

# Numeric Index

MODEL	PAGE	MODEL	PAGE	MODEL	PAGE	MODEL	PAGE
C28221-810	33 33	60798 60870	30 24	P29122-100	33 33	635370 635377-B	29 29
C28241-810 DA005-XXXX-X		61113	24 24	C28121-800 611016	33 20	635377-B	29 29
F25221-110	33	61117	25	611019-41	20	635381	29
F25241-110 L26221-110	33 33	61118 61124	25 32	611170 612041-X	20 8, 9	635382 635383	29 29
L26221-110 L26241-110	33	61409	21	612041-X	8, 9	635384	29 29
LM22XX-XX	13, 15	61412	21	612721	16	635390-XX	28
LM23XX-XX LP200X-X-B	13, 15 15	61412-1 61601	21 21	612722 612729	14 14	635391-XX 635392	28 28
LP300X-X-B	15	61754	32	612805	16	635395-2	28
LP2100-X	13	61879	26	612913-1	9	635399	28
LP3100-X NP423F01-1	13	61880 62133	26 24	612913-3 612999-3	9	636027 636028	31
NP646F01-1	17 17	65845	32	612999-4	8 19	636042	31 32
NP813F01-1	17	65986	21	612999-5	19	636043	32
PD20A-XX	7	65986-1	21	612999-6	19	636046	31
P29221-610 P29241-610	33 33	66100 66101	24 24	613100-1 613104	8, 38 38	636075 636077	27 27
R27221-600	33	66480	22	613201-2-C	38	636085	27
R27241-600	33	66492	23	615002-B	19	636086-B	27
Y17-XX Y17-XX-S	37 37	66559 66592	32 32	615020-1 615028	19 19	636087-B 636101	27 31
Y27-XX-C	36	66593	32	621514-10	11	636103	31
Y26-1	32	66779	21	621515-10	11	636111	31
Y28-1 Y28-2	32 32	66779-2 67086	21 25	621516-10 621517-10	11 11	637336 637337	11 11
Y43-X-C	36	67088-X	24	621518-10	11	640015-X	22
Y43-XX-C	36, 37	67145-X	24	621519-10	11	640027	22
Y43-XXX-N Y44-XXX-C	36 36	67213 67216-X	26 17	621520-10 621523-10	11 11	640056 640057	32 32
Y45-XXX	36	67231-X	11	621524-10	11	640058-2	32
Y45-XXX-C	36	67234-X	11	622201-XX	27	640062	32
Y167-X 676	37 27, 36	70749 71027	36 23	622514-10 622651-XX	11 27	640067 640091	23 23
1950	36	71060	23	622701-6	22	640095-X-B	22
2722	36	71449	36	622702-XX	22	640108	32
3249 4148	27, 37 24	71838 72177	37 36	623501-XX 624201-XX	27 27	640149 640152	32 22
4280	36, 37	73581	36	624401-XX	27	640152-1	22
4295	37	753XX	36	624601-XX	27	640153	25
4566 4616	37 37	76493 76751	36 36	628004-XX 628020-XX	35 35	640162 640164	22 23
6045	31	76763	24	628023-XX	35	640165	22
6786	30	77617	36	628067-XX	27	640225	23
6788 6847	36 37	77617-Z 90717	11 36	629212 629226	30 30	650709-C 650710-C	18 18
7444-K	35	91020-X	21	629245-X	28	650711-C	18
8338	35	91790	26	629516	30	650715-C	8
8338-1 8440	35 35	92021 92022	37 37	629521 629737	30 31	650717-C 650718-C	18 18
23644-400	25	92818	32	629742	31	650719-C	18
25341-020	34	94117	26	635040	25	651830	22
25351-020 25361-020	34 34	94420 94421	23 23	635106 635107	27 27	662400-C 662402	16 16
26341-020	34	94422	23	635108	27	662409	14
26351-020	34	95183	11	635117	27	662410-B	14
26361-020 27344-000	34 34	95189 95190	11 11	635129 635141	11, 28 30	662420-B 662605	14 16
27354-000	34	95199	11	635143	30	662606	16
27364-000	34	95200	11	635153	30	662608	16
28343 28353	34 34	100067 104077-X	34 32	635154 635184-3	30 30	662609 666056-6A4	16 7
28363	34	104094	34	635190-X	28	66605J-3XX	7
29077	34	104173	34	635193	28	666100-3XX-C	7, 18
29623 29668	34 34	F25121-200 R27121-100	33 33	635364 635365	29 29	666150-362-C	7
29850	34	L26121-100	33	635367	29		
		•	Į.	•	ļ	•	

# Table of Contents

AIR MOTOR MUFFLERS	26
ANTIFREEZE PUMPS	7, 8
ARO-STOP	25
BALL CHECK UNIONS	
BLOW GUNS	35
BULK GREASE PUMP PACKAGES	17
BUNG ADAPTORS	
COILED AIR HOSE	
CONTROL HANDLES, DIGITAL	
CONTROL HANDLES, HIGH PRESSURE	
CONTROL HANDLES, METERED FLOW	
CONTROL HANDLES, NONMETERED	
DIAPHRAGM PUMPS	6, 7, 8
DOLLIES	32
DRUM COVERS	23
DRUM PUMPS	
FILTER / REGULATOR / LUBRICATORS (AIR)	33, 34
FILTER SCREENS	
FITTINGS, GREASE	
FLUID CONTROL VALVES	
FLUID COUPLERS	37
FOLLOWER PLATES	22
GREASE GUN ADAPTERS	31
GREASE FITTINGS	31

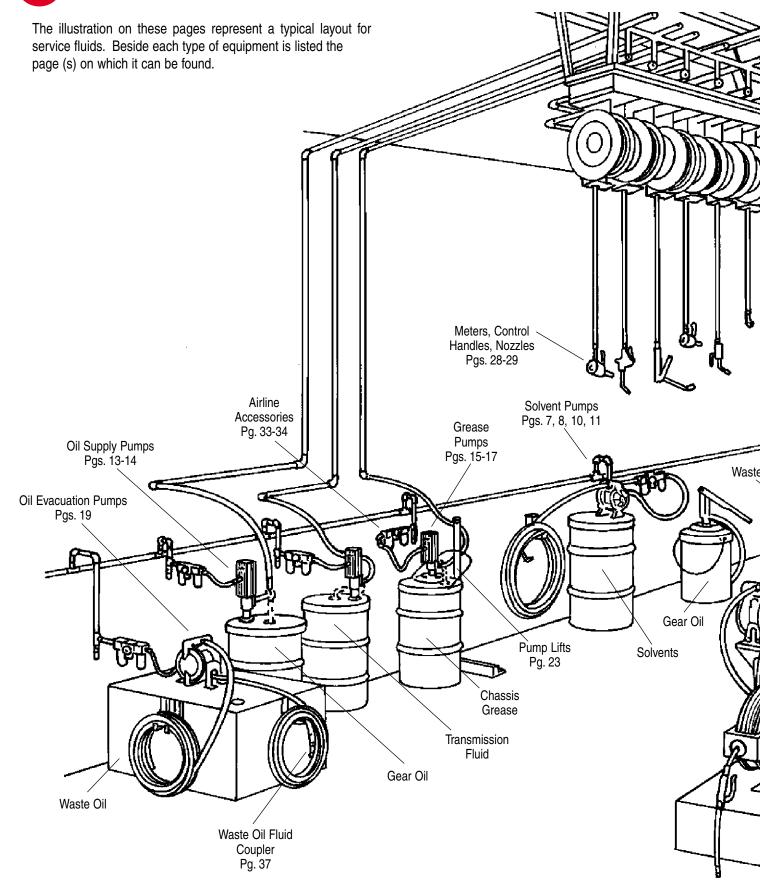
GREASE FITTING COUPLERS	31
GREASE PUMPS	15, 16, 17, 20
HAND TRUCKS	32
HAND PUMPS	20
HOSE, AIR	
HOSE, MATERIAL	
IN-LINE METERS	
LIFTS	23
LOW-LEVEL CUTOFF	
OIL PUMPS	
OVERRUN CONTROLS	
PRESSURE RELIEF VALVE/KIT	
REDUCING ELBOWS	
SIPHON HOSE	
SIPHON TUBE	
SWIVELS	
TIRE FILL PUMPS	38
U.L. APPROVED PUMPS	
WALL MOUNTS	
WASH PUMPS	38
WASTE OIL DRAINS	
WASTE OIL EVACUATION SYSTEMS	
WHIP HOSE	
WINDSHIELD FLUID PUMPS	

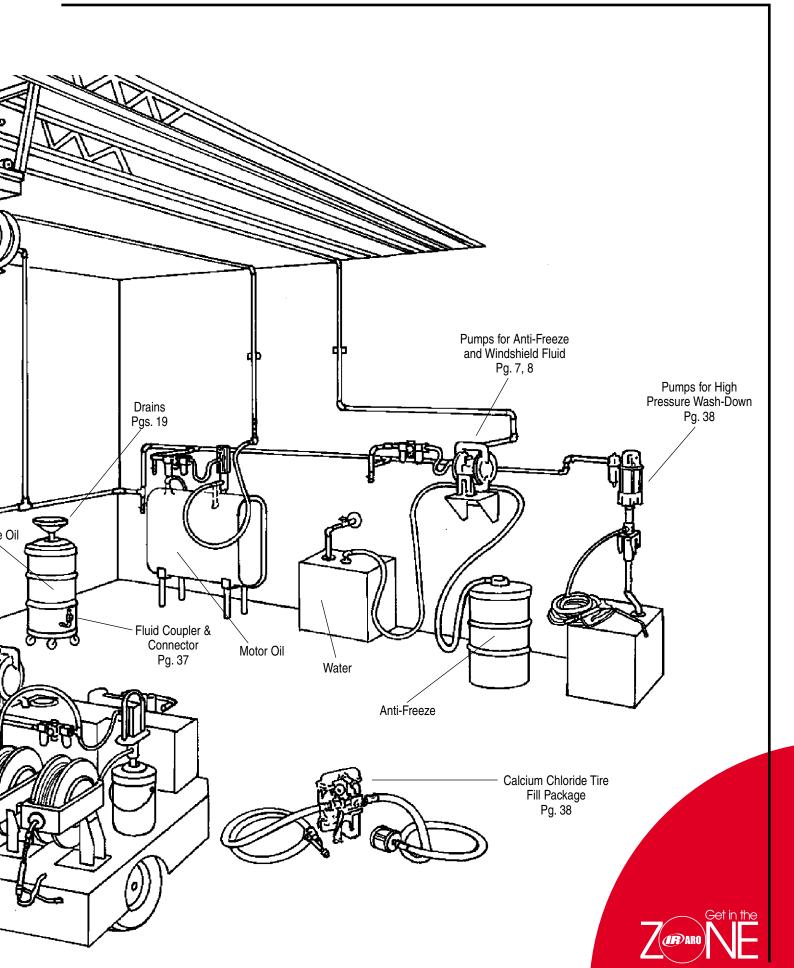
# nefits of Using ARO Lubrication Equipment

- Sixty-plus years of lubrication manufacturing experience. Starting in 1930, with a limited line of vehicle chassis lubrication fittings - Aro has been growing, to further serve your needs, ever since.
- Aro Invites Comparison! See for yourself what Aro Quality, Performance and Service can mean to your operation.
- Your Aro "Get it right the first time" Sales Force. Aro lubrication equipment sales representatives are trained and knowledgeable in our equipment - and your needs, so every pump or product that is recommended is intelligently suited to your application.
- Built with Competence, backed with Confidence. The five year warranty on our Thunder Pumps and our Diaphragm Pumps are just two examples of the confidence we place in all of our products - so that you can have the same.
- Certified ISO 9001. The Aro manufacturing facility in Bryan, Ohio, where the lubrication pumps and equipment shown in this catalog are built, has been certified as meeting the ISO 9001 worldwide manufacturing quality standard.

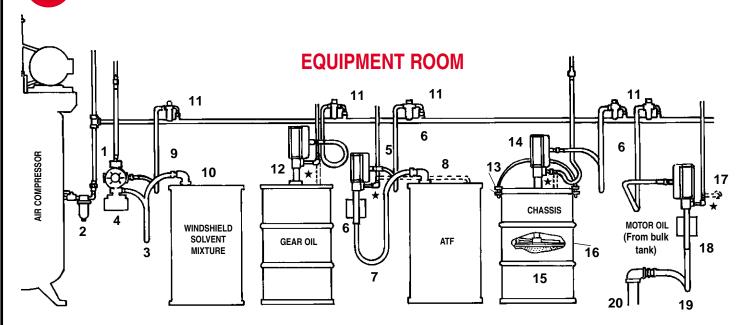


# **Lubrication Equipment Quick Reference**





# pical Quick-Lube Installation



## WINDSHIELD SOLVENT, ATF ANTI-FREEZE

An excellent delivery pump for all types of fluids - the ARO 1/2" diaphragm pump is the best selling diaphragm pump in the country - and it's covered by a 5-year warranty.



Model 66605J-344 1:1 Ratio 13 Gallons Per Minute (Free Flow)

- 1. Pump 66605J-344
- 2. 1/2" Air Line Filter F25241-110
- 1/2"Material Hose -623501-4
- Wall Mount Bracket -76763
- 5. Pump LM2305A-11
- 6. Wall Mount Bracket 61113
- 7. 1-1/2" I.D. Material Hose (By Others)

## MOTOR/GEAR OIL,ATF

This reliable, hard working pump comes complete with air coupler and connector, plus a 2" bung adapter.



Model LM2305A-41 5:1 Ratio, 3" Air Motor 9 Gallons Per Minute (Free Flow)

- 8. Siphon Tube Assembly 66779 with 1-1/2" (F) X 1" Reducing Bushing
- 9. 1/4" I.D. Air Hose 622201-3
- **10.** Siphon Tube Assy **61409**
- 11. Air Line Filter/Regulator P29221-A04 (Gauge Included)
- **12.** Pump **LM2305A-41** (55 Gal. Service)

#### **CHASSIS**

Designed for high pressure delivery of grease - the pump will handle your toughest chassis lube needs. Comes with air/material hose plus drum cover.



Model LM3005-1 50:1 Ratio, 3" Air Motor 7.5 Pounds Per Minute (Free Flow)

- **13.** Single Post Lift **640067 (400# Service)**
- 14. Pump -LP3005-1 (400# Service) LP3002-1 (120# Service)
- 15. Chassis Pump Inlet Screen 640039 (Not Picutred)
- 16. Follower Plate Assy -640015-1 (400# Service) 640165 (120# Service) (Included With LP3002-1)

### **WASTE OIL**

The ARO 1" Diaphragm Pump's simple design will provide years of trouble-free waste oil handling. All of our diaphragm pumps are covered by a 5-year warranty for the extra measure of user security. See next page for waste oil installation.

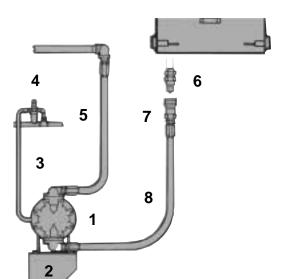


Model 666100-322-C 1:1 Ratio 35 Gallons Per Minute (Free Flow)

- 17. Pump -LM2305A-11
- 18. Wall Mount Bracket 61113
- 19. 1-1/2" I.D. Material Hose -By Others
- 20. 1" Pipe Swivel Union -75368 with 1-1/2" (F) x 1" (m) Reducing Bushing

★ Pressure Relief Valve - Kit - 61118.





## **PIT AREA**

### **WASTE OIL SYSTEM**

- 1. 1" Diaphragm Pump -666100-362-C
- 2. Wall Mount Bracket -66100
- 3. 1/4" Air Hose -622201-5

2

3

- 4. Air Line Filter/Regulator, Gauge -P29122-600
- 5. 1" I.D. Material Outlet Hose -628067-6
- 6. Fluid Connector -92022
- 7. Fluid Coupler -92021
- 8. 1" I.D. Material Inlet Hose -628066-6

## **CHASSIS SERVICE**

615155

1. High Pressure Control Handle -636111

Swivel -636077

2. 1/4" I.D. Material Hose -624201-20

3. 1/2" High-Pressure Shut-off Valve -



### **GEAR OIL SERVICE**

615101

1. Control Handle -635391-1

2. 1/2" Material Hose -623501-15 In-Line Meter -635190-1

3. 1/2" Medium Pressure Shut-off Valve -61754 (Order Separately)



635391-1

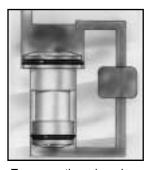


# ARO Diaphragm Pumps

# Patented, "Unstallable" Air Valve



Aro's patented "unbalanced" major air valve has constant air pressure applied to its small end. This assures that the pump resets. Competitive designs lose their signal during every shift, making them vulnerable to stalling.



To reverse the valve, air pressure is supplied to the larger end of the valve, allowing the valve to shift - note that constant air pressure continues to be applied to the small end.

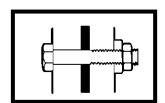


Aro's Bryan, Ohio facility, where our diaphragm pumps are manufactured, is registered by Underwriters Laboratories Inc. to ISO 9001 Quality Standards.



ARO Diaphragm Pumps are backed by a generous 5-year warranty on materials and workmanship for your purchasing peace of mind.

# For Safety, Reliability and Ease of Assembly: Bolted Is Better



ARO Diaphragm Pumps feature bolted construction to avoid the proven problems created by clampband type pump fasteners. These include material spills and leaks, bolt loosening and breakage due to poor joint integrity, and difficult reassembly.

# Advantages of Aro Air-Operated Diaphragm Pumps



#### **Unbalanced Air Valve Eliminates Stalling**

Start it up, shut it down – no matter how often or how long, the ARO Diaphragm Pump will start pumping every time.

#### **No Lubrication Required**

One less maintenance detail to log. No oil droplets to contaminate your process or work site. And, the Aro Diaphragm is more forgiving in dirty air service.

#### **Pumping Efficiency Remains Constant**

Since ARO Diaphragm Pumps contain no rotors, gears, vanes or pistons to wear out – there is no gradual decline in pump performance. And the Aro "Unstallable" air valve uses less power to operate than competitive brands.

### No Foaming or Shearing of Material

Process fluids enter and exit the ARO Diaphragm Pump unchanged.

#### Variable Flow Rates

By simply adjusting air pressure to the pump, or restricting the discharge line, you have better, more precise control over your pump's flow rate - without pump damage.

#### **Positive Priming Provides Easy Start-Ups**

Internal pump fluid check valves are located close to the diaphragm chambers – assuring positive self-priming – even from a dry start.

### **Runs Dry Without Damage**

Because there are no sliding or close-fitting parts at risk – the ARO Diaphragm Pump can run dry without damage.

### **Lightweight and Portable**

Most ARO Diaphragm Pumps can be carried from job to job with ease.

#### **No Complex Controls**

Unlike electric pumps, ARO Diaphragm Pumps contain no wires, circuits, fuses or by-pass controls to burn out and replace.

# Antifreeze, Windshield Fluid, Cleaning Solvents, Oils, Transmission Fluid

				Max. Gal.	Air	Fluid
Model		Diaphragm		(Liters)	Inlet	Used
Number	Ball	& O-Ring	Ratio	Per Miń.	(NPT)	With

#### 1/2" Fluid Ports NPT(F) Polypropylene Body 100 psi (6.9 bar) max.

The 1/2-inch pumps on this page can be conveniently mounted with the 76763 wall mount bracket. The 1-inch pumps utilize the 66100 wall mount bracket. (See page 24 for further details)

66605J-344	Teflon	Teflon	1:1	13 (49)	1/4 (F)	$\star$
66605J-322	Nitrile	Nitrile	1:1	13 (49)	1/4 (F)	*
66605J-388	Polyurethane	Polyurethane	1:1	13 (49)	1/4 (F)	*







66605J-388

## GROUNDABLE PUMP 100 PSI (6.9 BAR) MAX.

conductive acetal wetted body parts polypropylene center body

Teflon 13 (49) 1:1 Electrically-conductive model for handling solvent-based, potentially hazardous fluids. Includes grounding strap.

## 1" Fluid Ports NPT(F)

aluminum body 120 psi (8.0 bar) max.

666100-344-C	Teflon	Teflon	1:1	35 (132)	1/4 (F)	*
666100-362-C	Acetal	Nitrile	1:1	35 (132)	1/4 (F)	*



666100-XXX-C

Air connectors shown, NOT included.

## 1-1/2" FLUID PORTS NPT(F)

aluminum body 120 psi (8.0 bar) max.

666150-362-C	Acetal	Nitrile	1:1	90 (341)	1/2 (F)	×

# 2" FLUID PORTS NPT(F)

aluminum body 120 psi (8.0 bar) max.

PD20A-AAP-GGG Nitrile Nitrile 1:1 170 (644) 3/4 (F)

MATERIAL COMPATIBILITY: Some automotive service fluids can be delivered by different pumps which vary in their materials of construction. The pump/fluid matchups on this page are Aro's recommendations for the fluids listed. For additional details on material compatibility, refer to the ARO Fluid Compatibility Guide, Form 8677-P.

## "Extra" features at no extra cost!

### ARO Diaphragm Pumps have:

- 5-year warranty on parts and workmanship
- Patented secondary assistance pilot valves assure "Unstallable" operation
- Bolted construction for fast, easy servicing
- **Pre-lubed air motors** which do not require air line lubricators





PD20A-XXX-XXX

<sup>\*</sup> For general use with windshield fluid, motor/gear oil, transmission & antifreeze fluid.

# Anitfreeze & Solvents

		Working Flow @90 PSI Inlet					See Chart Below for
		Pressure	Pressure				Reference
		Gallons	Gallons	Air.	Fluid	Fluid	to
Model		(Liters)	(Liters)	Inlet	Inlet	Outlet	Accessories
Number	Ratio	Per Miń.	Per Miń.		(NPT)		Included
SEDIES	200	CAPRON	STEEL / ALL	LINAINILIN	л		

#### SERIES 200 CARBON STEEL / ALUMINUM

55-gallon 2" dia	neter air moto	r - 6	3" stroke
------------------	----------------	-------	-----------

612041-1	1:1	9 (34)	18 (68)	1/4 (F)	Immersed	3/4 (F)	3, 4, 7
612041-3	1:1	9 (34)	18 (68)	1/4 (F)	Immersed	3/4 (F)	3, 5, 7

#### 275-gallon 2" diameter air motor - 6" stroke

612042-1 1:1 9 (34) 18 (68) 1/4 (F) Immersed 3/4 (F) 3, 4, 7

### SERIES 425 STAINLESS STEEL PUMP

#### stub 414" diameter air motor - 4" stroke

**613100-1** 10:1 4 (15.1) 21 (79.4) 1/2 (F) Barbed 3/8 (F) For use in 55-gallon drums, order 61139-1 suction tube assembly separately.

\*IMPORTANT: "Working Flow" represents performance that can be expected from a pump at 90 psi, in a typical system. "Free Flow" figures are for comparison purposes only. Under normal operating conditions, air inlet pressures should be set in the 40 to 90 psi range for higher operating efficiency and longer pump life.

### BASIC PUMP ACCESSORIES INCLUDED

Reference Number	Model Number	Description	Page
3	60870	BUNG ADAPTER (consists of 60869 adapter and Y197-158-C screw)	24
4		BUNA-N PACKINGS	
5		TEFLON PACKINGS	
7	92818	AIR INLET NEEDLE VALVE	32

For information on Aro's complete line of accessories, see pages 21 through 37.

# 50/50 AntiFreeze/Water Blending

This 1:1 ratio, one-inch diaphragm pump has dual inlets (3/4-inch NPTF) to allow simultaneous pumping and blending of antifreeze and water. It can be mounted conveniently with the **66100 wall mount bracket**. (See page 24 for further details)

Model Number	Ball	Seat	Diaphragm & O-Ring	Max. Gal. (Liters) Per Min.	Air Inlet (NPT)
1" FLUID O	UTLET NF	PT(F)			
aluminum body	/ 120 psi (	8 0 bar) max			

650715-C Acetal Polypropylene Nitrile

# Daphragm Pump Package

#### Model Package Description

612999-3 50/50 ANTIFREEZE/WATER BLENDING PUMP PACKAGE - Includes 650715-

C Pump (See top of page), 66100 Wall Mount Bracket, 66779 Siphon Tube Assembly, 628066-6 1-inch Material Hose, 628067-3 Material Hose, P29221-610 Air Line Filter/Regulator, 100067 Gauge, and 622201-3 1/4-inch Air Hose.

35 (132)

1/4 (F)

Package comes complete as shown, including 1:1 ratio, one-inch diaphragm pump, and necessary plumbing and mounting hardware.

The supply pumps on this page are designed for direct mounting to standard containers or to the **61113 wall mount bracket.** 

Stainless steel pumps are for use with anti-freeze/water mixtures with water content higher than 50%.





This 1:1 ratio, one-inch diaphragm pump has dual inlets (3/4-inch NPTF) to allow simultaneous pumping and blending of antifreeze and water. It can be mounted conveniently with the 66100 wall mount bracket. (See page 24 for further details)



#### Working Flow @90 PSI Inlet @ \*Free Flow See Chart 120 PSI Inlet Below for **Pressure Pressure** Reference **Gallons** Gallons Air. Fluid Fluid to (Liters) Model (Liters) Inlet Inlet Outlet **Accessories Number Ratio** (NPT) (NPT) Included Per Min. Per Min. SERIES 200

## 55-gallon 2" diameter air motor - 6" stroke

The Series 200 supply pumps are designed for direct mounting to standard containers or to the **61113 wall mount bracket**. See page 24.

612041-1	1:1	9 (34)	18 (68)	1/4 (F)	Immersed 3/4 (F)	3, 4, 8
612041-3	1:1	9 (34)	18 (68)	1/4 (F)	Immersed 3/4 (F)	3, 5, 8
612913-3	1:1	9 (34)	18 (68)	1/4 (F)	Immersed 3/4 (F)	3, 6, 8,9

### 275-gallon 2" diameter air motor - 6" stroke

**612042-1** 1:1 9 (34) 18 (68) 1/4 (F) Immersed 3/4 (F) 3, 4,

\*IMPORTANT: "Working Flow" represents performance that can be expected from a pump at 90 psi, in a typical system. "Free Flow" figures are for comparison purposes only. Under normal operating conditions, air inlet pressures should be set in the 40 to 90 psi range for higher operating efficiency and longer pump life.

### BASIC PUMP ACCESSORIES INCLUDED

Reference Number	Model Number	Description	Page
3	60870	BUNG ADAPTER (consists of 60869 adapter and Y197-158-C screw)	24
4	-	BUNA-N PACKINGS	
5	-	TEFLON PACKINGS	
6	-	THIOKOL LEATHER PACKINGS	
7	-	POLYETHYLENE PACKINGS	
8	92818	NEEDLE VALVE	32
9	612913-1	TAPPER	9

For information on Aro's complete line of accessories, see pages 21 through 37.

# Bulk Oil Dispensing Tapper

#### Model Description

612913-1

Threads directly into the fluid outlet of a piston or diaphragm pump to provide a cost effective means of dispensing from bulk oil containers into any container placed under the tapper. This device features a 3/4-inch NPT(M) inlet port and easy-to-actuate, positive seal, on/off valve.









- Quick, Convenient
   Drum Changeout
- Choose from Basic to Complete Pump Packages
- 5-Year Warranty
- Broad Assortment of Accessories
- Package Components Factory- Matched for Optimum Compatibility

# Pump Features

- Choose from Aluminum, Stainless Steel or Polypropylene Body Construction -ARO Drum Pumps are available in three body materials for optimum fluid compatibility.
- 11 GPM Flow Capability Drum Pumps offer plenty of capacity to satisfy a broad range of transfer application volume demands.
- Stall-Free Operation ARO Diaphragm Drum Pumps feature a patented "unbalanced" air valve design that avoids stall-out, even under low air-inlet pressures
- Bolted Construction Unlike traditional band-clamp style pumps, ARO Diaphragm Drum Pumps utilize bolted fasteners for leak-tight integrity.
- 5-Year Warranty

# Pump Packages

- Package Components Factory-Matched ARO Drum Pump package components (adapters, siphon tubes, etc.) contain pre-specified, matching materials of construction for complete fluid compatibility.
- Choose from Basic to Complete Drum Pump Packages can be ordered in 3 styles:
  - Basic: Pump, Bung Adapter, Air Safety Shut-Off, Siphon Tube, Weather Seal and base
  - Complete/Transfer: Basic Pump plus Fluid Hose or Fluid Hose with Non-Drip Nozzle
  - Complete/ Dispensing: Basic Pump plus Foot Valve, Hose and Dispensing Nozzle

# Accessories

#### Tailor your own Drum Pump package with any of these accessories:

- Hoses 1/2" ID hose comes with factory installed cam coupler on one end to attach to pump. Other end comes either bare or with a preassembled fitting for dispense nozzle. Hose materials available are: Nitrile, EPDM, Vinyl or Nylon.
- Tank Adapters For bulk tank applications, tank adapter kit comes complete with all necessary hardware and works like a bulk head fitting.
- Foot Valves For quick priming. Foot valves are available in either stainless steel or polypropylene.
- Drum Adapter Kits 55-gallon bung adapter kits come complete with base, weather seal, threaded adapter, siphon tube and stainless fasteners. Choose from polypropylene, stainless steel or aluminum construction.
- Oil Tapper For operations where oil (or other light fluid) is routinely dispensed in moderate quantities.

# Ordering Information

Basic Packages (Each package includes Pump, Bung Adapter, Air Shut-off, Siphon Tube, Weather Seal and Base)

Model	Body Material	Seat Material	Ball/Diaph. Material	Fluid Service
DA005-PPNN-2-A	Polypropylene	Polypropylene	Nitrile	Water/Oil
DA005-ASTT-2-A	Aluminum	Stainless Steel	Teflon®	Solvent
DA005-APNN-2-A	Aluminum	Polypropylene	Nitrile	Oil

Complete/Transfer Packages (Each package contains Basic Package plus Cam Coupler, 10-Feet of Fluid Hose or 10-Feet of Fluid Hose with Non-Drip Nozzle.)

Model	Body Material	Seat Material		Hose Material	Non- Drip Nozzle	
DA005-PPUU-2-C	Polypropylene	Polypropylene	Polyurethane	Vinyl	No	Water/Oil
DA005-PPNN-2-N	Polypropylene	Polypropylene	Nitrile	Nitrile	No	Water/Oil
DA005-PPNN-B-M	Polypropylene	Polypropylene	Nitrile	Nitrile	Yes	Oil
DA005-APNN-2-0	Aluminum	Polypropylene	Nitrile	Nitrile	No	Oil
DA005-APNN-B-P	Aluminum	Polypropylene	Nitrile	Nitrile	Yes	Oil



# Ordering Information

Complete/Dispensing Packages (Each package contains Basic Package Plus Foot Valve Assembly, 10' Hose, Cam Coupler, Dispensing Fixture and Nozzle.)

Model	Body Material	Seat Material	Ball/ Diaph. Material		Dispense Fixture	Fluid Services
DA005-PPNN-B-J		,, ,,		Nitrile	Bibb w/ Trigger	Water/ Oil
DA005-APNN-B-D		Polypropylene		N/A	Oil Tapper	Oil
DA005-APNN-B-L	Aluminum	Polypropylene	Nitrile	Nitrile	Bibb w/ Trigger	Water/ Oil

Note: Foot valve check material matches diaphragm

### 55-Gallon Drum Bung Adapter Kits (Kit contains Base, Bung Adapter, Bung Seal, Siphon Tube, Weather Seal and Hardware)

Model	Base Material	Tube Material	Weather Seal	Base Seal
67231	Polypropylene	Polypropylene	UHMW PE	Viton
67231-6	Aluminum	Stainless Steel	Viton	Viton
67231-7	Stainless Steel	Stainless Steel	Viton	Viton

Note: Fasteners are 300 Series Stainless Steel

### Bulk Tank Adapter Kit (Kit contains Base, Threaded Adapter, and Hardware)

	(············ =; ·····
67234	Polypropylene / Viton O-Ring Seal
67234-7	Stainless Steel (300 Series)

Note: Fasteners are 300 Series Stainless Steel

#### Foot Valves (Recommended for use with dispensing nozzle. Assembly includes Housing, Ball Check & O-Ring)

637336	Polypropylene w/Viton O-Ring & Ball use with 67231
637337	Stainless Steel w/Viton O-Ring & Ball use with 67231-6, or 67231-7

#### Hose (1/2" ID Hose comes in 10-feet lengths)

Model	Material	Pump Used With	Fittings End/End	Dispensing Nozzle Used w/ (Order Separately)
621517-10	Nitrile	Polypropylene	Cam/Bare	N/A
621516-10	Nitrile	Polypropylene	Cam/Brass 1/4-18 NPT Male	635129
621523-10	Nitrile	Polypropylene	Cam/Non-Drip Nozzle	N/A
621515-10	EPDM	Polypropylene	Cam/Bare	N/A
621519-10	Vinyl	Polypropylene	Cam/Bare	N/A
621514-10	EPDM	Polypropylene	Cam / 1" NPT	95199
622514-10	Nylon	Polypropylene	1/2" NPT / 1/2" NPT 316 Stainless Steel	
621518-10	Nitrile	Aluminum	Cam/Bare	N/A
621520-10	Nitrile	Aluminum	Cam/Brass 1/4-18 NPTF	635129
621524-10	Nitrile	Aluminum	Cam/Non-Drip Nozzle	N/A

Note: Hose requires 95189 to adapt to 1/2" port

### **Fluid Dispensing Nozzles**

i idid bispo	Horing Nozzico
Model	Description
95199	Composite Nozzle - High flow nozzle works like gasoline nozzle. Features tough composite (polypropylene) construction for caustic service.
95200	Swivel - 1" M X 1" FNPT Polypropylene hose swivel attaches between hose and dispensing
	nozzle and allows operator to rotate freely. Use with 95199.
95183	Oil Tapper - Easy-pull tapper attaches directly to pump outlet port and provides even flow
	dispensing. Aluminum construction for oil service.
77617-Z	Oil Tapper Fitting - Plated carbon steel 1/2-14 NPTF X 3/8-18 NPTF -1. Used to attach
	95183 Oil Tapper to 1/2" Aluminum pump
635129	Bibb with Trigger - 1/4" NPTF inlet, zinc die casting with brass and nitrile seals for
	water or oil service. Radiator type bibb has 1/4" fluid inlet and non- drip tip.

### **Pump Outlet Adapter**

95189	Composite Fitting - 1/2" Male NPT x MaleCam adapter (Polypropylene)
95190	Aluminum Fitting - 1/2" Male NPT x MaleCam adapter (Aluminum)





**Foot Valve** 



Hose, Swivel & Dispensing Nozzle



621514-10, 95200, 95199

### Hose & Dispensing Bibb



Hose & NonDrip Nozzle



# Thunder Pumps

A Pump with Striking Design and Powerful Performance. This is what the lubrication professional wants, and with *Thunder*, this is what the lubrication professional gets. From the pump maker that knows the lube business better than anyone: ARO.

- RELIABLE Thunder features a stall-free, ice-free air motor design (patents applied for) contained in a rugged housing that will withstand most working environments.
- THE RIGHT PRICE Through advanced designed technology, Thunder rolls through manufacturing faster than any pump on the market. With speed comes economy which we're rolling on to you.
- FEWER PARTS Thunder pumps are constructed with 50%fewer parts than the
  majority of comparable pumps. Install Thunder and see for yourself how fewer parts
  translate into fewer headaches when it comes to service or routine maintenance.
- NO MECHANICAL ASSIST Thunder's valving design (patents applied for) uses no trip rods or push pins to break.
- MINIMUM NUMBER OF TOOLS, NO SPECIAL TOOLS If you can find a standard wrench you can service Thunder.
- IN-LINE SERVICE You can service Thunder right where it stands; avoiding the costly tear-down/removal/replacement cycle that most pumps require.
- THUNDER'S DESIGN IMPROVES FLOW, REDUCES PULSATION AND EXTENDS SERVICE LIFE.
- ALL PUMPS COME EQUIPPED WITH A 2" BUNG ADAPTER, STANDARD.
- ALL WEATHER PUMPING Thanks to its unique bung adapter design, by adding an optional seal kit, P/N# 67088-X, Thunder can be used outdoors or in, with complete confidence, making it perfect for lube rig installation.
- NOISE LEVELS WITHIN INDUSTRY STANDARDS This is one form of thunder that's quiet: 2" 80 db's., 3" 85 db's.
- LUBE-FREE AIR MOTOR
- TWO MODELS 3:1 ratio and 5:1 ratio.

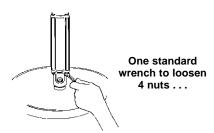


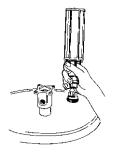




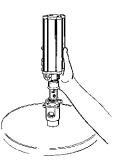
3:1 Stub Pump or 5:1 Stub Pump

### Pump In-Line Service





... allows you to replace all dynamic service kit items (no additional wrenches required for 3:1) ...



... and put Thunder back in service in a matter of minutes.

# Motor Oil, Gear Oil, Transmission Fluid

Max. Flow Free Flow Air Fluid Model Max. Max. Inlet **INlet/Outlet Container** Number **GPM** GPM NPT(F) NPT(F)

### BASIC PUMPS, 3:1 ratio, 2" diameter air motor (3"-stroke)

#### 150 psi max. air inlet pressure

Each pump includes Bung Adapter #67145-3-B (Non-weather tight).

<b>LM2203A-11-B</b> (-12-B = BSP thread)	6	9	1/4"	3/4 / 1/2	Stub
<b>LM2203A-31-B</b> (-32-B = BSP thread)	6	9	1/4"	3/4 / 1/2	16-Gallon
<b>LM2203A-41-B</b> (-42-B = BSP thread)	6	9	1/4"	3/4 / 1/2	55-Gallon
<b>LM2203A-51-B</b> (-52-B = BSP thread)	6	9	1/4"	3/4 / 1/2	275-Gallon

Note: For weather tight Bung Adapter order 670883-3. Includes 67145-3- bung adapter or 67088

## BASIC PUMPS, 5:1 ratio, 3" diameter air motor (3"-stroke)

Each pump includes Bung Adapter #67145-4-B (Non-weather tight).

LM2305A-11 (-12 = BSP thread)	6	9	1/4"	1-1/2 / 1/2	Stub
LM2305A-31 (-32 = BSP thread)	6	9	1/4"	1-1/2 / 1/2	16-Gallon
LM2305A-41 (-42 = BSP thread)	6	9	1/4"	1-1/2 / 1/2	55-Gallon
LM2305A-51 (-52 = BSP thread)	6	9	1/4"	1-1/2 / 1/2	275-Gallon

Note: For weather tight Bung Adapter order 67088-4. Includes 67145-4-B bung adapter 67088 seal kit.







5:1 Oil LM2305A-11

# hunder Pump Packages

#### Model **Package Description**

### 3:1 ratio, gear oil, 2" diameter air motor

LP2100-1 16 Gal. PORTABLE GEAR OIL PACKAGE - Includes LM2203A-31-B Basic

Pump, 635190-1 Meter (Pint), 635391-1 Control Handle, 640058-2 Dolly,94421 Drum Cover, 623501-6 Material Hose (6'). 67085 Ball check valve included.

LP2100-2 Same as LP2100-1 except 635190-3 Meter (Liter)

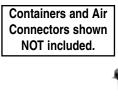
#### 5:1 ratio, gear oil, 3" diameter air motor

LP3100-1 16 Gal. PORTABLE GEAR OIL PACKAGE - Includes LM2305A-31 Basic Pump,

635190-1 Meter (Pint), 635391-1 (Flex) Control Handle, 640058-2 Dolly, 94421

Drum Cover and 623501-6 Material Hose (6').

LP3100-2 Same as LP3100-1 except 635190-3 Meter (Liter)







LP3100-X-1



# Motor/Gear Oil, Transmission Fluid

\*Free Flow Working Flow @90 PSI Inlet @ 120 PSI Inlet **Pressure** Pressure Gallons **Gallons** 

(Liters) (Liters) Inlet **Outlet Container** Inlet **Number Ratio** Per Min. Per Min. (NPT) (NPT) Size

BASIC PUMPS, 9:1 Ratio, 4-1/4" Diameter Air Motor (4" stroke)

The Series 425 supply pumps are designed for direct mounting to standard containers or to 61113 and 66100 wall mounts. See page 24.

662420-B	3.9	(14.8)	21 (79.4)	1/2 (F) 2 (F)	3/4 (F)	Stub
662409	3.9	(14.8)	21 (79.4)	1/2 (F) Immersed	3/4 (F)	16-Gallon
662410-B	3.9	(14.8)	21 (79.4)	1/2 (F) Immersed	3/4 (F)	55-Gallon

\*IMPORTANT: "Working Flow" represents performance that can be expected from a pump at 90 psi in a typical system. "Free Flow" figures are for comparison purposes only. Under normal operating conditions, air inlet pressures should be set in the 40 to 90 psi range for higher operating efficiency and longer pump life.

# eavy Service Oil/ATF Pump Packages

Model **Package Description** 

BASIC PUMPS, 9:1 Ratio, 4-1/4" Diameter Air Motor (4" stroke)

9:1 ratio, oil/ATF

612729 STUB OIL/ATF PACKAGE - Includes 662420-B Pump with L26241-110 Air

Lubricator, 621501-03 Air Hose (3') and 624601-04 Material Hose (4').

612722 55-GALLON OIL/ATF PACKAGE - Includes 662410-B Pump with L26241-110 Air

Lubricator, 621501-05 Air Hose (5'), 623501-08 Material Hose (8') and 60870 Bung Adapter.

Get It Together With



Let ARO take the time and expense out of specifying the right parts with the right pump. ARO Systems And Packages arrive at your door with all the needed parts and components ready to go. Typically all you need to do is stage your material, attach the material and air lines and you're up and running - - ASAP Style!





662410-B

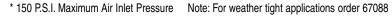








Model Number	Working Flow Lbs. Per. Min	Free Flow Lbs. Per. Min.	Air Inlet NPT(F)	Fluid Outlet NPT(F)	Container Size
Basic Pumps, 50	:1, 2" diameter	r air motor (3	3" stroke)		
LM2250E-21-B (-22=BSP) LM2250E-31-B (-32=BSP) LM2250E-41-B (-42=BSP) LM2250E-61-B (-62=BSP) Note: For weather tight a	thread) 2 lb. thread) 2 lb thread) 2 lb thread) 2 lb	9.0 lbs. 9.0 lbs. 9.0 lbs. 9.0 lbs.	1/4" 1/4" 1/4" 1/4"	3/8 3/8 3/8 3/8	35-lbs. 120-lbs. 40-lbs. 60-lbs.
Basic Pumps 50:1, 3" Each pump includes Bu		•	,		
LM2350E-21-B (-22-B=BSf LM2350E-61-B LM2350E-31-B (-32-B=BSf LM2350E-41-B (-42-B=BSf	4 lbs. P thread) 4 lbs.	7.5 lbs. 7.5 lbs. 7.5 lbs. 7.5 lbs.	1/4" 1/4" 1/4" 1/4"	3/8 3/8 3/8 3/8	35-lbs. 60-lbs. 120-lbs. 400-lbs.





# **Ih**under Pump Packages

Model	Package [	Description
-------	-----------	-------------

#### 50:1 ratio, grease, 2" diameter air motor

LP2001-1-B 35-lb. GREASE PACKAGE- Includes LM2250E-21-B Pump, 94420 Drum Cover, with 94334 Handle, 640095-2-B Follower Plate.

LP2002-1-B 35-lb. GREASE PACKAGE- Same contents as LP2001-1-B package, also includes 72290 Adapter, 624201-10 Material Hose (10'), 636077 Z-Swivel and

636111 Standard Gun.

LP2003-1-B 120-lb. GREASE PACKAGE - Includes LM2250E-31-B Pump, 94421 Drum

Cover, 640165 Follower Plate.

LP2004-1-B 120-lb. GREASE PACKAGE - Same contents as LP2003-1-B package, also includes 72290 Adapter, 624201-10 Material Hose (10'), 636077 Z-Swivel and

636111 Standard Gun.

LP2006-1-B 120-lb. GREASE PACKAGE - Same contents as LP2004-1-B, except includes

640058-2 Dolly.

IMPORTANT: The 50:1 ratio grease packages listed above have a maximum air inlet pressure of

#### 50:1 ratio, grease, 3" diameter air motor

35-lb. GREASE PACKAGE- Includes LM2350E-21-B Pump, 94420 Drum LP3001-1 Cover, with 94334 Handle, 640095-2-B Follower Plate, also includes 624201-10 Material Hose (10'), 636077 Z-Swivel, 76493 Adapter, and 636103 Booster

LP3002-1 120-lb. GREASE PACKAGE - Includes LM2350E-31-B Pump, 94421 Drum Cover, 640165 Follower Plate, 624401-4 Material Hose(4'), and 622201-3 Air

Line Hose (3').

LP3003-1 120-lb. GREASE PACKAGE - Includes LM2350E-31-B Pump, 94421 Cover, 624201-10 Material Hose (10'), 636077 Z-Swivel, 640057 Dolly, 636103

Booster Gun, 640165 Follower Plate, and 76493 Adapter.

LP3004-1 120-lb. GREASE PACKAGE - Same contents as LP3003-1,Less 636103

Booster Gun with 636111 Standard Gun and 640058-2 Dolly.

LP3005-1 400-lb. GREASE PACKAGE - Includes LM2350E-41-B Pump, 94422 Drum

Cover, 624401-4 Material Hose (4 ft.), 622201-3 Air Line Hose (3 ft.). Order

FollowerPlate 640015-1 when required.

60-lb. GREASE PACKAGE- Includes LM2350E-61-B Pump, 71740-1 Drum LP3007-1 with Cover and Tie Down Brackets, Portable Hand Cart, 636111 Control

handle and 624401-4 Material Hose (4').

IMPORTANT: The 50:1 ratio grease packages listed above have a maximum air inlet pressure of 150 PSI.



LP3003-1 (3" Air Motor) LP2006-1 (2" Air Motor)



LP3001-1 (3" Air Motor) LP2002-1 (2" Air Motor)

Containers and Air Connectors shown NOT included Except LP3007-1 (Includes Container).



# Grease NLGI #0 thru #3

Max. Lbs. (kilograms) Air Fluid Fluid Model Per. Min. Inlet Inlet **Outlet Accessories** Number Ratio @ 90 PSI (NPT) (NPT) (NPT) Included **BASIC PUMPS** 

120-pound drum, 4-1/4" diameter air motor (4" stroke)

These pumps are ideal where high pressures are demanded. When higher viscosity lubricants are being pumped, **follower plates (page 22)** help maintain a good pump prime and continuous material flow .

662402 50:1 6 (2.7) 1/2 (F) Immersed 1/2 (F) Pump Only

400-pound drum, 4-1/4" diameter air motor (4" stroke)

662400-C 50:1 6 (2.7) 1/2 (F) Immersed 1/2 (F) Pump Only

**BASIC PUMPS** 

120-pound drum, 6" diameter air motor (4" stroke)

662605 100:1 2.1 (.8) 1/2 (F) Immersed 1/2 (F) F/R/L C28241-810

400-pound drum, 6" diameter air motor (4" stroke)

662608 • 100:1 2.1 (.8) 1/2 (F) Immersed 1/2 (F) F/R/L C28241-810

♦ WARNING: THESE 100:1 PUMPS DELIVER PRESSURES UP TO 10,000 PSI WHICH IS IN EXCESS OF THE RATED CAPACITY OF THE ACCESSORIES SHOWN IN THIS CATALOG. THESE 100:1 PUMPS CAN ONLY BE USED IN PERMANENTLY INSTALLED SYSTEMS WHERE THE PUMP IS CONNECTED DIRECTLY TO PIPING WITH THE PROPER RATING FOR THE APPLICATION.

# Grease Pump Packages

Model Package Description

### HEAVY SERVICE GREASE PUMP PACKAGES

50:1 ratio, grease, 4-1/4" diameter air motor

**612721** 400-LB. GREASE PACKAGE - Includes 662400-C Pump, 621501-05

Air Hose (5'), 624401-8 Material Hose (8'), 4148 Bung Adaptor.

(Order Follower Plate 640015-2 when required)

**612805** 400-LB. GREASE PACKAGE - Includes 662400-C Pump, L26241-110

Air Lubricator, 621501-05 Air Hose (5'), 624401-8 Material Hose (8')

and 60898 Drum Cover.

(Order Follower Plate 640015-2 when required)

100:1 ratio, grease, 6" diameter air motor

662606 • 120-LB. GREASE PACKAGE - Includes 662605 Pump, C28241-810
Air Filter / Regulator / Lubricator, 66715 Drum Cover and 640152-1

Follower Plate.

662609 • 400-LB. GREASE PACKAGE - Includes 662605 Pump, C28241-810

Air Filter / Regulator / Lubricator, 71060 Drum Cover, 60870 Bung

Adaptor and 640015-5 Follower Plate.

♦ WARNING: THESE 100:1 PUMPS DELIVER PRESSURES UP TO 10,000 PSI WHICH IS IN EXCESS OF THE RATED CAPACITY OF THE ACCESSORIES SHOWN IN THIS CATALOG. THESE 100:1 PUMPS CAN ONLY BE USED IN PERMANENTLY INSTALLED SYSTEMS WHERE THE PUMP IS CONNECTED DIRECTLY TO PIPING WITH THE PROPER RATING FOR THE APPLICATION.







# Bulk Grease Pump Packages

Max. Lbs. Fluid Fluid (kilograms) Air Per. Min. Inlet Inlet Outlet @ 90 PSI (NPT) (NPT) (NPT)

### BULK GREASE PUMP PACKAGE, 4-1/4" diameter air motor

NP423F01-1 15 1/2" (F) Flange Mount Description MEDIUM PRESSURE, 23:1 BULK GREASE PACKAGE - Includes 650492-P43-B Pump with 91790 Muffler, 65138 Floor Mount, 7-feet of 1-inch Material Hose with a High-Pressure Ball Valve, 2-feet of 3-inch Diameter Suction Hose with Fluid Coupler /Connector, Dust Plug and Cover. Also includes C28241-810 Air Filter/Regulator/ Lubricator.

### BULK GREASE PUMP PACKAGE, 6" diameter air motor

NP646F01-1 15 1/2" (F) Flange Mount Description HIGH FLOW - HIGH PRESSURE, 46:1 BULK GREASE PACKAGE - Includes 650692-P43-B Pump with same components listed in the NP4230F01-1 package above.

## BULK GREASE PUMP PACKAGE, 8" diameter air motor

NP813F01-1 3/4" (F) Flange Mount 1-1/2" (F) Description HIGH-FLOW, LOW - PRESSURE, 13:1 BULK GREASE PACKAGE - Includes 650871-E-C Pump with 92460 Muffler, 65139 Floor Mount, 7-feet of 1-inch Material Hose, with a High Pressure Ball Valve, 2-feet of 3-inch Diameter Suction Hose with Fluid Coupler / Connector, Dust Plug and Cover. Also includes 28353 Heavy-Duty Air Filter / Regulator / Lubricator C28241-810.







# mp Tube Adapters

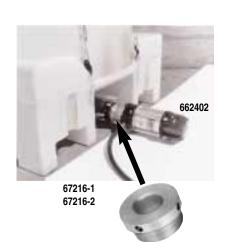
67216-1

Model

Number

THUNDER<sup>™</sup> 3", 50:1 PUMP TUBE ADAPTER - ARO 50:1 grease pumps will function when inserted into the 3" horizontal discharge tube on bulk grease tanks. The 67216-1 adapter seals and clamps on the pump tube allowing quick attachment to the discharge tube with its 3" NPT threads. The 67216-1 adapter can be threaded directly into the ball valve on the discharge end of the tube or for best results use a cam lock type coupler and connector. For best pump performance, the end of the pump tube should be positioned as far into the discharge tube as possible, preferably near the back wall of the sump.

67216-2 4-1/4", 50:1, 662402 (HEAVY SERVICE) PUMP TUBE ADAPTER - See 67216-1 description above.



# U.L. Approved Fuel Pumps

Max. Gal.

Model Diaphragm Per Inlet Used Number Ball Seat & O-Ring Min. (NPT) With

Designed specifically for high-volume transfer, bulk-unloading, or fueling applications. **These pumps meet UL 79 specification code** and are compatible with gasoline, aviation fuel, diesel fuel, fuel oil, and kerosene.

# 1" FLUID PORTS NPT(F) aluminum body, 50 psi (3.4 bar) max.

650717-C 650709-C	Acetal Acetal	Kynar <sup>®</sup> Kynar <sup>®</sup>	Viton <sup>®</sup> Buna-N *	29 (110) 29 (110)	1/4 (F) 1/4 (F)	Unleaded Fuel Diesel Fuel,	
		-				Kerosene, Aviation	
						Fuel, Fuel Oil	

# 1-1/2" FLUID PORTS NPT(F) aluminum body, 50 psi (3.4 bar) max.

650718-C	Acetal	Kynar <sup>®</sup>	Viton®	75 (284)	1/2 (F)	Unleaded Fuel
650710-C	Acetal	Kynar <sup>®</sup>	Buna-N *	75 (284)	1/2 (F)	Diesel Fuel,
`						Kerosene, Aviation
						Fuel. Fuel Oil

## 2" FLUID PORTS NPT(F) aluminum body, 50 psi (3.4 bar) max.

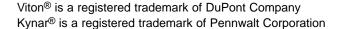
650719-C	Acetal	Kynar <sup>®</sup>	Viton®	105 (397)	1/2 (F)	Unleaded Fuel
650711-C	Acetal	Kynar®	Buna-N *	105 (397)	1/2 (F)	Diesel Fuel,
						Kerosene, Aviation
						Fuel, Fuel Oil

\* NOTE: Certain fuel additives may be chemically incompatible with Buna-N. Please check chemical compatibility guides if questionable.



♦NOTE: To meet UL 79 specifications, pumps utilize pressure relief valves to limit dispensing line pressure to under 50 psi.

If line pressure between the pump and dispensing point exceeds 50 psi due to thermal expansion, line compression, backfeed, or gravity, the pressure relief valve opens and bleeds off excess pressure. The relief valve must be plumbed to return the bleed-off fuel to the storage container.





650709-C





Air connectors shown, NOT included.

# **W**aste Oil Drains

Model **Package Description** 

### DIFFERENTIAL OIL EVACUATION PACKAGE

612999-5 Package includes, 666053-322 1/2" Diaphragm Pump. 76763 Wall Mount

Bracket, 622601-6 3 3/4" Pump Inlet Hose Assembly, 612501-5 1/2" Pump Outlet Hose Assembly, 129121-404 Air Line Filter/Regulator With Auto Drain, 622201-3 1/4" Air Line Hose, 29850 Gauge, 92021 Fluid Coupler

612999-4 Package includes, 666100-322-C 1" Diaphragm Pump, 66100 Wall Mount

> Bracket, 628066-6 1" Pump Inlet Hose Assembly, 628067-3 1" Pump Outlet Hose Assembly, 129121-404 Air Line Filter/Regulator, 622201-3 1/4" Air Line Hose and 29850 Gauge, 92021 Fluid Coupler and 104174-2

Air Control Valve

612999-6 Package includes, 1/2-inch Ports Diaphragm Pump, Tube Brackets for

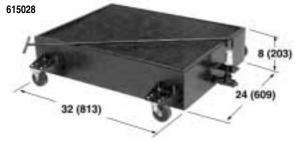
hanging unit - tube doubles as fluid outlet. Package also includes 8-feet of Fluid Suction Line and related tubing/fittings, plus 129121-400 Air

Filter/Regulator with guage 29850

#### Low-Profile, Floor-Type Drain / 20 Gallon Capacity

Provides easy handling and maneuvering to drain site. Pan baffle prevents splashing during movement. Helps prevent oil spills and costly clean-up. Heavy- duty top screen keeps drain plugs and tools out of pan. Constructed of 16-gauge steel. Epoxy-coated for long lasting, corrosion-resistant finish. Dry-Break Coupler provides fast, efficient waste oil evacuation.

Model Number	Width Inches (mm)	Length Inches (mm)	Depth Inches (mm)
615028	24	32	8
	(609)	(813)	(203)



Lowered Model **Postition** Number In. (mm)

Raised Capacity **Position Gallons** In. (mm) (liters)

Descritpion

Portable-Type Drain

615020-1

OIL DRUM - Use with 16-gallon drum. 16

(61)has fluid connector 92021 on cover with siphon tube and 640058-2 dolly. for use with 612999-4 or -5 waste oil evacuation packages. Extra large funnel 67203. (6" deep x 21"dia.).

#### Pedestal Type

615002-C 48 3/8 80 (1229)(2032) PEDESTAL OIL DRAIN - Has adjustable height. A one- way throat valve contains waste oil in a bowl. When placed on a drain adaptor, the throat valve automatically empties bowl contents into waste oil storage tank.

Includes 615052 drain adaptor.



# Grease NLGI #0 thru #3

Model Description

**LUBRICATION PUMPS,** 35-pound, drum cover type

611016 BALL JOINT LUBRICATOR – Can deliver up to 1/4-ounce of lubricant

per stroke. Includes 72006 drum cover, 622511-10 hose assembly, 72051 follower plate and 72806 booster control handle. Control

handle capable of generating up to 7,500 psi.

# Motor Oil, Gear Oii, Transmission Fluid

Model Ratio Description

MOTOR OIL, GEAR OIL, TRANSMISSION FLUID

5-gallon

611170 Adjustable: Capable of high-volume delivery. Includes 621597-5

hose/dispensing, 2:1, 4:1, 7:1 nozzle assembly [5 foot (1.5 m), 1/2-inch I.D. hose] and 72006 drum cover.

16-gallon

611019-41 Adjustable: Includes 72096 drum cover bung adapter, 621502-5 hose

dispense nozzle assembly [5 foot(1.5m), 1/2-inch I.D. hose], 635190-1 digital meter and 640058-2 dolly.



611016



611170 (Container not included.)





91020-1

# **Accessories**

Model Number

Description

**Pumps Used With** 

### 5-GALLON

65986 Siphon tube has 6-foot long (1.8 m),

3/4 I.D. hose with 3/4 NPT(M) outlet. Hose is Neoprene over Thiokol and includes 91020-1 tube.

1/2-inch galvanized suction tube for

5-gallon containers. (16" long)

1/2-inch diaphragm pumps

Wall-mounted stub pumps

pumps

#### 55-GALLON

91020-1

65986-1 Siphon tube has 6-foot long (1.8 m),

3/4 I.D. hose with 3/4 NPT(M) outlet. Hose is Neoprene over Thiokol.

Drum cover for closed drum w/2-inch bung

opening

61601 Speeds 55-gallon drum change-over.

No need to handle pump. Includes 622651-06 hose, Y45-24-C adaptor bushing, Y43-5-C street elbow and 65109 (36" long), carbon steel suction tube. 3/4-inch NPT(F) fluid outlet.

Wall-mounted stub pumps

66779 For pumping from 55-gallon drum. PVC

tube has foot valve for positive priming. Includes 76193 bung adaptor, adjustable to approximately 35-1/2-inches. 1-inch

NPT(F) fluid outlet.

Stub pumps and diaphragm

pumps.

61409 For pumping from 55-gallon drum.

90° PVC siphon tube, 35-1/2-inches (901.7 mm) long with 2-inch bung adapter for 55 gallon drums. Can easily be cut to desired length, on site.

1/2" NPT(F) outlet.

1/2-inch diaphragm pumps

and stub pumps.

61412 For pumping from 55-gallon drum.

Threads directly into pump inlet. Includes 2-inch bung adaptor. 35-1/2-inches (901.7 mm) long. Schedule 80 PVC pipe can easily be cut to desired length, on site.

1/2-inch NPT(M) fluid outlet.

1/2-inch diaphragm pumps

91020-2

1/2-inch galvanized suction tube for 55-gallon

containers. (36" long)

### 275-GALLON CONTAINERS

66779-2 For pumping from 275-gallon tanks. PVC

tube has foot valve for positive priming. Includes 76193 bung adaptor, adjustable to approximately 48-1/4-inches. 1-inch NPT(F) fluid outlet.

Stub pumps and diaphragm pumps.

61412-1 For pumping from 275-gallon tank.

Threads directly into pump inlet. Includes 2-inch bung adaptor. 45-1/2-inches (1155.7 mm) long. Schedule 80 PVC pipe can easily be cut to desired length on site. 1/2-inch NPT(M) fluid outlet.

1/2-inch diaphragm pump.



66779

65986



6141

# Accessories

	Hose Size I.D. Inches (mm)	Hose Length Feet (mm)	Hose Material	Fluid Inlet NPT (M)	Fluid Outlet (NPT)	Used With
SIPHON I	Hose, (	CARBON	STEEL FIT	TINGS		
622701-6	1	6 (1.8)	Nylon tube w oil-resistant c		1	Carbon steel siphon tube
STAINLES	SS STEE	L FITTIN	IGS			
622702-6	1	6 (1.8)	Nylon tube w oil-resistant c		1	Stainless steel siphon tube
622702-10	1	10 (3)	Nylon tube w oil-resistant c		1	Stainless steel siphon tube

# **Inl**et Material Filters

Model

66480

Number Description

**Pumps Used With** 

## **PUMP INTAKE FILTERS**

651830 Filter Element keeps foreign matter from

entering lower pump end.

Filter and check valve assembly constructed of 316 Stainless Steel, assembly has 1-inch NPT(F) connections and 40-mesh screen. 4-3/4-inch (121 mm)

long x 2-1/8-inch (54 mm) in diameter.

Adapts to 91020-1 or -2 pipe extension.

Used with suction tubes when fluid is corrosive and viscosity requires a foot valve for positive priming.





651830

# **Fo**llower Plates

O.D. of

Model Wiper Seal Pump Tube Pumps
Number Material to be Fitted Used With

# 35-Pound Tapered Pail (Fits 10-11" ID Drums)

 640095-1-B
 Rubber
 1
 Thunder 60:1

 640095-2-B
 Rubber
 1-1/2
 611406, Thunder 50:1

 640095-3-B
 Rubber
 2
 Hand pumps

# 120-Pound Drum (Fits 13-14" ID Drums)

640027 Buna-N 2 Hand pumps 640152 Buna-N 1-7/8 Series 425, 50:1 640152-1 Series 600, 100:1 Buna-N 2-1/8 640162 Buna-N Thunder 60:1 640165 1-1/2 Thunder 50:1 Buna-N (Fits 10.5 - 13-7/8" Drums)



 640015-2
 Buna-N
 1-7/8
 Series 425, 50:1

 640015-5
 Buna-N
 2-1/8
 Series 600, 100:1

 640015-1
 Buna-N
 1-1/2
 Thunder 50:1



640095-2-B





640015-1

# Drum Covers

Model

Number **Description**  **Pumps Used With** 

### 5 GALLON / 35-POUND PAIL

Has 2-inch NPT(F) bung opening and

three hold-down screws (Fits 10.23 - 12 OD Drums) Thunder 5-gallon bung

pumps.

### 16 GALLON / 120-POUND DRUM

66492 Has pump opening, mounting holes and tie-down brackets. Order tie-down rods

separately. (Fits 12.75 - 15 OD Drums)

Models 662402 and 662409

94421 Has 2-inch NPT(F) bung opening and

three hold-down screws. (Fits 13-1/8 - 14-7/8 OD Drums) Thunder 16-gallon/ 120 lb. bung pumps

### 55 GALLON / 400-POUND DRUM

Has 2-inch NPT(F) bung opening and 71060

tie-down brackets. Order tie-down rods separately. (Fits 20 - 24-5/8 OD Drums)

Series 200 and 425, 55-gallon/400-pound bung type pumps

94422 Has 2-inch NPT(F) bung opening and

three hold-down screws.

(Fits 21-7/8 - 23-5/8 OD Drums)

Thunder 55-gallon bung pumps



94420

71060



94422

# ver Tie-Down Rods

Model Number

**Description** 

**Pumps Used With** 

### 16 Gallon / 120-Pound Drum

640164 Tie-down bracket kit fixes/holds down drum

cover. Includes brackets, rods, mounting hardware. Use with 94421 Cover.

Thunder Series pumps.

640091 Set of two tie-down rods and mounting

brackets. Use with 66492 Cover.

Series 200 and 425, 16-gallon/120-pound

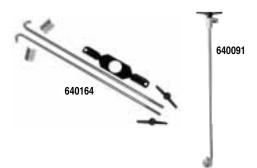
drum covers



71027 Set of two tie-down rodsand mounting

brackets. Use with model 71060.

Thunder Series, also 200 and 425 Series, 55-gallon/400-pound drum covers





Model

Number **Description**  **Pumps Used With** 

Thunder Series Models

### SINGLE-POST LIFT

640225 Air operated lift for 16 gallon/

120# container size.

Extended height 62 inches(1.6m). Suggested drum cover 94421.

640067 Single-acting cylinder for easy

55-gallon/400-pound drum change-over. Requires 71060 drum cover. Extended height 92-inches (2.3 m).

Series 425, **Thunder Series** 

LM2250E-31

LM2350E-31

LM2305A-31



# Wall Mount Bracket

Model
Number

ber Description

**Pumps Used With** 

### **PISTON PUMPS**

61113 2-inch NPT(F) opening for bung

type pumps. Bracket can slip over rim of open-head drum or be wall-mounted. 55-gallon bung type pumps and Series 200, Thunder and 425 stub pumps fitted with bung adapters.

66100 Wall mount bracket has

removable mounting plate.

Series 425, 4-inch stroke pumps.

Series 425, 6-inch stroke pumps

Wall mount bracket has

removable mounting plate

## DIAPHRAGM PUMPS

**76763** Wall mount bracket allows

pump to be located convenient

to container.

1/2-inch diaphragm pumps

Wall mount bracket has

removable mounting plate.

1-inch diaphragm pumps

62133 Wall mount bracket

1-1/2-inch diaphragm pumps





76763



# Bung Adapters

Model Number

Description

**Pumps Used With** 

Series 425, 50:1 ratio grease pumps

### **BUNG ADAPTERS**

4148 2-inch (M) for use with

1-7/8-inch siphon tube

**60870** 2-inch (M) for use

with 2-1/8-inch siphon tube

Series 200, 1:1 ratio immersed pumps Series 425, 9:1 ratio immersed pumps; Series 600, 100:1 ratio pump for 400 lb. drum

67145-1 2-inch (m) 67145-2 2-inch (m) 67145-3-B 2-inch (m) 67145-4-B 2-inch (m) Thunder Series, 60:1 grease pumps Thunder Series, 50:1 grease pumps Thunder Series, 3:1 oil pumps Thunder Series, 5:1 oil pumps



67145-X

### **BUNG ADAPTER SEAL KITS**

67088 Water-tight seal makes pump

useable for outdoor

(i.e. Lube Truck) application.

67088-3 Water-tight seal kit inludes 67145-3 Bung Adapter

and 67088 Seal Kit

67088-4 Same as above, except inludes

67145-4 Bung Adapter and 67088 Seal Kit Thunder Series Pumps 50:1 & 60:1

Thunder Series 3:1 Oil Pumps

Thunder Series 5:1 Oil Pumps



67145-X-B

# Overrun Controls, Pressure Relief Valve

Air Air Pressure

Model Inlet Outlet Range Pumps

Number NPT(F) NPT(F) PSI (bar) Used With

### **ARO-STOP® VALVE**

ARO-STOP valve shuts off air to pump when material container is empty or fluid line is broken. Quick-set and reset feature.

**635040** 1/4 1/4 20 - 175 Thunder Series and (1.4 - 12) Series 200 and

1/2" Diaphragm Pump (includes connecting hose)

(Maximum flow rate of 23 SCFM @ 90 PSI)

23644-400 1/2 1/2 20 - 175 Series 425 and 600 only (1.4 - 12) and 1" Diaphragm Pump

### Protect Your Investment \_



Pump "runaway" results when your material container is depleted and the pump cycles fast and needlessly. It's not good for a pump. So protect your pump investment - with an ARO-STOP® Valve.

### Low Level Cutoff

640153

Model

Low level cutoff prevents the entry of air into the fluid line by closing the pump intake when material supply is exhausted. Threads to bottom of siphon tube for immersion in fluid. Also serves as a check valve.

67086 – – Thunder Series 2" air motor pumps

pumps with 1-1/2-inch NPT(F) threads (not for pumps that exceed 6

pumps that exceed 6 GPM) Also, Thunder series 3" air motor pumps.

Series 200 and 425







# Pessure Relief Valve/Valve Kit

Number Description

## PRESSURE RELIEF VALVE/VALVE KIT

61117 Pressure Relief-valve is used on material outlet side of pump to

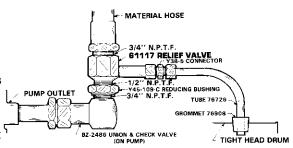
automatically allow bleed-back of material to container in applications

where thermal expansion is present.

61118 Pressure Relief Valve Kit-kit includes 61117 Relief Valve (see

description above), Reducing Bushing, Compression Coupling, 3-feet

of Plastic Drain Tubing, Grommet (for drum attachment).



# Ar Motor Mufflers

		Pumps	Size
Model	Inlet	Used	Inches X Inches
Number	NPT(M)	With	(mm x mm)

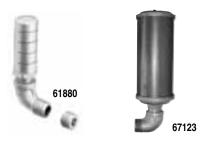
### **AIR MOTOR MUFFLERS**

Air motor mufflers reduce air exhaust noise I evel to within OSHA standards when air motor exhaust is not being piped away.

61880	1/2	Series 200, 1:1 ratio 2" Air Motor	1-1/4 x 3-5/8 (32 x 92)
61879	1/2	Series 200, 2:1 ratio 2" Air Motor	1-1/4 x 3-5/8 (32 x 92)
91790	1-1/4	Series 425 and 600 4-1/4 & 6" Air Motor	3-1/2 x 11-3/16 (89 x 284)
67213	<b>1-</b> 1/2	2" Muffler	
94117 (Intermitten	1-1/2 nt Duty)	2"	4" (L) x 2" (Dia)



Section 1910.95 of the Occupational Safety and Health Act requires that a worker not be exposed to a sound pressure level in excess of 90 dBa for a period of more than 8 hours. When pump air motor exhaust is not piped away, ARO air motor mufflers effectively reduce air exhaust noise levels to within OSHA standards. For pump noise emission data - see below.







# Pump Airborne Noise Emissions

Pump Motor Size (Inches)	Muffler	Air Operating Pressure (PSI)	Cycles/ Min.	Sound Pressure dbA (Laeq)	
PISTON PUM	PS				
2	NONE	60	40	76 (77.8)	
2" Thunder	NONE	100	N/A	80 (81.8)	
3" Thunder	NONE	100	N/A	85 (86.9)	
4-1/4	91790	60	40	80 (81.8)	
6	91790	60	40	83 (84.8)	
8	92460	60	40	85 (869)	
Pump Port Size (Inches)	Air Ope Press (ps	ure	Cycles/ Min.	Sound Pressure Laeq	
DIAPHRAGM PUMPS					
1/2	70	)	60	71.1	
1	70	)	60	64.5	
1-1/2	70	)	60	77.7	
2	70	)	60	85.0	
3	70	)	50	83.0	

The pump sound pressure levels published above have been updated to an Equivalent Continuous Sound Level (LAeq) to meet the intent of ANSI S1.13-1971. CAGI-PNEUROP S5.1 using four microphone locations. Diaphragm pumps were tested with their standard muffler.



91790

# **Hi**gh-Pressure Hose

Model Number	I.D.	0.D.	Fitting Threads Both Ends	Max. Pressure PSI (Bar)	Length			
BUNA-N T	BUNA-N TUBE, NEOPRENE COVER							
1-wire braid 623501-XX	1/2	29/32	1/2 NPT(M)	2,000 (138)	5,6,8			
2-wire braid								
624201-XX 624401-XX 624601-XX	1/4 3/8 3/4	11/16 27/32 1-1/4	1/8 NPT(F) 3/8 NPT(M) 3/4 NPT(M)	5,000 (345) 4,000 (276) 2,250 (155)	2,6,10 4, 8 4			
ELASTOMER TUBE, POLYESTER COVER								
1-wire braid 628067-XX	1	1-1/4	1 NPT(M)	800 (55)	3			

In selecting a hose, be sure the hose material is compatible with the fluid being pumped and that the maximum working pressure will not be exceeded in the application. Only those hose length options listed with each model are available. Substitute -XX with -5, -15, -25 etc., to indicate length selection. (Example: Substitute -XX with length selection, such as -50. If length is single digit, use that digit only. Do not add zeros.)

# **Low-Pressure Hose**

## **NEOPRENE TUBE, NEOPRENE COVER**

2-fabric braid

622651-XX 3/4 1-3/16 3/4 NPT(M) 600 (41) 10

## BUNA-N TUBE, NEOPRENE COVER

2-fabric braid

622201-XX 1/4 NPT(M) 250 (17) 3. 5

#### **♦CAUTION!** These hoses cannot be used with 100:1 ratio pumps!

NEVER USE A HOSE WITH A MAXIMUM PRESSURE RATING LOWER THAN THE HIGHEST PRESSURE THE PUMP CAN GENERATE!

# wivels

	Thread	Type	Maximum
Model	Size In.	of	Pressure
Number	NPT X NPT	Seals	PSI (bar)

### "Z" SWIVEL

The swivels on this page give the operator mobility and flexibility when using fluid control handles. Do not install swivels in systems where they will be subjected to fluid pressures higher than their ratings.

636077	1/8 (M) x 1/8 (F)	Fabric with Neoprene	8,000 (552)
636086-B	1/4 (F) x 1/4 (M)	Fabric with Neoprene	5,000 (345)
636087-B *	1/4 (F) x 1/4 (M)	Fabric with Neoprene	5,000 (345)
635106	1/2 (F) x 3/8 (M)	Fabric with Neoprene	8,000 (552)

<sup>\*</sup>Includes an internally mounted 65809-5 filter element.

### STRAIGHT SWIVEL

636075	1/8 (M) x 1/8 (F)	Fabric with Neoprene	8,000 (552)
636085	3/8 (M) x 3/8 (F)	Fabric with Neoprene	8,000 (552)
635117	1/2 (M) x 1/2 (F)	Fabric with Neoprene	2,000 (138)
635108	3/4 (M) x 3/4 (F)	Buna N	1,000 (69)
635107	1/2 (F) x 3/8 (M)	Fabric with Neoprene	2.000 (138)

# Conversion Fittings

Model Number	Thread Size In. NPT X NPT	Maximum Pressure PSI (bar)
FEMALE A	DAPTOR	
3249	1/8 (F) x 1/8 (F)	8,000 (552)
MALE AD	APTOR	
676	1/8 (M) x 1/8 (M)	8,000 (552)



636077



636075



635108



# Non-Metered Fluid Control Handles

Model Number	Description	Max. Working Pressure PSI (bar)	Fluid Inlet NPT (F)	Fluid Outlet	<b>SYEAR</b> Warranty
Motor	OIL, GEAR OIL, TRANSM	IISSION FLUID	)		Carre
high-volu	me				- Chris
635193	Has flexible rubber hose with . non-drip nozzle. Use with 1:1 and 3:1 pumps. Non-drip tip	600 (41)	3/4	71893	635193
635395-2	Has flexible rubberhose with . non-drip nozzle. Use with 5:1 and 9:1 pumps. Nondrip tip	900 (63)	3/4	71893	
standard-	volume				
635392	Has flexible rubber hose, built-in swivel and filter, and non-drip nozzle. Non-drip tip	1,000 (69)	1/2	60164	635399
635399	Has flexible rubber hose, built-in swivel, and right-angle non-drip nozzle. Non-drip tip	, , ,	1/2	70790	
water, an	ti-freeze				005000
635129	Radiator bibb	300 (21)	1/4	Non-drip tip	635392

# Digital, Metered Fluid Control Handles

Model Number	Max. Flor Rate GPM		Meter/ Totalizing Increments	Max. Working Pressure PSI (bar)	Inlet	Fluid Outlet
METERE	, Rigid N	lozzle Mo	odels			
635390-11 635390-22 635390-33	4 4 4	(15) (15) (15)	Pints/Gals. Quarts/Gals. Liters/Liters	1,000 (69) 1,000 (69) 1,000 (69)	1/2 1/2 1/2	Non-drip tip Non-drip tip Non-drip tip
Non-Me	TERED,	Rigid No:	zzle Models (	Handle and No	ozzle On	ly)
635391-11	4	(15)	-	1,000 (69)	1/2	Non-drip tip
METERE	, Flexible	e Nozzle	Models			
635390-1 635390-2 635390-3	4 4 4	(15) (15) (15)	Pints/Gals. Quarts/Gals Liters/Liters	. 1,000 (69)	1/2 1/2 1/2	Non-drip tip Non-drip tip Non-drip tip
Non-Me	TERED,	Flexible N	Nozzle Model	ls (Handle and	Nozzle (	Only)
635391-1	4	(15)	-	1,000 (69)	1/2	Non-drip tip
METER C	NLY					
635190-1 635190-2 635190-3	4 4 4	(15) (15) (15)	Pints/Gals. Quarts/Gals. Liters/Liters	. 1,000 (69)	1/2 1/2 1/2	
METER, C	Control Ha	andles (v	v/out Nozzles	s)		
635390-10 635390-20 635390-30	4 4 4	(15) (15) (15)	Pints/Gals. Quarts/Gals. Liters/Liters	. 1,000 (69)	1/2 1/2 1/2	
NOZZLE, Flexible Hose, w/Non-Drip Tip						
629245-1	-		-	1,000 (69)	-	Non-drip tip
Nozzle,	Rigid Tul	oe w/Non	-Drip Tip			
629245-2	-		-	1,000 (69)	-	Non-drip tip

Our new metered control handle features a patented oval gear wheel design for precise reliable measurement. Its digital LCD readout operates on two standard alkaline batteries.

- Lightweight
- Precise
- Fast Reset
- Totalizes



# Metered Fluid Control Handles

Max. Working Fluid

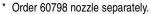
Model Dial Totalizing Pressure Inlet Fluid Number Description Increments Increments PSI (bar) NPT (F) Outlet

## MOTOR OIL, GEAR OIL, TRANSMISSION FLUID

metered flow control

Dispensing valve indicator lets operator see when to stop fluid flow. Totalizer registers up to 9,999 units. All metered control handles include 1/2-inch NPT in-line swivel.

635370*	One quart per revolution.	Quarts From 1 to 16	Totalizing Quarts	1,000 (69)	1/2	1/2 (F)
635377-B**	One liter per revolution	Liters From 1 to 10	Totalizing Liters	1,000 (69)	1/2	90° Non- drip tip
635378	One liter per revolution	Liters From 1 to 10	Non- Totalizing	1,000 (69)	1/2	90° Non- drip tip
635381	8 pints per revolution	Pints From 1 to 8	Totalizing Pints	1,000 (69)	1/2	90° Non- drip tip
635382	8 pints per revolution	Pints From 1 to 8	Non- Totalizing	1,000 (69)	1/2	90° Non- drip tip
635383**	4 quarts per revolution	Quarts From 1 to 16	Totalizing Gallons	1,000 (69)	1/2	Flex hose w/ non-drip tip
635384**	High-volume delivery rate	Quarts From 1 to 16	Totalizing Gallons	1,000 (69)	1/2	Flex hose w/ non-drip tip (1-inch dia.)



<sup>\*\*</sup> Unit has double pointer. Inside pointer counts revolutions of outside pointer.

### PRESET, METERED FLOW CONTROL

Preset unit automatically shuts off when set quantity of fluid is delivered and meter indicator returns to zero. Totalizer registers up to 9,999 units.

635364	Set to desired quantity - auto shut off.	Quarts From 1 to 60	Totalizing Gallons	1,000 (69)	1/2 Non-drip tip (9/16-inch dia.)
635365	Set to desired quantity - auto shut off.	Gallons From 1 to 60	Totalizing Gallons	1,000 (69)	1/2 Non-drip tip (9/16-inch dia.)
635367	Set to desired quantity - auto shut off.	Liters From 1 to 60	Totalizing Liters	1,000 (69)	1/2 Non-drip tip (9/16-inch dia.)













# **In-**Line Fluid Meters

			Max. Working	Fluid	
Model	Dial	Totalizing	Pressure	Inlet	Fluid
Number	Increments	Increments	PSI (bar)	NPT (F)	Outlet

## MOTOR OIL, GEAR OIL, TRANSMISSION FLUID

In-line fluid meter allows operator to monitor fluid volume being dispensed without the additional weight of a meter *on* the dispensing valve.

635141	Pints, from 1 to 8	Pints	1,000 (69)	1/2 (F)	1/2 (F)
635143	Quarts, from 1 to 16	Quarts	1,000 (69)	1/2 (F)	1/2 (F)
635153	Liters, from 1 to 10	Litres	1,000 (69)	1/2 (F)	1/2 (F)
635154	Quarts, from 1 to 16	Gallons	1,000 (69)	1/2 (F)	1/2 (F)
635184-3*	Pints, from 1 to 8	Pints	1,000 (69)	1/2 (F)	1/2 (F)

<sup>\*635184-3</sup> includes mounting and plumbing hardware.



# Non-Drip Nozzle/Hose

Model	Description	Fluid Inlet NPT	Length Inches (mm)	Max. Working Pressure PSI (bar)
MOTOR O	IL, GEAR OIL, TRA	NSMISSION F	LUID	
629212	Non-drip nozzle/hose	3/4 (M)	12 (305)	900 (62)
629226	Non-drip nozzle/hose	1/2 (M)	11 (279)	900 (62)
629516	Non-drip nozzle/hose	1/2 (M)	13 (330)	1,000 (69)
629521	Right-angle nozzle/hose	1/2 (M)	15 (381)	1,000 (69)
6786	Right-angle, rigid, non-drip nozzle	1/4 (M)	6-1/2 (165)	1,000 (69)
60798	Rigid, non-drip nozzle	1/2 (M)	5-1/2 (133)	1,000 (69)







# High-Pressure Grease Control Handles

Max. Working Fluid Model **Pressure** Inlet Fluid **Number Description** PSI (bar) NPT (F) Outlet

### GREASE CONTROL HANDLES

636101 Dispenses lubrication at line 7,500 (517) 3/8 (F) 11/16 - 16(M)pressure for lubricating grease or 1/8 NPT(F)

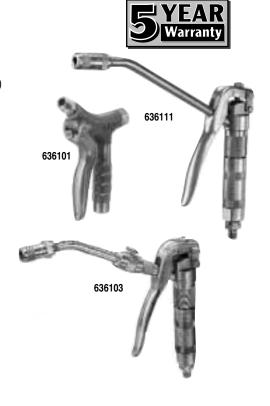
fittings. Does not include nozzle or hydraulic coupler. (See Below) For applications requiring high flow capacity. Remove the 1/8 (M) x 3/8 (M) adaptor for 3/8 (F) porting.

636111 Dispenses lubricant at line 7,500 (517) 1/8 (M) Hvdraulic pressure for lubricating grease or 3/8 (F) Coupler

fittings. Includes inlet material filter and curved nozzle with hydraulic coupler. Remove the 1/8 (M) x 3/8 (M) adaptor for 3/8 (F) porting.

636103 High-pressure booster handle 7,500 (517) 1/8 (M) Hydraulic Coupler delivers line pressure for normal or 3/8 (F)

lubrication. Trigger booster feature delivers 10,000 PSI (689 bar)to break loose tougher fittings. Includes curved nozzle with hydraulic coupler, inlet material filter and manual pressure vent for easy disconnection. WARNING: Do not use with whip hose! For additional application guidelines see page 38.



### Whip Hoses for Grease Control Handles

WARNING: Not for use with 636103 high-pressure booster handle!

629742 636046 Extra-long, wire braid (624201-02) 5,000 (345) 1/8 (F)

whip hose with hydraulic coupler and swivel. Overall length 29-1/2-inches (749 mm). For use with Coupler 636111 high-pressure control handle. Allows operator to access hard-to-reach fittings.

629737 Whip hose, 7-inches (178mm) long. 5,000 (345) 1/8 (F) 1/8 (M)



**♦WARNING:** NEVER USE THE PRODUCTS ON THIS PAGE, OR ANY OTHER ACCESSORIES, IN SYSTEMS WHERE THEIR MAXIMUM RATED PRESSURES WOULD BE EXCEEDED.

# **Gr**ease Gun Accessories

Inlet Length Max. Working Model **Thread Inches Pressure Number Description** (Inches) PSI (bar) (mm)

#### STANDARD HYDRAULIC COUPLERS

636027 Small diameter hydraulic coupler 1/8 NPT(F) 1-5/8 (41) 6,000 (414) 636028 Reversible jaw hydraulic coupler. 1/8 NPT(F) 1-5/8 (41) 10,000 (689) 1/8 NPT(F) 1-7/16 (37) 6,000 (414) 636046 Small diameter hydraulic coupler with ball check.



**Number Description NPT** Height

ELBOW BODIES

6045 90° elbow 1/8 (M) x 1/8 (F)



Hydraulic







# Dollies, Hand Trucks

Model

Number Description

**DOLLIES** 35-pound pail

640108 Band-type dolly has four rubber-wheeled casters and screw clamp.

16-gallon drum

640057 Platform-type dolly has four swivel casters and three drum clamps. For

use with steel or fiber drums.

640058-2 Band-type dolly has four rubber-wheeled casters and screw clamp.

For use with steel or fiber drums.

### HAND TRUCKS

16-gallon drum

640062 Two-wheel truck has clamp rod and two base supports to hold drum.

Wheels are rubber.

Three-wheel truck includes hinged handle, swivel-type front wheel and

two 6" rubber rear wheels. Pictured on page 23 with 615008 portable

oil drain.

55-gallon drum

640056 Three-wheel truck made of heavy gauge steel. Includes hinged handle,

swivel-type caster, and two cast iron wheels.

# **Fl**uid Control Valves

Inlet				Max. Working
	Outlet	Body	Seat	Pressure
Model	NPT	Material	Material	PSI (bar)

### BALL VALVES

Used to control the on-off flow of fluid material or air. Select proper working pressure and material compatibility for application.

61124	3/4 (F)	Bronze	Buna-N	200 (14)
61754	1/2 (F)	Bronze	Teflon	400 (28)
66592	1/2 (F)	Carbon Steel	Teflon	2,000 (138)
66593	3/8 NPS(M) x 3/8 (M)	303 S.S.	Teflon	4,000 (276)
_				

### Plug Valves

Y28-1	1/4 (F)	Brass	_	150 (10)
Y28-2	1/8 (F)	Brass	_	150 (10)

### **NEEDLE VALVES**

636042	1/2 (F)	Carbon Steel	Leather	8,000 (552)
636043	1/2 (M) x 1/2 (F)	Carbon Steel	Leather	8,000 (552)
92818	1/4 (F) x 1/4 (M)	Brass	Leather	125 (9)

### **GLOBE VALVES**

Y26-1	3/4 (F)	Brass	Graphite	125 (9)

### BALL VALVES

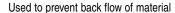
104077-2	1/4 (F)	Nickel Plated Brass	Teflon	225 (16)
104077-3	3/8 (F)	Nickel Plated Brass	Teflon	225 (16)
104077-4	1/2 (F)	Nickel Plated Brass	Teflon	225 (16)

# **H**uid Ball Check Unions

						wax. working
	Body	Ball	Seat	Inlet	Outlet	Pressure
Model	Material	Material	Material	NPT	NPT	PSI (bar)
65845	Carbon Steel	440C SS	440 F SS	3/4 (M)	3/4 (M)	8,000 (552)
66559	Carbon Steel	440C SS	440 F SS	1 (M)	1 (F)	8.000 (552)









L261X1-XXX

# Air Line Filter, Regulators, Lubricators

Model Number	Inlet NPT(F)	) Bowl	Filter Sump Capacity Ounces (ml)	Filter Element in Microns	Flow SCFM	Max. Inlet Pressure PSI (bar)		
Module, Filter	/Air 1	1000						
F25121-200	1/4	Polycarbonate	.6 (18)	20	12	200 (14)		T.
Regulato	<b>)ľ</b> (2985	0 gauge not incl	uded. See pg. 3	34) pressure ra	ange of re	gulator: 5-125 psi		R271X1-XXX
R27121-100		-	-	_	13	250 (17)	F251X1-XXX	1127 171-777
Lubricate L26121-100		Polycarbonate	1.1 (33)	-	60	200 (14)		
		r/Regulator (g		ed. See pg. 3	4)			
P29122-100		Polycarbonate With Auto Drain		20	12	200 (14)	2	
Filter/Regu	ulator/L	_ubricator (inc	ludes gauge)				(2)	
C28121-800	1/4	Polycarbonate	1.1 (33)	20	13	200 (14)	11	T
MODULE/ Filter	/Air 2	2000 (all bow	ls include sight	gauges)			P291XX-XXX	C2812
F25221-110 F25241-110	., .	Metal Metal	6.0 (177) 6.0 (177)	40 40	54 122	175 (12.0) 175 (12.0)		
Regulato	<b>)r</b> (includ	des gauge) press	ure range of reg	ulator: 5-125 p	si		1	1 2 3
R27221-600 R27241-600		- -	_	_	100 150	200 (14) 200 (14)		
Lubricate	or							m
L26221-110 L26241-110		Metal Metal	6.0 (177) 6.0 (177)	-	45 80	175 (12.0) 175 (12.0)		Ш

### Piggy-back Filter/Regulator (includes gauge) regulator range: 5-125 psi

P29221-610 Metal 6.0 (177) 200 (14) P29241-610 1/2 Metal 6.0 (177) 40 140 200 (14)

#### Filter/Regulator/Lubricator (includes gauge and mounting bracket) regulator range: 5-125 psi

6.0 (177) C28221-810 40 Metal 175 (12.0) C28241-810 6.0 (177) 175 (12.0)

### A Whole New Way to Run an Air Line

### ARO Module/Air

- Each unit has threaded ports and can be used with standard pipe
- Totally Modular Design permits removal of unit from line without disturbing hard piping, also speeds up regular or unscheduled maintenance.
- Modular spacers have retained o-rings and fasteners to prevent loss during routine maintenance.
- Push-pull regulator knob allows easy, one-hand adjustment.
- Safety lock-out valve provides protection from unexpected start-
- Modular end pipe adaptors fit 1/4-, 3/8-, 1/2- and 3/4-inch pipe
- High-tech modern appearance enhances any service area. Black powder-coat finish provides long lasting protection against weather and hard use.



F25221-110

R27221-600



L26221-110





P29221-610

C28243-810

Limited selection shown – for more information on the entire line of quality ARO Filters, Regulators and Lubricators, please refer to ARO catalog 9340-R.

# Air Line Filters, Regulators, Lubricators

Model Number	Inlet NPT(F)	Bowl	Capacity Ounces milliliters	Filter Element in Microns	Flow SCFM	Max. Inlet Pressure PSI (bar)
HEAVY-	DUTY					
Filter						
25341-020	1/2	Polycarbonate w/guard	10 (295)	40	82	200 (14)
25351-020	3/4	Polycarbonate w/quard	10 (295)	40	87	200 (14)
25361-020	1	Polycarbonate w/guard	10 (295)	40	88	200 (14)
Regulator	(100067	gauge not include	d. See below)			
		gulator: 0 - 125	p.s.i.			
27344-000	1/2	_	-	-	256	250 (17)
27354-000 27364-000	3/4 1	_	_	_	287 293	250 (17) 250 (17)
27004 000					200	200 (17)
Lubricator						
26341-020	1/2	Polycarbonate w/ guard	10 (295)	40	65	200 (14)
26351-020	3/4	Polycarbonate w/ guard	10 (295)	40	75	200 (14)
26361-020	1	Polycarbonate w/ guard	10 (295)	40	75	200 (14)
Filter/Regu	ulator/Lu	oricator (include	es gauge)			
		gulator: 5 - 125				
28343	1/2	Polycarbonate w/ guard	10 (295)	40	65	200 (14)
28353	3/4	Polycarbonate w/ guard	10 (295)	40	75	200 (14)
28363	1	Polycarbonate w/ guard	10 (295)	40	75	200 (14)

Limited selection shown – for more information on the entire line of quality ARO filters, regulators and lubricators, please refer to Aro catalog 9340-R.



25341-020

Regulator shown with optional 100067 gauge.





Model Number		Lens Material	Range psi (bar)	Thread NPT	with Series
GAUG	ES				
29850 100067	Regulator Gauge Regulator Gauge	Polycarbonate Polycarbonate	0-160 (0-11) 0-160 (0-11)	1/8 1/4	Miniature Module-Air 2000 and Heavy Duty

**Pressure** 



# Mounting Hardware

Model Number **Description** 

**Used With Series** 

Used

### **BRACKET AND PANEL NUTS**

29077	Wall Mounting Bracket	Heavy Duty
29623	Wall Mounting Bracket	Module-Air 2000
104173	Panel Nut	Module-Air 2000
29668	Wall Mounting Bracket	Miniature
104094	Panel Nut	Miniature

# **B**ow Guns

Model	Description	Inlet NPT(F)	Max. Supply Pressure PSI (bar)	Max. Regulated Pressure PSI (bar)
SAFETY BL Restricted	Low Guns			
8338	Includes standard tip. Features hand lever actuation for optimum air flow control. Body constructed of tough Valox	1/4 ®.	250 (17)	29 (2)
8338-1	Includes air shield tip that forms a protective cone of air to contain chip deflection. Hand lever acti for optimum air flow control		250 (17)	29 (2)
8440	Low-cost gun has (non- removable), relieving tip th prevents pressure build-up Body constructed of bright yellow polyester.	١.	180 (12.4)	29 (2)
7444-K	A (non-removable) pressur relieving tip limits back- pressure build-up. Body constructed of cast alumin		180 (12.4)	29 (2)

Limited selection shown – for more information on the entire line of quality ARO Blow Guns and Coil Hose, please refer to ARO catalog 9340-R.







# Coiled Air Hose

Model	Ler	ose ngth t (M)	Thread Size NPT	Hose ID	Max. Working Pressure PSI (bar)
COILED AIR	Ho	SE			
628004-12	12	(3.9)	1/4 (M) x 1/4 (M)	1/4	200 (14)
628004-25	25	(8.2)	1/4 (M) x 1/4 (M)	1/4	200 (14)
628004-50	50	(16.4)	1/4 (M) x 1/4 (M)	1/4	200 (14)
628020-12	12	(3.9)	3/8 (M) x 3/8 (M)	3/8	200 (14)
628020-25	25	(8.2)	3/8 (M) x 3/8 (M)	3/8	200 (14)
628020-50	50	(16.4)	3/8 (M) x 3/8 (M)	3/8	200 (14)
628023-12	12	$(3.9)^{'}$	1/2 (M) x 1/2 (M)	1/2	200 (14)
628023-25	25	(8.2)	1/2 (M) x 1/2 (M)	1/2	200 (14)
628023-50	50	(16.4)	1/2 (M) x 1/2 (M)	1/2	200 (14)

 $\mbox{Valox}^{\mbox{\tiny{\it \tiny B}}}$  is a registered trademark of General Electric Company.







Thread Material
Model Size of
Number NPT Construction

Straight Couplings - 150 PSI (10 bar) max.

6,750 PSI (446 bar) max.

77617 3/8 (M) x 1/2 (M) Zinc-Plated Steel

3,000 PSI (207 bar) max.

71449 1/8 (M) x 7/16-20 (M) Steel

5,000 PSI (345 bar) max.

**76751** 1/4 (M) x 11/16-16 (M) Steel

8,000 PSI (552 bar) max.

 2722
 1/8 (M) x 11/16-16 (M)
 Steel

 72177
 1/4 (M) x 3/8-18 (M)
 Steel

 73581
 1/4 (M) x 3/8 (M)
 Steel

 76493
 1/8 (M) x 3/8 (M)
 Steel

 90717
 3/4 (M) x 1-5/8-18 (M)
 Steel

Reducing Bushings - 150 PSI (10 bar) max.

**Y45-5-C** 1/4 (F) x 1/2 (M) Iron **Y45-9-C** 1/2 (F) x 3/4 (M) Iron

3,000 PSI (207 bar) max.

 Y45-102-C
 1/8 (F) x 3/8 (M)
 Steel

 Y45-105-C
 1/4 (F) x 1/2 (M)
 Steel

 Y45-106-C
 3/8 (F) x 1/2 (M)
 Steel

 Y45-109-C
 1/2 (F) x 3/4 (M)
 Steel

10,000 PSI (690 bar) max.

6788 1/4 (F) x 1/2 (M) Steel

Street Elbows - 150 PSI (10 bar) max.

Y43-1-C 1/8 (M) x 1/8 (F) Iron Y43-2-C 1/4 (M) x 1/4 (F) Iron 3/8 (M) x 3/8 (F) 1/2 (M) x 1/2 (F) Y43-3-C Iron Y43-4-C Iron Y43-5-C 3/4 (M) x 3/4 (F) Iron Y43-6-C 1 (M) x 1 (F) Plated Iron

77617





Thread Material Maximum
Model Size of Pressure
Number NPT Construction PSI (bar)

Straight Couplings - 150 PSI (10 bar) max.

**Y43-44** 1/2 (F) x 1/2 (F) Iron **Y43-48-C** 1-1/2 (F) x 1-1/2 (F) Iron

Reducing Couplings - 8,000 PSI (552 bar) max.

**4280** 1/8 (F) x 3/8 (F) Steel

Short Nipples - 150 PSI (10 bar) max.

Y27-2-C 1/4 (M) x 1/4 (M) Plated Iron Y27-52-C 1/4 (M) x 1/4 (M) Plated Iron Y27-54-C Plated Iron 1/2 (M) x 1/2 (M) Y27-55-C 3/4 (M) x 3/4 (M) Plated Iron Y27-56-C 1 (M) x 1 (M) Plated Iron Y27-58-C 1-1/2 (M) x 1-1/2 (M) Plated Iron

8,000 PSI (552 bar) max.

 676
 1/8 (M) x 1/8 (M)
 Steel

 1950
 1/4 (M) x 1/4 (M)
 Steel

 70749
 1/2 (M) x 1/2 (M)
 Steel

**Long Nipples -** 150 PSI (10 bar) max.

Length - 2" (51 mm)

**Y44-11-C** 1/4 Plated Iron

Length - 2-1/2" (63.5 mm)

**Y44-12-C** 1/4 Plated Iron

**Elbows -** 150 PSI (10 bar) max.

**Y43-12-C** 1/4 (F) x 1/4 (F) Iron **Y43-15-C** 3/4 (F) x 3/4 (F) Iron

3,000 PSI (207 bar) max.

**Y43-214-N** 1/2 (F) x 1/2 (F) Steel **Y43-215** 3/4 (F) x 3/4 (F) Steel

Swivel Unions

75364 1/4 (M) x 1/4 (F) Steel 10,000 (690) 75365 3/8 (M) x 3/8 (F) Steel 9,000 (621) 75366 1/2 (M) x 1/2 (F) Steel 6,750 (466) 75367 3/4 (M) x 3/4 (F) Steel 4,375 (302) 75368 1 (M) x 1 (F) Steel 3,550 (245) 1/4 (F) x 1/4 (F) 10,000 (690) 75369 Steel 3/8 (F) x 3/8 (F) 9,000 (621) 75370 Steel



4280



Y43-214-N

Y43-44





676



	Thread	Material	Maximum
Model	Size	of	Pressure
Number	NPT	Construction	PSI (bar)

### Plain Tee - (Female)

**Y43-32-C** 1/4 x 1/4 x 1/4 Iron 150 (10) **Y43-233-C** 3/8 x 3/8 x 3/8 Steel 3,000 (207)

## Pipe plugs - (Male)

 Y17-12-S
 3/8 Sq. Head
 Steel
 10,000 (690)

 Y17-50
 1/8 Countersunk (Hex)
 Steel
 10,000 (690)

 Y17-51
 1/4 Countersunk (Hex)
 Steel
 10,000 (690)



## **Female Adaptor**

**3249** 1/8 (F) x 1/8 NPT(F) Steel 8,000 (552) **4280** 3/8 (F) x 1/8 NPT(F) Steel 8,000 (552)



## **Adaptor Unions**

Y167-3	1/2 (F) x 3/8 NPT(M)	Steel	6,000 (414)
Y167-4	3/4 (F) x 1/2 NPT(M)	Steel	5,000 (345)
Y167-5	1/2 (F) x 1/4 NPT(M)	Steel	6,000 (414)
4295	1/8 PTF SAE SHORT (F)	Steel	8,000 (552)
	x 7/16-27 (M)		
4566	1/2 (F) x 3/4-16 (M)	Steel	8,000 (552)
4616	1/2 (F) x 1-3/8-18 (M)	Steel	8,000 (552)
6847	3/8 (F) x .523-27 (M)	Steel	8,000 (552)
71838	3/8 (F) x 1/4 NPT(M)	Steel	8,000 (552)



# **D**uid Couplers

#### Model Number

#### er Description

92021 Quick Connect Fluid Coupler (Female Half) - 3/4-inch NPT(F) couples

with 92022 Fluid Connector.

92022 Quick Connect Fluid Connector (Male Half) - 3/4-inch NPT(F) couples

with 92021 Fluid Coupler.





◆ WARNING: TO INSURE SAFE OPERATION, BE SURE THE MAXIMUM WORKING PRESSURE OF YOUR FLUID HANDLING SYSTEM DOES NOT EXCEED THE MAXIMUM WORKING PRESSURE OF THE FITTINGS.



# igh-Pressure Wash & Tire-Fill Pump Packages

Packings Type/Material Cycles Per Max. Cubic Gallons **Inches** Fluid (Liters) **Outlet Inlet** (Liters) Gallon Fluid Ratio Pèr Minúte (Liters) Pèr Cycle Upper Lower

#### Basic Pumps

stub 4-1/4" diameter air motor / 4" stroke

**613100-1** 10:1 3.9 (14.8) 21 (5.5) 11.0 (.18) Buna "N" Buna "N" Barbed 3/8 (F) 1/2 (F)

### The High-Power Cleaning Solution –



Cars & Trucks Farm Equipment **Engines** Plant Structures Construction Equipment Railroad Equipment Aircraft Fleet Vehicles

Degreasers Water

Detergents Metal Brighteners Cleaning Solutions **Aluminum Brighteners** 



**Description** Number

### SPRAY WASH PUMP PACKAGES

613104

4-1/4" HIGH PRESSURE WALL-MOUNTED SPRAY PACKAGE -Includes 613100-1 Pump, 61113 Wall Bracket, 61139-1 55-Gal. Suction Tube Assembly, 622427-40 Material Hose (40 feet), 641523 Control handle, 61133 Spray Wand, TP6250-18 Spray Tip and L26241-010 Airline Lubricator.



# 🚰 lcium Chloride Tire-Fill Pump Package

### TIRE-FILL PUMP PACKAGE

613201-2-C

CALCIUM CHLORIDE TIRE-FILL PACKAGE - Designed for the purpose of evacuating and filling tires with calcium chloride ballast solution. Package includes a 666100-441-C, 1" Ports Diaphragm Pump. (Aluminum construction with neoprene diaphragms and Teflon® checks for compatibility with corrosive calcium chloride) and 60154 Hose / Strainer / Gun Assembly - Also includes Check Valve and all required clamps and related hardware. See page 7 for 1" Diaphragm Pump performance data.



## - WARNING! -

Improper use of the high-pressure devices depicted in this catalog could result in serious injury. Because of the high working pressures developed by fluid dispensing systems of this kind, the possibility of injection into the flesh is a potential hazard.

Never allow any part of the human body to come in front of or in direct contact with a material outlet. Never point the nozzle of a dispensing valve at yourself or anyone else.

Most injections occur because of component rupture. Be certain that any and all system components will withstand the pressures being developed. Never exceed the pressure rating of any component in the system.

Weak, worn or damaged hoses are also a hazard. Before each use, check hoses for signs of wear, leaks or loose fittings. Tighten all fluid connections regularly and replace weak or damaged hose. Your personal safety and well being are at stake.

If accidental injection should occur, seek Immediate Emergency Medical Attention. DO NOT try to treat the injury yourself. Be prepared to tell the doctor what fluid was accidentally injected.



# Air Systems Components Lubrication Equipment

# **AIR SYSTEMS COMPONENTS WARRANTY**

Ingersoll-Rand Fluid Products ("IRFP") warrants to the original use purchaser of the ARO® Air Systems Components depicted in this catalog that IRFP will repair or replace, free of charges, including return shipping costs within the Continental United States of America, any such product which under normal use and service proves defective in material or workmanship, as determined by IRFP inspection, five years from date of purchase, provided the claimed defective product, or part thereof, is promptly returned to the IRFP Service Repair Center or a factory-authorized service repair center, with transportation charges prepaid.

If IRFP inspection discloses no defect in material or workmanship, repair or replacement and return will be made at customary charges.

The foregoing warranty supersedes, voids and is in lieu of all or any other warranties, expressed or implied, and no warranty of merchantability or fitness for particular purpose is intended or made. IRFP's sole obligation and the original use purchaser's sole remedy is as stated above and in no event shall IRFP be liable for any special, direct, indirect, incidental, consequential or other damages or expenses of any nature including, without limitation, loss of profits or production time incurred by the original use purchaser or any other party.

## LUBRICATION EQUIPMENT WARRANTY

Ingersoll-Rand Fluid Products ("IRFP") warrants to the original use purchaser of the ARO products depicted in this catalog that IRFP will repair or replace, free of charges, including return shipping costs within the Continental United States of America, any such product which under normal use and service proves defective in material and workmanship, as determined by IRFP inspection, within (A) l-year from date of purchase of said products, other than the following, (B) 5 years from date of purchase of a Thunder Series Pump, (C) 5 years from date of purchase of a Diaphragm Pump, and (D) 5 years from date of purchase of ARO manufactured swivels, non-metered control handles, 4-1/4", 6", 8" pumps, drains, follower plates, tie downs, siphon tubes, drum covers, provided the claimed defective product, or part thereof, is promptly returned to the IRFP factory or IRFP Customer Service Center with transportation charges prepaid.

This warranty does not cover failure of parts or components due to normal wear or damage or wear which in the judgement of ARO arises from misuse, abrasion, corrosion, negligence, accident, substitution of non-ARO parts, faulty installation or tampering.

If IRFP inspection discloses no defect in material or workmanship, repair or replacement and return will be made at customary charges.

Equipment not covered by IRFP warranty: accessories or components of equipment sold by IRFP that are not manufactured by IRFP (such as switches, hoses, meters, etc.) are subject to the warranty, if any, of their manufacturer. IRFP will provide the purchaser with reasonable assistance in making such claims.

The foregoing warranty supersedes, voids and is in lieu of all or any other warranties, expressed or implied, and no warranty of merchantability or fitness for particular purpose is intended or made. IRFP's sole obligation and the original use purchaser's sole remedy is as stated above and in no event shall IRFP be liable for any special, direct, indirect, incidental, consequential or other damages or expenses of any nature including, without limitation, loss of profits or production time incurred by the original use purchaser or any other party.

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Fluid Handling: (Customer Service) (419) 633-1794 • FAX (419) 633-1772

Fluid Power: (Customer Service) (419) 633-1796 • FAX (419) 633-1774

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9300-L 1200