

# SaniForce® Equipment Catalog

Solutions for Sanitary Applications



unleash the  
**POWER**

PROVEN QUALITY. LEADING TECHNOLOGY



**Contents**

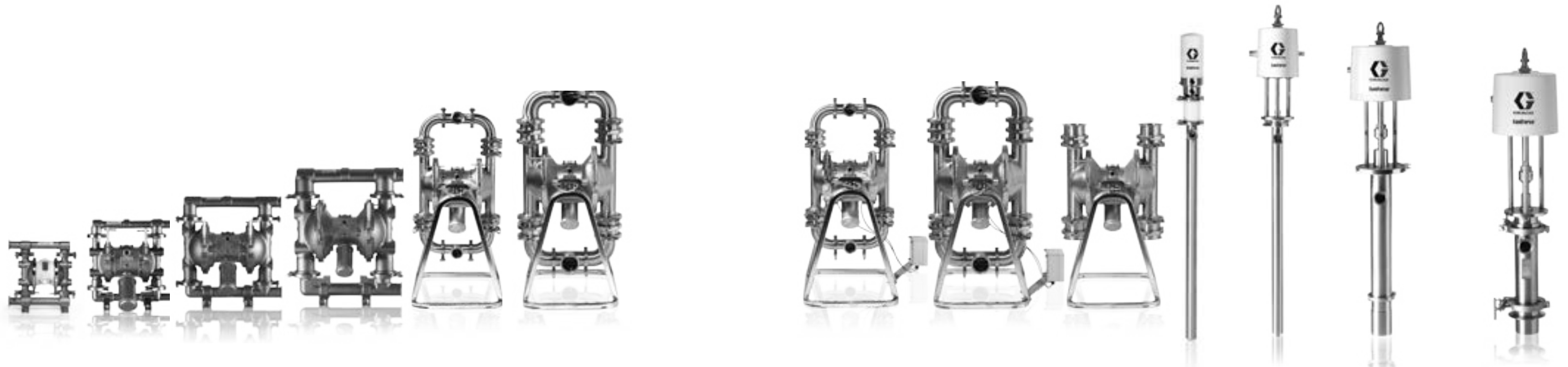
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# SaniForce® Pumps Selection Chart

| Model*                     | SaniForce 515            | SaniForce 1040           | SaniForce 1590           | SaniForce 2150           | SaniForce 1590 HS        | SaniForce 3150 HS                                   | SaniForce 1590 3A        | SaniForce 3150 3A        | SaniForce Meat/Poultry   | SaniForce 2:1 Piston Pump | SaniForce 6:1 Piston Pump     | SaniForce 5:1 Piston Pump     | SaniForce 12:1 Piston Pump |
|----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|--------------------------|--------------------------|--------------------------|---------------------------|-------------------------------|-------------------------------|----------------------------|
| <b>Max Flow Rate</b>       | 16 gpm (61 lpm)          | 40 gpm (151 lpm)         | 90 gpm (340 lpm)         | 150 gpm (568 lpm)        | 90 gpm (340 lpm)         | 150 gpm (568 lpm)                                   | 90 gpm (340 lpm)         | 150 gpm (568 lpm)        | 150 gpm (568 lpm)        | 1.5 gpm (5.7 lpm)         | 4 gpm (15 lpm)                | 14 gpm (53 lpm)               | 8.5 gpm (32 lpm)           |
| <b>Max Fluid Pressure</b>  | 100 psi (7 bar, 0.7 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)                            | 120 psi (8 bar, 0.8 MPa) | 120 psi (8 bar, 0.8 MPa) | 120 psi (8 bar, 0.8 MPa) | 250 psi (17 bar, 1.7 MPa) | 600 psi (41 bar, 4.1 MPa)     | 400 psi (28 bar, 2.8 MPa)     | 1200 psi (83 bar, 8.3 MPa) |
| <b>Check Style</b>         | Ball                     | Ball                     | Ball                     | Ball                     | Ball                     | Ball or Flapper                                     | Ball                     | Ball                     | Flapper                  | Double ball               | Double ball or Priming piston | Double ball or Priming piston | Priming piston             |
| <b>Suction Lift (Wet)</b>  | 25 ft (7.6 m)            | 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)<br>Flapper = 10 ft (3 m)       | 28 ft (8.5 m)            | 18 ft (5.5 m)            | 10 ft (3 m)              | N/A                       | N/A                           | N/A                           | N/A                        |
| <b>Max Pumpable Solids</b> | 3/32 in (2.38 mm)        | 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)<br>Flapper = 2.5 in (63.5 mm) | 5/8 in (15.9 mm)         | 1 in (25.4 mm)           | 2.5 in (6.3 cm)          | 1/8 in (3.2 mm)           | 1/8 in (3.2 mm)               | 1/4 in (6.4 mm)               | 1/4 in (6.4 mm)            |
| <b>Viscosity Range</b>     | Up to 10,000 cps         | 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 15,000 cps         | Up to 20,000 cps         | Up to 20,000 cps         | Up to 50,000 cps          | Up to 100,000 cps             | Up to 100,000 cps             | Up to 1,000,000 cps**      |
| <b>Flyer</b>               | <a href="#">320462</a>   | <a href="#">320462</a>   | <a href="#">320462</a>   | <a href="#">320462</a>   | <a href="#">338499</a>   | <a href="#">338499</a>                              | <a href="#">338499</a>   | <a href="#">338499</a>   | <a href="#">338067</a>   | <a href="#">338591</a>    | <a href="#">338591</a>        | <a href="#">338591</a>        | <a href="#">338591</a>     |
| <b>Instruction Manual</b>  | <a href="#">3A1973</a>   | <a href="#">311879</a>   | <a href="#">311879</a>   | <a href="#">311879</a>   | <a href="#">310622</a>   | <a href="#">310622</a>                              | <a href="#">310622</a>   | <a href="#">310622</a>   | <a href="#">310622</a>   | <a href="#">3A2977</a>    | <a href="#">3A0733</a>        | <a href="#">3A0734</a>        | <a href="#">3A0735</a>     |

\*Actual performance may vary by application

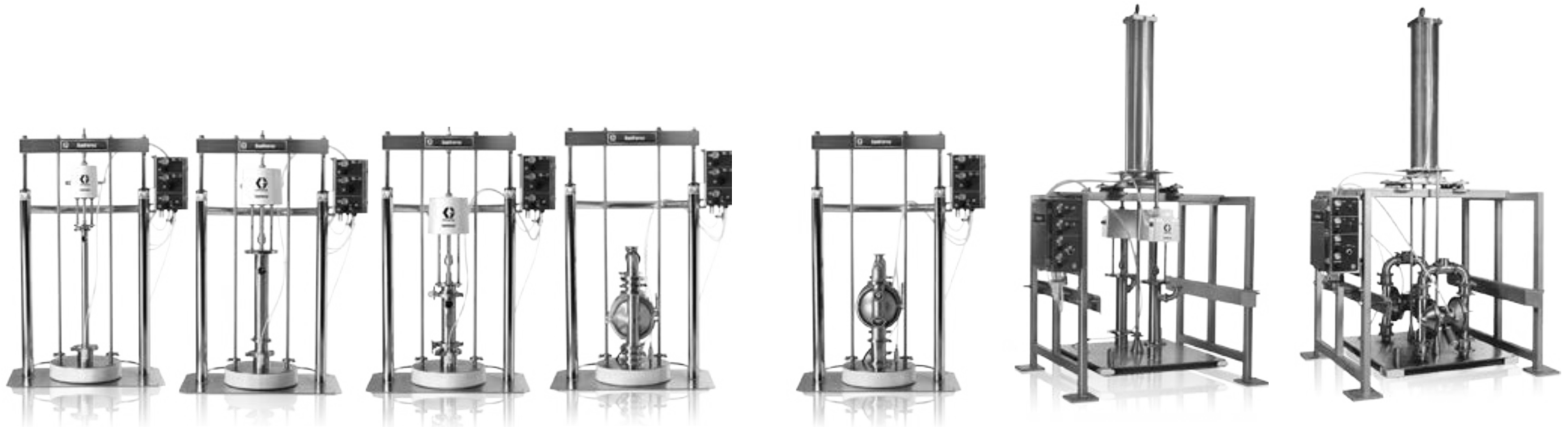
\*\*When mounted on drum unloader or bin evacuation system



# SaniForce Drum and Bin Unloaders Selection Chart

| Model*                    | SaniForce 6:1 Drum Unloader   | SaniForce 5:1 Drum Unloader   | SaniForce 12:1 Drum Unloader | SaniForce 3150 HS Drum Unloader | SaniForce 2150 Drum Unloader | SaniForce BES                 | SaniForce 3150 BES        |
|---------------------------|-------------------------------|-------------------------------|------------------------------|---------------------------------|------------------------------|-------------------------------|---------------------------|
| <b>Max Flow Rate</b>      | Up to 4.0 gpm (15 lpm)        | Up to 14 gpm (53 lpm)         | Up to 8.5 gpm (32 lpm)       | Up to 150 gpm (568 lpm)         | Up to 150 gpm (568 lpm)      | Up to 56 gpm (212 lpm)        | Up to 300 gpm (1,135 lpm) |
| <b>Max Fluid Pressure</b> | 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)        | 120 psi (8 bar, 0.8 MPa)     | 1200 psi (83 bar, 8.3 MPa)    | 120 psi (8 bar, 0.8 MPa)  |
| <b>Pump Style</b>         | Double ball or priming piston | Double ball or priming piston | Priming piston               | Ball or flapper                 | Ball                         | Double ball or priming piston | Ball or flapper           |
| <b>Controls</b>           | Manual                        | Manual                        | Manual                       | Manual                          | Manual                       | Manual and Electronic         | Manual and Electronic     |
| <b>Viscosity Range</b>    |                               |                               |                              | Up to 100,000 cps               | Up to 100,000 cps            | Up to 1,000,000 cps           | Up to 100,000 cps         |
| Double Ball:              | Up to 150,000 cps             | Up to 150,000 cps             |                              |                                 |                              |                               |                           |
| Priming Piston:           | Up to 1,000,000 cps           | Up to 1,000,000 cps           | Up to 1,000,000 cps          |                                 |                              |                               |                           |
| <b>Flyer</b>              | <a href="#">338590</a>        | <a href="#">338590</a>        | <a href="#">338590</a>       | <a href="#">338590</a>          | <a href="#">338590</a>       | <a href="#">338589</a>        | <a href="#">338589</a>    |
| <b>Instruction Manual</b> | <a href="#">3A0591</a>        | <a href="#">3A0591</a>        | <a href="#">3A0591</a>       | <a href="#">3A0591</a>          | <a href="#">3A0591</a>       | <a href="#">311163</a>        | <a href="#">311163</a>    |

\*Actual performance may vary by application



**Ordering Information**

**SaniForce 515 - 1.0 in (25.4 mm) Sanitary Clamp Connection**

| Part Number | Manifold ID       | Seats | O-rings | Balls      | Diaphragms      |
|-------------|-------------------|-------|---------|------------|-----------------|
| FD5111      | 0.96 in (24.3 mm) | SST   | PTFE    | PTFE       | PTFE            |
| FD5113      | 0.96 in (24.3 mm) | SST   | PTFE    | PTFE       | Overmolded PTFE |
| FD5122      | 0.96 in (24.3 mm) | SST   | PTFE    | Santoprene | Santoprene      |
| FD5611      | 0.96 in (24.3 mm) | SST   | EPDM    | PTFE       | PTFE            |
| FD5613      | 0.96 in (24.3 mm) | SST   | EPDM    | PTFE       | Overmolded PTFE |
| FD5622      | 0.96 in (24.3 mm) | SST   | EPDM    | Santoprene | Santoprene      |



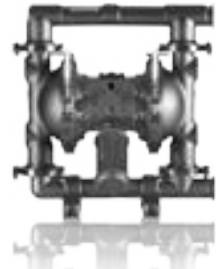
**SaniForce 1040 - 1.5 in (38.1 mm) Sanitary Clamp Connection**

| Part Number | Manifold ID      | Seats | O-rings | Balls       | Diaphragms      |
|-------------|------------------|-------|---------|-------------|-----------------|
| FD1111      | 1.0 in (25.4 mm) | SST   | PTFE    | PTFE        | PTFE            |
| FD1122      | 1.0 in (25.4 mm) | SST   | PTFE    | Santoprene  | Santoprene      |
| FD1211      | 1.0 in (25.4 mm) | SST   | EPDM    | PTFE        | PTFE            |
| FD1222      | 1.0 in (25.4 mm) | SST   | EPDM    | Santoprene  | Santoprene      |
| FD1113      | 1.0 in (25.4 mm) | SST   | PTFE    | PTFE        | Overmolded PTFE |
| FD1213      | 1.0 in (25.4 mm) | SST   | EPDM    | PTFE        | Overmolded PTFE |
| FD1132      | 1.0 in (25.4 mm) | SST   | PTFE    | Weighted CR | Santoprene      |
| FD1133      | 1.0 in (25.4 mm) | SST   | PTFE    | Weighted CR | Overmolded PTFE |
| FD1232      | 1.0 in (25.4 mm) | SST   | EPDM    | Weighted CR | Santoprene      |
| FA1111*     | 1.0 in (25.4 mm) | SST   | PTFE    | PTFE        | PTFE            |
| FA1122*     | 1.0 in (25.4 mm) | SST   | PTFE    | Santoprene  | Santoprene      |
| FA1132*     | 1.0 in (25.4 mm) | SST   | PTFE    | Weighted CR | Santoprene      |
| FA1133*     | 1.0 in (25.4 mm) | SST   | PTFE    | Weighted CR | Overmolded PTFE |
| FA1222*     | 1.0 in (25.4 mm) | SST   | EPDM    | Santoprene  | Santoprene      |



**SaniForce 1590 - 2.0 in (50.8 mm) Sanitary Clamp Connection**

| Part Number | Manifold ID      | Seats | O-rings | Balls       | Diaphragms      |
|-------------|------------------|-------|---------|-------------|-----------------|
| FD2111      | 1.5 in (38.1 mm) | SST   | PTFE    | PTFE        | PTFE            |
| FD2122      | 1.5 in (38.1 mm) | SST   | PTFE    | Santoprene  | Santoprene      |
| FD2211      | 1.5 in (38.1 mm) | SST   | EPDM    | PTFE        | PTFE            |
| FD2222      | 1.5 in (38.1 mm) | SST   | EPDM    | Santoprene  | Santoprene      |
| FD2113      | 1.5 in (38.1 mm) | SST   | PTFE    | PTFE        | Overmolded PTFE |
| FD2213      | 1.5 in (38.1 mm) | SST   | EPDM    | PTFE        | Overmolded PTFE |
| FD2132      | 1.5 in (38.1 mm) | SST   | PTFE    | Weighted CR | Santoprene      |
| FD2133      | 1.5 in (38.1 mm) | SST   | PTFE    | Weighted CR | Overmolded PTFE |
| FD2232      | 1.5 in (38.1 mm) | SST   | EPDM    | Weighted CR | Santoprene      |
| FA2111*     | 1.5 in (38.1 mm) | SST   | PTFE    | PTFE        | PTFE            |
| FA2122*     | 1.5 in (38.1 mm) | SST   | PTFE    | Santoprene  | Santoprene      |
| FA2132*     | 1.5 in (38.1 mm) | SST   | PTFE    | Weighted CR | Santoprene      |
| FA2222*     | 1.5 in (38.1 mm) | SST   | EPDM    | Santoprene  | Santoprene      |



**SaniForce 2150 - 2.5 in (63.5 mm) Sanitary Clamp Connection**

| Part Number | Manifold ID      | Seats | O-rings | Balls       | Diaphragms      |
|-------------|------------------|-------|---------|-------------|-----------------|
| FD3111      | 2.0 in (50.8 mm) | SST   | PTFE    | PTFE        | PTFE            |
| FD3122      | 2.0 in (50.8 mm) | SST   | PTFE    | Santoprene  | Santoprene      |
| FD3211      | 2.0 in (50.8 mm) | SST   | EPDM    | PTFE        | PTFE            |
| FD3222      | 2.0 in (50.8 mm) | SST   | EPDM    | Santoprene  | Santoprene      |
| FD3113      | 2.0 in (50.8 mm) | SST   | PTFE    | PTFE        | Overmolded PTFE |
| FD3213      | 2.0 in (50.8 mm) | SST   | EPDM    | PTFE        | Overmolded PTFE |
| FD3132      | 2.0 in (50.8 mm) | SST   | PTFE    | Weighted CR | Santoprene      |
| FD3133      | 2.0 in (50.8 mm) | SST   | PTFE    | Weighted CR | Overmolded PTFE |
| FD3232      | 2.0 in (50.8 mm) | SST   | EPDM    | Weighted CR | Santoprene      |
| FA3111*     | 2.0 in (50.8 mm) | SST   | PTFE    | PTFE        | PTFE            |
| FA3122*     | 2.0 in (50.8 mm) | SST   | PTFE    | Santoprene  | Santoprene      |
| FA3132*     | 2.0 in (50.8 mm) | SST   | PTFE    | Weighted CR | Santoprene      |
| FA3222*     | 2.0 in (50.8 mm) | SST   | EPDM    | Santoprene  | Santoprene      |



\*SaniForce Pump with Aluminum Center Section (aluminum air motor and 316 SST fluid section)

**Ordering Information**

**Fluid Repair Kits**

| 515 Kits | O-rings | Balls      | Diaphragms      |
|----------|---------|------------|-----------------|
| FK5111   | PTFE    | PTFE       | PTFE            |
| FK5113   | PTFE    | PTFE       | Overmolded PTFE |
| FK5122   | PTFE    | Santoprene | Santoprene      |
| FK5611   | EPDM    | PTFE       | PTFE            |
| FK5613   | EPDM    | PTFE       | Overmolded PTFE |
| FK5622   | EPDM    | Santoprene | Santoprene      |

| 1040 Kits | O-rings | Balls       | Diaphragms      |
|-----------|---------|-------------|-----------------|
| FK1111    | PTFE    | PTFE        | PTFE            |
| FK1122    | PTFE    | Santoprene  | Santoprene      |
| FK1133    | PTFE    | Weighted CR | Overmolded PTFE |
| FK1211    | EPDM    | PTFE        | PTFE            |
| FK1222    | EPDM    | Santoprene  | Santoprene      |
| FK1113    | PTFE    | PTFE        | Overmolded PTFE |
| FK1213    | EPDM    | PTFE        | Overmolded PTFE |
| FK1132    | PTFE    | Weighted CR | Santoprene      |
| FK1232    | EPDM    | Weighted CR | Santoprene      |

| 1590 Kits | O-rings | Balls       | Diaphragms      |
|-----------|---------|-------------|-----------------|
| FK2111    | PTFE    | PTFE        | PTFE            |
| FK2122    | PTFE    | Santoprene  | Santoprene      |
| FK2133    | PTFE    | Weighted CR | Overmolded PTFE |
| FK2211    | EPDM    | PTFE        | PTFE            |
| FK2222    | EPDM    | Santoprene  | Santoprene      |
| FK2113    | PTFE    | PTFE        | Overmolded PTFE |
| FK2213    | EPDM    | PTFE        | Overmolded PTFE |
| FK2132    | PTFE    | Weighted CR | Santoprene      |
| FK2232    | EPDM    | Weighted CR | Santoprene      |

| 2150 Kits | O-rings | Balls       | Diaphragms      |
|-----------|---------|-------------|-----------------|
| FK3111    | PTFE    | PTFE        | PTFE            |
| FK3122    | PTFE    | Santoprene  | Santoprene      |
| FK3133    | PTFE    | Weighted CR | Overmolded PTFE |
| FK3211    | EPDM    | PTFE        | PTFE            |
| FK3222    | EPDM    | Santoprene  | Santoprene      |
| FK3113    | PTFE    | PTFE        | Overmolded PTFE |
| FK3213    | EPDM    | PTFE        | Overmolded PTFE |
| FK3132    | PTFE    | Weighted CR | Santoprene      |
| FK3232    | EPDM    | Weighted CR | Santoprene      |

**Technical Specifications**

|                              | 515 FDA  | 1040 FDA                               | 1590 FDA                               | 2150 FDA                               |
|------------------------------|--|--|--|--|
| Max. fluid working pressure  | 100 psi (7 bar, 0.7 MPa)   | 120 psi (8 bar, 0.8 MPa)               | 120 psi (8 bar, 0.8 MPa)               | 120 psi (8 bar, 0.8 MPa)               |
| Air pressure operating range | 20-100 psi (1.4-7 bar, 0.14-0.7 MPa)                                     | 20-120 psi (1.4-8 bar, 0.14-0.8 MPa)   | 20-120 psi (1.4-8 bar, 0.14-0.8 MPa)   | 20-120 psi (1.4-8 bar, 0.14-0.8 MPa)   |
| Max. air consumption         | 28 scfm  | 50 scfm                                | 130 scfm                               | 175 scfm                               |
| Air consumption              | N/A  | 18 scfm at 70 psi/20 gpm               | 42 scfm at 70 psi/50 gpm               | 70 scfm at 70 psi/80 gpm               |
| Max. free-flow delivery      | 16 gpm (61 lpm)  | 40 gpm (151 lpm)                       | 90 gpm (340 lpm)                       | 150 gpm (568 lpm)                      |
| Gallons (liters) per cycle   | 0.04 (0.15) - standard diaphragms<br>0.03 (0.11) - overmolded diaphragms | 0.16 (0.57)*                           | 0.5 (1.9)*                             | 0.97 (3.67)*                           |
| Max. suction lift            | 25 ft. (7.6 m) wet, 15 ft (4.6 m) dry                                    | 29 ft (8.83 m) wet, 16 ft (4.87 m) dry | 29 ft (8.83 m) wet, 14 ft (4.27 m) dry | 29 ft (8.83 m) wet, 16 ft (4.87 m) dry |
| Max. size pumpable solids    | 3/32 in (2.38 mm)  | 1/8 in (3.2 mm)                        | 3/16 in (4.8 mm)                       | 1/4 in (6.3 mm)                        |
| Air inlet size               | 1/4 npt(f)   | 0.5 in npt(f)                          | 0.5 in npt(f)                          | 0.5 in npt(f)                          |
| Fluid inlet/outlet size      | 1.0 in (25.4 mm) sanitary flange   | 1.5 in (38.1 mm) sanitary flange       | 2 in (50.8 mm) sanitary flange         | 2.5 in (63.5 mm) sanitary flange       |
| Weight                       |  |  |  |  |
| FDXXX models                 | 22.6 lb (10.25 kg)   | 55 lb (24.9 kg)                        | 89 lb (40 kg)                          | 147 lb (66.7 kg)                       |
| FAXXXX models                | N/A  | 49 lb (22.2 kg)                        | 83 lb (37.6 kg)                        | 141 lb (63.9 kg)                       |
| Flyer                        | <a href="#">320462</a>   | <a href="#">320462</a>                 | <a href="#">320462</a>                 | <a href="#">320462</a>                 |
| Instruction manual           | <a href="#">3A1973</a>   | <a href="#">311879</a>                 | <a href="#">311879</a>                 | <a href="#">311879</a>                 |

| Maximum fluid operating temperature is based on the following maximum diaphragm, ball, and seat temperature ratings |                 |                 |                 |                 |
|---|-----------------|-----------------|-----------------|-----------------|
| Stainless steel   | 250°F (121.1°C) | 250°F (121.1°C) | 250°F (121.1°C) | 250°F (121.1°C) |
| PTFE  | 220°F (104.4°C) | 220°F (104.4°C) | 220°F (104.4°C) | 220°F (104.4°C) |
| Santoprene  | 180°F (82.2°C)  | 180°F (82.2°C)  | 180°F (82.2°C)  | 180°F (82.2°C)  |
| EPDM  | 275°F (135°C)   | 275°F (135°C)   | 275°F (135°C)   | 275°F (135°C)   |
| Polychloroprene   | N/A             | 200°F (93.3°C)  | 200°F (93.3°C)  | 200°F (93.3°C)  |

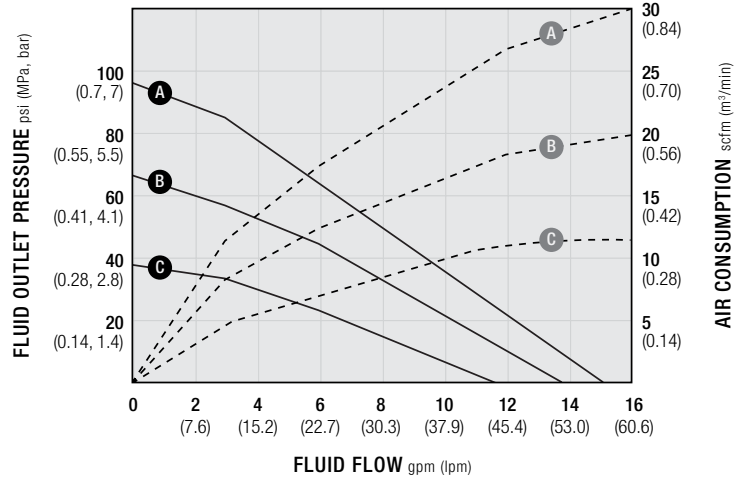
\*Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

Performance Charts

515 Performance

CYCLES PER MINUTE  
Standard Diaphragms; Overmolded Diaphragms

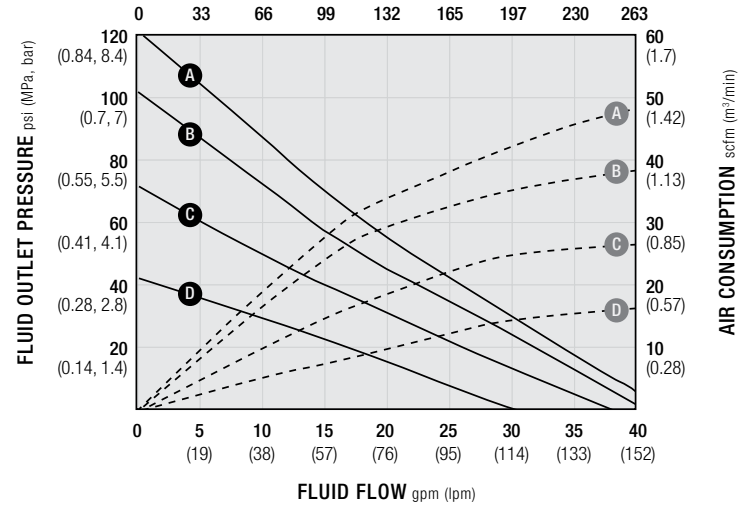
46;64 91;128 137;192 182;256 228;319 273;383 319;447 364;511



| AIR PRESSURE                     | LEGEND                  |
|----------------------------------|-------------------------|
| A = at 100 psi (7 bar, 0.7 MPa)  | Air Consumption - - - - |
| B = at 70 psi (4.8 bar, 0.5 MPa) | Fluid Flow - - - -      |
| C = at 40 psi (2.8 bar, 0.3 MPa) |                         |

1040 Performance

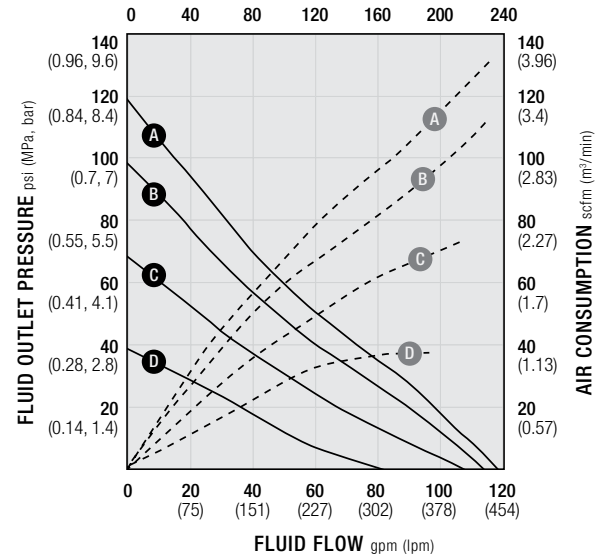
CYCLES PER MINUTE



| AIR PRESSURE                       | LEGEND                  |
|------------------------------------|-------------------------|
| A = at 120 psi (8.4 bar, 0.84 MPa) | Air Consumption - - - - |
| B = at 100 psi (7 bar, 0.7 MPa)    | Fluid Flow - - - -      |
| C = at 70 psi (4.8 bar, 0.5 MPa)   |                         |
| D = at 40 psi (2.8 bar, 0.3 MPa)   |                         |

1590 Performance

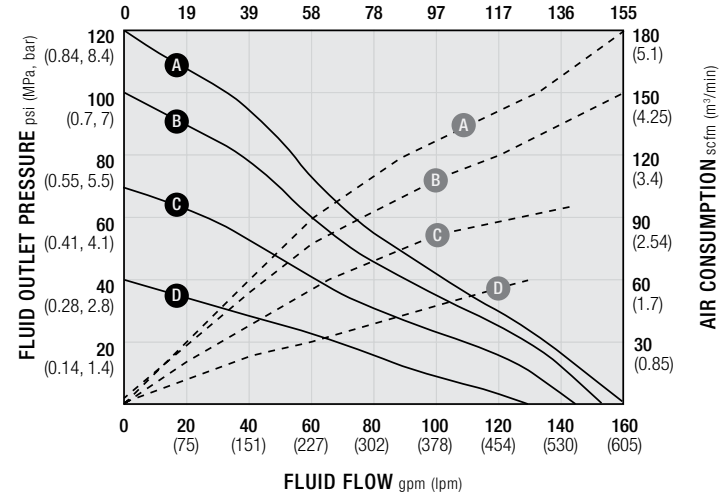
CYCLES PER MINUTE



| AIR PRESSURE                       | LEGEND                  |
|------------------------------------|-------------------------|
| A = at 120 psi (8.4 bar, 0.84 MPa) | Air Consumption - - - - |
| B = at 100 psi (7 bar, 0.7 MPa)    | Fluid Flow - - - -      |
| C = at 70 psi (4.8 bar, 0.5 MPa)   |                         |
| D = at 40 psi (2.8 bar, 0.3 MPa)   |                         |

2150 Performance

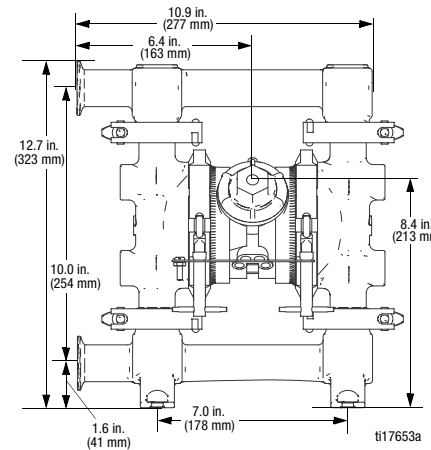
CYCLES PER MINUTE



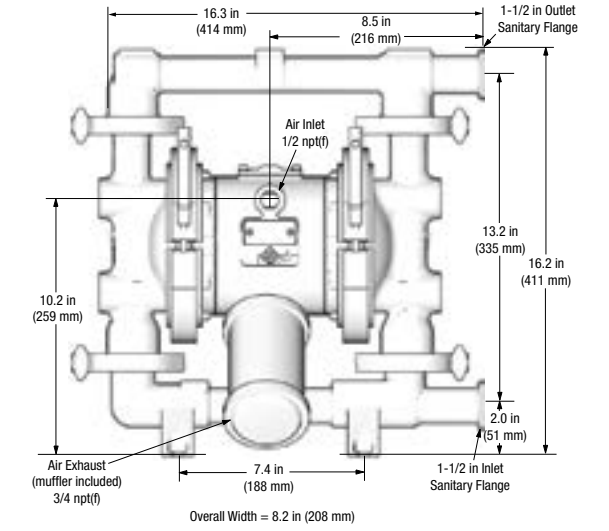
| AIR PRESSURE                       | LEGEND                  |
|------------------------------------|-------------------------|
| A = at 120 psi (8.4 bar, 0.84 MPa) | Air Consumption - - - - |
| B = at 100 psi (7 bar, 0.7 MPa)    | Fluid Flow - - - -      |
| C = at 70 psi (4.8 bar, 0.5 MPa)   |                         |
| D = at 40 psi (2.8 bar, 0.3 MPa)   |                         |

Dimensions

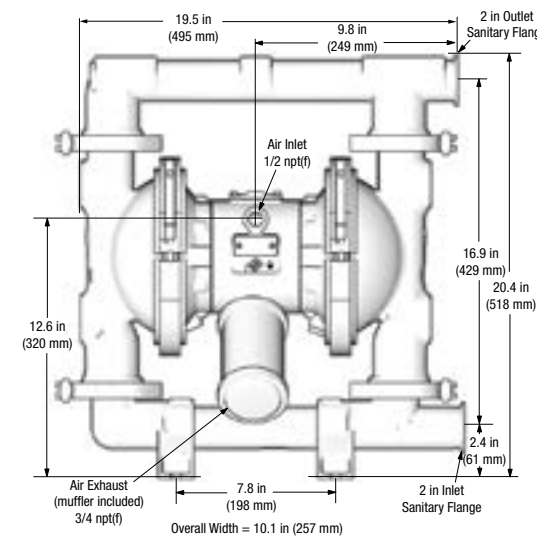
SaniForce 515



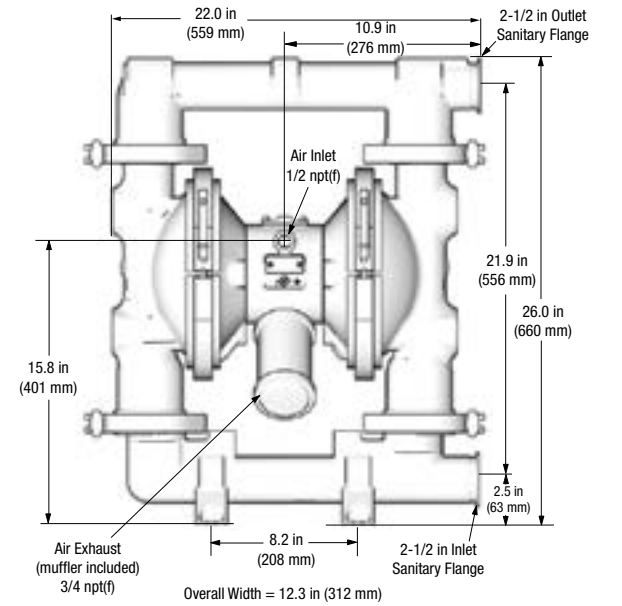
SaniForce 1040



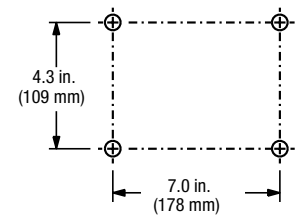
SaniForce 1590



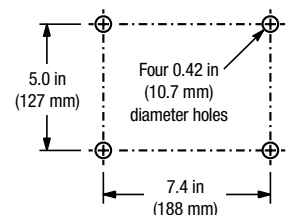
SaniForce 2150



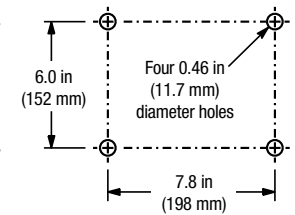
SaniForce 515 Mounting Hole Pattern



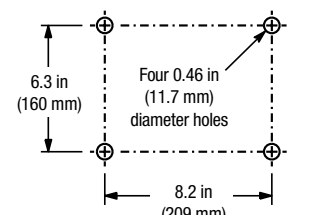
SaniForce 1040 Mounting Hole Pattern



SaniForce 1590 Mounting Hole Pattern



SaniForce 2150 Mounting Hole Pattern



**Ordering Information**

**SaniForce 1590 HS Ball Pumps**

| Part Number | Type | Manifold ID      | Sanitary Clamp Connection | Ball       | Diaphragm       |                        |
|-------------|------|------------------|---------------------------|------------|-----------------|------------------------|
| SBBA00      | Ball | 1.9 in (48.3 mm) | 2 in x 2 in               | PTFE       | Overmolded EPDM |                        |
| SBBA11      | Ball | 1.9 in (48.3 mm) | 2 in x 2 in               | PTFE       | PTFE            |                        |
| SABA13      | Ball | 1.9 in (48.3 mm) | 2 in x 2 in               | PTFE       | Overmolded PTFE | Includes leak detector |
| SBBA13      | Ball | 1.9 in (48.3 mm) | 2 in x 2 in               | PTFE       | Overmolded PTFE |                        |
| SBBA22      | Ball | 1.9 in (48.3 mm) | 2 in x 2 in               | Santoprene | Santoprene      |                        |



**SaniForce 1590 Kits and Accessories**

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

**SaniForce 3150 HS Ball Pumps**

| Part Number | Type | Manifold ID      | Sanitary Clamp Connection | Diaphragm            | Ball Material   |
|-------------|------|------------------|---------------------------|----------------------|-----------------|
| SA13A1      | Ball | 2.9 in (73.7 mm) | 1.5 in x 1.5 in           | Overmolded PTFE/EPDM | PTFE            |
| SA23A1      | Ball | 2.9 in (73.7 mm) | 2 in x 2 in               | Overmolded PTFE/EPDM | PTFE            |
| SA33A1      | Ball | 2.9 in (73.7 mm) | 3 in x 3 in               | Overmolded PTFE/EPDM | PTFE            |
| SA43A1      | Ball | 2.9 in (73.7 mm) | 4 in x 4 in               | Overmolded PTFE/EPDM | PTFE            |
| SA53A1      | Ball | 2.9 in (73.7 mm) | 3 in x 2 in               | Overmolded PTFE/EPDM | PTFE            |
| SA3361      | Ball | 2.9 in (73.7 mm) | 3 in x 3 in               | Overmolded PTFE/EPDM | Santoprene      |
| SB2AA1      | Ball | 2.9 in (73.7 mm) | 2 in x 2 in               | Overmolded EPDM      | PTFE            |
| SB3AA1      | Ball | 2.9 in (73.7 mm) | 3 in x 3 in               | Overmolded EPDM      | PTFE            |
| SB2661      | Ball | 2.9 in (73.7 mm) | 2 in x 2 in               | Santoprene           | Santoprene      |
| SB3661      | Ball | 2.9 in (73.7 mm) | 3 in x 3 in               | Santoprene           | Santoprene      |
| SB2771      | Ball | 2.9 in (73.7 mm) | 2 in x 2 in               | Buna-N               | Buna-N          |
| SB3771      | Ball | 2.9 in (73.7 mm) | 3 in x 3 in               | Buna-N               | Buna-N          |
| SB2881      | Ball | 2.9 in (73.7 mm) | 2 in x 2 in               | Fluoroelastomer      | Fluoroelastomer |
| SB3881      | Ball | 2.9 in (73.7 mm) | 3 in x 3 in               | Fluoroelastomer      | Fluoroelastomer |



**SaniForce 3150 HS Flapper Pumps**

| Part Number | Type    | Manifold ID      | Sanitary Clamp Connection | Diaphragm Material |
|-------------|---------|------------------|---------------------------|--------------------|
| SF3AF1      | Flapper | 2.9 in (73.7 mm) | 3 in x 3 in               | Overmolded EPDM    |
| SF4AF1      | Flapper | 2.9 in (73.7 mm) | 4 in x 4 in               | Overmolded EPDM    |
| SF36F1      | Flapper | 2.9 in (73.7 mm) | 3 in x 3 in               | Santoprene         |
| SF46F1      | Flapper | 2.9 in (73.7 mm) | 4 in x 4 in               | Santoprene         |
| SF37F1      | Flapper | 2.9 in (73.7 mm) | 3 in x 3 in               | Buna-N             |
| SF47F1      | Flapper | 2.9 in (73.7 mm) | 4 in x 4 in               | Buna-N             |
| SF38F1      | Flapper | 2.9 in (73.7 mm) | 3 in x 3 in               | Fluoroelastomer    |
| SF48F1      | Flapper | 2.9 in (73.7 mm) | 4 in x 4 in               | Fluoroelastomer    |



Flapper Check Valve



Ball Check Valve

**Ordering Information**

**SaniForce 3150 HS Accessories**

| Part Number | Type  |
|-------------|---|
| 16E975      | Conversion kit: Ball to flapper, includes four flapper assemblies   |
| 15H461      | 3A Conversion kit: 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)    |
| 112359      | PTFE ball (order quantity four)   |
| 112361      | Santoprene ball (order quantity four)   |
| 253225      | Santoprene diaphragm kit  |
| 15B492      | Buna-N ball (order quantity four)   |
| 253223      | Buna-N diaphragm kit  |
| 15B491      | Fluoroelastomer ball (order quantity four)  |
| 253222      | Fluoroelastomer diaphragm kit   |
| 253224      | Overmolded EPDM diaphragm kit   |
| 253628      | Overmolded PTFE diaphragm kit   |
| 15D990      | Leak detector kit   |

**Technical Specifications**

|   | 1590                                  |
|---|---------------------------------------|
| Maximum fluid working pressure                      | 120 psi (8 bar, 0.8 MPa)              |
| Maximum free-flow delivery                          | 90 gpm (340 lpm)                      |
| Maximum suction lift                                | 28 ft (8.5 m) wet, 15 ft (4.57 m) dry |
| Maximum size pumpable solids                        | 5/8 in (15.9 mm)                      |
| Air pressure operating range                        | 20-120 psi (1.4-8 bar, 0.14-0.8 MPa)  |
| Maximum air consumption                             | 125 scfm                              |
| Air consumption at 70 psi air inlet pressure/60 gpm | 50 scfm                               |
| Maximum pump speed                                  | 200 cpm                               |
| *Gallons (liters) per cycle                         | 0.5 (1.96)                            |
| **Maximum noise level at 100 psi, full flow         | 90 dBA                                |
| **Sound power level                                 | 103 dBA                               |
| **Noise level at 70 psi and 50 cpm                  | 85 dBA                                |
| Air inlet size                                      | 0.5 in npt(f)                         |
| Weight  | 97 lb (44 kg)                         |
| Flyer   | <a href="#">338499</a>                |
| Instruction manual                                  | <a href="#">310622</a>                |

|   | 3150  |
|---|---|
| Maximum fluid working pressure                        | 120 psi (8 bar, 0.8 MPa)                      |
| Maximum free-flow delivery*                           | 150 gpm (568 lpm)                             |
| Maximum suction lift - ball                           | 18 ft (5.4 m) wet, 9 ft (2.7 m) dry           |
| Maximum suction lift - flapper                        | 10 ft (3.0 m) wet, 5 ft (1.5 m) dry           |
| Maximum size pumpable solids - ball                   | 1 in (25.4 mm)                                |
| Maximum size pumpable solids - flapper                | 2.5 in (63.5 mm)                              |
| Air pressure operating range                          | 20-120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa) |
| Maximum air consumption                               | 175 scfm                                      |
| Air consumption at 70 psi air inlet pressure/60 gpm   | 50 scfm                                       |
| Maximum pump speed                                    | 145 cpm                                       |
| *Gallons (liter) per cycle                            | 1.03 (3.90)                                   |
| **Maximum noise level at 100 psi, full flow           | 90 dBA  |
| **Sound power level                                   | 103 dBA                                       |
| **Noise level at 70 psi and 50 cpm                    | 85 dBA  |
| Fluid inlet & outlet size (determined by part number) | Tri-clamp connections                         |
| Air inlet size  | 0.5 in npt(f)                                 |
| Weight  | 145 lb (65 kg)                                |
| Flyer   | <a href="#">338499</a>                        |
| Instruction manual                                    | <a href="#">310622</a>                        |

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

|                             |                 |
|-----------------------------|-----------------|
| PTFE (Overmolded diaphragm) | 180°F (82.2°C)  |
| PTFE (2-piece diaphragm)    | 220°F (104.4°C) |
| Santoprene                  | 180°F (82.2°C)  |
| 3A Approved EPDM            | 275°F (135°C)   |

\* 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

**Maximum diaphragm operating temperature**

|                             |                |
|-----------------------------|----------------|
| Santoprene                  | 180°F (82.2°C) |
| Buna-N                      | 180°F (82.2°C) |
| PTFE (Overmolded diaphragm) | 180°F (82.2°C) |
| Fluoroelastomer             | 250°F (121°C)  |
| 3A Approved EPDM            | 275°F (135°C)  |

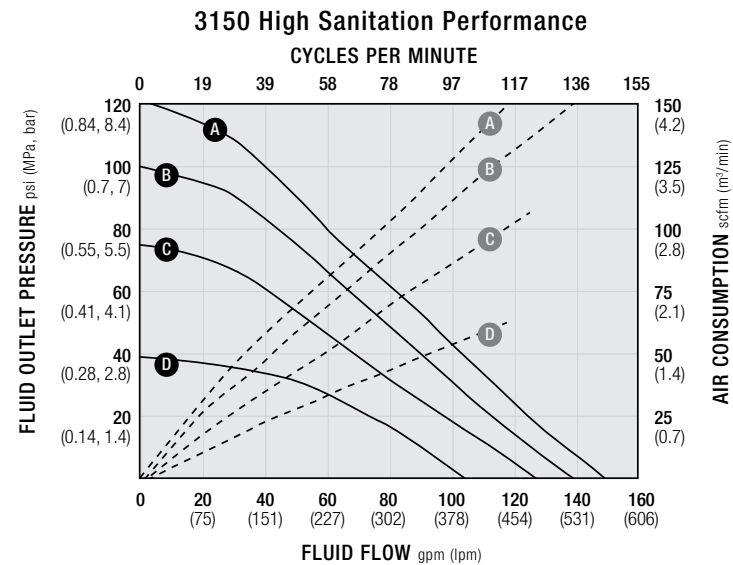
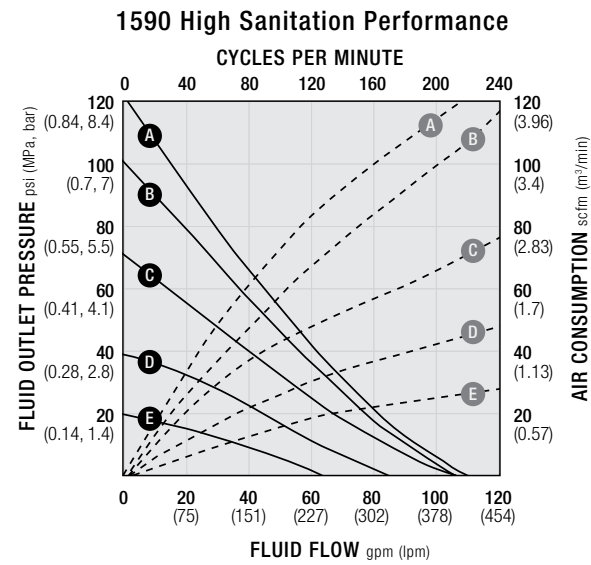
\* Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type

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





Performance Charts

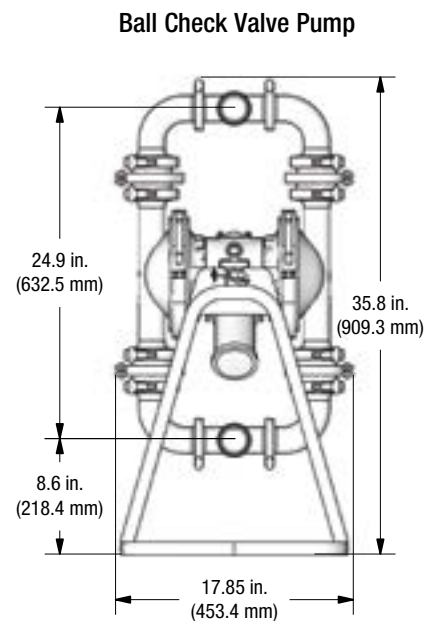


| AIR PRESSURE                         | LEGEND                  |
|--------------------------------------|-------------------------|
| (A) = at 120 psi (8.4 bar, 0.84 MPa) | Air Consumption - - - - |
| (B) = at 100 psi (7 bar, 0.7 MPa)    | Fluid Flow - - - -      |
| (C) = at 70 psi (4.8 bar, 0.5 MPa)   |                         |
| (D) = at 40 psi (2.8 bar, 0.3 MPa)   |                         |
| (E) = at 20 psi (1.4 bar, 0.14 MPa)  |                         |

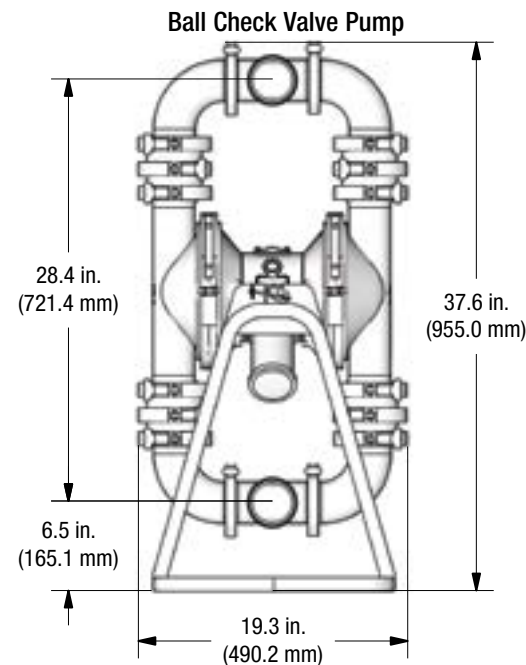
| AIR PRESSURE                         | LEGEND                  |
|--------------------------------------|-------------------------|
| (A) = at 120 psi (8.4 bar, 0.84 MPa) | Air Consumption - - - - |
| (B) = at 100 psi (7 bar, 0.7 MPa)    | Fluid Flow - - - -      |
| (C) = at 70 psi (4.8 bar, 0.5 MPa)   |                         |
| (D) = at 40 psi (2.8 bar, 0.3 MPa)   |                         |

Dimensions

SaniForce 1590 HS



SaniForce 3150 HS



Ordering Information

SaniForce 1590 3A Pumps

3A Pump with Leak Detector

| Part Number | Type | Manifold ID      | Sanitary Clamp Connection | Diaphragm       | Ball |
|-------------|------|------------------|---------------------------|-----------------|------|
| SABAAA      | Ball | 1.9 in (48.3 mm) | 2 in x 2 in               | Overmolded EPDM | PTFE |



SaniForce 3150 3A Pumps

3A Pump with Leak Detector

| Part Number | Type | Manifold ID      | Sanitary Clamp Connection | Diaphragm       | Ball |
|-------------|------|------------------|---------------------------|-----------------|------|
| SA1AAA      | Ball | 2.9 in (73.7 mm) | 1.5 in x 1.5 in           | Overmolded EPDM | PTFE |
| SA2AAA      | Ball | 2.9 in (73.7 mm) | 2 in x 2 in               | Overmolded EPDM | PTFE |
| SA3AAA      | Ball | 2.9 in (73.7 mm) | 3 in x 3 in               | Overmolded EPDM | PTFE |
| SA4AAA      | Ball | 2.9 in (73.7 mm) | 4 in x 4 in               | Overmolded EPDM | PTFE |
| SA5AAA      | Ball | 2.9 in (73.7 mm) | 3 in x 2 in               | Overmolded EPDM | PTFE |



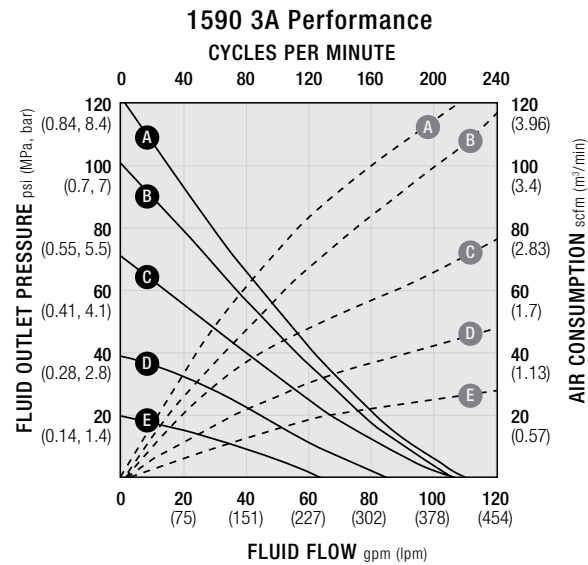
Technical Specifications

|  | 1590 3A Certified                             | 3150 3A Certified                             |
|--|---|---|
| Maximum fluid working pressure                           | 120 psi (8 bar, 0.8 MPa)                      | 120 psi (8 bar, 0.8 MPa)                      |
| Maximum free-flow delivery**                             | 90 gpm (340 lpm)                              | 150 gpm (568 lpm)                             |
| Maximum suction lift - ball                              | 28 ft (8.5 m) wet, 15 ft (4.5 m) dry          | 18 ft (5.5 m) wet, 9 ft (2.7 m) dry           |
| Maximum size pumpable solids - ball                      | 5/8 in (15.8 mm)                              | 1 in (25.4 mm)                                |
| Typical sound level at 70 psi air (4.9 bar) air @ 50 cpm | 85 dBa  | 85 dBa  |
| Air pressure operating range                             | 20-120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa) | 20-120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa) |
| Air inlet size   | 0.5 in npt(f)                                 | 0.5 in npt(f)                                 |
| Fluid inlet & outlet size (determined by part number)    | Tri-clamp connections                         | Tri-clamp connections                         |
| Weight   | 97 lb (44 kg)                                 | 145 lb (65 kg)                                |
| Flyer  | <a href="#">338499</a>                        | <a href="#">338499</a>                        |
| Instruction manual                                       | <a href="#">310622</a>                        | <a href="#">310622</a>                        |

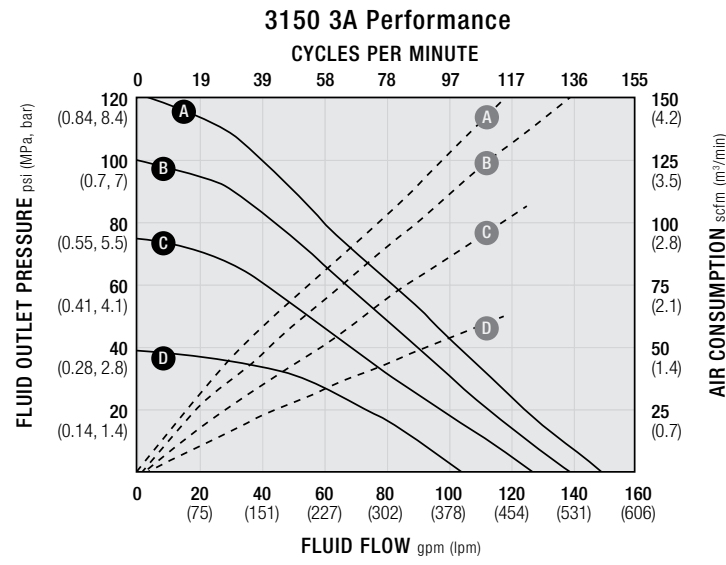
| Maximum diaphragm operating temperature |               |               |
|---|---------------|---------------|
| 3A Approved EPDM                        | 275°F (135°C) | 275°F (135°C) |

\*\* 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.

Performance Charts



| AIR PRESSURE                         | LEGEND                  |
|--------------------------------------|-------------------------|
| (A) = at 120 psi (8.4 bar, 0.84 MPa) | Air Consumption - - - - |
| (B) = at 100 psi (7 bar, 0.7 MPa)    | Fluid Flow - - - -      |
| (C) = at 70 psi (4.8 bar, 0.5 MPa)   |                         |
| (D) = at 40 psi (2.8 bar, 0.3 MPa)   |                         |
| (E) = at 20 psi (1.4 bar, 0.14 MPa)  |                         |

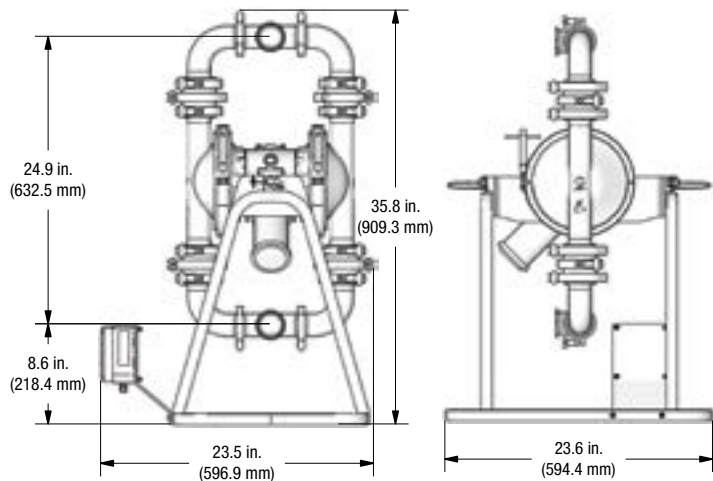


| AIR PRESSURE                         | LEGEND                  |
|--------------------------------------|-------------------------|
| (A) = at 120 psi (8.4 bar, 0.84 MPa) | Air Consumption - - - - |
| (B) = at 100 psi (7 bar, 0.7 MPa)    | Fluid Flow - - - -      |
| (C) = at 70 psi (4.8 bar, 0.5 MPa)   |                         |
| (D) = at 40 psi (2.8 bar, 0.3 MPa)   |                         |

Dimensions

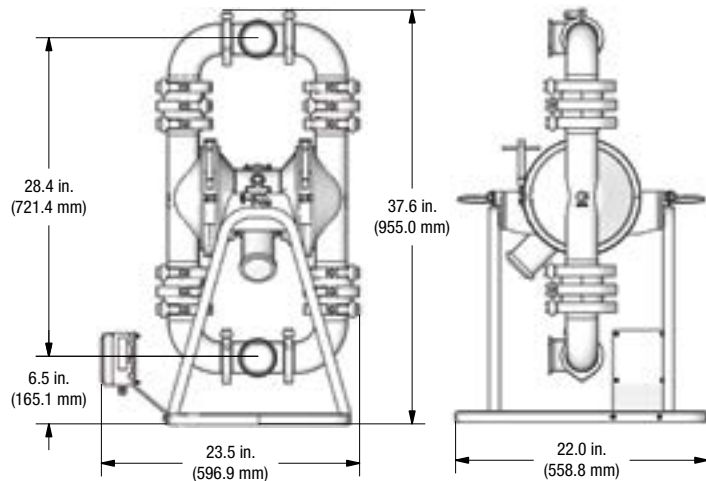
SaniForce 1590 3A

3A Ball Check Valve Pump



SaniForce 3150 3A

3A Ball Check Valve Pump



Ordering Information

| Part Number | Type    | Manifold ID      | Sanitary Clamp Connection | Diaphragm       |
|-------------|---------|------------------|---------------------------|-----------------|
| SFP6F1      | Flapper | 2.9 in (73.7 mm) | 3 in x 3 in               | Santoprene      |
| SFP7F1      | Flapper | 2.9 in (73.7 mm) | 3 in x 3 in               | Buna-N          |
| SFP8F1      | Flapper | 2.9 in (73.7 mm) | 3 in x 3 in               | Fluoroelastomer |
| SFPAF1      | Flapper | 2.9 in (73.7 mm) | 3 in x 3 in               | Overmolded EPDM |



Accessories

| Part Number | Description                   |
|-------------|-------------------------------|
| 253225      | Santoprene diaphragm kit      |
| 253223      | Buna-N diaphragm kit          |
| 253222      | Fluoroelastomer diaphragm kit |
| 253224      | Overmolded EPDM diaphragm kit |
| 15D990      | Leak detector kit             |



Flapper Check Valve

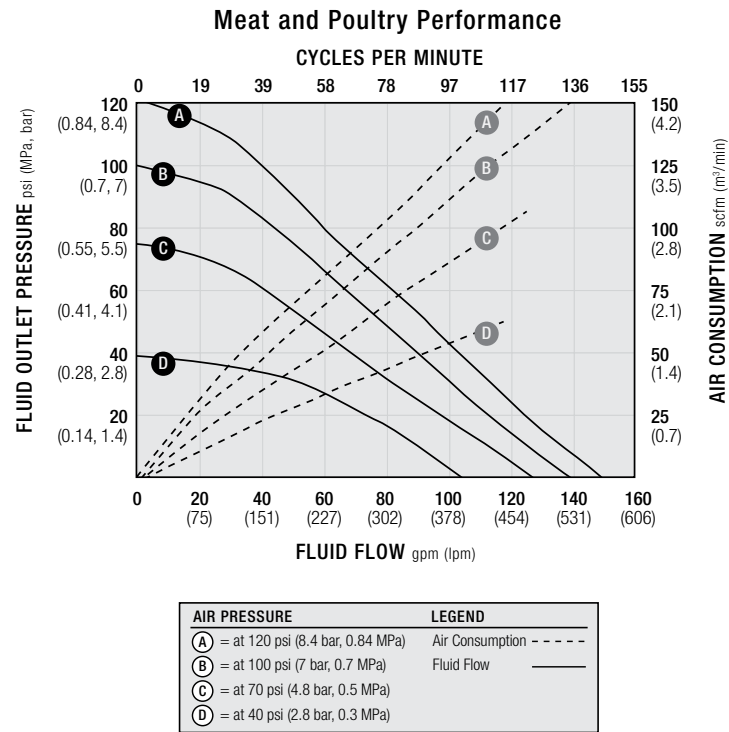
Technical Specifications

|  | Meat and Poultry                              |
|--|---|
| Maximum fluid working pressure                           | 120 psi (8 bar, 0.8 MPa)                      |
| Maximum free-flow delivery*                              | 150 gpm (568 lpm)                             |
| Maximum suction lift                                     | 10 ft (3.0 m) wet                             |
| Maximum size pumpable solids                             | 2.5 in (63.5 mm)                              |
| Typical sound level at 70 psi air (4.9 bar) air @ 50 cpm | 85 dBa  |
| Air pressure operating range                             | 20-120 psi (1.4 to 8.4 bar, 0.14 to 0.84 MPa) |
| Air inlet size   | 0.5 in npt(f)                                 |
| Fluid inlet & outlet size (determined by part number)    | Tri-clamp connections                         |
| Weight   | 145 lb (65 kg)                                |
| Flyer  | <a href="#">338067</a>                        |
| Instruction manual                                       | <a href="#">310622</a>                        |

| Maximum diaphragm operating temperature |                |
|---|----------------|
| Santoprene                              | 180°F (82.2°C) |
| Buna-N                                  | 180°F (82.2°C) |
| Fluoroelastomer                         | 250°F (121°C)  |
| EPDM                                    | 275°F (135°C)  |

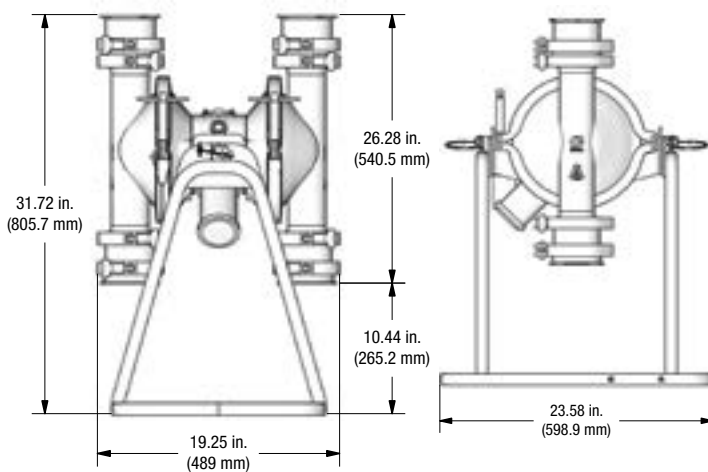
\* Flow rates are with muffler and do not vary based on diaphragm material. Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type.

## Performance Charts



## Dimensions

### SaniForce 3150 Meat and Poultry Flapper



## Ordering Information

### 2:1 Piston Pump

| Part Number | Pump Type   | Pump Length: Inlet to Outlet      | Pump Inlet Type  | Packings    | Weight lb (kg) |
|-------------|-------------|-----------------------------------|------------------|-------------|----------------|
| 24N300      | Double Ball | Long - 44.5 in (113 cm)           | 2 in (5.1 cm) OD | UHMWPE, FKM | 26 (11.8)      |
| 24N344      | Double Ball | Long - 44.5 in (113 cm)           | 2 in (5.1 cm) OD | PTFE, FKM   | 26 (11.8)      |
| 24R046      | Double Ball | Standard Drum - 37.5 in (95.2 cm) | 2 in (5.1 cm) OD | UHMWPE, FKM | 24 (10.9)      |
| 24R047      | Double Ball | Standard Drum - 37.5 in (95.2 cm) | 2 in (5.1 cm) OD | PTFE, FKM   | 24 (10.9)      |

### 6:1 Piston Pump

| Part Number | Pump Type      | Pump Length: Inlet to Outlet             | Pump Inlet Type            | Packings                   | Weight lb (kg) |
|-------------|----------------|--|----------------------------|----------------------------|----------------|
| 24E840      | Double Ball    | Drum Length - 36.4 in (92.4 cm)          | 2.1 in (5.3 cm) OD         | Buna, Nylon, Nitrile, & CR | 36.9 (16.7)    |
| 24G740      | Double Ball    | Drum Length, Ram Pkg - 36.4 in (92.4 cm) | 6.0 in (15.2 cm) Tri-Clamp | Buna, Nylon, Nitrile, & CR | 38 (17)        |
| 24E839      | Double Ball    | Drum Length - 36.4 in (92.4 cm)          | 2.1 in (5.3 cm) OD         | PTFE                       | 36.9 (16.7)    |
| 24E838      | Double Ball    | Stubby - 15.1 in (38.3 cm)               | 2.5 in (6.3 cm) Tri-Clamp  | Buna, UHMWPE & CR          | 28.9 (13.1)    |
| 24E837      | Double Ball    | Stubby - 15.1 in (38.3 cm)               | 2.5 in (6.3 cm) Tri-Clamp  | PTFE                       | 36.9 (16.7)    |
| 24E836      | Priming Piston | Stubby - 16.0 in (40.6 cm)               | 2.3 in (5.8 cm) OD         | Buna, Nylon, Nitrile & CR  | 33.8 (16.8)    |
| 24G739      | Priming Piston | Stubby, Ram Pkg - 16.0 in (40.6 cm)      | 6.0 in (15.2 cm) Tri-Clamp | Buna, Nylon, Nitrile & CR  | 35 (16)        |
| 24F942      | Double Ball    | Bin Length - 48.5 in (123.0 cm)          | 2.1 in (5.3 cm) OD         | Buna, Nylon, Nitrile, & CR | 39.7 (18)      |

### 5:1 Piston Pump

| Part Number | Pump Type      | Pump Length: Inlet to Outlet                | Pump Inlet Type                      | Packings                            | Weight lb (kg) |
|-------------|----------------|---|--------------------------------------|-------------------------------------|----------------|
| 24F195      | Double Ball    | Drum Length - 36.8 in (93.4 cm)             | 4 in (10.2 cm) OD                    | Buna, PTFE, UHMWPE & FKM            | 119 (54.1)     |
| 24E833      | Double Ball    | Stubby - 20.4 in (51.8 cm)                  | 4 in (10.2 cm) OD                    | Buna, PTFE, UHMWPE & FKM            | 91.3 (41.4)    |
| 24G742      | Double Ball    | Stubby, Ram Pkg - 20.4 in (51.8 cm)         | 6 in (15.2 cm) Tri-Clamp             | Buna, PTFE, UHMWPE & FKM            | 95 (43)        |
| 24E831      | Priming Piston | Drum Length - 25.9 in (65.7 cm)             | 4 in (10.2 cm) OD                    | Buna, PTFE, UHMWPE, CR, Nylon & FKM | 95.3 (43.2)    |
| 24G741      | Priming Piston | Drum Length, Ram Pkg - 25.9 in (65.7 cm)    | 6 in (15.2 cm) Tri-Clamp             | Buna, PTFE, UHMWPE, CR, Nylon & FKM | 99 (45)        |
| 24F196      | Double Ball    | Stubby with Inlet Elbow - 25.2 in (64.0 cm) | 90° Elbow, 2.5 in (6.3 cm) Tri-Clamp | Buna, FKM, PTFE & UHMWPE            | 93.1 (42.2)    |
| 24F197      | Double Ball    | Stubby - 19.3 in (49.0 cm)                  | 4 in (10.2 cm) Tri-Clamp             | Buna, PTFE, Silicone, FKM & UHMWPE  | 90.6 (41.1)    |

### 12:1 Piston Pump

| Part Number | Pump Type      | Pump Length: Inlet to Outlet           | Pump Inlet Type          | Packings                         | Weight lb (kg) |
|-------------|----------------|--|--------------------------|----------------------------------|----------------|
| 24F625      | Priming Piston | Stubby, Ram Package - 16.1 in (40.8 m) | 6 in (15.2 cm) Tri-Clamp | Acetal, PTFE, Nitrile and UHMWPE | 122 (55)       |
| 24F626*     | Priming Piston | Stubby, Ram Package - 16.1 in (40.8 m) | 6 in (15.2 cm) Tri-Clamp | Acetal, PTFE, Nitrile and UHMWPE | 122 (55)       |

OD = Outside Diameter

CR = Polychloroprene

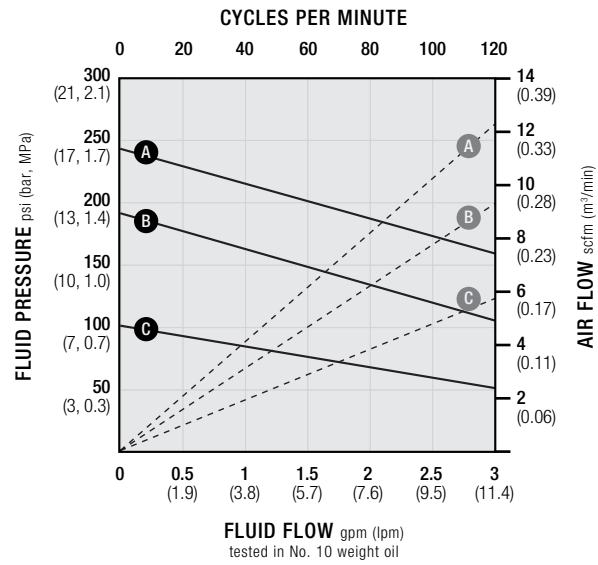
\*For use with viscous sticky material

## Technical Specifications

| SaniForce                        | 2:1 Piston Pump           | 6:1 Piston Pump           | 5:1 Piston Pump            | 12:1 Piston Pump           |
|----------------------------------|---------------------------|---------------------------|----------------------------|----------------------------|
| Fluid to air pressure ratio      | 2.5:1                     | 6:1                       | 5:1                        | 12:1                       |
| Maximum fluid pressure           | 250 psi (17 bar)          | 600 psi (41 bar)          | 400 psi (28 bar)           | 1200 psi (83 bar)          |
| Maximum fluid flow at 60 cpm     | 1.5 gpm (5.7 lpm)         | 4.0 gpm (15.1 lpm)        | 14.0 gpm (53 lpm)          | 8.5 gpm (32 lpm)           |
| Air consumption at 60 cpm        | 6 cfm at 100 psi (7 bar)  | 29 cfm at 100 psi (7 bar) | 75 cfm at 80 psi (5.5 bar) | 116 cfm at 100 psi (7 bar) |
| Volume per cycle                 | 0.041 gal (0.15 l)        | 0.067 gal (0.25 l)        | 0.23 gal (0.87 l)          | 0.14 gal (0.54 l)          |
| Max. operating temp. (fluid)     | 180°F (82°C)              | 250°F (121°C)             | 140°F (60°C)               | 160°F (71°C)               |
| Max. operating temp. (air motor) | 120°F (48.8°C)            | 120°F (48.8°C)            | 120°F (48.8°C)             | 120°F (48.8°C)             |
| Max. size pumpable solids        | 1/8 in (3.2 mm)           | 1/8 in (3.2 mm)           | 1/4 in (6.4 mm)            | 1/4 in (6.4 mm)            |
| Max. air input pressure          | 100 psi (7 bar, 0.7 MPa)  | 100 psi (7 bar, 0.7 MPa)  | 80 psi (5.5 bar, 0.55 MPa) | 100 psi (7 bar, 0.7 MPa)   |
| Air inlet size                   | 3/8 npt                   | 1/2 npsm(f)               | 1/2 npsm(f)                | 1/2 npsm(f)                |
| Fluid outlet size                | 1.0 in (2.5 cm) Tri-Clamp | 1.5 in (3.8 cm) Tri-Clamp | 2.0 in (5.1 cm) Tri-Clamp  | 2.0 in (5.1 cm) Tri-Clamp  |
| Flyer                            | <a href="#">338591</a>    | <a href="#">338591</a>    | <a href="#">338591</a>     | <a href="#">338591</a>     |
| Instruction manual               | <a href="#">3A2977</a>    | <a href="#">3A0733</a>    | <a href="#">3A0734</a>     | <a href="#">3A0735</a>     |

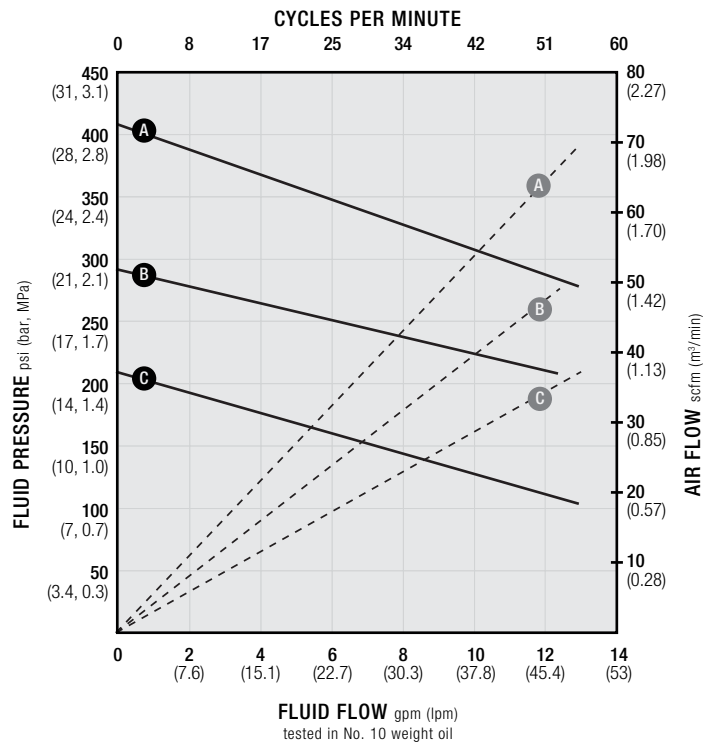
## Performance Charts

### 2:1 Piston Pump Performance



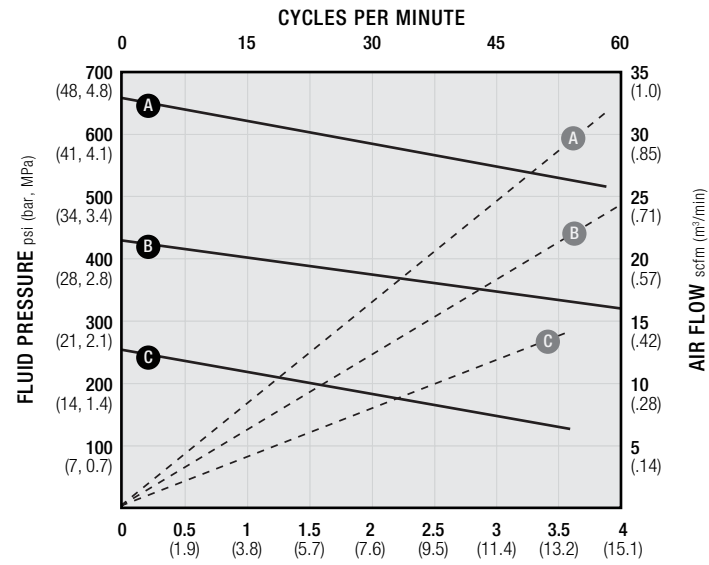
| AIR PRESSURE                     | LEGEND                  |
|----------------------------------|-------------------------|
| A = at 100 psi (7 bar, 0.7 MPa)  | Air Consumption - - - - |
| B = at 70 psi (4.8 bar, 0.5 MPa) | Fluid Flow - - - -      |
| C = at 40 psi (2.8 bar, 0.3 MPa) |                         |

### 5:1 Piston Pump Performance



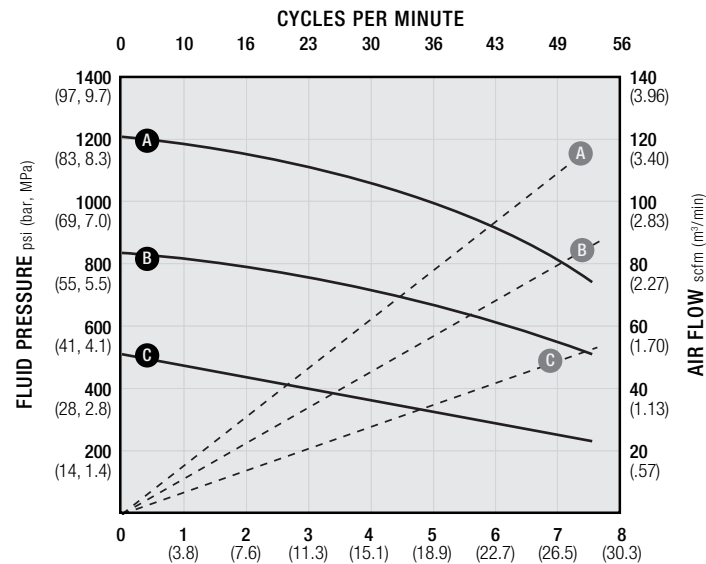
| AIR PRESSURE                     | LEGEND                  |
|----------------------------------|-------------------------|
| A = at 80 psi (5.5 bar, 0.5 MPa) | Air Consumption - - - - |
| B = at 60 psi (4.1 bar, 0.4 MPa) | Fluid Flow - - - -      |
| C = at 40 psi (2.8 bar, 0.3 MPa) |                         |

### 6:1 Piston Pump Performance



| AIR PRESSURE                     | LEGEND                  |
|----------------------------------|-------------------------|
| A = at 100 psi (7 bar, 0.7 MPa)  | Air Consumption - - - - |
| B = at 70 psi (4.8 bar, 0.5 MPa) | Fluid Flow - - - -      |
| C = at 40 psi (2.8 bar, 0.3 MPa) |                         |

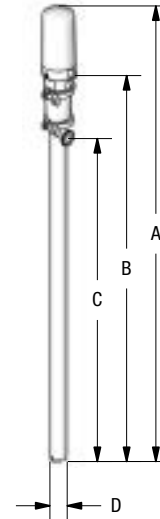
### 12:1 Piston Pump Performance



| AIR PRESSURE                     | LEGEND                  |
|----------------------------------|-------------------------|
| A = at 100 psi (7 bar, 0.7 MPa)  | Air Consumption - - - - |
| B = at 70 psi (4.8 bar, 0.5 MPa) | Fluid Flow - - - -      |
| C = at 40 psi (2.8 bar, 0.3 MPa) |                         |

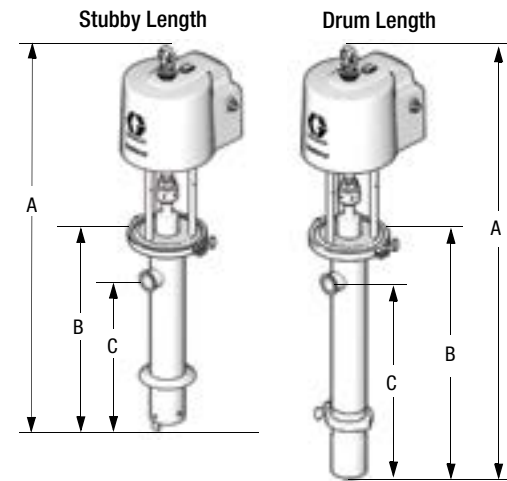
## Dimensions

### SaniForce 2:1



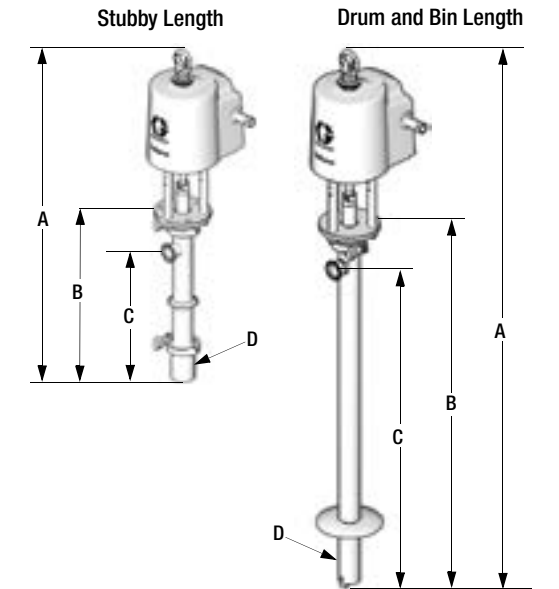
| Model             | A in (cm)    | B in (cm)    | C in (cm)    | D in (cm)   |
|-------------------|--------------|--------------|--------------|-------------|
| 24N300 and 24N344 | 61.9 (157.2) | 53.7 (136.4) | 44.5 (113.0) | 1.972 (5.0) |
| 24R046 and 24R047 | 54.9 (139.4) | 46.7 (118.6) | 37.5 (95.2)  | 1.972 (5.0) |

### SaniForce 5:1



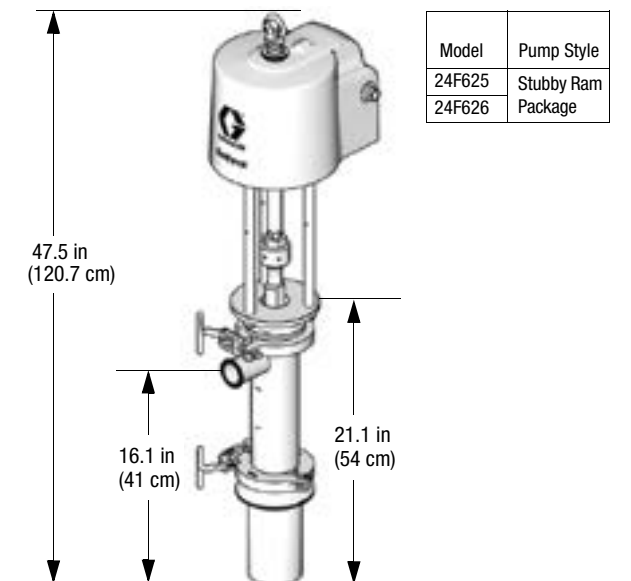
| Model  | Pump Style                     | A in (cm)  | B in (cm)  | C in (cm) |
|--------|--------------------------------|------------|------------|-----------|
| 24G742 | Double Ball, Stubby            | 51.5 (131) | 25.9 (66)  | 20.4 (52) |
| 24E833 | Double Ball, Stubby with inlet | 56.3 (143) | 30.7 (78)  | 25.2 (64) |
| 24F196 | Double Ball, Bin Length        | 50.4 (128) | 24.8 (63)  | 19.3 (49) |
| 24G741 | Priming Piston, Drum Length    | 57.0 (145) | 31.3 (80)  | 25.9 (66) |
| 24E831 | Priming Piston, Drum Length    |            |            |           |
| 24F195 | Double Ball, Drum Length       | 67.9 (172) | 42.3 (107) | 36.8 (93) |

### SaniForce 6:1



| Model  | Pump Style  | A in (cm)    | B in (cm)    | C in (cm)    | D (OD) in (cm) |
|--------|-------------|--------------|--------------|--------------|----------------|
| 24E836 | Stubby      | 39.2 (99.5)  | 19.5 (50)    | 15.1 (38)    | 2.1 (5.4)      |
| 24E837 |             |              |              |              |                |
| 24E838 |             |              |              |              |                |
| 24G739 | Drum Length | 60.5 (153.7) | 41 (104)     | 36.4 (92)    | 2.1 (5.4)      |
| 24G740 |             |              |              |              |                |
| 24E839 |             |              |              |              |                |
| 24E840 |             |              |              |              |                |
| 24F942 | Bin Length  | 73 (185.4)   | 53.5 (135.9) | 48.9 (124.2) | 2.1 (5.4)      |

### SaniForce 12:1

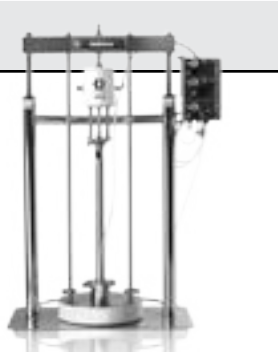


| Model  | Pump Style         |
|--------|--------------------|
| 24F625 | Stubby Ram Package |
| 24F626 | Package            |

**Ordering Information**

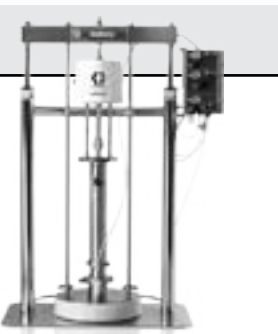
**SaniForce 6:1 Drum Unloader**

| Part Number | Pump Number | Pump Type      | Ram Material | Ram Plate No. | Inflatable Seal No. | Control Type | Weight lb (kg) |
|-------------|-------------|----------------|--------------|---------------|---------------------|--------------|----------------|
| 24D776      | 24G739      | Priming Piston | SST          | 16G240        | 16G242              | Exposed      | 353 (160)      |
| 24D780      | 24G739      | Priming Piston | CS*          | 16G240        | 16G242              | Exposed      | 372 (169)      |
| 24D782      | 24G739      | Priming Piston | SST          | 16G240        | 16G242              | Enclosed SST | 367 (166)      |
| 24D788      | 24G740      | Double Ball    | SST          | 16G240        | 16G242              | Exposed      | 356 (161)      |
| 24D792      | 24G740      | Double Ball    | CS*          | 16G240        | 16G242              | Exposed      | 375 (170)      |
| 24D794      | 24G740      | Double Ball    | SST          | 16G240        | 16G242              | Enclosed SST | 370 (168)      |



**SaniForce 5:1 Drum Unloader**

| Part Number | Pump Number | Pump Type      | Ram Material | Ram Plate No. | Inflatable Seal No. | Control Type | Weight lb (kg) |
|-------------|-------------|----------------|--------------|---------------|---------------------|--------------|----------------|
| 24D708      | 24G741      | Priming Piston | SST          | 16G240        | 16G242              | Exposed      | 413 (187)      |
| 24D712      | 24G741      | Priming Piston | CS*          | 16G240        | 16G242              | Exposed      | 433 (196)      |
| 24D714      | 24G741      | Priming Piston | SST          | 16G240        | 16G242              | Enclosed SST | 428 (194)      |
| 24D720      | 24G742      | Double Ball    | SST          | 16G240        | 16G242              | Exposed      | 417 (189)      |
| 24D724      | 24G742      | Double Ball    | CS*          | 16G240        | 16G242              | Exposed      | 437 (198)      |
| 24D726      | 24G742      | Double Ball    | SST          | 16G240        | 16G242              | Enclosed SST | 432 (196)      |



**SaniForce 12:1 Drum Unloader**

| Part Number | Pump Number | Pump Type      | Ram Material | Ram Plate No. | Inflatable Seal No. | Control Type | Weight lb (kg) |
|-------------|-------------|----------------|--------------|---------------|---------------------|--------------|----------------|
| 24D647      | 24F625      | Priming Piston | SST          | 16G240        | 16G242              | Exposed      | 440 (200)      |
| 24D651      | 24F625      | Priming Piston | CS*          | 16G240        | 16G242              | Exposed      | 459 (208)      |
| 24D653      | 24F625      | Priming Piston | SST          | 16G240        | 16G242              | Enclosed SST | 454 (206)      |
| 24F188**    | 24F626      | Priming Piston | SST          | 16G240        | 16G242              | Exposed      | 440 (200)      |
| 24F189**    | 24F626      | Priming Piston | CS*          | 16G240        | 16G242              | Exposed      | 459 (208)      |
| 24F190**    | 24F626      | Priming Piston | SST          | 16G240        | 16G242              | Enclosed SST | 454 (206)      |

\*CS = Painted carbon steel  
\*\*For use with sticky material



**Technical Specifications**

| Drum Unloaders                              | 6:1 Double Ball Pump      | 6:1 Priming Piston        | 5:1 Double Ball Pump      | 5:1 Priming Piston        | 12:1 Priming Piston        | 3150 High Sanitation        | 2150 High Sanitation        |
|---|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|-----------------------------|-----------------------------|
| Max fluid pressure                          | 600 psi (41 bar, 4.1 MPa) | 600 psi (41 bar, 4.1 MPa) | 400 psi (28 bar, 2.8 MPa) | 400 psi (28 bar, 2.8 MPa) | 1200 psi (83 bar, 8.3 MPa) | 120 psi (8.3 bar, 0.83 MPa) | 120 psi (8.3 bar, 0.83 MPa) |
| Max Flow at 60 cpm                          | 4.0 gpm (15.1 lpm)        | 4.0 gpm (15.1 lpm)        | 14 gpm (53 lpm)           | 14 gpm (53 lpm)           | 8.5 gpm (32 lpm)           | 60 gpm (227 lpm)            | 60 gpm (227 lpm)            |
| Max Flow at 100 cpm                         | -                         | -                         | -                         | -                         | -                          | 100 gpm (378 lpm)           | 100 gpm (378 lpm)           |
| Viscosity                                   | Up to 150,000 cps         | Up to 1,000,000 cps       | Up to 150,000 cps         | Up to 1,000,000 cps       | Up to 1,000,000 cps        | Up to 100,000 cps           | Up to 100,000 cps           |
| Max inlet air pressure                      | 100 psi (7 bar, 0.7 MPa)  | 100 psi (7 bar, 0.7 MPa)  | 80 psi (5.5 bar, 0.6 MPa) | 80 psi (5.5 bar, 0.6 MPa) | 100 psi (7 bar, 0.7 MPa)   | 120 psi (8.3 bar, 0.8 MPa)  | 120 psi (8.3 bar, 0.8 MPa)  |
| Air inlet size (enclosed, exposed controls) | 1/2 npt(f), 3/4 npt(f)    | 1/2 npt(f), 3/4 npt(f)    | 1/2 npt(f), 3/4 npt(f)    | 1/2 npt(f), 3/4 npt(f)    | 1/2 npt(f), 3/4 npt(f)     | 1/2 npt(f), 3/4 npt(f)      | 1/2 npt(f), 3/4 npt(f)      |
| Evacuation efficiency                       | Up to 99%                 | Up to 99%                 | Up to 99%                 | Up to 99%                 | Up to 99%                  | Up to 99%                   | Up to 99%                   |
| Flyer                                       | <a href="#">338590</a>    | <a href="#">338590</a>    | <a href="#">338590</a>    | <a href="#">338590</a>    | <a href="#">338590</a>     | <a href="#">338590</a>      | <a href="#">338590</a>      |
| Instruction manual                          | <a href="#">3A0591</a>    | <a href="#">3A0591</a>    | <a href="#">3A0591</a>    | <a href="#">3A0591</a>    | <a href="#">3A0591</a>     | <a href="#">3A0591</a>      | <a href="#">3A0591</a>      |

\*Flow rates based on full displacement of lower and S.G. = 1

**Ordering Information**

**SaniForce 3150 HS Drum Unloader**

| Part Number | Pump Number | Pump Type | Ram Material | Ram Plate No. | Inflatable Seal No. | Control Type | Weight lb (kg) | Diaphragm Material  | Ball Material |
|-------------|-------------|-----------|--------------|---------------|---------------------|--------------|----------------|---------------------|---------------|
| 24J364      | 24J389      | Diaphragm | SST          | 16D301        | 16E144              | Exposed      | 428 (194)      | PTFE/EPDM           | PTFE          |
| 24J365      | 24J389      | Diaphragm | CS           | 16D301        | 16E144              | Exposed      | 443 (201)      | PTFE/EPDM           | PTFE          |
| 24J366      | 24J389      | Diaphragm | SST          | 16D301        | 16E144              | Exposed      | 428 (194)      | PTFE/EPDM           | PTFE          |
| 24D922      | 24C124      | Ball      | SST          | 16G241        | 16G242              | Exposed      | 428 (194)      | Overmolded EPDM, 3A | PTFE          |
| 24D926      | 24C124      | Ball      | CS*          | 16G241        | 16G242              | Exposed      | 443 (201)      | Overmolded EPDM, 3A | PTFE          |
| 24D928      | 24C124      | Ball      | SST          | 16G241        | 16G242              | Enclosed SST | 442 (200)      | Overmolded EPDM, 3A | PTFE          |
| 24D932      | 248273      | Ball      | CS*          | 16G241        | 16G242              | Exposed      | 443 (201)      | Santoprene          | Santoprene    |
| 24D936      | 248273      | Ball      | SST          | 16G241        | 16G242              | Enclosed SST | 442 (200)      | Santoprene          | Santoprene    |
| 24D940      | 248273      | Ball      | SST          | 16G241        | 16G242              | Exposed      | 428 (194)      | Santoprene          | Santoprene    |
| 24D944      | 248274      | Flapper   | SST          | 16G241        | 16G242              | Exposed      | 428 (194)      | Santoprene          | -             |
| 24D948      | 248274      | Flapper   | CS*          | 16G241        | 16G242              | Exposed      | 443 (201)      | Santoprene          | -             |
| 24D952      | 248274      | Flapper   | SST          | 16G241        | 16G242              | Enclosed SST | 442 (200)      | Santoprene          | -             |

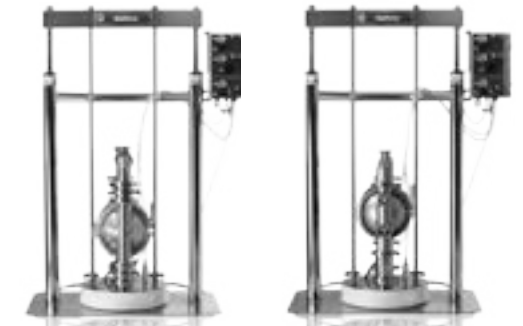
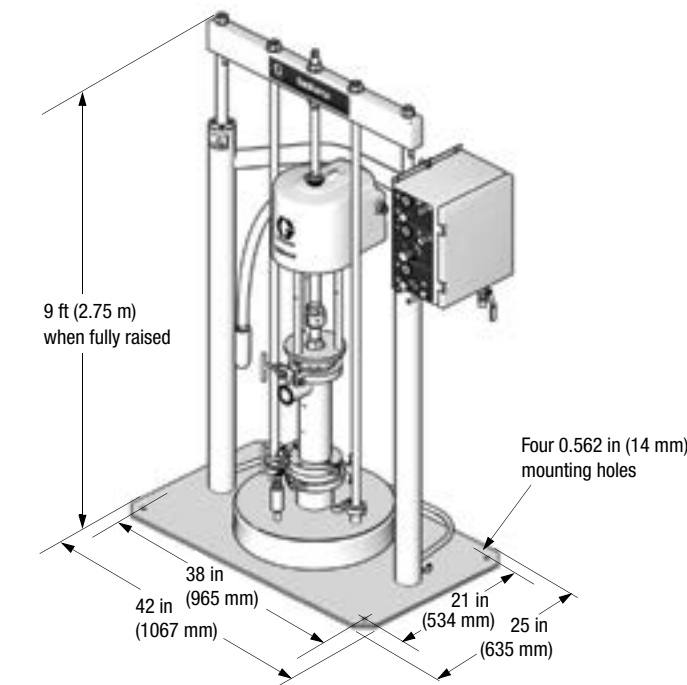
**SaniForce 2150 Drum Unloader**

| Part Number | Pump Number | Pump Type | Ram Material | Ram Plate No. | Inflatable Seal No. | Control Type | Weight lb (kg) | Diaphragm Material | Ball Material            |
|-------------|-------------|-----------|--------------|---------------|---------------------|--------------|----------------|--------------------|--------------------------|
| 24G542      | 24G743      | Ball      | SST          | 16G241        | 16G242              | Exposed      | 450 (204)      | Overmolded PTFE    | PTFE                     |
| 24F191      | 24G743      | Ball      | CS*          | 16G241        | 16G242              | Exposed      | 464 (210)      | Overmolded PTFE    | PTFE                     |
| 24G543      | 24G743      | Ball      | SST          | 16G241        | 16G242              | Enclosed SST | 464 (210)      | Overmolded PTFE    | PTFE                     |
| 24F192      | 24G744      | Ball      | SST          | 16G241        | 16G242              | Exposed      | 450 (204)      | Santoprene         | Weighted polychloroprene |
| 24F193      | 24G744      | Ball      | CS*          | 16G241        | 16G242              | Exposed      | 464 (210)      | Santoprene         | Weighted polychloroprene |
| 24F194      | 24G744      | Ball      | SST          | 16G241        | 16G242              | Enclosed SST | 464 (210)      | Santoprene         | Weighted polychloroprene |

\*CS = Painted carbon steel.

**Dimensions**

**SaniForce Drum Unloader**



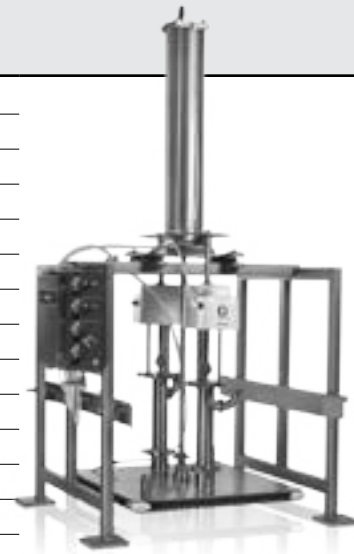
SaniForce 3150 HS Drum Unloader

SaniForce 2150 Drum Unloader

**Ordering Information**

**SaniForce BES**

| BES Part Number | Max. Working Fluid Pressure per pump psi (bar, MPa) | Pump Type      | Pump Quantity | Pump Description | Control Type | BIN Manuf            |
|-----------------|---|----------------|---------------|------------------|--------------|----------------------|
| BESAAC          | 400 (28, 2.8)                                       | Double Ball    | 2             | SaniForce 5:1    | Manual       | Buckhorn Caliber 315 |
| BESA4C          | 400 (28, 2.8)                                       | Double Ball    | 2             | SaniForce 5:1    | Manual       | Pallecon             |
| BESA7A          | 400 (28, 2.8)                                       | Double Ball    | 2             | SaniForce 5:1    | Electronic   | Plywood              |
| BESA7C          | 400 (28, 2.8)                                       | Double Ball    | 2             | SaniForce 5:1    | Manual       | Plywood              |
| BESA7F          | 400 (28, 2.8)                                       | Double Ball    | 2             | SaniForce 5:1    | Electronic   | Plywood              |
| BESB7B          | 400 (28, 2.8)                                       | Double Ball    | 4             | SaniForce 5:1    | Electronic   | Plywood              |
| BESB7D          | 400 (28, 2.8)                                       | Double Ball    | 4             | SaniForce 5:1    | Manual       | Plywood              |
| BESEAC          | 1200 (83, 8.3)                                      | Priming Piston | 2             | SaniForce 12:1   | Manual       | Buckhorn Caliber 315 |
| BESE1A          | 1200 (83, 8.3)                                      | Priming Piston | 2             | SaniForce 12:1   | Electronic   | Arena                |
| BESE1C          | 1200 (83, 8.3)                                      | Priming Piston | 2             | SaniForce 12:1   | Manual       | Arena                |
| BESE5C          | 1200 (83, 8.3)                                      | Priming Piston | 2             | SaniForce 12:1   | Manual       | Pallecon             |
| BESE7C          | 1200 (83, 8.3)                                      | Priming Piston | 2             | SaniForce 12:1   | Manual       | Plywood              |
| BESF6B          | 1200 (83, 8.3)                                      | Priming Piston | 4             | SaniForce 12:1   | Electronic   | Arena                |
| BESF6D          | 1200 (83, 8.3)                                      | Priming Piston | 4             | SaniForce 12:1   | Manual       | Arena                |
| BESF7D          | 1200 (83, 8.3)                                      | Priming Piston | 4             | SaniForce 12:1   | Manual       | Plywood              |
| BESF9B          | 1200 (83, 8.3)                                      | Priming Piston | 4             | SaniForce 12:1   | Electronic   | TNT                  |
| BESF9D          | 1200 (83, 8.3)                                      | Priming Piston | 4             | SaniForce 12:1   | Manual       | TNT                  |



*Note: Systems can be special ordered for bin types other than plywood, arena and pallecon. Contact your sales rep for additional information.*

**Technical Specifications**

**SaniForce BES**

| Part No   | BESAxx  | BESBxx           | BESDxx  | BESExx  | BESFxx  |
|---|---|------------------|---|---|---|
| Max. working fluid pressure                               | 400 psi (28 bar, 2.8 MPa)                       |                  | 600 psi (41 bar, 4.1 MPa)                       | 1200 psi (83 bar, 8.3 MPa)                      | 1200 psi (83 bar, 8.3 MPa)                      |
| Compressed air requirement                                | 80-100 psi (5.5-7 bar, 0.55-0.7 MPa)            |                  | 80-100 psi (5.5-7 bar, 0.55-0.7 MPa)            | 80-100 psi (5.5-7 bar, 0.55-0.7 MPa)            | 80-100 psi (5.5-7 bar, 0.55-0.7 MPa)            |
| Pneumatic control panel specifications                    |   |                  |   |   |   |
| Max. inlet air pressure                                   | 80 psi (5.5 bar, 0.55 MPa)                      |                  | 100 psi (7 bar, 0.7 MPa)                        | 100 psi (7 bar, 0.7 MPa)                        | 100 psi (7 bar, 0.7 MPa)                        |
| Air inlet size  | 3/4 in npt(f)                                   |                  | 3/4 in npt(f)                                   | 3/4 in npt(f)                                   | 3/4 in npt(f)                                   |
| Air inlet pump  | 1/2 in npt(f)                                   |                  | 1/2 in npt(f)                                   | 1/2 in npt(f)                                   | 1/2 in npt(f)                                   |
| Fluid displacement (each pump)                            | 0.23 gal/cycle (0.87 l/cycle)                   |                  | 0.075 gal/cycle (0.28 l/cycle)                  | 0.14 gal/cycle (0.52 l/cycle)                   | 0.14 gal/cycle (0.52 l/cycle)                   |
| Max. flow @ 60 cpm*                                       | 28 gpm (106 lpm)                                | 56 gpm (212 lpm) | 8 gpm (30 lpm)                                  | 17 gpm (64 lpm)                                 | 34 gpm (128 lpm)                                |
| Pressure ratio  | 5:1   |                  | 6:1   | 12:1  | 12:1  |
| Air consumption (each pump) at 40 psi (2.8 bar, 0.28 MPa) | ~2.95 scfm per gpm                              |                  | ~3.75 scfm per gpm                              | ~7.5 scfm per gpm                               | ~7.5 scfm per gpm                               |
| Pump outlet   | 2 in tri-clamp                                  |                  | 2 in tri-clamp                                  | 2 in tri-clamp                                  | 2 in tri-clamp                                  |
| Communication   | RS232 Serial                                    |                  | RS232 Serial                                    | RS232 Serial                                    | RS232 Serial                                    |
| Electrical requirements                                   | 110 VAC (60 Hz), 15A                            |                  | 110 VAC (60 Hz), 15A                            | 110 VAC (60 Hz), 15A                            | 110 VAC (60 Hz), 15A                            |
| Overall dimensions in (m)                                 | 69 W x 60 D x 118.8 H (1.72 W x 1.52 D x 3.0 H) |                  | 69 W x 60 D x 118.8 H (1.72 W x 1.52 D x 3.0 H) | 69 W x 60 D x 118.8 H (1.72 W x 1.52 D x 3.0 H) | 69 W x 60 D x 118.8 H (1.72 W x 1.52 D x 3.0 H) |
| Flyer   | <a href="#">338589</a>                          |                  | <a href="#">338589</a>                          | <a href="#">338589</a>                          | <a href="#">338589</a>                          |
| Instruction manual  | <a href="#">311163</a>                          |                  | <a href="#">311163</a>                          | <a href="#">311163</a>                          | <a href="#">311163</a>                          |

*\* Flow rates based on full displacement of lower and S.G. = 1*

*Note: Graco's BES packages are available for a variety of manufacturers' bins and custom systems can be built upon request. Contact Graco at 1-800-543-0339 for more information.*

**Ordering Information**

**SaniForce 3150 BES**

| Part Number | Type    | Bin Manuf. | Control Type | Outlet Size  | Diaphragm/Ball Material** |
|-------------|---------|------------|--------------|--------------|---------------------------|
| BES3P3      | Ball    | Plywood    | Manual       | 3 in (76 mm) | Santoprene/ PTFE          |
| BES3P1      | Ball    | Plywood    | Electronic   | 3 in (76 mm) | Santoprene/ PTFE          |
| BES4P3      | Flapper | Plywood    | Manual       | 3 in (76 mm) | Santoprene/ N/A           |
| BES8B3      | Ball    | Pallecon   | Manual       | 3 in (76 mm) | Overmolded EPDM, 3A       |
| BES3A1      | Ball    | Arena      | Electronic   | 3 in (76 mm) | Santoprene/ PTFE          |
| BES4A1      | Flapper | Arena      | Electronic   | 3 in (76 mm) | Santoprene/ N/A           |

*Note: Contact marketing for ordering information on non-plywood bins.  
\*\*3A Approved EPDM diaphragm is available for heavy duty applications.*



**Technical Specifications**

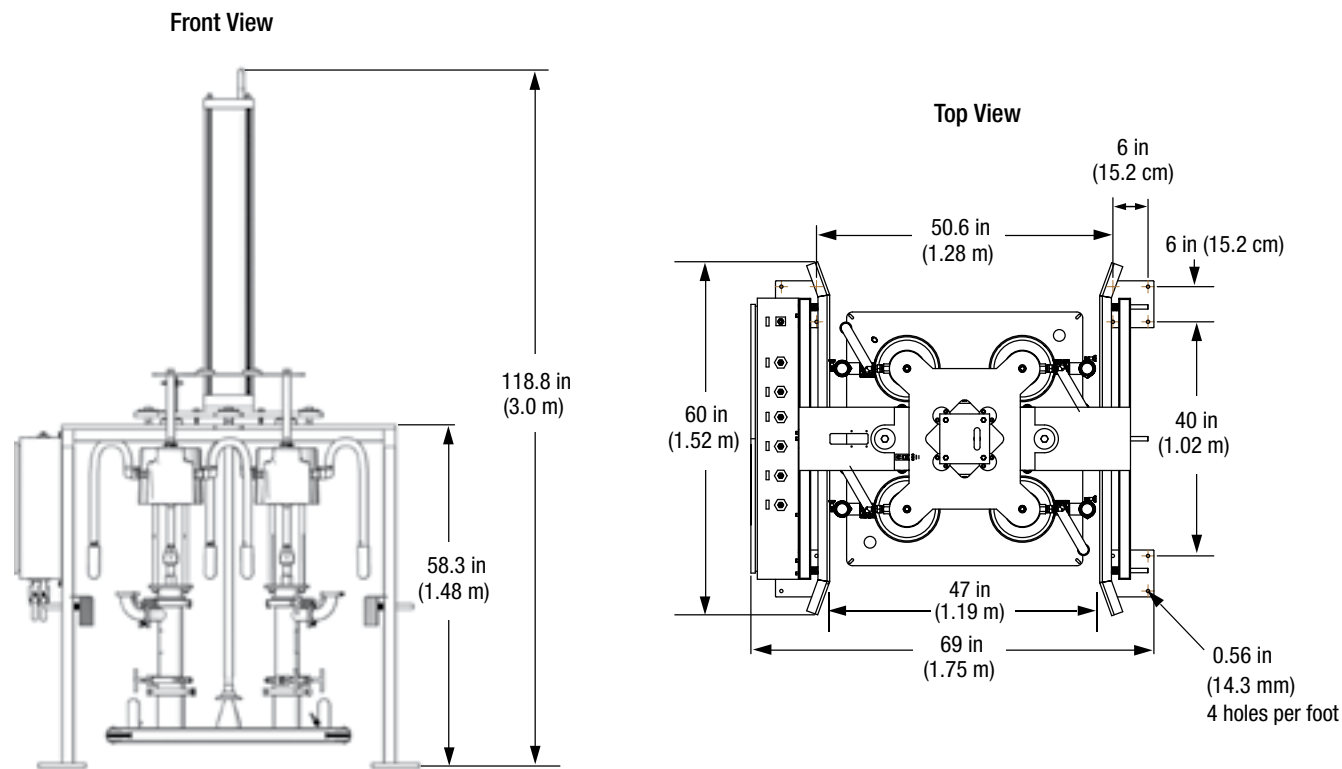
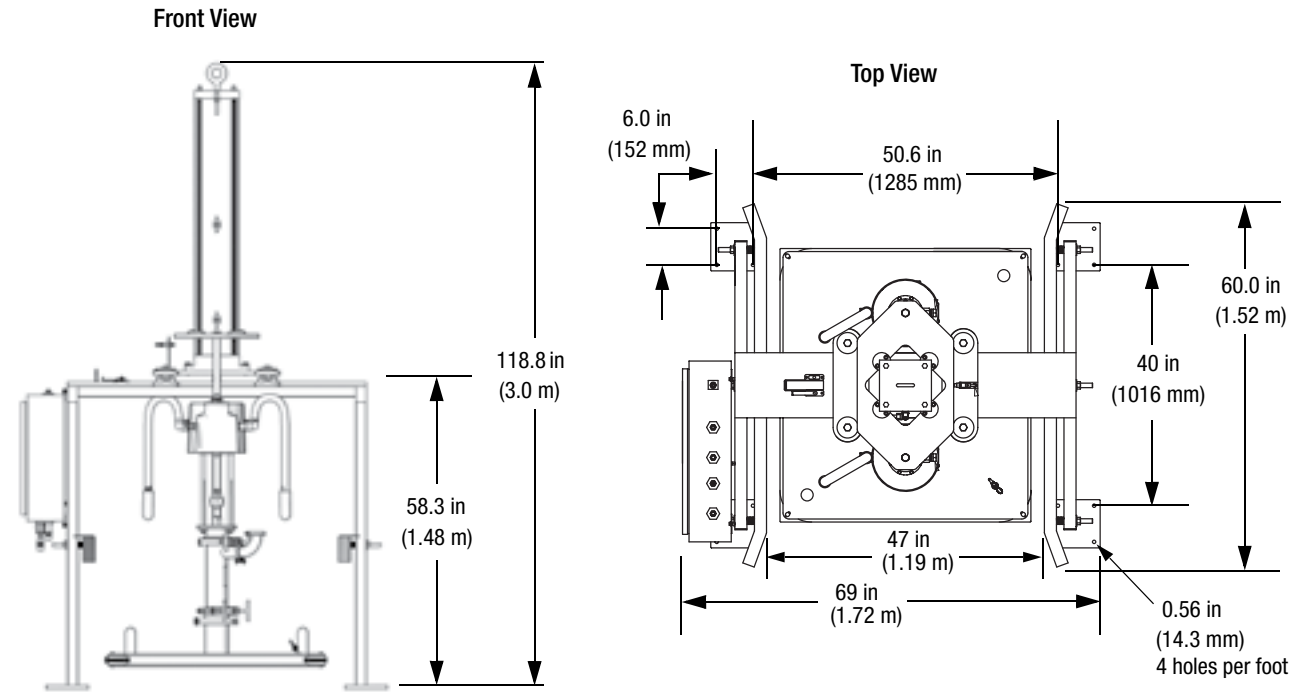
**SaniForce 3150 BES**

| Part No   | BES3xx                                  | BES4xx            |
|---|---|-------------------|
| Max. working fluid pressure   | 120 psi (8.4 bar, 0.84 MPa)             |                   |
| Compressed air requirement  | 80-120 psi (5.5-8.4 bar, 0.55-0.84 MPa) |                   |
| Pneumatic control panel specifications                              |   |                   |
| Max. inlet air pressure   | 120 psi (8.4 bar, 0.84 MPa)             |                   |
| Air inlet size  | 3/4 in npt(f)                           |                   |
| Air inlet pump  | 1/2 in npt(f)                           |                   |
| Fluid displacement (each pump)                                      | 1.03 gal/cycle (3.89 l/cycle)           |                   |
| Max. flow @ 145 cpm*  | 300 gpm (1,135 lpm)                     |                   |
| Pressure ratio  | 1:1                                     |                   |
| Air consumption (each pump) at 70 psi (0.48 MPa, 4.8 bar)           | ~0.8 scfm per gpm                       |                   |
| Pump outlet   | 3 in tri-clamp                          |                   |
| Max. suction lift   | 18 ft (5.5 m) wet                       | 10 ft (3.0 m) wet |
| Max. diaphragm operating temperature (Santoprene, 3A Approved EPDM) | 180°F (82.2°C), 275°F (135°C)           |                   |
| Typical sound level at 70 psi (4.9 bar) air @ 50 cpm                | 85 dBa                                  |                   |
| Weight  | 3,000 lb (1,360 kg)                     |                   |
| Flyer   | <a href="#">338589</a>                  |                   |
| Instruction manual  | <a href="#">311163</a>                  |                   |

*\* Flow rates are with muffler and slightly vary based on diaphragm material. Displacement per cycle may vary based on suction condition, discharge head, air pressure and fluid type.*

Dimensions

SaniForce BES



Ordering Information

| Package Order Number.  | 247549 or 247550       | 247551 or 247552       | 247553 or 247554       | 258664 or 258665       | 206515                 |
|--|------------------------|------------------------|------------------------|------------------------|------------------------|
| Package Instruction Manual   | 312585                 | 312585                 | 312585                 | 312585                 | 306817                 |
| Air Motor Part Number  | N34DN0                 | N65DN0                 | N65DN0                 | N65DN0                 | 207352                 |
| Air Motor Manual   | 311238                 | 311238                 | 311238                 | 311238                 | 306982                 |
| Pump Lower Part number   | 247599                 | 241648                 | 687055                 | 24B923                 | 224344                 |
| Pump Manual  | 312745                 | 311825                 | 311825                 | 311827                 | 306817                 |
| Wetted Parts   | SST/PTFE/CF-PTFE       | SST/CF-PTFE/UHMWPE     | SST/CF-PTFE/UHMWPE     | SST/CF-PTFE/UHMWPE     | SST/CR/UHMWPE          |
| Pump Std. Repair Kit   | 247881                 | 222880                 | See Manual             | 24C162                 | 224402                 |
| Optional PTFE Repair Kit   | N/A                    | 222876                 | 222846                 | 237179                 | 224889                 |
| Std. Discharge Hose (3/8 x 50 ft) 4500 psi (310 bar) Comes with M & F QD's | 247878                 | 247878                 | 247878                 | 247878                 | 205753                 |
| Std. Gun/Wand Assy   | 247879                 | 247879                 | 247879                 | 247879                 | 237485/207299          |
| Std. 60 Mesh Inlet Strainer  | 15T284                 | 15T284                 | 15T284                 | 15T284                 | 206300                 |
| Flyer  | <a href="#">338026</a> | <a href="#">338026</a> | <a href="#">338026</a> | <a href="#">338026</a> | <a href="#">338026</a> |

Stainless Steel Tips

| Part Number | Orifice Size      | Fan Angle | 247549 or 247550                        | 247551 or 247552                         | 247553 or 247554                         | 248664 or 248665                         | 206515                                |
|-------------|-------------------|-----------|---|--|--|--|---------------------------------------|
| 805538      | 0.030 in (0.8 mm) | 40°       | 1165 psi (80 bar)<br>0.6 gpm (2.3 lpm)  | 2120 psi (146 bar)<br>0.8 gpm (3.0 lpm)  | 2829 psi (195 bar)<br>1.0 gpm (3.8 lpm)  | 3995 psi (275 bar)<br>1.2 gpm (4.5 lpm)  | N/A                                   |
| 805549      | 0.045 in (1.1 mm) | 25°       | 1137 psi (78 bar)<br>1.7 gpm (6.4 lpm)  | 2020 psi (139 bar)<br>1.8 gpm (6.8 lpm)  | 2553 psi (176 bar)<br>2.0 gpm (7.6 lpm)  | 3515 psi (242 bar)<br>3.3 gpm (12.5 lpm) | N/A                                   |
| 805566      | 0.065 in (1.7 mm) | 40°       | 1071 psi (74 bar)<br>3.6 gpm (13.6 lpm) | 1803 psi (124 bar)<br>3.7 gpm (14.0 lpm) | 2141 psi (148 bar)<br>4.0 gpm (15.1 lpm) | 2924 psi (201 bar)<br>4.1 gpm (15.2 lpm) | N/A                                   |
| 805575      | 0.080 in (2.0 mm) | 0°        | 1018 psi (70 bar)<br>4.0 gpm (15.1 lpm) | 1634 psi (113 bar)<br>4.8 gpm (18.1 lpm) | 1811 psi (125 bar)<br>4.9 gpm (18.5 lpm) | 2499 psi (172 bar)<br>5.1 gpm (19.3 lpm) | N/A                                   |
| 103921      | 0.065 in (1.6 mm) | 40°       | N/A                                     | N/A                                      | N/A                                      | N/A                                      | 750 psi (52 bar)<br>2.6 gpm (9.8 lpm) |

Pressure and flow rates are tested with air pressure of 100 psi (7 bar).  
Other orifice sizes and fan widths available from Graco. Contact a sales representative for more information.



Hydra-Clean Wall-Mount



Hydra-Clean Cart-Mount



Hydra-Clean Drum-Mount

## Accessories

| Part Number           | Description                          | Part Number  | Description   |
|-----------------------|--------------------------------------|--------------|---|
| <b>Guns and Wands</b> |                                      | <b>Other</b> |   |
| 15T282                | Optional replacement SST spray gun   | 191635       | 10 mesh inlet strainer with 1 in npt(f) connection                            |
| 15T279                | 32 inch SST wand                     | 15T272       | Quick Coupling<br>For adding a second hose with gun to the outlet of the pump |
| 15T280                | 10 inch SST wand                     |              |   |
| 247880                | Gun SST quick disconnect connections |              |   |

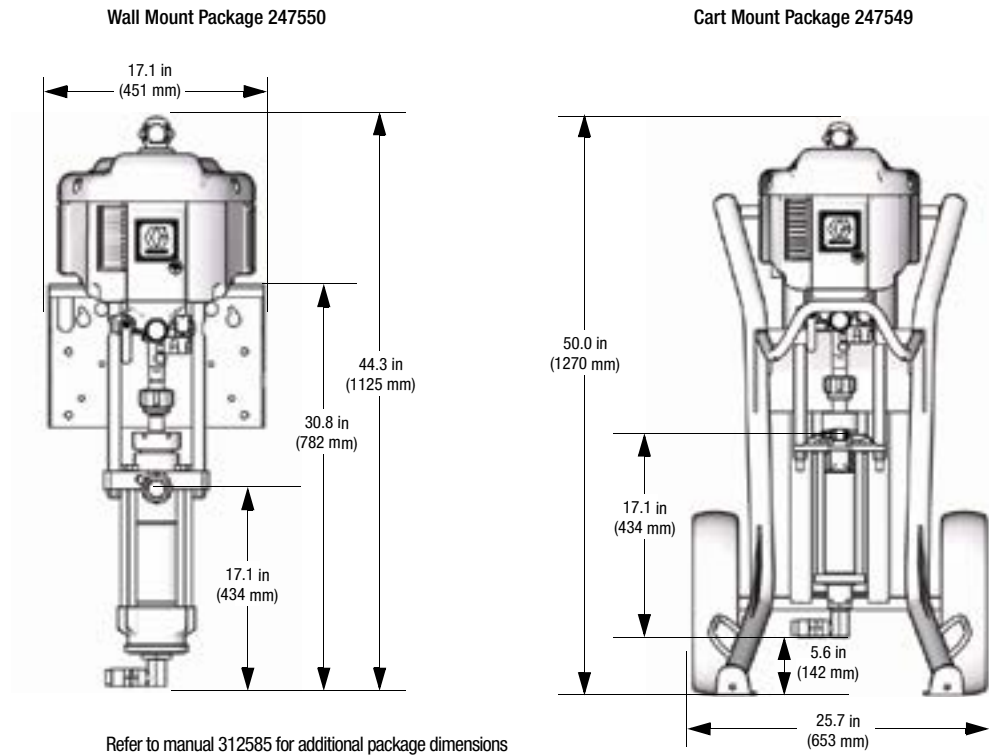
## Technical Specifications

| Part Number | Pump Package    | Max. Working Pressure psi (bar, MPa) | Max. Air Input Pressure psi (bar, MPa) | Fluid Flow at 60 cpm gpm (lpm) | Vol. per Cycle oz (cc) | Air Inlet Size | Fluid Inlet Size | Fluid Outlet Size* |
|-------------|-----------------|--------------------------------------|--|--------------------------------|------------------------|----------------|------------------|--------------------|
| 247549      | 12:1 Cart Mount | 1250 (86, 8.6)                       | 100 (7, 0.7)                           | 8.7 (33.0)                     | 18.6 (550)             | 3/4 npt(f)     | 1 in             | 3/8 in             |
| 247550      | 12:1 Wall Mount | 1250 (86, 8.6)                       | 100 (7, 0.7)                           | 8.7 (33.0)                     | 18.6 (550)             | 3/4 npt(f)     | 1 in             | 3/8 in             |
| 247551      | 23:1 Cart Mount | 2275 (157, 15.7)                     | 100 (7, 0.7)                           | 9.2 (34.7)                     | 19.6 (580)             | 3/4 npt(f)     | 1 in             | 3/8 in             |
| 247552      | 23:1 Wall Mount | 2275 (157, 15.7)                     | 100 (7, 0.7)                           | 9.2 (34.7)                     | 19.6 (580)             | 3/4 npt(f)     | 1 in             | 3/8 in             |
| 247553      | 30:1 Cart Mount | 3065 (211, 21.1)                     | 100 (7, 0.7)                           | 6.8 (25.9)                     | 14.5 (430)             | 3/4 npt(f)     | 1 in             | 3/8 in             |
| 247554      | 30:1 Wall Mount | 3065 (211, 21.1)                     | 100 (7, 0.7)                           | 6.8 (25.9)                     | 14.5 (430)             | 3/4 npt(f)     | 1 in             | 3/8 in             |
| 258664      | 45:1 Cart Mount | 4500 (310, 31.0)                     | 100 (7, 0.7)                           | 4.6 (17.4)                     | 9.8 (290)              | 3/4 npt(f)     | 1 in             | 3/8 in             |
| 258665      | 45:1 Wall Mount | 4500 (310, 31.0)                     | 100 (7, 0.7)                           | 4.6 (17.4)                     | 9.8 (290)              | 3/4 npt(f)     | 1 in             | 3/8 in             |
| 206515      | 10:1 Drum Mount | 1800 (125, 12.5)                     | 180 (12.5, 1.2)                        | 3.0 (11.4)                     | 6.4 (189)              | 1/2 npt(f)     | 1/2 in           | 3/4 in             |

\*Includes two outlet ports per unit. Part number 206515 has only one outlet port.

## Dimensions

### Hydra-Clean





## Ordering Information

### High Sanitation and Industrial PTFE Overmolded Diaphragm Repair Kits\*

| Part No. | Description                                  |
|----------|--|
| 253626   | For 1 inch pump size, diaphragm repair kit   |
| 253627   | For 1.5 inch pump size, diaphragm repair kit |
| 253628   | For 2 inch pump size, diaphragm repair kit   |

\*To replace PTFE overmolded diaphragms



### High Sanitation and Industrial PTFE Overmolded Diaphragm Upgrade Kits\*

| Part No. | Description                   |
|----------|-------------------------------|
| 289224   | Upgrade kit for 1 inch pump   |
| 289225   | Upgrade kit for 1.5 inch pump |
| 289226   | Upgrade kit for 2 inch pump   |

\*Includes new airside diaphragm plate to upgrade current pump to PTFE overmolded diaphragms.



### SaniForce 515 Drum Mount Kit

| Part No. | Description                   |
|----------|-------------------------------|
| 262828   | Kit, Drum mount SaniForce 515 |

### SaniForce Drum Unloader Inflatable Seals

| Part No. | Description              |
|----------|--------------------------|
| 16G242   | FDA Polychloroprene (CR) |
| 16M208   | FDA EPDM                 |

### High Sanitation and Industrial Upgrade Kits\*

| Part No. | Description                              |
|----------|--|
| 24N321   | Upgrade kit for 0.5 and 0.75 inch pump   |
| 289224   | Upgrade kit for 1 inch pump (Husky 1040) |
| 24B626   | Upgrade kit for 1 inch pump (Husky 1050) |
| 289225   | Upgrade kit for 1.5 inch pump            |
| 289226   | Upgrade kit for 2 inch pump              |

\*Includes new airside diaphragm plate for replacement of standard bolt-through diaphragm.

### SaniForce 1040, 1590 & 2150 Pump Repair Kits

| Part No. | Description                               |
|----------|---|
| FK1113   | For 1 inch pump size, with PTFE o-rings   |
| FK1213   | For 1 inch pump size, with EPDM o-rings   |
| FK2113   | For 1.5 inch pump size, with PTFE o-rings |
| FK2213   | For 1.5 inch pump size, with EPDM o-rings |
| FK3113   | For 2 inch pump size, with PTFE o-rings   |
| FK3213   | For 2 inch pump size, with EPDM o-rings   |

## Technical Specifications

| Overmolded Diaphragms                |   |
|--------------------------------------|---|
| Material/Construction on wetted side | FDA-Compliant PTFE  |
| Material/Construction on air side    | FDA-Compliant EPDM  |
| Temperature range                    | 14°F to 180°F (-10°C to 82°C)                                     |
| Safety                               | Complies to FDA21CFR 177.1550 (PTFE) and FDA21CFR 177.2600 (EPDM) |

# Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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## Equipment Misuse Hazard

**General Misuse:** Any misuse of Graco equipment or accessories, such as over-pressurizing, modifying parts, using incompatible chemicals and fluids, or using worn or damaged parts, can cause them to rupture. Misuse of equipment can result in fluid injection, splashing in the eyes or on the skin, or other serious bodily injury, or fire, explosion or property damage. NEVER alter or modify any part of Graco equipment; doing so could cause the product to malfunction. CHECK all equipment regularly and repair or replace worn or damaged parts immediately. Always wear protective eye wear, gloves, clothing and respirator as recommended by fluid and solvent manufacturers.

**System Pressure:** Be sure that all equipment and accessories used are rated to withstand the applicable MAXIMUM WORKING PRESSURE. DO NOT exceed the maximum working pressure of any component or accessory used in a system.

**Fluid and Solvent Compatibility:** All chemicals used in a Graco sprayer must be compatible with wetted parts. Consult your chemical supplier to ensure compatibility. Do not use 1:1:1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in this equipment, which contains aluminum and/or zinc parts. Such use could result in a serious chemical reaction, with the possibility of explosion, which could cause death, serious bodily injury and/or substantial property damage.



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