



First choice when quality counts.™

Check-Mate™ 450 Series Priming Piston Transfer Pumps



222-770
Monark 10:1



222-768
President 20:1



222-769
Senator 34:1



222-778
Bulldog 55:1

Pressure-balanced pumps for uniform dispensing

- Severe Duty™ rod and cylinder for durability
- Large internal porting for maximum flow
- Floating piston seal and priming plate improve balance and performance
- Maintains balance over a wide viscosity range
- Minimal bead distortion for critical dispensing of expensive materials

Improved Balance Over Conventional Pumps

Graco priming piston pumps feature the Check-Mate 450 fluid pump lower, a significant design refinement which achieves superior balance by reducing pressure drop during the downstroke.

Because conventional double-acting pumps are calibrated to be balanced for a specific fluid viscosity, pumping fluids of other than specified viscosity results in an off-balance condition. The Check-Mate pump demonstrates minimal drift from perfect balance to provide a smooth flow pattern over a wide range of fluid viscosities. Improved pump efficiency produces greater net fluid pressure for pumping high viscosities or supplying longer fluid lines.

Typical Fluids Handled

- sealants
- adhesives
- inks
- mastics
- lubricants

COMPONENTS

Technical Specifications

Max. fluid output pressure

Monark 10:1	1800 psi (1.25 MPa, 125 bar)
President 20:1	3600 psi (25.0 MPa, 250 bar)
Senator 34:1	4080 psi (28.6 MPa, 286 bar)
Bulldog 55:1	4950 psi (34.7 MPa, 347 bar)

Max. air input pressure

Monark 10:1, President 20:1	180 psi (1.26 MPa, 12.6 bar)
Senator 34:1	120 psi (0.83 MPa, 8.3 bar)
Bulldog 55:1	90 psi (0.63 MPa, 6.3 bar)

Fluid flow @ 60 cpm

Monark 10:1	1 gpm (3.8 lpm)
President 20:1	1.2 gpm (4.5 lpm)
Senator 34:1	1.7 gpm (6.5 lpm)
Bulldog 55:1	1.7 gpm (6.5 lpm)

Air inlet size (bare pump)

Monark 10:1	3/8 npt(f)
President 20:1	1/2 npt(f)
Senator 34:1, Bulldog 55:1	3/4 npsm(f)

Fluid outlet size

Monark 10:1	3/8 npt(f)
President 20:1, Senator 34:1, Bulldog 55:1	3/4 npt(f)

Packings

throat	UHMWPE/Teflon®
piston	UHMWPE
rod and cylinder	Severe Duty™ (chrome over stainless steel)
other wetted parts	.CS; Delrin®, 304, 316 and 7-4 PH SST; ductile iron; zinc and nickel plating

Overall length (bare pump)

Monark 10:1	46.75 in. (119 cm)
President 20:1	49-1/4 in. (125 cm)
Senator 34:1	55 in. (140 cm)
Bulldog 55:1	55 in. (140 cm)

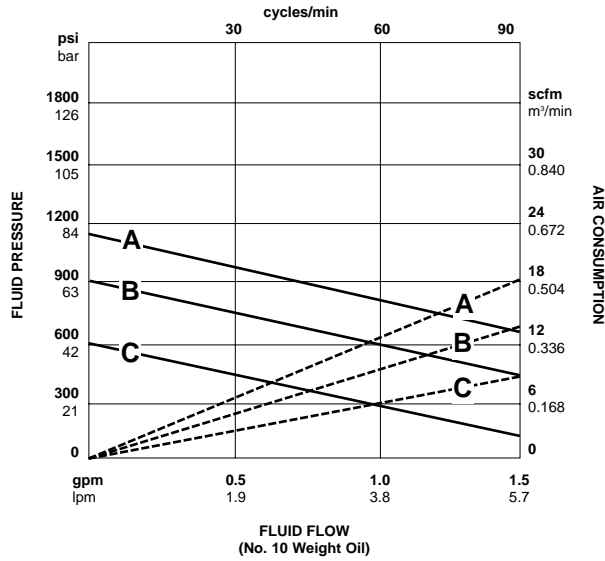
Weight (pump only)

Monark 10:1	45 lbs (21 kg)
President 20:1	50 lbs (22.7 kg)
Senator 34:1	100 lbs (45.5 kg)
Bulldog 55:1	100 lbs (45.5 kg)

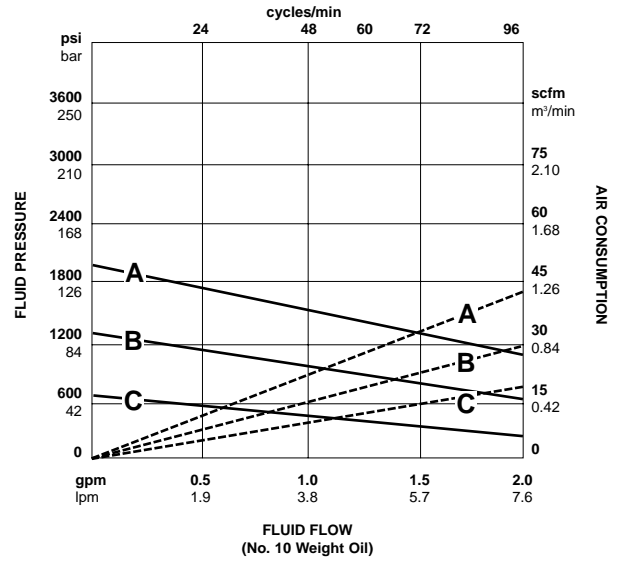
Instruction manual 308-017

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Monark 10:1 Performance



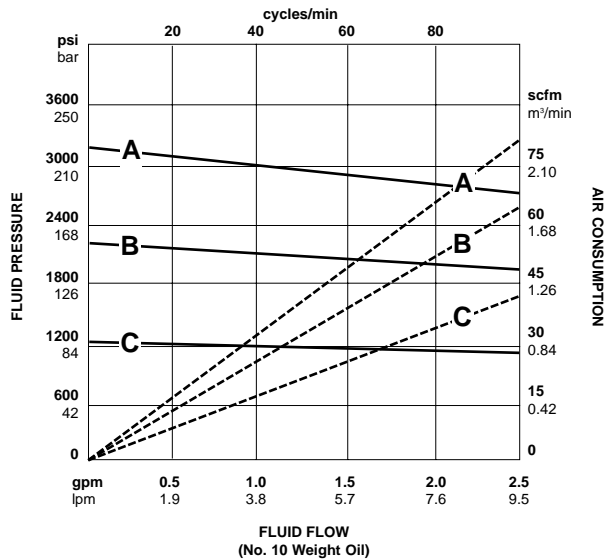
President 20:1 Performance



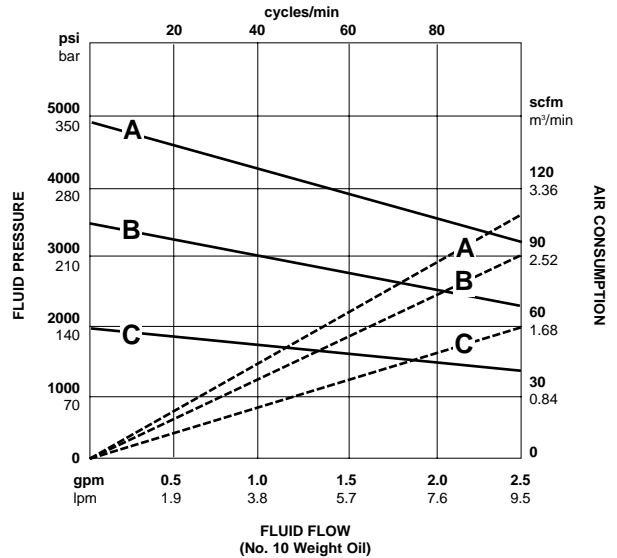
Key:
 — Fluid Outlet Pressure, Black Solid Curves
 --- Air Consumption, Gray Dotted Curves

Air Pressures:
 A = 100 psi (0.7 MPa, 7 bar)
 B = 70 psi (0.49 MPa, 4.9 bar)
 C = 40 psi (0.28 MPa, 2.8 bar)

Senator 34:1 Performance

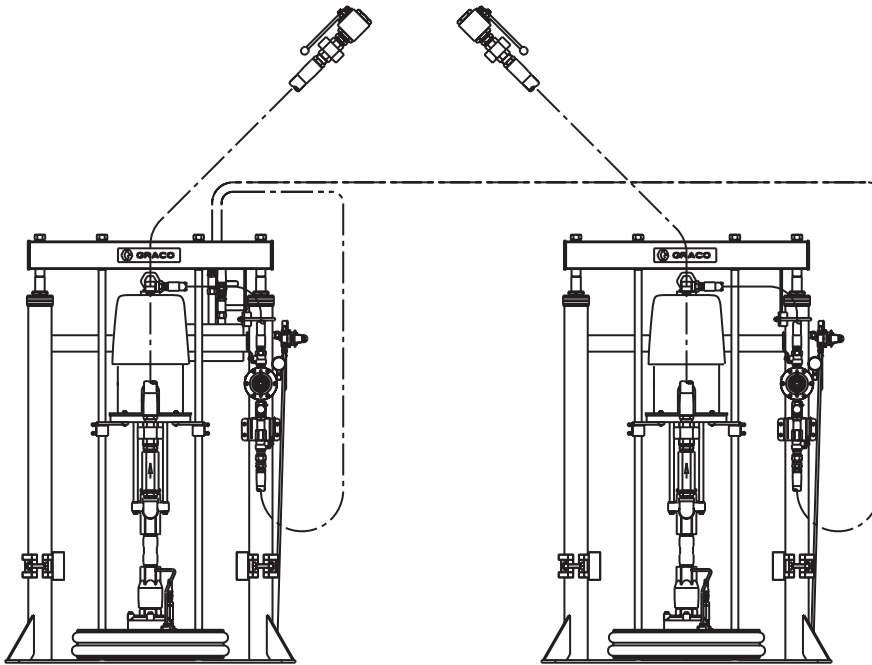


Bulldog 55:1 Performance



COMPONENTS

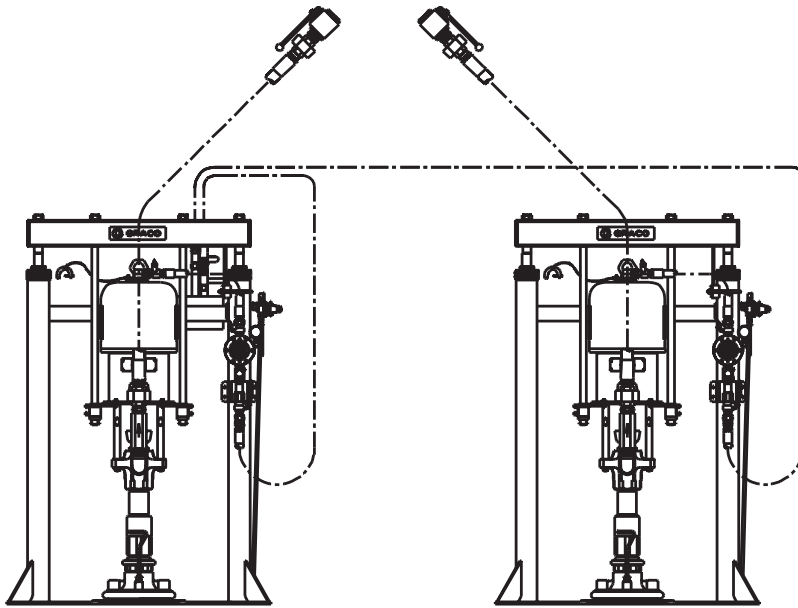
Ram Pump Packages Ordering Information



55 Gallon (200 Liter) Packages

- 970-022 Tandem 55:1 Bulldog 55 Gal. Ram Pumps with Pneumatic Crossover**
Includes: (2) 55 gal. (200 liter) 3 in. dual post rams, 55 gal. (200 liter) follower plates and pneumatic crossover control, outlet check valves and (2) 1-1/4 in. x 10 ft. (3 m) supply hoses with shutoff valves.
- 970-023 Tandem 55:1 Bulldog 55 Gal. Ram Pumps with Electric Crossover**
Includes: (2) 55 gal. (200 liter) 3 in. dual post rams, 55 gal. (200 liter) follower plates and electric crossover control with drum empty light kit, outlet check valves and (2) 1-1/4 in. x 10 ft. (3 m) supply hoses with shutoff valves.
- 970-024 Single 55:1 Bulldog 55 Gal. Ram Pump with Pneumatic Low-Level Shutoff**
Includes: (1) 55 gal. (200 liter) 3 in. dual post ram with low-level, shutoff, 55 gal. (200 liter) follower plate, outlet check valve, and (1) 1-1/4 in. x 10 ft. (3 m) supply hose with shutoff valve.

Ram Pump Packages Ordering Information (cont'd)



55/5 Gallon (200/20 Liter) Packages

970-028 Tandem 55:1 Bulldog 55/5 Gal. Ram Pumps with Pneumatic Crossover

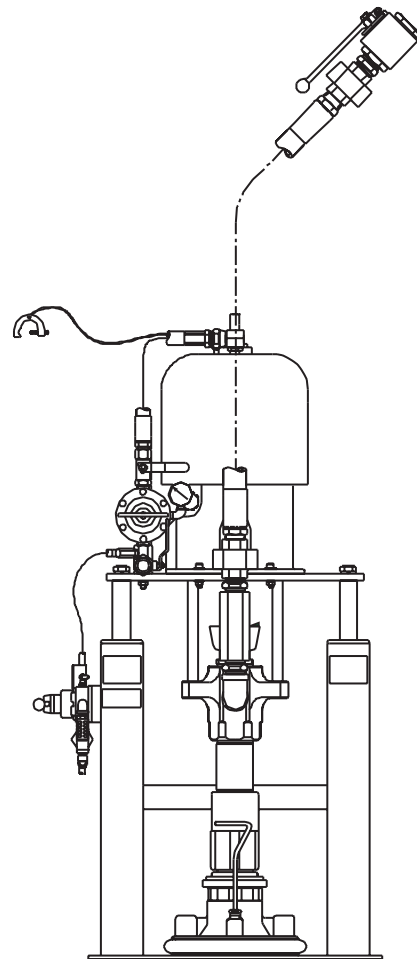
Includes: (2) 55 gal. (200 liter) 3 in. dual post rams, 5 gal. (20 liter) wiper plates and pneumatic crossover control, outlet check valves, and (2) 1-1/4 in. x 10 ft. (3 m) supply hoses with shutoff valves.

970-029 Tandem 55:1 Bulldog Ram Pumps with Electric Crossover

Includes: (2) 55 gal. (200 liter) 3 in. dual post rams, 5 gal. (20 liter) wiper plates and electric crossover control with drum empty light kit, outlet check valves, and (2) 1-1/4 in. x 10 ft. (3 m) supply hoses with shutoff valves.

970-030 Single 55:1 Bulldog Ram Pump with Pneumatic Low-Level Shutoff

Includes: (1) 55 gal. (200 liter) 3 in. dual post ram with low-level, shutoff, 5 gal. (20 liter) wiper plate, outlet check valve, and (1) 1-1/4 in. x 10 ft. (3 m) supply hose with shutoff valve.



5 Gallon (20 Liter) Package

970-032 Single 55:1 Bulldog 5 Gal. Ram Pump

Includes: (1) 5 gal. (20 liter) 3 in. dual post ram with, 5 gal. (20 liter) wiper plate, outlet check valve, and (1) 1-1/4 in. x 10 ft. (3 m) supply hose with shutoff valve.

Ram Pump Modules Ordering Information

Pail Ram Modules

Includes pump with air regulator, 5 gal. (20 liter) single-post ram with air regulator, and ram plate.

- 231-113 Monark 10:1
- 231-111 President 20:1
- 231-112 Senator 34:1
- 231-115 Bulldog 55:1

Cart Ram Modules

Includes pump, cart, 5 gal. (20 liter) ram plate, and air regulator.

- 231-144 Monark 10:1
- 231-146 President 20:1

Drum Ram Modules

Includes pump with air regulator, 55 gal. (200 liter) double-post ram with air regulator, ram plate, and drum clamps.

- 223-816 Monark 10:1
- 223-817 President 20:1
- 223-818 Senator 34:1
- 223-819 Bulldog 55:1

Bare Pump Modules Ordering Information

- 222-770 Monark 10:1
- 222-768 President 20:1
- 222-769 Senator 34:1
- 224-660 Senator 34:1 with RIQ*
- 222-778 Bulldog 55:1
- 222-813 Bulldog 55:1 with RIQ*

* RIQ = reduced icing quiet

Repair Kits

- 222-773 Seal Repair Kit**
Includes all pump seals and O-rings, except throat packings.
- 222-774 Throat Packing Repair Kit**
UHMWPE/Teflon. Includes V-packings and glands.
- 222-793 Intake Seat Repair Kit**
Valve body and seals.
- 222-775 Throat Packing Conversion Kit**
To convert pump throat to all-Teflon packings, V-packing and glands.
- 184-302 Alternative Leather Throat Packing**
Order 5
- Air Motor Repair Kits** Fluid lower replacement.
- 206-728 Monark**
- 207-385 President**
- 218-122 Senator**
- 206-734 Bulldog**
- 222-790 Check-Mate 450 Fluid Pump**

Mounting Accessories

- 222-780 Floor Stand**
Includes ball valve and mounting kit (222-776).
- 207-279 55 Gallon (200 Liter) Ram**
Includes: follower plate.
Requires pump mounting kit.
- 222-776 Mounting Kit**
Includes bolts, lugs and gasket for mounting pump to floor stand, ram or inductor.
- 222-781 5 Gal. (20 Liter) Pail Ram**
Includes pail ram and extender kit (223-889).
- 222-812 5 Gal. (20 Liter) Carbon Steel Wiper Plate**
- 222-909 5 Gal. (20 Liter) Stainless Wiper Plate**
- 191-991 55 Gal. (200 Liter) Carbon Steel Plate**
- Plate Shields**
10 per pack. Protects plate and simplifies clean-up.
- 223-689 5 Gal. (20 Liter)**
- 222-792 55 Gal. (200 Liter)**

Accessories

- 103-538 Grounding Clamp**
- 107-142 Air Valve**
1/2 npt(m) inlet x 1/2 npt(f) outlet.
- 107-141 Air Valve**
3/4 npt(m) inlet x 3/4 npt(f) outlet.
- 106-149 Air Line Filter**
1/2 npt(fbe)
- 106-150 Air Line Filter**
3/4 npt(fbe)
- 214-848 Air Line Lubricator**
1/2 npt(fbe)
- 214-849 Air Line Lubricator**
3/4 npt(fbe)
- 104-266 Air Regulator**
For President and Monark pumps. 1/2 npt(fbe).
- 206-197 Air Regulator**
For Senator and Bulldog pumps. 1/2 npt(fbe)
- 224-040 Pump Runaway Valve**
3/4 npt(fbe)
- 205-712 Air Pressure Regulator Kit**
For Senator and Bulldog pumps. Includes air regulator and gauge, air valve and manifold with swivel inlet. 3/4 npt(fbe).
- 223-815 Air Pressure Regulator Kit**
For Monark and President pumps. Includes air regulator and gauge, air valve and manifold with swivel inlet. 3/4 npt(fbe).
- 918-478 Pneumatic Low-Level Shutoff Kit**
Includes: limit switch, valves, and mounting brackets for 55 gal. (200 liter) 3 in. dual post rams.
- C59-518 Pump Outlet Check Valve Kit**
Includes: elbow, check valve, and union.

Nylon Fluid Hose

- 184-138 15 ft. (4.8 m)** 3/4 npt(mbe)
Max. working pressure: 4000 psi (27.6 MPa, 276 bar)
- 184-139 5 ft. (1.5 m)** 1/2npt(mbe)
Max. working pressure: 5000 psi (35.0 MPa, 350 bar)
- 184-156 20 ft. (6.1 m)** 1/2npt(mbe)
Max. working pressure: 5000 psi (35.0 MPa, 350 bar)

Teflon Fluid Hose

- 222-934 15 ft. (4.8 m)** 1/2 npt(m) x 1/2 npt(f)
Max. working pressure: 4000 psi (27.6 MPa, 276 bar)
- 222-935 15 ft. (4.8 m)** 1/2 npt(m) x 1/2 npt(f)
Max. working pressure: 5000 psi (35.0 MPa, 350 bar)