

Evacuation Solutions

SaniForce® 2.0



SaniForce 2.0 Evacuation Solutions

Improve plant efficiency, safety and ergonomics

Graco's unloading systems offer the most efficient way to empty your pails, drums, bins and containers in a safe and hygienic way. Every pump is manufactured with your productivity in mind – offering you the most reliable pumps for improved plant efficiency, safety and ergonomics.

The extended range gives you solutions for transferring low to exceptionally high materials (without dilution) and an evacuation rate up to 99%!

| Drum & piston pumps |

Electric drum pumps

Designed for the food, beverage and personal care industry to move low to high viscosity fluids.

Available in both centrifugal and progressive cavity configurations.

- **Max flow rate:**
26.5lpm (7gpm) up to 132lpm (35gpm)
- **Viscosity range:**
up to 100,000cps

Piston pumps

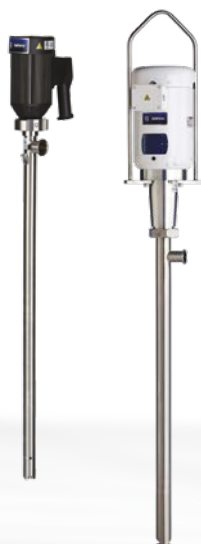
Designed for the food, beverage and personal care industry to move low to high viscosity fluids.

- **Max flow rate:**
up to 53 lpm (up to 14 gpm)
- **Viscosity range:**
up to 100,000cps

| Pail Unloader |

Designed for medium to high viscosity materials out of 20 to 25 litre pails

- **Max flow rate:**
15 lpm (4gpm)
- **Viscosity range:**
up to 100,000cps



| Drum Unloader |

Designed for the food, beverage and personal care industry for unloading medium to high viscosity materials out of 200 litre drums.

Available in air-operated & piston design

- **Max flow rate:**
from 53 lpm (14 gpm) up to 567.8 lpm (150 gpm)
- **Viscosity range:**
up to 1,000,000cps with priming piston



| Bin Unloader |

Designed for the food, beverage and personal care industry for unloading medium to high viscosity materials out of 1.000 litre bins.

Available in air-operated & piston design

- **Max flow rate:**
from 212 lpm (56 gpm) up to 1135.6 lpm (300 gpm)
- **Viscosity range:**
up to 1,000,000cps with priming piston



SaniForce® Drum Pumps

Graco's SaniForce line of Electric Drum Pumps is designed for the food, beverage and personal care industry to move low to high viscosity fluids. The pumps' lightweight design makes it easy to move them between drums and increases your facility output.

- Transfer from drum to drum of low, medium and high viscosity fluids up to 100,000cps
- Flow rates up to 132 lpm (35 gpm)
- Easily transferable and adaptable
- All 316 Stainless Steel wetted section

How it works

Drum pumps consist of a vertical shaft inside a narrow tube which fits inside the drum opening. The pump motor is attached to the vertical shaft at the top of the tube outside and above the drum. The pumping element is located at the end of the shaft inside the drum, sucking up the content in the drum. This configuration allows the drum to be emptied without tipping and so reduces the risk of spills and operator injury.

1

Simple, Hygienic Design

Our electric drum pumps are designed with minimal or no moving parts at all for easy cleaning plus reducing maintenance and downtime.

2

Multiple pump sizes.

You can choose from different pump sizes allowing you to adapt the pump according to the size of your container.

3

Variable speed electric motor options

The variable speed electric motors give you the flexibility to operate your drum pump anywhere in your facilities. Simply plug it in and it's ready within minutes for transfer.

4

Centrifugal or progressive cavity configurations

Use the centrifugal option when a high flow rate is needed for low to medium viscosity fluids. Use the progressive cavity option when a consistent amount of high-pressure is needed at the outlet for handling liquids containing solids & highly viscous liquids.



SaniForce® Piston Pumps

Graco's SaniForce line of Piston Pumps provides proven quality and leading technology. With a fluid pressure up to 82.7 bar these pumps are ideal to move extremely difficult materials when others cannot.

- Food and beverage transfer and supply of low to high viscosity fluids up to 100,000cps
- Flow rates ranging from 5.7 lpm (1.5 gpm) to 53 lpm (14 gpm)
- Bin length, drum length and stubby options available
- Double-ball and priming piston designs

How it works

A piston pump uses a mechanism to create a reciprocating motion along an axis, which then builds pressure in a cylinder or working barrel to force gas or fluid through the pump. The pressure in the chamber actuates the valves at both the suction and discharge points.

- 1 Simple Design**
Our Piston pumps consist of as few parts as possible, for easy cleaning and maintenance.
- 2 Advanced Air Motor**
The air motors improve serviceability, increase efficiency and offer a lower cost of ownership.
- 3 FDA-Compliant Shroud**
Removable, wash down safe, FDA-compliant shroud lets you easily access the air valve
- 4 Quick Knockdown Lowers**
The quick knockdown lowers are made with corrosion resistant stainless steel for long-lasting durability and fast and easy cleaning



Graco's SaniForce Elevator is an articulating arm allowing you to easily unload small batches of fluids.

This is ideal for small and medium sized companies who currently unload by scooping or using chains/hoists.

Available in mobile or stationary option.

SaniForce® Pail Unloader

Graco's Pail Unloader is specially designed for medium to high viscosity materials out of 20 to 25 litre pails. The 6:1 priming piston pump design ensures an evacuation rate up to 99% and the portable, stainless steel construction allows easy maintenance and an overall improved ergonomic work environment.

- Self-priming and run dry capability
- Full 316 Stainless Steel wetted section
- Flow rates up to 15 lpm (3.9 gpm)

How it works

Once the pail is put in place, the plate with wiper seal is lowered into the pail, hermetically sealing the bucket. When the pumping starts the product is moved out of the pail and the plate travels down, scraping product from the sides. After the pail is emptied the plate and pump can get lifted out by simply switching a button.

1

Tri-clamp connections

The Tri-Clamp connections on the pail unloader make it possible to quickly disconnect the pump lower for cleaning and maintenance purposes.

2

Plate design

The follower plate is designed with a static wiper seal, minimising product waste by scraping the products from the side of the pail.

The wiper seals are available in PTFE and Buna, providing a solution for almost all food, beverage and personal care applications.

3

Sealed Product

When the pail unloader is used, the product is hermetically sealed and guided from beginning to end, preventing product contamination.

4

Portable

This small, lightweight unit is equipped with wheels making it easy to move around the factory.



SaniForce® Automation

Graco's line of drum and bin unloaders is now equipped with an electric controlled control design thus almost eliminating operator interaction and interface. Thanks to PLC interface with Allen Bradley or Siemens control systems, the unloading process can be operated remotely.

The new electric controlled unloaders provide automation of the unloading sequence minimising required operator interaction. The system will automatically prime the pump, ramp pump speed up, inflate the seal, monitor the plate/fluid level, start the seal blow-off, deflate the seal and move the ram up.

Thanks to the precise batch control with use of a scale or flow meter, the process of measuring is automated and removes operator guess work for system start & stop points.

Ingredient and end product recipes can be stored. The system will auto-load the pump & seal pressures as well as the batch volumes for the different recipes.

The usage volumes and job volumes can be tracked and reported on. This increases the quality control of the application when connected to a measurement device for batch mode.

Overall, the automated control system improves the usability as it allows operators to multi-task easier with more a consistent operation from shift to shift.



SaniForce® Drum Unloaders

Graco's new Drum Unloader is specially designed for the food, beverage and personal care industry for unloading medium to high viscosity materials out of 200 litre drums. Our drum unloaders are available with double diaphragm or piston pump.

- Evacuation rate up to 99%
- Available in double ball or priming piston designs
- Unload materials from straight-sided or tapered drums
- Sanitary flange clamps for quick disassembly

How it works

Once the drum is placed below the drum unloader, the ram plate and pump is lowered into the drum, just above the product. Then the seal is inflated to hermetically seal the drum. When the pumping starts, the product is moved out of the drum and the plate with inflatable seal travels down, scraping product from the sides of the drum. After the drum is emptied the plate and pump can get lifted out by simply switching a button.

Which pump type works best for your application?



| AIR OPERATED DIAPHRAGM PUMP |

- When high flow rates are required
- When the number of drums used daily exceeds 15
- When the viscosity is under 100,000cps and contains large particles (Material has a diameter greater than 6.3mm and less than 63mm - flapper valve may be required)



| PISTON PUMP |

- When the viscosity is too high for a diaphragm pump
- When the material needs to be pumped large distances
- When too much pressure loss exists in the line

Flapper check options

The air-operated diaphragm pump is available in both ball and flapper check design. The flapper check design provides a delicate, shear-sensitive operation and gently transfers products. This low-shear operation ensures product quality is not damaged or compromised, resulting in the proper transfer of critical high-value fluids and materials.

1

Product care

When using the drum unloader the product is hermetically sealed and guided from beginning to end, excluding any external contamination.

2

Maintenance & Ease of use

Our unit is equipped with drum locators for easy positioning and many unloader options to speed up the process.

3

Control Panel with Automation options

We provide Electro-Pneumatic controls with HMI connection which is loaded with features and a fully automated sequence.

- Fully Automated Unloading Sequence
- Ingredient / Recipe Storage
- Pump Prime Feature
- Batch output control
- Ram Jog Feature

4

Hygiene

The drum unloader is designed with cleanability in mind offering sloped control top, laser etched graphics and a simple design.

5

Safety

The safety locks prevent possible injuries

**Follower Plate Options**

Our improved plate design makes priming and pumping your products easier as the fluid literally gets pushed into the pump.

The follower plate can be equipped with both a static and an inflatable wiper seal, offering a solution for almost all applications. The inflatable seals offers a solution for both straight sided and tapered.

**INFLATABLE SEAL**

Size – 49.2 cm diameter
(can inflate to 63 cm)

**STATIC SEAL**

Size – 56.5 cm diameter

SaniForce® Bin Unloader/BES

Graco's new Bin Evacuation System is specially designed for the food, beverage and personal care industry for unloading medium to high viscosity materials out of 1,000 litre bins. Our Bin Evacuation System is available with double diaphragm or piston pump.

- Evacuation rate up to 99%
- Available in double ball or priming piston designs
- Sanitary flange clamps for quick disassembly

How it works

Once the bin is placed below the BES, the ram plate and pump is lowered into the bin, just above the product. Then the seal is inflated to hermetically seal the bin. When the pumping starts, the product is moved out of the bin and the plate with inflatable seal travels down, scraping product from the sides of the drum. After the drum is emptied the plate and pump can get lifted out by simply switching a button.

Which pump type works best for your application?



| AIR OPERATED DIAPHRAGM PUMP |

- When the material comes in a tote or bin
- When high flow rates are required
- When the viscosity is under 100,000cps and contains large particles
(Material has a diameter greater than 6.3mm and less than 63mm - Flapper valve may be required)



| PISTON PUMP |

- When the material comes in a tote or bin
- When the viscosity is too high for an diaphragm pump
- When the material needs to be pumped large distances
- When too much pressure loss exists in the line

1

Ram Plate

Unique floating ram plate, bin guidelines & end gate with backstop eliminates the need for exact positioning of bins under the ram plate

2

Control Panel with Automation options

We provide Electro-Pneumatic controls with HMI connection which is loaded with features and a fully automated sequence.

Corner Bag Retainer

We provide a corner guide bag retainer, so the bag easily stays in place while pumping.

3

Easy Maintenance

No need to take off the full pump while cleaning, easily hang the air motor on the hanger and only take off the lower.

4

The tri-clamp connection offers an easy and fast cleaning solution for the drum unloader.

5

Safety

Due to our new safety latches you can lock the follower plate when you are not using the unit, preventing any possible injuries when working under the plate or when changing drums



1



2



3



4



5



ABOUT GRACO

Founded in 1926, Graco is a world leader in fluid handling systems and components. Graco products move, measure, control, dispense and apply a wide range of fluids and viscous materials used in vehicle lubrication, commercial and industrial settings.

The company's success is based on its unwavering commitment to technical excellence, world-class manufacturing and unparalleled customer service. Working closely with qualified distributors, Graco offers systems, products and technology that set the quality standard in a wide range of fluid handling solutions. Graco provides equipment for spray finishing, protective coating, paint circulation, lubrication and dispensing sealants and adhesives, along with power application equipment for the contractor industry. Graco's ongoing investment in fluid management and control ensures the continued provision of innovative solutions to a diverse global market.

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