STATIONARY PACKING SYSTEMS
HAVERINLINE AND HAVER INTEGRA®
HAVER INLINE are stationary packing machines for filling fine and coarse bulk materials into 25 to 50-kg valve bags made of paper, polyethylene or polypropylene. Also mixed and granulated products can be filled with our HAVER INLINE.

Your speed requirements determine whether the HAVER INLINE packing machine is equipped with two, three or four spouts.

The HAVER INLINE is available in manual, semi-automatic or fully automatic versions. That means a manual or automatic bag application is possible.

To boost productivity, it is also possible to add a HAVER automatic bag applicator.

HAVER has optimum solutions for
- Every loose, bulk product property
- Every commercially available valve-bag type and dimensions
- All customer requirements, tailored to fulfill local requirements

Successful and complete system solutions are based on HAVER & BOECKER’s analytical approach and its broad-based expertise and experience from:
- Continuous research and development
- Its own in-company laboratories
- Its own, self-developed test methods
- Detailed sampling for determining physical product properties
- Exact air permeability tests on empty bags using precision instruments
- Economically sound concepts
HAVER valve-bag filling machines using the vertical impeller filling system is a highly successful technology for filling loose, powder-type, bulk material into valve-bags according to the gross weight system.

The advantages
- Precise weighing during the filling process
- High compaction levels
- Low aeration amount during filling produces high density packaging
- Minimal spillage
- Rapid emptying of the packing silo and filling machine via a second (optional) impeller outlet
- Easy accessibility for effective maintenance and cleaning
- Modern drive system design and optimally designed wear parts assure maximum operation time for a higher availability and a low-wear filling of abrasive products

From the 1-spout filling machine with manual operation through to the 4-spout INTEGRA® with empty bag cellular feeder.

HAVER Filling shut-off valves
Pinch valve
Slide valve
Through continuous development, HAVER’s horizontal impeller filling machine is designed to pack highly flow-resistant, powder-type, loose materials that are prone to clogging.

The advantages

- Especially adaptable to different materials and material flow characteristics
- Large material inlet cross section
- High filling speeds
- Continuous material feeding (no clogging, no bridging)
- High filling speeds while maintaining tight weight tolerances
HAVER AIR ENTRAINMENT SYSTEM

An ideal field of application for our air entrainment systems is the packaging of material mixtures with fine and coarse parts.

The universal air entrainment system has gained wide acceptance for filling fine to granular products into valve bags.

The ideal area of application is the packing of products that consist of a mixture of fine and coarse particles. Inline filling machines are available for manual or fully automatic operation and for integration into existing packing plants with up to four filling spouts.

The advantages
- Gentle product handling
- Material components do not become separated during the packing process
- Production rates of up to 400 bags/hr per filling spout
- High weight precision
- Fully aerated pressure chamber
- Homogeneous product/air mixture
- Dust minimization
- Automatic cleaning program
- Trouble-free filling of paper, PE and PP valve-bags

Universal application for filling many products types, which vary in particle size and density, where the air entrainment amounts can be optimally adjusted independent of each other and where the air pressure can be centrally regulated.

As an option, this adjustment process may be automated via the sort-selection of the HAVER weigher electronics.

The air entrainment machine according to the gross weight filling system is used for filling free flowing materials as well as technically difficult powder-type and granular products.

The pressure chamber aeration concept provides optimum product flow with minimal air consumption. Aeration rates depend on the product characteristics and are individually adjustable. Thanks to continuous suction during filling, high filling rates with minimum internal bag pressure are assured.
**Gravity filling system**

The HAVER gravity packer is the all-round solution for grainy, granular and lumpy products.

The product is filled according to the gravity principle – without additional conveying air or mechanical assistance. For optimum product densification the packer can be extended to incorporate a vibrating compactor.

**The advantages**
- Cost efficiency through the compact, low-maintenance machine design
- Ease of operation through the clear machine design
- Fully automatic ultrasonic valve sealing possible

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**Auger packer**

The HAVER auger packer is used for the compact filling of badly flowing light products.

The constant product flow into the auger housing is achieved by the continuously operating agitator positioned above the dosing auger. The rotation speed of the dosing auger is adjusted to your product and your requirements for weight-accurate coarse and fine flow product dosing.

**The advantages**
- Space savings from the low machine height of only 1,560 mm
- Material savings through the compact filling of very fluidized products
- Improved product storage from the filling of tight bags

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**Pump packer**

The HAVER Pump-Packer is appropriate for filling of products with low density.

The product transport is made by means of a double-acting diaphragm pump. Since the system is self-priming, it is often possible to do without a packing silo. This filling system can be completed by a pressing station.

**The advantages**
- Bag filling with low amount of air thanks
- Compact bags due to an integrable pressing station for improvement of performance and shaping of the bags
- Optimal weight accuracy
- Ultrasonic valve sealing possible

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**Gravity filling system Auger packer Pump packer**

**Straight free-fall tube for bridging products**

**Bent free-fall tube**
For our different filling systems, we offer a variety of system components:
- spillage rejector
- various types of filling tubes
- pressure jaws
- various types of bag chairs
- bag sealing technology

A separate valve closing unit on every filling spout
For greater cleanliness over the entire filling and subsequent transport process - until the bag reaches the consumer - we recommend equipping your HAVER INLINE with an ultrasonic bag-closing unit.

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.
HAVER BAG APPLICATION TECHNOLOGY

Automatic bag applicators by HAVER & BOECKER for valve bags automate and enhance the packaging process.

In contrast to manual bag application, they ensure the high efficiency of a packing machine. Empty valve bags – from a bundle or a reel – are placed mechanically onto the filling spouts of the packing machine and adapted to its speed. The application process is consistent and reliable. The types of bags that can be used are glued valve bags made of paper, polyethylene or polypropylene. The application technology is easily adaptable to different bag sizes.

The automatic bag applicator Compact by HAVER & BOECKER can be used with stationary packing machines with 1 to 4 filling spouts.

The advantages
- Capacity of up to 900 bags/hr
- Compact design
- Low-wear drive engineering

Your output requirement determines what kind of empty bag provisioning system will be used. Depending on the required storage capacity and the available space, different empty bag provisioning systems can be used:
- Vertical bundle magazine (400 to 500 bags)
- Empty bag cellular feeder (450 to 550 bags, depending on its length)
- Reel magazine

The system can be quickly and flexibly adapted to different types of bags. HAVER automatic bag applicators are of modular and compact design and require little space.

Flexible installation
Your automatic bag applicator will be adapted to your local and specific conditions! This is made possible by the construction of the HAVER LV-Z according to the proven modular system. The empty bag provisioning system can be installed on the right or left side of the HAVER INLINE. This way the filling plant can be manually operated and maintained from the front without barriers.
Explosion protection is a part of the technology that has to do with prevention of the occurrence of explosions and their impacts. This belongs to the field of Safety Engineering and has the purpose of preventing damage by technical products, systems, and other equipment to persons and property. Explosion protection consists of technical solutions such as ignition protection types and legal requirements such as the ATEX Directives of the European Union.

The INTEGRA® has received the European type approval from DEKRA EXAM. Qualified HAVER personnel check systems that require monitoring in the ATEX range.

Other INTEGRA® system characteristics:
- Compactness = minimal space requirements
- Encapsulated (less noise and dust emissions)
- High operational reliability
- Easy installation and start-up, easy to reposition or move if needed
- Greatest possible flexibility, rapid changeovers to other bag types or products
- Large maintenance doors, easy access to all components
- Scratch-resistant safety glass for easy viewing
- Operating terminal
- Operator guidance in dialogue (text messages) and machine setting

The INTEGRA® is a completely assembled filling system for loose materials inside a dust-encapsulating housing that consists of the following components:
- Filling machine
- Valve sealing system
- Bag applicator
- Control system
- Operating unit
- Bag discharge belt

It is a turnkey unit that is ready to operate and allows rapid on-site installation and start-up. Only the product and energy supply systems need to be at hand at the customer’s as well as a final assembly for a 3-spout and a 4-spout system.

HAVER INTEGRA®
performance overview

Spouts up to bags/hr to range from 10 to 50 kg

<table>
<thead>
<tr>
<th>Spouts</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tr>
<td>up to</td>
<td>300</td>
<td>600</td>
<td>900</td>
<td>1200</td>
</tr>
<tr>
<td>bags/hr</td>
<td>range from 10 to 50 kg</td>
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depending on the product
In order to successfully implement these goals in your company we offer an extensive programme of packaging systems and palletizers in close cooperation with our sister company NEWTEC BAG PALLETIZING:

- **Palletizer G300**
  - for bag palletizing by a robotic gripping arm
  - This palletizer is especially suitable for low-output applications of up to 300 bags/hr with bag weights of 5 up to 50 kg.

- **Palettizers - Series 500/1000/2000 to 5000**
  - Bag palletizing row by row
  - These palletizers are equipped with simple, reliable and proven kinematics. The modular machine design ensures optimum palletizing results. This model is particularly designed for applications of up to 5,500 bags/hr with bag weights of 10 to 50 kg.

Together we are strong

Optimally stacked and packed pallets help you save time and money. As overall costs can thus be reduced, the profit is increased. In addition, nicely stacked pallets have an excellent advertising impact.
The machines and plants shown in this leaflet as well as the stated technical parameters are examples of customer-specific technical solutions. Therefore they are subject to modifications.

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