



SaniForce™

A Complete Sanitary Pump Line



unleash the
POWER

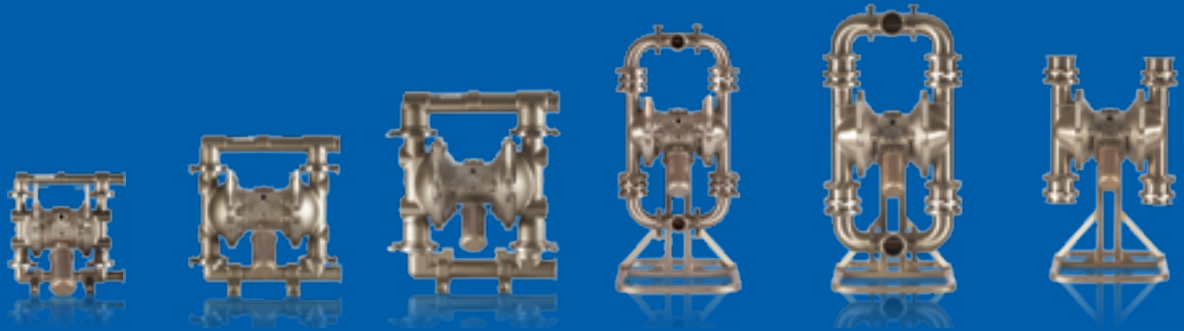
PROVEN QUALITY. LEADING TECHNOLOGY.

The new SaniForce line **saves you time and money** by pumping the most difficult materials – quickly and safely!

SaniForce Pumps:

- Air-operated double diaphragm pumps
- Piston transfer pumps
- Drum and bin unloaders
- High pressure cleaning equipment

unleash the
POWER



Model	1040	1590	2150	1590 HS & 3-A	3150 HS & 3-A	Meat/Poultry
Max Flow Rate	40 gpm (151 lpm)	90 gpm (340 lpm)	150 gpm (568 lpm)	90 gpm (340 lpm)	150 gpm (568 lpm)	150 gpm (568 lpm)
Max Fluid Pressure	120 psi (8 bar, 0.8 MPa)	120 psi (8 bar, 0.8 MPa)	120 psi (8 bar, 0.8 MPa)	120 psi (8 bar, 0.8 MPa)	120 psi (8 bar, 0.8 MPa)	120 psi (8 bar, 0.8 MPa)
Pump Style	Ball	Ball	Ball	Ball	Ball or Flapper	Flapper
Suction Lift (Wet)	29 ft (8.84 m)	29 ft (8.84 m)	29 ft (8.84 m)	28 ft (8.5 m)	Ball = 18 ft (5.5 m) Flapper = 10 ft (3 m)	10 ft (3 m)
Max Pumpable Solids	1/8 in (3.2 mm)	3/16 in (4.8 mm)	1/4 in (6.3 mm)	5/8 in (15.9 mm)	Ball = 1 in (25.4 mm) Flapper = 2.5 in (63.5 mm)	2.5 in (63.5 mm)
Viscosity Range	Up to 10,000 cps	Up to 15,000 cps	Up to 20,000 cps	Up to 15,000 cps	Up to 20,000 cps	Up to 25,000 cps
Flyer	320462	320462	320462	338499	338499	338067
Manual	311879	311879	311879	310622	310622	310622

Graco's Complete Line of Sanitary Pumps



Transfer a **broad range of viscosities** from fruit juices and pizza sauce to caramel and peanut butter.

SaniForce Pumps and Unloaders:

- Move material faster
- Increase efficiency
- Improve processes
- Pump high viscosity materials



6:1	5:1	12:1	Diaphragm Drum Unloaders	Piston Drum Unloaders	Diaphragm Bin Evacuation	Piston Bin Evacuation
4 gpm (15 lpm)	14 gpm (53 lpm)	8.5 gpm (32 lpm)	90 to 150 gpm (340 to 568 lpm)	4 to 14 gpm (15 to 53 lpm)	300 gpm (1,135 lpm)	12 to 64 gpm (56 to 212 lpm)
600 psi (41 bar, 4.1 MPa)	400 psi (28 bar, 2.8 MPa)	1200 psi (83 bar, 8.3 MPa)	120 psi (8 bar, 0.8 MPa)	1200 psi (83 bar, 8.3 MPa)	120 psi (8 bar, 0.8 MPa)	1200 psi (83 bar, 8.3 MPa)
Double ball Priming piston	Double ball Priming piston	Priming piston	Ball or Flapper	Double ball or Priming piston	Ball or Flapper	Double ball or Priming piston
N/A	N/A	N/A	N/A	N/A	N/A	N/A
1/8 in (3.2 mm)	1/4 in (6.4 mm)	1/4 in (6.4 mm)	Ball = 1 in (25.4 mm) Flapper = 2.5 in (63.5 mm)	1/8 in to 1/4 in (3.2 to 6.4 mm)	Ball = 1 in (25.4 mm) Flapper = 2.5 in (63.5 mm)	1/4 in (6.4 mm)
Siphon: Up to 5,000 cps Immersion: Up to 100,000 cps	Siphon: Up to 5,000 cps Immersion: Up to 100,000 cps	Siphon: Up to 5,000 cps Immersion: Up to 100,000 cps	25,000 to 100,000 cps	25,000 to 500,000 cps	25,000 to 100,000 cps	25,000 to 500,000 cps
338591	338591	338591	338590	338590	338589	338589
3A0733	3A0734	3A0735	3A0591	3A0591	311163	311163

SaniForce Piston Pumps

Save money by increasing efficiency

Graco's powerful line of piston pumps move extremely difficult materials when others cannot. They have pressure ratios up to 12:1 and are ideal for low to medium viscosity materials.

The air motors improve serviceability, increase efficiency and offer a lower cost of ownership. The quick knockdown lowers are made with 300 series stainless steel for long-lasting durability.



**SaniForce 6:1
Piston Pump**

- Siphon up to 5,000 cps and 100,000 cps if immersed
- Flow rates up to 4 gpm (15 lpm)
- Lowers available in both stubby and drum lengths

**SaniForce 5:1
Piston Pump**

- Siphon up to 5,000 cps and 100,000 cps if immersed
- Flow rates up to 14 gpm (53 lpm)
- Lowers available in both stubby and drum lengths

**SaniForce 12:1
Piston Pump**

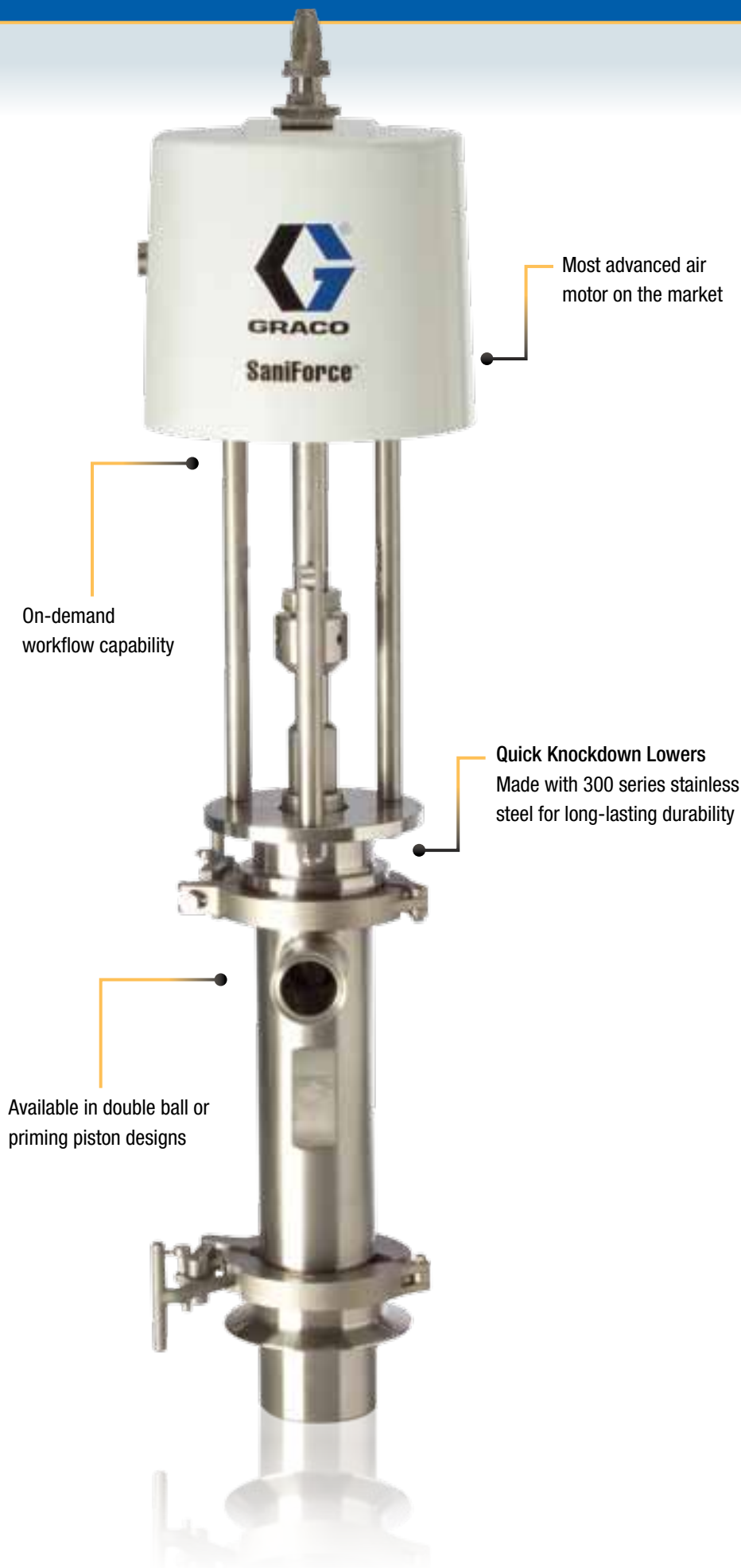
- Siphon up to 5,000 cps and 100,000 cps if immersed
- Flow rates up to 8.5 gpm (32 lpm)
- **New quick knockdown design**

**Common
Applications**

Fluid transfer and supply of low to medium viscosity fluids
Food-related applications
Cosmetic and pharmaceutical applications

**Common
Materials**

Fruit juice concentrates
Cream candy fillings
Ice cream variegates
Cosmetics



FDA-Compliant Kydex® Shroud

- Easily removable to clean and access modular air valve – reducing downtime



All SaniForce Piston Pumps have Quick Knockdown Lowers for Fast and Easy Cleaning!

SaniForce 1040, 1590 & 2150

When other pumps fail, Graco pumps excel!

Graco's SaniForce 1040, 1590 and 2150 air-operated diaphragm pumps not only have **flow rates up to 25% greater** than many competitive pumps with PTFE diaphragms, but have one of the **best, most durable, lube-free air valves** in the industry.

Ideal for applications requiring high flow rates and portability, Graco's dependable diaphragm pumps offer a wide range of food-grade elastomers including Santoprene, PTFE, and overmolded EPDM/PTFE.

Pump Finish

- Cast 316 SST
- Sanitary shot-blasted wetted sections with 125 Ra finish

Bolt-through and overmolded diaphragm options available

Fluid contact areas are all FDA-compliant and meet CFR Title 21



2150

- 2.5 in (63.5 mm) tri-clamp connections
- Flow rates of 150 gpm (568 lpm)



1590

- 2.0 in (50 mm) tri-clamp connections
- Flow rates up to 90 gpm (340 lpm)



1040

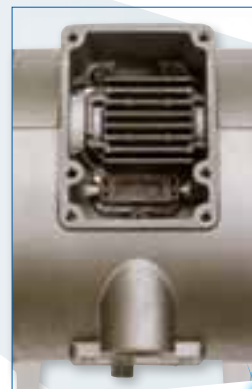
- 1.5 in (38 mm) tri-clamp connections
- Flow rates of 40 gpm (151 lpm)

Common Applications	Evacuation of food to mixing kettles
	Transferring from original containers to mixing tanks
	High volume evacuation of liquid concentrates from holding vessels
	Repackaging of fluids from original containers to smaller receptacles
	Feed filling/packaging stations

Common Materials	Concentrated fruit juices
	Sauces, pastes and starches
	Wine
	Jams and jellies
	Oils

Graco Air Valves are durable, reliable and easy to repair!

- Increase durability and reduce repair time with fewer moving parts
- Three-way pilot valve for non-stick operation
- Externally serviceable for quick, inexpensive repairs



Tri-clamp inlet and outlet connections

Stop Harboring Bacteria!

Graco overmolded the diaphragm plate with PTFE on the fluid side and EPDM on the air side on our **PTFE/EPDM diaphragms** so there is no place to harbor bacteria. This improves wear, durability and cleanability – making SaniForce diaphragm pumps one of the **easiest to clean in the market.**

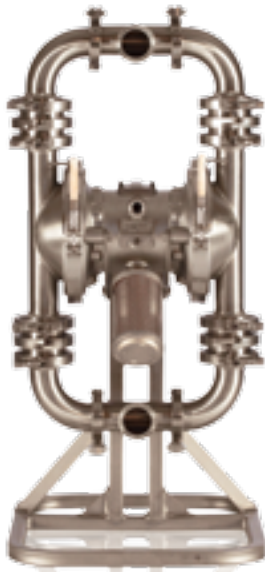
- Improve wear and diaphragm life with no exposed diaphragm plate on the fluid side
- Longer diaphragm life in abrasive applications that still require PTFE
- Available on the SaniForce 1040, 1590, 2150 and SaniForce 1590 HS and 3150 HS



SaniForce 1590 and 3150 High Sanitation

Easy to clean, quick knockdown design

Graco's SaniForce High Sanitation (HS) pumps are ideal for applications that require an electropolished 32 Ra finish and benefit from the convenience of a quick knockdown design. All models are FDA-compliant and can be disassembled in five minutes or less.



1590 HS

- 2.0 in (50.8 mm) tri-clamp connections
- Flow rates up to 90 gpm (340 lpm)



3150 HS

- Up to 4.0 in (101.6 mm) tri-clamp connections
- Flow rates up to 150 gpm (568 lpm)

32 Ra formed/welded stainless steel with sanitary finish

Flow rates ranging from 90-150 gpm (340-568 lpm)

Patented, durable, lube-free air valve

Interchangeable flapper and ball check



3A and EHEDG* certifications are available on many SaniForce 1590 and 3150 models.
*EHEDG certification pending.

Common Applications	Evacuation of food to mixing kettles
	Transferring from original containers to mixing tanks
	High volume evacuation of liquid concentrates from holding vessels
	Repackaging of fluids from original containers to smaller receptacles

Common Materials	Fruit filling
	Spaghetti sauce
	Muffin and cake batter
	Grapes with and without stems
	Potato salad
Cultured dairy products	

SANITARY

EPDM Overmolded Diaphragms

- Approved for 3A applications
- Easy cleaning with smooth, flat surfaces and no recessed areas
- No exposed diaphragm plates to prevent contaminant collection

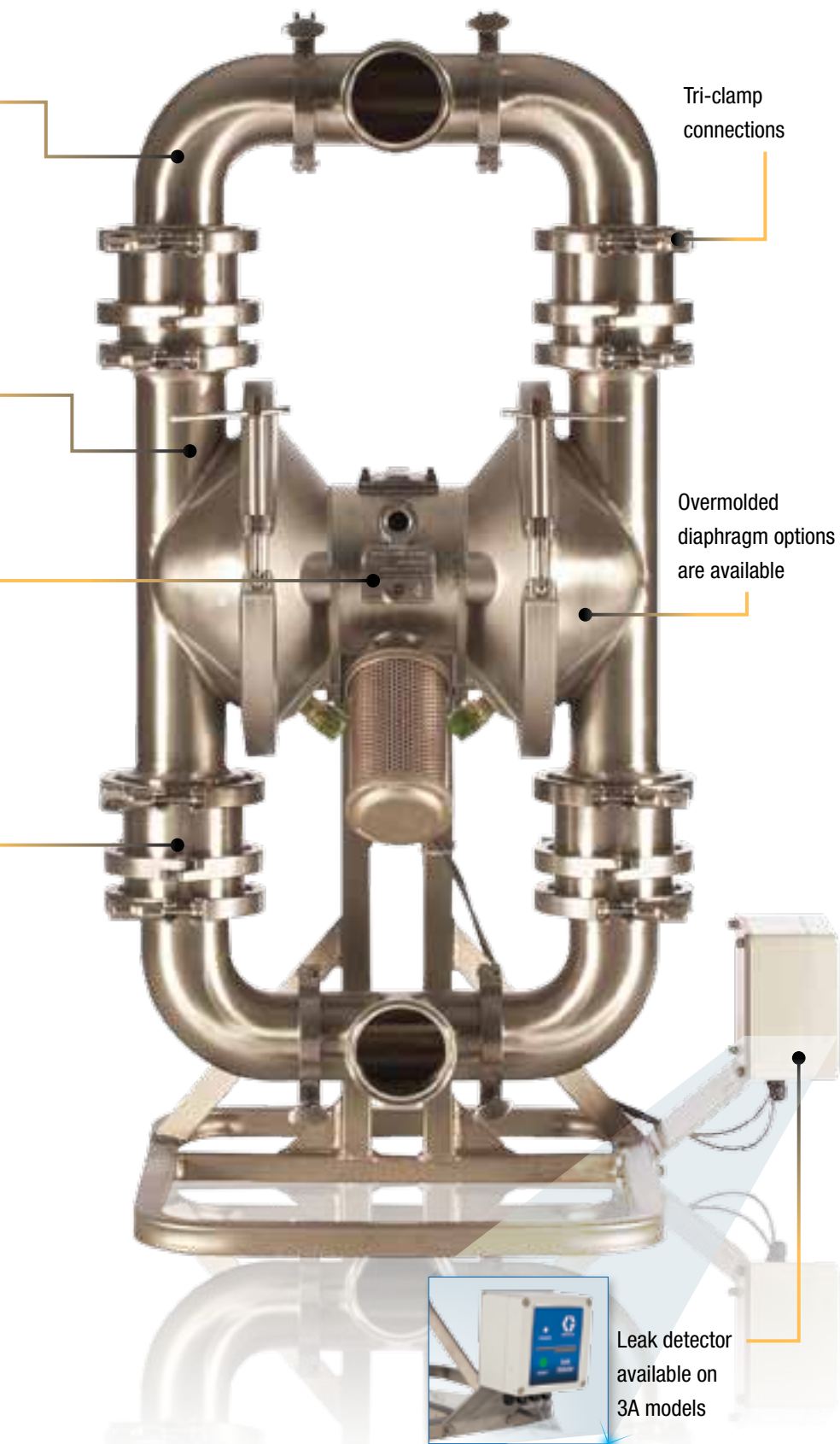


Meat and Poultry Pump

The SaniForce Meat and Poultry Flapper pump handles solids up to 2.5 inches (6.3 cm) in diameter and features Graco's durable, non-sticking air valve. Easily passes necks, gizzards, livers, hearts, feet and slurries.



Common Applications	Meat processing
	Poultry processing
	Pet food manufacturers
	Batters



Tri-clamp connections

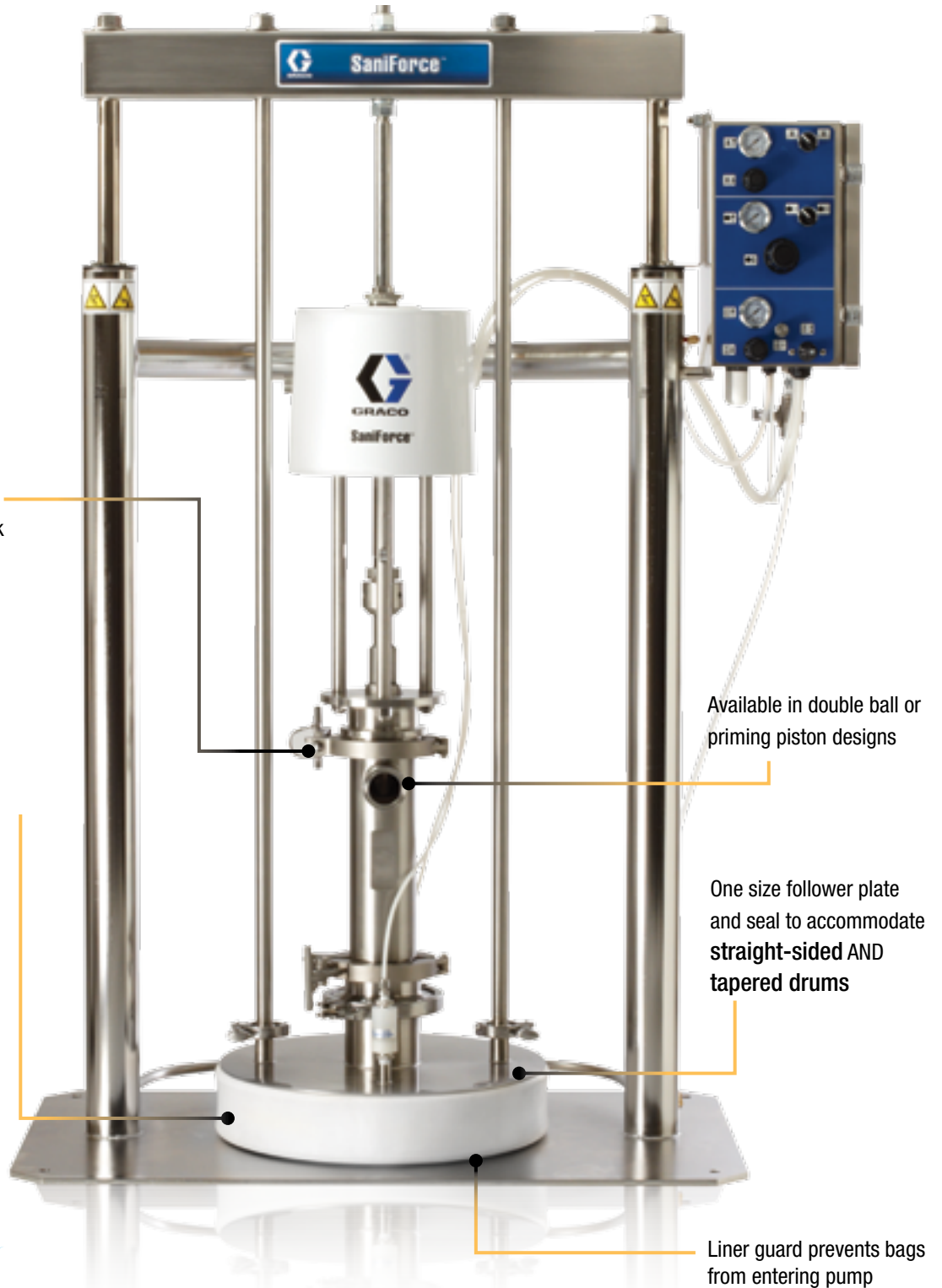
Overmolded diaphragm options are available

Leak detector available on 3A models

SaniForce Drum Unloaders

Need to transfer 500,000 cps materials? No problem!

Graco's SaniForce drum unloaders can evacuate medium to high viscosity products from their original 55-gallon (208 l) containers, in less than 5 minutes – without diluting the material.



Sanitary flange clamps for quick disassembly

Available in double ball or priming piston designs

One size follower plate and seal to accommodate straight-sided AND tapered drums

Liner guard prevents bags from entering pump

Wiper Seal Features

- FDA-compliant inflatable ram plate seal
- Faster change-out of empty containers
- 99% evacuation rate



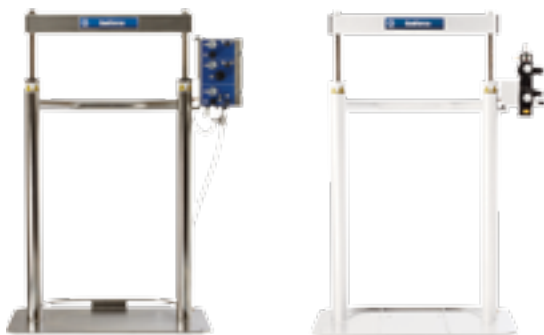
Configure your own SaniForce Drum Unloading System

It's easy as 1-2-3.

Choose the Ram Frame Material + Control Type + Pump Type to build your own SaniForce Drum Unloading System.

1

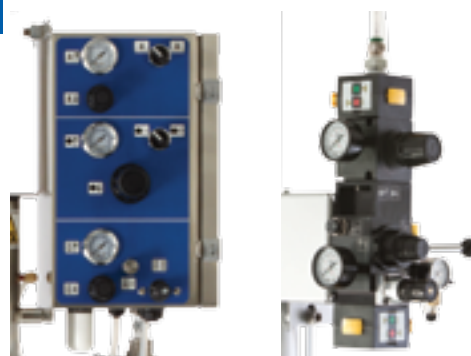
Ram Frame Material



300 Series Stainless Steel OR Painted Carbon Steel

2

Controls Type



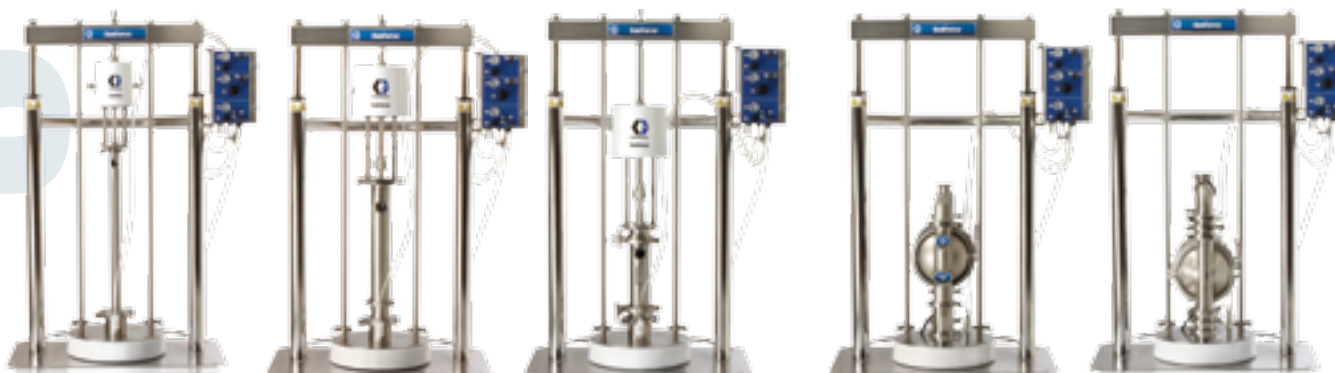
Enclosed Controls* OR Exposed Controls

*Available with SST frame only

3

SaniForce Piston Pump

OR SaniForce Diaphragm Pump



SaniForce 6:1

SaniForce 5:1

SaniForce 12:1

SaniForce 2150

SaniForce 3150 HS

All pumps feature an on-demand workflow capability and can also be taken apart quickly for applications that require frequent sanitation.

Common Applications	Unload medium to high viscosity products, up to 500,000 cps, from 55-gallon containers without diluting the material
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Common Materials	Tomato paste	Cosmetics
	Peanut butter	Jams and jellies
	Icing and frosting	Caramel
	Toothpaste	Corn syrup

SaniForce Bin Evacuation Systems (BES)

The **most sanitary way** to unload materials without introducing airborne bacteria!

Save time and money in your facility by unloading materials efficiently from 300-gallon (1135.6 l) “bag-in-bin” containers – eliminating manual scooping or bin dumping.

Complete bin unloading saves water evaporation costs and provides better process control while removing the need for costly booster pumps.

Flow rates up to 100 gpm (400 lpm) can easily be achieved on medium to high viscosity products up to 500,000 cps.



**SaniForce 3150 BES
with Diaphragm Pumps**



**SaniForce BES
with Piston Pumps**

Common Applications

Evacuate viscous products from their original 300-gallon containers without dilution

Common Materials

Tomato paste	Cosmetics
Peanut butter	Jams and jellies
Icing and frosting	Caramel
Toothpaste	Corn syrup

Unload a Tote in 5 Minutes or Less!

Keep your product clean, **move it quickly** and boost your bottom line with a SaniForce bin evacuation system.

99% evacuation rate for certain materials

Available with pneumatic or electronic controls

Evacuation times of *less than five minutes* for most materials

Inflatable wiper creates a tight seal preventing contaminants from entering the container



Unique floating ram plate eliminates the need for exact positioning of bins under the ram plate

Hydra-Clean® Pressure Washers

Gas and electric can't be used? Choose the **air-driven** Hydra-Clean pressure washer for your cleaning solution.

Ideal for cleaning and sanitizing food, beverage and pharmaceutical processing facilities, Hydra-Clean pressure washers can be used with hot or cold water, detergents or strong chemical solutions up to 200°F (93°C).



A Complete Line of Chemical Transfer Pumps

With its patented air valve, Graco pumps are a **dependable, easy-to-service** solution for CIP application requirements.



Husky™ 205 Polypropylene

- 1/4 in (6.3 mm) connection
- Max flow: 5 gpm (19 lpm)



Husky 205 PVDF

- 1/4 in (6.3 mm) connection
- Max flow: 5 gpm (19 lpm)



Husky 307 Polypropylene

- 3/8 in (9.4 mm) connection
- Max flow: 7 gpm (26 lpm)



Husky 515 Polypropylene

- 1/2 in (12.7 mm) connection
- Max flow: 15 gpm (57 lpm)



Husky 515 PVDF

- 1/2 in (12.7 mm) connection
- Max flow: 15 gpm (57 lpm)



Husky 716 SST

- 3/4 in (19.1 mm) connection
- Max flow: 16 gpm (61 lpm)



Husky 1050 Polypropylene

- 1 in (25.4 mm) connection
- Max flow: 50 gpm (189 lpm)



Husky 1050 PVDF

- 1 in (25.4 mm) connection
- Max flow: 50 gpm (189 lpm)



Husky 1050 SST

- 1 in (25.4 mm) connection
- Max flow: 50 gpm (189 lpm)



ABOUT GRACO

PROVEN QUALITY. LEADING TECHNOLOGY.

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 will continue to provide innovative solutions to a diverse global market.

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