

# Pumps and Pump Packages for Finishing

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FINISHING PACKAGES

ACCESSORIES

FINISHING PUMPS



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# Finishing Pumps

Finishing pumps cover a broad range of applications. Finishing includes everything from applying the final coat of varnish on new furniture, to applying a protective film of oil on new steel.

Typical fluids used in finishing applications include paints, resins, lacquers, sealers, adhesives, varnishes, lubricants and stains. Many finishing applications require the fluid to be circulated through the plumbing system back to the original container. This prevents the fluid pigment from settling out.

# Application Parameters

There are several methods of spraying a fluid in a finishing application. *Conventional* spray introduces air into the fluid to atomize the fluid. This produces a quality finish, but results in considerable overspray. *HVLP* (High Volume Low Pressure) is a process that uses high volumes of air and low fluid pressures to atomize a fluid. This process minimizes overspray and bounceback. *Airless Spray* forces the fluid through an orifice at high pressure to create atomization. This process is good for finishing steel structures, heavy equipment and buildings. Besides paint, airless is also good for spraying adhesives and lubricants.

*Air Assisted Airless* is similar to airless, but introduces air to the fluid to enhance atomization. This results in a better finish than standard airless, with less overspray than conventional spray.

Ratios used in finishing applications range from 1:1 to 28:1. Aro produces several finishing packages for a variety of applications. These packages include a 650754 HVLP unit and a NP328C02-1 cart-mounted airless system. Finishing applications often require equipment beyond the standard pump and control handle. Environmental concerns have resulted in the need for expensive equipment that reduces and contains overspray.

# Accessories

Several accessories will improve the efficiency of a Finishing application. They include:

**Agitator:** These air driven devices are used to keep the material in suspension within the fluid container. Available for 5 or 55-gallon containers.

**Drum Covers:** These help protect the fluid from contamination. Available in carbon, or stainless steel. For 5-gallon pails or 55-gallon drums.

**Wall Mounts:** Used to mount siphon pumps away from the fluid container. A clean, efficient mounting system that provides easy change-over when the fluid container is empty.

**Siphon Tubes/Hoses:** A Siphon Tube or Hose is used to draw material from the original container to the pump inlet. Because only the hose is immersed, the pump stays clean.

**Material Filters:** These are used to strain particles from the fluid that would otherwise clog the spray gun.

**Backpressure Regulators:** Used on circulating systems to maintain pressures high enough to spray material. Placed near end of a recirculating system. The regulator allows fluid flow after the desired pressure is obtained. Without regulator, fluid would not properly atomize.

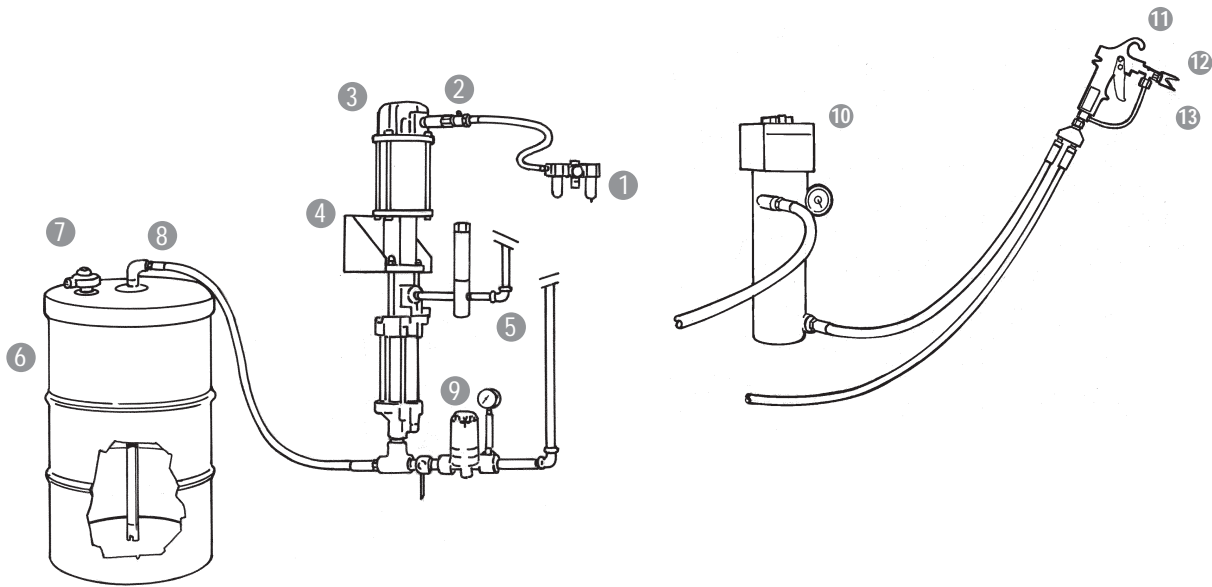
**Fluid Heaters:** Use of a heater can lower fluid viscosities and produce a better finish. Heaters feature a cast aluminum body with stainless fluid passages. Available with various voltages, they have flow capacities of 15-gpm (56.8-lpm) at 100°F (38°C) above ambient.

**Recirculating Accessories:** Recirculating Blocks and Inlet Adapters allow fluid to be circulated from the gun, back to the original fluid container.

**Airless Spray Guns & Tips:** Permit airless spray of fluids. Available in automatic or manual configurations. Tip selection will control spray pattern and flow rate.

**Quick Clean Units:** Reverses tip for cleaning. Used when spraying heavy viscosity materials.

## Typical Application



## Transfer Accessories

I.D.	DESCRIPTION:	See Page Number
1	Module/Air 2000 F-R-L Trio	12
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10	Fluid Heater	19
11	Manual Spray Gun	20
12	Spray Tip	21
13	Tip Guard	21

## Model Reference Index

Ratio:	Max. Flow Rate:	Model Number:	Pump Material:	Pump Type
2:1	4-GPM (15.1 lpm)	650115-1C	Carbon Steel	2-Ball
2:1	4-GPM (15.1 lpm)	650110-X	Carbon Steel	2-Ball
2:1	4-GPM (15.1 lpm)	650133-X	Stainless Steel	2-Ball
2:1	4-GPM (15.1 lpm)	650132X	Carbon Steel	2-Ball
2:1	4-GPM (15.1 lpm)	650137-1	Carbon Steel	2-Ball
2:1	21.3-GPM (80.6 lpm)	650439-X4B	Stainless Steel	4-Ball
3:1	29.3-GPM (110.8 lpm)	650640-X4B	Stainless Steel	4-Ball
4:1	25-GPM (94.6 lpm)	650639-X4B	Stainless Steel	4-Ball
4:1	4.2-GPM (15.8 lpm)	NM2304A-X1-X11	Carbon Steel	2-Ball
4:1	4.2-GPM (15.8 lpm)	NM2304B-X1-X11	Stainless Steel	2-Ball
5:1	38-GPM (143.6 lpm)	650840-X4C	Stainless Steel	4-Ball
7:1	25-GPM (94.5 lpm)	650839-X4C	Stainless Steel	4-Ball
9:1	4-GPM (15.1 lpm)	650453-X	Carbon Steel	2-Ball
9:1	4-GPM (15.1 lpm)	50408-X	Stainless Steel	2-Ball
9:1	4-GPM (15.1 lpm)	650409-X	Stainless Steel	2-Ball
10:1	15-GPM (56.8 lpm)	613112-X66-B	Stainless Steel	2-Ball
10:1	15-GPM (56.8 lpm)	650866-X63	Stainless Steel	2-Ball
11:1	4.6-GPM (17.4 lpm)	650483-X4X	Stainless Steel	2-Ball
15:1	15-GPM (56.8 lpm)	613123-XX6-B	Stainless Steel	2-Ball
15:1	15-GPM (56.8 lpm)	650867-X63	Stainless Steel	2-Ball
22:1	4.6-GPM (17.4 lpm)	650484-X4X-B	Stainless Steel	2-Ball
23:1	4.6-GPM (17.4 lpm)	650683-X4X	Stainless Steel	2-Ball
23:1	15-GPM (56.8 lpm)	650967-X63	Stainless Steel	2-Ball
23:1	15-GPM (56.8 lpm)	613124-XX6-B	Stainless Steel	2-Ball
28:1	.75-GPM (2.8 lpm)	NM2328A-11-X11	Carbon Steel	2-Ball
30:1	1.5-GPM (5.7 lpm)	650485-X4X	Stainless Steel	2-Ball
40:1	4.6-GPM (17.4 lpm)	650883-X4X	Stainless Steel	2-Ball
45:1	5.4-GPM (20.4 lpm)	650863-X43	Carbon Steel	2-Ball
45:1	2.4-GPM (9 lpm)	650684-X4X	Stainless Steel	2-Ball
60:1	1.5-GPM (5.7 lpm)	650685-X4X	Stainless Steel	2-Ball
65:1	5.4-GPM (20.4 lpm)	650963-X43	Carbon Steel	2-Ball
1.7:1	3.1-GPM (11.7 lpm)	650943-X4X	Stainless Steel	2-Ball
2:1	22.4-GPM (84.7 lpm)	650950-X4B	Stainless Steel	4-Ball
3:1	17-GPM (64.2 lpm)	650949-X4B	Stainless Steel	4-Ball

Mount:	Motor:	Air Inlet:	Fluid Outlet:	Page #:
Stub	2'	1/4" NPT(F)	1/2" NPT(F)	25
55-Gallon	2'	1/4" NPT(F)	1/2" NPT(F)	24
55-Gallon	2'	1/4" NPT(F)	1/2" NPT(F)	27
Stub	2'	1/4" NPT(F)	1/2" NPT(F)	26
55-Gallon	2'	1/4" NPT(F)	1/2" NPT(F)	28
Stub	4 1/4"	1/2" NPT(F)	1" NPT(F)	29
Stub	6"	1/2" NPT(F)	1" NPT(F)	30
Stub	6"	1/2" NPT(F)	1" NPT(F)	33
Stub	3"	1/4" NPT(F)	3/4" NPT(F)	31
Stub	3"	1/4" NPT(F)	3/4" NPT(F)	32
Stub	8"	3/4" NPT(F)	1" NPT(F)	34
Stub	8"	3/4" NPT(F)	1" NPT(F)	35
Stub or 55-Gall.	4 1/4"	1/2" NPT(F)	3/4" NPT(F)	38
Stub	6 1/4"	1/2" NPT(F)	3/4" NPT(F)	36
55-Gallon	4 1/4"	1/2" NPT(F)	3/4" NPT(F)	37
Stub	8"	3/4" NPT(F)	1 1/4" NPT(F)	39
Stub	8"	3/4" NPT(F)	1 1/4" NPT(F)	40
Stub	4 1/4"	1/2" NPT(F)	1" NPT(F)	41
Stub	10"	3/4" NPT(F)	1 1/4" NPT(F)	??
Stub	10"	3/4" NPT(F)	1 1/4" NPT(F)	42
Stub	4 1/4"	1/2" NPT(F)	1" NPT(F)	43
Stub	6"	1/2" NPT(F)	1" NPT(F)	44
Stub	12"	3/4" NPT(F)	1 1/4" NPT(F)	45
Stub	12"	3/4" NPT(F)	1 1/4" NPT(F)	??
Stub	3"	1/4" NPT(F)	3/4" NPT(F)	46
Stub	4 1/4"	3/4" NPT(F)	1" NPT(F)	47
Stub	8"	3/4" NPT(F)	1" NPT(F)	48
Stub	10"	3/4" NPT(F)	1" NPT(F)	49
Stub	6"	1/2" NPT(F)	1" NPT(F)	50
Stub	6"	1/2" NPT(F)	1" NPT(F)	51
Stub	12"	3/4" NPT(F)	1" NPT(F)	52
Stub	2" Hydraulic	-	1" NPT(F)	55
Stub	2" Hydraulic	-	1" NPT(F)	53
Stub	2" Hydraulic	-	1" NPT(F)	54

## Package Contents

### NP328D01-X 28:1 Ratio, Carbon Steel Drum Mounted Airless Spray Package

NM2328A-11-X11	Carbon Steel Pump
651412-X	Material Filter Assembly
65706	Cover
628042-25	Hose Assembly
R27221-100	Air Regulator
65722	Bucket
651533	Airless Spray Gun
65030-5-B	Filter/Swivel Assembly
91296	Screen Inlet Cover
90273	Foot Screen



NM328D-X

## Pump Performance

Air Inlet Pressure Range	30-150 PSI (2-10.2 bar)
Fluid Pressure Range	840-4200 PSI (57.4-285.7 bar)
Flow @ 60 Cycles/Minute:	0.38 GPM (1.44 lpm)
Displacement In <sup>3</sup> Per Cycle	1.47 (24 cm <sup>3</sup> )
Lower Pump Material	Carbon Steel
Plunger Material	Carbon Steel
Packing Material	UHMW-PE/Leather Stagger
	UHMW-PE/PTFE
Air Motor	66914
Air Motor Repair Kit	637316
Lower Pump Series	66066-2 for NP328D01-1
Lower Pump Repair Kit	637006-2 for NP328D01-1
	66066-3 for NP328D01-2
	637006-3 for NP328D01-2



## Package Contents

### NP328D02-X 28:1 Ratio, Carbon Steel Drum Mounted Airless Spray Package

NM2328A-11-X11	Carbon Steel Pump
651412-6	Material Filter Assembly
65706	Cover
628042-25	Hose Assembly
R27221-100	Air Regulator
650252	Agitator
65722	Bucket
651533	Airless Spray Gun
65030-5-B	Filter/Swivel Assembly
91296	Screen Inlet Cover
90273	Foot Screen

## Pump Performance

Air Inlet Pressure Range	30-150 PSI (2-10.2 bar)
Fluid Pressure Range	840-4200 PSI (57.4-285.7 bar)
Flow @ 60 Cycles/Minute:	0.38 GPM (1.44 lpm)
Displacement In <sup>3</sup> Per Cycle	1.47 (24 cm <sup>3</sup> )
Lower Pump Material	Carbon Steel
Plunger Material	Carbon Steel
Packing Material	UHMW-PE/Leather Stagger
	UHMW-PE/PTFE
Air Motor	66914
Air Motor Repair Kit	637316
Lower Pump Series	66066-2 for NP328D02-1
Lower Pump Repair Kit	637006-2 for NP328D02-1
	66066-3 for NP328D02-2
	637006-3 for NP328D02-2



## Package Contents

650554  
 30:1 Ratio, Cart Mounted Airless Spray Package  
 650485-P43 . . . . . Stainless Steel Pump  
 R27241-100 . . . . . Air Line Regulator  
 651422-70 . . . . . Material Filter/Dampener  
 91790 . . . . . Muffler  
 622606-5 . . . . . Suction Hose  
 67138 . . . . . Heavy-duty Cart



650554

## Pump Performance

Air Inlet Pressure Range . . . . . 30-150 PSI (2-10.2 bar)  
 Fluid Pressure Range . . . . . 900-4500 PSI (61.2-306.1 bar)  
 Flow @ 60 Cycles/Minute: . . . . . 1.3 GPM (4.9 lpm)  
 Displacement In<sup>3</sup> Per Cycle . . . 41.9 (90.1 cm<sup>3</sup>)  
 Lower Pump Material . . . . . CF8M Stainless Steel  
 Plunger Material . . . . . 17-4 Stnls. Steel (chrome plated)  
 Packing Material . . . . . UHMW-PE/PTFE (Upper)  
 . . . . . UHMW-PE (Upper)  
 Air Motor . . . . . 65465-B  
 Air Motor Repair Kit . . . . . 61268  
 Lower Pump End Series . . . . . 66302-P43  
 Lower Pump Repair Kit . . . . . 637307-P43

## Package Contents

650556  
 45:1 Ratio, Cart Mounted Airless Spray Package  
 650684-P43 . . . . . Stainless Steel Pump  
 R27241-100 . . . . . Air Line Regulator  
 651422-70 . . . . . Material Filter/Dampener  
 91790 . . . . . Muffler  
 622606-5 . . . . . Suction Hose Assembly  
 67138 . . . . . Heavy-Duty Cart



650556

## Pump Performance

Air Inlet Pressure Range . . . . . 30-150 PSI (2-10.2 bar)  
 Fluid Pressure Range . . . . . 1350-6750 PSI (91.8-459.1 bar)  
 Flow @ 60 Cycles/Minute: . . . . . 1.9 GPM (7.2 lpm)  
 Displacement In<sup>3</sup> Per Cycle . . . 7.5 (122.9 cm<sup>3</sup>)  
 Lower Pump Material . . . . . CF8M Stainless Steel  
 Plunger Material . . . . . 17-4 Stnls. Steel (chrome plated)  
 Packing Material . . . . . UHMW-PE/PTFE (Upper)  
 . . . . . UHMW-PE (Upper)  
 Air Motor . . . . . 65665-B  
 Air Motor Repair Kit . . . . . 61355  
 Lower Pump End Series . . . . . 66301-P43  
 Lower Pump Repair Kit . . . . . 637306-P43

## Package Contents

- 650556-1  
 60:1 Ratio, Cart Mounted Arless Spray Package  
 650685-P43 ..... Pump  
 R27241-100 ..... Air Line Regulator  
 651422-70 ..... Material Filter/Dampener  
 91790 ..... Muffler  
 622606-5 ..... Suction Hose  
 67138 ..... Heavy-Duty Cart



650556-1

## Pump Performance

- Air Inlet Pressure Range ..... 30-100 PSI (2-6.9 bar)  
 Fluid Pressure Range ..... 1800-6000 PSI (124-408 bar)  
 Flow @ 60 Cycles/Minute: ..... 1.3 GPM (4.9 lpm)  
 Lower Pump Material ..... CF8M (316) Stainless Steel  
 Plunger Material ..... 17-4 Stnls. Steel (chrome plated)  
 Packing Material ..... UHMW-PE/PTFE (Upper)  
 ..... UHMW-PE (Upper)  
 Air Motor ..... 65665-B  
 Air Motor Repair Kit ..... 61355  
 Lower Pump End Series ..... 66302-P43  
 Lower Pump Repair Kit ..... 637307-P43

## Package Contents

- 650502  
 1:1 Ratio, Pail Mounted HVLP Spray Package  
 650758-2A4 ..... Diaphragm Pump  
 P29221-210 ..... Modular Piggyback  
 R27221-100 ..... Mini Piggyback  
 27520-400 ..... Fluid Regulator  
 66971 ..... Cover Assy.  
 650252 ..... Agitator (650502-1-B only)

## Pump Performance

- Air Inlet Pressure Range ..... 30-100 PSI (2-6.8 bar)  
 Fluid Pressure Range ..... 30-100 PSI (2-6.8 bar)  
 Maximum Flow Rate: ..... 6.5 GPM (24.5 lpm)  
 Displacement Per Cycle ..... .02 GPM (.07 lpm)  
 Pump Material ..... Groundable Acetal  
 Diaphragm Material ..... PTFE  
 Air Section Repair Kit ..... 637141  
 Fluid Section Repair Kit ..... 637140-A4

## Package Contents

650503

1:1 Ratio, Bracket Mounted HVLP Spray Package

650758-2A4 .....Diaphragm Pump

P29221-210 .....Modular Piggyback

R27221-100 .....Modular Regulator

27520-400 .....Fluid Regulator



650503

## Pump Performance

Air Inlet Pressure Range ..... 30-100 PSI (2-6.8 bar)

Fluid Pressure Range ..... 30-100 PSI (2-6.8 bar)

Maximum Flow Rate: ..... 6.5 GPM (24.5 lpm)

Displacement Per Cycle ..... .02 GPM (.07 lpm)

Pump Material ..... Groundable Acetal

Diaphragm Material ..... PTFE

Air Section Repair Kit ..... 637141

Fluid Section Repair Kit ..... 637140-A4

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## Package Contents

650504

1:1 Ratio, Drum Mounted HVLP Spray Package

650758-2A4 .....Diaphragm Pump

P29221-210 .....Modular Piggyback

R27221-100 .....Modular Regulator

27520-400 .....Fluid Regulator



650504

## Pump Performance

Air Inlet Pressure Range ..... 30-100 PSI (2-6.8 bar)

Fluid Pressure Range ..... 30-100 PSI (2-6.8 bar)

Maximum Flow Rate: ..... 6.5 GPM (24.5 lpm)

Displacement Per Cycle ..... .02 GPM (.07 lpm)

Pump Material ..... Groundable Acetal

Diaphragm Material ..... PTFE

Air Section Repair Kit ..... 637141

Fluid Section Repair Kit ..... 637140-A4

## Package Contents

- 650506
- 1:1 Ratio, Drum Mounted Package
- 666100-244-C .....Diaphragm Pump
- P29221-110 .....Modular Piggyback
- 94414 .....Drum Cover

## Pump Performance

- Air Inlet Pressure Range..... 30-120 PSI (2-8.3 bar)
- Fluid Pressure Range..... 30-120 PSI (2-8.3 bar)
- Maximum Flow Rate:..... 35 GPM (132.5 lpm)
- Displacement Per Cycle.....0.16 GPM (.60 lpm)
- Pump Material..... Aluminum
- Diaphragm Material..... PTFE
- Air Section Repair Kit..... 637118-C
- Fluid Section Repair Kit..... 637119-44-C



650506

# Air Filter/Regulator/Lubricator

Model Number	Description	Pumps Used With	Port Size NPT	Reg. Pressure Range PSI (bar)	Max. Flow
<b>MODULE/AIR 1000™ F/R/L</b>					
C28121-600	<b>Filter/Regulator/Lubricator</b> Drop/fog-type lubrication, 20 micron filter, polycarbonate bowls.	2" & "N", air motor pumps	1/4 (F)	5-125 (.3-8.5)	13 SCFM (6 dm <sup>3</sup> /s)
P29121-600	<b>Filter/Regulator</b> Drop/fog-type lubrication, 20 micron filter, polycarbonate bowls.	2" & "N", air motors	1/4 (F)	5-125 (.3-8.5)	12 SCFM (6 dm <sup>3</sup> /s)
<b>MODULE/AIR 2000™ F/R/L</b>					
C28241-810	<b>Filter/Regulator/Lubricator</b> Drop/fog-type lubrication, 40 micron filter, metal bowls w/ sight glass.	4 1/4" & 6" air motors	1/2 (F)	5-125 (.3-8.5)	110 SCFM (52 dm <sup>3</sup> /s)
P29241-610	<b>Filter/Regulator</b> Drop/fog-type lubrication, 40 micron filter, metal bowls w/ sight glass.	4 1/4" & 6" air motors	1/2 (F)	6-125 (.3-8.5)	140 SCFM (66 dm <sup>3</sup> /s)
<b>HEAVY DUTY F/R/L</b>					
28353	<b>Filter/Regulator/Lubricator</b> Drop/fog-type lubrication, 40 micron filter, polycarbonate bowls.	8", 10" & 12" air motors	3/4 (F)	5-125 (.3-8.5)	75 SCFM (35 dm <sup>3</sup> /s)
<b>F/R/L ASSEMBLIES</b>					
651728	<b>Kit Assembly</b> Heavy-Duty FRL w/ hose & mounting bracket. <i>For installation to Portable Carts with Wall Mounts.</i>	8", 10" & 12" air motors	3/4 (M)	5-125 (.3-8.5)	75 SCFM (35 dm <sup>3</sup> /s)



C28121-600



P29121-600



C28241-810



P29241-610



28353



651728

## Airline Lubricant

**62274 One Quart Bottle**  
A high quality "EP" extreme pressure oil, non-detergent, rust or oxidation inhibited, with a viscosity of 700-1000 S.U.S. at 100°F.

Air line lubricator to air motor.

## Over-Run Controls

Model Number	Description	Pumps Used With	Inlet Outlet NPT	Pressure Range PSI (bar)	Flow @ 90 PSI
635040	<b>ARO-STOP® Valve</b> Shuts off air to the pump when material container is empty or line is broken. Quick set and reset feature.	2" & "N", Series air motor pumps	1/4 (F); 1/4 (M)	20-175 (1.4-12)	10-23 cfm
23644-400	<b>ARO-STOP® Valve</b> Shuts off air to the pump when material container is empty or line is broken. Quick set and reset feature.	4 1/4" & 6" air motor pumps	1/2 (F); 1/2 (M)	20-175 (1.4-12)	25-200 cfm
635043	<b>ARO-STOP® Valve</b> Shuts off air to the pump when material container is empty or line is broken. Quick set and reset feature.	8", 10" & 12" air motor pumps	3/4 (F); 3/4 (M)	20-175 (1.4-12)	50-250 cfm



635040

## Air Motor Muffler

Model Number	Description	Pump Used With	Air Inlet NPT	Size Inches X Inches PSI (bar)
61879	<b>Air Motor Muffler</b> Reduces air exhaust noise level to acceptable OSHA standards.	2" air motor, 2:1 ratio pumps	3/8 (M)	1-1/4 x 3-1/2 (32 x 92)
91790	<b>Air Motor Muffler</b> Reduces air exhaust noise level to acceptable OSHA standards.	4 1/4" & 6" air motor pumps	1-1/4 (M)	3-1/2 x 11-3/16 (89 x 284)
92460	<b>Air Motor Muffler</b> Reduces air exhaust noise level to acceptable OSHA standards.	8" air motor, pumps	1-1/4 (M)	5-5/8 x 15-3/8 (143 x 391)
66718	<b>Air Motor Muffler</b> Reduces air exhaust noise level to acceptable OSHA standards.	10" & 12" air motor, pumps	Bolted-on	9 x 20 (229 x 508)



61879



91790



92460



66718

## Wet Sol "Plus"

**66333-B Wet Sol - One Quart Container**  
Designed to prolong packing life by keeping the piston rod and packings wetted. Also reduces the possibility of material hardening on the piston rod.

All pumps with wet cups.

**66334-B Wet Sol - One Gallon Container**



66334-B

## Drum Covers

Model Number	Description	Container Size Gallon	Pumps Used With
651851	<b>Drum Cover</b> Accepts 65986 Siphon Hose and 651100 Agitator	5	2" & 3" air motor wall-mounted stub pumps that use 65986 Siphon Hose.
651854	<b>Drum Cover</b> Stns. Steel, includes 651100 agitator. Accepts opening accepts optional Siphon Tube/Hose.	5	Wall-mounted stub or diaphragm pumps.
66971	<b>Drum Cover</b> Stainless Steel, accepts 651100 agitator	5	1/2" ports diaphragm pump
66197	<b>Drum Cover</b> Includes hinged access covers, 2" NPT (F) bung opening, and will accept 651104-1 Agitator.	55	2", 3' & 4 1/4" 55-gallon size bung type pumps.
651852	<b>Drum Cover</b> Includes hinged access covers, 2" NPT (F) bung opening, 2" (51 mm) x 34" (864 mm) pipe extension and 60307-1 Agitator.	55	Accepts 65986-1 Siphon Hose from any wall mounted pump. Any 55-gallon bung-type pump that can be used with 640067 Lift.
61729	<b>Drum Cover</b> Includes hinged access cover and carrying handles.	55	4 1/4" & 6" air motor 2-ball, 4-ball, or extrusion pumps.
651853	<b>Drum Cover</b> Stainless Steel with 651104-1 agitator, suction tube with 90° elbow, 1" return port, and hinged access door.	55	Accepts 67140-2 Siphon Hose and tube from wall-mounted pump.



651851



66197



651852

## Agitators

Model Num.	Container Size	Mounts (Order Separately)
651100	5	651851 Drum Cover
651104-3	5	Drum Cover
60307-1	55	61729, 66197 Drum Cover
651103	55	Drum Side
651104-1	55	66197 Drum Cover

Agitator Model	Air Motor Model	H.P.	Motor R.P.M.	Diameter Mount in. (mm)	Length in. (mm)	Model	Material
651100	650252	1/3	500-1000	Hub 1/2 (12/7)	12 (305)	92094-4	416SS
651104-3	650250	3/4	300-3000	Flange 1/2 (12/7)	10.5 (267)	92094-3	316SS
60307-1	650250	3/4	300-3000	Flange 1/2 (12/7)	32 (813)	73120	CS
651103	650250	3/4	300-3000	Flange 1/2 (12/7)	32 (813)	92094-1	316SS
651104-1	650250	3/4	300-3000	Flange 1/2 (12/7)	32 (8130)	92094-1	316SS



651100



651103



651104-3



651104-1

## Propeller Specifications

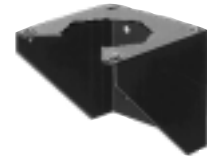
Agitator Model	# of Props	Diameter in. (mm)	Prop Model	Prop Material	Prop Direction
651100	1	4 (102)	94783-1	316SS	CCW
651104-3	1	5 (127)	94783-1	316SS	CCW
60307-1	2	5 (127)	73121, 73122	316SS	CCW
651103	2	5 (127)	94783-1	316SS	
651104-1	2	5 (127)	94783-1	316SS	

## Wall Mounts

Model Number	Description	Pumps Used With
61113	<b>Wall Mount Bracket</b> Has 2" NPT(F) opening to accept bung type pumps. Bracket slips over rim of open head drum or can be wall mounted.	2", "N" Series" & 4 1/4" air motor stub pumps fitted with bung adapters or 55-gallon bung type pumps.
66100	<b>Wall Mount Bracket</b> With 91395 Removable Mounting plate.	4 1/4" air motor 4" stroke pumps.
66101	<b>Wall Mount Bracket</b> With 91396 Removable Mounting plate.	4 1/4" air motor and 6" air motor. 2- and 4-ball pumps. (Including Integrity/Stinger Pumps)
66542	<b>Wall Mount Bracket</b> With 92371 Removable Mounting plate.	8", 10" & 12" pumps, including "Stinger" pumps w/8" motors
76763	<b>Wall Mount</b> Open front permits easy installation of pump. Can be bolted to wall at back or side of bracket.	All "N" Series" & 1/2" diaphragm pumps.



66100



66101



76763

## Siphon Hoses

Model Number	Description	Used With	Hose Length Ft. (m)	Fluid Outlet	Fluid Inlet
65986	<b>Siphon Hose</b> 5-gallon size. Neoprene cover and thiokol tube. Includes 91020-1 Pipe Extension.	651851 Drum Cover or 5-gallon container.	6 (1.8)	3/4 (M)	-
65986-1	<b>Siphon Hose</b> 55-gallon size. Neoprene cover and thiokol tube. Includes 91020-2 Pipe Extension.	651852 Drum Cover or closed drum with 2" bung opening.	6 (1.8)	3/4 (M)	-
622702-6	<b>Siphon Hose</b> 1" (25.4 mm) I.D. hose with stainless steel fittings.	Stainless Steel Stub Pumps	6 (1.8)	1 (M)	1 (M)
622702-10	<b>Siphon Hose</b> 1" (25.4 mm) I.D. hose with stainless steel fittings.	Stainless Steel Stub Pumps	10 (3)	1 (M)	1 (M)
622701-6	<b>Siphon Hose</b> 1" (25.4 mm) I.D. hose with carbon steel fittings.	Carbon Steel Stub Pumps	6 (1.8)	1 (M)	1 (M)
67140-1	<b>Stainless Steel Siphon</b> For 5-gallon containers. Includes 16" wand and 5' of 3/4" I.D. Hose.	Wall-mounted Integrity Pumps	5 (1.5)	3/4 (M)	-
67140-2	<b>Stainless Steel Siphon</b> For 5-gallon containers. Includes 36" wand and 5' of 3/4" I.D. Hose.	Wall-mounted Integrity Pumps	5 (1.5)	3/4 (M)	-



67140-1



65986

# Tubes

Model Number	Description	Used With	Fluid Outlet Inches (NPT)
65109	<b>Siphon Tube Assembly</b> 55-gallon size carbon steel, with 2" bung adaptor. Hose not included. Suggest 622681-6 Hose for 3/4" inlet or 66701-6 Hose for 1" inlet.	Wall-mounted Stub Pumps when fluid viscosity requires a foot valve for priming or with drum cover that has a 2" NPT (F) bung adaptor.	3/4 (F) or 1 (F)
66568	<b>Siphon Tube Assembly with Filter and Check Valve Assembly</b> 316 stainless steel with 2" NPT bung adapter and 66480 Filter and Check Valve assembly. Hose not included. Suggest 622702-6 Hose.	Wall-mounted Stub Pumps when fluid is corrosive and viscosity requires a foot valve for positive priming.	1 (F)
66717	<b>Pipe Extension</b> Constructed of P.V.C. for 650408 and NM2304B-X pumps.	55-gallon capacity.	
91020-1	<b>Pipe Extension</b> 1/2" I.D. galvanized suction tube	5-gallon containers.	
91020-2	<b>Pipe Extension</b> 1/2" I.D. galvanized suction tube.	55-gallon containers.	



# Inlet Accessories/Adapters

651830	<b>Screen Assembly</b> Adapts to 91020-1 or -2 Pipe Extension keeps foreign matter from entering lower pump end.		
66480	<b>Filter and Check Valve Assembly</b> 316 stainless steel assembly has 1" NPT (F) connections and 40 mesh screen. 4-3/4" (121 mm) long x 2-1/8" (54 mm) in diameter. Used with suction tubes when fluid is corrosive and viscosity requires a foot valve for positive priming.		
94254	<b>Inlet Adapter</b> 90° 1" NPT(M) x 3/4(F) used to adapt suction hose to 67139 cart.	Integrity Pumps	
94256	<b>Outlet Adapter</b> For mounting material filter 1" NPT(M) x 1/2" NPT(M).	Integrity Pumps	



# Floor Mounts/Portable Carts

67187-1	<b>Mounting Post</b> Floor stand mounting post with 4-1/4", 6" & 8" air motors.	4-1/4", 6" Air Motor Stinger Pumps	
67187-2	<b>Mounting Post</b> Floor stand mounting post with hydraulic motors.	2 sq. in Hydraulic Motors	
66554-1	<b>Portable Cart</b> 24" (610 mm) to 30" (762 mm) wheel spacing adjustment. Has 16" (406 mm) tires.	4 1/4" & 6" air motor 2-ball and 4-ball pumps.	
66554-2	<b>Portable Cart</b> 24" (610 mm) to 30" (762 mm) wheel spacing adjustment. Has 16" (406 mm) tires.	8", 10" & 12" air motor pumps. 8" Integrity	
67139	<b>Portable Cart</b> Will clear 28" (711 mm) openings. Unique "chair" design distributes pump weight and makes moving easy. 12" (305 mm) pneumatic tires also enhance smooth transport.	Integrity Pumps 4-1/4" and 6".	



# Lifts

Model Number	Description	Pumps Used With	Covers Used With
640067	Single Post Lift Single-acting air cylinder for easy drum change-over. Requires drum cover. 92" (2.3 m) extended.	All 55 gallon bung-type pumps	651852, or 66197 Drum Cover



640067

# Material Filters-Standard Models

Model Number	Maximum Fluid Pressure PSI (Bar)	Filter Mesh	Filter Microns	Filter Inlet(s) Size (Qty) NPT	Filter Outlet(s) Size (Qty) NPT
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**1/4" FLUID INLET/CARBON STEEL CONSTRUCTION**

651412	5,000 (345)	70	200	1/4-F (2)	1/4-F (3) Bottom swivel
651412-8	5,000 (345)	100	149	1/4-F (2)	1/4-F (3)

**1/2" FLUID INLET/STAINLESS STEEL CONSTRUCTION (PASSIVATED)**

651422-40	6,000 (414)	40	375	1/2-F (2)	1/2-F (1)
651422-70	6,000 (414)	70	200	1/2-F (2)	1/2-F (1)
651422-100	6,000 (414)	100	149	1/2-F (2)	1/2-F (1)

**1/2" FLUID INLET/CARBON STEEL CONSTRUCTION (E-NICKEL PLATED)**

651420-40	6,000 (414)	40	375	1/2-F (2)	1/2-F (1)
651420-70	6,000 (414)	70	200	1/2-F (2)	1/2-F (1)
651420-100	6,000 (414)	100	149	1/2-F (2)	1/2-F (1)

**1" FLUID INLET/CARBON STEEL CONSTRUCTION (E-NICKEL PLATED)**

651418-40-B	6,000 (414)	40	375	1-F (2)	3/8-F (3)
651418-70-B	6,000 (414)	70	200	1-F (2)	3/8-F (3)
651418-100-B	6,000 (414)	100	149	1-F (2)	3/8-F (3)



651412-X



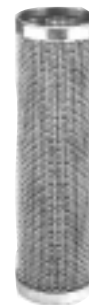
651418-XX-B



651420-XX-B

# Material Filters Screens

Model Number	Screen Mesh	Filter Used With	Model Number	Screen Mesh	Filter Used With
91192-1	40	651412	93944-70	70	651420
91192-2	70	651412			651422
91192-3	100	651412	93944-100	100	651420
91192-4	200	651412			651422
93944-40	40	651420	93945-40	40	651418
		651422	93945-70	70	651418
			93945-100	100	651418



93944-70

# Downstream Fluid Regulators

Model Number	Base Housing Seat (See code at bottom)	Regulated Pressure Range PSI (bar)	Working Pressure W/Gauge PSI(bar)	Maximum Inlet Pressure PSI (bar)	Gauge Pressure Range PSI (bar)
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**3/8" PORTS, STANDARD FLOW TO 3 GPM (11.4 LITERS)**

651790-A1B-B	Z/A T/C	5-30 (0-2)	120 (8.3)	750 (51.7)	0-60 (0-4)
651790-A1C-B	Z/A T/C	20-60 (1.3-4.1)	120 (8.3)	750 (51.7)	0-60 (0-4)
651790-A1D-B	Z/A T/C	50-200 (3.4-14)	600 (41.3)	750 (51.7)	0-300 (0-20)
651790-A3B-B	S/S T/C	5-30 (0-2)	120 (8.3)	750 (51.7)	0-60 (0-4)
651790-A3C-B	S/S T/C	20-60 (1.3-4.1)	120 (8.3)	750 (51.7)	0-60 (0-4)
651790-A3D-B	S/S T/C	50-200 (3.4-14)	600 (41.3)	750 (51.7)	0-300 (0-20)
651790-A4B-B	S/S 3/S	5-30 (0-2)	120 (8.3)	500 (34)	0-60 (0-4)
651790-A4C-B	S/S 3/S	20-60 (1.3-4.1)	120 (8.3)	500 (34)	0-60 (0-4)
651790-A4D-B	S/S 3/S	50-200 (3.4-14)	600 (41.3)	500 (34)	0-300 (0-20)
651780-A1A-B	C/S T/C	400-1,250 (28-86)	-	3,000 (207)	No Gauge
651780-A3A-B	S/S T/C	400-1,250 (28-86)	-	3,000 (207)	No Gauge



3/8" Ports Model

**3/8" PORTS, HIGH-FLOW TO 6 GPM (22.7 LITERS)**

651790-B1D-B	Z/A T/C	30-200 (2-14)	600 (41.4)	1250 (86)	0-300 (0-20)
651790-B1E-B	Z/A T/C	100-800 (7-55)	1,250 (86.2)	1250 (86)	0-1,000 (0-69)
651790-B3D-B	S/S T/C	30-200 (2-14)	600 (41.4)	1250 (86)	0-300 (0-20)
651790-B3E-B	S/S T/C	100-800 (7-55)	1,250 (86.2)	1250 (86)	0-1,000 (0-69)
651790-B4E-B	S/S S/S	100-800 (7-55)	1,250 (86.2)	1250 (86)	100-800 (6.8-54.4)
651790-B4D-B	S/S 3/S	30-200 (2-14)	600 (41.4)	500 (34)	0-300 (0-20)
651780-B1A-B	C/S T/C	400-1,250 (28-86)	-	3,000 (207)	No Gauge
651780-B3A-B	S/S T/C	400-1,250 (28-86)	-	3,000 (207)	No Gauge



Remote Model

**3/8" PORTS, REMOTE MODELS, FLOW TO 3 GPM (11.4 LITERS)**

651790-A1R-B	Z/A T/C	30-200 (2-14)	50 (34)	750 (511.7)	No Gauge
651790-A3R-B	S/S T/C	30-200 (2-14)	50 (34)	750 (511.7)	No Gauge
651790-A4R-B	S/S 3/S	30-200 (2-14)	50 (34)	500 (34)	No Gauge

# Downstream Fluid Regulators, 1/4" Ports

Model Number	Inlet PSI (bar)	Regulated PSI (bar)	Materials of Construction (See code at bottom)					Gauge Inlet Inches NPT	Gauge (Order Separately)
			Bonnet	Ball	Seat	Pin	Dia.		
27520-000	750 (52)	125 (9)	Z	T/C	T/C	T/C	T	1/4 (F)	93504-1
27520-100	750 (52)	50 (3)	Z	T/C	T/C	T/C	T	1/4 (F)	65107
27520-200	750 (52)	250 (17)	Z	T/C	T/C	T/C	T	1/4 (F)	93504-1
27520-400	750 (52)	30 (2)	Z	T/C	T/C	T/C	T	1/4 (F)	93769



27520-200

# Material Codes

Code	Description
3/S	300 Series Stainless Steel
S/S	Stainless Steel
4/S	400 Series Stainless Steel
C/S	Carbon Steel

Code	Description
T/C	Tungsten Carbide
Z/A	Zinc Aluminum
Z	Zinc

# Back Pressure Fluid Regulators

Model Number	Base Housing Seat (See code at bottom)	Regulated Pressure Range PSI (bar)	Working Pressure W/Gauge PSI(bar)	Maximum Inlet Pressure PSI (bar)	Gauge Pressure Range PSI (bar)
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**3/8" PORTS, HIGH-FLOW TO 6 GPM (22.7 LITERS)**

651791-B1D-B	Z/A T/C	0-200 (0-14)	200 (14)	200 (14)	0-300 (0-20)
651791-B1E-B	Z/A T/C	0-800 (0-55)	800 (55)	800 (55)	0-1,000 (0-69)
651791-B3D-B	S/S T/C	0-200 (0-14)	200 (14)	200 (14)	0-300 (0-20)
651791-B3E-B	S/S T/C	0-800 (0-14)	800 (55)	800 (55)	0-1,000 (0-69)
651791-B4D-B	S/S 3/S	0-200 (0-14)	200 (14)	200 (14)	0-300 (0-20)

**1-1/4" PORTS, SYSTEM-FLOW \*\* TO 18.5 GPM (701 LITERS)**

651791-C3D-B	S/S T/C	0-200 (0-14)	200 (14)	200 (14)	0-300 (0-20)
651791-C4D-B	S/S 3/S	0-200 (0-14)	200 (14)	200 (14)	0-300 (0-20)

\*\* Flow rates tested in 55 CPS Material.



1-1/4" Ports Model

# Fluid Heaters & Accessories

Model	Volts AC	Amps	Heater Watts	Heater Accuracy (°celcius)	Rise over ambient ° (°celcius)	Recovery Gall/Hr. (Liters)	Working Press (bar)	Inlet Outlet NPT
651747-1-B	120	16.6	2000	±3-1/2° ±(1.9°)	100°F (38°)	15 (56.8)	5,000 (345)	1/2(F)
651747-2-B	240	8.3	2000	±3-1/2° ±(1.9°)	100°F (38°)	15 (56.8)	5,000 (345)	1/2(F)
651747-3-B	440	4.5	2000	±3-1/2° ±(1.9°)	100°F (38°)	15 (56.8)	5,000 (345)	1/2(F)

Model	Descriptions	Use With
66258	<b>Mounting Bracket</b> Brackety assy. with appropriate mounting holes to affix heater to vertical substrate.	651747-X



651747-X-B

**CSA  
Approved!**

## Automatic Airless Spray Guns

Model Number	Description	Max. Fluid PSI	Fluid Inlet	Fluid Outlet	Air NPT	Minimin Air PSI To Open
651511-1	<b>Spray Gun</b> - Requires 4-way air valve to open and close. Adjusting screw varies stroke length. Secures to 1/2" diameter rod by allen screw. Aluminum body with tungsten carbide seats. Includes 66504 Guard/Nut. Order TC-XXX Tip separately.	5000 (345)	3/8 NPT (F) (2)	.250 (6) & 11/16-16 (M)	(2) 1/8 F	50 (3.4) at 2000 PSI (138 bar) fluid pressure
651513-12-B	<b>Spray Gun</b> - Has air open spring return cylinder. Requires 3-way air valve to open. Adjusting screw varies stroke length. Secures to 1/2" diameter rod screw. 316SS body w/tungsten carbide seat. Includes 66504 Guard/Nut. Order TC-XXX Tip separately.	5000 (345)	1/4 NPS (M)	.093 (2.3) & 11/16-16 (M)	1/8 (F)	50 (3.4) at 2000 PSI (138 bar) fluid pressure
651513-22-B	<b>Spray Gun</b> - Same as 651513-12-B, except it has air open, air return cylinder. Requires a 4-way valve to open.	5000 (345)	1/4 NPS (M)	.093 (2.3) & 11/16-16 (M)	1/8 (F)	50 (3.4) at 2000 PSI (138 bar) fluid pressure



651511-1



651513-12-B

## Manual Airless Spray Guns

Model Number	Description	Max. Fluid PSI	Fluid Inlet In.(mm)	Fluid Outlet I.D. & Thread
651533	<b>Spray Gun</b> - Wetted parts of 316SS with tungsten carbide seats. Used to airless spray paints, lacquers and other light fluids. Includes 66504 Guard/Nut. Order TC-XXX Tip separately.	5000 (345)	1/4 NPS(M)	.093 (2.3) & 11/16-16(M)
*651500-1	<b>Spray Gun</b> - Aluminum body with tungsten carbide seats. Used for airless spraying materials over 200,000 cPs. Includes 66504 Guard/Nut. Order TC-XXX Tip separately.	7500 (517)	3/8 NPT(F)	.250 (6) & 11/16-16(M)

**\*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..



651533



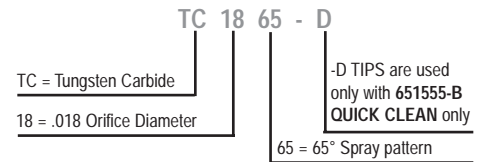
651500-1

# Airless Spray Tips

Model Num.	-D Models	Equiv. Orifice	Pattern Width In. (mm)	Flow Rate GPM @ Fluid PSI			
				500	1000	1500	2000
TC715	-	.007	3 (76)	.03	.04	.05	.06
TC950	-	.009	8.5 (216)	.04	.06	.067	.08
TC1125	-D	.011	5.5 (140)	.06	.08	.10	.12
TC1325	-	.013	5.5 (140)	.09	.12	.15	.18
TC1540	-D	.015	8 (208)	.12	.16	.10	.23
TC1550	-D	.015	10 (254)	.12	.16	.10	.23
TC1565	-D	.015	12 (305)	.12	.16	.10	.23
TC1850	-D	.018	10 (254)	.18	.25	.30	.36
TC1865	-D	.018	13 (330)	.18	.25	.30	.36
TC1880	-D	.018	15 (381)	.18	.25	.30	.36
TC1895	-	.018	17 (432)	.18	.25	.30	.36
TC2140	-D	.021	8.5 (216)	.24	.33	.41	.47
TC2440	-D	.024	9 (229)	.30	.42	.52	.60
TC2495	-	.024	21 (533)	.30	.42	.52	.60
TC2650	-D	.026	12 (305)	.35	.50	.61	.71
TC2965	-D	.029	15 (381)	.45	.63	.80	.90
TC3195	-	.031	21.5 (546)	.53	.75	.92	1.1
TC3650	-	.036	12 (305)	.71	1.0	1.2	1.4
TC3680	-	.036	18.5 (470)	.71	1.0	1.2	1.4
TC4195	-	.041	21.5 (546)	.88	1.2	1.5	1.8
TC4340	-	.043	9 (229)	1.1	1.5	1.8	2.1
TC4365	-	.043	15 (381)	1.1	1.5	1.8	2.1
TC4895	-	.048	22 (559)	1.2	1.7	2.1	2.5
TC5265	-	.052	15 (381)	1.4	2.0	2.4	2.8
TC6265	-	.062	15 (381)	2.1	3.0	3.7	4.2

## AIRLESS SPRAY TIPS

Model Number Significance



TC1865-D Tip

**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 1500 PSI at a 12" distance from the tip.

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

# Airless Spray Tips

Model	Description	Used With
66504	<b>Tip Guard and Nut</b> -- Secure TC-XXX tip to gun. Guard required on airless applications. Order tips separately.	All Manual/Automatic Spray Guns
651555-B	<b>Quick Clean</b> -- Spray tip locked in operating position until reversed with lever for cleaning. For high viscosity fluids. Order tip separately.	All Manual/Automatic Spray Guns
651551	<b>Quick Clean</b> -- Spray tip locked in operating position until reversed with lever for cleaning. For heavy viscosity fluids. Order tip separately. NOTE: To adapt 651551 to fit 651533, order 76555 pilot, 92367 retaining nut, Y167-1 1/8(M) x 1/4(F) adapter.	651500-1 Guns
65030-1-B	<b>Swivel</b> -- 1/4 NPT(M) x 1/4 NPS(F). Swivels 360°. No filter included. For Swivel & Filter: 65030-5-B 120 mesh SS filter 65030-9-B 70 mesh SS filter	All Manual/Automatic Spray Guns.
67176-X	<b>Filter</b> 67176-5 100 mesh 6717X-9 60 mesh	



651555-B



651551



65030-1

## 2-Way Pilot Acting Solenoid Valves



- Normally Closed
- Brass Body
- Stainless Steel Stem
- Spring Return

## Pump Size

Model Number	Port Size	Cv	Voltage	2"	3"	4-1/4"	6"	8"	10"	12"
TB03EB-024-D	3/8"	4.5	24 DC	•	•					
TB03EB-120-A	3/8"	4.5	120 AC	•	•					
TB04EB-024-D	1/2"	4.5	24 DC			•	•			
TB04EB-120-A	1/2"	4.5	120 AC			•	•			
TB06EB-024-D	3/4"	12.0	24 DC					•	•	•
TB06EB-120-A	3/4"	12.0	120 AC					•	•	•

## 2-Way Direct Acting Solenoid Valves



- Normally Closed
- Brass Body
- Stainless Steel Stem
- Spring Return

Model Number	Port Size	Cv	Voltage	2"	3"	4-1/4"	6"	8"	10"	12"
TB022B-024-D	1/4"	.18	24 DC	•						
TB022B-120-A	1/4"	.18	120 AC	•						
TB035B-024-D	3/8"	4.0	24 DC		•	•	•			
TB035B-120-A	3/8"	4.0	120 AC		•	•	•			
TB045B-024-D	1/2"	4.0	24 DC			•	•			
TB045B-120-A	1/2"	4.0	120 AC			•	•			
TB066B-024-D	3/4"	8.6	24 DC					•	•	•
TB066B-120-A	3/4"	8.6	120 AC					•	•	•

## 3-Way Solenoid Actuated Valves



CAT66P

- Normally Closed
- Aluminum Body
- Spring Return

Model Number	Port Size	Cv	Voltage	2"	3"	4-1/4"	6"	8"	10"	12"
CAT66P-024-D	1/4"	.2	24 DC	•						
CAT66P-120-A	1/4"	.2	120 AC	•						
MQ3728-024-D	1/4"	1.5	24 DC							
MQ3728-120-A	1/4"	1.5	120 AC		•					
H253SS-024-D	3/8"	2.2	24 DC			•	•			
H253SS-120-A	3/8"	2.2	120 AC			•	•			
H254SS-024-D	1/2"	2.4	24 DC			•	•			
H254SS-120-A	1/2"	2.4	120 AC			•	•			
MQ3729-024-D	3/4"	7.5	24 DC					•	•	•
MQ3729-120-A	3/4"	7.5	120 AC					•	•	•

## Air Control Needle Valves



104104-N02

- Composite Body
- Can be Panel Mounted
- Infinite Control Settings
- Corrosion-Resistant Stainless Steel insert & stem

Model Number	Port Size	Cv	2"	3"	4-1/4"	6"	8"	10"	12"
104104-NS2	1/4"		•	•					
104104-N02	1/4"		•	•					
104104-N04	1/2"	4.5			•	•			
104104-N06	3/4"	4.5					•	•	•

## Lock-Out Valves/Hasp



104174



100085

- Meets OSHA lock-out / tag-out regulations
- Instant upstream of air filters / regulator unit

Model Number	Port Size	2"	3"	4-1/4"	6"	8"	10"	12"
104253-2*	1/4"	•						
104174-2	1/4"	•	•					
104174-4	1/2"			•	•			
100085 (Hasp)	1/2"	•	•	•	•	•	•	•

\* Safety lock-out for Module-Air 1000

# Accessories

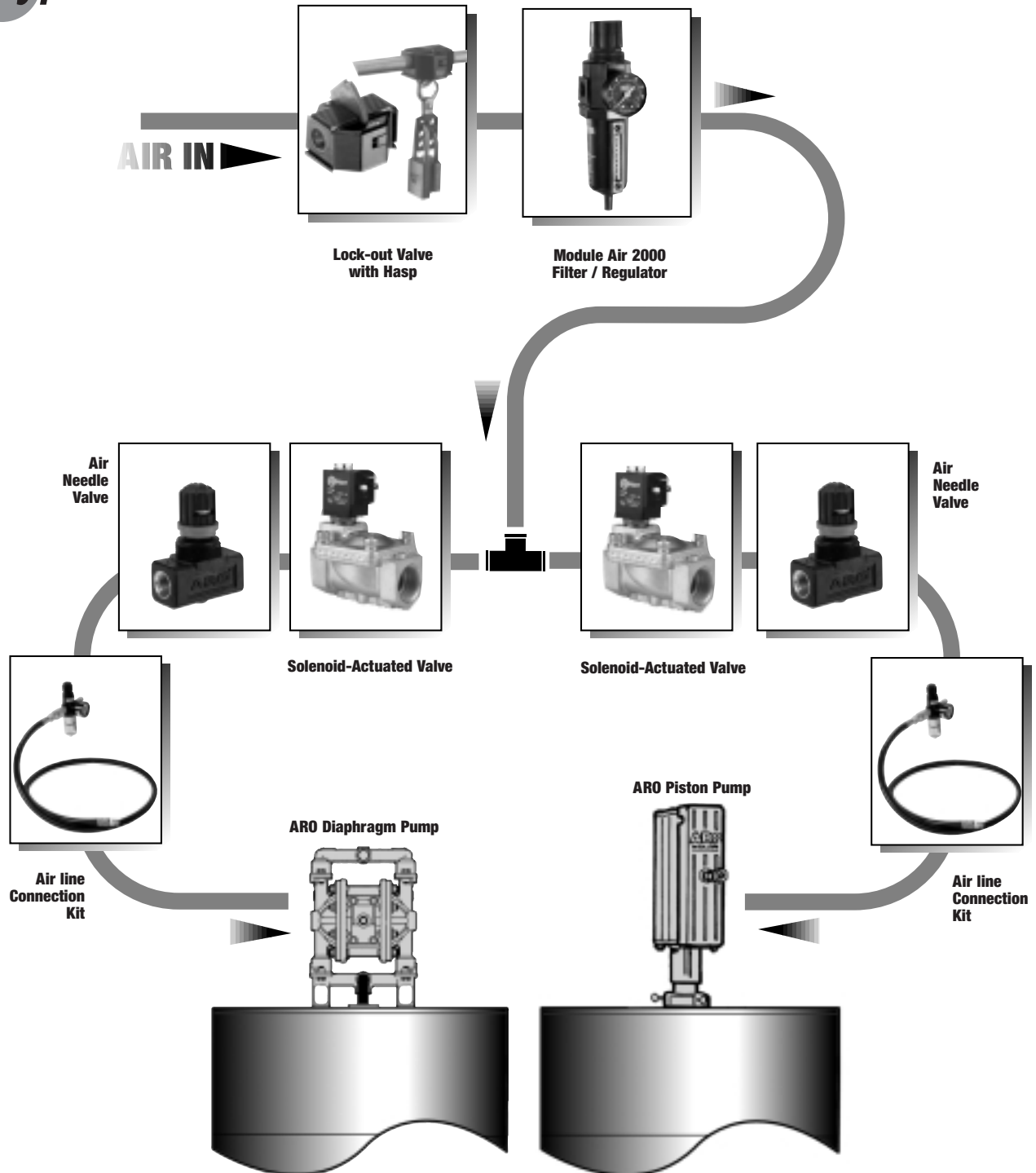
## Connectors

Model	Description
CSN	Strain relief connector for 3-way valves
CSN-30	Strain relief connector for 2-way valves and CAT66P-XXX-X Valves
CHW	Molded cable connector for 3-way valves, 36" molded leads
CHW-30	Molded cable connector for 2-way valves and CAT66P-XXX-X, 36" molded leads

## Coils

Model	Description
116218-39	22 mm, 24 VDC Coil
116218-33	22 mm, 120 VAC Coil
119378-39	30 mm, 24 VDC Coil
119378-33	30 mm, 120 VAC Coil

# Typical Installation



## **Pump Performance**

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Here you can locate information on the performance of each pump model. This includes air inlet and fluid pressure ranges, maximum recommended cycles and displacement per cycle. Also, use this area to locate data on flow and noise levels. A photo of each model provides dimensional data.

## **Pump Motor/Lower Specifications**

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Important specifications for each pump are conveniently located in one area. Service kits for the air motor and lower end are listed. This section also contains data needed to spec a pump into a specific system, if necessary.

## **Pump Packings - Ordering**

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ARO offers several types of lower end packings in an effort to meet the performance demands of different applications. Not all packing types are available on each pump. Use this section to select the appropriate packing set-up for your application. The ordering menu easily identifies which packings can be chosen.

## **Accessories**

---

ARO offers many accessories that can improve the performance of the pump you've selected. Several of these accessories are listed along with each pump. There is also a complete listing of accessories at the end of each section. That way the accessories most often needed in a transfer application (or extrusion & spray) are easily accessible.

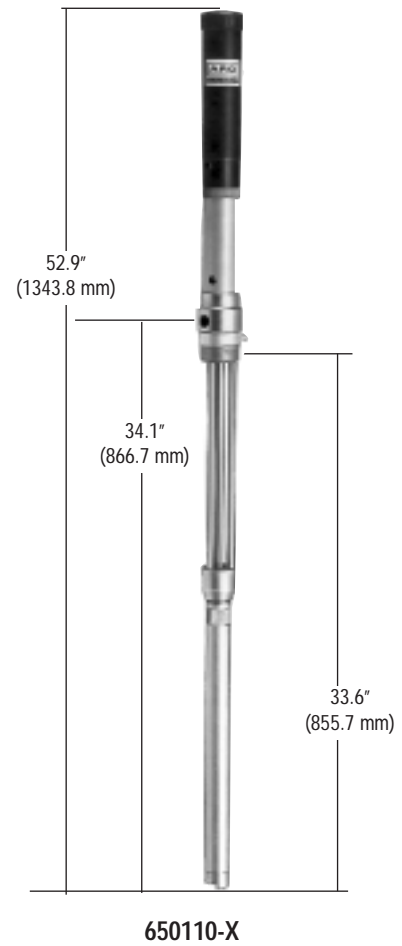


# Performance

- Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)
- Fluid Pressure Range. . . . . 60 - 300 PSI (4 - 20.4 bar)
- Max. Rec'd Cycles Per Minute . 120
- Displacement In<sup>3</sup> Per Cycle . . . 7.2 (117.9 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 32 (8.4)
- Flow @ 120 Cycles / Minute . . 4 GPM (15.1 lpm)
- Noise Level @ 60 Psi . . . . . 77.8 db(A)

# Specifications

- Lower Pump Material . . . . . Carbon Steel
- Plunger Material . . . . . Carbon Steel (Chrome Plated)
- Cylinder Material. . . . . Carbon Steel
- Air Motor . . . . . 60702
- Motor Repair Kit . . . . . 66098
- Motor Diameter . . . . . 2" (5.2 cm)
- Stroke . . . . . 6" (15.2 cm)
- Air Inlet . . . . . 1/4" NPT(F)
- Lower Pump Series . . . . . 66198 for 650110-C  
. . . . . 66198-1 for 650110-1C
- Lower Pump Repair Kit . . . . . 637028 for 650110-C  
. . . . . 637029 for 650110-1C
- Material Inlet . . . . . Immersed
- Material Outlet . . . . . 1/2" NPT(F)
- Weight . . . . . 12 lbs. (5.4 kgs.)



# Ordering

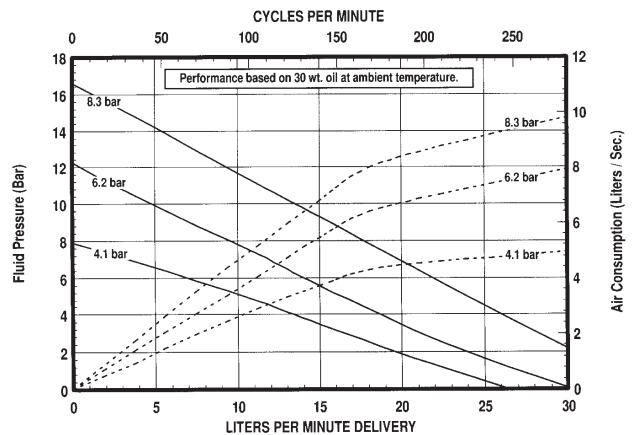
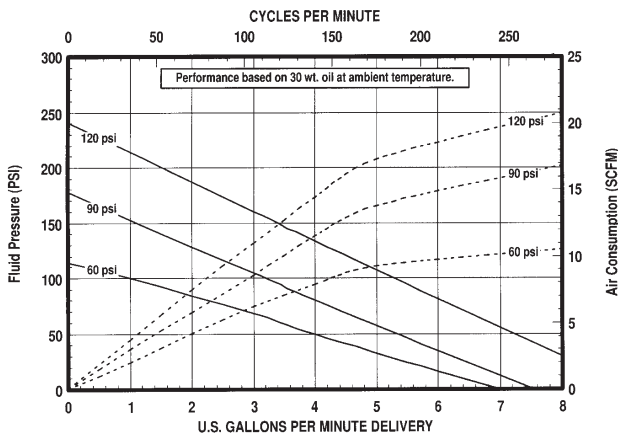
6 5 0 1 1 0 - X

### Packings

- C : UHMW-PE
- 1C : PTFE

# Accessories

- Air F/R/L: 128121-800
- Muffler: 61879
- Wall Mount: 61113
- Airline Oil: 62274

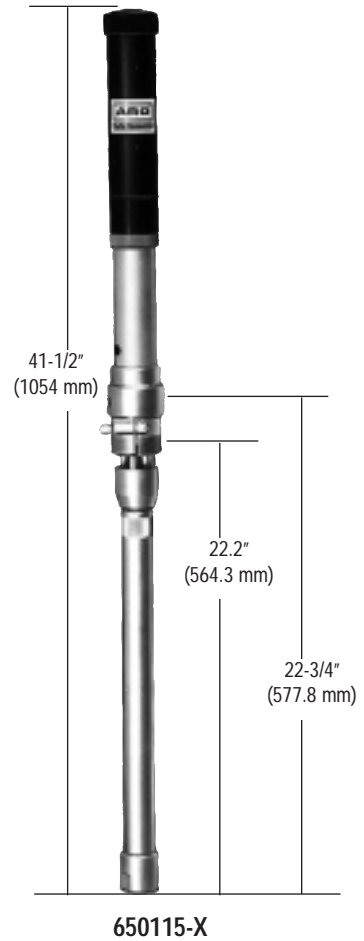


# Performance

Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 Bar)  
 Fluid Pressure Range . . . . . 60 - 300 PSI (4 - 20.4 Bar)  
 Max. Rec'd Cycles Per Minute . 120  
 Displacement In<sup>3</sup> Per Cycle . . . 7.2 (117.9)  
 Cycles Per Gallon (Liter) . . . . . 32 (8.4)  
 Flow @ 120 Cycles / Minute . . . 4 G.P.M. (15.1 lpm)  
 Noise Level @ 60 Psi . . . . . 77.8 db(A)

# Specifications

Lower Pump Material . . . . . Carbon Steel  
 Plunger Material . . . . . Carbon Steel  
 Cylinder Material . . . . . Carbon Steel  
 Air Motor . . . . . 60702  
 Motor Repair Kit . . . . . 66098  
 Motor Diameter . . . . . 2" (5.2 cm)  
 Stroke . . . . . 6" (15.2 cm)  
 Air Inlet . . . . . 1/4" NPT (F)  
 Lower Pump Series . . . . . 66200-1 for 650115-1C  
 Lower Pump Repair Kit . . . . . 637029 for 650115-1C  
 Material Inlet . . . . . 1" NPT (F)  
 Material Outlet . . . . . 1/2" NPT (F)  
 Weight . . . . . 12 lbs. (5.4 kgs.)

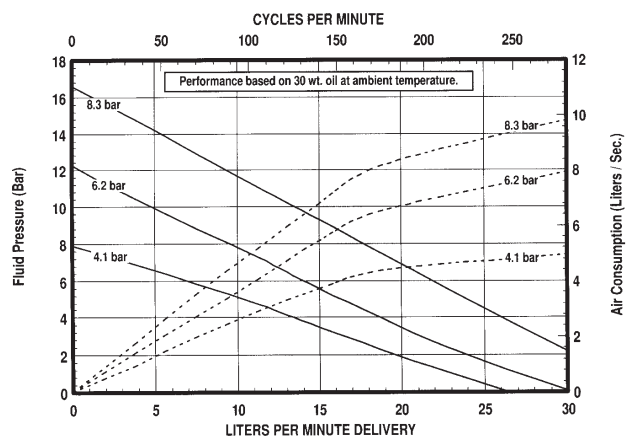
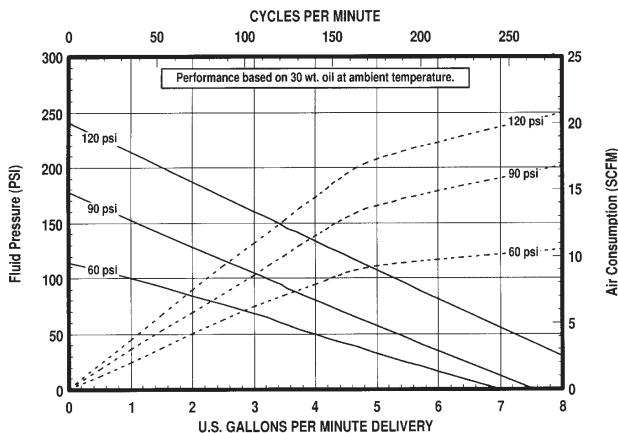


# Ordering

6 5 0 1 1 5 - X  
 Packings  
 1C: PTFE

# Accessories

Air F/R/L: 128121-800  
 Wall Mount: 61113  
 Muffler: 61879  
 Airline Oil: 62274  
 Siphon Hose: 65986 (5 Gal.)  
 65986-1 (55 Gal.)

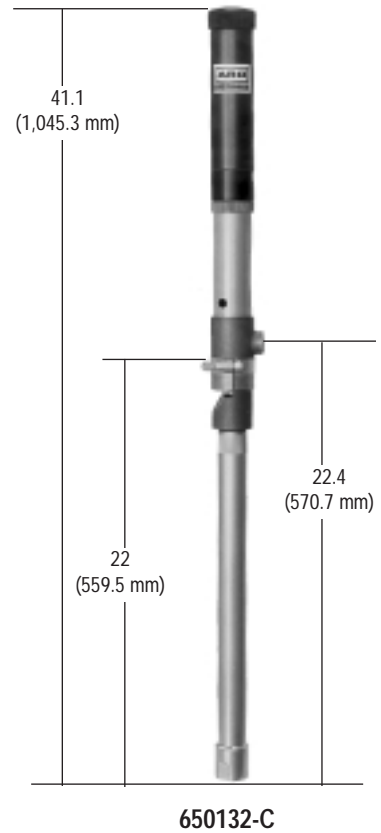


# Performance

- Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)
- Fluid Pressure Range . . . . . 60 - 300 PSI (4 - 20.4 bar)
- Max. Rec'd Cycles Per Minute . 120
- Displacement In<sup>3</sup> Per Cycle . . . 7.2 (117.9 cm<sup>3</sup>)
- Cycles Per Gallon (Liters) . . . . 32 (8.4)
- Flow @ 120 Cycles / Minute . . . 4 GPM (15.1 lpm)
- Noise Level @ 60 Psi . . . . . 77.8 db(A)

# Specifications

- Lower Pump Material . . . . . 316 Stnls. Steel
- Plunger Material . . . . . 316 Stnls. Steel
- Cylinder Material. . . . . Stainless Steel
- Air Motor . . . . . 60702
- Motor Repair Kit . . . . . 66098
- Motor Diameter . . . . . 2"
- Stroke . . . . . 6"
- Air Inlet . . . . . 1/4" NPT(F)
- Lower Pump End Series. . . . . 66283
- Lower Pump Repair Kit . . . . . 637044
- Material Inlet . . . . . 1" NPT(F)
- Material Outlet . . . . . 1/2" NPT(F)
- Weight . . . . . 16 lbs. (7.2kgs.)

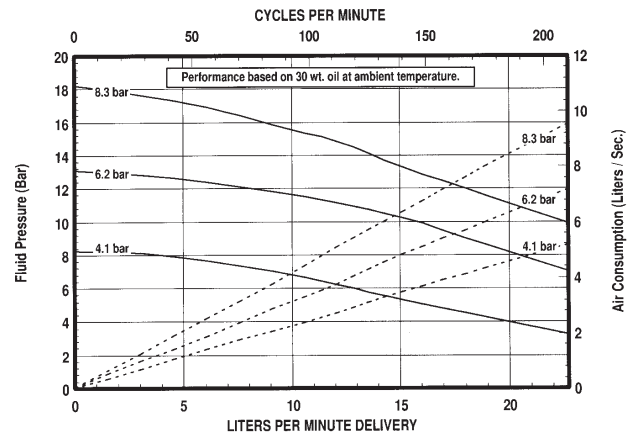
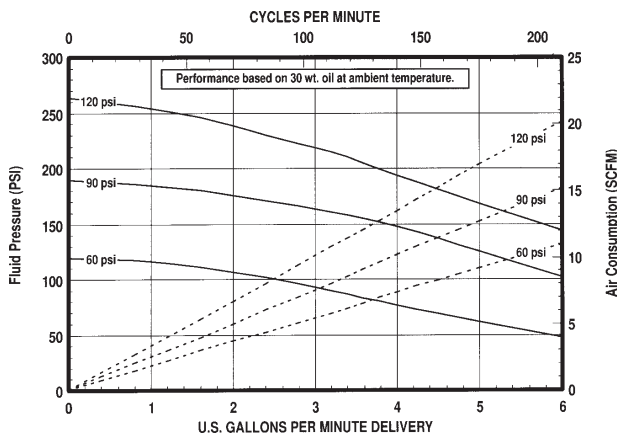


# Ordering

6 5 0 1 3 2 - C  
 Packings  
 C : PTFE

# Accessories

- Air F/R/L: 128121-800
- Wall Mount: 61113
- Muffler: 61879
- Airline Oil: 62274
- Siphon Hose: 67140-1 (5 Gal.)  
67140-2 (55 Gal.)



# Performance

Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)  
 Fluid Pressure Range . . . . . 60 - 300 PSI (4 - 20.4 bar)  
 Max. Rec'd Cycles Per Minute . 120  
 Displacement In<sup>3</sup> Per Cycle . . . 7.2 (117.9 cm<sup>3</sup>)  
 Cycles Per Gallon (Liters) . . . . 32 (8.4)  
 Flow @ 120 Cycles / Minute . . . 4 GPM (15.1 lpm)  
 Noise Level @ 60 Psi . . . . . 77.8 db(A)

# Specifications

Lower Pump Material . . . . . 316 Stnls. Steel  
 Plunger Material . . . . . 316 Stnls. Steel  
 Cylinder Material . . . . . Stainless Steel  
 Air Motor . . . . . 60702  
 Motor Repair Kit . . . . . 66098  
 Motor Diameter . . . . . 2"  
 Stroke . . . . . 6"  
 Air Inlet . . . . . 1/4" NPT(F)  
 Lower Pump End Series . . . . . 66281-1  
 Lower Pump Repair Kit . . . . . 637045  
 Material Inlet . . . . . Immersed  
 Material Outlet . . . . . 1/2" NPT(F)  
 Weight . . . . . 19 lbs. (8.6 kgs.)

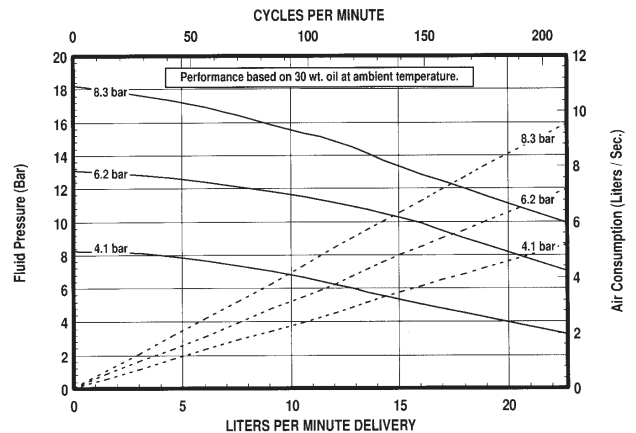
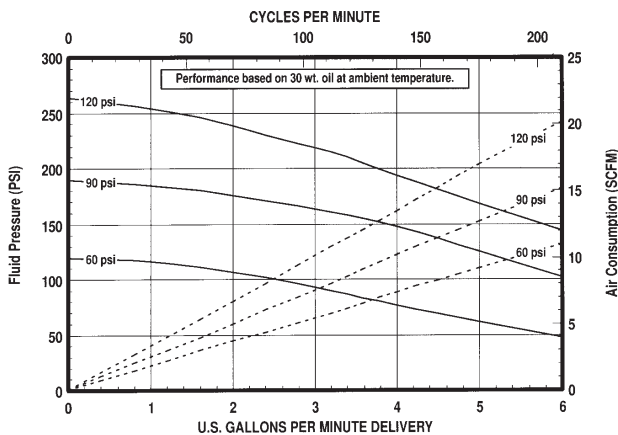


# Ordering

6 5 0 1 3 3 -1  
 Packings  
 1C : UHMW-PE

# Accessories

Air F/R/L: 128121-800  
 Muffler: 61879  
 Wall Mount: 61113  
 Airline Oil: 62274

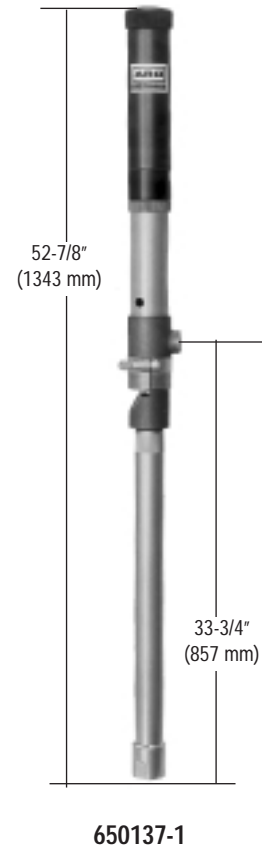


# Performance

Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)  
 Fluid Pressure Range . . . . . 60 - 300 PSI (4 - 20.4 bar)  
 Max. Rec'd Cycles Per Minute . 120  
 Displacement In<sup>3</sup> Per Cycle . . . 7.2 (117.9 cm<sup>3</sup>)  
 Cycles Per Gallon (Liter) . . . . . 32 (8.4)  
 Flow @ 120 Cycles / Minute . . . 4 GPM (15.1 lpm)  
 Noise Level @ 60 Psi . . . . . 77.8 db(A)

# Specifications

Lower Pump Material . . . . . 440 Stnls. Steel  
 Plunger Material . . . . . 440 Stnls. Steel  
 Cylinder Material . . . . . Stainless Steel  
 Air Motor . . . . . 60702  
 Motor Repair Kit . . . . . 66098  
 Motor Diameter . . . . . 2"  
 Stroke . . . . . 6"  
 Air Inlet . . . . . 1/4" NPT(F)  
 Lower Pump End Series . . . . . 66601-10  
 Lower Pump Repair Kit . . . . . 637044  
 Material Inlet . . . . . Immersed  
 Material Outlet . . . . . 1/2" NPT(F)  
 Weight . . . . . 19 lbs. (8.6 kgs.)

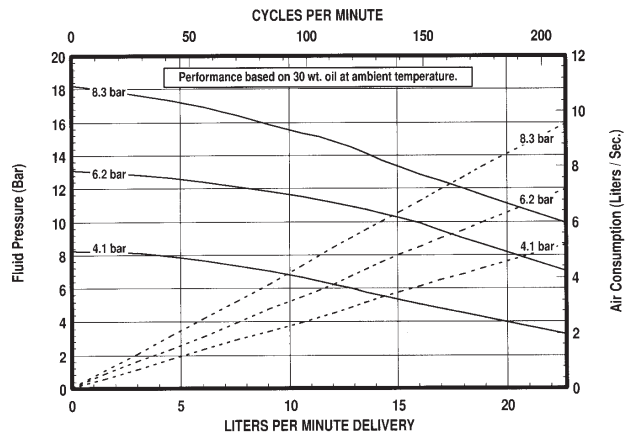
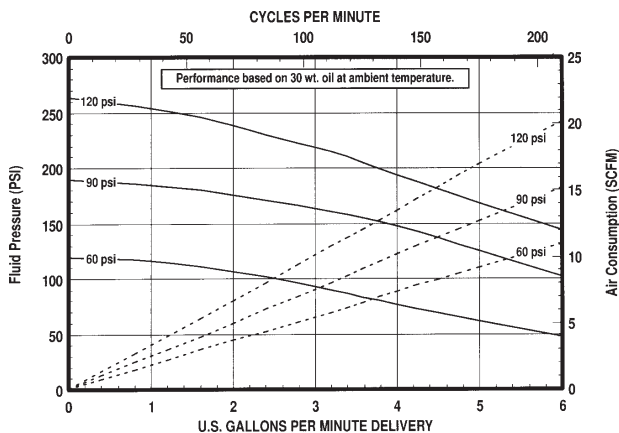


# Ordering

6 5 0 1 3 7 - 1  
 Packings  
 1 : PTFE

# Accessories

Air F/R/L: 128121-800  
 Muffler: 61879  
 Wall Mount: 61113  
 Lube Oil: 62274



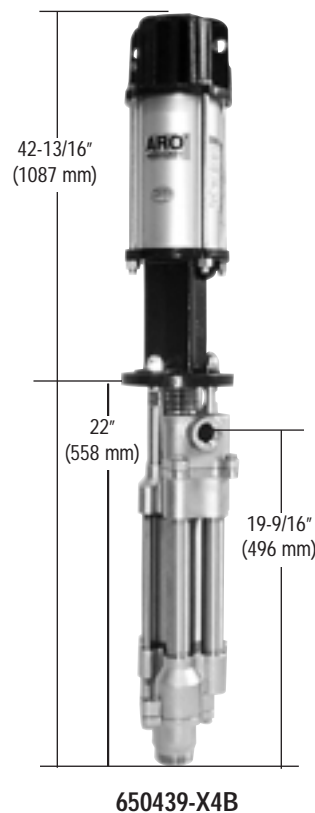
# Performance

Air Inlet Pressure Range . . . . . 30-150 PSI (2 - 10.2 bar)  
 Fluid Pressure Range. . . . . 60-300 PSI (4 - 20.4 bar)  
 Max. Rec'd Cycles Per Minute . 60 Max.  
 Displacement In<sup>3</sup> Per Cycle . . . 82.1 (1345 cm<sup>3</sup>)  
 Cycles Per Gallon (Liter) . . . . . 2.8 (.74)  
 Flow @ 60 Cycles / Minute . . . . 21.3 GPM (80.6 lpm)  
 Noise Level @ 60 Psi. . . . . 81.1 db(A)

# Specifications

Lower Pump Material . . . . . CF8M (316) Stnls. Steel  
 Plunger Material . . . . . 17-4 Stnls. Stl. "Ultra" Coated  
 Cylinder Material. . . . . 304 Stnls. Stl. "Ultra" Coated  
 Air Motor . . . . . 65465-B  
 Motor Repair Kit . . . . . 61268  
 Motor Diameter . . . . . 4-1/4" (10.8 cm)  
 Stroke . . . . . 6" (15.2 cm)  
 Air Inlet . . . . . 1/2" NPT(F)  
 Lower Pump End Series. . . . . 67200-X4B  
 Lower Pump Repair Kit . . . . . 637317-X4B  
 Material Inlet . . . . . 2" NPTF(M) / 1-1/2" NPTF(F)  
 Material Outlet . . . . . 1" NPTF(F)  
 Weight . . . . . 68 lbs. (30.8 kgs.)

**STINGER**  
with ULTRA



# Ordering

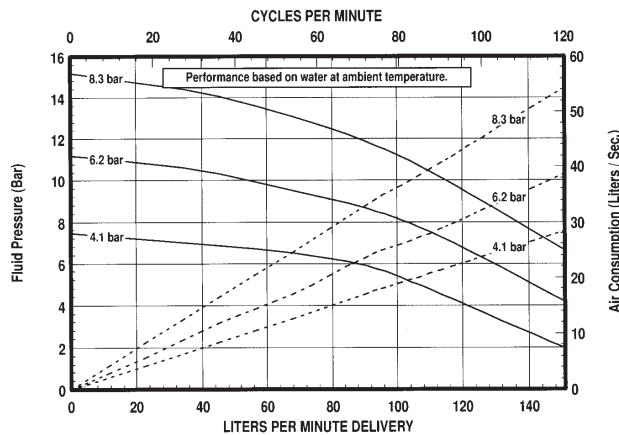
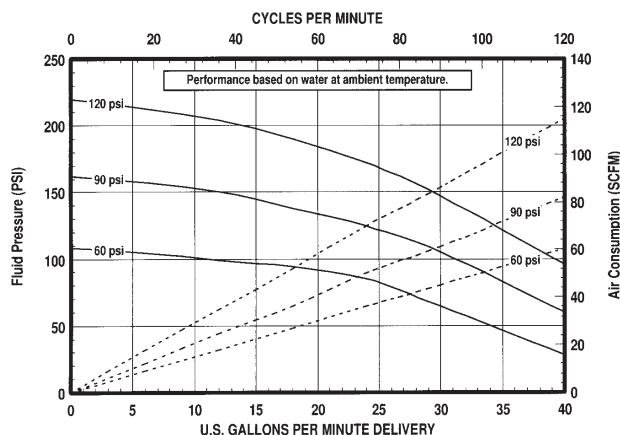
6 5 0 4 3 9 - X 4 B

### Packings

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

# Accessories

- Air F/R/L: C28241-810
- Wall Mount: 66101
- Muffler: 91790
- Airline Oil: 62274
- Wet Sol: 66333-B
- Mounting Post: 67187-1



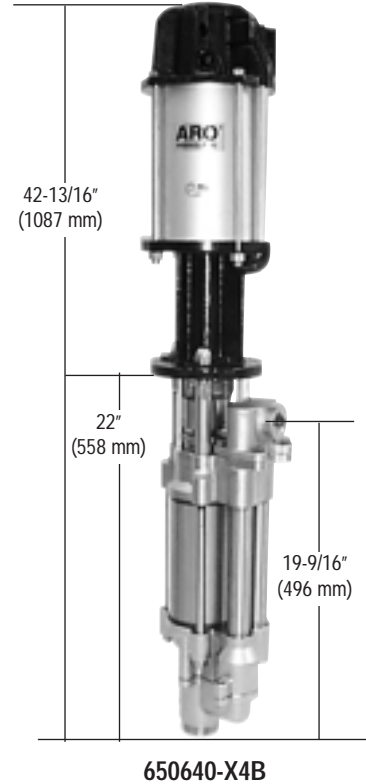


# Performance

Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)  
 Fluid Pressure Range . . . . . 90 - 450 PSI (6.1 - 30.6 bar)  
 Max. Rec'd Cycles Per Minute . 60  
 Displacement In<sup>3</sup> Per Cycle . . . 112.7 (1846.8 cm<sup>3</sup>)  
 Cycles Per Gallon (Liter) . . . . . 2.05 (.54)  
 Flow @ 60 Cycles / Minute . . . . 29.3 GPM (110.8 lpm)  
 Noise Level @ 60 Psi. . . . . 84.8 db(A)

# 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" (15.2 cm)  
     Stroke . . . . . 6" (15.2 cm)  
 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 . . . . . 73.25 lbs. (33.2 kgs.)



# Ordering

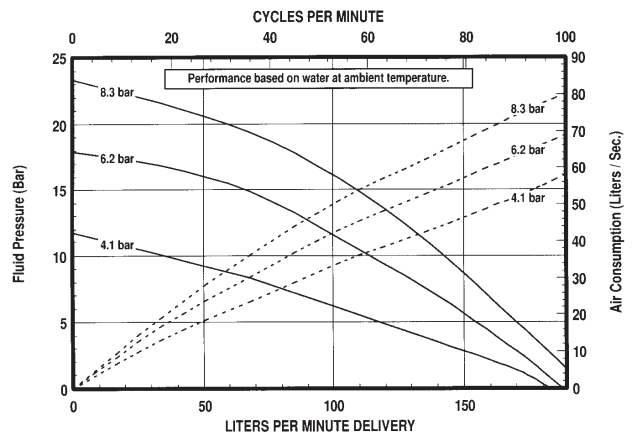
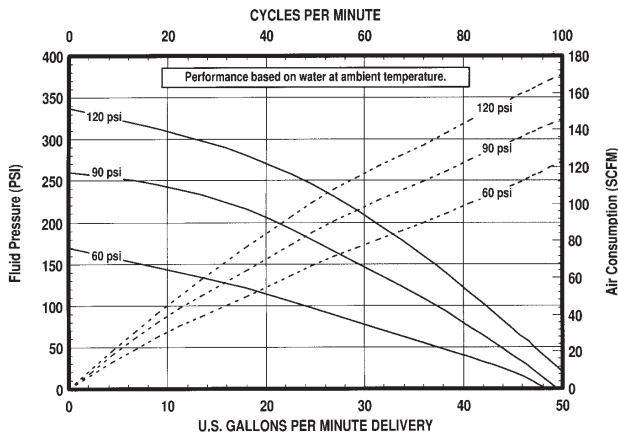
6 5 0 6 4 0 - X 4 B

### Packings

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

# Accessories

- Air F/R/L: C28241-810
- Wall Mount: 66101
- Muffler: 91790
- Airline Oil: 62274
- Wet Sol: 66333-B
- Mounting Post: 67187-1



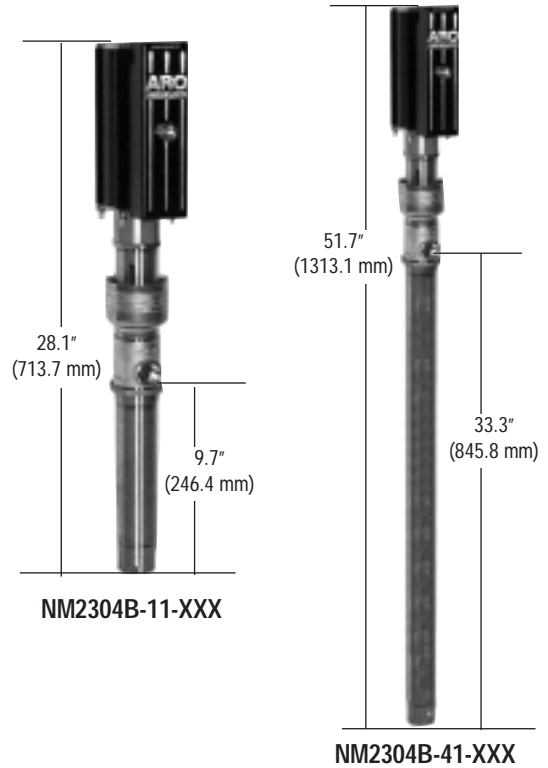


# Performance

- Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)
- Fluid Pressure Range . . . . . 120 - 600 PSI (8.1 - 40.8 bar)
- Displacement Per Cycle . . . . . 8.2 in<sup>3</sup> (134.3 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 28 (7.4)
- Maximum Flow @ 120 Cycles/Min . 4.2 GPM (15.8 lpm)
- Noise Level @ 100 Psi . . . . . 85 db(A)

# Specifications

- Lower Pump Material . . . . . 316 Stnls. Steel
- Plunger Material . . . . . 316 Stnls. Steel w/Ceramic Coating
- Cylinder Material . . . . . Stainless Steel w/Ceramic Coating
- Air Motor . . . . . 66913
- Motor Repair Kit . . . . . 637316
- Motor Diameter . . . . . 3" (7.6 cm)
- Stroke . . . . . 3" (7.6 cm)
- Air Inlet . . . . . 1/4" - 18 NPT(F)
- Lower Pump End Series . . . . . 6510X-X
- Lower Pump Repair Kit . . . . . 637010 for NM2304B-11-XXX  
 . . . . . 637010-4 for NM2304B-41-XXX
- Material Inlet . . . . . 1-1/4" NPT(F)
- Material Outlet . . . . . 3/4" NPT(F)
- Weight . . . . . NM2304B-11 = 32 lbs. (14.5 kgs.)  
 . . . . . NM2304B-41 = 46 lbs. (20.9 kgs.)

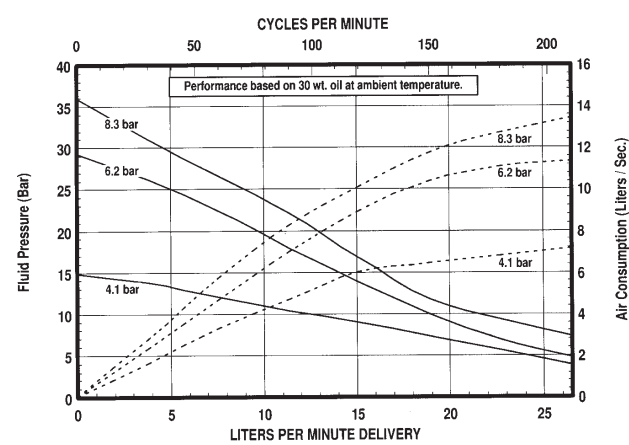
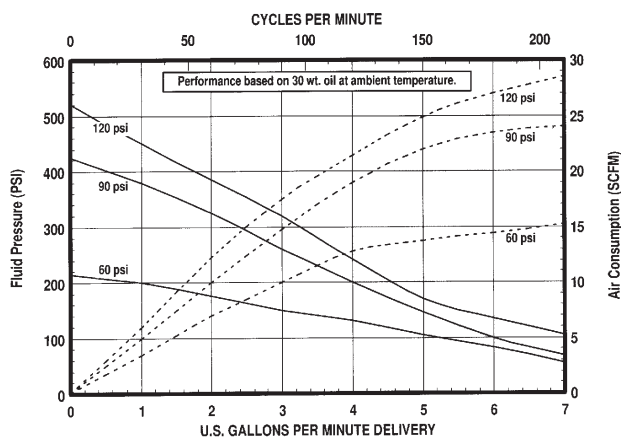


# Ordering

- N M 2 3 0 4 B - X 1 - X 1 B
- |   |   |
|---|---|
| <p><b>Type</b></p> <p>1 : Stub (Wall-Mount)</p> <p>4 : 55 Gallon (205 Liters)</p> | <p><b>Packings</b></p> <p>3 : Glass-Filled PTFE, (Upper/Lower)</p> <p>C : PTFE/UHMW-PE, (Upper/Lower)</p> |
|---|---|

# Accessories

- Air F/R/L: 129121-400
- Wall Mount: 61113
- Wet Sol: 66333-B



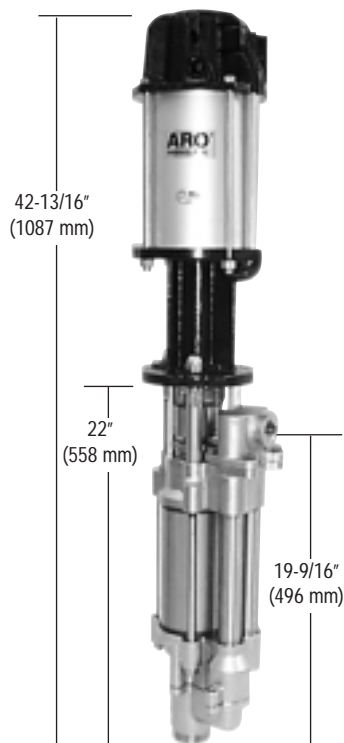
# Performance

Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)  
 Fluid Pressure Range. . . . . 120 - 600 PSI (8.1 - 40.8 bar)  
 Max. Rec'd Cycles Per Minute . 60  
 Displacement In<sup>3</sup> Per Cycle . . . 82.1 (1345 cm<sup>3</sup>)  
 Cycles Per Gallon (Liter) . . . . . 2.8 (.74)  
 Flow @ 60 Cycles / Minute . . . . 21.3 GPM (80.6 lpm)  
 Noise Level @ 60 Psi. . . . . 84.8 db (A)

# Specifications

Lower Pump Material . . . . . CF8M (316) Stns. Steel  
 Plunger Material . . . . . 17 - 4 Stns. Steel, "Ultra" Coated  
 Cylinder Material. . . . . 304 Stns. Stl. "Ultra" Coated  
 Air Motor. . . . . 65665-B  
 Motor Repair Kit . . . . . 61355  
 Motor Diameter. . . . . 6" (15.2 cm)  
 Stroke . . . . . 6" (15.2 cm)  
 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 . . . . . 71.25 lbs. (32.3 kgs.)

**STINGER**  
with **ULTRA**



650639-X4B

# Ordering

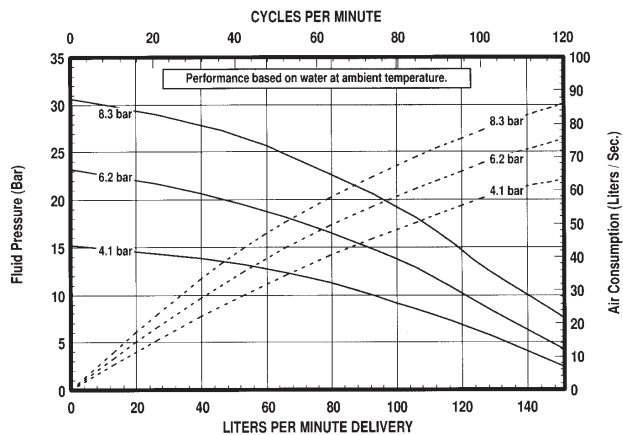
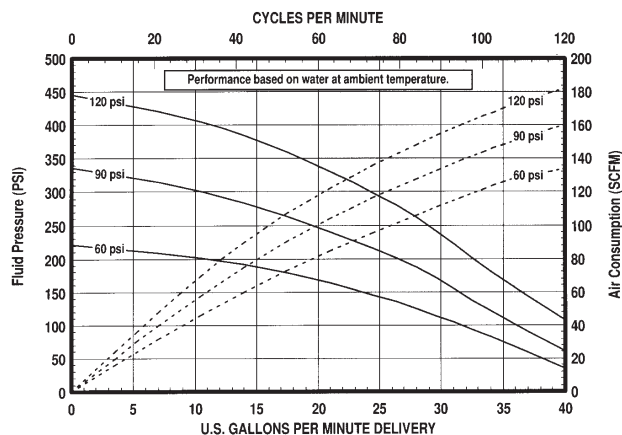
6 5 0 6 3 9 - X 4 B

**Packings**

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

# Accessories

- Air F/R/L: C28241-810
- Wall Mount: 66101
- Mounting Post: 67187-1
- Airline Oil: 62274
- Muffler: 91790
- Wet Sol: 66333-B

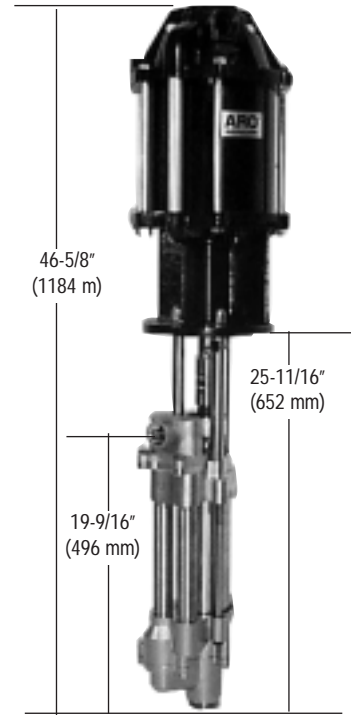


# Performance

Air Inlet Pressure Range . . . . . 30 - 120 PSI (2 - 8.1 bar)  
 Fluid Pressure Range . . . . . 150 - 600 PSI (10.2 - 40.8 bar)  
 Max. Rec'd Cycles Per Minute . . . 60  
 Displacement In<sup>3</sup> Per Cycle . . . 108.1 (1771.4 cm<sup>3</sup>)  
 Cycles Per Gallon (Liter) . . . . . 2.1 (.56)  
 Flow @ 60 Cycles / Minute . . . . 28 GPM (105.8 lpm)  
 Noise Level @ 60 Psi . . . . . 89.8 db(A)

# Specifications

Lower Pump Material . . . . . CF8M (316) Stns. Steel  
 Plunger Material . . . . . 17 - 4 Stns. Steel, "Ultra" Coated  
 Cylinder Material . . . . . 304 Stns. Stl. "Ultra" Coated  
 Air Motor . . . . . 66523-B  
 Motor Repair Kit . . . . . 66614  
 Motor Diameter . . . . . 8" (20.3 cm)  
 Stroke . . . . . 6" (15.2 cm)  
 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 . . . . . 96 lbs. (43.5 kgs.)



650840-X4G-B

# Ordering

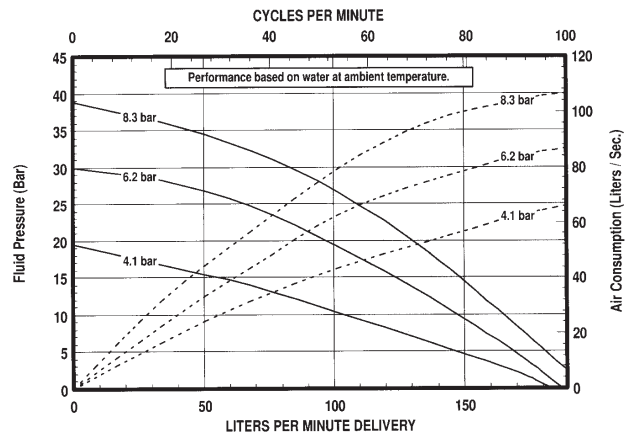
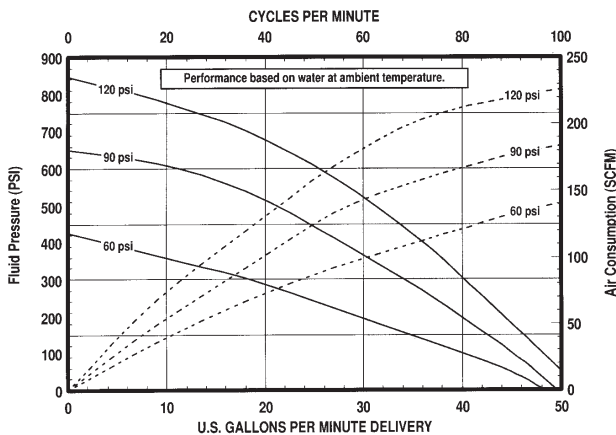
6 5 0 8 4 0 - X 4 G - B

**Packings**

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

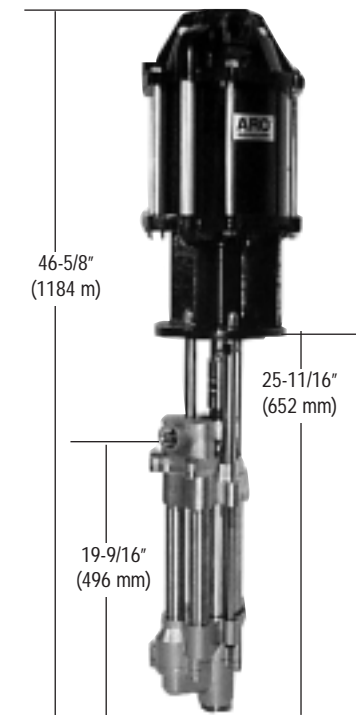
# Accessories

- Air F/R/L: 28353
- Wall Mount: 66542
- Mounting Post: 67187-1
- Airline Oil: 62274
- Muffler: 92460
- Wet Sol: 66333-B



# Performance

Air Inlet Pressure Range . . . . . 30 - 120 PSI (2 - 8.1 bar)  
 Fluid Pressure Range. . . . . 210 - 840 PSI (14.2 - 57.1 bar)  
 Max. Rec'd Cycles Per Minute . 60  
 Displacement In<sup>3</sup> Per Cycle . . . 77.5 (1269.9 cm<sup>3</sup>)  
 Cycles Per Gallon (Liter) . . . . . 2.98 (.78)  
 Flow @ 60 Cycles / Minute . . . . 25 GPM (94.5 lpm)  
 Noise Level @ 60 Psi. . . . . 89.8 db(A)



650839-X4G-B

# Specifications

Lower Pump Material . . . . . CF-8M Stns. Steel  
 Plunger Material . . . . . 17 - 4 Stns. Steel, "Ultra" Coated  
 Cylinder Material. . . . . 304 Stns. Stl. "Ultra" Coated  
 Air Motor . . . . . 66523-B  
     Motor Repair Kit . . . . . 66614  
     Motor Diameter . . . . . 8" (20.3 cm)  
     Stroke . . . . . 6" (15.2 cm)  
     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 . . . . . 94 lbs. (42.6 kgs.)

# Ordering

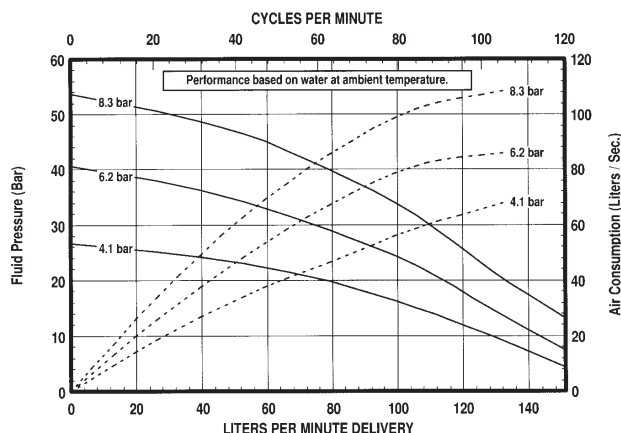
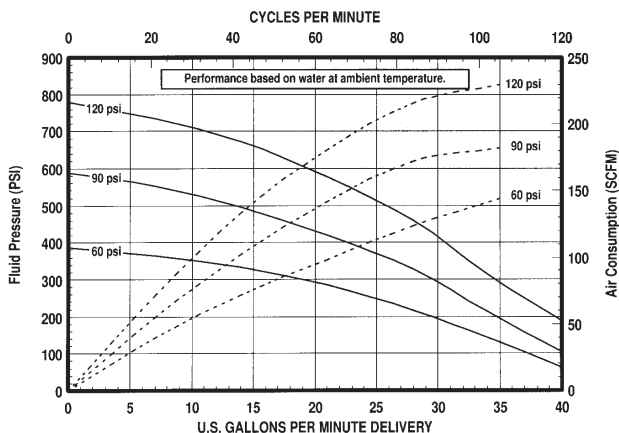
6 5 0 8 3 9 - X 4 G - B

### Packings

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

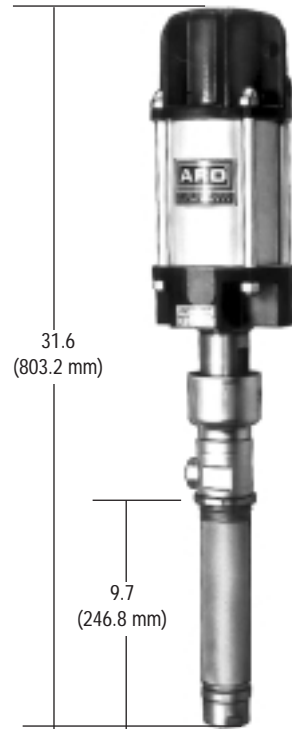
# Accessories

- Air F/R/L: 28353
- Wall Mount: 66542
- Mounting Post: 67187-1
- Airline Oil: 62274
- Muffler: 92460
- Wet Sol: 66333-B



# Pump Performance

- Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)
- Fluid Pressure Range. . . . . 270 - 1350 PSI (18.3 - 91.8 bar)
- Max. Rec'd Cycles Per Minute . 60
- Displacement In<sup>3</sup> Per Cycle . . . 11 (180.2 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 21 (5.5)
- Flow @ 60 Cycles / Minute . . . . 2.8 GPM (10.5 lpm)
- Noise Level @ 60 Psi . . . . . 80 db(A)



650408-B  
650408-X-B

# Pump Specifications

- Lower Pump Material . . . . . 316 Stnls. Steel
- Plunger Material . . . . . 316 Stnls. 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 End Series. . . . . 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. . . . . 35 lbs. (15.8 kgs.)

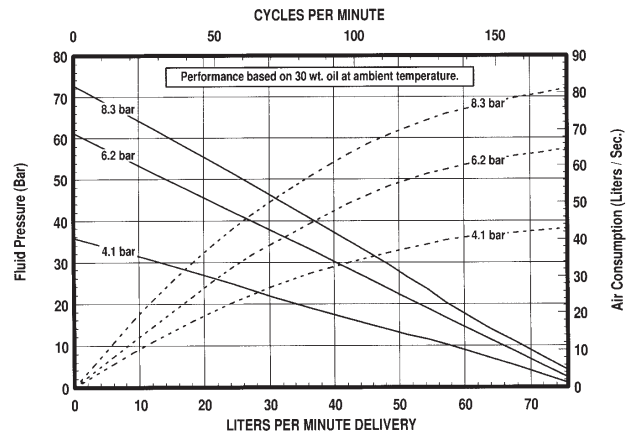
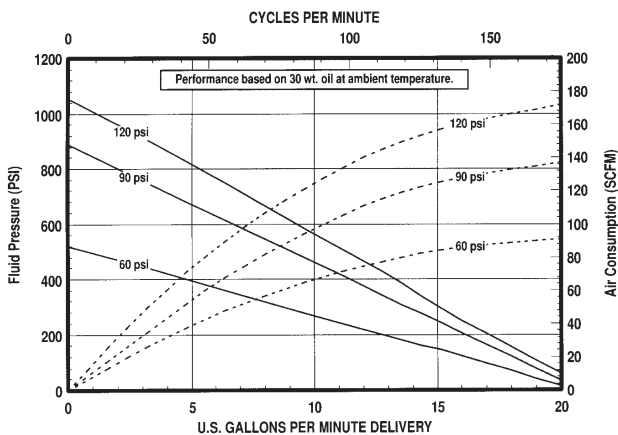
# Ordering

6 5 0 4 0 8 - B Packings: PTFE (Upper/Lower)  
6 5 0 4 0 8 - X - B

- Packings**
- 4 : UHMW-PE
  - 5 : PTFE, w/Ultra Coated Tube and Rod
  - 6 : UHMW-PE, w/Ultra Coated Tube and Rod

# Accessories

- Air F/R/L: C28241-810
- Wall Mount: 66100
- Airline Oil: 62274
- Muffler: 91790
- Wet Sol: 66333-B

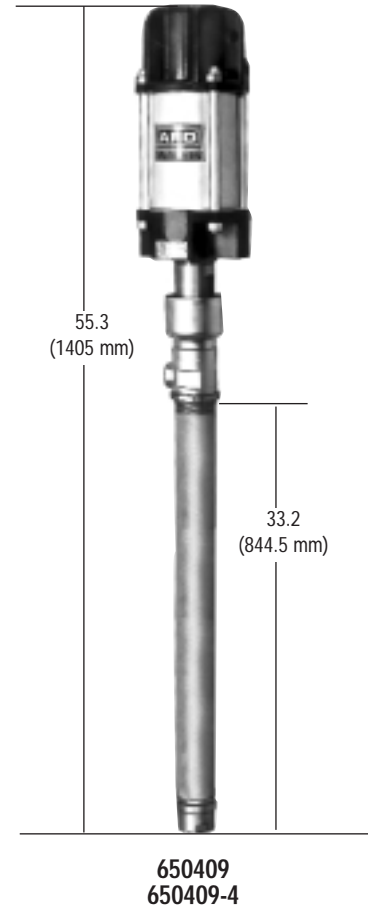


## Pump Performance

Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)  
 Fluid Pressure Range . . . . . 270 - 1350 PSI (18.3 - 91.8 bar)  
 Max. Rec'd Cycles Per Minute . 75  
 Displacement In<sup>3</sup> Per Cycle . . . 11 (180.2 cm<sup>3</sup>)  
 Cycles Per Gallon (Liter) . . . . . 21 (5.5)  
 Flow @ 60 Cycles / Minute . . . . 2.8 GPM (10.5 lpm)  
 Noise Level @ 60 Psi . . . . . 80 db(A)

## Pump Specifications

Lower Pump Material . . . . . 316 Stnls. Steel  
 Plunger Material . . . . . 316 Stnls. 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 Series . . . . . 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 . . . . . 45 lbs. (203 kgs.)

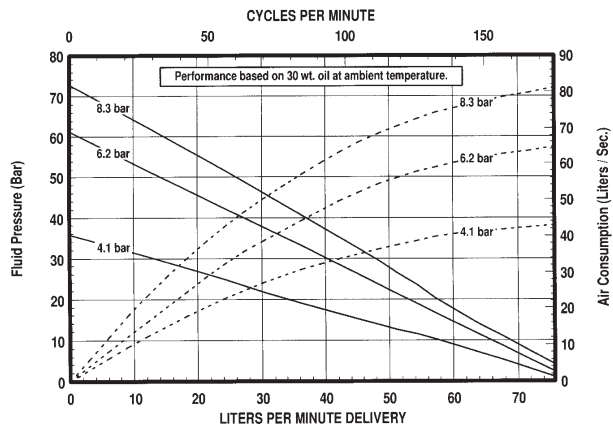
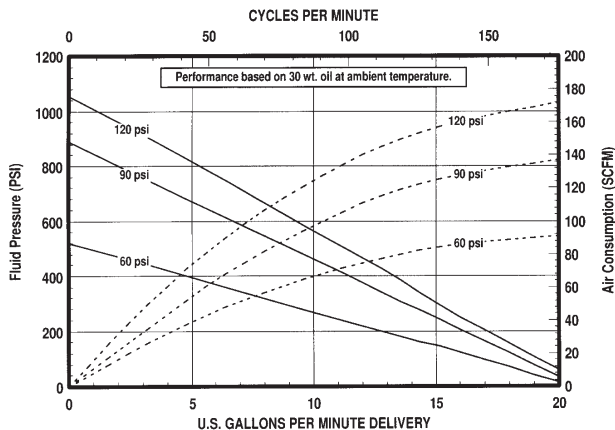


## Ordering

6 5 0 4 0 9 Packings: PTFE (Upper/Lower)  
 6 5 0 4 0 9 - 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

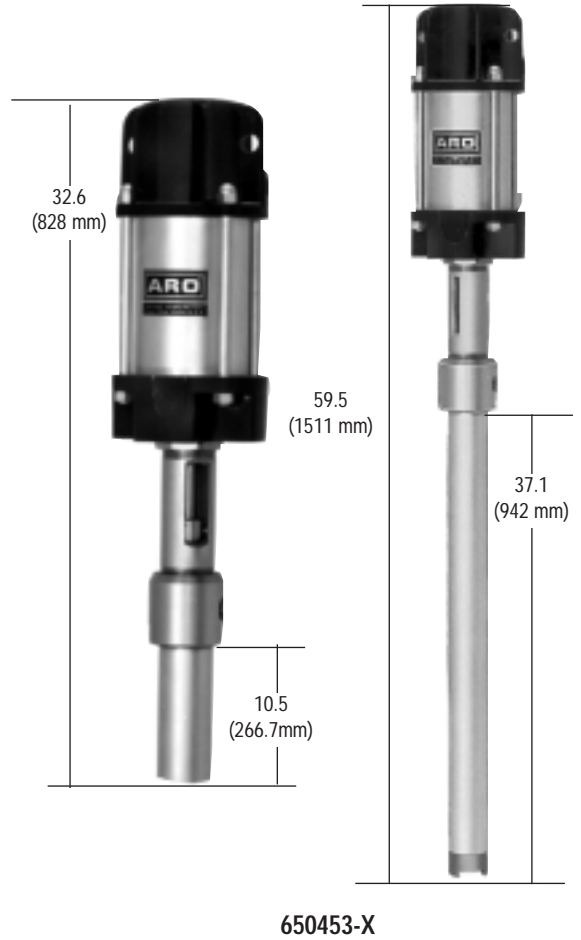


# Performance

- Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)
- Fluid Pressure Range . . . . . 270 - 1350 PSI (18.3 - 91.8 bar)
- Max. Rec'd Cycles Per Minute . . 60
- Displacement In<sup>3</sup> Per Cycle . . . 11 (180.2 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 21 (5.5)
- Flow @ 60 Cycles / Minute . . . . 2.8 GPM (10.5 lpm)
- Noise Level @ 60 Psi . . . . . 80 db(A)

# Specifications

- Lower Pump Material . . . . . Carbon Steel
- Plunger Material . . . . . Carbon Steel
- 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 End Series . . . . . 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 . . . . . 35 lbs. (15.8 kgs.) for 650453-7/650453-9
- . . . . . 49 lbs. (22.2 kgs.) for 650453-5/650453-8



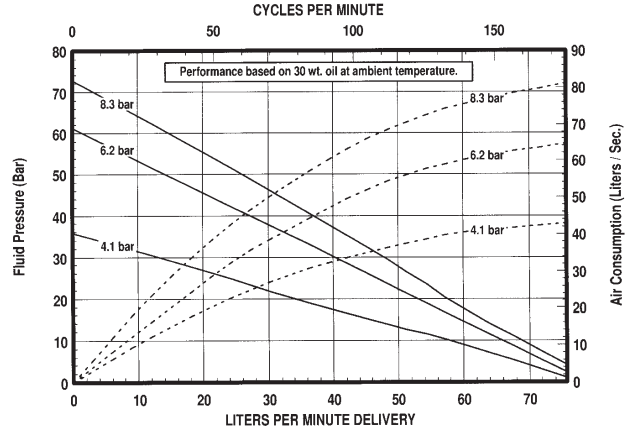
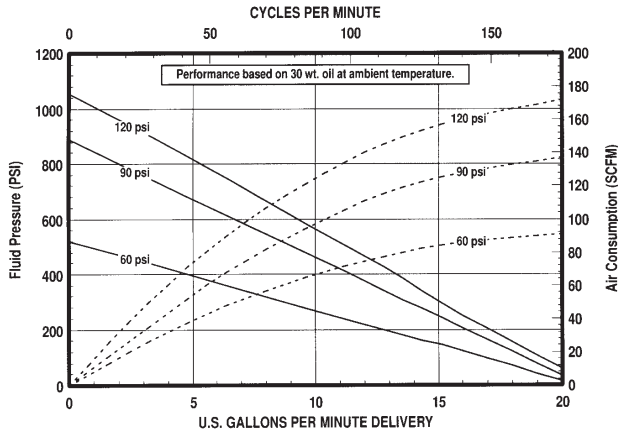
# Ordering

6 5 0 4 5 3 - X

Type	Packings
7 : Stub (Wall Mount)	Leather/PTFE
5 : 55-Gallon (205 Liters)	Leather/PTFE
9 : Stub (Wall Mount)	UHMW-PE
8 : 55-Gallon (205 Liters)	UHMW-PE

# Accessories

- Air F/R/L: C28241-810
- Wall Mount: 66100
- Airline Oil: 62274
- Muffler: 91790
- Wet Sol: 66333-B

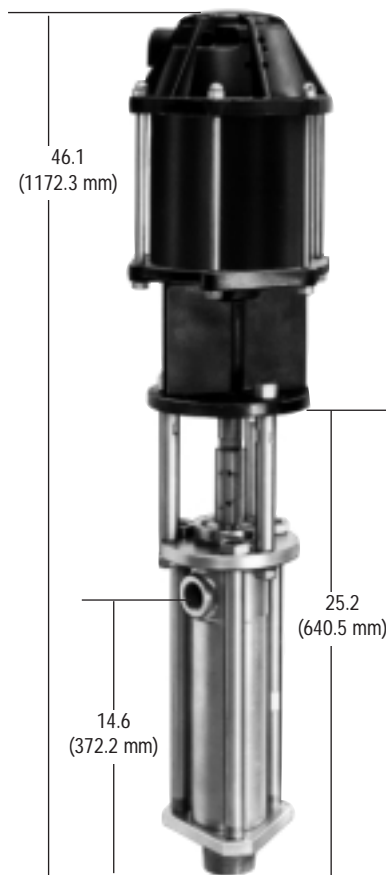


## Pump Performance

- Air Inlet Pressure Range . . . . . 30 - 120 PSI (2 - 8.1 bar)
- Fluid Pressure Range . . . . . 300 - 1200 PSI (20.4 - 81.6 bar)
- Max. Rec'd Cycles Per Minute . . 60
- Displacement In<sup>3</sup> Per Cycle . . . 59.9 (981.5 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 3.8 (1.01)
- Flow @ 60 Cycles / Minute . . . . 15 GPM (56.7 lpm)
- Noise Level @ 60 Psi . . . . . 88 db(A) w/muffler

## Pump Specifications

- Lower Pump Material . . . . . 316 Stnls. Steel
- Plunger Material . . . . . 304 Stnls. Steel (Chrome Plated)
- Cylinder Material . . . . . 304 Stnls. Steel (Chrome Plated)
- Air Motor . . . . . 66523-B
- Motor Repair Kit . . . . . 66614
- Motor Diameter . . . . . 8"
- Stroke . . . . . 6"
- Air Inlet . . . . . 3/4" NPT(F)
- Lower Pump End Series . . . . . 66942-XXF
- Lower Pump Repair Kit . . . . . 637211-XXX
- Material Inlet . . . . . 2" NPTF-1
- Material Outlet . . . . . 1-1/4" NPTF-(f)
- Weight . . . . . 102 lbs. (46.3 kgs.)



613112-XXF-C

## Ordering

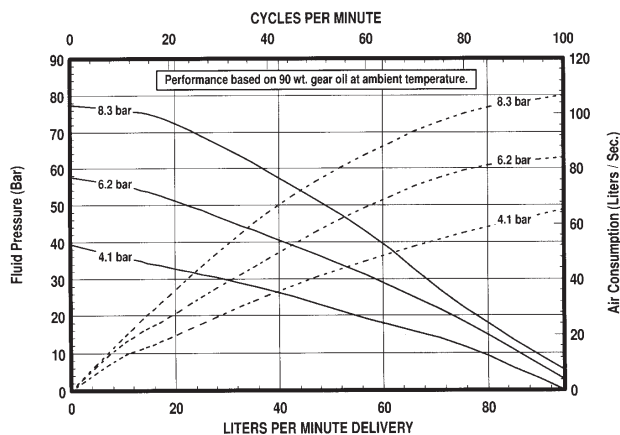
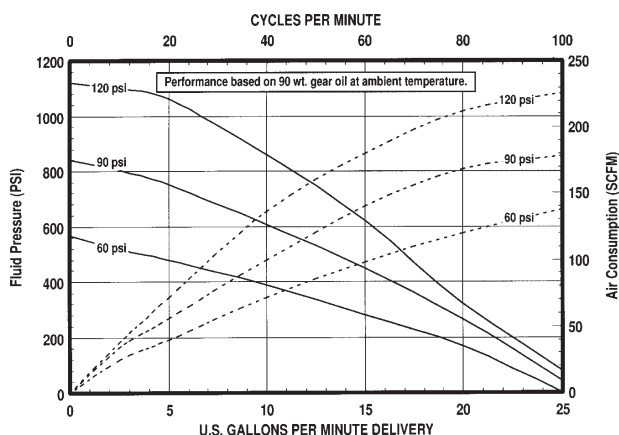
6 1 3 1 1 2 -X X F -C

**Packings**

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

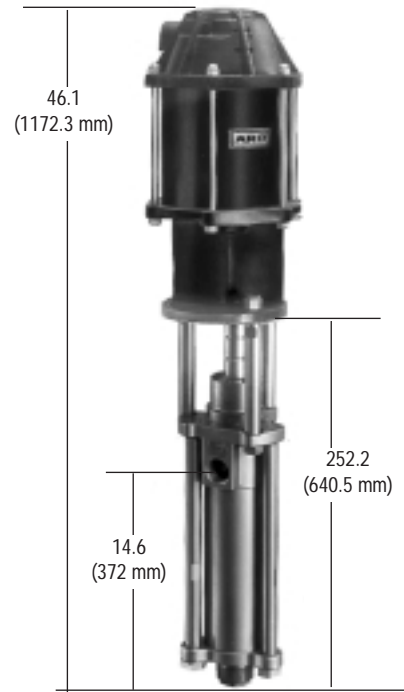


# Pump Performance

- Air Inlet Pressure Range . . . . . 30 - 120 PSI (2 - 8.1 bar)
- Fluid Pressure Range. . . . . 300 - 1200 PSI (20.4 - 81.6 bar)
- Max. Rec'd Cycles Per Minute . 60
- Displacement In<sup>3</sup> Per Cycle . . . 59.9 (981.5 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 3.8 (1.01)
- Flow @ 60 Cycles / Minute . . . . 15 GPM (56.7 lpm)
- Noise Level @ 60 Psi . . . . . 88 db(A) w/muffler

# Pump Specifications

- Lower Pump Material . . . . . 316 Stnls. Steel
- Plunger Material . . . . . 15-5 Stnls. Steel (Chrome Plated)
- Cylinder Material. . . . . 15-5 Stnls. Steel (Chrome Plated)
- Air Motor . . . . . 66523-B
- Motor Repair Kit . . . . . 66614
- Motor Diameter . . . . . 8"
- Stroke . . . . . 6"
- Air Inlet . . . . . 3/4" NPT(F)
- Lower Pump End Series. . . . . 66941-X6D
- Lower Pump Repair Kit . . . . . 637211-XXX
- Material Inlet . . . . . 2" NPT(M)
- Material Outlet . . . . . 1-1/4" NPT(F)
- Weight . . . . . 102 lbs. (46.3 kgs.)



650866-X6D-B

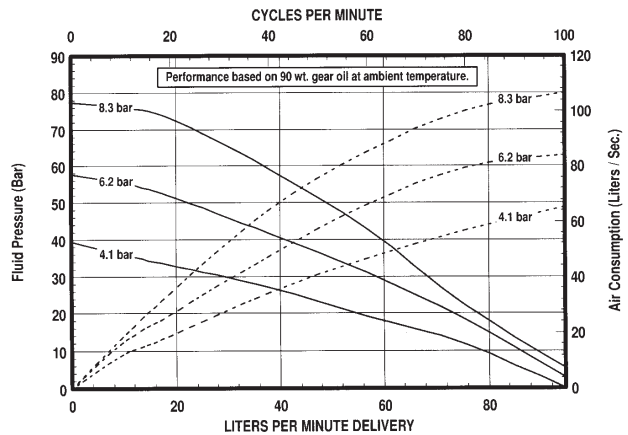
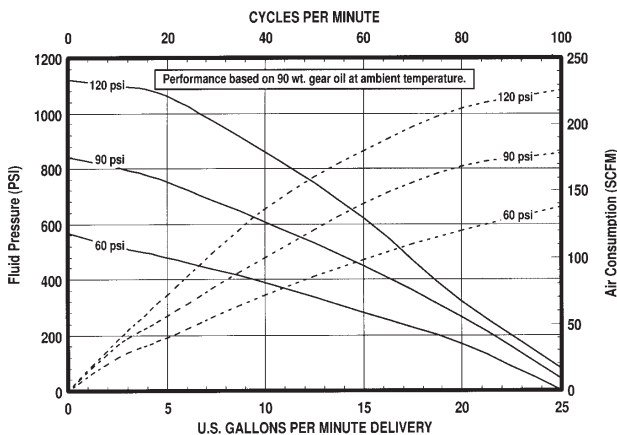
# Ordering

6 5 0 8 6 6 - X 6 D - B

- Packings \_\_\_\_\_
- C : UHMW-PE
  - P : UHMW-PE/PTFE / Staggered
  - L : Mineral-Filled PTFE
  - R : PTFE/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

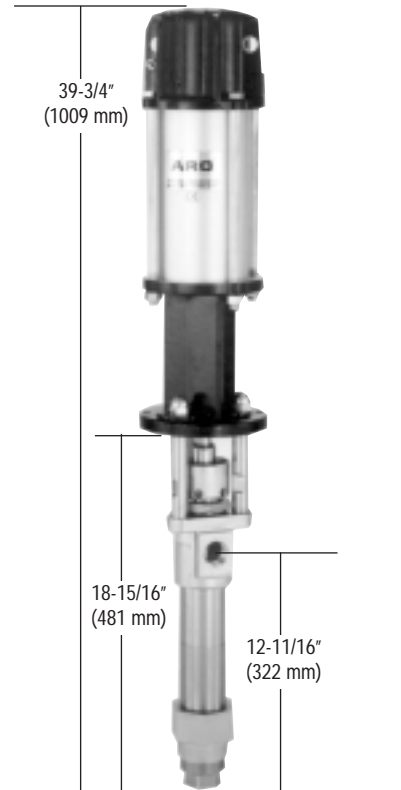


# Pump Performance

- Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)
- Fluid Pressure Range . . . . . 330 - 1650 PSI (22.4 - 112.2 bar)
- Max. Rec'd Cycles Per Minute . . . 60
- Displacement In<sup>3</sup> Per Cycle . . . 14.5 (237.6 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 16 (4.2)
- Flow @ 60 Cycles / Minute . . . . 3.7 GPM (13.9 lpm)
- Noise Level @ 60 Psi . . . . . 81.8 db(A)

# Pump Specifications

- Lower Pump Material . . . . . CF-8M Stnls. Steel
- Plunger Material . . . . . See "Plunger Options" Below
- Cylinder Material . . . . . See "Plunger Options" Below
- Air Motor . . . . . 65465-B
- Motor Repair Kit . . . . . 61268
- Motor Diameter . . . . . 4-1/4" (10.8 cm)
- Stroke . . . . . 6"
- Air Inlet . . . . . 1/2" NPT(F)
- Lower Pump End Series . . . . . 66300-X4X
- Lower Pump Repair Kit . . . . . 637305-X4X
- Material Inlet . . . . . 1" NPT(F) / 2" NPT(M)
- Material Outlet . . . . . 1" NPTF-1(F)
- Weight . . . . . 42.9 lbs. (19.5 kgs.)



650483-X4X

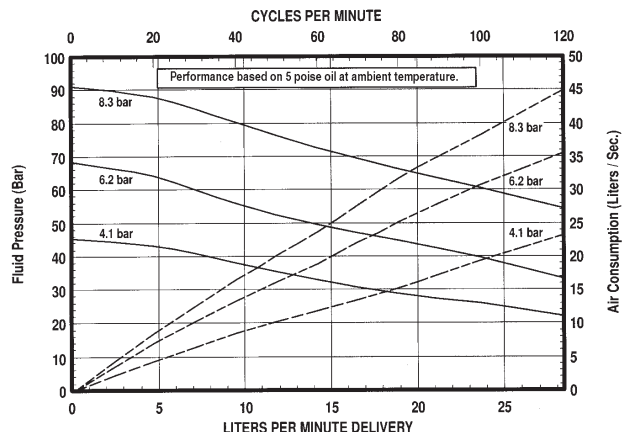
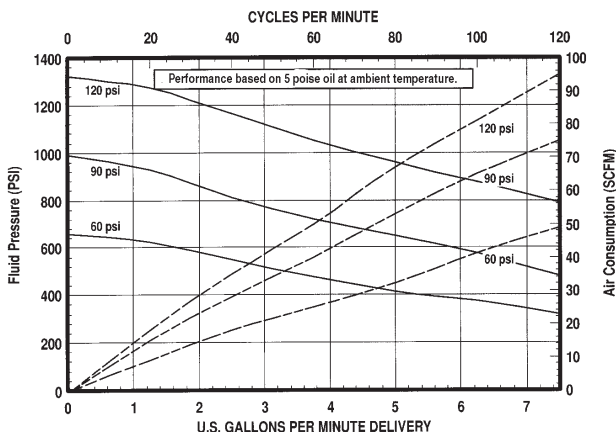
# Ordering

- 6 5 0 4 8 3 -X 4 X
- Packings ————— Plungers
- 3 : PTFE
  - C : UHMW-PE
  - G : UHMW-PE/Leather
  - P : UHMW-PE/Leather (Upper), UHMW-PE (Lower)
  - R : PTFE/UHMW-PE (Upper), PTFE (Lower)

- 3 : 17-4 Stnls. Steel, Hard Chrome Plated
- B : 17-4 Stnls. Steel, "Ultra" Coated

# Accessories

- Air F/R/L: C28241-810
- Airline Oil: 62274
- Air Motor Muffler: 91790
- Wet Sol: 66333-B
- Wall Mount: 66100
- Floor/Follower Adapter: 67136
- Floor Mount: 65138

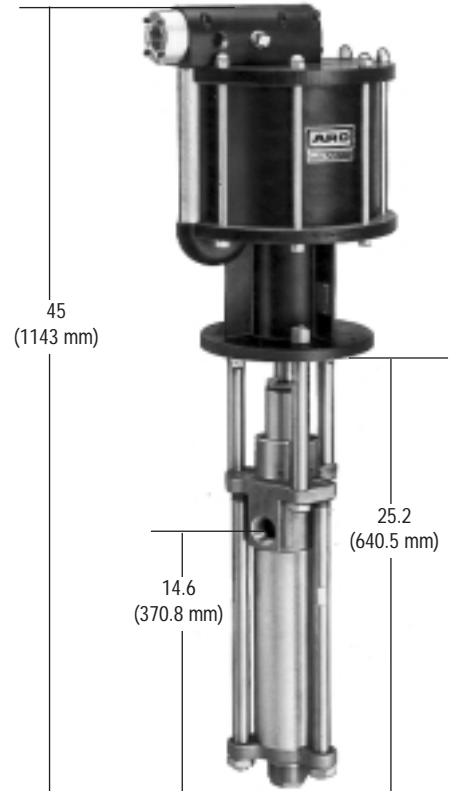


## Pump Performance

Air Inlet Pressure Range . . . . . 90 PSI (6.1 bar) Max.  
 Fluid Pressure Range. . . . . 1,350 PSI (91.8 bar) Max.  
 Max. Rec'd Cycles Per Minute . 60  
 Displacement In<sup>3</sup> Per Cycle . . . 59.9 (981.5 cm<sup>3</sup>)  
 Cycles Per Gallon (Liter) . . . . . 3.8 (1.01)  
 Flow @ 60 Cycles / Minute . . . . 15 GPM (56.7 lpm)  
 Noise Level @ 60 Psi . . . . . 82 db(A) w/muffler

## Pump Specifications

Lower Pump Material . . . . . 316 Stnls. Steel  
 Plunger Material . . . . . 15-5 Stnls. Steel (Chrome Plated)  
 Cylinder Material. . . . . 15-5 Stnls. Steel (Chrome Plated)  
 Air Motor . . . . . 66651-B  
     Motor Repair Kit . . . . . 637110  
     Motor Diameter . . . . . 10"  
     Stroke . . . . . 6"  
     Air Inlet . . . . . 3/4" NPT(F)  
 Lower Pump End Series. . . . . 66941-X6D  
     Lower Pump Repair Kit . . . . . 637211-XXX  
 Material Inlet . . . . . 2" NPT(M)  
 Material Outlet . . . . . 1-1/4" NPT(F)  
 Weight . . . . . 125 lbs. (56.8 kgs.)



650867-X6D-B

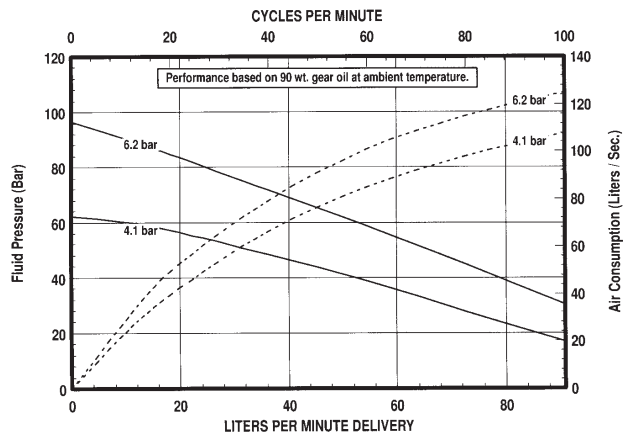
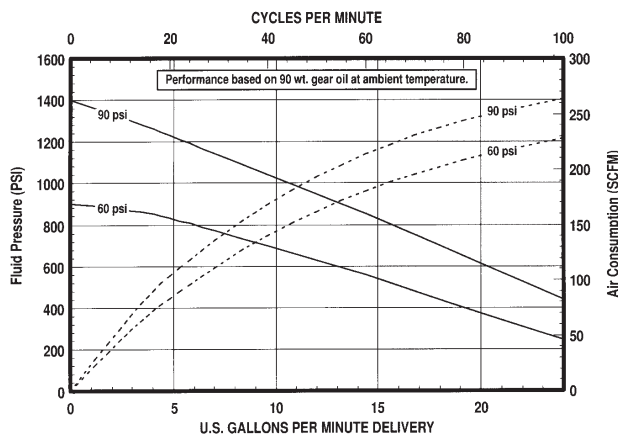
## Ordering

6 5 0 8 6 7 - X 6 D -B

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

## Accessories

Air F/R/L: 28353  
 Wall Mount: 66542  
 Airline Oil: 62274  
 Muffler: 66718  
 Wet Sol: 66333-B

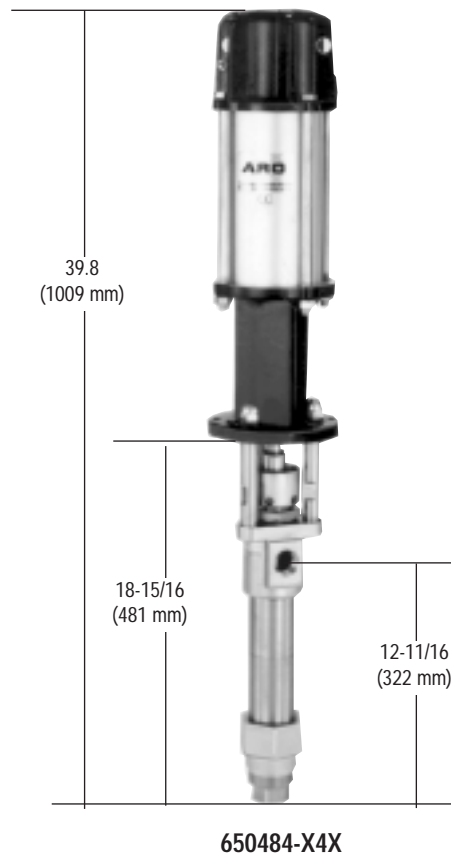


# Performance

- Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)
- Fluid Pressure Range. . . . . 660 - 3300 PSI (44.8 - 224.4 bar)
- Max. Rec'd Cycles Per Minute . 60
- Displacement In<sup>3</sup> Per Cycle . . . 7.5 (122.9 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 30.8 (8.1)
- Flow @ 60 Cycles / Minute . . 1.9 GPM (7.2 lpm)
- Noise Level @ 60 Psi . . . . . 81.8 db(A)

# Specifications

- Lower Pump Material . . . . . CF8M (316) Stainless Steel
- Plunger Material . . . . . See "Plunger Options" Below
- Cylinder Material. . . . . See "Plunger Options" Below
- 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)
- Two-Ball Pump Model. . . . . 66301-X4X
- Lower Pump Repair Kit . . . . . 637306-X43
- Material Inlet . . . . . 1" NPT(F) 2" NPT(M)
- Material Outlet . . . . . 1" NPT(F)
- Weight. . . . . 42.9 lbs. (19.5 kgs.)



# Ordering

6 5 0 4 8 4 - X 4 X

## Packings

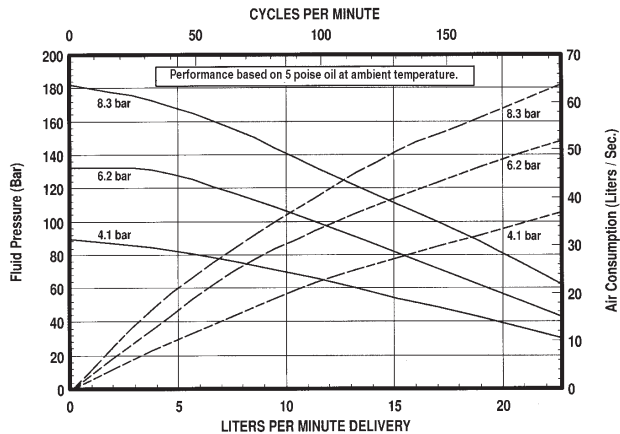
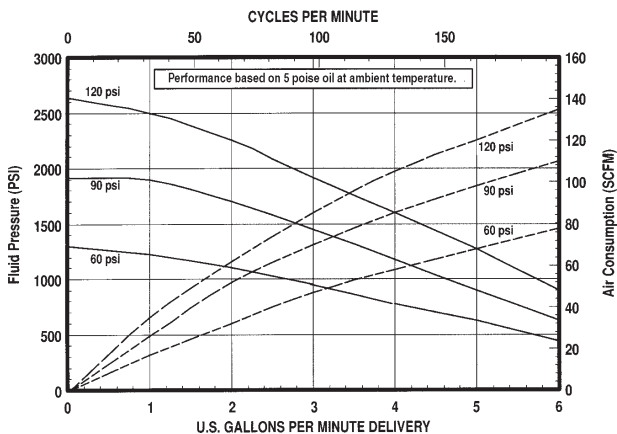
- 3 : PTFE
- C : UHMW-PE
- G : UHMW-PE/Leather Staggered
- P : UHMW-PE/PTFE Staggered (Upper), UHMW-PE (Lower)
- R : PTFE/UHMW-PE Staggered (Upper), PTFE (Lower)

## Plungers

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

# Accessories

- Air F/R/L: C28241-810
- Airline Oil: 62274
- Air Motor Muffler: 91790
- Wet Sol: 66333-B
- Wall Mount: 66100
- Floor/Follower Adapter: 67136
- Floor Mount: 65138



# Performance

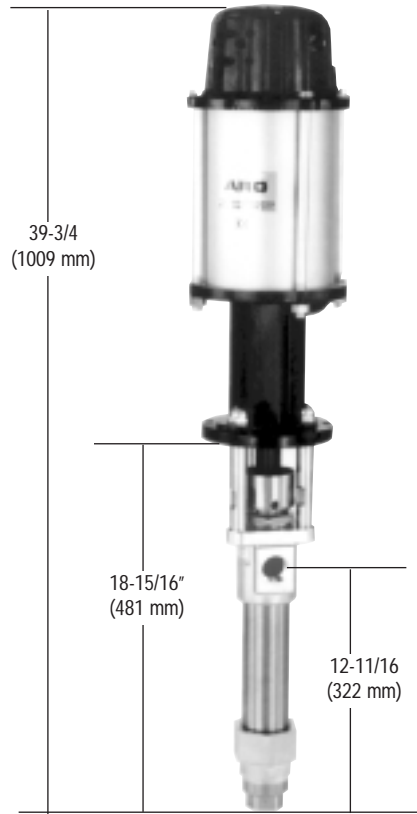
- Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)
- Fluid Pressure Range . . . . . 690 - 3450 PSI (46.9 - 234.6 bar)
- Max. Rec'd Cycles Per Minute . 60
- Displacement In<sup>3</sup> Per Cycle . . . 14.5 (237.6 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 15.9 (4.2)
- Flow @ 60 Cycles / Minute . . 3.7 GPM (13.9 lpm)
- Noise Level @ 60 Psi . . . . . 84.8 db(A)

# Specifications

- Lower Pump Material . . . . . CF8M (316) Stns. Steel
- Plunger Material . . . . . See "Plunger Option" Below
- Cylinder Material . . . . . See "Plunger Option" Below
- Air Motor . . . . . 65665-B
- Motor Repair Kit . . . . . 61355
- Motor Diameter . . . . . 6"
- Stroke . . . . . 6"
- Air Inlet . . . . . 1/2" NPTF
- Exhaust Port . . . . . 1-1/4" NPTF
- Two-Ball Pump Model . . . . . 66300-X4X
- Lower Pump Repair Kit . . . . . 637305-X43
- Material Inlet . . . . . 1" NPT(F) 2" NPT(M)
- Material Outlet . . . . . 1" NPTF
- Weight . . . . . 46.2 lbs. (21 kgs.)

# Ordering

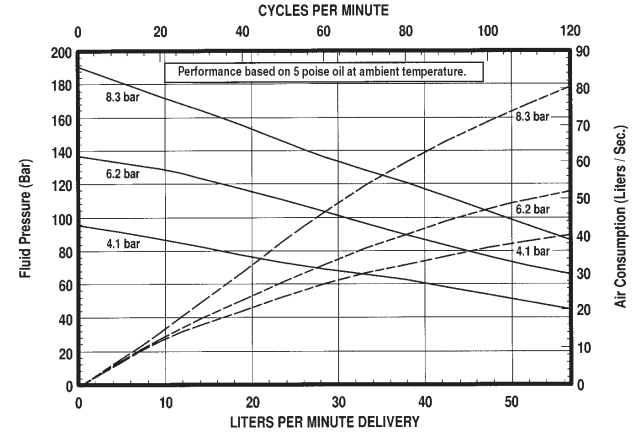
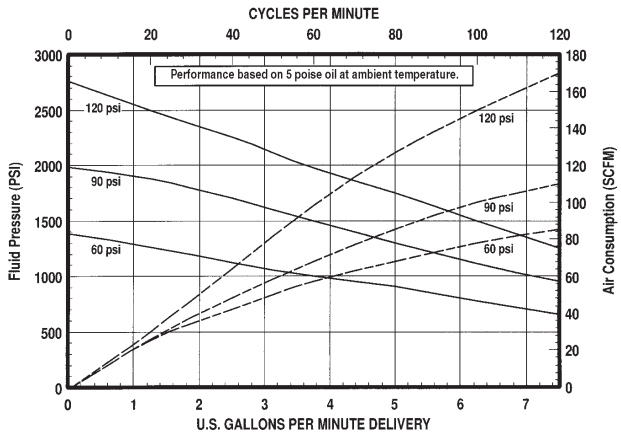
- 6 5 0 6 8 3 - X 4 X
- |   |                                   |
|---|-----------------------------------|
| <b>Packings</b>                                     | <b>Plungers</b>                   |
| 3 : PTFE  | 3 : 17-4 S. S. Hard Chrome Plated |
| C : UHMW-PE   | B : 17-4 S.S. "Ultra" Coated      |
| G : UHMW-PE/Leather Staggered                       |                                   |
| P : UHMW-PE/PTFE Staggered (Upper), UHMW-PE (Lower) |                                   |
| R : PTFE/UHMW-PE Staggered (Upper), PTFE (Lower)    |                                   |



650683-X4X

# Accessories

- Air F/R/L: C28241-810
- Airline Oil: 62274
- Air Motor Muffler: 91790
- Wet Sol: 66333-B
- Wall Mount: 66100
- Floor/Follower Adapter: 67136

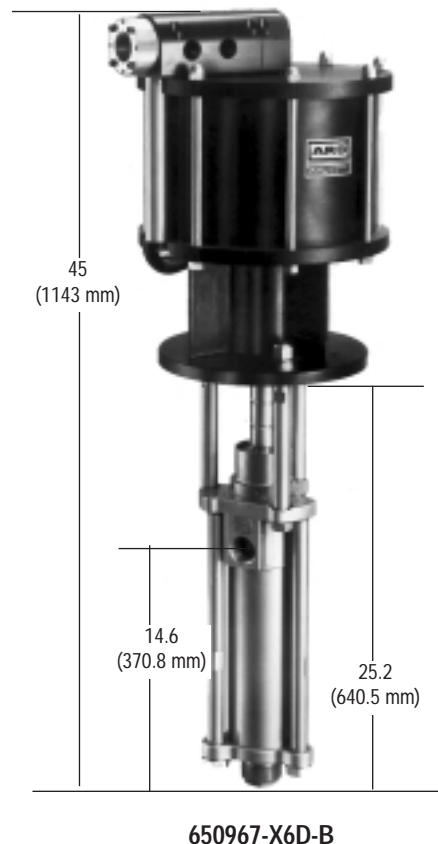


## Performance

Air Inlet Pressure Range . . . . . 90 PSI (6.1 bar) Max.  
 Fluid Pressure Range . . . . . 2070 PSI (140.8 bar) Max.  
 Max. Rec'd Cycles Per Minute . 60  
 Displacement In<sup>3</sup> Per Cycle . . . 59.9 (981.5 cm<sup>3</sup>)  
 Cycles Per Gallon (Liter) . . . . . 3.8 (1.01)  
 Flow @ 60 Cycles / Minute . . . . 15 GPM (56.7 lpm)  
 Noise Level @ 60 Psi . . . . . 88 db(A) w/muffler

## Specifications

Lower Pump Material . . . . . 316 Stnls. Steel  
 Plunger Material . . . . . 15-5 Stnls. Steel (Chrome Plated)  
 Cylinder Material. . . . . 15-5 Stnls. Steel (Chrome Plated)  
 Air Motor . . . . . 66506-B  
 Motor Repair Kit . . . . . 637112  
 Motor Diameter . . . . . 12"  
 Stroke . . . . . 6"  
 Air Inlet . . . . . 3/4" NPT(F)  
 Lower Pump End Series. . . . . 66941-X63  
 Lower Pump Repair Kit . . . . . 637211-X63  
 Material Inlet . . . . . 2" NPT(M)  
 Material Outlet . . . . . 1-1/4" NPT(F)  
 Weight . . . . . 140 lbs. (63.6 kgs.)



## Ordering

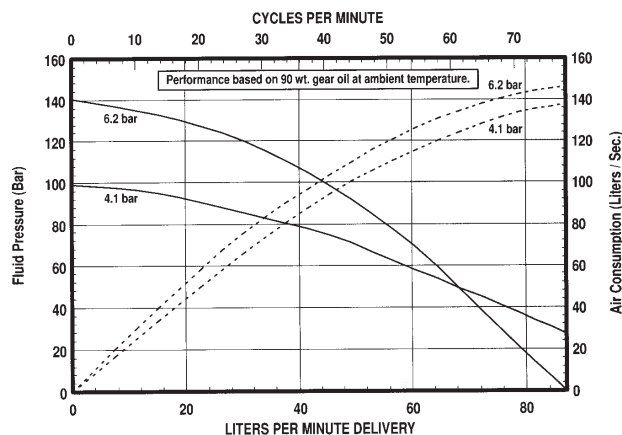
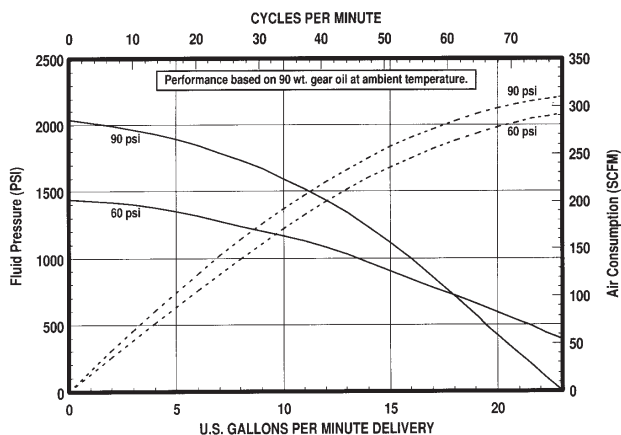
6 5 0 9 6 7 - X 6 D - B

### Packings

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

## Accessories

- Air F/R/L: 28353
- Wall Mount: 66542
- Airline Oil: 62274
- Muffler: 66718
- Wet Sol: 66333-B

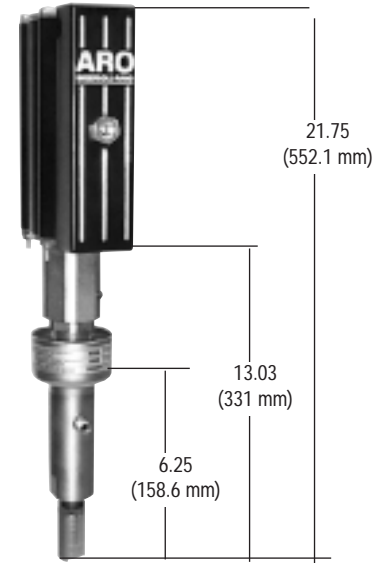


# Performance

Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)  
 Fluid Pressure Range . . . . . 840 - 4200 PSI (57.1 - 285.7 bar)  
 Max. Rec'd Cycles Per Minute . 120  
 Displacement In<sup>3</sup> Per Cycle . . . 1.47 (24 cm<sup>3</sup>)  
 Cycles Per Gallon (Liter) . . . . . 157.5 (41.6)  
 Flow @ 60 Cycles / Minute . . .38 GPM (1.41 lpm)  
 Noise Level @ 100 Psi . . . . . 85 db(A)

# Specifications

Lower Pump Material . . . . . 316 Stnls. Steel  
 Plunger Material . . . . . Stainless Steel  
 Cylinder Material . . . . . Stainless Steel  
 Air Motor . . . . . 66914  
 Motor Repair Kit . . . . . 637316  
 Motor Diameter . . . . . 3"  
 Stroke . . . . . 3"  
 Air Inlet . . . . . 1/4" NPT(F)  
 Lower Pump End Series . . . . . 66066-1 for NM2328A-11-311  
 . . . . . 66066-2 for NM2328A-11-G11  
 . . . . . 66066-3 for NM2328A-11-S11  
 Lower Pump Repair Kit . . . . . 637006-3 for NM2328A-11-311  
 . . . . . 637006-2 for NM2328A-11-G11  
 . . . . . 637006-3 for NM2328A-11-S11  
 Material Inlet . . . . . 1/2" NPT(F)  
 Material Outlet . . . . . 1/4" NPT(M)  
 Weight . . . . . 13 lbs. (5.9 kgs.)



NM2328A-11-X11

# Ordering

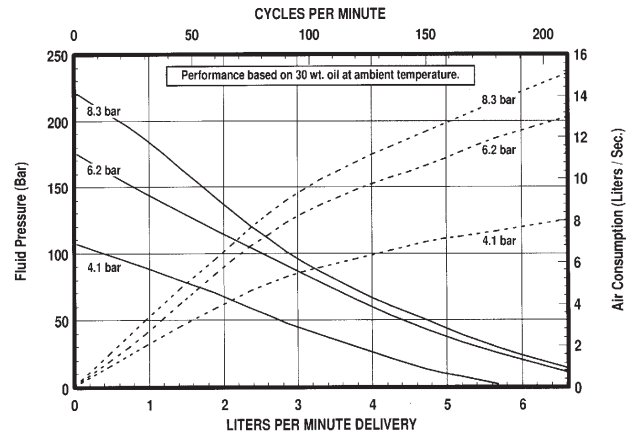
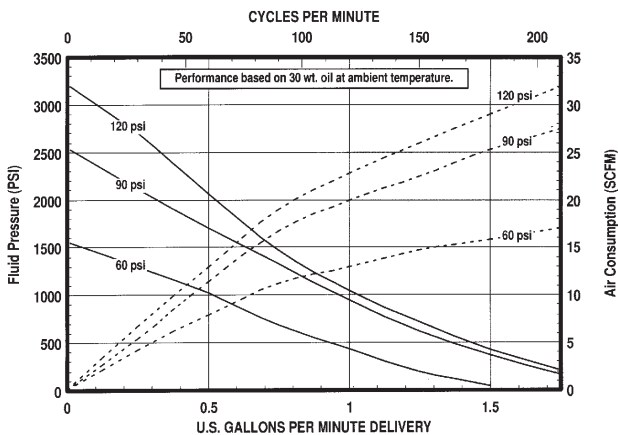
N M 2 3 2 8 A - 1 1 - X 1 1

## Packings

- 3 : PTFE
- G : UHMW-PE/Leather Staggered
- S : UHMW-PE/PTFE Staggered

# Accessories

Air F/R/L: 129121-400  
 Wet Sol: 66333-B

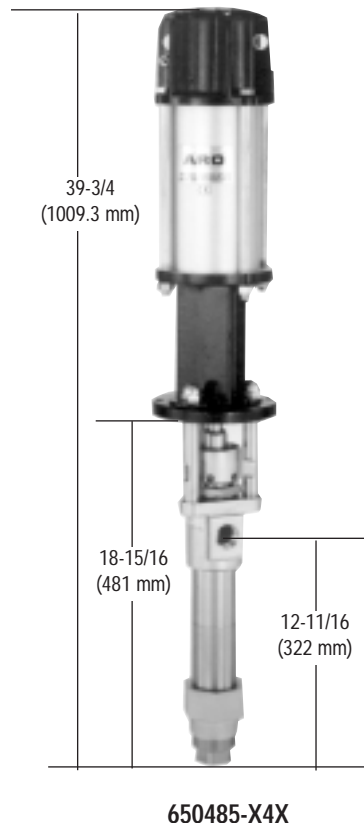


# Performance

- Air Inlet Pressure Range . . . . . 30 - 150 PSI (2 - 10.2 bar)
- Fluid Pressure Range. . . . . 900 - 4500 PSI (61.2 - 306.1 bar)
- Max. Rec'd Cycles Per Minute . 60
- Displacement In<sup>3</sup> Per Cycle . . . 5.5 (90.1 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 41.9 (11)
- Flow @ 60 Cycles / Minute . . . 1.3 GPM (4.9 lpm)
- Noise Level @ 60 Psi . . . . . 81.8 db(A)

# Specifications

- Lower Pump Material . . . . . CF8M Stnls. Steel
- Plunger Material . . . . . See "Plunger Options" Below
- Cylinder Material. . . . . See "Plunger Options" Below
- 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)
- Two-Ball Pump Model . . . . . 66302-X4X
- Lower Pump Repair Kit . . . . . 637307-X43
- Material Inlet . . . . . 1" NPT(F) 2" NPT(M)
- Material Outlet . . . . . 1" NPT(F)
- Weight . . . . . 42.9 lbs. (19.5 kgs.)

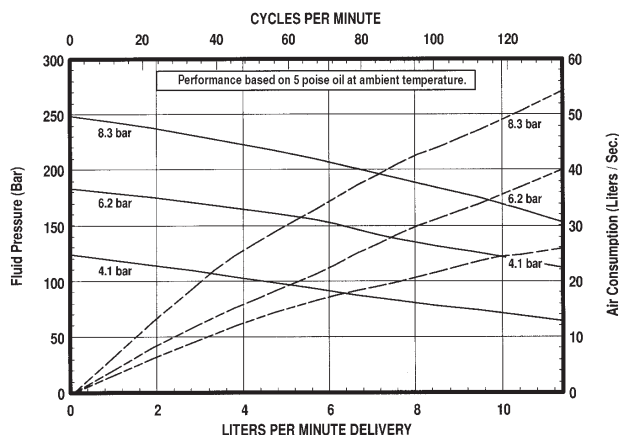
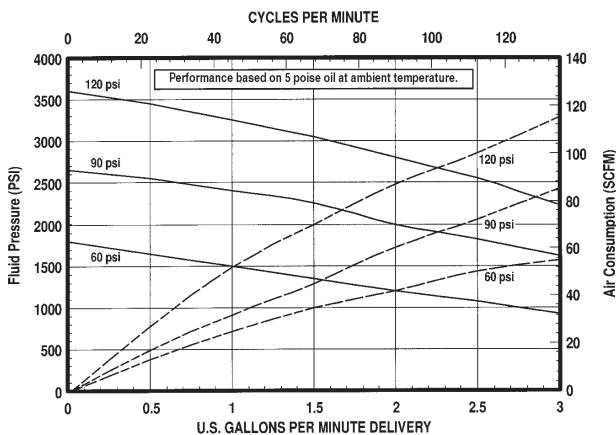


# Ordering

- 6 5 0 4 8 5 - X 4 X
- |   |                                   |
|---|-----------------------------------|
| <b>Packings</b>                                     | <b>Plungers</b>                   |
| 3 : PTFE  | 3 : 17-4 S. S. Hard Chrome Plated |
| C : UHMW-PE   | B : 17-4 S.S. "Ultra" Coated      |
| G : UHMW-PE/Leather Staggered                       |                                   |
| P : UHMW-PE/PTFE Staggered (Upper), UHMW-PE (Lower) |                                   |
| R : PTFE/UHMW-PE Staggered (Upper), PTFE (Lower)    |                                   |

# Accessories

- Air F/R/L: C28241-810
- Airline Oil: 62274
- Air Motor Muffler: 91790
- Wet Sol: 66333-B
- Floor/Follower Adapter: 67136
- Floor Mount: 65138

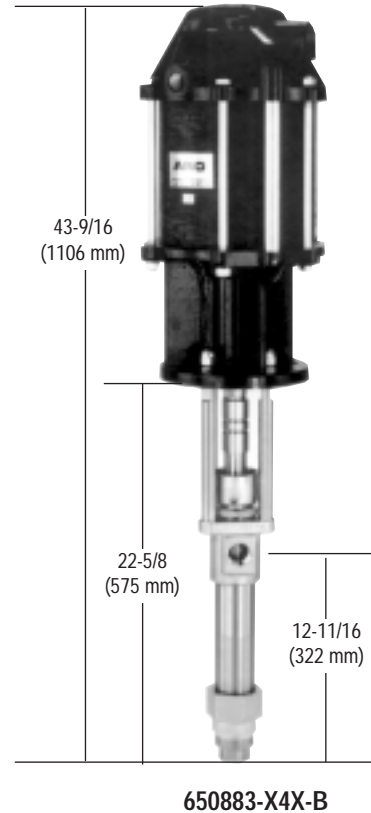


# Pump Performance

- Air Inlet Pressure Range . . . . . 30 - 120 PSI (2 - 8.1 bar)
- Fluid Pressure Range. . . . . 1200 - 4800 PSI (81.6 - 326.5 bar)
- Max. Rec'd Cycles Per Minute . 60
- Displacement In<sup>3</sup> Per Cycle . . . 14.5 (237.6 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 16 (4.2)
- Flow @ 60 Cycles / Minute. . . 3.7 GPM (13.9 lpm)
- Noise Level @ 60 Psi . . . . . 89.8 db(A)

# Pump Specifications

- Lower Pump Material . . . . . CF8M Stnls. Steel
- Plunger Material . . . . . See "Plunger Options" Below
- Cylinder Material. . . . . See "Plunger Options" Below
- 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)
- Two-Ball Pump Model. . . . . 66300-X4X
- Lower Pump Repair Kit . . . . . 637305-X43
- Material Inlet . . . . . 1" NPT(F) 2" NPT(M)
- Material Outlet . . . . . 1" NPT(F)
- Weight . . . . . 68.1 lbs. (30.9 kgs.)

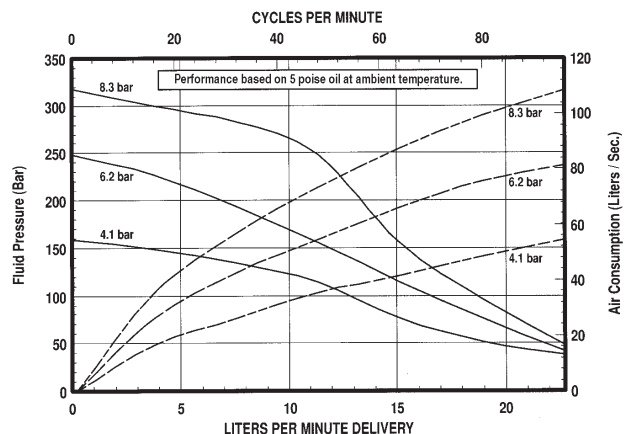
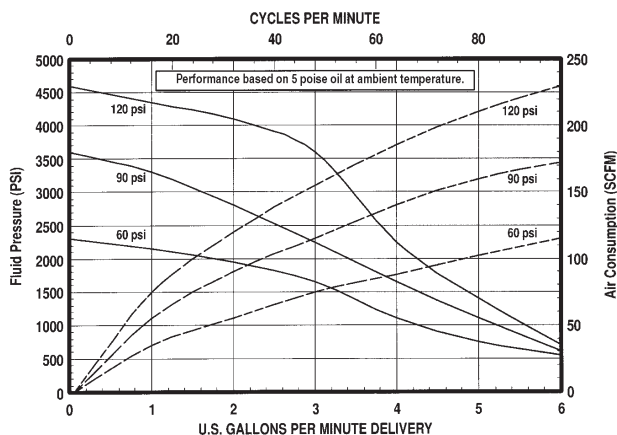


# Ordering

- 6 5 0 8 8 3 - X 4 X - B
- Packings \_\_\_\_\_ Plungers \_\_\_\_\_
- 3 : PTFE
  - C : UHMW-PE
  - G : UHMW-PE/Leather Staggered
  - P : UHMW-PE/PTFE Staggered (Upper), UHMW-PE (Lower)
  - R : PTFE/UHMW-PE Staggered (Upper), PTFE (Lower)
  - D : 17-4 S. S. Hard Chrome Plated
  - G : 17-4 S.S. "Ultra" Coated

# Accessories

- Air F/R/L: 28353
- Airline Oil: 62274
- Air Motor Muffler: 92460
- Wet Sol: 66333-B
- Floor/Follower Adapter: 67136
- Floor Mounts: 65138



# Pump Performance

- Air Inlet Pressure Range . . . . . 30 - 100 PSI (2 - 6.8 bar)
- Fluid Pressure Range . . . . . 1350 - 4500 PSI (91.8 - 306.1 bar)
- Max. Rec'd Cycles Per Minute . 60
- Displacement In<sup>3</sup> Per Cycle . . . 20.7 (339.2 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 11.2 (3.0)
- Flow @ 60 Cycles / Minute 5.4 GPM (1.42 lpm)
- Noise Level @ 60 Psi . . . . . 82 db(A) w/66718 muffler

# Pump Specifications

- Lower Pump Material . . . . . Carbon Steel
- Plunger Material . . . . . 17-4 Stnls. Steel
- Cylinder Material . . . . . 400 Stnls. Steel
- Air Motor . . . . . 66651-B
- Motor Repair Kit . . . . . 637110
- Motor Diameter . . . . . 10"
- Stroke . . . . . 6"
- Air Inlet . . . . . 3/4" NPT(F)
- Lower Pump End Series . . . . . 66475-X4D
- Lower Pump Repair Kit . . . . . 637098-XXX
- Material Inlet . . . . . 2" NPT(F)
- Material Outlet . . . . . 1" NPT(F)
- Weight . . . . . 132 lbs. (60 kgs.)



650863-X4D-B

# Ordering

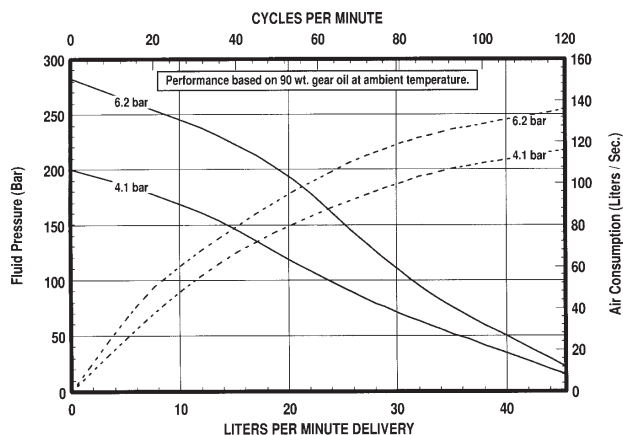
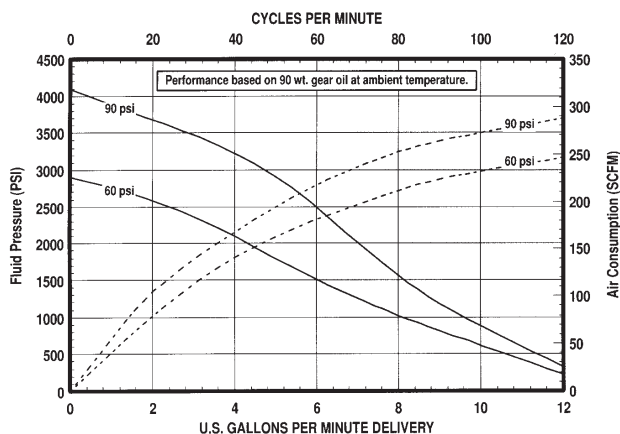
6 5 0 8 6 3 - X 4 D - B

Packings \_\_\_\_\_

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

# Accessories

- Air F/R/L: 28353
- Airline Oil: 62274
- Air Motor Muffler: 66718
- Wet Sol: 66333-B
- Wall Mount: 66542



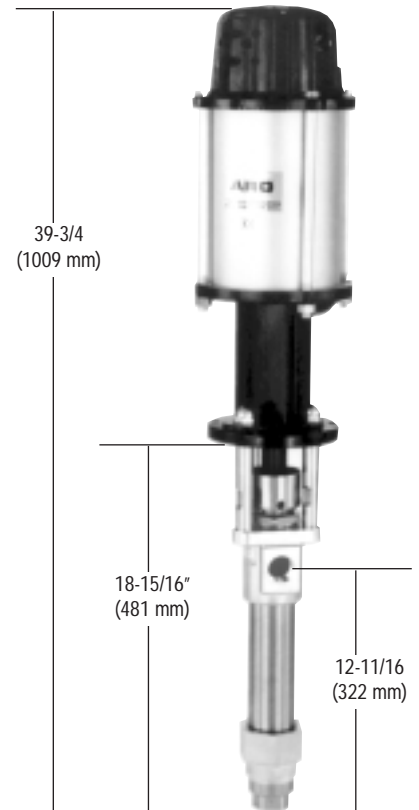


# Performance

Air Inlet Pressure Range . . . . . 30 - 120 PSI (2 - 8.3 bar)  
 Fluid Pressure Range. . . . . 1350 - 5400 PSI (92.8 - 367.3 bar)  
 Max. Rec'd Cycles Per Minute . 60  
 Displacement In<sup>3</sup> Per Cycle . . . 7.5 (122.9 cm<sup>3</sup>)  
 Cycles Per Gallon (Liter) . . . . . 30.9 (8.1)  
 Flow @ 60 Cycles / Minute 1.9 GPM (7.2 lpm)  
 Noise Level @ 60 Psi . . . . . 84.8 db(A)

# Specifications

Lower Pump Material . . . . . CF8M (316) Stnls. Steel  
 Plunger Material . . . . . See "Plunger Options" Below  
 Cylinder Material. . . . . See "Plunger Options" Below  
 Air Motor . . . . . 65665-B  
 Motor Repair Kit . . . . . 61355  
 Motor Diameter . . . . . 6"  
 Stroke . . . . . 6"  
 Air Inlet . . . . . 1/2" NPT(F)  
 Two-Ball Pump Model. . . . . 66301-X4X  
 Lower Pump Repair Kit . . . . . 637306-X43  
 Material Inlet . . . . . 1" NPT(F) 2" NPT(M)  
 Material Outlet . . . . . 1" NPT(F)  
 Weight . . . . . 46.2 lbs. (21 kgs.)



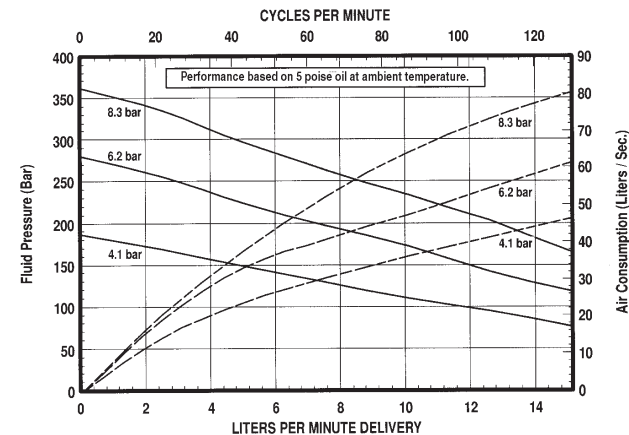
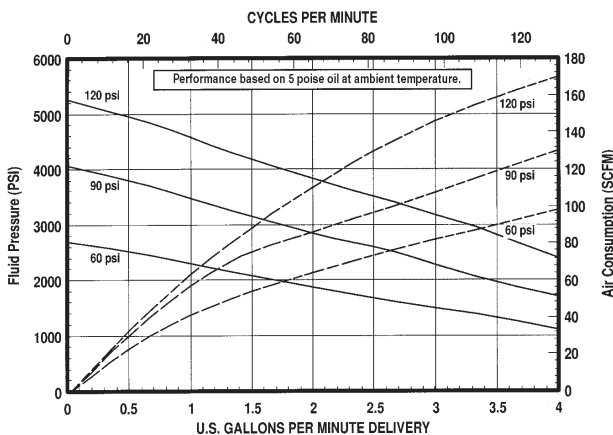
650684-X4X

# Ordering

6 5 0 6 8 4 - X 4 X  
**Packings**  
 3 : PTFE  
 C : UHMW-PE  
 G : UHMW-PE/Leather Staggered  
 P : UHMW-PE/PTFE Staggered (Upper)  
     UHMW-PE (Lower)  
 R : UHMW-PE/PTFE Staggered (Upper)  
     PTFE (Lower)  
**Plungers**  
 3 : 17-4 S. S. Hard  
     Chrome Plated  
 B : 17-4 S.S. "Ultra"  
     Coated

# Accessories

Air F/R/L: C28241-810  
 Airline Oil: 62274  
 Air Motor Muffler: 91790  
 Wet Sol: 66333-B  
 Wall Mounts: 66100  
 Floor/Follower Adapter: 67136

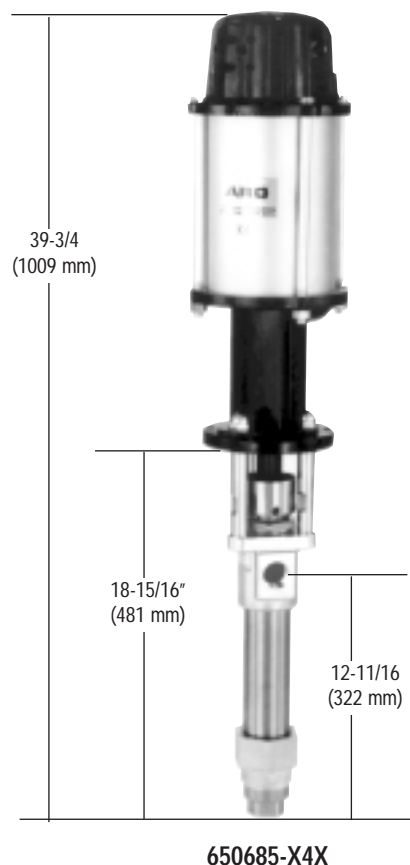


# Performance

- Air Inlet Pressure Range . . . . . 30 - 100 PSI (2 - 6.9 bar)
- Fluid Pressure Range . . . . . 1800 - 6000 PSI (124 - 408 bar)
- Max. Rec'd Cycles Per Minute . 60
- Displacement In<sup>3</sup> Per Cycle . . . 5.5 (90.1 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 41.9 (11.0)
- Flow @ 60 Cycles / Minute 1.3 GPM (4.9 lpm)
- Noise Level @ 60 Psi . . . . . 84.8 db(A)

# Specifications

- Lower Pump Material . . . . . CF8M (316) Stnls. Steel
- Plunger Material . . . . . See "Plunger Options" Below
- Cylinder Material . . . . . See "Plunger Options" Below
- Air Motor . . . . . 65665-B
- Motor Repair Kit . . . . . 61355
- Motor Diameter . . . . . 6"
- Stroke . . . . . 6"
- Air Inlet . . . . . 1/2" NPT(F)
- Two-Ball Pump Model . . . . . 66302-X4X
- Lower Pump Repair Kit . . . . . 637307-X43
- Material Inlet . . . . . 1" NPT(F) 2" NPT(M)
- Material Outlet . . . . . 1" NPT(F)
- Weight . . . . . 46.2 lbs. (21 kgs.)

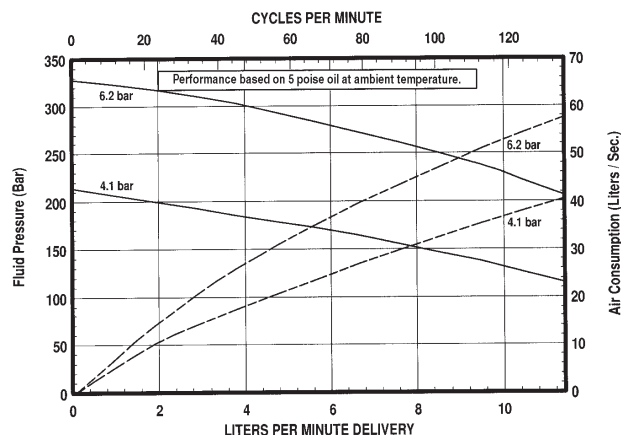
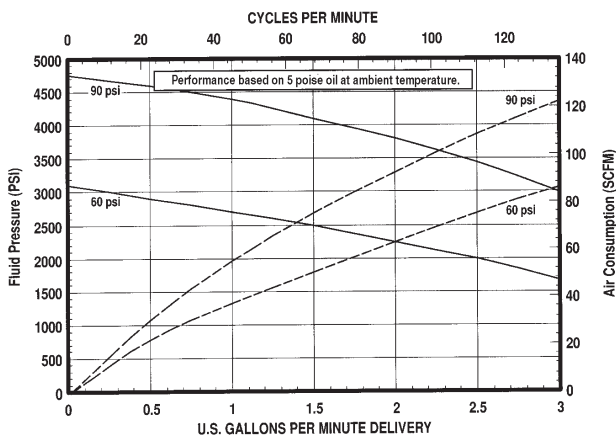


# Ordering

- 6 5 0 6 8 5 - X 4 X
- |  |  |
|--|--|
| <p><b>Packings</b></p> <ul style="list-style-type: none"> <li>3 : PTFE</li> <li>C : UHMW-PE</li> <li>G : UHMW-PE/Leather Staggered</li> <li>P : UHMW-PE/PTFE Staggered (Upper)</li> <li>UHMW-PE (Lower)</li> <li>R : UHMW-PE/PTFE Staggered (Upper)</li> <li>PTFE (Lower)</li> </ul> | <p><b>Plungers</b></p> <ul style="list-style-type: none"> <li>3 : 17-4 S. S. Hard Chrome Plated</li> <li>B : 17-4 S.S. "Ultra" Coated</li> </ul> |
|--|--|

# Accessories

- Air F/R/L: C28241-810
- Airline Oil: 62274
- Air Motor Muffler: 91790
- Wet Sol: 66333-B
- Wall Mounts: 66100
- Floor/Follower Adapter: 67136

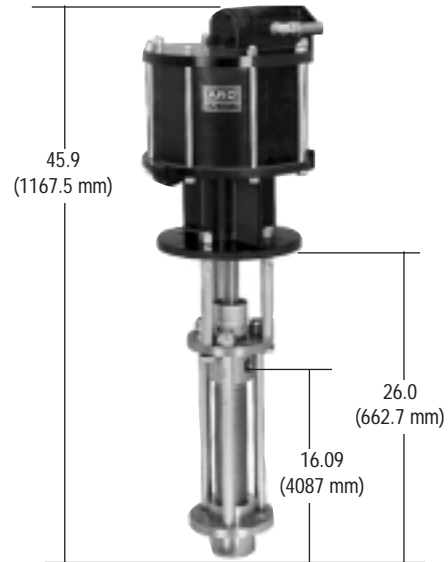


# Pump Performance

- Air Inlet Pressure Range . . . . . 30 - 100 PSI (2 - 6.8 bar)
- Fluid Pressure Range . . . . . 1950 - 6500 PSI (132.6 - 442 bar)
- Max. Rec'd Cycles Per Minute . 60
- Displacement In<sup>3</sup> Per Cycle . . . 113 (6.9 cm<sup>3</sup>)
- Cycles Per Gallon (Liter) . . . . . 2.0 (0.5)
- Flow @ 60 Cycles / Minute 5.4 GPM (20.4 lpm)
- Noise Level @ 60 Psi . . . . . 88 db(A) w/66718 muffler

# Pump Specifications

- Lower Pump Material . . . . . Carbon Steel
- Plunger Material . . . . . 17-4 Stnls. Steel
- Cylinder Material . . . . . 400 Stnls. Steel
- Air Motor . . . . . 66506-B
- Motor Repair Kit . . . . . 637112
- Motor Diameter . . . . . 12"
- Stroke . . . . . 6"
- Air Inlet . . . . . 3/4" NPT(F)
- Lower Pump End Series . . . . . 66475-X4D
- Lower Pump Repair Kit . . . . . 637098-XXX
- Material Inlet . . . . . 2" NPT(F)
- Material Outlet . . . . . 1" NPT(F)
- Weight . . . . . 147 lbs. (66.8 kgs.)



650963-X4D-B

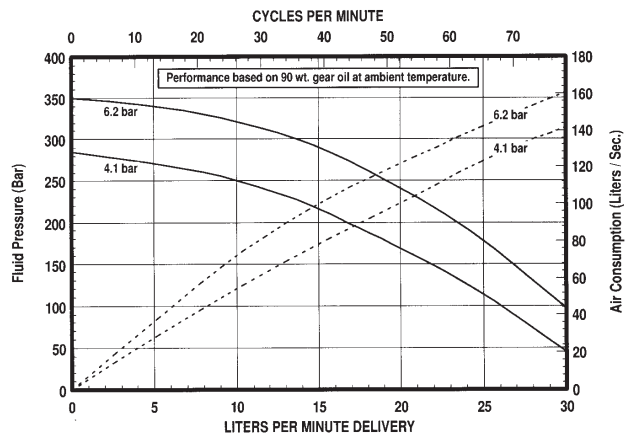
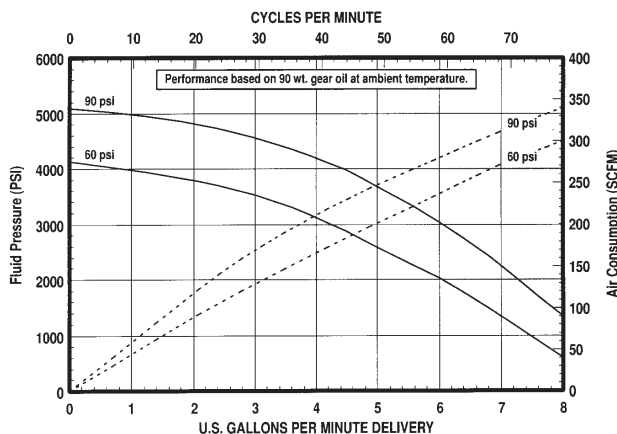
# Ordering

6 5 0 9 6 3 - X 4 D - B

- Packings \_\_\_\_\_
- 3 : PTFE
  - C : UHMW-PE
  - G : UHMW-PE/Leather Staggered
  - P : UHMW-PE/PTFE Staggered
  - R : PTFE/UHMW-PE Staggered

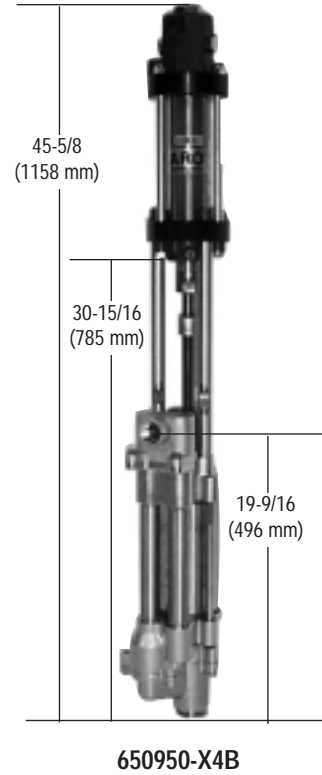
# Accessories

- Air F/R/L: 28353
- Airline Oil: 62274
- Air Motor Muffler: 66718
- Wet Sol: 66333-B
- Wall Mounts: 66542



# Performance

Hydraulic Inlet Pressure Range . . . 60 - 1200 PSI (3.4 - 81.6 bar)  
 Fluid Pressure Range . . . . . 12 - 240 PSI (.81 - 16.3 bar)  
 Required H-power @ 50 cpm . . . 3.2 @ 1200 (82.8 bar)  
 Hydraulic flow req'd @ 50 cpm. . . 8.7 gpm (32.9 lpm)  
 Max. Rec'd Cycles Per Minute . . . 50  
 Displacement In<sup>3</sup> Per Cycle . . . 103.6 (1697.6 cm<sup>3</sup>)  
 Volume / Cycle . . . . . 57.4 oz.  
 Cycles Per Gallon(Liter) . . . . . 2.23 (.58)  
 Flow @ 50 Cycles / Minute . . . 22.4 gpm (84.7 lpm)  
 Maximum Hyd. Temp Limit . . . 130° F (54° C)



# Specifications

Lower Pump Material . . . . . CF8M (316) Stns. Steel  
 Plunger Material . . . . . 17 - 4 Stns. Steel, "Ultra" Coated  
 Cylinder Material. . . . . 304 Stns. Steel, "Ultra" Coated  
 Hydraulic Motor . . . . . 67147  
 Motor Repair Kit . . . . . 637315  
 Motor Size. . . . . 2.062 in<sup>2</sup> (13.3 cm<sup>2</sup>)  
 Stroke . . . . . 5.75" (14.6 cm)  
 Hydraulic Inlet . . . . . 3/8" NPT (F)  
 Hydraulic Return . . . . . 1/2" NPT (F)  
 Lower Pump End Series. . . . . 67201-X4B  
 Lower Pump Repair Kit . . . . . 637318-X4B  
 Material Inlet . . . . . 1-1/2" NPT(F) / 2" NPT(M)  
 Material Outlet . . . . . 1" NPT(F)  
 Weight . . . . . 72 lbs (32.7 Kgs.)

# Ordering

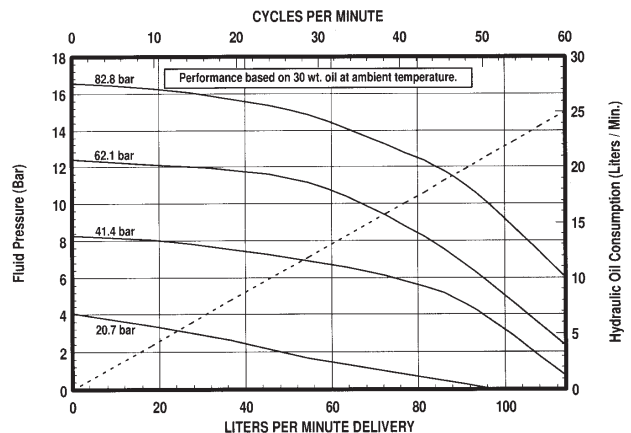
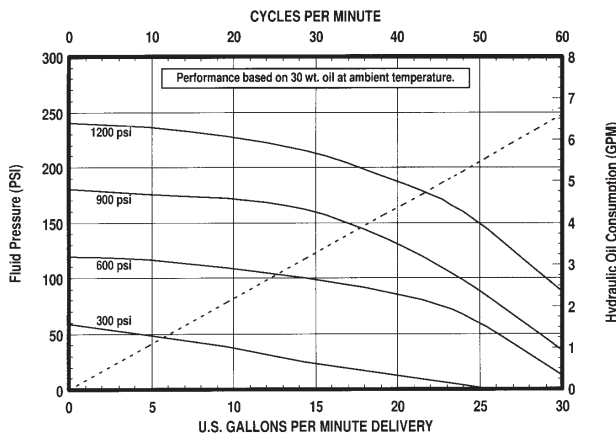
6 5 0 9 5 0 - X 4 B

## Packings

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

# Accessories

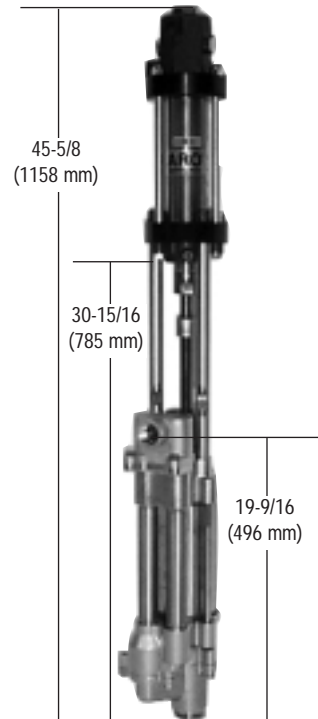
Wall Mount: 61937-1  
 Mounting Post: 67187-2





# Performance

Hydraulic Inlet Pressure Range . 60 - 1200 PSI (4 - 81.6 bar)  
 Fluid Pressure Range . . . . . 18 - 360 PSI (1.2 - 24.4 bar)  
 Required H-power @ 50 cpm . . 3.2 @ 1200 (82.8 bar)  
 Hydraulic flow req'd @ 50 cpm. . 8.7 gpm (32.9 lpm)  
 Max. Rec'd Cycles Per Minute . 50  
 Displacement In<sup>3</sup> Per Cycle . . . 78.6 (1288 cm<sup>3</sup>)  
 Volume / Cycle . . . . . 43.6 oz.  
 Cycles Per Gallon (Liter) . . . . . 2.9 (.77)  
 Flow @ 50 Cycles / Minute . . . 17.0 gpm (64.2 lpm)  
 Maximum Hyd.Temp Limit . . . . 130° F (54° C)



650949-X4B

# Specifications

Lower Pump Material . . . . . CF8M (316) Stns. Steel  
 Plunger Material . . . . . 17 - 4 Stns. Steel, "Ultra" Coated  
 Cylinder Material. . . . . 304 Stns. Steel, "Ultra" Coated  
 Hydraulic Motor . . . . . 67147  
 Motor Repair Kit . . . . . 637315  
 Motor Size . . . . . 2.062 in<sup>2</sup> (13.3 cm<sup>2</sup>)  
 Stroke . . . . . 5.75" (14.6 cm)  
 Hydraulic Inlet . . . . . 3/8" NPT(F)  
 Hydraulic Return . . . . . 1/2" NPT(F)  
 Lower Pump End Series. . . . . 67200-X4B  
 Lower Pump Repair Kit . . . . . 637317-X4B  
 Material Inlet . . . . . 1-1/2" NPT(F) / 2" NPT(M)  
 Material Outlet . . . . . 1" NPT(F)  
 Weight . . . . . 70 lbs (31.8 Kgs.)

# Ordering

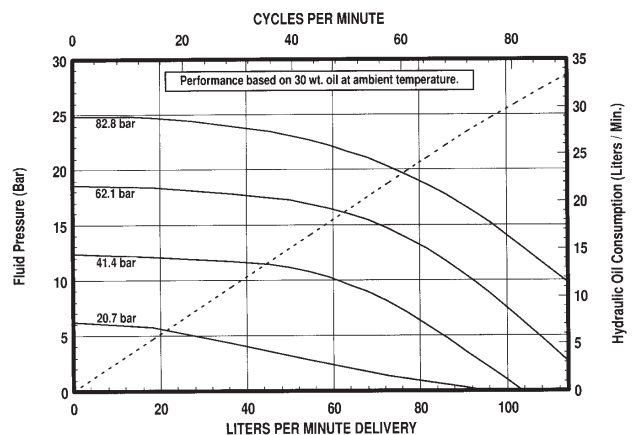
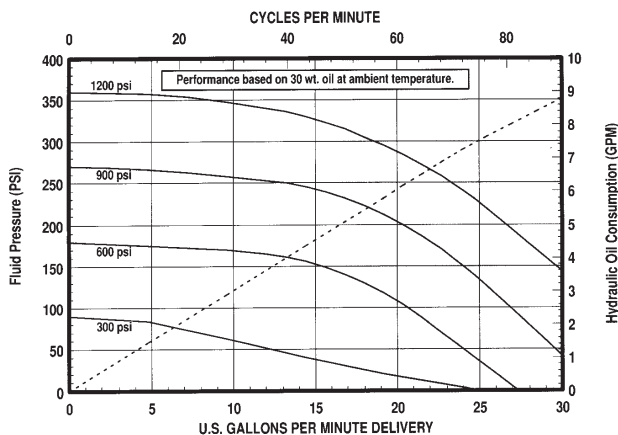
6 5 0 9 4 9 - X 4 B

**Packings**

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

# Accessories

Wall Mount: 61937-1  
 Mounting Post: 67187-2





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FAX: 886-2-698-9897

