



SaniForce™

High Sanitation Air-Operated Double Diaphragm Pumps

POWERFUL
ADVANCED
TECHNOLOGY



Easy to clean, quick knockdown design

- Fluid contact areas are FDA-Compliant and meet CFR Title 21
- 3A Certified pump options to meet the sanitation requirements of the milk and dairy industry
- Featuring Graco's durable, lube-free, non-sticking air valve
- Available in ball and flapper designs, with 1.5" - 2" - 3" and 4" tri-clamp connections

PROVEN QUALITY. LEADING TECHNOLOGY.

Technical Specifications and Ordering Information

3150 Technical Specifications

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|--|--|
| Maximum fluid working pressure..... | 8.4 bar (0.84 MPa - 120 psi) |
| Maximum free flow delivery* | 568 l/min (150 gpm) |
| Maximum suction lift - ball..... | 5.5 m (18 ft) wet, 2.7 m (9 ft) dry |
| Maximum suction lift - flapper..... | 3.0 m (10 ft) wet, 1.5 m (5 ft) dry |
| Maximum size of pumpable solids | |
| Ball | 25.4 mm (1") |
| Flapper | 63.5 mm (2.5") |
| Maximum diaphragm operating temperature | |
| Santoprene | 82.2°C (180°F) |
| Buna-N | 82.2°C (180°F) |
| PTFE | 104.4°C (220°F) |
| Fluoroelastomer | 121°C (250°F) |
| EPDM | 135°C (275°F) |
| Typical sound level at 4.9 bar (70 psi) air @ 50 cpm | 85 dBa |
| Air pressure operating range..... | 1.4 to 8.4 bar (0.14 to 0.84 MPa - 20 to 120 psi) |
| Air inlet size | 1/2" npt(f) |
| Fluid inlet & outlet size (determined by part number)..... | Tri-clamp connections |
| Weight..... | 65.7 kg (145 lb) |
| Instruction manual..... | 310622 |

* Flow rates are with muffler and do not vary based on diaphragm material. Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type.

3150 High Sanitation Pumps

3A Pump with Leak Detector

| Part No. | Type | Inlet/ Outlet Size | Diaphragm | Ball Material |
|----------|-------------|-----------------------|-----------------|------------------|
| SA1AAA | 3A Approved | 1.5" x 1.5" | Overmolded EPDM | PTFE |
| SA2AAA | 3A Approved | 2" x 2" | Overmolded EPDM | PTFE |
| SA3AAA | 3A Approved | 3" x 3" | Overmolded EPDM | PTFE |
| SA4AAA | 3A Approved | 4" x 4" | Overmolded EPDM | PTFE |
| SA5AAA | 3A Approved | 3" x 2" | Overmolded EPDM | PTFE |

Sanitary Ball Pump

| Part No. | Type | Inlet/ Outlet Size | Diaphragm | Ball Material |
|----------|------------|-----------------------|----------------------|------------------|
| SA13A1 | Ball Check | 1.5" x 1.5" | Overmolded PTFE/EPDM | PTFE |
| SA23A1 | Ball Check | 2" x 2" | Overmolded PTFE/EPDM | PTFE |
| SA3AA1 | Ball Check | 3" x 3" | Overmolded EPDM | PTFE |
| SA33A1 | Ball Check | 3" x 3" | Overmolded PTFE/EPDM | PTFE |
| SA4AA1 | Ball Check | 4" x 4" | Overmolded EPDM | PTFE |
| SA43A1 | Ball Check | 4" x 4" | Overmolded PTFE/EPDM | PTFE |
| SA53A1 | Ball Check | 3" x 2" | Overmolded PTFE/EPDM | PTFE |
| SA3361 | Ball Check | 3" x 3" | Overmolded PTFE/EPDM | Santoprene |
| SB2AA1 | Ball Check | 2" x 2" | Overmolded EPDM | PTFE |
| SB3AA1 | Ball Check | 3" x 3" | Overmolded EPDM | PTFE |
| SB2661 | Ball Check | 2" x 2" | Santoprene | Santoprene |
| SB3661 | Ball Check | 3" x 3" | Santoprene | Santoprene |
| SB2771 | Ball Check | 2" x 2" | Buna-N | Buna-N |
| SB3771 | Ball Check | 3" x 3" | Buna-N | Buna-N |
| SB2881 | Ball Check | 2" x 2" | Fluoroelastomer | Fluoroelastomer |
| SB3881 | Ball Check | 3" x 3" | Fluoroelastomer | Fluoroelastomer |

Sanitary Flapper Pump

| Part No. | Type | Inlet/ Outlet Size | Diaphragm Material |
|----------|---------|-----------------------|-----------------------|
| SF3AF1 | Flapper | 3" x 3" | Overmolded EPDM |
| SF4AF1 | Flapper | 4" x 4" | Overmolded EPDM |
| SF36F1 | Flapper | 3" x 3" | Santoprene |
| SF46F1 | Flapper | 4" x 4" | Santoprene |
| SF37F1 | Flapper | 3" x 3" | Buna-N |
| SF47F1 | Flapper | 4" x 4" | Buna-N |
| SF38F1 | Flapper | 3" x 3" | Fluoroelastomer |
| SF48F1 | Flapper | 4" x 4" | Fluoroelastomer |

3150 Pump Accessories

| | |
|--------|--|
| 16E975 | Conversion kit: Ball to flapper, includes four flapper assemblies |
| 15H461 | Conversion kit 3A: Flapper to ball, includes four housing retainers; balls need to be ordered separately |
| 15E285 | Conversion kit: Flapper to ball, includes four housing retainers; balls need to be ordered separately |
| 112361 | Santoprene ball (order quantity four) |
| 15B492 | Buna-N ball (order quantity four) |
| 112359 | PTFE ball (order quantity four) |
| 15B491 | Fluoroelastomer ball (order quantity four) |
| 253225 | Santoprene diaphragm kit |
| 253223 | Buna-N diaphragm kit |
| 253222 | Fluoroelastomer diaphragm kit |
| 253224 | Overmolded EPDM diaphragm kit |
| 15D990 | Leak detector kit |

1590 Technical Specifications

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|--|---------------------------------------|
| Maximum fluid working pressure..... | 8.4 bar (0.84 MPa - 120 psi) |
| Maximum free-flow delivery | 340 l/min (90 gpm) |
| Maximum suction lift | 8.5 m (28 ft) wet, 4.57 m (15 ft) dry |
| Maximum size pumpable solids..... | 15.9 mm (5/8") |
| Air pressure operating range..... | 14-8 bar (014-08 MPa - 20-120 psi) |
| Maximum air consumption..... | 125 scfm |
| Air consumption at 4.9 bar (70 psi) air inlet pressure/227 l/min (60 gpm)..... | 50 scfm |
| Maximum pump speed..... | 200 cpm |
| * Liters (gallons) per cycle..... | 1.96 (0.5) |
| **Maximum noise level at 7 bar (100 psi), full flow | 90 dBa |
| **Sound power level | 103 dBa |
| **Noise level at 4.9 bar (70 psi) and 50 cpm..... | 85 dBa |

Maximum fluid operating temperature is based on the following maximum diaphragm, ball, and seat temperature ratings.

| | |
|-------------------------|-----------------|
| PTFE | 104.4°C (220°F) |
| Santoprene | 82.2°C (180°F) |
| 3A Approved EPDM | 135°C (275°F) |
| Air inlet size | 0.5" npt(f) |
| Weight..... | 44 kg (97 lb) |
| Instruction manual..... | 310622 |

* Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

**Noise levels measured with the pump mounted on the stand. Sound power measured per ISO Standard 9614-1

1590 High Sanitation Pumps

| Part Number | Type | Inlet | Diaphragm |
|-------------|-------------|---------|----------------------|
| SABAAA | 3A Approved | 2" x 2" | Overmolded EPDM |
| SBBAAA | 3A Approved | 2" x 2" | Overmolded EPDM |
| SBBA11 | Ball Check | 2" x 2" | PTFE |
| SABA13 | Ball Check | 2" x 2" | Overmolded EPDM/PTFE |
| SBBA13 | Ball Check | 2" x 2" | Overmolded EPDM/PTFE |
| SBBA22 | Ball Check | 2" x 2" | Santoprene |

1590 Kits and Accessories

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|--------|--------------------------------|
| 255122 | Air valve repair kit 3A |
| 255058 | Overmolded EPDM diaphragm kit |
| 255059 | Santoprene diaphragm kit |
| 255060 | PTFE diaphragm kit |
| 15D990 | Leak detector |
| 112421 | Santoprene ball (quantity one) |
| 112419 | PTFE ball (quantity one) |

All written and visual data contained in this document are based on the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.

Graco is certified ISO 9001.

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