Limited Intervention Bag Filler Range

RBF-1200Li / RBF-1000Li / RBF-800Li /
HYGiPac R1 / HYGiPac R2

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Limited Intervention Filling

GEA Limited Intervention (Li) bag filling technology sets a new benchmark in automated powder packing and bag handling.

Reliable bag filling and closing, combined with an automated bag de-stacking system has resulted in the worlds first truly automatic powder packing system which eliminates the need for an operator inside the packing room.

Starting with a fully automated bag de-stacking system, bags are delivered to the filling system and loaded onto the filling head ready for filling and closing.

Multiple independently controlled bag stations are combined into a carousel to perform bag filling, preparation and closing whilst the bag is fully held ensuring fault free operation and thereby maximizing throughput of the bag packing plant.

Well proven GEA bag sealing and closing technology has been integrated into the filling system to provide a very compact operation which significantly reduces the space required for production.

By adding GEA downline equipment we can provide our customers with a complete solution for fully automated bag filling, conditioning and quality checking which can be matched to any automated palletizing system.

RBF-1200Li filler
Our largest model for packing rates of up 12MT/hr. These larger models feature multiple heads which split the filling and bag handling processes into stages which results in a higher throughput.

Limited Intervention Bag Filler

Large scale deployment - For large capacity plants, the Limited Intervention range of fillers enables powder producers to scale up without increasing labor demand.

Design Objectives
- Provide fully automated bag loading, filling and closing operation
- Provide optimum level of automation with minimal operator intervention
- Ensure ultimate product quality and integrity of operation
- Handle a wide range of bag sizes and types
- Compliance with worldwide safety and hygiene standards
- Provide integrated and extensible control for other equipment in a bag handling plant
- Ease of operation and maintenance

Features
- Fully integrated control and operation
- Stainless steel construction of all bag and product contact parts
- Extensible PLC control for additional line components.
- Connectivity to remote control systems (option)
- Interfacing to palletizing and powder handling systems
- Product quality control
- Modified Atmosphere Packing (M.A.P.)
- Bottom-up filling

Equipment standards:
- Designed in accordance with: USDA- 3A;
- EHEDG where applicable and practical; - EN 1672-2 Food Processing Machinery; - ISO 14159 Safety of Machinery; are used as the basis of our design.
- Machine safety: ISO 12100:2010 and standards derived from this.
- Hazardous Environment Compliance Method: ATEX; IEC; NFPA.

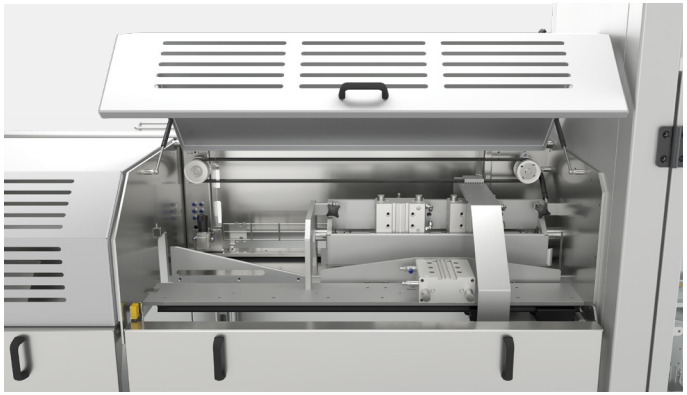
Machine construction:
- Constructed from Carbon Steel - epoxy coated, stainless steel, or approved food grade materials.
- Material for all other parts, selected to suit optimal performance.
- All product contact parts are finished with a Ra ≤0.8 µm surface finish or better.

Equipment options
- GEA provides additional options:
- Automatic pallet de-stacking
- Powder sampling
- Integrated bag coding from operator terminal
- Automated overweight/underweight bag rejection Average Quantity Filling (AQS)
- X-ray facility (integration only)

RBF-800Li filler

The next generation

GEA HYGiPac R1 filler



The Limited Intervention filling series of powder fillers starts with the GEA HYGiPac R1. A recent developed machine that builds on the success of the existing range of Limited Intervention fillers, this new machine sets a new benchmark in hygienic powder filling.

Driven by the need to reduce building size, this new addition to the range takes advantage of an all new compact design to reduce the space needed for packing operations. This results in improved space utilization, reduced overhead on HVAC and utilities and lower overall operating cost.

The all stainless-steel construction is a first for this range and delivers an attractive low maintenance solution for food powder applications.

Using our well proven bag loading system, the single filling head delivers accurate and reliable filling for a wide range of products.

An all new static impulse sealer combined with a fold-over unit and an innovative integrated bag rotator results in a compact machine that is ideally suited for low capacity packing plants or where space is limited.

New GEA HYGiPac R2 filler

The new GEA HYGiPac R2 has been developed with several key drivers in mind – key points being energy efficiency and compact size.

Building on the success of the smaller HYGiPac R1, the HYGiPac R2 continues the design language of compact form factor with all stainless-steel construction.
By utilising multiple filling steps in a rotary configuration, the HYGiPac R2 can easily handle a wide range of food and dairy powders at rates up to 5MT/hr.

Operation
Bags are automatically presented to the filling station via a conveyor system and articulated arm.

Here, the bag is located on the filling head where it is filled to final weight before transferring to the next station for preparation for closing.

The bag closing system comprises a static impulse sealer with folding mechanism, which both seals and closes the fold top bag before conveying the bag to the process weigher. Bags passing over the process weigher are laid flat and pass out of the HYGiPac R2 to the downline and palletising system.

Sustainability
Through the development of the HYGipac R2, we have achieved meaningful benefits in space and energy savings whilst retaining all the features of the previous RBF500-Li filler. These benefits are summarized here:

- **Floor area:** 45% reduction, smaller packing room = smaller HVAC
- **Dust collection:** 40% reduction, less energy and less waste produced
- **Powder consumption:** >30% reduction, less energy to operate plant
- **Downline lenght:** 33% reduction, smaller packing room = smaller HVAC
- **Air consumption:** 13% reduction, less energy to operate plant
- **Main frame conditioned air:** No longer required, smaller HVAC = less energy to operate plant

Plant upgrade

Customers with aging plants or where the older equipment is no longer compliant with current health and safety standards may wish replace the filling system whilst retaining their existing downline equipment. We have solutions for this too.

The entire range of Limited Intervention fillers can be supplied complete with downline bag handling and processing equipment or they can be integrated into existing plants where only the filling and sealing is required to be replaced.

This makes a more cost effective solution for aging plants or where automation, reliability and operational efficiency are key requirements.

As single stand-alone units, these fillers are fully guarded and self contained making them ideal replacements for aging equipment that is either unreliable or that no longer meets the current health and safety standards for machinery.

Safe solutions for safe products

It is inherrent in the design of our Limited Intervention range of powder fillers that they must be both reliable and safe – not only for the operator but also for the products they pack. As a fully enclosed system will prevent ingress to the machine, this means that you can be assured of the utmost safety for your products. Any attempt to gain access to the filling system will immediately stop the process and this event can be logged for traceability.

RBF-800Li filler

The addition of the new BDS-S/BDS-D - This enables the packing system to run continuously for extended periods without the need for operator intervention. Double pallet version shown.

The addition of a Bag Destacker (BDS-S/BDS-D)transforms the complete line into a truly limited intervention system.

Empty bags are automatically picked and placed onto a conveyor that takes the bags into the packing room and to the filling system.

The addition of this key piece of technology effectively makes the complete powder filling operation a truly hands-free, non-stop process.

Our experience has proven that by having a continuous powder packing operation, this enables the plant management to focuson optimising the upstream processes.






Specifications	RBF-1200Li	RBF-1000Li	RBF-800Li	HYGiPac R2	HYGiPac R1	BDS-S / BDS-D
Rate (t/hr) nominal)	12	10	8	5	3	-
Capacity (bags/hr)	480	400	320	200	120	480
Accuracy (Standard Deviation(g))	10	10	10	15	15	-
No. of Heads	8	5	4	2	1	-
Weighing System	Mettler Toledo & Scame					
Space Requirements	4.7 × 3.8 × 8.8 (H x W x L)	4.7 × 3.8 × 8.4 (H x W x L)	4.7 × 3.8 × 8.4 (H x W x L)	4.8 × 3.0 × 6.4 (H x W x L)	4.0 × 2.0 × 4.9 (H x W x L)	3.5 × 3.1 × 3.8 (H x W x L)
Residual Oxygen Level	2.5% @ time of packing					-
Dust Extraction Nm3/hr	5000	4500	4500	1500	600	-
Electrical Load	40kW / 58A @400 VAC	30kW / 51A @400 VAC	29kW / 48A @400 VAC	32.5kW / 47A @400 VAC	27kW / 39A @400 VAC	3.9kW / 5.7A @400 VAC
Sampler Type	Auger sampler with 2 position or 6 position diverter (option)					-
Vacuum (pump included)	100 m^3/hr @ -90 kPa			75 m^3/hr @ -90 kPa	75 m^3/hr @ -90 kPa	-
HMI (option)	Allen Bradley 12" PanelView Plus 7 (Siemens TP1200) And S7-1500					
PLC (option)	Allen Bradley (Siemens)					
Motors/Gearboxes	SEW Eurodrive					
Drives	SEW Eurodrive					
Bag Range	600-1000 × 500-600 × 120-180 mm (H x W x B)					
Empty Bag Capacity	150 bags[1]	225 bags[1]	225 bags[1]	150 bags[3]	75 bags[2]	Single or Double Pallets
Compressed Air (avg.)	200 Nm^3/hr	150 Nm^3/hr	150 Nm^3/hr	100 Nm^3/hr	100 Nm^3/hr	12 Nm^3/hr
Conditioned Air (avg.)	400 Nm^3/hr	400 Nm^3/hr	400 Nm^3/hr	N/A	N/A	-
Nitrogen MAP (avg.)	5 Nm^3/hr	5 Nm^3/hr	5 Nm^3/hr	5 Nm^3/hr	1 Nm^3/hr	-
Carbon Dioxide MAP (avg.)	60 Nm^3/hr	50 Nm^3/hr	40 Nm^3/hr	25 Nm^3/hr	7 Nm^3/hr	-

[1]Can be upgraded to max 300 bags and is based on bag stack of 75 bags max. Specifications and features are subject to change without notice.
[2]Can be upgraded to max 150 bags and is based on bag stack of 75 bags max.
[3]Can be upgraded to 225 bags.

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GEA Avapac Ltd. (NZ)
24 Evolution Drive
Horotiu 3288, New Zealand

Tel +64 7 849 3414
www.gea.com
www.gea.com/contact