Ingersoll Rand/ARO®
Piston Pumps
For Transfering, Spraying & Dispensing
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Extrusion pumps

Extrusion pumps are frequently put in the most difficult of applications: moving high viscosity fluids. Extrusion pumps are used to apply a bead of material. In some instances the pump supplies a continuous bead; other applications call for intermittent delivery. Typical high-viscosity fluids pumped include caulks, heavy lubricants, mastics, sealers and inks.

Application parameters

Viscosity is the largest obstacle in an extrusion application. As viscosities increase, fluid flow decreases. In general, 2-ball pumps can be used for fluids with viscosities up to 50,000 cPs. Chop-check pumps are for higher viscosity fluids. Pump ratios in extrusion applications range from 9:1 to 65:1.

Additional equipment is needed to keep an extrusion pump primed. Follower plates, lifts and rams assist the flow of material into the pump inlet. Without this equipment, the fluid will not "flow" into the pump. Lifts can be used for fluids with viscosities up to 200,000 cPs. Rams are needed for fluids with higher viscosities. If a fluid is stringy, a Ram may be needed for fluids with viscosities as low as 60,000 cPs.

Extrusion pumps also use fluid mass to keep the pump primed. When bulk tanks are used, the weight of the fluid will push it into the pump inlet.

Accessories required

Several accessories will improve the efficiency of an Extrusion application. They include:

- **Follower Plates**: Plates mount directly to pump inlet. Fluid is assisted into pump. Available for 20 liters pails and 200 liters drums.
- **Follower Seals**: Forms seal between Follower Plate and Container to maintain prime. Available in Single or Double Lip Models. Use Single-Lip Wiper for viscosities up to 300,000 cP. Double Lip Wiper provides better wiping action on higher viscosity fluids. Use Double-Lip Wipers for fluids viscosities over 300,000 cP.
- **Lifts**: Eases change over of empty containers. An internal cylinder lifts the pump from the container. Weight of air motor, pump and mounting bracket maintain pump prime. Used on medium to high viscosity fluids. Available for 20 and 200 liters containers.
- **Rams**: Function like a lift, but also exert downward force. Ram air cylinders push pump and follower plate into the fluid. Available in single or two-post configurations, for 5 or 55-gallon containers. Used on medium to high viscosity fluids.
- **Portability Kits**: For single-post ram mounted pumps. Wheels bolt onto base of ram. Eases portability of unit around application site.
- **Floor Mounts**: Used when fluid is stored in large, bulk containers. Gravity feeds material into the pump inlet. Locate as close to fluid container as possible.
- **Downstream Fluid Regulators**: Used to control fluid pressure at the dispense point. Downstream regulators cut fluid pressure to desired level. Also used to eliminate pulsation to provide even consistent flow of material.
- **Extrusion Guns**: Used to dispense fluids with viscosities above 200,000 cPs. Available in manual or automatic configurations. “Snuff-back” guns eliminate drool at work site.
- **Extrusion Nozzle Kit**: For manual or automatic extrusion guns. Size of orifice diameter controls size of bead extruded from the gun.

**Typical Extrusion Applications**

- F-R-L Kit Assembly
- ARO-STOP® Over-run Control
- Two Post Ram
- Downstream Fluid Regulator
- Automatic Extrusion Gun
- Extrusion Gun Nozzle Kit
- Single Post Ram
- Swivel
- Manual Extrusion Gun
- Extrusion Nozzle Kit
**Pump Performance**

- Air Inlet Pressure Range: 0-10.3 bars
- Fluid Pressure Range: 0-10.3 bars
- Max. Rec'd Cycles Per Minute: 75
- Displacement Per Cycle: 18.8
- Volume/Cycle: 307.7 ml
- Cycles Per Liter: 46.5
- Flow @ 60 Cycles / Minute: 68.1-lpm
- Noise Level @ 4.15 bars: 77.8 db (A)

**Pump Specifications**

- Lower Pump Material: Carbon Steel
- Plunger Material: Carbon Steel
- Cylinder Material: Carbon Steel
- Motor Repair Kit: 637084
- Motor Diameter: 2" 
- Stroke: 6" 
- Air Inlet: 1/4-18NPTF-1 (F) 
- Lower Pump Repair Kit: 637081 (Buna)  
  637083 (Teflon) 
- Material Inlet: Immersed 
- Material Outlet: 3/4"-14NPTF-1 (F) 
- Weight: 612041-X: 5.9 Kgs.  
  612042-X: 6.4 Kgs.

**Accessories**

- AIR F/R/L: C28123-600
- Wall Mount: 61113
- Muffler: 61879
- AIR Line Oil: 62274 (0.95 l) 
- Needle Valve: 104104-N02
- AroStop: 635040

**Ordering**

612041-X

Packings:

- 1: Buna
- 3: Teflon
**Pump Specifications**

**Lower Pump Material**
- NM2202A-X1-X31: Carbon Steel
- NM2202B-X1-X31: Stainless Steel 316

**Plunger Material**
- NM2202A-X1-X31: Carbon Steel
- NM2202B-X1-X31: Stainless Steel 316

**Air Motor**
- 63716

**Motor Repair Kits**
- 637377

**Lower Pump Motor Kits**
- 637379-X31 (Stainless Steel)

**Air Motor Diameter**
- 2"  
- 3"  

**Air Inlet**
- 1/4 - 18 NPTF-1

**Lower Pump Repair Kit**
- NM2202A-X1-X31: 637378-X31  
- NM2202B-X1-X31: 637379-X31 (Stainless Steel)

**Material Inlet**
- NM2202A-11-X31: 1-1/2 - 11-1/2 NPTF-1 (F)  
- NM2202A-41-X31: immersed inlet  
- NM2202B-11-X31: 1-1/4 - 11-1/2 NPTF-1 (F)  
- NM2202A-41-X31: immersed inlet

**Material Outlet**
- 3/4 - 14 NPTF-1  

**Max. Working Flow Rate**
- 16.3 lpm

**Volume / Cycle**
- 135.6 ml

**Weight**
- NM2202A-11-X31: 7.9 Kgs  
- NM2202A-41-X31: 8.9 Kgs  
- NM2202B-11-X31: 7.8 Kgs  
- NM2202B-41-X31: 10.2 Kgs

**Ordering**

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<th>C</th>
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<td>2</td>
<td>X</td>
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**Material:**
- A: Carbon Steel  
- B: Stainless Steel

**Type:**
- 1: Stub (Wall Mount)  
- 4: 200 Liters

**Packing:**
- 7: Ryton-Filled Teflon/Teflon
- C: UHMW-PE/UHMW-PE  
- J: Polyurethane/UHMW-PE

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**Accessories**

**61113 Wall Mount Bracket**
For open-head drum or wall-mounting, bracket features heavy-duty construction with all necessary hardware for quick installation.

**66073-1 Air Line Connection Kit**
Kit includes ARO air filter/regulator with 1.50 m length of air hose, gauge and coupler/connector.

**67088-4 Sealed Bung Assembly**
Used for inert blanket applications.

**Needle Valve:**
- 104104-N02

**AroStop:**
- 635040
4:1 / 15.8 Lpm / 2-ball ■ Piston Pumps

**Pump Performance**
- Air Inlet Pressure Range: 10.2 bars
- Fluid Pressure Range: 8.1-40.8 bars
- Max. Rec’d Cycles Per Minute: 120
- Displacement Per Cycle: 134.3 cm³
- Cycles Per Liters: 7.4
- Flow @ 120 Cycles / Minute: 15.8-lpm
- Noise Level @ 7 bars: 85 db(A)

**Pump Specifications**
- Lower Pump Material: Carbon Steel
- Plunger Material: Carbon Steel
- Air Motor: 66913
- Motor Repair Kit: 637316
- Motor Diameter: 3”
- Stroke: 3”
- Air Inlet: 1/4” - 18 NPTF (f)
- Lower Pump Repair Kit: 637176 for NM2304A-X1-311
  637228 for NM2304B-X1-C11
- Material Inlet: 1-1/2”-11-1/2 NPTF (f)
- Material Outlet: 3/4”-14 NPTF (f)
- Weight: NM2304X-11-311 = 14.5 Kgs.
  NM2304X-41-311 = 20.9 Kgs.
- 2” Bung Adapter Included

**Ordering**
- Material: A: Carbon Steel  B: Stainless Steel
- Type:
  1: Stub (Wall Mount)
  4: 200 Liters
  8: Universal (Stube) (Without Bung)
  9: 200 Liters (Without Bung)
  A: Stube Follower Plate
  B: Universal (Stube With Alternet Bung)

**Accessories**
- AIR F/R: P29122-600
- Wall Mount: 61113
- Wet Sol: 66333-B (0.95 l)
- Needle Valve: 104104-N02
- AroStop: 635040

**Packing:**
- C: UHMW-PE (Upper/Lower)
- Glass-Filled Teflon (Upper)
- Virgin Teflon (Lower)
- Glass Filled Teflon / Leather Staggered (Upper)
- Virgin Teflon (Lower)
9:1 / 10.8 Lpm / 2-ball • Piston Pumps

**Pump Performance**
- Air Inlet Pressure Range: 2 - 8.3 bars
- Fluid Pressure Range: 18.3 - 91.8 bars
- Max. Rec'd Cycles Per Minute: 60
- Displacement Per Cycle: 180.2 cm³
- Cycles Per Liter: 5.5
- Flow @ 60 Cycles / Minute: 10.8 lpm
- Noise Level @ 4 bars: 80 db(A)

**Pump Specifications**
- Lower Pump Material: 316 Stainless Steel
- Plunger Material: 316 Stainless Steel
- Cylinder Material: Stainless Steel
- Air Motor: 65444-B
- Motor Repair Kit: 61268
- Motor Diameter: 4-1/4”
- Stroke: 4”
- Air Inlet: 1/2” NPT(F)
- Lower Pump Model: 65108/65108-X
- Lower Pump Repair Kit: 637010 for 650408-B / 650408-5-B
  - 637010-4 for 650408-4-B / 650408-6-B
- Material Inlet: 1-1/4” NPT(F)
- Material Outlet: 3/4” NPT(F)
- Weight: 15.8 kgs.

**Ordering**
- 650408-B
- 650408-X-B

**Packings:**
- 4 : UHMW-PE (Upper & Lower)
- 5 : Teflon, w/Ultra Coated Tube and Rod (Upper & Lower)
- 6 : UHMW-PE, w/Ultra Coated Tube and Rod (Upper & Lower)

**Accessories**
- Air F/R/L: C28241-810
- Wall Mount: 66100
- Airline Oil: 62274
- Muffler: 91790
- Wet Sol: 66333-B
- Needle Valve: 104104-N04
- AroStop: 23644-400
**Pump Performance**

- **Air Inlet Pressure Range**: 2 - 8.3 bars
- **Fluid Pressure Range**: 18.3 - 91.8 bars
- **Max. Rec’d Cycles Per Minute**: 75
- **Displacement Per Cycle**: 180.2 cm³
- **Cycles Per Liter**: 5.5
- **Flow @ 60 Cycles / Minute**: 10.5 lpm
- **Noise Level @ 4 bars**: 80 db(A)

**Pump Specifications**

- **Lower Pump Material**: 316 Stainless Steel
- **Plunger Material**: 316 Stainless Steel
- **Cylinder Material**: Stainless Steel
- **Air Motor**: 65444-B
- **Motor Repair Kit**: 61268
- **Motor Diameter**: 4-1/4”
- **Stroke**: 4”
- **Air Inlet**: 1/2” NPT(F)
- **Lower Pump Model**: 65106 for 650409
- **65106-4 for 650409-4**
- **Lower Pump Repair Kit**: 637010 for 650409
- **637010-4 for 650409-4**
- **Material Inlet**: 1-1/4” NPSM(F)
- **Material Outlet**: 3/4” NPT(F)
- **Weight**: 203 kgs.

**Ordering**

- **650409**
  - Packings: Teflon (Upper & Lower)
  - **650409-X**
  - Packings: 4 : UHMW-PE (Upper & Lower)

**Accessories**

- **Air F/R/L**: C28241-810
- **Wall Mount**: 66100
- **Airline Oil**: 62274
- **Muffler**: 91790
- **Wet Sol**: 66333-B
- **Needle Valve**: 104104-N04
- **AroStop**: 23644-400
**Pump Performance**

- **Air Inlet Pressure Range**: 2 - 8.3 bars
- **Fluid Pressure Range**: 18.3 - 91.8 bars
- **Max. Rec’d Cycles Per Minute**: 60
- **Displacement Per Cycle**: 180.2 cm³
- **Cycles Per Liter**: 5.5
- **Flow @ 60 Cycles / Minute**: 10.5 lpm
- **Noise Level @ 4 bars**: 80 db(A)

**Pump Specifications**

- **Lower Pump Material**: Carbon Steel
- **Plunger Material**: Carbon Steel (Hard Chrome)
- **Cylinder Material**: Carbon Steel
- **Air Motor**: 65445-B
- **Motor Repair Kit**: 61268
- **Motor Diameter**: 4-1/4”
- **Stroke**: 4”
- **Air Inlet**: 1/2” NPT(F)
- **Lower Pump Model**: 650453-X
- **Lower Pump Repair Kit**: 637177 for 650453-5
- **Order parts separately for**: 650453-7, -8, -9
- **Material Inlet**: 1-1/2” NPT for 650453-7 / 650453-9
- **Immersed for**: 650453-5 / 650453-8
- **Material Outlet**: 3/4” NPT(F)
- **Weight**: 15.8 kgs. for 650453-7 / 650453-9
  - 22.2 kgs. for 650453-5 / 650453-8

**Ordering**

- **Type**: 7: Stub (Wall Mount) 5: 200 Liters 9: Stub (Wall Mount) 8: 200 Liters
- **Packings**:
  - Leather/Teflon
  - Teflon
  - UHMW-PE/Leather
  - UHMW-PE

**Accessories**

- Air F/R/L: C28241-810
- Wall Mount: 66100
- Airline Oil: 62274
- Muffler: 91790
- Wet Sol: 66333-B
- Needle Valve: 104104-N04
- AroStop: 23644-400

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Ingersoll Rand
**Pump Performance**
- Air Inlet Pressure Range: 2 - 8.3 bars
- Fluid Pressure Range: 20.4 - 81.6 bars
- Max. Rec’d Cycles Per Minute: 60
- Displacement Per Cycle: 981.5 cm³
- Cycles Per Liter: 1.0
- Flow @ 60 Cycles / Minute: 56.7 lpm
- Noise Level @ 4 bars: 88 db(A) w/muffler

**Pump Specifications**
- Lower Pump Material: 300 Stainless Steel
- Plunger Material: 304 Stainless Steel (Hard Chrome)
- Cylinder Material: 304 Stainless Steel (Hard Chrome)
- Air Motor: 66523-B
- Motor Repair Kit: 66614
- Motor Diameter: 8”
- Stroke: 6”
- Air Inlet: 3/4” NPT(F)
- Lower Pump Model: 66942-XXF
- Lower Pump Repair Kit: 637211-XXX
- Material Inlet: 2” NPTF-1
- Material Outlet: 1-1/4” NPTF-(f)
- Weight: 46.3 kgs.

**Ordering**
613112-XXF-C

**Packings:**
- C6 : UHMW-PE
- K3 : CG-Filled Teflon with, Buna N Energizer
- L6 : Mineral-Filled Teflon
- P6 : UHMW-PE/Teflon Staggered
- R6 : Teflon/UHMW-PE Staggered

**Accessories**
- Air F/R/L: 28353
- Wall Mount: 66542
- Mounting Post: 67187-1
- Airline Oil: 62274
- Muffler: 92460
- Wet Sol: 66333-B
- Floor/Follower Adpt: 67136
- Needle Valve: 104104-N06
- AroStop: 635043
**Pump Performance**

- Air Inlet Pressure Range: 2 - 8.3 bars
- Fluid Pressure Range: 20.4 - 81.6 bars
- Max. Rec'd Cycles Per Minute: 60
- Displacement Per Cycle: 981.5 cm³
- Cycles Per Liter: 1.0
- Flow @ 60 Cycles / Minute: 56.7 lpm
- Noise Level @ 4 bars: 88 db(A) w/muffler

**Pump Specifications**

- Lower Pump Material: 400 Stainless Steel
- Plunger Material: 15-5 Stainless Steel (Hard Chrome)
- Cylinder Material: 15-5 Stainless Steel (Hard Chrome)
- Air Motor: 66523-B
- Motor Repair Kit: 66614
- Motor Diameter: 8"
- Stroke: 6"
- Air Inlet: 3/4" NPT(F)
- Lower Pump Model: 66941-X6D
- Lower Pump Repair Kit: 637211-XXX
- Material Inlet: 2" NPT(M)
- Material Outlet: 1-1/4" NPT(F)
- Weight: 46.3 kgs.

**Ordering**

**650866-X6D-B**

**Packings:**

- C : UHMW-PE
- P : UHMW-PE/Teflon / Staggered
- L : Mineral-Filled Teflon
- R : Teflon/UHMW-PE Staggered

**Accessories**

- Reference Mounting Footprint "A" for related rams/accessories
- Air F/R/L: 28353
- Wall Mount: 66542
- Mounting Post: 67187-1
- Airline Oil: 62274
- Muffler: 92460
- Wet Sol: 66333-B
- Floor/Follower Adpt: 67136
- Needle Valve: 104104-N06
- AroStop: 635043
**Pump Performance**

- Air Inlet Pressure Range: 2 - 8.3 bars
- Fluid Pressure Range: 22.4 - 112.2 bars
- Max. Rec’d Cycles Per Minute: 60
- Displacement Per Cycle: 237.6 cm³
- Cycles Per Liter: 4.2
- Flow @ 60 Cycles / Minute: 13.9 lpm
- Noise Level @ 4 bars: 81.8 db(A)

**Pump Specifications**

- Lower Pump Material: 300 Stainless Steel
- Plunger Material: 17-4 Stainless Steel
- Cylinder Material: 316 Stainless Steel
- Air Motor: 65465-B
- Motor Repair Kit: 61268
- Motor Diameter: 4-1/4”
- Stroke: 6”
- Air Inlet: 1/2” NPT(F)
- Lower Pump Model: 66300-X4X
- Lower Pump Repair Kit: 637305-X4X
- Material Inlet: 1” NPT(F) / 2” NPT(M)
- Material Outlet: 1” NPTF-1(F)
- Weight: 19.5 kgs.

**Ordering**

650483-X4X

**Packings:**

- 3 : Teflon
- C : UHMW-PE
- G : UHMW-PE
- P : UHMW-PE/Leather (Upper)
- R : UHMW-PE (Upper), Teflon (Lower)

**Plungers:**

- 3 : 17-4 Stainless Steel
- B : 17-4 Stainless Steel
- “Ultra” Coated

**Accessories**

- Air F/R/L: C28241-810
- Airline Oil: 62274
- Air Motor Muffler: 91790
- Wet Sol: 66333-B
- Wall Mount: 66101
- Floor/Follower Adpt: 67136
- Floor Mount: 65138
- Needle Valve: 104104-N04
- AroStop: 23644-400
Pump Performance

- Air Inlet Pressure Range: 2 - 8.3 bars
- Fluid Pressure Range: 18.3 - 91.8 bars
- Max. Rec'd Cycles Per Minute: 60
- Displacement Per Cycle: 180.2 cm³
- Cycles Per Liter: 5.5
- Flow @ 60 Cycles / Minute: 10.8 lpm
- Noise Level @ 4 bars: 80 db(A)

Pump Specifications

- Lower Pump Material: 400 Stainless Steel
- Plunger Material: 15-5 Stainless Steel (hard Chrome)
- Cylinder Material: 15-5 Stainless Steel (hard Chrome)
- Air Motor: 66651-B
- Motor Repair Kit: 637110
- Motor Diameter: 10”
- Stroke: 6”
- Air Inlet: 3/4” NPT(F)
- Lower Pump Model: 66941-X6D
- Lower Pump Repair Kit: 637211-XXX
- Material Inlet: 2” NPT(M)
- Material Outlet: 1-1/4” NPT(F)
- Weight: 56.8 kgs.

Ordering

650867-X6D-B

Packings:
- C: UHMW-PE
- L: Mineral-Filled Teflon
- P: UHMW-PE/Teflon (Upper), UHMW-PE (Lower)
- R: Teflon/UHMW-PE (Upper), Teflon (Lower)

Accessories

- Air F/R/L: 28353
- Wall Mount: 66542
- Airline Oil: 62274
- Muffler: 66718
- Wet Sol: 66333-B
- Floor/Follower Adpt: 67136
- Needle Valve: 104104-N06
- AroStop: 635043

15:1 / 10,8 Lpm / 2-ball • Piston Pumps
**Pump Performance**

- **Air Inlet Pressure Range**: 2 - 6.1 bars
- **Fluid Pressure Range**: 91.8 bars
- **Max. Rec’d Cycles Per Minute**: 60
- **Displacement Per Cycle**: 981.5 cm³
- **Cycles Per Liter**: 1.0
- **Flow @ 60 Cycles / Minute**: 56.7 lpm
- **Noise Level @ 4 bars**: 82 db(A) w/muffler

**Pump Specifications**

- **Lower Pump Material**: 300 Stainless Steel
- **Plunger Material**: 304 Stainless Steel (Hard Chrome)
- **Cylinder Material**: 304 Stainless Steel (Hard Chrome)
- **Air Motor**: 66651-B
- **Motor Repair Kit**: 637710
- **Motor Diameter**: 10”
- **Stroke**: 6”
- **Air Inlet**: 3/4” NPT(F)
- **Lower Pump Model**: 66942-XXF
- **Lower Pump Repair Kit**: 637211-XXX
- **Material Inlet**: 2” NPT(M)
- **Material Outlet**: 1-1/4” NPT(F)
- **Weight**: 56.8 kgs.

**Ordering**

6 1 3 1 2 3 - X X F - C

**Packings:**

- **C6**: UHMW-PE
- **K3**: CG-Filled Teflon with, Buna N Energizer
- **L6**: Mineral-Filled Teflon
- **P6**: UHMW-PE/Teflon (Upper), UHMW-PE (Lower)
- **R6**: Teflon/UHMW-PE (Upper), Teflon (Lower)

**Accessories**

- **Reference Mounting Footprint “A”** for related rams/accessories
- **Air F/R/L**: 28353
- **Wall Mount**: 66542
- **Airline Oil**: 62274
- **Muffler**: 66718
- **Wet Sol**: 66333-B
- **Floor/Follower Adpt.**: 67136
- **Floor Mount**: 65138
- **Needle Valve**: 104104-N06
- **AroStop**: 635043
**Pump Performance**

- Air Inlet Pressure Range: 2 - 8.3 bars
- Fluid Pressure Range: 44.8 - 224.4 bars
- Max. Rec’d Cycles Per Minute: 60
- Displacement Per Cycle: 122.9 cm³
- Cycles Per Liter: 8.1
- Flow @ 60 Cycles / Minute: 7.2 lpm
- Noise Level @ 4 bars: 81.8 dB(A)

**Pump Specifications**

- Lower Pump Material: 300 Stainless Steel
- Plunger Material: 17-4 Stainless Steel
- Cylinder Material: 316 Stainless Steel
- Air Motor: 65465-B
- Motor Repair Kit: 61268
- Motor Diameter: 4-1/4”
- Stroke: 6”
- Air Inlet: 1/2” NPT(F)
- Exhaust Port: 1-1/4” NPT(F)
- Lower Pump Model: 66301-X4X
- Lower Pump Repair Kit: 637306-X43
- Material Inlet: 1” NPT(F) 2” NPT(M)
- Material Outlet: 1” NPT(F)
- Weight: 19.5 kgs.

**Ordering**

```
6 5 0 4 8 4 - X 4 X
```

Packings:

- **3**: Teflon
- **C**: UHMW-PE
- **G**: UHMW-PE/Leather Staggered
- **P**: UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower)
- **R**: Teflon/UHMW-PE Staggered (Upper), Teflon (Lower)

Plungers:

- **3**: 17-4 S.S. Hard Chrome Plated
- **B**: 17-4 S.S. “Ultra” Coated

**Accessories**

- Air F/R/L: C28241-810
- Wall Mount: 66100
- Airline Oil: 62274
- Muffler: 91790
- Wet Sol: 66333-B
- Floor/Follower Adpt.: 66136
- Floor Mount: 65138
- Needle Valve: 104104-N04
- AroStop: 23644-400
**Pump Performance**
- Air Inlet Pressure Range: 2 - 8.3 bars
- Fluid Pressure Range: 46.9 - 234.6 bars
- Max. Rec'd Cycles Per Minute: 60
- Displacement Per Cycle: 237.6 cm³
- Cycles Per Liter: 4.2
- Flow @ 60 Cycles / Minute: 13.9 Lp
- Noise Level @ 4 bars: 84.8 db(A)

**Pump Specifications**
- Lower Pump Material: 300 Stainless Steel
- Plunger Material: 17-4 Stainless Steel
- Cylinder Material: 316 Stainless Steel
- Air Motor: 65665-B
- Motor Repair Kit: 61355
- Motor Diameter: 6"
- Stroke: 6"
- Air Inlet: 1/2" NPTF
- Exhaust Port: 1-1/4" NPTF
- Lower Pump Model: 66300-X4X
- Lower Pump Repair Kit: 637305-X43
- Material Inlet: 1" NPT(F) 2" NPT(M)
- Material Outlet: 1" NPTF
- Weight: 21 kgs.

**Accessories**
- Reference Mounting Footprint "A" or "D" for related rams/accessories
- Air F/R/L: C28241-810
- Airline Oil: 62274
- Air Motor Muffler: 91790
- Wet Sol: 66333-B
- Wall Mount: 66100
- Floor/Follower Adpt.: 67136
- Needle Valve: 104104-N04
- AroStop: 23644-400

**Ordering**
- 650683 - X4X

**Packings:**
- 3 : Teflon
- C : UHMW-PE
- G : UHMW-PE/Leather Staggered
- P : UHMW-PE/Teflon Staggered (Upper),
  UHMW-PE (Lower)
- R : Teflon/UHMW-PE Staggered (Upper),
  Teflon (Lower)

**Plungers:**
- 3 : 17-4 S. S. Hard
- Chrome Plated
- B : 17-4 S.S. "Ultra" Coated

**COATING**
- ®
- ™
**Pump Performance**

- Air Inlet Pressure Range: 2 - 6.1 bars
- Fluid Pressure Range: 140.8 bars
- Max. Rec’d Cycles Per Minute: 70
- Displacement Per Cycle: 981.5 cm³
- Cycles Per Liter: 1.0
- Flow @ 60 Cycles / Minute: 68.6 lpm
- Noise Level @ 5 bars: 88 db(A) w/muffler

**Pump Specifications**

- Lower Pump Material: 400 Stainless Steel
- Plunger Material: 15-5 Stainless Steel (Hard Chrome)
- Cylinder Material: 15-5 Stainless Steel (Hard Chrome)
- Air Motor: 66506-B
- Motor Repair Kit: 637112
- Motor Diameter: 12”
- Stroke: 6”
- Air Inlet: 3/4” NPT(F)
- Lower Pump Model: 66941-X6D
- Lower Pump Repair Kit: 637211-XXX
- Material Inlet: 2” NPT(M)
- Material Outlet: 1-1/4” NPT(F)
- Weight: 63.6 kgs.

**Ordering**

650967-X6D-B

**Accessories**

Reference Mounting Footprint “A” for related rams/accessories

- Air F/R/L: 28353
- Wall Mount: 66542
- Airline Oil: 62274
- Muffler: 66718
- Wet Sol: 66333-B
- Floor/Follower Adpt.: 67136
- Floor Mount: 65138
- Needle Valve: 104104-N06
- AroStop: 635043

**Packings:**

- C: UHMW-PE
- L: Mineral-Filled Teflon
- P: UHMW-PE/Teflon (Upper), UHMW-PE (Lower)
- R: Teflon/UHMW-PE (Upper), Teflon (Lower)
23:1 / 68.6 Lpm / 2-ball • Piston Pumps

**Pump Performance**
- Air Inlet Pressure Range: 2 - 6.1 bars
- Fluid Pressure Range: 140.8 bars
- Max. Rec’d Cycles Per Minute: 70
- Displacement Per Cycle: 981.5 cm³
- Cycles Per Liter: 1.0
- Flow @ 60 Cycles / Minute: 68.6 lpm
- Noise Level @ 5 bars: 88 db(A) w/muffler

**Pump Specifications**
- Lower Pump Material: 300 Stainless Steel
- Plunger Material: 304 Stainless Steel (Hard Chrome)
- Cylinder Material: 304 Stainless Steel (Hard Chrome)
- Air Motor: 66506-B
- Motor Repair Kit: 637112
- Motor Diameter: 12”
- Stroke: 6”
- Air Inlet: 3/4” NPT(F)
- Lower Pump Model: 66942-XXF
- Lower Pump Repair Kit: 63721-XXX
- Material Inlet: 2” NPT(M)
- Material Outlet: 1-1/4” NPT(F)
- Weight: 63.6 kgs.

**Ordering**
6 1 3 1 2 4 - X X F - C

**Packings:**
- C6 : UHMW-PE
- K3 : CG-Filled Teflon with, Buna N Energized
- L6 : Mineral-Filled Teflon
- R6 : Teflon/UHMW-PE (Upper), Teflon (Lower)

**Accessories**
- Reference Mounting Footprint “A”
- for related rams/accessories
  - Air F/R/L: 283353
  - Wall Mount: 66542
  - Airline Oil: 62274
  - Muffler: 66718
  - Wet Sol: 66333-B
  - Floor/Follower Adpt.: 67136
  - Floor Mount: 65138
  - Needle Valve: 104104-N06
  - AroStop: 635043

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Pump Performance
- Air Inlet Pressure Range: 2 - 8.3 bars
- Fluid Pressure Range: 61.2 - 306.1 bars
- Max. Rec'd Cycles Per Minute: 60
- Displacement Per Cycle: 90.1 cm³
- Cycles Per Liter: 11
- Flow @ 60 Cycles / Minute: 4.9 lpm
- Noise Level @ 4 bars: 81.8 db(A)

Pump Specifications
- Lower Pump Material: 300 Stainless Steel
- Plunger Material: 17-4 Stainless Steel
- Cylinder Material: 316 Stainless Steel
- Air Motor: 65465-B
- Motor Repair Kit: 61268
- Motor Diameter: 4-1/4”
- Stroke: 6”
- Air Inlet: 1/2” NPT(F)
- Exhaust Port: 1-1/4” NPT(F)
- Lower Pump Model: 66302-X4X
- Lower Pump Repair Kit: 637307-X43
- Material Inlet: 1” NPT(F) 2” NPT(M)
- Material Outlet: 1” NPT(F)
- Weight: 19.5 kgs.

Ordering
650485-X4X
Packings:
- 3: Teflon
- C: UHMW-PE
- G: UHMW-PE/Leather Staggered
- P: UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower)
- R: Teflon/UHMW-PE Staggered (Upper), Teflon (Lower)

Plungers:
- 3: 17-4 S. S. Hard Chrome Plated
- 17-4 S.S. "Ultra" Coated

Accessories
Reference Mounting Footprint “A” or “D” for related rams/accessories
- Air F/R/L: C28241-810
- Airline Oil: 62274
- Air Motor Muffler: 91790
- Wet Sol: 66333-B
- Floor/Follower Adpt.: 67136
- Floor Mount: 65138
- Needle Valve: 104104-N04
- AroStop: 23644-400
**Pump Performance**

- **Air Inlet Pressure Range**: 2 - 8.3 bars
- **Fluid Pressure Range**: 81.6 - 326.5 bars
- **Max. Rec'd Cycles Per Minute**: 60
- **Displacement Per Cycle**: 237.6 cm³
- **Cycles Per Liter**: 4.2
- **Flow @ 60 Cycles /mn**: 13.9 lpm
- **Noise Level @ 4 bars**: 89.8 db(A)

**Pump Specifications**

- **Lower Pump Material**: 300 Stainless Steel
- **Plunger Material**: 17-4 Stainless Steel
- **Cylinder Material**: 316 Stainless Steel
- **Air Motor**: 66523-B
- **Motor Repair Kit**: 66614
- **Motor Diameter**: 8”
- **Stroke**: 6”
- **Air Inlet**: 3/4” NPT(F)
- **Exhaust Port**: 1-1/4” NPT(F)
- **Lower Pump Model**: 66300-X4X
- **Lower Pump Repair Kit**: 637305-X43
- **Material Inlet**: 1” NPT(F) 2” NPT(M)
- **Material Outlet**: 1” NPT(F)
- **Weight**: 30.9 kgs.

**Accessories**

- Reference Mounting Footprint “A” or “D” for related rams/accessories
- Air F/R/L: 28353
- Airline Oil: 62274
- Air Motor Muffler: 92460
- Wet Sol: 66333-B
- Floor/Follower Adpt.: 67136
- Rams: Page 57
- Floor Mounts: 65138
- Needle Valve: 104104-N06
- AroStop: 635043

**Ordering**

650883-X4X

**Packings:**

- **3**: Teflon
- **C**: UHMW-PE
- **G**: UHMW-PE/Leather Staggered
- **P**: UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower)
- **R**: Teflon/UHMW-PE Staggered (Upper), Teflon (Lower)

**Plungers:**

- **D**: 17-4 S. S. Hard Chrome Plated
- **G**: 17-4 S. S. “Ultra” Coated

**COATING**

- **™**
- **®**
**Pump Performance**

- **Air Inlet Pressure Range**: 2 - 8.3 bars
- **Fluid Pressure Range**: 92.8 - 367.3 bars
- **Max. Rec'd Cycles Per Minute**: 60
- **Displacement Per Cycle**: 122.9 cm³
- **Cycles Per Liter**: 8.1
- **Flow @ 60 Cycles / Minute**: 7.2 lpm
- **Noise Level @ 4 bars**: 84.8 db(A)

**Pump Specifications**

- **Lower Pump Material**: 300 Stainless Steel
- **Plunger Material**: 17-4 Stainless Steel
- **Cylinder Material**: 316 Stainless Steel
- **Air Motor**: 65665-B
- **Motor Repair Kit**: 61355
- **Motor Diameter**: 6”
- **Stroke**: 6”
- **Air Inlet**: 1/2” NPT(F)
- **Lower Pump Model**: 66301-X4X
- **Lower Pump Repair Kit**: 637306-X43
- **Material Inlet**: 1” NPT(F) 2” NPT(M)
- **Material Outlet**: 1” NPT(F)
- **Weight**: 21 kgs.

**Ordering**

- **650684-X4X**

**Packings:**

- **3**: Teflon
- **C**: UHMW-PE
- **G**: UHMW-PE/Leather Staggered
- **P**: UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower)
- **R**: Teflon/UHMW-PE Staggered (Upper), Teflon (Lower)

**Plungers:**

- **3**: 17-4 S. S. Hard Chrome Plated
- **B**: 17-4 S.S. "Ultra" Coated

**Accessories**

- **Reference Mounting Footprint**: "A" or "D" for related rams/accessories
- **Air F/R/L**: C28241-810
- **Airline Oil**: 62274
- **Air Motor Muffler**: 91790
- **Wet Sol**: 66333-B
- **Wall Mounts**: 66101
- **Floor/Follower Adpt.**: 67136
- **Floor Mount**: 65138
- **Needle Valve**: 104104-N04
- **AroStop**: 23644-400
Pump Performance
Air Inlet Pressure Range 2 - 6.1 bars
Fluid Pressure Range 91.8 - 306.1 bars
Max. Rec'd Cycles Per Minute 60
Displacement Per Cycle 339.2 cm³
Cycles Per Liter 3.0
Flow @ 60 Cycles / Minute 20.4 lpm
Noise Level @ 4 bars 82 db(A) w/66718 muffler

Pump Specifications
Lower Pump Material Carbon Steel
Plunger Material 17-4 Stainless Steel (Hard Chrome)
Cylinder Material 420 Stainless Steel
Air Motor 66651-B
Motor Repair Kit 637110
Motor Diameter 10”
Stroke 6”
Air Inlet 3/4” NPT(F)
Lower Pump Model 66475-X4D
Lower Pump Repair Kit 637098-XXX
Material Inlet 2” NPT(F)
Material Outlet 1” NPT(F)
Weight 60 kgs.

Ordering
650863-X4D-B

Packings:
3 : Teflon
C : UHMW-PE
G : UHMW-PE/Leather Staggered
P : UHMW-PE/Teflon Staggered
R : Teflon/UHMW-PE Staggered

Accessories
Reference Mounting Footprint “B” for related rams/accessories
Air F/R/L: 28353
Airline Oil: 62274
Air Motor Muffler: 66718
Wet Sol: 66333-B
Wall Mount: 66542
Floor Mounts: 65139
Needle Valve: 104104-N06
AroStop: 635043

45:1 / 20.4 Lpm / 2-ball • Piston Pumps
**Pump Performance**
- Air Inlet Pressure Range: 2 - 8.3 bars
- Fluid Pressure Range: 124 - 408 bars
- Max. Rec'd Cycles Per Minute: 60
- Displacement Per Cycle: 90.1 cm³
- Cycles Per Liter: 11.0
- Flow @ 60 Cycles / Minute: 4.9 lpm
- Noise Level @ 4 bars: 84.8 db(A)

**Pump Specifications**
- Lower Pump Material: 300 Stainless Steel
- Plunger Material: 17-4 Stainless Steel
- Cylinder Material: 316 Stainless Steel
- Air Motor: 65665-B
- Motor Diameter: 8"
- Stroke: 6"
- Air Inlet: 1/2" NPT(F)
- Lower Pump Model: 66302-X4X
- Lower Pump Repair Kit: 637307-X43
- Material Inlet: 1" NPT(F) 2" NPT(M)
- Material Outlet: 1" NPT(F)
- Weight: 21 kgs.

**Ordering**
- 650685-X4X

**Packings:**
- 3 : Teflon
- C : UHMW-PE
- G : UHMW-PE/Leather Staggered
- P : UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower)
- R : Teflon/UHMW-PE Staggered (Upper), Teflon (Lower)

**Plungers:**
- 3 : 17-4 S. S. Hard Chrome Plated
- B : 17-4 S.S. "Ultra" Coated

**Accessories**
- Reference Mounting Footprint: "A" or "D" for related rams/accessories
- Air F/R/L: C28241-810
- Airline Oil: 62274
- Air Motor Muffler: 91790
- Wet Sol: 66333-B
- Wall Mounts: 66101
- Floor/Follower Adpt: 67136
- Floor Mount: 65138
- Needle Valve: 104104-N04
- AroStop: 23644-400

**Dimensions:**
- 1009 mm
- 481 mm
- 322 mm
65:1 / 20.4 Lpm / 2-ball • Piston Pumps

**Pump Performance**
- Air Inlet Pressure Range: 2 - 6.1 bars
- Fluid Pressure Range: 132.6 - 442 bars
- Max. Rec’d Cycles Per Minute: 60
- Displacement Per Cycle: 339 cm³
- Cycles Per Liter: 2.9
- Flow @ 60 Cycles / Minute: 20.4 lpm
- Noise Level @ 4 bars: 88 db(A) w/66718 muffler

**Pump Specifications**
- Lower Pump Material: Carbon Steel
- Plunger Material: 17-4 Stainless Steel (Hard Chrome)
- Cylinder Material: 420 Stainless Steel
- Air Motor: 66506-B
- Motor Repair Kit: 637112
- Motor Diameter: 12”
- Stroke: 6”
- Air Inlet: 3/4” NPT(F)
- Lower Pump Model: 66475-X4D
- Lower Pump Repair Kit: 637098-XXX
- Material Inlet: 2” NPT(F)
- Material Outlet: 1” NPT(F)
- Weight: 66.8 kgs.

**Ordering**
- 650963-X4D-B

**Accessories**
- Reference Mounting Footprint “B” for related rams/accessories
  - Air F/R/L: 28353
  - Airline Oil: 62274
  - Air Motor Muffler: 66718
  - Wet Sol: 66333-B
  - Wall Mounts: 66542
  - Floor Mount: 65139
  - Needle Valve: 104104-N06
  - AroStop: 635043

**Packings:**
- 3: Teflon
- C: UHMW-PE
- G: UHMW-PE/Leather Staggered
- P: UHMW-PE/Teflon Staggered
- R: Teflon/UHMW-PE Staggered
2:1 / 80,6 Lpm / 4-ball • Piston Pumps

Pump Performance
- Air Inlet Pressure Range: 2 - 10.2 bars
- Fluid Pressure Range: 4 - 20.4 bars
- Max. Rec'd Cycles Per Minute: 60
- Displacement Per Cycle: 1345 cm³
- Cycles Per Liter: 0.74
- Flow @ 60 Cycles / Minute: 80.6 lpm
- Noise Level @ 4 bars: 81.1 dB(A)

Pump Specifications
- Lower Pump Material: 316 Stainless Steel
- Plunger Material: 17-4 Stainless Steel “Ultra” Coated
- Cylinder Material: 304 Stainless Steel “Ultra” Coated
- Air Motor: 65465-B
- Motor Repair Kit: 61268
- Motor Diameter: 4-1/4”
- Stroke: 6”
- Air Inlet: 1/2” NPT(F)
- Lower Pump End Series: 67200-X4B
- Lower Pump Repair Kit: 637317-X4B
- Material Inlet: 2” NPT(M) / 1-1/2” NPT(F)
- Material Outlet: 1” NPT(F)
- Weight: 30.8 kgs.

Ordering
- 650439-X4B

Packings:
- 7: Teflon
- C: UHMW-PE
- F: UHMW-PE/Leather (Upper), UHMW-PE (Lower)
- P: UHMW-PE/Teflon (Upper), UHMW-PE (Lower)
- R: Teflon/UHMW-PE (Upper), Teflon (Lower)

Accessories
- Air F/R/L: C28241-810
- Wall Mount: 66101
- Muffler: 91790
- Airline Oil: 62274
- Wet Sol: 66333-B
- Mounting Post: 67187-1
- Needle Valve: 104104-N04
- AroStop: 23644-400


**Pump Performance**

- **Air Inlet Pressure Range**: 2 - 10.2 bars
- **Fluid Pressure Range**: 6.1 - 30.6 bars
- **Max. Rec'd Cycles Per Minute**: 60
- **Displacement Per Cycle**: 1846.8 cm³
- **Cycles Per Liter**: 0.54
- **Flow @ 60 Cycles / Minute**: 110.8 lpm
- **Noise Level @ 4 bars**: 84.8 db(A)

**Pump Specifications**

- **Lower Pump Material**: CF8M (316) Stnls. Steel
- **Plunger Material**: 17-4 Stnls. Steel, "Ultra" Coated
- **Cylinder Material**: 304 Stnls. Stl. "Ultra" Coated
- **Air Motor**: 65665-B
- **Motor Repair Kit**: 61355
- **Motor Diameter**: 6"
- **Stroke**: 6"
- **Air Inlet**: 1/2"
- **Lower Pump End Series**: 67201-X4B
- **Lower Pump Repair Kit**: 637318-X4B
- **Material Inlet**: 2"NPT(M) / 1-1/2" NPT(F)
- **Material Outlet**: 1" NPTF
- **Weight**: 33.2 kgs.

**Ordering**

650640-X4B

**Packings:**

- **Teflon**: 7
- **UHMW-PE**: C
- **UHMW-PE/Leather (Upper), UHMW-PE (Lower)**: F
- **UHMW-PE/Teflon (Upper), UHMW-PE (Lower)**: P
- **Teflon/UHMW-PE (Upper), Teflon (Lower)**: R

**Accessories**

- **Air F/R/L**: C28241-810
- **Wall Mount**: 66101
- **Muffler**: 91790
- **Airline Oil**: 62274
- **Wet Sol**: 66333-B
- **Mounting Post**: 67187-1
- **Needle Valve**: 104104-N04
- **AroStop**: 23644-400
Pump Performance
Air Inlet Pressure Range 2 - 10.2 bars
Fluid Pressure Range 8.1 - 40.8 bars
Max. Rec’d Cycles Per Minute 60
Displacement Per Cycle 1345 cm³
Cycles Per Liter 0.74
Flow @ 60 Cycles / Minute 80.6 lpm
Noise Level @ 4 bars 84.8 db (A)

Pump Specifications
Lower Pump Material CF8M (316) Stns. Steel
Plunger Material 17 - 4 Stns. Steel, “Ultra” Coated
Cylinder Material 304 Stnls. Stl. “Ultra” Coated
Air Motor 65665-B
Motor Repair Kit 61355
Motor Diameter 6”
Stroke 6”
Air Inlet 1/2”NPT(F)
Lower Pump End Series 67200-X4B
Lower Pump Repair Kit 637317-X4B
Material Inlet 2” NPT(M) / 1-1/2” NPT(F)
Material Outlet 1” NPT(F)
Weight 32.3 kgs.

Ordering
650639-X4B

Packings:
7 : Teflon
C : UHMW-PE
F : UHMW-PE/Leather (Upper), UHMW-PE (Lower)
P : UHMW-PE/Teflon (Upper), UHMW-PE (Lower)
R : Teflon/UHMW-PE (Upper), Teflon (Lower)

Accessories
Air F/R/L: C28241-810
Wall Mount: 66101
Mounting Post: 67187-1
Airline Oil: 62274
Muffler: 91790
Wet Sol: 66333-B
Needle Valve: 104104-N04
AroStop: 23644-400
Pump Performance
- Air Inlet Pressure Range: 2 - 8.1 bars
- Fluid Pressure Range: 10.2 - 40.8 bars
- Max. Rec’d Cycles Per Minute: 60
- Displacement Per Cycle: 1771 cm³
- Cycles Per Liter: 0.56
- Flow @ 60 Cycles / Minute: 105.8 lpm
- Noise Level @ 4 bars: 89.8 db(A)

Pump Specifications
- Lower Pump Material: CF8M (316) Sns. Steel
- Plunger Material: 17 - 4 Stns. Steel, “Ultra” Coated
- Air Motor: 66523-B
- Motor Repair Kit: 66614
- Motor Diameter: 8”
- Stroke: 6”
- Air Inlet: 3/4” NPT(F)
- Lower Pump End Series: 67201-X4G
- Lower Pump Repair Kit: 637318-X4C
- Material Inlet: 2” NPT(M) / 1-1/2” NPT(F)
- Material Outlet: 1” NPT(F)
- Weight: 43.5 kgs.

Ordering
6 5 0 8 4 0 - X 4 G - B

Packings:
- 7: Teflon
- C: UHMW-PE
- F: UHMW-PE/Leather (Upper), UHMW-PE (Lower)
- P: UHMW-PE/Teflon (Upper), UHMW-PE (Lower)
- R: Teflon/UHMW-PE (Upper), Teflon (Lower)

Accessories
- Air F/R/L: 28353
- Wall Mount: 66542
- Mounting Post: 67187-1
- Airline Oil: 62274
- Muffler: 92460
- Wet Sol: 66333-B
- Needle Valve: 104104-N06
- AroStop: 635043
**Pump Performance**

- Air Inlet Pressure Range: 2 - 8.1 bars
- Fluid Pressure Range: 14.2 - 57.1 bars
- Max. Rec'd Cycles Per Minute: 60
- Displacement Per Cycle: 1270 cm³
- Cycles Per Liter: 0.78
- Flow @ 60 Cycles / Minute: 94.5 lpm
- Noise Level @ 4 bars: 89.8 db(A)

**Pump Specifications**

- Lower Pump Material: CF-8M Stns. Steel
- Plunger Material: 17 - 4 Stns. Steel, "Ultra" Coated
- Air Motor: 66523-B
- Motor Repair Kit: 66614
- Motor Diameter: 8"
- Stroke: 6"
- Air Inlet: 3/4" - 14 n.p.t.f.-1 (f)
- Lower Pump End Series: 67200-X4G
- Lower Pump Repair Kit: 637317-X4C
- Material Inlet: 2" NPT(M) / 1-1/2" NPT(F)
- Material Outlet: 1" NPT(F)
- Weight: 42.6 kgs.

**Ordering**

650839-X4G-B

**Packings:**
- 7: Teflon
- C: UHMW-PE
- F: UHMW-PE/Leather (Upper), UHMW-PE (Lower)
- P: UHMW-PE/Teflon (Upper), UHMW-PE (Lower)
- R: Teflon/UHMW-PE (Upper), Teflon (Lower)

**Accessories**

- Air F/R/L: 28353
- Wall Mount: 66542
- Mounting Post: 67187-1
- Airline Oil: 62274
- Muffler: 92460
- Wet Sol: 66333-B
- Needle Valve: 104104-N06
- AraStop: 635043
Low Volume / High Viscosity / Extrusion Packages

Package Contents
NP322L01-1  22:1 Ratio, Carbon Steel Extrusion Package
NM2322E-11-P43  Carbon Steel Pump
129121-400  Air Filter/Regulator
651840-1  Carbon Steel Follower Plate
67075  Portable Lift

Basic Pump Performance
Air Inlet Pressure Range 2 - 10.2 bars
Fluid Pressure Range 44.8 - 244.4 bars
Maximum Working Flow: 3.7 l/min
Displacement Per Cycle 31.1 cm³
Lower Pump Material Carbon Steel
Plunger Material 17 - 4 Stainless Steel
Air Motor 66915
Air Motor Repair Kit 637316
Lower Pump End Series 67100-P43
Lower Pump Repair Kit 637290-P43

Package Contents
NP322L02-1  22:1 Ratio, Stainless Steel Extrusion Package
NM2322F-11-P43  Stainless Steel Pump
129121-400  Air Filter/Regulator
651841-1  Stainless Steel Follower Plate
67075  Portable Lift

Basic Pump Performance
Air Inlet Pressure Range 2 - 10.2 bars
Fluid Pressure Range 44.8 - 244.4 bars
Maximum Working Flow: 3.7 l/min
Displacement Per Cycle 31.1 cm³
Lower Pump Material 15 - 5 Stainless Steel
Plunger Material 17 - 4 Stainless Steel
Air Motor 66915
Air Motor Repair Kit 637316
Lower Pump End Series 67101-P43
Lower Pump Repair Kit 637291-P43

Accessories
Needle Valve: 104104-N02
AroStop: 635040
## Package Contents

NP322R01-1  22:1 Ratio, Carbon Steel Extrusion Package
- NM2322E-11-P43  Carbon Steel Pump
- F25241-100  Air Filter
- R27241-600  Air Regulator
- 651840-1  Carbon Steel Follower Plate
- 651615-B  Single Post Ram
- 66713  Optional Portability Kit
- 67189  Optional Hold Down Kit

### Basic Pump Performance
- Air Inlet Pressure Range: 2 - 10.2 bars
- Fluid Pressure Range: 44.8 - 244.4 bars
- Maximum Working Flow: 3.7 l/min
- Displacement Per Cycle: 31.1 cm³
- Lower Pump Material: Carbon Steel
- Plunger Material: 17 - 4 Stainless Steel
- Air Motor: 66915
- Air Motor Repair Kit: 637316
- Lower Pump End Series: 67100-P43
- Lower Pump Repair Kit: 637290-P43

## Package Contents

NP322R02-1  22:1 Ratio, Stainless Steel Extrusion Package
- NM2322F-11-P43  Stainless Steel Pump
- F25241-100  Air Filter
- R27241-600  Air Regulator
- 651841-1  Stainless Steel Follower Plate
- 651615-B  Single Post Ram
- 66713  Optional Portability Kit

### Basic Pump Performance
- Air Inlet Pressure Range: 2 - 10.2 bars
- Fluid Pressure Range: 44.8 - 244.4 bars
- Maximum Working Flow: 3.7 l/min
- Displacement Per Cycle: 31.1 cm³
- Lower Pump Material: 15 - 5 Stainless Steel
- Plunger Material: 17 - 4 Stainless Steel
- Air Motor: 66915
- Air Motor Repair Kit: 637316
- Lower Pump End Series: 67101-P43
- Lower Pump Repair Kit: 637291-P43

## Accessories
- Needle Valve: 104104-N02
- AroStop: 635040
Low Volume / High Viscosity / Extrusion Packages

Package Contents
650540-1  43:1 Ratio, Carbon Steel Extrusion Package
67120-P43  Carbon Steel Pump
651840-1  Carbon Steel Follower Plate
67075  Portable Lift

Basic Pump Performance
Air Inlet Pressure Range  2 - 10.2 bars
Fluid Pressure Range  87.7 - 438.7 bars
Flow @ 75 Cycles/Minute:  3.4 l/min
Displacement Per Cycle  45.8 cm³
Lower Pump Material  Carbon Steel
Plunger Material  17-4 Stnls. Steel (Chrome Plated)
Air Motor  65440
Air Motor Repair Kit  61268
Lower Pump End Series  67100-P43
Lower Pump Repair Kit  637290-P43

Package Contents
650541-1  43:1 Ratio, Stainless Steel Extrusion Package
67121-P43  Stainless Steel Pump
651841-1  Stainless Steel Follower Plate
67075  Portable Lift

Basic Pump Performance
Air Inlet Pressure Range  2 - 10.2 bars
Fluid Pressure Range  87.7 - 438.7 bars
Flow @ 75 Cycles/Minute:  3.4 l/min
Displacement Per Cycle  45.8 cm³
Lower Pump Material  15 - 5 Stainless Steel
Plunger Material  17-4 Stnls. Steel (Chrome Plated)
Air Motor  65440
Air Motor Repair Kit  61268
Lower Pump End Series  67101-P43
Lower Pump Repair Kit  637291-P43

Accessories
Needle Valve:  104104-N04
AroStop:  23644-400
### Package Contents

**650542-1** 43:1 Ratio, Carbon Steel Extrusion Package
- -2 Same except Follower is 651840-2
- 67120-P43 Carbon Steel Pump
- 651840-1 Carbon Steel Follower Plate
- 651615-B Single Post Ram
- 66713 Optional Portability Kit

**Package Contents**

**67120-P43** Carbon Steel Pump
**651840-1** Carbon Steel Follower Plate
**651615-B** Single Post Ram
**66713** Optional Portability Kit

### Basic Pump Performance

- Air Inlet Pressure Range: 2 - 10.2 bars
- Fluid Pressure Range: 87.7 - 438.7 bars
- Flow @ 75 Cycles/Minute: 3.4 l/min
- Displacement Per Cycle: 45.8 cm³
- Lower Pump Material: Carbon Steel
- Plunger Material: 17 - 4 St. Steel (Chrome Plated)
- Air Motor: 65440
- Air Motor Repair Kit: 61268
- Lower Pump End Series: 67100-P43
- Lower Pump Repair Kit: 637290-P43

### Package Contents

**650543-1** 43:1 Ratio, Stainless Steel Extrusion Package
- 67121-P43 Stainless Steel Pump
- 651841-1 Stainless Steel Follower Plate
- 651615-B Single Post Ram
- 66713 Optional Portability Kit

### Basic Pump Performance

- Air Inlet Pressure Range: 2 - 10.2 bars
- Fluid Pressure Range: 87.7 - 438.7 bars
- Flow @ 75 Cycles/Minute: 3.4 l/min
- Displacement Per Cycle: 45.8 cm³
- Lower Pump Material: Stainless Steel
- Plunger Material: 17 - 4 St. Steel (Chrome Plated)
- Air Motor: 65440
- Air Motor Repair Kit: 61268
- Lower Pump End Series: 67101-P43
- Lower Pump Repair Kit: 637291-P43

### Package Contents

**NP443R01-1** 43:1 Ratio, Carbon Steel Extrusion Package
- 67124-P43 Carbon Steel Pump
- 651613-C Two-Post Mini Ram
- 651840-3 Follower Plate
- R27221-100 Regulator
- 91790 Muffler

### Basic Pump Performance

- Air Inlet Pressure Range: 2 - 10.2 bars
- Fluid Pressure Range: 87.7 - 438.7 bars
- Flow @ 75 Cycles/Minute: 3.4 l/min
- Displacement Per Cycle: 45.8 cm³
- Lower Pump Material: Stainless Steel
- Plunger Material: 17 - 4 St. Steel (Chrome Plated)
- Air Motor: 65440
- Air Motor Repair Kit: 61268
- Lower Pump End Series: 67101-P43
- Lower Pump Repair Kit: 637291-P43

### Accessories

- Needle Valve: 104104-N04
- AroStop: 23644-400

*This package can use 60 kg drums with a maximum height of 700mm*
High Volume / High Viscosity / Extrusion Packages

Extrusion Systems
Packages include Pump, 651616-X Ram, Follower Plate Assembly, 65940 Filter/Regulator-Lubricator Kit, Air Motor Muffler, & 90° Outlet Elbow.

To get the desired pump ratio and follower options, replace the X with appropriate numbers from the “Pump Information,” “Follower Options,” and “Packing Options” Charts.

Ordering

Series: NP4
4-1/4" Air Motor

XXR
XX
XXX

Pump Information:
21 30:1 Stnls. Steel 2-Ball Pump (650485-X43)
22 22:1 Stnls. Steel 2-Ball Pump (650484-X43)
24 11:1 Stnls. Steel 2-Ball Pump (650483-X43)
31 23:1 Carbon Steel Chop Check Pump (650492-X43-B)
34 12:1 Carbon Steel Chop Check Pump (650491-X43-B)

Packings Options:
G43 UHMW-PE/Leather Staggered
R43 Teflon/UHMW-PE Staggered (Upper) Teflon (Lower)

Follower Options:
02 Aluminum Follower Plate with Polyurethane Double-Lipped Seal
52 Teflon Coated Aluminum Follower Plate with Polyurethane Double-Lipped Seal

Popular Model Example: NP431R-02-G43

Accessories
Needle Valve: 104104-N04
AroStop: 23644-400
Extrusion Systems
Packages include Pump, 651616-X Ram, Follower Plate Assembly, 65940 Filter-Regulator-Lubricator Kit, 91790 Air Motor Muffler & 90° Outlet Elbow.
To get the desired pump ration and follower options, replace the X with appropriate numbers from the “Pump Information,” “Follower Options” and “Packing Options” Charts.

Ordering
Series: NP6
XXR
XX
XXX
Pump Information:
21 60:1 Stnls. Steel 2-Ball Pump (650685-X43)
22 45:1 Stnls. Steel 2-Ball Pump (650684-X43)
24 23:1 Stnls. Steel 2-Ball Pump (650683-X43)
31 46:1 Carbon Steel Chop Check Pump (650692-X43-B)
34 23:1 Carbon Steel Chop Check Pump (650691-X43-B)

Packings Options:
G43 UHMW-PE/Leather Staggered
R43 Teflon/UHMW-PE Staggered
(Upper) Teflon (Lower)

Follower Options:
02 Aluminum Follower Plate with Polyurethane Double-Lipped Seal
52 Teflon Coated Aluminum Follower Plate with Polyurethane Double-Lipped Seal

Accessories
Needle Valve: 104104-N04
AroStop: 23644-400

Extrusion Systems
Packages include Pump, 651616-X Ram, Follower Plate Assembly, 651729 Filter/Regulator-Lubricator Kit, Air Motor Muffler & 90° Outlet Elbow.

Ordering
Series: NP8
XXR
XX
XXX
Pump Information:
34 44:1 Carbon Steel Pump (650891-X47-B)

Packings Options:
G43 UHMW-PE/Leather Staggered
R43 Teflon/UHMW-PE Staggered
(Upper) Teflon (Lower)

Follower Options:
02 Aluminum Follower Plate with Polyurethane Double-Lipped Seal
52 Teflon Coated Aluminum Follower Plate with Polyurethane Double-Lipped Seal

Accessories
Needle Valve: 104104-N06
AroStop: 635043
**Pump Performance**

- Air Inlet Pressure Range: 2 - 10.2 bars
- Fluid Pressure Range: 24.4 - 122.4 bars
- Max. Rec'd Cycles Per Minute: 60
- Displacement Per Cycle: 206.4 cm³
- Cycles Per Litre: 4.8
- Flow @ 60 Cycles / Minute: 12.4 l/min
- Noise Level @ 4 bars: 80 db(A) w/muffler

**Pump Specifications**

- Lower Pump Material: Carbon Steel (Nickel Plated)
- Plunger Material: 17.4 Stns. Steel (Hard Chrome Plated)
- Cylinder Material: Carbon Steel (Nickel Plated)
- Air Motor: 65465-B
- Motor Repair Kit: 61268
- Motor Diameter: 4-1/4”
- Stroke: 6”
- Air Inlet: 1/2” NPT(F)
- Exhaust Port: 1-1/4” NPT(F)
- Chop Check Pump Model: 66243-X43-B
- Lower Pump Repair Kit: 637071-X43-B
- Material Inlet: Flange Mount
- Material Outlet: 1” NPT(F)
- Weight: 29 kgs.

**Ordering**

650491-X43-B

Packings:

- G: UHMW-PE/Leather Staggered
- P: UHMW-PE/Teflon Staggered (Upper), UHMW-(Lower)
- R: Teflon/UHMW-PE Staggered (Upper), Teflon (Lower)

**Accessories**

- Air F/R/L: C28241-810
- Airline Oil: 62274
- Air Motor Muffler: 91790
- Wet Sol: 66333-B
- Floor Mount: 65138
- Needle Valve: 104104-N04
- AroStop: 23644-400
- RAMS: Page 57
**Pump Performance**

- **Air Inlet Pressure Range**: 2 - 8.1 bars
- **Fluid Pressure Range**: 26.5 - 106.1 bars
- **Max. Rec’d Cycles Per Minute**: 60
- **Displacement Per Cycle**: 662 cm³
- **Cycles Per Litre**: 1.5
- **Flow @ 60 Cycles / Minute**: 39.6 lpm
- **Noise Level @ 4 bars**: 80 db(A) w/muffler

**Pump Specifications**

- **Lower Pump Material**: Carbon Steel (Nickel Plated)
- **Plunger Material**: Carbon Steel (Chrome Plated)
- **Cylinder Material**: Carbon Steel (Nickel Plated)
- **Air Motor**: 66523
- **Motor Repair Kit**: 66614
- **Motor Diameter**: 8”
- **Stroke**: 152 mm
- **Air Inlet**: 3/4” NPT(F)
- **Exhaust Port**: 1-1/4” NPT(F)
- **Chop Check Pump Model**: 66236-XX4-B
- **Lower Pump Repair Kit**: 637128-XX4-B
- **Material Inlet**: Flange Mount
- **Material Outlet**: 1-1/2” NPT(F)
- **Weight**: 57 kgs.

**Packings / Springs:**

- **F4**: UHMW-PE/Leather Staggered (Upper), UHMW-PE (Lower), Multiple Wave Spring
- **J3**: Polyurethane (Upper), UHMW-PE (Lower), No Spring
- **P4**: UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower), Multiple Wave Spring
- **R4**: Teflon/UHMW-PE Staggered (Upper), Teflon (Lower) Multiple Wave Spring

**Accessories**

- **Air F/R/L**: 28353
- **Airline Oil**: 62274
- **Air Motor Muffler**: 92460
- **Wet Sol**: 66333-B
- **Floor Mount**: 65139
- **Needle Valve**: 104104-N06
- **AroStop**: 635043
- **RAM**: Page 57

**Ordering**

650871-XX4-B

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**13:1 / 39.6 Lpm / Extrusion • Piston Pumps**
**Pump Performance**

- Air Inlet Pressure Range: 6.1 bars
- Fluid Pressure Range: 122.4 bars
- Max. Rec’d Cycles Per Minute: 60
- Displacement Per Cycle: 662 cm³
- Cycles Per Litre: 1.5
- Flow @ 60 Cycles / Minute: 39.6 l/min
- Noise Level @ 4 bars: 82 db(A) w/muffler

**Pump Specifications**

- Lower Pump Material: Carbon Steel (Nickel Plated)
- Plunger Material: Carbon Steel (Chrome Plated)
- Cylinder Material: Carbon Steel (Nickel Plated)
- Air Motor: 66651
- Motor Repair Kit: 637110
- Motor Diameter: 10”
- Stroke: 6”
- Air Inlet: 3/4” NPT(F)
- Exhaust Port: 1-1/4” NPT(F)
- Chop Check Pump Model: 66236-XX4-B
- Lower Pump Repair Kit: 637128-XX4-B
- Material Inlet: Bolted Flange
- Material Outlet: 1-1/2” NPT(F)
- Weight: 65.4 kgs.

**Ordering**

650875-XX4-B

**Packings / Springs:**

- F4: UHMW-PE/Leather Staggered (Upper), UHMW-PE (Lower), Multiple Wave Spring
- J3: Polyurethane (Upper), UHMW-PE (Lower), No Spring
- P4: UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower), Multiple Wave Spring
- R4: Teflon/UHMW-PE Staggered (Upper), Teflon (Lower) Multiple Wave Spring

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**Accessories**

- Air F/R/L: 28353
- Airline Oil: 62274
- Air Motor Muffler: 66718
- Wet Sol: 66333-B
- Floor Mount: 65139
- Needle Valve: 104104-N06
- AroStop: 635043
- RAMS: Page 57
**22:1 / 3.7 Lpm / Extrusion • Piston Pumps**

**Pump Performance**
- **Air Inlet Pressure Range:** 2 - 10.2 bars
- **Fluid Pressure Range:** 44.8 - 244.4 bars
- **Max. Rec’d Cycles Per Minute:** 120
- **Displacement Per Cycle:** 31.1 cm³
- **Cycles Per Litre:** 32.1
- **Maximum Working Flow:** 0.37 l/min
- **Noise Level @ 6.8 bars:** 85 dB(A)

**Pump Specifications**
- **Lower Pump Material:** 316 Stnls. Steel
- **Plunger Material:** 17-4 Stnls. Steel (Chrome Plated)
- **Cylinder Material:** 15-5 Stnls. Steel (Chrome Plated)
- **Air Motor:** 66915
- **Motor Repair Kit:** 637316
- **Motor Diameter:** 3”
- **Stroke:** 3”
- **Air Inlet:** 1/4” NPTF-1 (F)
- **Lower Pump Model:** NM2322F-11-P43 67101-P43
- **Lower Pump Repair Kits:** NM2322F-11-P43 637291-P43
- **Material Inlet:** 1/2” NPT(F)
- **Material Outlet:** 1/2” NPT(F)
- **Weight:** 13 kgs.

**Accessories**
- **Air F/R/L:** 128121-800
- **Airline Oil:** 62274
- **Wet Sol:** 66333-B
- **Follower Plate:** 651841-1
- **A.S.A.P. Packages:** NP322R02-1
- **Needle Valve:** 104104-N02
- **AroStop:** 365040

**Ordering**
- **N:** Lower Pump Material
- **M:** Pump Material
- **2:** E : Carbon Steel
- **3:** F : Stainless Steel
- **2:** Packing Material
- **2:** P : UHMW-PE
- **X:** Class Filed Teflon Staggered (Upper)
- **1:** UHMW-PE (Lower)
- **1:** Plunger
- **P:** 3 : Hardened/SS
- **4:** 8 : Hardened/SS
- **X:** with hard chrome plating
- **0:** with alternate piston
- **4:** String Arrangement:
  - **0:** 4 : Multiple Wave Spring

**Figure:**
- Performance based on 30 wt. gear oil at ambient temperature
- **Cycles Per Minute:**
  - 8.3 bars
  - 6.2 bars
  - 4.1 bars
- **LITRES PER MINUTE DELIVERY**
- **Air Consumption (litres/sec.)**
  - 8.3 bars
  - 6.2 bars
  - 4.1 bars

**Ingersoll Rand**
**Pump Performance**

- **Air Inlet Pressure Range**: 2 - 10.2 bars
- **Fluid Pressure Range**: 46.9 - 234.6 bars
- **Max. Rec’d Cycles Per Minute**: 60
- **Displacement Per Cycle**: 113 cm³
- **Cycles Per Litre**: 8.8
- **Flow @ 60 Cycles / Minute**: 6.8 l/min
- **Noise Level @ 4 bars**: 80 db(A)

**Pump Specifications**

- **Lower Pump Material**: Carbon Steel (Nickel Plated)
- **Plunger Material**: 17-4 Stainless (Hard Chrome Plated)
- **Cylinder Material**: Carbon Steel (Nickel Plated)
- **Air Motor**: 65465-B
- **Motor Repair Kit**: 61268
- **Motor Diameter**: 4-1/4”
- **Stroke**: 6”
- **Air Inlet**: 1/2” NPT(F)
- **Exhaust Port**: 1-1/4” NPT(F)
- **Chop Check Pump Model**: 66266-X43-B
- **Lower Pump Repair Kit**: 637074-X43-B
- **Material Inlet**: Bolted Flange
- **Material Outlet**: 1” NPT(F)
- **Weight**: 28.9 kgs.

**Ordering**

650492-X43-B

**Packing**

- **G**: UHMW-PE/Leather Staggered
- **P**: UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower)
- **R**: Teflon/UHMW-PE Staggered (Upper), Teflon (Lower)

**Accessories**

- **Air F/R/L**: C28241-810
- **Airline Oil**: 62274
- **Air Motor Muffler**: 91790
- **Wet Sol**: 66333-B
- **Floor Mount**: 65138
- **Needle Valve**: 104104-N04
- **AroStop**: 23644-400
- **RAMS**: Page 57
**Pump Performance**

- **Air Inlet Pressure Range**: 2 - 10.2 bars
- **Fluid Pressure Range**: 46.9 - 234.6 bars
- **Max. Rec'd Cycles Per Minute**: 60
- **Displacement Per Cycle**: 206.4 cm³
- **Cycles Per Litre**: 4.8
- **Flow @ 60 Cycles / Minute**: 12.4 l/min
- **Noise Level @ 4 bars**: 83 db(A) w/muffler

**Pump Specifications**

- **Lower Pump Material**: Carbon Steel (Nickel Plated)
- **Plunger Material**: 17.4 Stns. Steel (Hard Chrome Plated)
- **Cylinder Material**: Carbon Steel (Nickel Plated)
- **Air Motor**: 65665-B
- **Motor Repair Kit**: 61355
- **Motor Diameter**: 6”
- **Stroke**: 6”
- **Air Inlet**: 1/2” NPT(F)
- **Exhaust Port**: 1-1/4” NPT(F)
- **Chop Check Pump Model**: 66243-X43-B
- **Lower Pump Repair Kit**: 637071-X43-B
- **Material Inlet Bolted Flange**:
- **Material Outlet**: 1” NPT(F)
- **Weight**: 30.4 kgs.

**Ordering**

650691-X43-B

**Packing**

- **G**: UHMW-PE/Leather Staggered
- **P**: UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower)
- **R**: Teflon/UHMW-PE Staggered (Upper), Teflon (Lower)

**Accessories**

- **Air F/R/L**: C28241-810
- **Airline Oil**: 62274
- **Air Motor Muffler**: 91790
- **Wet Sol**: 66333-B
- **Floor Mount**: 65138
- **Needle Valve**: 104104-N04
- **AroStop**: 23644-400
- **RAMS**: Page 57
**Pump Performance**
- Air Inlet Pressure Range: 2 - 8.3 bars
- Fluid Pressure Range: 57.1 - 228.5 bars
- Max. Rec’d Cycles Per Minute: 70
- Displacement Per Cycle: 20
- Volume/Cycle: 327.6 ml
- Flow @ 70 Cycles / Minute: 22.94 lpm
- Noise Level @ 4 bars: 89.8 db(A)

**Pump Specifications**
- Lower Pump Material: Carbon Steel
- Plunger Material: Hard Chrome Plated (Hardened Stainless Steel)
- Cylinder Material: Carbon Steel
- Air Motor: 66523-B
- Motor Repair Kit: 66614
- Motor Diameter: 8”
- Stroke: 6”
- Air Inlet: 3/4-14 NPTF-1
- Lower Pump Model: 67300-XXD
- Lower Pump Repair Kit: 637348-XXD
- Material Inlet: Follower Plate and Floor Mounted
- Material Outlet: 1-1/4-11-1/2 NPTF
- Weight: 63.5 Kgs.

**Ordering**
650888-XXD

**Packings / Springs:**
- C4: UHMW-PE (Upper, Lower), V-type
- J3: PolyPak (Polymyte)

**Accessories**
- Reference Mounting Footprint “B” for related rams/accessories
  - Air F/R/L: 28353
  - Airline Oil: 62274
  - Air Motor Muffler: 92460
  - Wet Sol: 66333-B
  - Floor Mount: 65139
  - Needle Valve: 104104-N06
  - AroStop: 635043
  - RAMS: Page 57
**Pump Performance**

- Air Inlet Pressure Range: 6.1 bars
- Fluid Pressure Range: 183.6 bars
- Max. Rec’d Cycles Per Minute: 60
- Displacement Per Cycle: 662 cm³
- Cycles Per Litre: 1.5
- Flow @ 60 Cycles / Minute: 39.6 l/min
- Noise Level @ 4 bars: 88 db(A) w/muffler

**Pump Specifications**

- Lower Pump Material: Carbon Steel
- Plunger Material: Carbon Steel
- Cylinder Material: Carbon Steel (Nickel Plated)
- Air Motor: 66506
- Motor Repair Kit: 637112
- Motor Diameter: 12”
- Stroke: 6”
- Air Inlet: 3/4” NPT(F)
- Exhaust Port: 1-1/4” NPT(F)
- Chop Check Pump Model: 66236-XX4-B
- Lower Pump Repair Kit: 637128-XX4-B
- Material Inlet: Bolted Flange
- Material Outlet: 1-1/2” NPT(F)
- Weight: 66.8 kgs.

**Ordering**

650971-XX4-B

**Packings / Springs:**

- F4: UHMW-PE/Leather Staggered (Upper), UHMW-PE (Lower), Multiple Wave Spring
- J3: Polyurethane (Upper), UHMW-PE (Lower), No Spring
- P4: UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower), Multiple Wave Spring
- R4: Teflon/UHMW-PE Staggered (Upper), Teflon (Lower), Multiple Wave Spring

**Accessories**

- Air F/R/L: 28353
- Airline Oil: 62274
- Air Motor Muffler: 66718
- Wet Sol: 66333-B
- Floor Mount: 65139
- Needle Valve: 104104-N06
- AroStop: 635043
- RAMS: Page 57

**Performance based on 90 wt. gear oil at ambient temperature**

**Extrusion Pump Diagram**

**Ingersoll Rand**

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### Pump Performance
- **Air Inlet Pressure Range**: 0 - 10.3 bars
- **Fluid Pressure Range**: 0 - 451.7 bars
- **Max. Rec’d Cycles Per Minute**: 60
- **Displacement Per Cycle**: 46.7 cm³
- **Cycles Per Liter**: 21.7
- **Flow @ 60 Cycles / Minute**: 2.8 l/min
- **Noise Level @ 4 bars**: 80 db(A)

### Pump Specifications
- **Lower Pump Material**: Carbon Steel
- **Plunger Material**: 17-4 Stainless Steel
- **Cylinder Material**: Carbon Steel
- **Air Motor**: 65440
- **Motor Repair Kit**: 61268
- **Motor Diameter**: 4-1/4"
- **Stroke**: 4"
- **Air Inlet**: 1/2" - 14 NPTF-1(F)
- **Exhaust Port**: 1-1/4" NPT(F)
- **Dimension**: 67120-P43 1006.6 mm, 67124-P43 1232.7 mm
- **Lower Pump Model**: 67120-P43, 67100-P43
- **Lower Pump Repair Kits**: 63729X-P4X
- **Material Outlet**: 1/2"-14 NPTF-1 (Female)
- **Weight**: 20 kgs.

### Ordering
**Pump Material:**
- **0**: Acier Carbon
- **4**: Acier Carbon

**Packings:**
- **P**: UHMW-PE/Glass Filled Teflon Staggered (Upper)
- **UHMW-PE (Lower)**

**Plungers**
- **3**: Hardened Stainless Steel with Chrome Plated
- **8**: Hardened Stainless Steel with Alternate Pist

### Accessories
- **Air F/R/L**: C28241-810
- **Airline Oil**: 62274
- **Air Motor Muffler**: 91790
- **Wet Sol**: 66333-B
- **Follower Plate**: Pages 59 à 61
- **A.S.A.P. Packages**: 650540-1, 650542-1
- **Needle Valve**: 104104-N04
- **AroStop**: 23644-400
### Pump Performance

- **Air Inlet Pressure Range**: 0 - 10.3 bars
- **Fluid Pressure Range**: 0 – 451.7 bars
- **Max. Rec'd Cycles Per Minute**: 60
- **Displacement Per Cycle**: 46.7 cm³
- **Cycles Per Liter**: 21.7
- **Flow @ 60 Cycles / Minute**: 2.8 l/min
- **Noise Level @ 4 bars**: 80 db(A)

### Pump Specifications

- **Lower Pump Material**: Stainless Steel
- **Plunger Material**: 3 Hardened Stainless Steel with Chrome Plated
- **Cylinder Material**: 8 Hardened Stainless Steel with Alternate Piston
- **Air Motor**: 65440
- **Motor Repair Kit**: 61268
- **Motor Diameter**: 4-1/4”
- **Stroke**: 4”
- **Air Inlet**: 1/2” NPT(F)
- **Exhaust Port**: 1-1/4” NPT(F)
- **Dimensions**: 67121-P43 1006.6 mm, 67125-P43 1237.7 mm
- **Lower Pump Model**: 67121-P43 67101-P43, 67125-P43 67101-P43
- **Lower Pump Repair Kits**: 63729X-P4X
- **Material Outlet**: 1/2” - 14 NPTF-1 (Female)
- **Weight**: 220 kgs.

### Accessories

- **Air F/R/L**: C28241-810
- **Airline Oil**: 62274
- **Air Motor Muffler**: 91790
- **Wet Sol**: 66333-B
- **Followers Plate**: 651841-1
- **A.S.A.P. Packages**: 650541-1, 650543-1
- **Needle Valve**: 104104-N04
- **AroStop**: 23644-400
**Pump Performance**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Air Inlet Pressure Range</td>
<td>8.1 bars</td>
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<tr>
<td>Fluid Pressure Range</td>
<td>359.1 bars</td>
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<tr>
<td>Max. Rec'd Cycles Per Minute</td>
<td>60</td>
</tr>
<tr>
<td>Displacement Per Cycle</td>
<td>237.6 cm³</td>
</tr>
<tr>
<td>Cycles Per Litre</td>
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<tr>
<td>Flow @ 60 Cycles / Minute</td>
<td>14.3 l/min</td>
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<tr>
<td>Noise Level @ 4 bars</td>
<td>88 db(A) w/muffler</td>
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**Pump Specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Lower Pump Material</td>
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<tr>
<td>Plunger Material</td>
<td>Carbon Steel</td>
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<tr>
<td>Cylinder Material</td>
<td>17-4 Stnls. Steel (Chrome Plated)</td>
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<td>Air Motor</td>
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<td>Motor Repair Kit</td>
<td>66614</td>
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<td>8&quot;</td>
</tr>
<tr>
<td>Stroke</td>
<td>6&quot;</td>
</tr>
<tr>
<td>Air Inlet</td>
<td>3/4” NPT(F)</td>
</tr>
<tr>
<td>Exhaust Port</td>
<td>1-1/4” NPT(F)</td>
</tr>
<tr>
<td>Chop Check Pump Model</td>
<td>66243-X47-B</td>
</tr>
<tr>
<td>Lower Pump Repair Kit</td>
<td>637071-X47-B</td>
</tr>
<tr>
<td>Material Inlet</td>
<td>Bolted Flange</td>
</tr>
<tr>
<td>Material Outlet</td>
<td>1” NPT(F)</td>
</tr>
<tr>
<td>Weight</td>
<td>40.4 kgs.</td>
</tr>
</tbody>
</table>

**Accessories**

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air F/R/L</td>
<td>28353</td>
</tr>
<tr>
<td>Airline Oil</td>
<td>62274</td>
</tr>
<tr>
<td>Air Motor Muffler</td>
<td>92460</td>
</tr>
<tr>
<td>Wet Sol</td>
<td>66333-B</td>
</tr>
<tr>
<td>Floor Mount</td>
<td>65138</td>
</tr>
<tr>
<td>Needle Valve</td>
<td>104104-N06</td>
</tr>
<tr>
<td>AroStop</td>
<td>635043</td>
</tr>
<tr>
<td>RAMS</td>
<td>Page 57</td>
</tr>
</tbody>
</table>

**Ordering**

650891-X47-B

**Packing:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>UHMW-PE/Leather Staggered</td>
</tr>
<tr>
<td>P</td>
<td>UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower)</td>
</tr>
<tr>
<td>R</td>
<td>Teflon/UHMW-PE Staggered (Upper), Teflon (Lower)</td>
</tr>
</tbody>
</table>

**Graph:**

- Performance based on 90 wt. gear oil at ambient temperature.

**Performance:**

- Air Inlet Pressure Range: 8.1 bars
- Fluid Pressure Range: 359.1 bars
- Max. Rec’d Cycles Per Minute: 60
- Displacement Per Cycle: 237.6 cm³
- Cycles Per Litre: 4.2
- Flow @ 60 Cycles / Minute: 14.3 l/min
- Noise Level @ 4 bars: 88 db(A) w/muffler
Pump Performance
Air Inlet Pressure Range: 2.1 - 6.2 bars
Fluid Pressure Range: 89.7 - 269.4 bars
Max. Rec’d Cycles Per Minute: 70
Displacement Per Cycle: 20
Volume Per Cycle: 327.6 ml
Flow @ 70 Cycles / Minute: 22.94 lpm
Noise Level @ 4 bars: 89.8 db(A)

Pump Specifications
Lower Pump Material: Carbon Steel
Plunger Material: Hard Chrome Plated (Hardened Stainless Steel)
Cylinder Material: Carbon Steel
Air Motor: 66651-B
Motor Repair Kit: 637110
Motor Diameter: 10”
Stroke: 6”
Air Inlet: 3/4-14 NPTF-1
Lower Pump Model: 67300-XXD
Lower Pump Repair Kit: 637348-XXD
Material Inlet: Follower Plate and Floor Mounted
Material Outlet: 1-1/4-11-1/2 NPTF
Weight: 74.8 Kgs.

Ordering
6 5 0 8 8 9 - X X D

Packings / Springs:
C4: UHMW-PE (Upper, Lower), V-type
J3: PolyPak (Polymyte)
UHMW-PE (Lower), V-type

Accessories
Reference Mounting Footprint “B” for related rams/acessories
Air F/R/L: 28353
Airline Oil: 62274
Air Motor Muffler: 66718
Wet Sol: 66333-B
Floor Mount: 65139
Needle Valve: 104104-N06
AroStop: 635043
RAMS: 651612-4
**Pump Performance**

- **Air Inlet Pressure Range**: 2 - 10.2 bars
- **Fluid Pressure Range**: 93.8 - 469.3 bars
- **Max. Rec’d Cycles Per Minute**: 60
- **Displacement Per Cycle**: 113 cm³
- **Cycles Per Litre**: 8.8
- **Flow @ 60 Cycles / Minute**: 6.4 l/min
- **Noise Level @ 4 bars**: 83 db(A) w/muffler

**Pump Specifications**

- **Lower Pump Material**: Carbon Steel
- **Plunger Material**: 17.4 Stnls. Steel (Chrome Plated)
- **Cylinder Material**: Carbon Steel (Nickel Plated)
- **Air Motor**: 65665-B
- **Motor Repair Kit**: 61355
- **Motor Diameter**: 6”
- **Stroke**: 6”
- **Air Inlet**: 1/2” NPT(F)
- **Exhaust Port**: 1-1/4” NPT(F)
- **Chop Check Pump Model**: 66266-X43-B
- **Lower Pump Repair Kit**: 637074-X43-B
- **Material Inlet**: Bolted Flange
- **Material Outlet**: 1” NPT(F)
- **Weight**: 30.4 kgs.

**Ordering**

- **6 5 0 6 9 2 - X 4 3 - B**

**Packings:**

- **G**: UHMW-PE/Leather Staggered
- **P**: UHMW-PE/Teflon Staggered (Upper), UHMW-PE (Lower)
- **R**: Teflon/UHMW-PE Staggered (Upper), Teflon (Lower)

**Accessories**

- **Air F/R/L**: C28241-810
- **Airline Oil**: 62274
- **Air Motor Muffler**: 91790
- **Wet Sol**: 66333-B
- **Floor Mount**: 65138
- **Needle Valve**: 104104-N04
- **AroStop**: 23644-400
- **RAMS**: Page 57
65:1 / 22.94 Lpm / 2-ball • Piston Pumps

**Pump Performance**
- Air Inlet Pressure Range: 2.1 - 6.2 bars
- Fluid Pressure Range: 134.5 - 403.4 bars
- Max. Rec’d Cycles Per Minute: 70
- Volume/Cycle: 327.6 ml
- Flow @ 70 Cycles / Minute: 22.94 lpm
- Noise Level @ 4 bars: 89.8 db(A)

**Pump Specifications**
- Lower Pump Material: Carbon Steel
- Plunger Material: Hard Chrome Plated (Hardened Stainless Steel)
- Cylinder Material: Carbon Steel
- Air Moto: 66506-B
- Motor Repair Kit: 637112
- Motor Diameter: 12"
- Stroke: 6"
- Air Inlet: 3/4-14 NPTF-1
- Lower Pump Model: 67300-XXD
- Lower Pump Repair Kit: 637348-XXD
- Material Inlet: Follower Plate and Floor Mounted
- Material Outlet: 1-1/4-11-1/2 NPTF
- Weight: 74.8 Kgs.

**Ordering**
- 650 9 8 9
- Packings / Springs: C4: UHMW-PE (Upper, Lower), V-type
  J3: PolyPak (Polymyte)
- UHMW-PE (Lower), V-type

**Accessories**
- Reference Mounting Footprint “B” for related rams/accessories
- Air F/R/L: 28353
- Airline Oil: 62274
- Air Motor Muffler: 66718
- Wet Sol: 66333-B
- Floor Mount: 65139
- Needle Valve: 104104-N06
- AroStop: 635043
- RAMS: Pages 57

![Pump Diagram](image-url)
Typical Recirculating System Installation

In a typical recirculating system, an agitator (1) keeps particles in suspension in the material container. A siphon hose (2) draws the material from its container and into the recirculating block (3) and then into the pump (4). When the material leaves the outlet it enters the material filter (5) to screen out any impurities to prevent system clogging or tip plugging. The material then enters a material heater (6) to bring the material to a workable temperature before it reaches the dispensing point. The material travels through material hose (7) on its way to the dispensing point. One may use a standard airless spray gun (8) with a recirculating block (9) to return the fluid to the inlet port of the pump. A spray tip (10) matched to the viscosity of the paint, the pattern to be sprayed, and the finish required, must be chosen. The material not dispensed goes through the recirculating block and travels through a material hose (7) back to the pump inlet to start the cycle again. A back pressure regulator (11) is placed in this line to maintain the desired pressure at the spray gun. A three-way valve (12) is located between the regulator and the pump inlet to allow evacuation of air from the system or flushing of material from the system during clean-up operation. A length of hose (13) is recommended for flushing operation to route material to its proper destination.

<table>
<thead>
<tr>
<th>No.</th>
<th>Qty.</th>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>651100</td>
<td>Air-operated agitator (20 liters)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>651851</td>
<td>Drum cover (20 liters)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>651852</td>
<td>Drum cover (includes air-operated agitator) (200 liters)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>65986-1</td>
<td>3/4” siphon hose 2 m (20 liters)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>67140-X</td>
<td>3/4” siphon hose 2 m (200 liters)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>91600</td>
<td>Recirculating inlet block</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>650485-X4X</td>
<td>4-1/4” 30:1 pump</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>650640-X4B</td>
<td>6” 3:1 pump</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>651755-100-B</td>
<td>Material outlet filter</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>651747-X-B</td>
<td>Material heater</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>628042-025</td>
<td>1/4” airless spray hose 7.50 m length</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>651533</td>
<td>Airless spray hand gun</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>79244</td>
<td>Double inlet adapter (recirculating block)</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>TCXXXX</td>
<td>Airless spray tip</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>651781-XXX-B</td>
<td>I.D.L. High Pressure backpressure regulator</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>651791-XXX-B</td>
<td>I.D.L. Low Pressure backpressure regulator</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>66117</td>
<td>Three-way valve</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>Not Offered</td>
<td>3/16” I.D. hose (60 mm)</td>
</tr>
</tbody>
</table>

Other Items:

<table>
<thead>
<tr>
<th>No.</th>
<th>Qty.</th>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>66101</td>
<td>Wall mount bracket</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>C28241-810</td>
<td>1/2” filter/regulator/lubricator</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>628042-XX</td>
<td>1/4” material hose (connects filter to heater)</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>445-105</td>
<td>1/2 NPT(M) x 1/4 NPT(M) reducing bushing</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>1950</td>
<td>1/4” adapters</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>65030-5</td>
<td>In line swivel filter</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>104104-XXX</td>
<td>Needle Valve</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>236-40</td>
<td>AroStop</td>
</tr>
</tbody>
</table>
**Bulk/ Tote Tank Components**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>628088-7</td>
<td>MATERIAL SUPPLY HOSE - Heavy-duty 1” diameter hose features neoprene construction with a 345 bars max. working pressure capacity. Both ends 1” NPT(M). Length: 2.15m.</td>
</tr>
<tr>
<td>67073</td>
<td>BALL VALVE - For use with 628088-7 material supply hose. 310 bars max. working. Pressure rated.</td>
</tr>
<tr>
<td>628089-X</td>
<td>MATERIAL HOSE WITH FITTINGS - 3” diameter hose has cross-linked polyethylene (internal) and neoprene (external) construction. Hose comes with female cam-lever locking coupler, male adapter, cam-level locking dust cap and dust plug. Length: 60mm. (628089-2), 182mm. (628089-6). Max. working pressure: 8.6 bars.</td>
</tr>
<tr>
<td>65138</td>
<td>PUMP FLOOR MOUNT - See page 54 for floor mount information.</td>
</tr>
</tbody>
</table>

**Portable Pump Carts**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Used with</th>
</tr>
</thead>
<tbody>
<tr>
<td>66189</td>
<td>PORTABLE CART - Will clear 711mm openings. Has 305mm tires.</td>
<td>3-1/4&quot;, 4-1/4&quot;, &amp; 6&quot; 2-Ball air motor tie rod construction pumps.</td>
</tr>
<tr>
<td>66189-1</td>
<td>PORTABLE CART - Will clear 711mm openings. Has 305mm tires.</td>
<td>3&quot;, 3-1/4&quot;, &amp; 4-1/4&quot; 4&quot; air motor single riser pumps.</td>
</tr>
<tr>
<td>66554-1</td>
<td>PORTABLE CART - 610mm to 762mm wheel spacing adjustment. Has 406mm tires.</td>
<td>3-1/4&quot;, 4-1/4&quot; &amp; 6&quot; air motor, 2-ball and 4-ball pumps.</td>
</tr>
<tr>
<td>66554-2</td>
<td>PORTABLE CART - 610mm to 762mm wheel spacing adjustment. Has 406mm tires.</td>
<td>8&quot;, 10&quot; &amp; 12&quot; air motor pumps.</td>
</tr>
<tr>
<td>66713</td>
<td>PORTABILITY KIT - Mounts directly to the base of the 651605 SINGLE POST RAM, to allow ease of portability. Will clear 711mm openings. Has 305mm tires.</td>
<td>651605, 650605-1 Single Post Ram and Rams packages.</td>
</tr>
<tr>
<td>67074</td>
<td>PORTABLE CART - Will clear 610mm openings. Has 250 mm tires.</td>
<td>66100, 66101, 61113 &amp; 67054 Pump Mounts and corresponding pumps. See page 23.</td>
</tr>
<tr>
<td>67139</td>
<td>PORTABLE CART - Will clear 711mm openings. Unique “chair” design distributes pump weight and makes moving easy. 305mm pneumatic tires also enhance smooth transport.</td>
<td></td>
</tr>
</tbody>
</table>

**Pump Lifts**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>640067</td>
<td>SINGLE-POST LIFT - Single-acting air cylinder for easy drum change-over. Requires drum cover. 2.3m extended.</td>
</tr>
<tr>
<td>640169</td>
<td>TWO-POST LIFT - Two 51mm diameter air cylinders connected by steel mounting bracket. Air connector with strictor orifice controls ascent and descent. 1.016mm x 610mm base. 2.3m extended. Number of pumps must be ordered separately.</td>
</tr>
<tr>
<td>65116</td>
<td>HOSE KIT - Used when extrusion pumps and 66248 follower plate are mounted on 640169 air lift. Directs air pressure under follower plate to assist airlift in removing pump from drum during changeovers.</td>
</tr>
</tbody>
</table>
### Drum Covers

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Container liters</th>
<th>Pumps Used with</th>
</tr>
</thead>
<tbody>
<tr>
<td>651851</td>
<td>DRUM COVER - Accepts 65986 Siphon hose and 651100 Agitator</td>
<td>20</td>
<td>2&quot;, 3&quot;, and 3-1/4&quot; air mtr wall-mounted stub pumps that use 65986 Siphon hose.</td>
</tr>
<tr>
<td>66971</td>
<td>DRUM COVER - Stainless steel, accepts 651100 agitator</td>
<td>20</td>
<td>1/2&quot; ports diaphragm pump</td>
</tr>
<tr>
<td>66197</td>
<td>DRUM COVER - Includes hinged access covers, 2&quot; NPT(F) bung opening, and will accept 651104-1 Agitator.</td>
<td>200</td>
<td>2&quot;, 3&quot;, 3-1/4&quot; and 4-1/4&quot; 200 liters size bung type pumps.</td>
</tr>
<tr>
<td>651852</td>
<td>DRUM COVER - Includes hinged access cover, 2&quot; NPT(F) bung opening, 51mm x 864 mm pipe extension and 60307 Agitator.</td>
<td>200</td>
<td>Accepts 65986-1 Siphon hose from any wall mounted pump. Any 200 liters bung-type pump that can be used with 640067 Lift.</td>
</tr>
<tr>
<td>61729</td>
<td>DRUM COVER - Includes hinged access cover and carrying handles. Also used with 640169 2-POST LIFT.</td>
<td>200</td>
<td>3-1/4&quot;, 4-1/4&quot; and 6&quot; air mtr 2-ball, 4-ball or extrusion pumps.</td>
</tr>
<tr>
<td>651853</td>
<td>DRUM COVER - Stainless Steel with 651104-1 Siphon hose &amp; agitator, suction tube with 90° elbow, 1&quot; return port, and hinged access door.</td>
<td>200</td>
<td>Accepts 67140-2 Siphon hose &amp; tube from wall-mounted pump.</td>
</tr>
</tbody>
</table>

### Floor Mounts/ Adapters

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Pumps Used with</th>
</tr>
</thead>
<tbody>
<tr>
<td>65138</td>
<td>FLOOR MOUNT - Accepts suction line from bulk containers or mixing tanks. 3&quot; NPT(F) inlet, 1/4&quot; NPT(F) vent port with plug.</td>
<td>3-1/4&quot;, 4-1/4&quot; &amp; 6&quot; air mtr. 2-ball and extrusion pumps. Also 8&quot; 38:1 2-ball and 44:1 extrusion pumps (Type A).</td>
</tr>
<tr>
<td>65139</td>
<td>FLOOR MOUNT - Accepts suction line from bulk containers or mixing tanks. 3&quot; NPT(F) inlet, 1/4&quot; NPT(F) vent port with plug.</td>
<td>8&quot;, 10&quot; and 12&quot; air mtr. 2-ball &amp; extrusion pumps. Except 8&quot; 38:1 2-ball and 44:1 extrusion pumps (Type B).</td>
</tr>
<tr>
<td>62042</td>
<td>PUMP FLOOR DOLLY - Permits pump to be easily moved around work site. Heavy gauge metal construction.</td>
<td>Must be used with 65138 or 35139 floor mounts.</td>
</tr>
<tr>
<td>66545</td>
<td>INLET ADAPTER- permits 4-ball pumps to be used with 66101 Wall Mount, 66554-1 Cart, or 640169 Lift. Cast iron adapter has a 2&quot; NPT(F) fluid inlet.</td>
<td>4-Ball Pumps</td>
</tr>
<tr>
<td>66585</td>
<td>INLET ADAPTER- same as 66545, except features stainless steel construction.</td>
<td>4-Ball Pumps</td>
</tr>
<tr>
<td>66547</td>
<td>PEDESTAL MOUNT- permits 4-ball pumps to be floor mounted. Flash chrome-plated Meehanite mount has (2) 1-1/2&quot; NPT(F) fluid inlets.</td>
<td>4-Ball Pumps</td>
</tr>
<tr>
<td>67187-1</td>
<td>Mounting Post - Floor standing mounting post with 4-1/4&quot;, 6&quot;, &amp; 8&quot;air motors.</td>
<td>4-1/4&quot;, 6&quot; Air Motor, Stinger Pumps</td>
</tr>
<tr>
<td>67187-2</td>
<td>Mounting Post - Floor standing mounting post with hydraulic motors.</td>
<td>2 sq.in Hydraulic Motors</td>
</tr>
<tr>
<td>94254</td>
<td>INLET ADAPTER- 90° 1&quot; NPT(M) X 3/4(F) used to adapt suction hose to 67139 cart.</td>
<td>Integrity Pumps</td>
</tr>
<tr>
<td>94256</td>
<td>OUTLET ADAPTER- for mounting material filter 1&quot; NPT(M) X 1/2&quot; NPT (M).</td>
<td>Integrity Pumps</td>
</tr>
</tbody>
</table>

### Wall Mounts

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Pumps Used with</th>
</tr>
</thead>
<tbody>
<tr>
<td>61113</td>
<td>WALL MOUNT BRACKET - Has 2&quot; NPT(F) opening to accept bung type pumps. Bracket slips over rim of open head drum or can be wall-mounted.</td>
<td>1&quot;, 2&quot;, 3&quot;, 3-1/4&quot; and 4-1/4&quot; air mtr. stub pumps fitted with bung adapters or 200 liters bung type pumps.</td>
</tr>
<tr>
<td>66100</td>
<td>WALL MOUNT BRACKET - With 91395 REMOVABLE MOUNTING plate.</td>
<td>3&quot; and 3-1/4&quot; and 4-1/4&quot; air mtr. 4&quot; stroke pumps.</td>
</tr>
<tr>
<td>66101</td>
<td>WALL MOUNT BRACKET - With 91396 REMOVABLE MOUNTING plate.</td>
<td>3-1/4&quot;, 4-1/4&quot;, and 6&quot; air mtr. 2- and 4-ball pumps.</td>
</tr>
<tr>
<td>66542</td>
<td>WALL MOUNT BRACKET - With 92371 REMOVABLE MOUNTING plate.</td>
<td>8&quot;, 10&quot; &amp; 12&quot; pumps</td>
</tr>
</tbody>
</table>
### Agitators

<table>
<thead>
<tr>
<th>Model</th>
<th>Container liters</th>
<th>Mounting (Order Separately)</th>
</tr>
</thead>
<tbody>
<tr>
<td>651100*</td>
<td>20</td>
<td>651851 Drum Cover</td>
</tr>
<tr>
<td>651104-3</td>
<td>20</td>
<td>Drum Cover</td>
</tr>
<tr>
<td>651103</td>
<td>200</td>
<td>66686 Drum Cover</td>
</tr>
<tr>
<td>651104-1</td>
<td>200</td>
<td>Drum Side</td>
</tr>
<tr>
<td>650251</td>
<td>Bulk Tank</td>
<td></td>
</tr>
</tbody>
</table>
* Includes air valve, fittings and tubing for quick installation.

### Motor/Shaft specifications

<table>
<thead>
<tr>
<th>Agitator Model</th>
<th>Air Motor Model</th>
<th>H.P.</th>
<th>Air Motor RPM</th>
<th>Mount.</th>
<th>Diam. (mm)</th>
<th>Length (mm)</th>
<th>Standard Model</th>
<th>Material</th>
<th>Extra Cost Option Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>651100</td>
<td>650252</td>
<td>1/3</td>
<td>500-1000</td>
<td>Hub</td>
<td>12.7</td>
<td>305</td>
<td>31652-1</td>
<td>416 SS</td>
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<td>651104-3</td>
<td>650250</td>
<td>3/4</td>
<td>300-3000</td>
<td>Flange</td>
<td>12.7</td>
<td>267</td>
<td>92094-3</td>
<td>316 SS</td>
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<td>300-3000</td>
<td>Flange</td>
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<td>813</td>
<td>73120</td>
<td>CS</td>
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<td>300-3000</td>
<td>Flange</td>
<td>12.7</td>
<td>813</td>
<td>92094-1</td>
<td>316 SS</td>
<td>--</td>
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<tr>
<td>651104-1</td>
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<td>3/4</td>
<td>300-3000</td>
<td>Flange</td>
<td>12.7</td>
<td>813</td>
<td>92094-1</td>
<td>316 SS</td>
<td>--</td>
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</table>

### Propeller spécifications

<table>
<thead>
<tr>
<th>Agitator Model</th>
<th>Number of Props</th>
<th>Diam. (mm)</th>
<th>Prop Standard Model</th>
<th>Material</th>
<th>Prop Direction</th>
<th>Extra Cost Option Material</th>
<th>Prop Direction</th>
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<tbody>
<tr>
<td>651100</td>
<td>1</td>
<td>102</td>
<td>31680-102</td>
<td>316 SS</td>
<td>CCW</td>
<td>31680-112 Bronze CCW</td>
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<tr>
<td>651104-3</td>
<td>1</td>
<td>127</td>
<td>31680-103</td>
<td>316 SS</td>
<td>CCW</td>
<td>92094-1</td>
<td></td>
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<tr>
<td>65782</td>
<td>2</td>
<td>127</td>
<td>31680-103</td>
<td>316 SS</td>
<td>CCW</td>
<td>31680-113 Bronze CCW</td>
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</tr>
<tr>
<td>651103</td>
<td>2</td>
<td>127</td>
<td>31680-103</td>
<td>316 SS</td>
<td>CCW</td>
<td>31680-113 Bronze CCW</td>
<td></td>
</tr>
<tr>
<td>651104-1</td>
<td>2</td>
<td>127</td>
<td>31680-103</td>
<td>316 SS</td>
<td>CCW</td>
<td>31680-113 Bronze CCW</td>
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</tr>
</tbody>
</table>

* CW = Clockwise
  * CCW = Counter Clockwise
## Siphon Tubes

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Used with</th>
<th>Fluid Outlet</th>
<th>Fluid Inlet</th>
</tr>
</thead>
<tbody>
<tr>
<td>65109</td>
<td>SIPHON TUBE ASSEMBLY - 200 liters size carbon steel, with 2&quot; bung adaptor. Hoses not included. Suggest 622681-06 Hose for 3/4&quot; inlet or 66701-06 Hose for 1&quot; inlet.</td>
<td>Wall-mounted Stub Pumps when fluid viscosity requires a foot valve for priming or with drum cover that has a 2&quot; NPT (F) bung opening.</td>
<td>3/4 (F)</td>
<td>1 (F)</td>
</tr>
<tr>
<td>66568</td>
<td>SIPHON TUBE WITH FILTER AND CHECK VALVE ASSEMBLY - 316 stainless steel with 2&quot; NPT bung adapter, AND 66480 FILTER AND CHECK VALVE assembly. Hoses not included. Suggest 622702-06 Hose.</td>
<td>Wall-mounted Stub Pumps when fluid is corrosive and viscosity requires a foot valve for positive priming.</td>
<td>1 (F)</td>
<td></td>
</tr>
</tbody>
</table>

## Siphon Hoses

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Used with</th>
<th>Fluid Outlet</th>
<th>Fluid Inlet</th>
</tr>
</thead>
<tbody>
<tr>
<td>65986</td>
<td>SIPHON HOSE - 20 liters size Neoprene cover and thiokol tube. Includes 91020-1 PIPE EXTENSION.</td>
<td>651851 Drum Cover or 20 liters container.</td>
<td>1.8</td>
<td>3/4(M)</td>
</tr>
<tr>
<td>65986-1</td>
<td>SIPHON HOSE - 200 liters size Neoprene cover and thiokol tube. 91020-2 PIPE EXTENSION.</td>
<td>651852 or 65963 Drum COVER or closed drum with 2&quot; bung opening.</td>
<td>1.8</td>
<td>3/4(M)</td>
</tr>
<tr>
<td>622702-6</td>
<td>SIPHON HOSE - 25.4 mm I.D. hose with stainless steel fittings.</td>
<td>Stainless Steel Stub Pumps.</td>
<td>1.8</td>
<td>1(M)</td>
</tr>
<tr>
<td>622702-10</td>
<td>SIPHON HOSE - 25.4 mm I.D. hose with stainless steel fittings.</td>
<td>Stainless Steel Stub Pumps.</td>
<td>3</td>
<td>1(M)</td>
</tr>
<tr>
<td>622701-6</td>
<td>SIPHON HOSE - 25.4 mm I.D. hose with carbon steel fittings.</td>
<td>Carbon Steel Stub Pumps.</td>
<td>1.8</td>
<td>1(M)</td>
</tr>
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</table>

## Inlet Accessories

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>91020-1</td>
<td>PIPE EXTENSION - 1/2&quot; I.D. galvanized suction tube for 20 liters containers.</td>
</tr>
<tr>
<td>91020-2</td>
<td>PIPE EXTENSION - 1/2&quot; I.D. galvanized suction tube for 200 liters containers.</td>
</tr>
<tr>
<td>651830</td>
<td>SCREEN ASSEMBLY - Adapts to 91020-1 or -2 PIPE EXTENSION. Keeps foreign matter from entering lower pump end.</td>
</tr>
<tr>
<td>66480</td>
<td>FILTER AND CHECK VALVE ASSEMBLY - 316 stainless steel assembly has 1&quot; NPT (F) connections and 40 mesh screen. 121 mm long x 54 mm in diameter. Used with suction tubes when fluid is corrosive and viscosity requires a foot valve for positive priming.</td>
</tr>
<tr>
<td>66717</td>
<td>PIPE EXTENSION - Constructed of P.V.C. for Series 200, 300, 325 and 425 Stainless Steel Stub Pumps. Adapts pump to 200 liters capacity.</td>
</tr>
<tr>
<td>67140-1</td>
<td>STAINLESS STEEL SIPHON TUBE - For 20 liters containers, used with Integrity Pumps. Includes 406 mm wand and 127 mm of 3/4&quot; hose.</td>
</tr>
</tbody>
</table>
**RAMS**

For use with materials over 200,000 CPS viscosity. Consists of two 3-1/2" diameter air cylinders joined by cross-over tubes and welded to a steel base. Cast aluminum follower plate has double edge Buna N wiper to clean drum and seal material from atmosphere.

- Base: 991 mm x 610 mm
- Raised height: 2.5 m
- Lowered position height: 1.6 m

Mounting footprint is strictly a reference letter used to simplify the matching of pumps to follower plates and related accessories. (i.e. pump with "A" mounting footprint will fit any accessory with "A" mounting footprint.)

<table>
<thead>
<tr>
<th>Model</th>
<th>Follower</th>
<th>Plate Style</th>
<th>Container Liters</th>
<th>Mounting Footprint</th>
<th>Coating</th>
<th>Wiper Type</th>
<th>Wiper Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>651616-1</td>
<td>66516</td>
<td>Flat</td>
<td>200</td>
<td>A</td>
<td>None</td>
<td>Double Lip</td>
<td>Nitrile</td>
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<td>66516-1</td>
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<td>A</td>
<td>None</td>
<td>Double Lip</td>
<td>Polyurethane</td>
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<tr>
<td>651616-3</td>
<td>66516-2</td>
<td>Flat</td>
<td>200</td>
<td>B</td>
<td>None</td>
<td>Double Lip</td>
<td>Nitrile</td>
</tr>
<tr>
<td>651616-4</td>
<td>66517</td>
<td>Flat</td>
<td>200</td>
<td>B</td>
<td>None</td>
<td>Double Lip</td>
<td>EPR</td>
</tr>
<tr>
<td>651616-5</td>
<td>66517-1</td>
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<td>200</td>
<td>B</td>
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<td>Double Lip</td>
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<td>EPR</td>
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<td>Tube Type</td>
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<td>Tube Type</td>
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<td>Tube Type</td>
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<td>Nitrile</td>
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<td>Tube Type</td>
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<td>200</td>
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<td>EPR</td>
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<td>Tapered</td>
<td>200</td>
<td>B</td>
<td>Teflon</td>
<td>Tube Type</td>
<td>Polyurethane</td>
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<td>67196-7</td>
<td>Tapered</td>
<td>200</td>
<td>B</td>
<td>Teflon</td>
<td>Tube Type</td>
<td>Viton</td>
</tr>
</tbody>
</table>

**Pump / Drum Stabilizing Brackets**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Used With</th>
<th>Follower Plate Uses With</th>
</tr>
</thead>
<tbody>
<tr>
<td>66353-1</td>
<td>Pump Stabilizing Brackets - Attaches easily to 651616 Ram. Kit includes hardware.</td>
<td>8&quot;, 10&quot;, 12&quot;</td>
<td>Air Motor Pumps</td>
</tr>
<tr>
<td>66354-1</td>
<td>Pump Stabilizing Brackets - Same as 66353-1 except fits smaller pumps.</td>
<td>41/4&quot; &amp; 6&quot;</td>
<td>Air Motor Pumps</td>
</tr>
<tr>
<td>67133</td>
<td>Drum Hold-Down Brackets - Kit includes 2 brackets, clamp screws, nuts. Used with 651616-XX.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Accessories • Piston Pumps

Extra Heavy-Duty Rams
200 liters Containers

Features 5-1/2” diameter post construction capable of delivering 0-0.8 bar follower down force. This extra measure of down force makes the 651612 Ram the best choice for the hard-duty supply of heavy inks, RTV silicones, caulking, varnishes, highly viscous adhesives and much more. Drum hold down bracket included.

*WARNING: Before using maximum follower down force, check container or consult container manufacturer for maximum pressure rating.

Mounting footprint is strictly a reference letter used to simplify the matching of pumps to follower plates and related accessories. (i.e. pump with “A” mounting footprint will fit any accessory with “A” mounting footprint.

<table>
<thead>
<tr>
<th>Model</th>
<th>Follower</th>
<th>Plate Style</th>
<th>Container Liters</th>
<th>Mounting footprint</th>
<th>Coating</th>
<th>Wiper Type</th>
<th>Wiper Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>651612-1</td>
<td>66516</td>
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<td>200</td>
<td>A</td>
<td>None</td>
<td>Double Lip</td>
<td>Nitrile</td>
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<tr>
<td>651612-2</td>
<td>66516-1</td>
<td>Flat</td>
<td>200</td>
<td>A</td>
<td>None</td>
<td>Double Lip</td>
<td>Polyurethane</td>
</tr>
<tr>
<td>651612-3</td>
<td>66516-2</td>
<td>Flat</td>
<td>200</td>
<td>A</td>
<td>None</td>
<td>Double Lip</td>
<td>EPR</td>
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<tr>
<td>651612-4</td>
<td>66517</td>
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<td>200</td>
<td>B</td>
<td>None</td>
<td>Double Lip</td>
<td>Nitrile</td>
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<td>651612-5</td>
<td>66517-1</td>
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<td>200</td>
<td>B</td>
<td>None</td>
<td>Double Lip</td>
<td>Polyurethane</td>
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<tr>
<td>651612-6</td>
<td>66517-2</td>
<td>Flat</td>
<td>200</td>
<td>B</td>
<td>None</td>
<td>Double Lip</td>
<td>EPR</td>
</tr>
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<td>651612-7</td>
<td>66517-2</td>
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<td>200</td>
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<td>None</td>
<td>Double Lip</td>
<td>EPR</td>
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<td>None</td>
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<td>651612-11</td>
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</tr>
<tr>
<td>651612-12</td>
<td>67196-3</td>
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<td>200</td>
<td>B</td>
<td>None</td>
<td>Tube Type</td>
<td>Viton</td>
</tr>
<tr>
<td>651612-59</td>
<td>67195-7</td>
<td>Flat</td>
<td>200</td>
<td>A</td>
<td>Teflon</td>
<td>Tube Type</td>
<td>Viton</td>
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<td>651612-9</td>
<td>67195-3</td>
<td>Flat</td>
<td>200</td>
<td>A</td>
<td>Teflon</td>
<td>Tube Type</td>
<td>Viton</td>
</tr>
</tbody>
</table>

Single Post Rams

Provides responsive pump lifting and pump lowering with sufficient downforce to permit pump extrusion of materials up to 500,000 c.p.s. It’s ability to revolve 360-degrees allows the ongoing placement and rotation of three, 200 liters containers - a critical feature in applications that demand continuous material supply.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Fits ARO Pump</th>
<th>Height Raised</th>
<th>Height Lowered</th>
<th>Air Inlet</th>
</tr>
</thead>
<tbody>
<tr>
<td>651614-1</td>
<td>4-1/4&quot;-6&quot; Air Motors</td>
<td>2.80m</td>
<td>1.60m</td>
<td>1/4&quot; NPT</td>
</tr>
<tr>
<td>651614-2</td>
<td>8&quot; to 12&quot; Air Motors</td>
<td>2.80m</td>
<td>1.60m</td>
<td>1/4&quot; NPT</td>
</tr>
<tr>
<td>651614-3</td>
<td>Small Hydraulic Motor</td>
<td>2.80m</td>
<td>1.60m</td>
<td>1/4&quot; NPT</td>
</tr>
<tr>
<td>651614-4</td>
<td>Large Hydraulic Motor</td>
<td>2.80m</td>
<td>1.60m</td>
<td>1/4&quot; NPT</td>
</tr>
</tbody>
</table>

The above models include the brackets and hardware needed to accommodate two-ball or extrusion tie-rod style pumps.

65116 Follower Plate Air Assist Kit - Air assist valve supplies air pressure to bottom of follower to aid in bringing follower to top in less time. Kit includes valve, hose and necessary mounting hardware.

651614-2 (Pump, Follower, and Follower Assist Kit sold separate)  
651614-1 (Pump sold separate)
Follower Plates 20 liters Containers

Mounting footprint is strictly a reference letter used to simplify the matching of pumps to follower plates and related accessories. (i.e. pump with "A" mounting footprint will fit any accessory with "A" mounting footprint.

<table>
<thead>
<tr>
<th>Model</th>
<th>Material</th>
<th>Coating</th>
<th>Wiper Type</th>
<th>Wiper Material</th>
<th>Ram/Lift Used With</th>
<th>Mounting Footprint</th>
</tr>
</thead>
<tbody>
<tr>
<td>66469</td>
<td>Carbon Steel</td>
<td>None</td>
<td>Single Lip</td>
<td>Nitrile</td>
<td>651614-1, 651616-X, 651615-C Rams, 640169</td>
<td>A</td>
</tr>
<tr>
<td>66731</td>
<td>Carbon Steel</td>
<td>Electroless Nickel</td>
<td>Single Lip</td>
<td>Nitrile</td>
<td>651615-C Rams</td>
<td>C</td>
</tr>
<tr>
<td>66731-1</td>
<td>Carbon Steel</td>
<td>Electroless Nickel</td>
<td>Double Lip</td>
<td>Polyurethane</td>
<td>651614-4, 651616 &amp; 651615-C Rams</td>
<td>C</td>
</tr>
<tr>
<td>66732</td>
<td>Carbon Steel</td>
<td>Electroless Nickel</td>
<td>Double Lip</td>
<td>EPR</td>
<td>651614-1, 651615-C Rams</td>
<td>C</td>
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<tr>
<td>66732-1</td>
<td>Carbon Steel</td>
<td>Electroless Nickel</td>
<td>Double Lip</td>
<td>Polyurethane</td>
<td>651614-1, 651615-C Rams 651612-X</td>
<td>A</td>
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<td>Carbon Steel</td>
<td>Electroless Nickel</td>
<td>Double Lip</td>
<td>EPR</td>
<td>651614-1, 651615-C Rams 651612-X</td>
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<td>651840-1</td>
<td>Carbon Steel</td>
<td>None</td>
<td>Single Lip</td>
<td>Polyethylene/ Urethane</td>
<td>651615-C Rams 67075-X, 65778 Lift</td>
<td>C</td>
</tr>
<tr>
<td>651840-2</td>
<td>Carbon Steel</td>
<td>None</td>
<td>295 mm Designed for metric pails</td>
<td>Nitrile</td>
<td>651615-C Rams 67075-X, 65778 Lift</td>
<td>C</td>
</tr>
<tr>
<td>651840-3</td>
<td>Carbon Steel</td>
<td>None</td>
<td>311.9 mm Designed for metric pails</td>
<td>Polyethylene/ Urethane</td>
<td>651615-C Rams 67075-X, 65778 Lift</td>
<td>C</td>
</tr>
<tr>
<td>651841-1</td>
<td>Stainless Steel</td>
<td>None</td>
<td>290 mm</td>
<td>Polyethylene/ Urethane</td>
<td>651615-C Rams 67075-X, 65778 Lift</td>
<td>C</td>
</tr>
<tr>
<td>651842-1</td>
<td>Stainless Steel</td>
<td>None</td>
<td>290 mm</td>
<td>Polyethylene/ Urethane</td>
<td>651615-C Rams</td>
<td>D</td>
</tr>
</tbody>
</table>

Pump Follower / Floor Stand Adapters / Seal Protectors

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Ram Used With</th>
<th>Mounting Footprint</th>
</tr>
</thead>
<tbody>
<tr>
<td>67134</td>
<td>Follower Plate Adapter - For attaching NV2322X &amp; 6712X-P43 pumps to 200 liters follower plates or floor stands</td>
<td>6516-X &amp; 6719X-X Followers 651616-1, -2, -3, 651614-X and 651612-X Rams, 65138 Floor Mount</td>
<td>C</td>
</tr>
<tr>
<td>67136</td>
<td>Follower Plate Adapter - For attaching Integrity pumps to follower plates or floor stand. Includes stainless steel adapter w/2&quot; NPT(F) threads, seal and hardware.</td>
<td>66248 &amp; 66516 Followers 651616-1, -2, -3 Rams 65138 Floor Mount</td>
<td>A</td>
</tr>
<tr>
<td>91363-10</td>
<td>Seal Protectors - Package of 10 for 200 liters followers to be inserted between the follower plate and the material in the container. This helps to prevent corrosive materials from attacking the wiper and reduces clean-up time</td>
<td>200 liters Follower Plates</td>
<td>_</td>
</tr>
<tr>
<td>91364-10</td>
<td>Seal Protectors - Package of 10 for 20 liters followers to be inserted between the follower plate and the material in the container. This helps to prevent corrosive materials from attacking the wiper and reduces clean-up time</td>
<td>20 liters Follower Plates</td>
<td>_</td>
</tr>
</tbody>
</table>
**Follower Plates 200 liters Containers**

Mounting footprint is strictly a reference letter used to simplify the matching of pumps to follower plates and related accessories. i.e. pump with "A" mounting footprint will fit any accessory with "A" mounting footprint.

### Model | Material | Coating | Wiper Type | Wiper Material | Ram Lift Used With | Mounting Footprint
---|---|---|---|---|---|---
66248 | Carbon Steel | None | Single Lip | Nitrile, Polyethylene backup | 651614-X Ram 640169 Lift | A
---|---|---|---|---|---|---
66248-1 | Carbon Steel | None | Single Lip | Polyethylene | 651614-X Ram 640169 Lift | A
---|---|---|---|---|---|---
66516 | Aluminum | None | Double Lip | Nitrile | 651614-X Ram 651612-X | A
---|---|---|---|---|---|---
66516-1 | Aluminum | None | Double Lip | Polyurethane | 651614-X Ram 651612-X | A
---|---|---|---|---|---|---
66516-2 | Aluminum | None | Double Lip | EPR | 651614-X Ram 651612-X | A
---|---|---|---|---|---|---
66516-5 | Aluminum | Teflon | Double Lip | Nitrile | 651614-X Ram 651612-X | A
---|---|---|---|---|---|---
66516-6 | Aluminum | Teflon | Double Lip | Polyurethane | 651614-X Ram 651612-X | A
---|---|---|---|---|---|---
66516-7 | Aluminum | Teflon | Double Lip | EPR | 651614-X Ram 651612-X | A
---|---|---|---|---|---|---
66517 | Aluminum | Teflon | Double Lip | Nitrile | 651614-X Ram 651612-X | B
---|---|---|---|---|---|---
66517-1 | Aluminum | Teflon | Double Lip | Polyurethane | 651614-X Ram 651612-X | B
---|---|---|---|---|---|---
66517-2 | Aluminum | Teflon | Double Lip | EPR | 651614-X Ram 651612-X | B
---|---|---|---|---|---|---
66517-5 | Aluminum | Teflon | Double Lip | Nitrile | 651614-X Ram 651612-X | B
---|---|---|---|---|---|---
66517-6 | Aluminum | Teflon | Double Lip | Polyurethane | 651614-X Ram 651612-X | B
---|---|---|---|---|---|---
66517-7 | Aluminum | Teflon | Double Lip | EPR | 651614-X Ram 651612-X | B
## Follower Plates 200 liters Containers

Mounting footprint is strictly a reference letter used to simplify the matching of pumps to follower plates and related accessories. (i.e. pump with “A” mounting footprint will fit any accessory with “A” mounting footprint.

<table>
<thead>
<tr>
<th>Model</th>
<th>Material</th>
<th>Coating</th>
<th>Wiper Type</th>
<th>Wiper Material</th>
<th>Ram Lift Used With</th>
<th>Mounting Footprint</th>
</tr>
</thead>
<tbody>
<tr>
<td>67195-1</td>
<td>Aluminum</td>
<td>None</td>
<td>Tube Type</td>
<td>Neoprene</td>
<td>651614-X 651616-X 651612-X</td>
<td>A</td>
</tr>
<tr>
<td>67195-2</td>
<td>Aluminum</td>
<td>None</td>
<td>Tube Type</td>
<td>EPR</td>
<td>651614-X 651616-X 651612-X</td>
<td>A</td>
</tr>
<tr>
<td>67195-3</td>
<td>Aluminum</td>
<td>None</td>
<td>Tube Type</td>
<td>Viton</td>
<td>651614-X 651616-X 651612-X</td>
<td>A</td>
</tr>
<tr>
<td>67195-4</td>
<td>Aluminum</td>
<td>Teflon</td>
<td>Tube Type</td>
<td>Neoprene</td>
<td>651614-X 651616-X 651612-X</td>
<td>A</td>
</tr>
<tr>
<td>67195-5</td>
<td>Aluminum</td>
<td>Teflon</td>
<td>Tube Type</td>
<td>EPR</td>
<td>651614-X 651616-X 651612-X</td>
<td>A</td>
</tr>
<tr>
<td>67195-6</td>
<td>Aluminum</td>
<td>Teflon</td>
<td>Tube Type</td>
<td>Viton</td>
<td>651614-X 651616-X 651612-X</td>
<td>A</td>
</tr>
<tr>
<td>67196-1</td>
<td>Aluminum</td>
<td>None</td>
<td>Tube Type</td>
<td>Nitrile</td>
<td>651614-X 651616-X 651612-X</td>
<td>B</td>
</tr>
<tr>
<td>67196-2</td>
<td>Aluminum</td>
<td>None</td>
<td>Tube Type</td>
<td>EPR</td>
<td>651614-X 651616-X 651612-X</td>
<td>B</td>
</tr>
<tr>
<td>67196-3</td>
<td>Aluminum</td>
<td>None</td>
<td>Tube Type</td>
<td>Viton</td>
<td>651614-X 651616-X 651612-X</td>
<td>B</td>
</tr>
<tr>
<td>67196-4</td>
<td>Aluminum</td>
<td>Teflon</td>
<td>Tube Type</td>
<td>Nitrile</td>
<td>651614-X 651616-X 651612-X</td>
<td>B</td>
</tr>
<tr>
<td>67196-5</td>
<td>Aluminum</td>
<td>Teflon</td>
<td>Tube Type</td>
<td>EPR</td>
<td>651614-X 651616-X 651612-X</td>
<td>B</td>
</tr>
</tbody>
</table>
High Pressure - Fluid Regulators

The ARO I.D.L.® Fluid Regulator features smooth, consistent pressure regulation with easy-turn adjustment. Patented easy-access seat plug permits immediate service access to the regulator’s ball and seat. Patented “floating” ball and seat design maintains proper regulation, even during significant fluctuations in line pressure.

3/8” Ports, standard flow to 11.4 liters
651780-A1A-B C/S T/C 28-86 207
651780-A1B-B C/S T/C 69-207 414
651780-A3A-B S/S T/C 28-86 207
651780-A3B-B S/S T/C 69-207 414

3/8” Ports, high-flow to 22.7 liters
651780-B1A-B C/S T/C 28-86 207
651780-B1B-B C/S T/C 69-207 414
651780-B3A-B S/S T/C 28-86 207
651780-B3B-B S/S T/C 69-207 414

3/4” Ports, mastic-flow to 75.7 liters
651780-CAB-B C/S T/C 52-172 414
651780-C1C-B C/S T/C 138-345 414
651780-C3B-B C/S T/C 52-172 414

3/8” Ports, remote models, high flow to 22.7 liters
651780-B1R-B C/S T/C 14-345 414
651780-B3R-B S/S T/C 14-345 414

3/4” Ports, remote models, mastic-flow to 75.7 liters**
651780-C1R-B C/S T/C 14-345 414
651780-C3R-B S/S T/C 52-345 414

**Flow rates tested in 55 CPS material

Backpressure Models

3/8” Ports, high-flow to 22.7 liters
651781-B1B-1 C/S T/C 7-207 207
651781-B3B-B S/S T/C 7-207 207

3/4” Ports, backpressure models, mastic-flow to 75.7 liters**
651781-C1B-1 C/S T/C 7-207 207
651781-C3B-1 S/S T/C 7-207 207

Material Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/S</td>
<td>Carbon Steel</td>
<td>T/C</td>
<td>Tungsten Carbide</td>
</tr>
<tr>
<td>S/S</td>
<td>Stainless Steel</td>
<td>3/S</td>
<td>300 Series Stainless Steel</td>
</tr>
<tr>
<td>Z/A</td>
<td>Zinc Aluminum</td>
<td>Z/A</td>
<td>Zinc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Z/A</td>
<td></td>
</tr>
</tbody>
</table>
**Low Pressure - Fluid Regulators**

### Downstream Regulators

<table>
<thead>
<tr>
<th>Model</th>
<th>Base Housing</th>
<th>Seat</th>
<th>Reg. Pressure Range</th>
<th>Working Pressure/Inlet Gauge Pressure Range</th>
<th>Inlet Pressure</th>
<th>Gauge Pressure Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>651790-A1B-B</td>
<td>Z/A</td>
<td>T/C</td>
<td>0-2</td>
<td>8.3 51.7</td>
<td>0-4</td>
<td></td>
</tr>
<tr>
<td>651790-A1D-B</td>
<td>Z/A</td>
<td>T/C</td>
<td>3.4-14</td>
<td>41.3 51.7</td>
<td>0-20</td>
<td></td>
</tr>
<tr>
<td>651790-A2D-B</td>
<td>S/S</td>
<td>4/S</td>
<td>3.4-14</td>
<td>41.3 51.7</td>
<td>0-20</td>
<td></td>
</tr>
<tr>
<td>651790-33B-B</td>
<td>S/S</td>
<td>T/C</td>
<td>0-2</td>
<td>8.3 51.7</td>
<td>0-7</td>
<td></td>
</tr>
<tr>
<td>651790-A3C-B</td>
<td>S/S</td>
<td>T/C</td>
<td>3-4-1</td>
<td>8.3 51.7</td>
<td>0-4</td>
<td></td>
</tr>
<tr>
<td>651790-A3D-B</td>
<td>S/S</td>
<td>T/C</td>
<td>3.4-14</td>
<td>41.3 51.7</td>
<td>0-20</td>
<td></td>
</tr>
<tr>
<td>651790-A4B-B</td>
<td>S/S</td>
<td>3/S</td>
<td>0-2</td>
<td>8.3 34</td>
<td>0-4</td>
<td></td>
</tr>
<tr>
<td>651790-A4C-B</td>
<td>S/S</td>
<td>3/S</td>
<td>3-4-1</td>
<td>8.3 34</td>
<td>0-4</td>
<td></td>
</tr>
<tr>
<td>651790-A4D-B</td>
<td>S/S</td>
<td>3/S</td>
<td>3.4-14</td>
<td>41.3 34</td>
<td>0-20</td>
<td></td>
</tr>
</tbody>
</table>

**3/8” ports, standard flow to 11.4 liters**

- **Gauge included**
- **Flow rates tested in 30 wt. Oil**

<table>
<thead>
<tr>
<th>Model</th>
<th>Base Housing</th>
<th>Seat</th>
<th>Reg. Pressure Range</th>
<th>Working Pressure/Inlet Gauge Pressure Range</th>
<th>Inlet Pressure</th>
<th>Gauge Pressure Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>651790-A1R-B</td>
<td>Z/A</td>
<td>T/C</td>
<td>2-14</td>
<td>41.4 86</td>
<td>0-20</td>
<td></td>
</tr>
<tr>
<td>651790-A3R-B</td>
<td>S/S</td>
<td>T/C</td>
<td>2-14</td>
<td>34 51.7</td>
<td><strong>Flow rates tested in 55 wt. Oil</strong></td>
<td></td>
</tr>
</tbody>
</table>

**3/8” ports, remote models, flow to 11.4 liters**

- **Gauge NOT included**

<table>
<thead>
<tr>
<th>Model</th>
<th>Base Housing</th>
<th>Seat</th>
<th>Reg. Pressure Range</th>
<th>Working Pressure/Inlet Gauge Pressure Range</th>
<th>Inlet Pressure</th>
<th>Gauge Pressure Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>651790-B1D-B</td>
<td>Z/A</td>
<td>T/C</td>
<td>0-14</td>
<td>14 0-20</td>
<td><strong>Flow rates tested in SS CPS material</strong></td>
<td></td>
</tr>
<tr>
<td>651790-B1E-B</td>
<td>Z/A</td>
<td>T/C</td>
<td>0-55</td>
<td>55 0-69</td>
<td><strong>Flow rates tested in SS CPS material</strong></td>
<td></td>
</tr>
<tr>
<td>651790-B3D-B</td>
<td>S/S</td>
<td>T/C</td>
<td>0-14</td>
<td>14 0-20</td>
<td><strong>Flow rates tested in SS CPS material</strong></td>
<td></td>
</tr>
<tr>
<td>651790-B3E-B</td>
<td>S/S</td>
<td>T/C</td>
<td>0-55</td>
<td>55 0-69</td>
<td><strong>Flow rates tested in SS CPS material</strong></td>
<td></td>
</tr>
</tbody>
</table>

**3/8” ports, high flow to 22.7 liters**

<table>
<thead>
<tr>
<th>Model</th>
<th>Base Housing</th>
<th>Seat</th>
<th>Reg. Pressure Range</th>
<th>Working Pressure/Inlet Gauge Pressure Range</th>
<th>Inlet Pressure</th>
<th>Gauge Pressure Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>651790-B4R-B</td>
<td>S/S</td>
<td>3/S</td>
<td>2-14</td>
<td>34 0-20</td>
<td><strong>Flow rates tested in SS CPS material</strong></td>
<td></td>
</tr>
</tbody>
</table>

**1 1/4” Ports Model**

**Accessories**

- **Piston Pumps**

---

The ARO I.D.L.® Fluid Regulator features smooth, consistent pressure regulation with easy-turn adjustment. Patented easy-access seat plug permits immediate service access to the regulator’s ball and seat. Patented “floating” ball and seat design maintains proper regulation, even during significant fluctuations in line pressure.
**Measuring Cylinder System**

Utilize ARO pumps, measuring cylinders, a manual 4-way fluid control valve, standard hoses and dispensing valves. Shifting the control valve in either direction will allow the cylinder to fill to a pre-set volume.

ARO® metered pumping systems provide an economical method of dispensing fluids into containers or batch processes in desired quantities. Among the many benefits these systems offer are increased productivity, improved accuracy, and decreased product waste. As always, your ARO representative is prepared to discuss your metering system needs.

**Suggested System Components**

- Aro Pump
- Flow Gun (Dispensing Valve)
- Airline Filter, Regulator, Lubricator
- Measuring Cylinder - see below for details
- 4-way Control Valve - see below for details

**Accuracy**

The measuring cylinder system has a consistent accuracy rate of + 2%, depending on material characteristics.

**Measuring Cylinders**

- **665006** Measures 0 to 113 cm³, 241 mm long, 76,20 mm wide and 105 mm high. Dispenses predetermined quantities of fluid or semi-fluid material. 345 bars pressure, 1/4 inch NPTF. Constructed of carbon steel with neoprene seals & Buna-N O-rings.
- **665007** Measures 113 to 226 cm³, 305 mm long, 76,20 mm wide and 105 mm high. 345 bars pressure rating.
- **665008** Measures 354 to 473 cm³, 432 mm long, 76,20 mm wide and 105 mm high. 345 bars pressure rating.

**Manual Control Valve**

- **665009** Four-way control valve for ARO measuring cylinders. Pressure rating up to 345 bars. All steel construction. 235 mm high, 228 mm long, 63,5 mm wide, 1/4” NPTF inlet and outlet.
## Automatic Extrusion Guns

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Pumps Used With</th>
<th>Port Size In. NPT</th>
<th>Working Pressure Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>651511</em></td>
<td>Flow Gun - Requires 4-way air valve to open and close. Adjusting screw varies stroke length. Secures to 1/2&quot; diameter rod by allen screw. Aluminum body with tungsten carbide seats. Order 66541-XX Extrusion Nozzle Kit separately.</td>
<td>345</td>
<td>3/8 NPT (F) (2) 250 (6) &amp; 11/16-16 (M) 1/8 F (2)</td>
<td>3.4 at 138 bars fluid pressure</td>
</tr>
<tr>
<td>651513-11-B</td>
<td>Flow Gun - Has air open, spring return actuator. Requires 3-way air valve to open. Adjusting screw varies stroke length. Secures to 1/2&quot; diameter rod by allen screw. 316 stainless steel with tungsten carbide seat. Order 66541-XX Extrusion Nozzle Kit separately.</td>
<td>345</td>
<td>1/4 NPS (M) &amp; 11/16-16 (M) 1/8 F (2)</td>
<td>3.4 at 138 bars fluid pressure</td>
</tr>
<tr>
<td>651535-2</td>
<td>Snuff-Back Gun - High flow automatic dispensing gun is designed to handle high-velocity materials. Requires a 4-way air valve to open and close.</td>
<td>345</td>
<td>3/8 NPT (F) 1/4 NPS (F) (2)</td>
<td>3.4 at 138 bars fluid pressure</td>
</tr>
<tr>
<td>651537-1</td>
<td>Flow Gun - Similar to 651511 except with carbon steel body tungsten carbide ball and seat.</td>
<td>345</td>
<td>3/8 NPT 18 (M) 1/8</td>
<td>3.4 at 138 bars fluid pressure</td>
</tr>
</tbody>
</table>

## Manual Extrusion Guns

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Max Fluid Pressure Bars</th>
<th>Fluid Inlet ID &amp; Thread mm</th>
<th>Fluid Outlet ID &amp; Thread mm</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>651500</em></td>
<td>Flow Gun - Aluminum body with tungsten carbide seats. Order 66541-XX Extrusion Nozzle Kit separately.</td>
<td>517</td>
<td>3/8 (F)</td>
<td>6 &amp; 11/16-16 (M)</td>
</tr>
<tr>
<td>651533</td>
<td>Flow Gun - Wetted parts of 316 series stainless steel with tungsten carbide seats. Order 66541-XX Extrusion Nozzle Kit separately.</td>
<td>345</td>
<td>1/4 NPT (M)</td>
<td>2.3 &amp; 11/16-16 (M)</td>
</tr>
<tr>
<td>641523-1</td>
<td>Flow Gun - Wetted parts of 300 Series stainless steel with Teflon packings. Order 76751 Adapter and 66541-XX Extrusion Nozzle Kit separately.</td>
<td>207</td>
<td>3/8 (F)</td>
<td>6 &amp; 1/4 NPT (F)</td>
</tr>
</tbody>
</table>

*WARNING: Do not use with halogenated hydrocarbons. This model contains aluminum parts that come in contact with the material being dispensed. Aluminum is not compatible with halogenated hydrocarbon solvents.*
## Extrusion Gun Nozzle Kits

76751 Adapter - 1/4NPT(M) to 11/16-16(M) adapts 66541-XX Extrusion Nozzle Kit to fluid outlet for 641523-1 Flow Gun.

66541-XX Extrusion Nozzle Kit - Used on manual or automatic extrusion guns. Hardened steel assembly includes nozzle and cap. 11/16-16 UN(F).

<table>
<thead>
<tr>
<th>Model</th>
<th>Ø Orifice mm</th>
<th>Model</th>
<th>Ø Orifice mm</th>
<th>Model</th>
<th>Ø Orifice mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>66541-3</td>
<td>0.08</td>
<td>66541-9</td>
<td>2.4</td>
<td>66541-17</td>
<td>4.4</td>
</tr>
<tr>
<td>66541-4</td>
<td>1.2</td>
<td>66541-12</td>
<td>3.2</td>
<td>66541-18</td>
<td>4.7</td>
</tr>
<tr>
<td>66541-6</td>
<td>1.6</td>
<td>66541-15</td>
<td>4.0</td>
<td>66541-25</td>
<td>6.4</td>
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<tr>
<td></td>
<td></td>
<td>66541-37</td>
<td>9.5</td>
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</tbody>
</table>

## Automatic Airless Spray Guns

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Max Fluid Pressure Bars</th>
<th>Fluid Inlet &amp; Thread</th>
<th>Fluid Outlet I.D. &amp; Thread</th>
<th>Air Inlet Outlet mm NPT</th>
<th>Min. Air Pressure to Open Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>651511-1</td>
<td>SPRAY GUN - Requires 4-way air valve to open &amp; close. Adjusting screw vanes stroke length. Secures to 1/2&quot; diameter rod by Allen screw. Aluminum body with tungsten carbide seats. Includes 66504 TIP GUARD and NUT. Order TC-XXX SPRAY TIP separately. See page 69.</td>
<td>345</td>
<td>(2) 3/8 NPT (F) &amp; 11/16-16 (M)</td>
<td>(2) 1/8 (F)</td>
<td>3.4 at 138 bars fluid pressure</td>
<td></td>
</tr>
<tr>
<td>651513-12-B</td>
<td>SPRAY GUN - Has air open, spring return cylinder. Requires 3-way air valve to open. Adjusting screw vanes stroke length. Secures to 1/2&quot; diameter rod by Allen screw. 316 stainless steel body with tungsten carbide seat. Includes 66504 TIP GUARD and NUT. Order TC-XXX SPRAY TIP separately. See page 69.</td>
<td>345</td>
<td>1/4 NPS(M) &amp; 11/16-16 (M)</td>
<td>1/8 (F)</td>
<td>3.4 at 138 bars fluid pressure</td>
<td></td>
</tr>
<tr>
<td>651513-22-B</td>
<td>SPRAY GUN - Same as 651513-12-B except it has an air open, air return cylinder, and requires a 4-way air valve to open.</td>
<td>5000 (345)</td>
<td>1/4 NPS(M) &amp; 11/16-16 (M)</td>
<td>1/8 (F)</td>
<td>3.4 at 138 bars fluid pressure</td>
<td></td>
</tr>
<tr>
<td>651514-12-B</td>
<td>SPRAY GUN - Same as 651513-12-B except it has extra fluid port so gun can be used in recirculating systems. Includes 66504 TIP GUARD and NUT. Order TC-XXX SPRAY TIP separately. See page 69.</td>
<td>345</td>
<td>(2) 1/4 NPS(M) &amp; 11/16-16 (M)</td>
<td>1/8 (F)</td>
<td>3.4 at 138 bars fluid pressure</td>
<td></td>
</tr>
<tr>
<td>651514-22-B</td>
<td>SPRAY GUN - Same as 651514-12-B except it has an air open, air return cylinder and requires a 4-way air valve to open.</td>
<td>345</td>
<td>(2) 1/4 NPS(M) &amp; 11/16-16 (M)</td>
<td>1/8 (F)</td>
<td>3.4 at 138 bars fluid pressure</td>
<td></td>
</tr>
</tbody>
</table>
**Manual Airless Spray Guns**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Max. Fluid Pressure Bars</th>
<th>Fluid Inlet</th>
<th>Fluid Outlet I.D. mm &amp; Thread</th>
<th>Used with</th>
</tr>
</thead>
<tbody>
<tr>
<td>651533</td>
<td>SPRAY GUN – Wetted parts of 316 stainless steel with tungsten carbide seats. Used to airless spray paints, lacquers, and other light fluids. Includes 66504 TIP GUARD and NUT. Order TC-XXXX SPRAY TIP separately.</td>
<td>345</td>
<td>1/4 NPS(M)</td>
<td>2.3 &amp; 11/16-16 (M)</td>
<td>All manual and automatic SPRAY GUNS</td>
</tr>
</tbody>
</table>

*651500-1 SPRAY GUN – Aluminum body with tungsten carbide seats. Used for airless spraying material over 200,000 CPS. Includes 66504 TIP GUARD and NUT. Order TC-XXXX SPRAY TIPS separately.*

**WARNING:** Do not use with halogenated hydrocarbons. This model contains aluminum parts that come in contact with the material being dispensed. Aluminum is not compatible with halogenated hydrocarbon solvents.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Used with</th>
</tr>
</thead>
<tbody>
<tr>
<td>66504</td>
<td>TIP GUARD AND NUT – Secure TC-XXXX SPRAY TIP SPRAY GUN. Guard is required on all airless applications. Order SPRAY TIP separately.</td>
<td>All manual and automatic SPRAY GUNS</td>
</tr>
<tr>
<td>651555-B</td>
<td>QUICK CLEAN - Spray tip locked in operating position until reversed with lever for cleaning. For spraying heavy viscosity material. Order TC-XXXX-D SPRAY TIP separately.</td>
<td>All manual and automatic SPRAY GUNS</td>
</tr>
<tr>
<td>651551</td>
<td>QUICK CLEAN - Spray tip locked in operating position until reversed with lever for cleaning. For spraying heavy viscosity material. Order TC-XXXX SPRAY TIP separately.</td>
<td>651500-1 SPRAY GUN (To adapt 651551 to fit 651533, order: 76555 pilot, 92367 retaining nut, Y167-1 1/8(M) x 1/4 (F) adapter.)</td>
</tr>
<tr>
<td>65030-1-B</td>
<td>SWIVEL-1/4 NPT(M) x 1/4 NPS(M). Swivels 360°. No filter included. For SWIVEL and FILTER see model numbers below. 65030-5-B 120 mesh Stainless Steel Filter 65030-9-B70 mesh Stainless Steel Filter</td>
<td>All manual and automatic SPRAY GUNS</td>
</tr>
<tr>
<td>65809-X FILTER - 40 mesh Stainless Steel Filter. For finer mesh screen, see below. 65809-3 200 mesh 65809-5 120 mesh 65809-9 70 mesh</td>
<td>65030-X SWIVEL</td>
<td></td>
</tr>
<tr>
<td>65888-X PRE-ORIFICE - Accelerates fluid stream entering spray tip to provide complete atomization. Mounts directly behind TC-XXXX SPRAY TIP.</td>
<td>All manual and automatic SPRAY GUNS</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Orifice Diameter</th>
<th>Used with Spray Tips Having These Equivalent Orifice</th>
</tr>
</thead>
<tbody>
<tr>
<td>65888-9</td>
<td>.009</td>
<td>.007 or .009</td>
</tr>
<tr>
<td>65888-13</td>
<td>.013</td>
<td>.011</td>
</tr>
<tr>
<td>65888-16</td>
<td>.016</td>
<td>.013 or .015</td>
</tr>
<tr>
<td>65888-20</td>
<td>.020</td>
<td>.015 or .018</td>
</tr>
<tr>
<td>65888-25</td>
<td>.025</td>
<td>.018 or .021</td>
</tr>
</tbody>
</table>
## Airless Spray Tips

**EQUIVALENT ORIFICE:** Airless tip orifices are elliptical in shape. The term "equivalent orifice diameter" refers to circular orifice diameter which will provide the same flow rate as the elliptical orifice. The equivalent orifice diameter does not indicate actual orifice dimensions.

**PATTERN WIDTH:** This dimension is the nominal pattern width of each tip when tested on a coating material of 20 seconds – No. 4 Zahn cup viscosity at 104 bars at a 12" distance from the tip.

**FLOW RATE IN l/mn:** The flow rates of ARO airless tips are given as l/mn on water at pressures shown. Capacities will vary to some degree on other materials.

### Model Number Significance
- **TC** = Tungsten Carbide
- **15** = .015 Orifice Diameter
- **65** = 65° Spray Pattern
- **-D** = Tips are for use with 651555-B Quick Clean only

<table>
<thead>
<tr>
<th>Model Number</th>
<th>-D Models</th>
<th>Equiv. Orifice</th>
<th>Pattern Width mm</th>
<th>Flow rate liters/mn @ Fluid Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC540 -</td>
<td>-005</td>
<td>76</td>
<td>0.06</td>
<td>0.10</td>
</tr>
<tr>
<td>TC715 -</td>
<td>-007</td>
<td>140</td>
<td>0.11</td>
<td>0.15</td>
</tr>
<tr>
<td>TC925 -D</td>
<td>-009</td>
<td>216</td>
<td>0.15</td>
<td>0.23</td>
</tr>
<tr>
<td>TC965 -</td>
<td>-009</td>
<td>254</td>
<td>0.15</td>
<td>0.23</td>
</tr>
<tr>
<td>TC1115 -D</td>
<td>-011</td>
<td>76</td>
<td>0.20</td>
<td>0.30</td>
</tr>
<tr>
<td>TC1125 -D</td>
<td>-011</td>
<td>140</td>
<td>0.20</td>
<td>0.30</td>
</tr>
<tr>
<td>TC1140 -D</td>
<td>-011</td>
<td>178</td>
<td>0.20</td>
<td>0.30</td>
</tr>
<tr>
<td>TC1150 -D</td>
<td>-011</td>
<td>216</td>
<td>0.20</td>
<td>0.30</td>
</tr>
<tr>
<td>TC1165 -D</td>
<td>-011</td>
<td>254</td>
<td>0.20</td>
<td>0.30</td>
</tr>
<tr>
<td>TC1180 -</td>
<td>-013</td>
<td>292</td>
<td>0.20</td>
<td>0.30</td>
</tr>
<tr>
<td>TC1525 -</td>
<td>-013</td>
<td>140</td>
<td>0.34</td>
<td>0.46</td>
</tr>
<tr>
<td>TC1540 -D</td>
<td>-013</td>
<td>203</td>
<td>0.34</td>
<td>0.46</td>
</tr>
<tr>
<td>TC1550 -D</td>
<td>-013</td>
<td>229</td>
<td>0.34</td>
<td>0.46</td>
</tr>
<tr>
<td>TC1565 -D</td>
<td>-013</td>
<td>227</td>
<td>0.34</td>
<td>0.46</td>
</tr>
<tr>
<td>TC1580 -D</td>
<td>-013</td>
<td>330</td>
<td>0.34</td>
<td>0.46</td>
</tr>
<tr>
<td>TC1595 -</td>
<td>-015</td>
<td>152</td>
<td>0.46</td>
<td>0.61</td>
</tr>
<tr>
<td>TC1540 -D</td>
<td>-015</td>
<td>208</td>
<td>0.46</td>
<td>0.61</td>
</tr>
<tr>
<td>TC1550 -D</td>
<td>-015</td>
<td>254</td>
<td>0.46</td>
<td>0.61</td>
</tr>
<tr>
<td>TC1565 -D</td>
<td>-015</td>
<td>305</td>
<td>0.46</td>
<td>0.61</td>
</tr>
<tr>
<td>TC1580 -D</td>
<td>-015</td>
<td>356</td>
<td>0.46</td>
<td>0.61</td>
</tr>
<tr>
<td>TC1595 -</td>
<td>-015</td>
<td>394</td>
<td>0.46</td>
<td>0.61</td>
</tr>
<tr>
<td>TC1825 -D</td>
<td>-018</td>
<td>152</td>
<td>0.68</td>
<td>0.95</td>
</tr>
<tr>
<td>TC1840 -</td>
<td>-018</td>
<td>216</td>
<td>0.68</td>
<td>0.95</td>
</tr>
<tr>
<td>TC1850 -D</td>
<td>-018</td>
<td>254</td>
<td>0.68</td>
<td>0.95</td>
</tr>
<tr>
<td>TC1865 -D</td>
<td>-018</td>
<td>330</td>
<td>0.68</td>
<td>0.95</td>
</tr>
<tr>
<td>TC1880 -D</td>
<td>-018</td>
<td>381</td>
<td>0.68</td>
<td>0.95</td>
</tr>
<tr>
<td>TC1895 -</td>
<td>-018</td>
<td>432</td>
<td>0.68</td>
<td>0.95</td>
</tr>
<tr>
<td>TC2095 -</td>
<td>-020</td>
<td>457</td>
<td>0.76</td>
<td>1.06</td>
</tr>
<tr>
<td>TC2140 -D</td>
<td>-021</td>
<td>216</td>
<td>0.91</td>
<td>1.25</td>
</tr>
<tr>
<td>TC2150 -D</td>
<td>-021</td>
<td>292</td>
<td>0.91</td>
<td>1.25</td>
</tr>
<tr>
<td>TC2165 -D</td>
<td>-021</td>
<td>381</td>
<td>0.91</td>
<td>1.25</td>
</tr>
<tr>
<td>TC2180 -D</td>
<td>-021</td>
<td>432</td>
<td>0.91</td>
<td>1.25</td>
</tr>
<tr>
<td>TC2240 -D</td>
<td>-024</td>
<td>229</td>
<td>1.14</td>
<td>1.60</td>
</tr>
<tr>
<td>TC2465 -</td>
<td>-024</td>
<td>381</td>
<td>1.14</td>
<td>1.60</td>
</tr>
<tr>
<td>TC2480 -</td>
<td>-024</td>
<td>470</td>
<td>1.14</td>
<td>1.60</td>
</tr>
<tr>
<td>TC2495 -D</td>
<td>-024</td>
<td>533</td>
<td>1.14</td>
<td>1.60</td>
</tr>
<tr>
<td>TC2625 -D</td>
<td>-026</td>
<td>178</td>
<td>1.33</td>
<td>1.90</td>
</tr>
<tr>
<td>TC2650 -D</td>
<td>-026</td>
<td>305</td>
<td>1.33</td>
<td>1.90</td>
</tr>
<tr>
<td>TC2665 -D</td>
<td>-025</td>
<td>381</td>
<td>1.33</td>
<td>1.90</td>
</tr>
<tr>
<td>TC2680 -D</td>
<td>-026</td>
<td>470</td>
<td>1.33</td>
<td>1.90</td>
</tr>
<tr>
<td>TC2695 -</td>
<td>-026</td>
<td>533</td>
<td>1.33</td>
<td>1.90</td>
</tr>
<tr>
<td>TC2965 -D</td>
<td>-029</td>
<td>381</td>
<td>1.71</td>
<td>2.39</td>
</tr>
<tr>
<td>TC2995 -</td>
<td>-029</td>
<td>546</td>
<td>1.71</td>
<td>2.39</td>
</tr>
<tr>
<td>TC3140-D</td>
<td>-031</td>
<td>229</td>
<td>2.01</td>
<td>2.85</td>
</tr>
<tr>
<td>TC3195 -</td>
<td>-031</td>
<td>546</td>
<td>2.01</td>
<td>2.85</td>
</tr>
<tr>
<td>TC3640 -D</td>
<td>-036</td>
<td>229</td>
<td>2.70</td>
<td>3.80</td>
</tr>
<tr>
<td>TC3650 -D</td>
<td>-036</td>
<td>305</td>
<td>2.70</td>
<td>3.80</td>
</tr>
<tr>
<td>TC3680 -</td>
<td>-036</td>
<td>470</td>
<td>2.70</td>
<td>3.80</td>
</tr>
<tr>
<td>TC4195 -</td>
<td>-041</td>
<td>546</td>
<td>3.34</td>
<td>4.56</td>
</tr>
<tr>
<td>TC4340 -</td>
<td>-043</td>
<td>229</td>
<td>4.18</td>
<td>5.70</td>
</tr>
<tr>
<td>TC4365 -</td>
<td>-043</td>
<td>381</td>
<td>4.18</td>
<td>5.70</td>
</tr>
<tr>
<td>TC4895 -</td>
<td>-048</td>
<td>559</td>
<td>4.56</td>
<td>6.46</td>
</tr>
<tr>
<td>TC5240 -</td>
<td>-052</td>
<td>229</td>
<td>5.32</td>
<td>7.60</td>
</tr>
<tr>
<td>TC5265 -</td>
<td>-052</td>
<td>381</td>
<td>5.32</td>
<td>7.60</td>
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<tr>
<td>TC6265 -</td>
<td>-062</td>
<td>381</td>
<td>7.98</td>
<td>11.40</td>
</tr>
<tr>
<td>TC7265 -</td>
<td>-072</td>
<td>381</td>
<td>10.64</td>
<td>15.20</td>
</tr>
<tr>
<td>TC8565 -</td>
<td>-085</td>
<td>381</td>
<td>15.58</td>
<td>21.66</td>
</tr>
</tbody>
</table>

**Accessories • Piston Pumps**

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Airless Spray Tips

Airless tip orifices are elliptical in shape. The term "equivalent orifice diameter" refers to circular orifice diameter which will provide the same flow rate as the elliptical orifice. The equivalent orifice diameter does not indicate actual orifice dimensions.

Pattern Width: This dimension is the nominal pattern width of each tip when tested on a coating material of 20 seconds – No. 4 Zahn cup viscosity at 104 bars at a 12" distance from the tip.

Flow Rate: The flow rates of ARO airless tips are given as l/mn on water at pressures shown. Capacities will vary to some degree on other materials.

Model Number Significance
- TC = Tungsten Carbide
- 15 = .015 Orifice Diameter
- 65 = 65° Spray Pattern
- -D = Tips are for use with 651555-B Quick Clean only

---

**EQUIVALENT ORIFICE:**

Airless tip orifices are elliptical in shape. The term "equivalent orifice diameter" refers to circular orifice diameter which will provide the same flow rate as the elliptical orifice. The equivalent orifice diameter does not indicate actual orifice dimensions.

**PATTERN WIDTH:** This dimension is the nominal pattern width of each tip when tested on a coating material of 20 seconds – No. 4 Zahn cup viscosity at 104 bars at a 12" distance from the tip.

**FLOW RATE IN l/mn:** The flow rates of ARO airless tips are given as l/mn on water at pressures shown. Capacities will vary to some degree on other materials.

Model Number Significance
- TC = Tungsten Carbide
- 15 = .015 Orifice Diameter
- 65 = 65° Spray Pattern
- -D = Tips are for use with 651555-B Quick Clean only

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Accessories • Piston Pumps
### Recirculating System

**Recirculating Block**
- Used in recirculating systems where material particles must be kept in suspension.
- Features a 3/4" NPTF(M) thread inlet female to inlet of pump.
- Maximum working pressure: 241 bars.

**Way Valve**
- Used on the return leg of a recirculating system.
- Can be used to: (1) Evacuate air when introducing material into the system. (2) Direct material back to the foot valve of the pump. (3) Flush system when changing material or clean up. Maximum working pressure: 345 bars.

**Double Inlet Adapter**
- Used in recirculating systems where material particles must be kept in suspension.
- Attaches directly to fluid inlet of gun with single fluid inlet tube.
- Suggest use of 65030-X Swivel between the gun and Double Inlet Adapter for greater maneuverability.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Used With</th>
<th>Inlet Port Inches</th>
<th>Recirculating Port Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>91600</td>
<td>Recirculating Block</td>
<td>Pumps with 3/4&quot; female Inlet</td>
<td>3/4 PTF short</td>
<td>1/4 NPTF(F)</td>
</tr>
<tr>
<td>661173</td>
<td>Way Valve</td>
<td>Recirculating systems that are closed and circulating directly back to the foot valve of the pump.</td>
<td>1/4 NPT(F) (2)</td>
<td>1/4 NPSM</td>
</tr>
<tr>
<td>79244</td>
<td>Double Inlet Adapter</td>
<td>651533 Manual Spray Gun or NPS(M)</td>
<td>221</td>
<td>1/4</td>
</tr>
</tbody>
</table>

### Fluid Heaters

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Volt AC</th>
<th>AMPS</th>
<th>Wattage</th>
<th>Heater Accuracy (Celsius)</th>
<th>Temp. Rise Above Ambient (Celsius)</th>
<th>Recovery Rate Liters per Hour</th>
<th>Working Pressure bars</th>
<th>Fluid Inlet &amp; Outlet NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>651747-1-B</td>
<td>120</td>
<td>16.6</td>
<td>2000</td>
<td>±1.9°</td>
<td>38°</td>
<td>56.8</td>
<td>345</td>
<td>1/2 F</td>
</tr>
<tr>
<td>651747-2-B</td>
<td>240</td>
<td>8.3</td>
<td>2000</td>
<td>±1.9°</td>
<td>38°</td>
<td>56.8</td>
<td>345</td>
<td>1/2 F</td>
</tr>
<tr>
<td>651747-3-B</td>
<td>440</td>
<td>4.5</td>
<td>2000</td>
<td>±1.9°</td>
<td>38°</td>
<td>56.8</td>
<td>345</td>
<td>1/2 F</td>
</tr>
<tr>
<td>651747-2-M</td>
<td>240</td>
<td>8.3</td>
<td>2000</td>
<td>±1.9°</td>
<td>38°</td>
<td>56.8</td>
<td>345</td>
<td>1/2 F</td>
</tr>
</tbody>
</table>

*Atex Cenelec*

**Mounting Bracket**
- Bracket assembly with appropriate mounting holes to affix heater to vertical substrate.
- Used with 651747-X FLUID HEATERS

**Thermometer Kit**
- Assembly includes thermometer and outlet block. Senses fluid temperature.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Used With</th>
<th>Inlet Port NPT</th>
<th>Outlet Port NPT</th>
<th>Fluid Inlet &amp; Outlet NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>66062</td>
<td>Thermometer Kit</td>
<td></td>
<td>1/2 (M)</td>
<td>1/2 (M)</td>
<td>1/4 (F)</td>
</tr>
</tbody>
</table>
### Material Filters

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Max. fluid Pressure Bars</th>
<th>Filter Mesh Microns</th>
<th>Filter Inlet(s) NTP (Qty)</th>
<th>Filter Outlet(s) NTP (Qty)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1/4” fluid inlet/carbon steel construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>651412</td>
<td>345</td>
<td>70</td>
<td>1/4-F (2)</td>
<td>1/4-F (3)</td>
</tr>
<tr>
<td>651412-8</td>
<td>345</td>
<td>100</td>
<td>1/4-F (2)</td>
<td>1/4-F (3)</td>
</tr>
</tbody>
</table>

Bottom swivel.

| **1/2” fluid inlet/stainless steel construction (passivated)** |
| 651422-40    | 414                      | 40                 | 1/2-F (2)                 | 1/2-F (1)                  |
| 651422-70    | 414                      | 70                 | 1/2-F (2)                 | 1/2-F (1)                  |
| 651422-100   | 414                      | 100                | 1/2-F (2)                 | 1/2-F (1)                  |

| **1/2” fluid inlet/carbon steel construction (e-nickel plated)** |
| 651420-40    | 414                      | 40                 | 1/2-F (2)                 | 1/2-F (1)                  |
| 651420-70    | 414                      | 70                 | 1/2-F (2)                 | 1/2-F (1)                  |
| 651420-100   | 414                      | 100                | 1/2-F (2)                 | 1/2-F (1)                  |

| **1” fluid inlet/stainless steel construction (e-nickel plated)** |
| 651418-70-B  | 414                      | 40                 | 1-F (2)                   | 3/8-F (3)                  |
| 651418-100-B | 414                      | 70                 | 1-F (2)                   | 3/8-F (3)                  |

### Material Filters Screens

<table>
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<tr>
<th>Model</th>
<th>Screen Mesh</th>
<th>Filter Used With</th>
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<td>91192-1</td>
<td>40</td>
<td>651412</td>
</tr>
<tr>
<td>91192-2</td>
<td>70</td>
<td>651412</td>
</tr>
<tr>
<td>91192-3</td>
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<td>200</td>
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</tr>
<tr>
<td>93944-40</td>
<td>40</td>
<td>651420 &amp; 651422</td>
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<tr>
<td>93944-70</td>
<td>70</td>
<td>651420 &amp; 651422</td>
</tr>
<tr>
<td>93944-100</td>
<td>100</td>
<td>651420 &amp; 651422</td>
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<td>93945-40</td>
<td>40</td>
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<td>651418</td>
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<tr>
<td>93945-100</td>
<td>100</td>
<td>651418</td>
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</table>
## Accessories • Piston Pumps

### Air filter/Regulator/Lubricator

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Pumps Used With</th>
<th>Port Size NPT</th>
<th>Reg. Pressure Range bars</th>
<th>Max. Flow Pressure</th>
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</thead>
<tbody>
<tr>
<td><strong>Module/Air 1000™ F/R/L</strong></td>
<td></td>
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</tr>
<tr>
<td>C28121-800</td>
<td>Filter/Regulator/Lubricator; Drop/fog-type lubrication, 20 micron filter, polycarbonate bowl w/guard.</td>
<td>2&quot; &amp; 3&quot;, 1/4 (F)</td>
<td>0.3-8.6</td>
<td>6 dm³/s</td>
<td></td>
</tr>
<tr>
<td>C29122-600</td>
<td>Filter/Regulator; Drop/fog-type lubrication, 20 micron filter, polycarbonate bowl w/guard.</td>
<td>2&quot; &amp; &quot;N&quot;, 1/4 (F)</td>
<td>0.3-8.5</td>
<td>6 dm³/s</td>
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<tr>
<td><strong>Module/Air 2000™ F/R/L</strong></td>
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<tr>
<td>C28241-810</td>
<td>Filter/Regulator/Lubricator; Drop/fog-type lubrication, 40 micron filter, metal bowls w/ sight glass.</td>
<td>41/4&quot; &amp; 6&quot; 1/2 (F)</td>
<td>0.3-8.6</td>
<td>52 dm³/s</td>
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<tr>
<td>C29241-610</td>
<td>Filter/Regulator; Drop/fog-type lubrication, 40 micron filter, metal bowls w/ sight glass.</td>
<td>41/4&quot; &amp; 6&quot; 1/2 (F)</td>
<td>0.3-8.5</td>
<td>66 dm³/s</td>
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<tr>
<td><strong>F/R/L Assemblies</strong></td>
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<tr>
<td>651729</td>
<td>Kit Assembly; Heavy-Duty FRL w/ hose &amp; mounting bracket for installation to Two Post Ram.</td>
<td>10&quot; 3/4 (M)</td>
<td>0.3-8.6</td>
<td>35 dm³/s</td>
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<tr>
<td>651730</td>
<td>Kit Assembly; Heavy-Duty FRL w/ hose &amp; mounting bracket for installation to Two Post Ram.</td>
<td>8&quot; 3/4 (M)</td>
<td>0.3-8.6</td>
<td>35 dm³/s</td>
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<tr>
<td>65940</td>
<td>Kit Assembly; Heavy-Duty FRL w/ hose &amp; mounting bracket for installation to Two Post Ram.</td>
<td>41/4&quot; 1/2 (M)</td>
<td>0.3-13.8</td>
<td>31 dm³/s</td>
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</table>
Module/Air 3000 Piggyback Lubricator
• The Module/Air 3000 Heavy-Duty Series units extend the life of air operated equipment while reducing operating costs. These units efficiently remove solid particles from compressed air lines making them the perfect choice for large flow applications.
• Polycarbonate bowl with metal guard standard.
• Automatic drain has pipe connection for draining away contaminants.
• Push-pull, non-rising adjustment knob.
• Bracket and Gauge comes standard with all units.

Ordering Information

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>P29351-600</td>
<td>Piggyback, 3/4&quot; NPT, w/Gauge &amp; Bracket</td>
</tr>
<tr>
<td>P29351-604</td>
<td>Piggyback, 3/4&quot; NPT, w/Gauge, Bracket &amp; Auto Drain</td>
</tr>
<tr>
<td>C28351-600</td>
<td>Piggyback/Lube Combo, 3/4&quot; NPT, w/Gauge &amp; Bracket</td>
</tr>
<tr>
<td>100067</td>
<td>Gauge, 0-11 bars</td>
</tr>
<tr>
<td>104282</td>
<td>Bracket</td>
</tr>
<tr>
<td>104283</td>
<td>Auto Drain</td>
</tr>
<tr>
<td>104284</td>
<td>Filter Element, 40 Micron (Standard)</td>
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<tr>
<td>104285</td>
<td>Filter Element, 5 Micron</td>
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<tr>
<td>104286</td>
<td>Filter Bowl</td>
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<tr>
<td>104287</td>
<td>Lubricator Bowl</td>
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Module/Air 3000 Piggyback Lubricator Performance Specifications

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<tr>
<th>Construction</th>
<th>Piston Type Regulation</th>
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<tbody>
<tr>
<td>Material</td>
<td>Body/Aluminum Die-Cast - Bowl/Polycarbonate</td>
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<tr>
<td>Filter Element</td>
<td>40 Micron (Standard)</td>
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<tr>
<td>Temperature Range</td>
<td>-10 to 60 °C</td>
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<tr>
<td>Pressure Range</td>
<td>0.4 to 11.7 bars</td>
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<tr>
<td>Max. Pressure</td>
<td>11.7 bars</td>
</tr>
<tr>
<td>Max. Flow Rate</td>
<td>Piggyback, 141 l/s - Lubricator, 151 l/s</td>
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<tr>
<td>Media</td>
<td>Compressed Air</td>
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<tr>
<td>Bowl Capacity</td>
<td>Filter, 298 g - Lubricator, 227 g.</td>
</tr>
<tr>
<td>Seals</td>
<td>Buna-N</td>
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<tr>
<td>Weight</td>
<td>Piggyback-Lube, 2105 g - Piggyback, 1360 g</td>
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</tbody>
</table>
## Accessories • Piston Pumps

### 2-Way Solenoid/Pilot Acting Valves

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Port Size</th>
<th>Cv</th>
<th>Voltage</th>
<th>2&quot;</th>
<th>3&quot;</th>
<th>4-1/4&quot;</th>
<th>6&quot;</th>
<th>8&quot;</th>
<th>10&quot;</th>
<th>12&quot;</th>
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</thead>
<tbody>
<tr>
<td>TB03EB-024-D</td>
<td>3/8&quot;</td>
<td>4.5</td>
<td>24 DC</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>TB03EB-120-A</td>
<td>3/8&quot;</td>
<td>4.5</td>
<td>120 AC</td>
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<td>•</td>
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<tr>
<td>TB04EB-024-D</td>
<td>1/2&quot;</td>
<td>4.5</td>
<td>24 DC</td>
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<td>•</td>
<td></td>
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<td>TB04EB-120-A</td>
<td>1/2&quot;</td>
<td>4.5</td>
<td>120 AC</td>
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<td></td>
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<tr>
<td>TB06EB-024-D</td>
<td>3/4&quot;</td>
<td>12.0</td>
<td>24 DC</td>
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<td>TB06EB-120-A</td>
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<td>120 AC</td>
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</tbody>
</table>

Nota: See page 75 for cable connectors.

### 2-Way Direct Acting Solenoid Valves

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<th>Model Number</th>
<th>Port Size</th>
<th>Cv</th>
<th>Voltage</th>
<th>2&quot;</th>
<th>3&quot;</th>
<th>4-1/4&quot;</th>
<th>6&quot;</th>
<th>8&quot;</th>
<th>10&quot;</th>
<th>12&quot;</th>
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<td>TB022B-024-D</td>
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<td>.18</td>
<td>24 DC</td>
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<tr>
<td>TB022B-120-A</td>
<td>1/4&quot;</td>
<td>.18</td>
<td>120 AC</td>
<td>•</td>
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<tr>
<td>TB035B-024-D</td>
<td>3/8&quot;</td>
<td>4.0</td>
<td>24 DC</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<tr>
<td>TB035B-120-A</td>
<td>3/8&quot;</td>
<td>4.0</td>
<td>120 AC</td>
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<tr>
<td>TB045B-024-D</td>
<td>1/2&quot;</td>
<td>4.0</td>
<td>24 DC</td>
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<td>TB045B-120-A</td>
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<tr>
<td>TB066B-024-D</td>
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<td>3/4&quot;</td>
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Nota: See page 75 for cable connectors.

### 3-Way Solenoid Actuated Valves

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<th>Cv</th>
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<th>3&quot;</th>
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<td>CAT66P-024-D</td>
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<td>120 AC</td>
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<td>24 DC</td>
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<td>MQ3728-120-A</td>
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<td>120 AC</td>
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<td>H253SS-024-D</td>
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<td>24 DC</td>
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<td>H253SS-120-A</td>
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<td>120 AC</td>
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<td>120 AC</td>
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Nota: See page 75 for cable connectors.

### Air Control Needle Valves

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<tr>
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<th>Port Size</th>
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<th>Voltage</th>
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<th>3&quot;</th>
<th>4-1/4&quot;</th>
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<th>8&quot;</th>
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### Lock-Out Valves/Hasp

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<th>4-1/4&quot;</th>
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</tbody>
</table>

*Safety lock-out for module air 1000

- Normally Closed
- Brass Body
- Stainless Steel
- Spring Return
- Connector Options Include CSN-30 or CHW-30

- Normally Closed
- Brass Body
- Stainless Steel Stem
- Spring Return
- Connector Options include CSN-30 or CHW-30, exception 1/4" valve which uses CSN or CHW.

- Normally Closed
- Aluminum Body
- Spring Return
- Connector Options include CSN-30 or CHW-30 for CAT66-P, or CSN or CHW for all others

- Composite Body
- Can be Panel Mounted
- Infinite Control Settings
- Corrosion-Resistant Stainless Steel Insert & Stem

- Meets OSHA lock-out / tag-out regulations
- Installs upstream of air filter / regulator unit

- Composite Body
- Can be Panel Mounted
- Infinite Control Settings
- Corrosion-Resistant Stainless Steel Insert & Stem

- Meets OSHA lock-out / tag-out regulations
- Installs upstream of air filter / regulator unit

- Composite Body
- Can be Panel Mounted
- Infinite Control Settings
- Corrosion-Resistant Stainless Steel Insert & Stem

- Meets OSHA lock-out / tag-out regulations
- Installs upstream of air filter / regulator unit

- Composite Body
- Can be Panel Mounted
- Infinite Control Settings
- Corrosion-Resistant Stainless Steel Insert & Stem

- Meets OSHA lock-out / tag-out regulations
- Installs upstream of air filter / regulator unit
Accessories • Piston Pumps

Connectors/Coils

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<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>CSN</td>
<td>Strain relief connector for 3-way valves</td>
<td>116218-39</td>
<td>22 mm, 24 VDC Coil</td>
</tr>
<tr>
<td>CSN-30</td>
<td>Strain relief connector for 2-way valves and CAT66P-XXX-X Valves</td>
<td>116218-33</td>
<td>22 mm, 120 VAC Coil</td>
</tr>
<tr>
<td>CHW</td>
<td>Molded cable connector for 3-way valves, 36” molded leads</td>
<td>119378-39</td>
<td>30 mm, 24 VDC Coil</td>
</tr>
<tr>
<td>CHW-30</td>
<td>Molded cable connector for 2-way valves and CAT66P-XXX-X, 36” molded leads</td>
<td>119378-33</td>
<td>30 mm, 120 VAC Coil</td>
</tr>
</tbody>
</table>

Typical Installation

![Diagram of typical installation](image)

- Lock-out Valve with Hasp
- Module Air 2000 Filter / Regulator
- Air Needle Valve
- Solenoid-Actuated Valve
- ARO Diaphragm Pump
- ARO Piston Pump
- Air line Connection Kit
## Over-Run Controls

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Pumps Used With</th>
<th>Air Inlet NPT</th>
<th>Air Outlet NTP</th>
<th>Pressure Range Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>635040</td>
<td>ARO-STOP® Valve</td>
<td>&quot;N&quot; Series, air motor pumps only</td>
<td>1/4 (F)</td>
<td>1/4 (M)</td>
<td>1.4-12</td>
</tr>
<tr>
<td></td>
<td>Shuts off air to the pump when material container is empty or line is broken. Quick set and reset feature.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23644-400</td>
<td>ARO-STOP® Valve</td>
<td>41/4&quot; &amp; 6&quot; air motor pumps</td>
<td>1/2 (F)</td>
<td>1/2 (M)</td>
<td>1.4-12</td>
</tr>
<tr>
<td></td>
<td>Shuts off air to the pump when material container is empty or line is broken. Quick set and reset feature.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>635043</td>
<td>ARO-STOP® Valve</td>
<td>8&quot;, 10&quot;, &amp; 12&quot; air motor pumps only</td>
<td>3/4 (F)</td>
<td>3/4 (M)</td>
<td>1.4-12</td>
</tr>
<tr>
<td></td>
<td>Shuts off air to the pump when material container is empty or line is broken. Quick set and reset feature.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Air Motor Muffler

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Pumps Used With</th>
<th>Air Inlet NPT</th>
<th>Air Outlet NPT</th>
<th>Size mm x mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>91790</td>
<td>Air Motor Muffler</td>
<td>41/4&quot; &amp; 6&quot; air motor pumps</td>
<td>1-1/4 (M)</td>
<td></td>
<td>89 x 284</td>
</tr>
<tr>
<td></td>
<td>Reduces air exhaust noise level to acceptable OSHA standards.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92460</td>
<td>Air Motor Muffler</td>
<td>8&quot; air motor, pumps</td>
<td>1-1/4 (M)</td>
<td></td>
<td>143 x 391</td>
</tr>
<tr>
<td></td>
<td>Reduces air exhaust noise level to acceptable OSHA standards.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66718</td>
<td>Air Motor Muffler</td>
<td>10&quot; &amp; 12&quot; air motor, pumps</td>
<td>Bolted-on</td>
<td></td>
<td>229 x 508</td>
</tr>
<tr>
<td></td>
<td>Reduces air exhaust noise level to acceptable OSHA standards.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Wet Sol “Plus”

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
<th>Pumps Used With</th>
</tr>
</thead>
<tbody>
<tr>
<td>66333-B</td>
<td>Wet Sol - 0.95 liter Container</td>
<td>All pumps with wet cups.</td>
</tr>
<tr>
<td></td>
<td>Designed to prolong packing life by keeping the piston rod and packings wetted. Also reduces the possibility of material hardening on the piston rod.</td>
<td></td>
</tr>
<tr>
<td>66334-B</td>
<td>Wet Sol - 3.75 liters Container</td>
<td></td>
</tr>
</tbody>
</table>
Food sensory photo of a document page. The page contains text about warranty, accessories, and a viscosity conversion chart. The warranty notes that all ARO pumps are backed by a 5-year warranty, and the text includes details about how to return shipping costs within the Continental United States of America. The viscosity conversion chart lists conversion factors for Saybolt Universal, Saybolt Furol, and Zahn. It is structured in a table format with values for different viscosity levels.