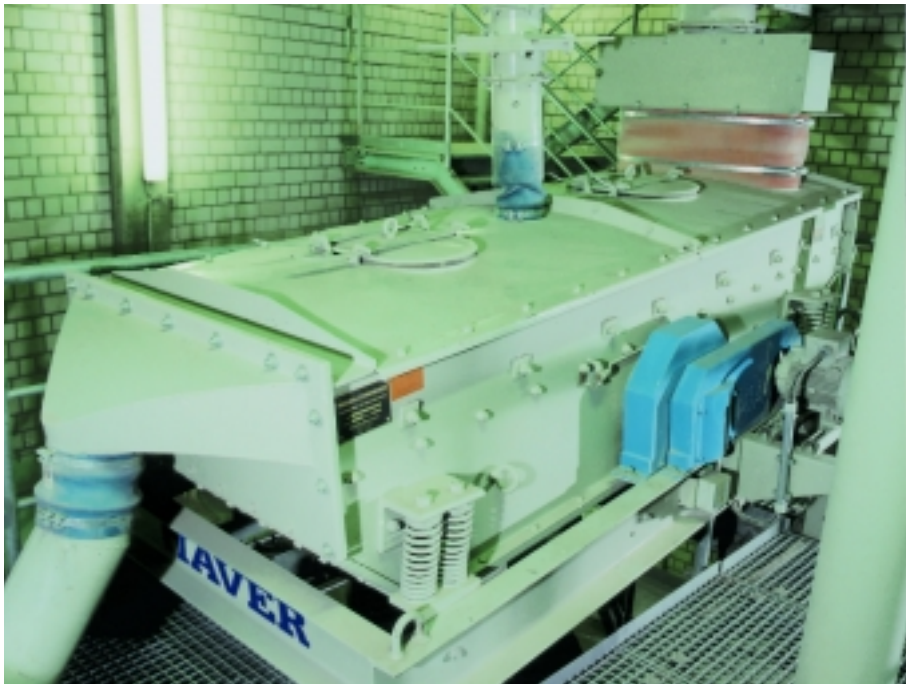
Silo and packing plant with ship loading facility



The world's largest fully automatic cement packing plant …

… designed for 44,000 bags/hr.

HAVER reject screens for foreign bodies and packing plant design



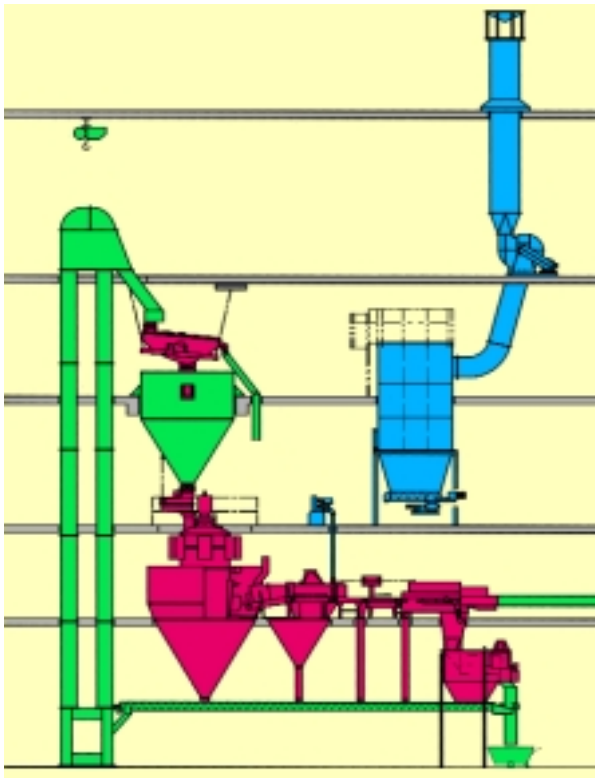
HAVER screens for foreign bodies in closed version (assembled)

NIAGARA reject screening machines for removing foreign bodies
To assure trouble free operation of packing plants that use impeller filling systems, it is recommendable to remove foreign bodies that may be present in the product.

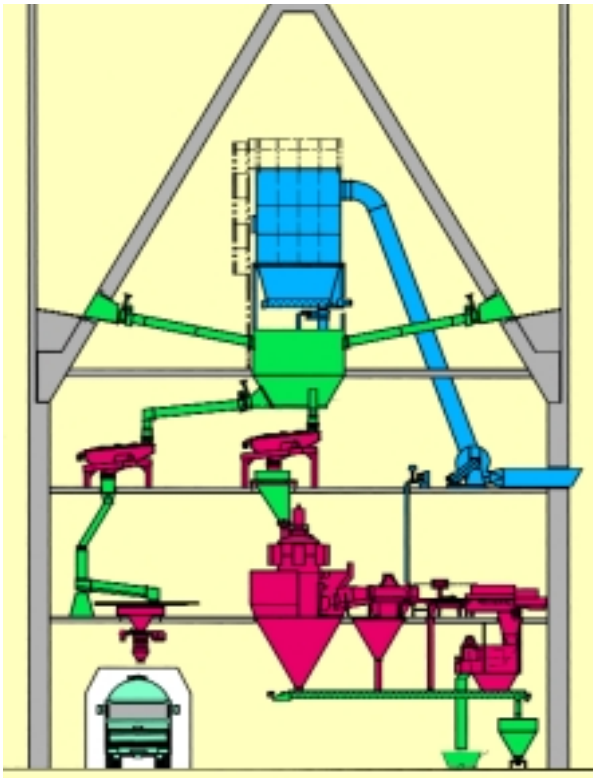
The closed NIAGARA reject screening machine was specially developed by HAVER for this purpose.

For light operation, the free-swinging system is suitable.

For heavy duty, high productivity operation, the NIAGARA screening machine with the eccentric drive shaft system is the best choice.



Standard packing plant layout



Packing plant located under a silo

HAVER service management

Training of maintenance personnel at HAVER

Installation performed by HAVER specialists

Spare parts store

Teleservice – direct customer contact

Whoever places their trust in HAVER, can do so with complete confidence.
Close cooperation in the spirit of mutual partnership, wherever the customer may be.
Quality and precision exist at every level of cooperation with potential buyers and customers. From the first initial contact, the first inquiry, and on up through the generation of a customized solution by a HAVER engineering team.

From systems engineering, assembly, plant commissioning, after-sales service and through network monitoring by using online diagnostics, HAVER assures reliable operational performance by your plant – worldwide.

HAVER assures stock and delivery of spare parts for decades, the highest operational reliability, availability of all plant modules and rapid customer service worldwide. These are the necessary building blocks of exemplary customer support and service.

Whenever a customer is in need of training, teleservice, inspections at regular or variable time intervals, preventative maintenance, modernization and automation according to specific requests, plant performance inspections or financial feasibility analyses –

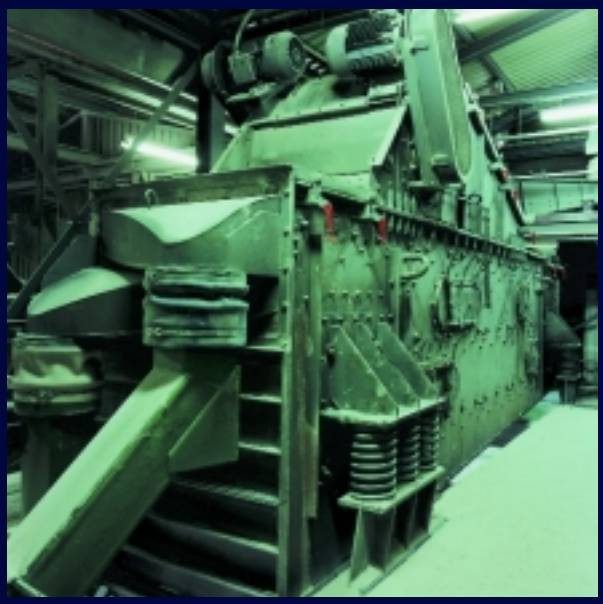
HAVER is always up-to-date and may be contacted at any time!

HAVER & BOECKER

Progress and Quality for the 21st century

HAVER Big Bag filling system

HAVER valve-type bag filling machine



NIAGARA flat screen

HAVER INTEGRA

PM 211 E 2500 0700 3 Fe

HAVER & BOECKER

P.O. Box 33 20 • D-59282 OELDE, Germany • Phone: +49-25 22-30 0 • Telefax: +49-25 22-3 04 03
E-Mail: haver@haverboecker.com • Internet: http://www.haverboecker.com

Affiliated Company USA: HAVER FILLING SYSTEMS, INC.
Phone: +1-770 760-11 30 • Telefax: +1-770 760-11 81
E-Mail: sales@haverusa.com • Internet: http://www.haverusa.com

Affiliated Company Brazil: HAVER & BOECKER Latinoamericana Màqs. Ltda.
Phone: +55-1 93-879-9100 • Telefax: +55-1 93-879-1410
E-Mail: haverhbl@haverbrasil.com.br

Affiliated Company France: HAVER FRANCE S.A.R.L.
Phone: +33.01.39.11.80.80 • Telefax: +33.01.39.11.80.89
E-Mail: haver.hfp@wanadoo.fr