FOOD MANUFACTURING

Vacuuming in food production



NILFISK

Industrial vacuum solutions for food production

Discover how to increase safety, hygiene, and efficiency, and learn more about dust and granule vacuum and transportation solutions for bakeries, laboratories, and food production.

Nilfisk is a world leader in the manufacture of industrial vacuums and pneumatic transport systems and has a direct presence worldwide.

This publication lists the vacuum applications in both the artisan and industrial world of food production, illustrating the most common solutions that have been developed for thousands of companies worldwide.

For more information visit **www.nilfisk.co.uk**.





An overview of industrial vacuum solutions for food production

Let's discover the three most common Nilfisk product lines used in laboratories and companies to obtain production efficiency, increase automation and maintain a high level of hygiene. All are ATEX certified and comply with GMP standards.



Industrial vacuums

Single-phase, three-phase and compressed air. In stainless steel or completely painted. Nilfisk industrial vacuums offer a high level of filtration due to the polyester fabric cartridge filters, ideal for very fine powders, filtering air at high temperatures and for toxic powders. Nilfisk industrial vacuums are certified as compliant with the following international safety standards: ATEX, IECEx, CE, TüV (L-M-H).





Pneumatic conveyors

These are used to transport grains and powders, according to precise preset times and quantities, from raw material containers to loading hoppers of packing or canning machines. They are excellent for increasing the automation of coffee and tea production lines. They are necessary for maintaining quality of mixtures in the beverage and confectionery industry.

Centralised vacuum systems

When you need to clean of surfaces of large areas or when access for mobile industrial vacuums is limited, centralised vacuuming systems are the perfect solution in the food industry. They offer the advantage of positioning the vacuuming unit, the filtering unit and the exhaust system outside of the production environment, maintaining only the vacuuming hoses inside. Excellent for continuously vacuuming in multiple points along the conveyor belts.





Oven cleaning

No more burned flour or crumbs
= no more explosion or fire hazards

Keep your oven pristine to improve product quality and to mantain health and safety

Did you know that not removing baked residuals can create cancerogenic Acrylamide, which can be part of giving your baked goods a bad taste? Or that in the food production, there could be a potential risk of explosion?

Industrial vacuums are an excellent way to clean inside an oven. First of all, they are equipped with NOMEX filter, made from self-extinguishing materials, and suitable for vacuuming white-hot substances; secondly, they are certified for the collection of combustible dust both in classified and not-classified zones, thus ideal in environments with a potential risk of explosion due to the presence of flour or other combustible dusts. Finally, the regular recovery of burnt residuals, ensures the product quality.





Emptying and cleaning driers

Even the most complex operations become simple and fast

Save time and energy

Cereal driers are used increasingly due to continuous weather fluctuations and sporadic rains which effect the quality of harvest or result in yields with unwanted moisture levels.

An easy and quick emptying of the driers makes a fast and more intensive rotation of the drying phases possible.

“… faster and more intense rotation”
Speeding up work means saving time, but also a lot of energy used for the drying process





Production line cleaning

Occasional or continual vacuuming leads
to a high-quality end product

Eliminating waste means preserving product quality

Keeping your production lines clean prevents your product from being contaminated by burnt crumbs and flour or other production waste. It also cuts down waste.

Cleaning can also be performed continuously by distributing vacuuming points along the production line that are connected to a three-phase industrial vacuum or a centralised vacuuming system.

“… prevents your product from being contaminated…”

Product quality always results from a strict control of its contamination and avoids useless waste that in turn requires additional time for disposal




Nilfisk
VHS110

Cleaning manufacturing environments

A clean environment is safe, healthy and efficient

Increasing the safety of your environment improves operating efficiency and well-being

The quality of your food production environment is the basis for guaranteeing hygiene and safety. Nilfisk works constantly together with manufacturing companies in the design of industrial vacuums and accessories dedicated to this purpose. Our mobile industrial vacuums can help you clean floors and production lines, as well as overhead areas and other systems.

Custom accessories speed up the work and help you achieve exceptional results in just a few minutes.

“… guarantee hygiene and safety…”

Hygiene and safety make the working environment more effective because it can be fully utilised; also creating an environment to benefit operator efficiency

Vacuuming packaging machine scraps

The dynamic management of packaging scraps improves production organisation

More time to dedicate to work

Nilfisk produces a range of industrial vacuums for the recovery of manufacturing scraps, plastic, paper and fabric produced daily during the packaging cycle.

Industrial vacuums eliminate continuous interruptions in production to clean cutting machines prevents waste from being scattered in the environment. It also allows you to check product quality in real time, vacuuming any fine powder that can contaminate it.

“… check product quality in real time…”

Industrial vacuums can be used to eliminate all contamination risks, also during packaging operations




Nilfisk

Transport of coffee beans or grains

Pneumatic conveyance of coffee or grains makes it possible to save time and improve product quality

Maximising automation improves manufacturing flow

Nilfisk pneumatic conveyors are designed for transferring powders and grains directly from bags, drums, and other containers, and released at a certain distance, at the desired times and in the desired quantities.

Using pneumatic conveyors means being able to transport the product from a single point to multiple destinations at the same time, and vice versa. The entire transfer process is done hygienically, with respect for the environment and for workers.

“… at the desired times and in the desired quantities…”

Pneumatic handling not only avoids harmful product contamination, but also permits a perfect control of the manufacturing flow, avoiding expensive machine downtime



Recovery of liquids and waste in storage and ageing systems

Speed up the waste recover times
and make the productive environment safer

Quickly recover liquids and solids to increase efficiency

Nilfisk produces industrial vacuums designed for cleaning in food storage and ageing areas where it is necessary to vacuum liquids and solid organics and materials. Essentially, there are three immediate advantages: saving cleaning time, making the production and packaging environments more hygienic and lowering resource expenses for maintenance.

“… less resource expenditure…”

Cleaning and the recovery of waste can be carried out quickly and with excellent results, which is the only way possible to save time and money


Nilfisk
Nilfisk
VHO200

Accessory kits

Using the right accessories makes the job get done faster and easier.



Oven cleaning kit

The oven cleaning kit is a specific set of accessories designed for cleaning inside ovens; it consists of:

- 3m flexible steel hose with
- Zinc-plated reduction and fitting
- Stainless steel 1m extension (3 pieces) with quick-fit coupling
- Wheeled nozzle for ovens
- Sliding PTFE sleeve

Machine cleaning kit

The machine cleaning kit is a group of accessories used to remove dust and residuals from manufacturing systems:

- Zinc-plated adapter
- 5m polyurethane hose with sleeves
- Zinc-plated curved fitting
- Rubber cone
- Zinc-plated junction fitting
- Zinc-plated flat-tip crevice nozzle





Kit for machinery and floors

The ATEX accessory kit represents a solution when the conductivity requirement becomes an obligation; it consists of:

- 3m conductive flex hose
- Conductive sleeve (2 pieces)
- Stainless steel handgrip
- Stainless steel wheeled floor nozzle for dust and liquids (width 400mm)
- Stainless steel curved fitting
- Conductive cone
- Stainless steel flat-tip crevice nozzle

Accessories



Coloured nozzles and brushes

The coloured nozzles with a rubber lip are specifically designed for food and drug environments. Available in autoclavable and conductive versions, they are FDA approved.



Coloured brushes

The coloured brushes, all with a rubber structure (with the exception of one in wood and aluminium) are used for removing and vacuuming dust from surfaces, machines, production lines and structures in a manufacturing environment.



Antistatic non-toxic hose

The antistatic non-toxic hose is made of PVC with a transparent polyurethane substrate, it is suitable for cleaning abrasive and granular materials. It is flexible and is corrugated externally and smooth on the inside. It also has a metal spiral.



Silicone hose

The silicone hose is suitable for cleaning powder from foodstuffs and pharmaceutical mixtures (FDA approved). It is white, resistant to high temperatures (up to 200°C) and therefore can be sterilised in an autoclave (at 121°C). It has a metal wire to earth the hose and a stainless steel spiral; it is smooth both on the inside and externally.

Optional

PTFE polyester filter

Bag filters are used in the smallest vacuum cleaners of the white line series and in pneumatic conveyor systems, they have a smaller filtering surface area than starshaped filters and are used where a low quantity of material must be vacuumed and filtered.



Nomex filter

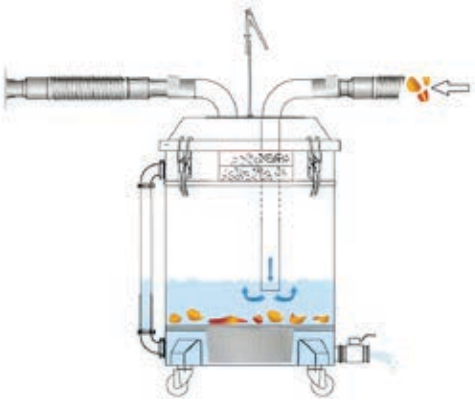
The star-shaped or primary filter is one of the most important components in the vacuum cleaner as it traps all the impurities that could be pumped back into the environment. These are in various sizes to adapt to all vacuum cleaner models, and in various materials.



Cartridge filter

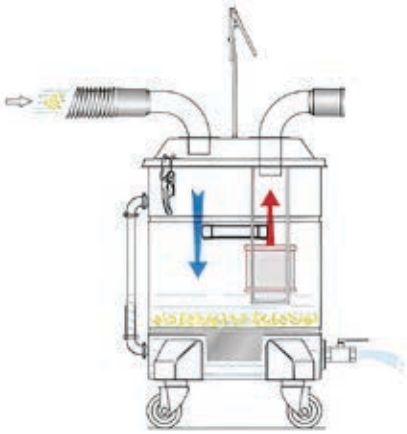
Ideal for automatic and continuous cleaning of the filtering cartridges while vacuuming very fine or dry powders. The system “fires” jets of compressed air inside the cartridges while vacuuming, therefore it is not necessary to turn off the vacuum cleaner to clean the filter.

Optional



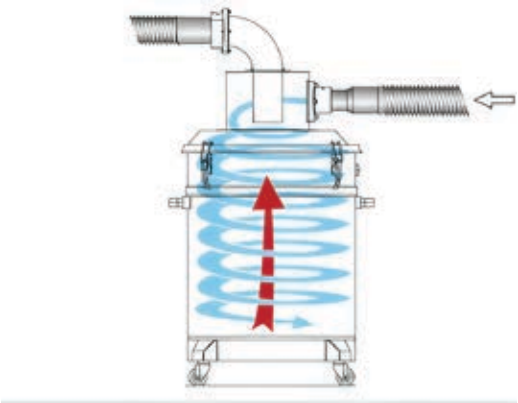
Separator for white-hot substances

Ideal for vacuuming and collecting white-hot substances. The material is cooled when it comes into contact with the water in the container. This water immersion system may be suitable for certain applications with dusty materials where a low quantity of material must be vacuumed and filtered.



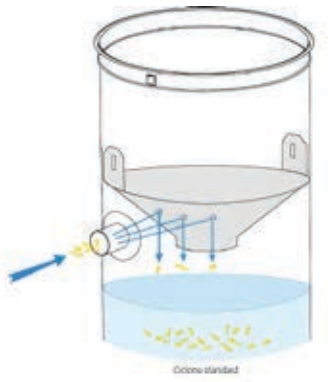
Separator for liquids

Ideal for vacuuming and collecting liquids. A mechanical stop system stops the vacuuming when the container is full, whereas the manual valves permit the liquid to be drained.



Cap with mini-separator

Ideal for vacuuming light or dusty material directly into the container. It fits on the container or hopper, creates a cyclonic effect which helps deposit the material on the bottom.



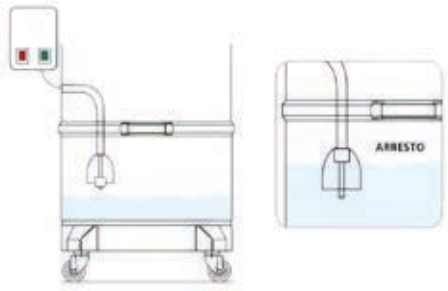
Cap with mini-separator

Ideal for protecting the primary filter from splashes of liquids or potentially sharp material vacuumed up. Should not be used with dusty material.



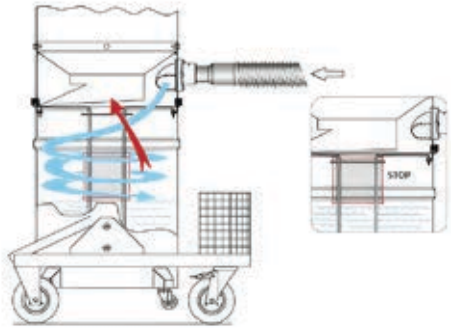
Grill and valve

Ideal for separating solid material from liquids directly inside the container. The grill in the base of the container lets solid material deposit, while liquids can be recovered or drained through the manual valve on the bottom.



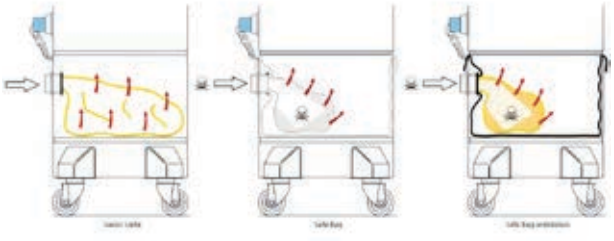
Automatic liquid stop

Ideal for vacuuming liquids, and powers down the vacuum cleaner automatically. The unit powers down when the max. liquid level is reached in the container.



Mechanical liquid stop

This stainless steel system stops the vacuum system mechanically when the max. liquid level is reached in the container. Mainly used on compressed air models or where automatic stop is not required.



Paper bag, safe bag and anti-static safe bag

The container, which can be exchanged with the original, is able to house the paper bag or safe bag. The safe bag system can be used to collect toxic powders and has a safety closing system that upon its removal prevents the user from coming into contact with the vacuumed product.

When you buy a Nilfisk, you buy more than an advanced industrial vacuum system

You need more than that. Because you face overwhelming challenges.

You need to keep your workers safe, eliminate product contamination, prevent combustible dust explosions, safely contain hazardous materials, maintain high quality standards, and optimise productivity. All while working as efficiently as possible.

At Nilfisk, we keep your needs and challenges in mind with everything we do. It's built into the way we design and produce our products to seamlessly fit into your specific production environment and meet the highest standards of quality and safety. It's part of our philosophy of working with you as a partner, not a vendor. It's the reason why we have spent decades learning the conditions and unique challenges of your industry, so that we can provide expert guidance and advice.

So when you buy a Nilfisk, safety is built in. Quality is built in. Efficiency is built in. Expertise is built in.

Your needs are built in.

See more at www.nilfisk.co.uk.



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