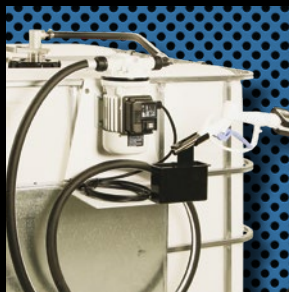
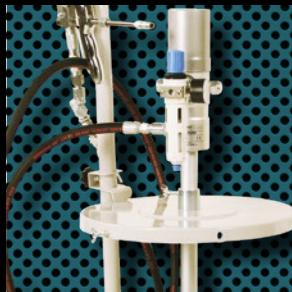


LIQUIDYNAMICS™

FLUID HANDLING TECHNOLOGY CATALOG





LIQUIDYNAMICS™

FLUID HANDLING  
TECHNOLOGY

### **Our Company**

Since our founding in 1996, Liquidynamics remains a privately-owned company committed to providing world-class innovative products, service and value. The core of our lubrication/fluid handling equipment products are used for transfer, dispensing and collection of new and used fluids.

Our vast product line is the broadest in the industry today and is distributed through our national network of distribution partners. Our lubrication/fluid handling products include electric and air operated pumps, meters, hose reels, bulk transfer and filtration systems as well as our industry changing OilCop™ Fluid Management products. We serve a variety of markets today including new and used vehicle dealerships, heavy-duty repair, mining, agriculture, municipalities and fluid distribution and delivery.

Our new and modern 30,000 sq. ft. assembly and distribution facility in Wichita, KS makes for easy and convenient distribution to much of the U.S. We remain committed to delivering unique and innovative products while providing excellence in service and value.

From all of us at Liquidynamics, thank you in advance for your business!



## SECTION INDEX



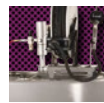
NEW OIL \_\_\_\_\_ **4**



METERS \_\_\_\_\_ **18**



MOBILE OIL SYSTEMS \_\_\_\_\_ **29**



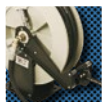
TANK SYSTEMS \_\_\_\_\_ **38**



ACCESSORIES \_\_\_\_\_ **48**



FLUID MANAGEMENT \_\_\_\_\_ **57**



HOSE REELS \_\_\_\_\_ **71**



GREASE \_\_\_\_\_ **82**



BULK TRANSFER \_\_\_\_\_ **94**



USED OIL \_\_\_\_\_ **108**



DEF PRODUCTS \_\_\_\_\_ **117**

## ALPHABETICAL INDEX

Accessories for DEF . . . . . 127  
 Accessories For Poly Tanks . . . . . 45  
 Air Filters, Regulators and Lubricators 55  
 Air Operated Grease Pump Acc. . . . . 84  
 Air Operated Grease Pumps . . . . . 83  
 Air Operated Pump Systems For DEF 120  
 Bottom Draw Selection Guide . . . . . 129  
 Bulk Transfer Cart, 4 Wheel . . . . . 97  
 Bulk Transfer Pump Accessories . . 98, 99  
 Bulk Transfer Pumps . . . . . 95-97  
 Bulk Transfer Skids . . . . . 100  
 Closed 55 Gallon Drum Cart System . 119  
 Closed IBC Transfer Systems . . . . . 118  
 Closed Valves and Couplers . . . . . 126  
 Complete Gravity Flow Tank Kits . . . . 44  
 Complete Tank Systems . . . . . 38  
 Complete Top Draw Systems . . . . . 119  
 Control Handles and Meters . . . . . 125  
 Customized Tank Systems . . . . . 38  
 Customized Tank System  
     Selection Guide . . . . . 39  
 DEF Bulk Transfer Skids and  
     Selection Guide . . . . . 131  
 DEF Drum Topper Systems . . . . . 121  
 DEF Fluid Management . . . . . 62  
 DEF Hand Pumps and Systems . . 122, 123  
 DEF Hand Pumps Systems . . . . . 119  
 DEF Hose Reels . . . . . 124  
 DEF, Mini Bulk D.D. Transfer Cart . . . 130  
 DEF Mini Bulk Transfer Carts . . . 129, 130  
 DEF Pumps . . . . . 128  
 DEF Systems Selection Guide . . . . . 121  
 DEF Tank Monitoring . . . . . 62  
 Double Diaphragm Pump . . . . . 12, 13  
 Double Diaphragm Pump Kits . . . . . 14  
 Drum Carts and Dollies . . . . . 36  
 Drum Handling Equipment and Covers 37  
 Electric Medium Pressure Oil  
     Transfer Pumps . . . . . 15  
 Electric Oil Pumps . . . . . 16  
 Electric Oil Pumps With Spigot – 115 Vac 17  
 Electronic In-Line Meters & Pulsers 24, 25

Electronic Meter Non-Preset . . . . 22-24  
 Electronic Meters Preset . . . . . 20, 21  
 Filter Adapters . . . . . 107  
 Fluid and Air Hoses . . . . . 79  
 Fluid Control Valves . . . . . 26, 27  
 General Reference Data . . . . . 136-139  
 Grease Control Valves and Acc. . . . . 85  
 Grease Hose & Fuel Hose . . . . . 80  
 Grease Meter Control Valve . . . . . 90  
 Grease System Selection Guide . . . . 89  
 Hand, Battery and Air Op. Grease Guns. 93  
 Hand Operated Grease Guns . . . . . 92  
 Hand Operated Grease Pumps . . . . . 91  
 Hand Operated Mobile Gear Oil  
     Pump Kits . . . . . 33  
 Hand Operated Pumps . . . . . 48-50  
 High Efficiency  $\beta$  1000 Spin on  
     Filter Media . . . . . 106  
 Hose Reels – Extreme Duty – Grease 76  
 IBC Oil Tank System Selection Guide . . 43  
 Kidney Loop Filtration Systems . . . . 103  
 Low Pressure Nominal, Cellulose  
     Filters and Adapters . . . . . 106  
 Measures and Funnels . . . . . 56  
 Mechanical Meters . . . . . 18  
 Mechanical Meters, Non-Preset . . . . 19  
 Meter Accessories . . . . . 27  
 Mobile Cart System . . . . . 30, 31  
 Mobile Cart System Selection Guide . . 32  
 Mobile Fluid Management . . . . . 63  
 Mobile Grease Kits . . . . . 87, 88  
 Mobile Oil Dispensers . . . . . 34, 35  
 Mobile Oil Systems . . . . . 29  
 New Oil Pump Selection Guide . . . . . 5  
 Nominal Filters and Adapters . . . 106, 107  
 Oil Bar . . . . . 28  
 OilCop Fluid Control System  
     Configuration . . . . . 60, 61  
 OilCop Components . . . . . 58, 59  
 OilCop Jr. Configuration . . . . . 65  
 OilCop Junior Fluid Control System . . 64  
 OilCop Tank Monitoring . . . . . 66, 67

OilCop Tank Overfill Protection . . . . . 70  
 Oil Extractor Accessories . . . . . 116  
 Oil Extractors . . . . . 114, 115  
 Oil Pump Accessories . . . . . 53  
 Open Systems For DEF . . . . . 123  
 Pneumatic Oil Pump Accessories . . . 8, 9  
 Pneumatic Oil Pump Kits . . . . . 10  
 Pneumatic Oil Pumps . . . . . 6, 7  
 Poly-Tank Gravity Flow Systems . . . . 44  
 Poly-Tank System Selection Guide . . . 46  
 Pump/Oil Reel System Selection Guide 41  
 Purelube Absolute High  
     Pressure Filters . . . . . 104, 107  
 Purelube Air Breather and Filter . . . . 105  
 Purelube Filter Systems . . . . . 101-103  
 Reel Accessories . . . . . 81  
 Roth Double – Wall Lube Oil Tank  
     Selection Guide . . . . . 40  
 Spill Containment Pans 55 Gal. Drums . 113  
 Spring Rewind Hose Reels –  
     Extreme Duty – Oil . . . . . 74  
 Spring Rewind Hose Reels – Fuel . . . . 78  
 Spring Rewind Hose Reels – Grease . . 75  
 Spring Rewind Hose Reels – Oil . . . 72, 73  
 Spring Rewind Hose Reels –  
     Open Drum – Air/Water . . . . . 76, 77  
 Stainless Steel Air Operated Pumps . . 10  
 Stationary and Mobile Grease  
     Pump Kits . . . . . 86  
 Storage Tank Accessories . . . . . 54  
 Storage Tanks . . . . . 47  
 Tank Monitoring . . . . . 68, 69  
 Tank Systems , 1:1 Spigot Pump . . . . 38  
 Top Draw Selection Guide . . . . . 130  
 Tote Systems . . . . . 42  
 Two Way Oil Transfer . . . . . 113  
 Used Oil Drains & Systems . . . . . 109-111  
 Used Oil Tanks . . . . . 112  
 Valves, Faucets and Fittings . . . . . 51, 52  
 Wall Mount Pump Kits . . . . . 11  
 Wall Mount Pump System . . . . . 104



# NEW OIL

This first section of the catalog titled New Oil is comprised of the most popular products sold by Liquidynamics, Inc. These “everyday” products are what started this company and one of the reasons that we’ve had the success we have. We offer one of the broadest lines of equipment and accessories in the market today.

Keep in mind that we offer an industry first 5-year Limited Warranty on our pneumatic pumps, meters and hose reels. Products distributed by us but not of our manufacturer carry the industry standard warranty of 1-year.

Found within these pages you’ll find details on the following:

## **Pumps**

- Pneumatic (1:1, 3:1, 5:1, 8:1, 13:1)
- Double Diaphragm
- Electric
- Manual

## **Meters**

- Mechanical
- Electronic
- In-Line Meters
- Control Valves
- New Oil Bar

## **Mobile Systems**

- Cart Systems-Drums
- Cart Systems w/On-board Tanks
- Mobile Oil Dispensers
- Mobile Air-pressurized Dispensers
- Drum Carts
- Drum Handling

## **Tank Systems**

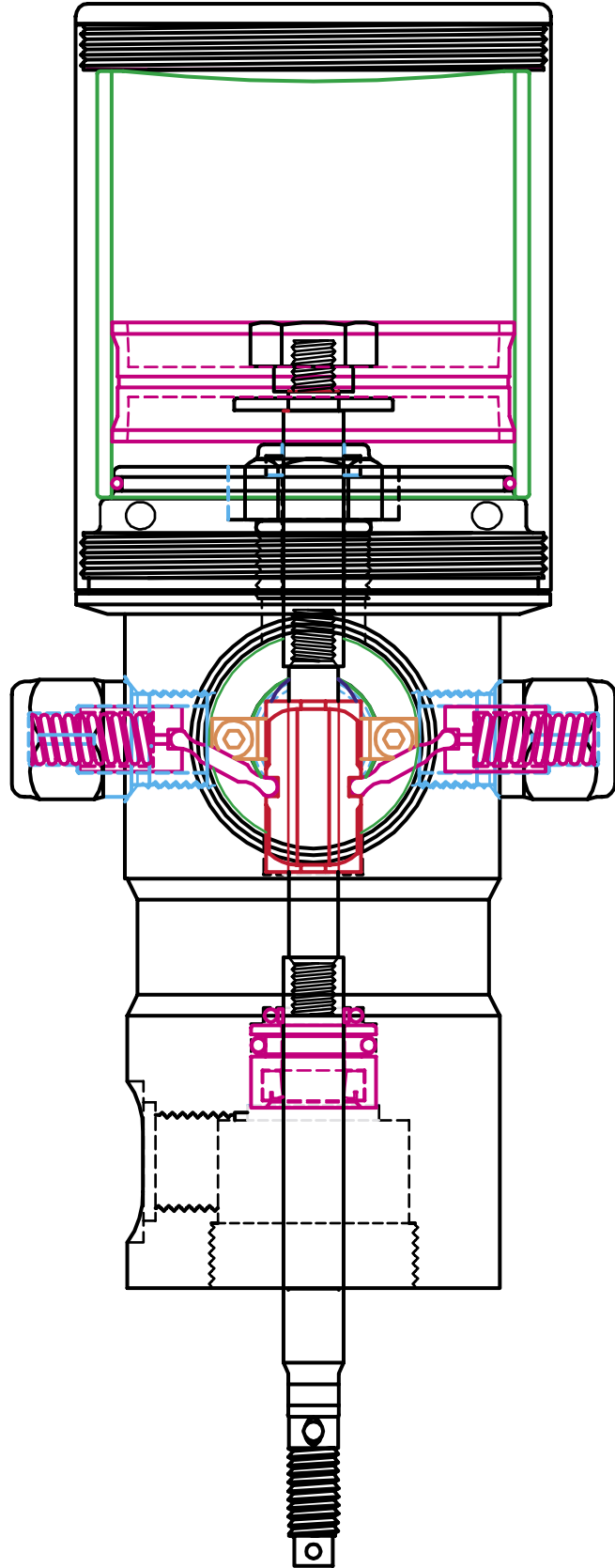
- Steel Tank Systems
- New Roth Tank Systems
- Tote Systems
- Poly-Tank Gravity Systems
- Storage Tanks

## **Accessories**

- Hand-Operated Pumps
- Valves, Faucets & Fittings
- Oil Pump Accessories
- Storage Tank Accessories
- Air Filters, Regulators and Lubricators
- Measures and Funnels

# NEW OIL PUMP SELECTION GUIDE

## Oil Pump Selection Guide



### Pressure Ratio 1:1

P/N **32091, 32095, 32071,** AND **D.D. Pumps**

The 1:1 piston pumps are an economical way to transfer new engine oil, hydraulic fluid, transmission fluid and 100% antifreeze for distances of approximately 100 ft. or less.

Double Diaphragm pumps are ideal for transfer of used oil, as well as fluids mentioned above. Maximum output pressure is 120 PSI.

### Pressure Ratio 3:1

P/N **20001T, 20073T** AND **20094T**

An excellent choice for pumping engine oil, gear oil, hydraulic fluid, transmission fluid and antifreeze over distances of up to 150 ft. These pumps will service several dispensing points simultaneously. Maximum output pressure is 360 PSI.

### Pressure Ratio 5:1

P/N **21100T, 21073T** AND **21094T**

These pumps will do everything the 1:1 and 3:1 pumps do, but can be used to transfer fluid up to 200 ft. and will still service several dispensing points simultaneously. Maximum fluid pressure output is 600 PSI.

### High Volume 5:1 Ratio Pumps

P/N **21200** AND **21300**

These pumps also have a maximum fluid pressure output of 600 PSI but have flow rates more than twice the output of normal 5:1 pumps. These pumps are an excellent choice for high flow applications in truck shops or industry where multiple dispense points are required.

### High Ratio Oil Pumps

P/N **21400** AND **21500**

Higher ratio oil pumps provide additional capability when dealing with long distance oil dispensing, higher viscosities, unusual line restrictions or a combination of these factors. The 21400 pump is a 8:1 ratio pump with flow rates up to 5.5 GPM while the 21500 is a 13:1 ratio pump with a flow rate of 4 GPM. These are both universal stub pumps that can be easily adapted to fit most any tank or drum application.

# PNEUMATIC OIL PUMPS

PUMPS

PNEUMATIC PUMPS



Part Number (w/o Bung Adapter)	32091	32095	32071	20001T	20073T	20094T
Part Number (w/ Bung Adapter)	32091-S1	32095-S1	32071-S1	20001T-S2	20073T-S2	20094T-S2
Ratio	1:1	1:1	1:1	3:1	3:1	3:1
Flow Rate @ 90 PSI (GPM)	5	5	15	5	5	5
Maximum Air Pressure (PSI)	120	120	120	120	120	120
Air Inlet Size	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
Fluid Inlet Size	1" NPTF	1" NPTF	1" NPTF	1" NPTF	1" NPTF	1" NPTF
Fluid Outlet Size	1/2" NPTF	1/2" NPTF	3/4" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF
Noise	79 db	79 db	79 db	79 db	79 db	79 db
Air Consumption (cfm)	12	12	12	12	12	12
Suction Tube Diameter	1.65"	1.65"	1.65"	1.65"	1.65"	1.65"
Suction Tube Length	11"	37"	11"	11"	29"	37"
Fits Drum Sizes (Gal.)	Universal	55	Universal	Universal	16/30	55
Shipping Weight, lbs.	11	14	13	10	13	15

**NOTE:** For longer pump life and efficiency, we recommend the use of dried air or an air filter. As with any pneumatic equipment, you can expect longer trouble free operation with the use of clean, dry air. The use of an air drier, separator, or minimally an air filter, is advantageous. See page 55 for our selection of air regulators, separators (filter) and dryers.

# PNEUMATIC OIL PUMPS

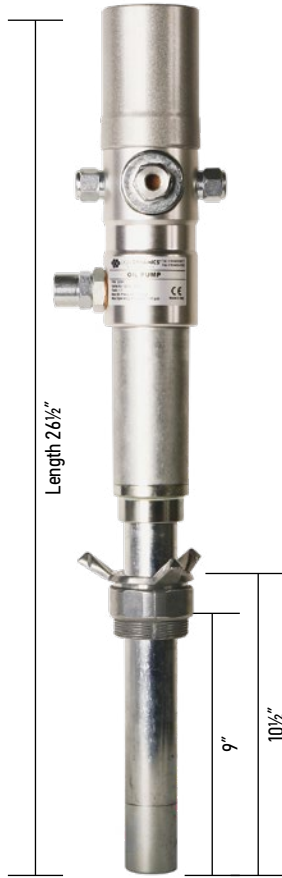


Part Number (w/o Bung Adapter)	21100T	21073T	21094T	21200	21300	21400	21500
Part Number (w/ Bung Adapter)	21100T-S2	21073T-S2	21094T-S2	21200-S1	21300-S1	21400-S2	21500-S2
Ratio	5:1	5:1	5:1	5:1	5:1	8:1	13:1
Flow Rate @ 90 PSI (GPM)	5	5	5	8	11	5.5	4.0
Maximum Air Pressure (PSI)	120	120	120	120	120	120	120
Air Inlet Size	1/4" NPT	1/4" NPT	1/4" NPT	3/8" NPT	3/8" NPT	3/8" NPT	3/8" NPT
Fluid Inlet Size	1" NPTF	1" NPTF	1" NPTF	1½" NPTF	1½" NPTF	1" NPTF	1" NPTF
Fluid Outlet Size	1/2" NPTF	1/2" NPTF	1/2" NPTF	3/4" NPTF	3/4" NPTF	3/4" NPTF	3/4" NPTF
Noise	79 db	79 db	79 db	79 db	79 db	79 db	79 db
Air Consumption (cfm)	12	12	12	18	21	21	22
Suction Tube Diameter	1.65"	1.65"	1.65"	2"	2"	2"	2"
Suction Tube Length	11"	29"	37"	15"	17"	11"	11"
Fits Drum Sizes (Gal.)	Universal	16/30	55	Universal	Universal	Universal	Universal
Shipping Weight, lbs.	12	14	16	19	21	22	24

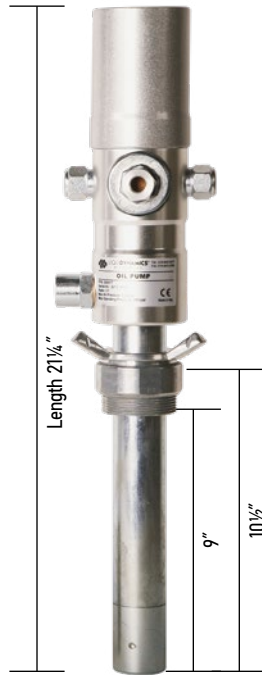
**NOTE:** For longer pump life and efficiency, we recommend the use of dried air or an air filter. As with any pneumatic equipment, you can expect longer trouble free operation with the use of clean, dry air. The use of an air drier, separator, or minimally an air filter, is advantageous. See page 55 for our selection of air regulators, separators (filter) and dryers.

# PNEUMATIC OIL PUMP ACCESSORIES

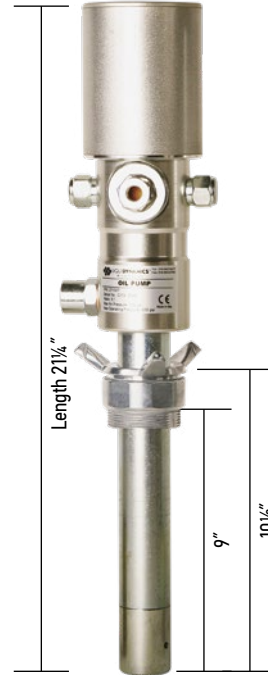
P/N **32091-S1**  
1:1



P/N **20001T-S2**  
3:1



P/N **21100T-S2**  
5:1



## Schedule 80 PVC Extension Pipes with NPTM threads on both ends

**NOTE:** When ordering, please specify desired length in inches, e.g. 901019A-16 designates a 3/4" PVC pipe, 16" long with NPTM threads on both ends.

P/N **901019A-XX**

3/4" schedule 80 PVC extension pipe with 3/4" NPTM both ends

P/N **901020A-XX**

1" schedule 80 PVC extension pipe with 1" NPTM both ends

P/N **901021A-XX**

1 1/2" schedule 80 PVC extension pipe with 1 1/2" NPTM both ends

## Schedule 80 PVC Extension Pipes with NPTM threads on one end and 45° on the other end

**NOTE:** When ordering, please specify desired length in inches, e.g. 901020A-22A designates a 1" PVC pipe, 22" long with NPTM threads on one end and 45° on the other end.

P/N **901019A-XXA**

3/4" schedule 80 PVC extension pipe with 3/4" NPTM one end and 45° at the other end.

P/N **901020A-XXA**

1" schedule 80 PVC extension pipe with 1" NPTM one end and 45° at the other end.

P/N **901021A-XXA**

1 1/2" schedule 80 PVC extension pipe with 1 1/2" NPTM one end and 45° at the other end.





# PNEUMATIC OIL PUMP ACCESSORIES

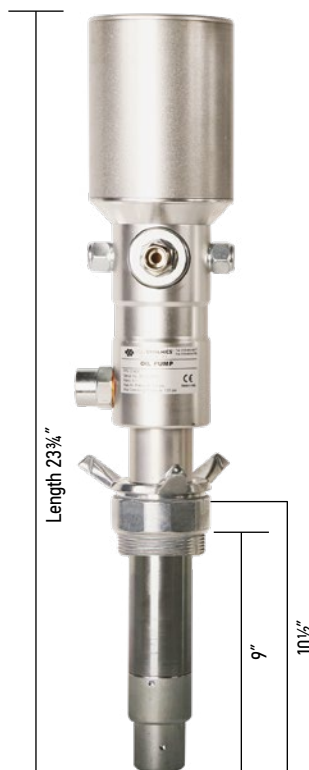
P/N **21200-S1**  
5:1, 8 GPM



P/N **21300-S1**  
5:1, 12 GPM



P/N **21400-S2**  
8:1, 5.5 GPM



P/N **21500-S2**  
13:1, 4 GPM



## Suction tube kits with 1/2" hose:

P/N **950063P-40**

Suction tube kit designed for use with a 55 gal. drum. Kit includes 36" long suction tube with foot valve/inlet screen, heavy duty bung adapter, 90° elbow and 1/2" x 6' NPTM rigid x NPTM swivel oil hose.

P/N **950063P-46**

Same as P/N 950065P-40 above, except suction tube is 44" long for use with 275 gal. oval tanks and 275 gal. IBC tote tanks.

P/N **950063P-52**

Same as P/N 950065P-40 above, except suction tube is 50" long for use with 330 gal. IBC tote tanks.

## Suction tube kits with 3/4" hose:

P/N **950064P-40**

Suction tube kit designed for use with a 55 gal. drum. Kit includes 36" long suction tube with foot valve/inlet screen, heavy duty bung adapter, 90° elbow and 3/4" x 6' NPTM rigid x NPTM swivel oil hose.

P/N **950064P-46**

Same as P/N 950065P-40 above, except suction tube is 44" long for use with 275 gal. oval tanks and 275 gal. IBC tote tanks.

P/N **950064P-52**

Same as P/N 950065P-40 above, except suction tube is 50" long for use with 330 gal. IBC tote tanks.

## Suction tube kits with 1" x 6' hose:

P/N **950065P-40**

Suction tube kit designed for use with a 55 gal. drum. Kit includes 36" long suction tube with foot valve/inlet screen, heavy duty bung adapter, 90° elbow and 1" x 6' NPTM rigid x NPTM swivel oil hose.

P/N **950065P-46**

Same as P/N 950065P-40 above, except suction tube is 44" long for use with 275 gal. oval tanks and 275 gal. IBC tote tanks.

P/N **950065-52**

Same as P/N 950065P-40 above, except suction tube is 50" long for use with 330 gal. IBC tote tanks.



## PNEUMATIC OIL PUMP KITS

### P/N 32097-S1

- 32091, 1:1 Stub Pump
- 22157, Heavy Duty Bung Adapter
- 23104, Spigot



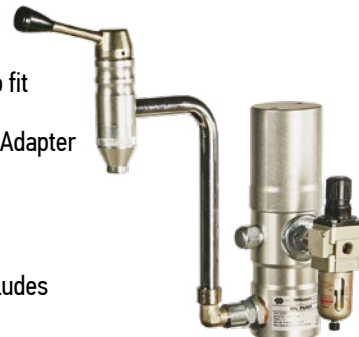
### P/N 32099-S1

- 32095, 1:1 Drum Pump
- 22157, Heavy Duty Bung Adapter
- 23104, Spigot



### P/N 23106

Support/Drip Tray for use with 1:1 Pumps Models 32091 & 32095. Has 3/8 NPTF fitting for drain hose attachment.



### P/N 32099-S2

- 32095, 1:1 Drum Pump to fit 55 gallon drums
- 22157, Heavy Duty Bung Adapter
- 23104, Spigot
- 23106, Support Shelf

### P/N 32099-S6

Same as above except includes air filter/regulator.



P/N 32099-S6 shown

(Drum not included)

### P/N 23104

Self-closing Spigot with connecting elbow for use with 1:1 Pumps, 1/2" NPTM.



## STAINLESS STEEL AIR OPERATED PUMPS

Designed for use with windshield washer fluid and pre-mix antifreeze. These pumps are available in two different lengths and pumping ratios to fit most any application as noted below. Bung adapter included.

### P/N 32091SS

1:1 pumps are recommended for pumping distances of approximately 100 ft or less. This universal pump may be wall mounted or adapted to fit most any tank depth by the simple addition of an appropriate length suction pipe and foot valve, 3/4" NPTM inlet.



### P/N 32095SS

This 1:1 pump is designed specifically to fit 55 gallon drums and requires no further modification. It is recommended for pumping distances of 100 ft. or less.

### P/N 20001TSS

3:1 pumps are recommended for pumping distances greater than 150 ft. This universal pump may be wall mounted or adapted to fit most any tank depth by the simple addition of an appropriate length suction pipe and foot valve, 3/4" NPTM inlet.



### P/N 20094TSS

This 3:1 pump is designed specifically to fit 55 gallon drums and requires no further modification. It is recommended for pumping distances of 150 ft. or greater.

## WALL MOUNT PUMP KITS

### P/N 20001-S7

Wall mounted pump kit to fit 55 gallon drums (37" suction tube)

Includes:

- P/N 20001T, 3:1 Stub Pump
- P/N 22242, Wall Bracket
- P/N 950065P-40, Suction Kit
- P/N 540104C, 1/4" Air Filter/Regulator

### P/N 21100-S7

Same as 20001-S7 above except uses 21100T, 5:1 stub pump

### P/N 32091-S7

Same as 20001-S7 above except uses 32091, 1:1 stub pump



### P/N 20094-S9

Wall mounted pump kit with direct mount for 55 gallon drum

Includes:

- P/N 20094T, 3:1 Drum Pump
- P/N 22157, Heavy Duty Bung Adapter
- P/N 100200-RA, Electronic Digital Oil Meter
- P/N 42015, Drip Tray
- P/N 81200-06, 1/2" x 6' Connecting Hose
- P/N 43003-30L, 1/2" x 30' Hose Reel
- P/N 540104C, 1/4" Air Filter/Regulator

### P/N 21094-S9

Same as 20094-S9 above, except uses 21094T, 5:1 drum pump



### P/N 20001-S8

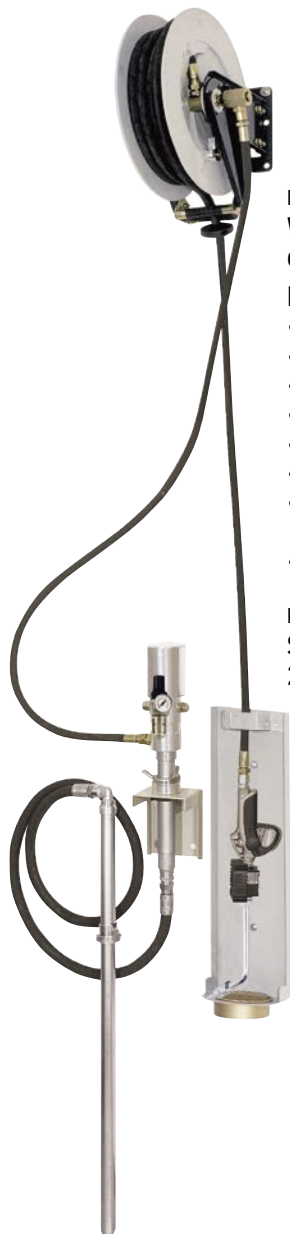
Wall mounted pump kit to fit 55 gallon drums (37" suction tube)

Includes:

- P/N 20001T, 3:1 Stub Pump
- P/N 22242, Wall Bracket
- P/N 950065P-40, Suction Kit
- P/N 43003-30L, 1/2" x 30' Hose Reel
- P/N 81200-06, 1/2" x 6' Connecting Hose
- P/N 42015, Drip Tray
- P/N 100200-RA, Electronic Digital Oil Meter
- P/N 540104C, 1/4" Air Filter/Regulator

### P/N 21100-S8

Same as 20001-S8 above, except uses 21100T, 5:1 stub pump



### P/N 20094T-S4

3:1 pump kit to fit 275 gallon oval tank, has 44" long suction tube w/ foot valve

### P/N 21094T-S4

5:1 pump kit to fit 275 gallon oval tank, has 44" long suction tube w/foot valve



### P/N 22242

Wall Mount Bracket for use with 1:1 (32071 and 32091), 3:1 (20001T) and 5:1 (21100T) Stub Pumps.

### P/N 22243

Wall Mount Bracket for use with high flow 5:1 pumps 21200 and 21300.



## DOUBLE DIAPHRAGM PUMP

### P/N 20011-Y

1/4" Double Diaphragm Pump with polypropylene body, PTFE diaphragm and seals. Pump is rated at 3.4 GPM maximum flow rate at 100 PSI air supply pressure. Maximum dry suction lift of 5 ft. and maximum discharge distance of 180 ft. (with reduced flow). Suitable for use with windshield washer fluids, antifreeze and other fluids compatible with the materials of construction. Maximum fluid temperature 180° F. Note: Pump will bypass small amount of air when in the stalled condition.



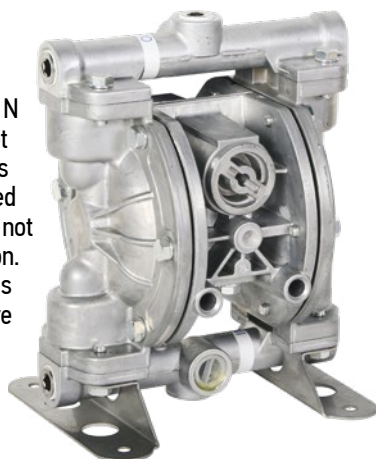
### P/N 20025-V

3/8" Double Diaphragm Pump is very compact but has a flow rate exceeding 6 GPM at 100 PSI air pressure input. Has polypropylene body and valve seats with Santoprene diaphragm. Can pass a maximum particle size of 0.10". Fluid inlet and outlet are 3/8" NPTF and has 1/4" NPTF air inlet. Maximum air pressure is 100 PS



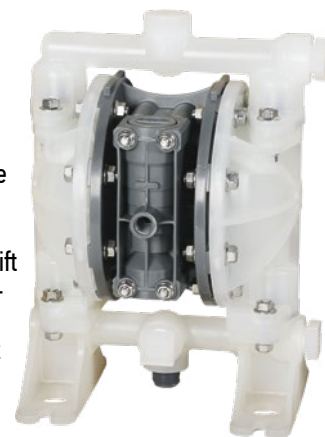
### P/N 20014-AN

1/2" Double Diaphragm Pump with die cast aluminum body and Buna N diaphragm and seals. Inlet and discharge connections are 1/2" NPT. Pump is rated at 15 GPM @ 100 PSI, will not bypass air in stall condition. Maximum dry suction lift is 18 feet, air supply pressure range 20 – 100 PSI, max. fluid temperature 1800 F, max. size solid 1/32" (1 mm), 1/4" air inlet connection.



### P/N 20014-PN

1/2" Double Diaphragm Pump with polypropylene body and Buna N diaphragm and seals. Inlet and discharge connections are 1/2" NPT. Pump is rated at 15 GPM @ 100 PSI, will not bypass air in stall condition. Maximum dry suction lift is 18 feet, air supply pressure range 20 – 100 PSI, max. fluid temperature 1800 F, max. size solid 1/32" (1 mm), 1/4" air inlet connection.



### P/N 20014-PS

Same as 20014-PN except pump has Santoprene diaphragm and EPDM seals for use with DEF, antifreeze and non-potable water.



### P/N 20014-PN-I

Same as P/N 20014-PN above except pump uses a dual inlet manifold to allow mixing of fluids at a 50:50 ratio, typically used to mix antifreeze and water.

### P/N 20015-Y

3/4" Double Diaphragm Pump with aluminum body, Buna N diaphragm and seals. Pump is rated at 27 GPM at 100 PSI air supply, dry lift capacity of 18 ft. and discharge distance of 180 ft. (with reduced flow). Typically used with fresh and used oil. Maximum fluid temperature 180° F.

### P/N 20015-Y2

Same as 20015-Y above except it uses a dual inlet to allow mixing of fluids at 50:50 ratio. Typically used to mix antifreeze and water.



### P/N 20015-YV

3/4" D.D. Pump w/ vertical manifold allows mounting of pump directly onto tank or drum. Has 1" NPTF inlet fitting. See P/N 950027 on page 14 for complete pump kit to fit 55 gallon drum or 275 gallon oval tank.



### P/N 20016-Y

Same as 20015-Y except is UL listed for use with diesel fuel.

## DOUBLE DIAPHRAGM PUMP

### P/N 20013-Y

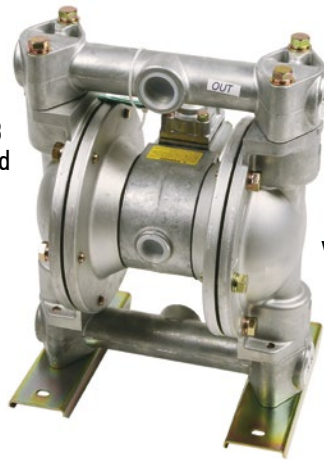
1" Double Diaphragm Pump with aluminum body, Buna N diaphragm and seals. Pump is rated at 48 GPM at 100 PSI, dry lift capacity of 18 ft. and discharge distance of 180 ft. (with reduced flow). Typically used with fresh and used oil. Maximum fluid temperature 180° F.



### P/N 20018-Y

1½" Double Diaphragm Pump with aluminum body, Buna N diaphragm and seals. Pump is rated at up to 100 GPM at 100 PSI, maximum dry lift suction capability is 18 ft. and maximum size solid to pass is 9/32" (7 mm). Maximum fluid handling temperature is 180° F. Inlet/outlet is tapped with 1½" NPTF ANSI flange. Discharge volume per cycle is 0.73 gal. Shipping weight is 75 lb. Dim. 16.18"W x 27.91"H, air inlet fitting is ½" NPTF and requires up to 90 SCFM air supply.

Typical applications include bulk transfer of new and used oil.



### P/N 20013-Y2

Same as 20013-Y except pump is fitted with a dual inlet to allow mixing of fluids at 50:50 ratio. Typically used to mix antifreeze and water.

### P/N 20017-Y

Same as 20013-Y except pump is UL listed for use with diesel fuel.

### P/N 20019-Y

2" Double Diaphragm Pump with aluminum body, Buna N diaphragm and seals. Pump is rated at up to 160 GPM at 100 PSI, maximum dry lift suction capability is 19 ft. and maximum size solid to pass is 5/16" (8 mm). Maximum fluid handling temperature is 180 deg. F. Inlet/Outlet is tapped with 2" NPTF ANSI flange. Discharge volume per cycle is 1.12 gal. Shipping weight is 99 lb., Dim. 18.63"W x 30.67"H, air inlet fitting is 3/4" NPTF and requires up to 180 SCFM air supply. Typical applications include bulk transfer of new and used oil.

## 2:1 Ratio High Pressure Double Diaphragm Pumps

These pumps are designed for applications where a maximum 100 PSI discharge pressure is insufficient to overcome system requirements. Examples are such as when you need to pump higher viscosity oil and/or need to pump over longer distances.

### P/N 20015Y-HP

¾" inlet/outlet, 2:1 ratio high pressure double diaphragm pump, aluminum body with Buna N diaphragm and seals. Maximum pump flow rate is reduced to 13 GPM, but discharge pressure is increased to 200 PSI. Dry suction lift capability of 18 ft., max. size solid to pass is 1/16" (2 mm), air supply operating range 30 – 100 PSI at 10 – 40 scfm. Shipping weight 21 lb., dim. 9.8" W x 12.5" H.

### P/N 20013Y-HP

1" inlet/outlet, 2:1 ratio high pressure double diaphragm pump, aluminum body with Buna N diaphragm and seals. Maximum pump flow rate is reduced to 24 GPM, but discharge pressure is increased to 200 PSI. Dry suction lift capability of 18 ft., max. size solid to pass is 3/16" (4.8 mm), air supply operating range 30 – 100 PSI at 10 – 50 scfm. Shipping weight 34 lb., dim. 11.3" W x 15" H.



Flow rate is approximately half of the equivalent size pump output with twice the discharge pressure. The 2:1 discharge ratio is achieved by applying air pressure to the surface area of both diaphragms thereby doubling the discharge pressure

### P/N 20018-HP

1½" NPT inlet/outlet, 2:1 ratio high pressure double diaphragm pump, aluminum body with Buna N diaphragm and seals. Maximum pump flow rate is reduced to 50 GPM at 100 PSI, but discharge pressure is increased to 200 PSI. Maximum dry lift capability of 18 ft., max. size solid to pass is 9/32" (7 mm), air supply operating pressure range 20 – 100 PSI at 20 – 90 scfm. Shipping weight 75 lb., dim. 16.2" W x 27.96" H.

### P/N 20019-HP

2" NPT inlet/outlet, 2:1 ratio high pressure double diaphragm pump, has ANSI flange, aluminum body with Buna N diaphragm and seals. Maximum pump flow rate is reduced to 80 GPM at 100 PSI, but discharge pressure is increased to 200 PSI. Maximum dry lift capability of 19 ft., max. size solid to pass is 5/16" (8 mm), air supply operating pressure range 20 – 100 PSI, at 40 – 180 scfm. Shipping weight 98 lb., dim. 17.8" W x 30.70" H.



## DOUBLE DIAPHRAGM PUMP KITS

### P/N 950003

1/2" Double Diaphragm Pump Kit; includes model 20014-AN pump, 950020 mounting bracket, 81200-06, 6' suction hose, 81200-06, 6' discharge hose, 540104C air filter/regulator with gauge, 81100-06, 6' air hose, 900256 air coupler set and appropriate fittings for connection of components.

### P/N 950049

3/4" Double Diaphragm Pump Kit; includes model 20015-Y pump, 950020 mounting bracket, 81250-06, 6' suction hose, 81250-06, 6' discharge hose, 540104C filter/regulator with gauge, 81100-06, 6' air hose, 900256 air coupler set and appropriate fittings for connection of components.

### P/N 950051

1" Double Diaphragm Pump Kit; includes model 20013-Y pump, 950020 mounting bracket, 81260-06, 6' suction hose, 81260-06, 6' discharge hose, 540115C filter/regulator with gauge, 81125-06, 6' air hose.



P/N 950049 shown

### P/N 950022-55

Convenient kit for use with 55 gallon drums, has 2" male NPT threads to fit drum and tank bungs. Includes 1/2" double diaphragm pump, mounting bracket, hardware, 35" long suction tube and 1/4" air filter/regulator. A 3/8" return port is included in the bung to allow use with a thermal relief valve if desired.

### P/N 950022-16

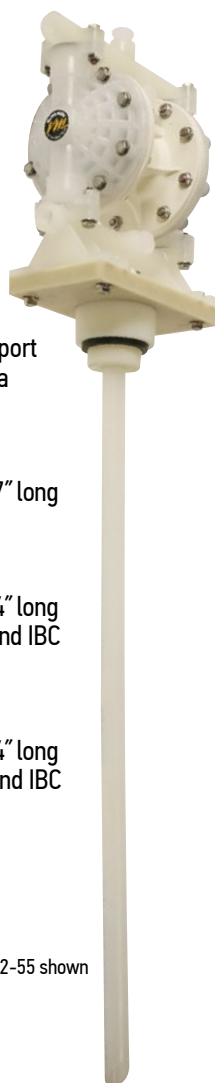
Same as 950022-55 above except has 27" long suction pipe to fit 16 gallon drums

### P/N 950022-275

Same as 950022-55 above except has 44" long suction pipe to fit 275 gallon oval tanks and IBC tote tanks.

### P/N 950022-330

Same as 950022-55 above except has 44" long suction pipe to fit 330 gallon oval tanks and IBC tote tanks.



P/N 950022-55 shown



P/N 950027-55 shown

### P/N 950027-55

3/4" D.D. pump w/vertical inlet manifold kit to fit 55 gallon drum. Kit includes "close" nipple and double tap with 3/8" return port for use with thermal expansion valve kit.

### P/N 950027-275

3/4" D.D. pump w/vertical inlet manifold to fit 275 gallon tank. Has 44" long suction pipe, "close" nipple and double tap with 3/8" return port for use with thermal expansion valve kit. Schedule 80 PVC suction pipe can easily be trimmed to fit shorter tank depths

### P/N 950027-330

3/4" D.D. pump w/vertical inlet manifold to fit 330 gallon tank, includes 52" long suction pipe.

## ELECTRIC MEDIUM PRESSURE OIL TRANSFER PUMPS

These electric oil transfer pumps utilize a gerotor design for quiet operation and self priming capability. They are “manual on” and “manual off” and are intended for the transfer of hydraulic fluid, transmission fluid, used oil, light and medium weight engine oil and 100% antifreeze. These pumps may be used for heavier oils, such as 90 wt. gear oil as long as the oil temperature does not fall below approximately 55° F (80° for model 560087). The pumps are designed to be used with the included suction pipe, discharge hose and control valve and

are not designed to pump fluids through smaller diameter hoses/plumbing, hose reels or metering control valves.

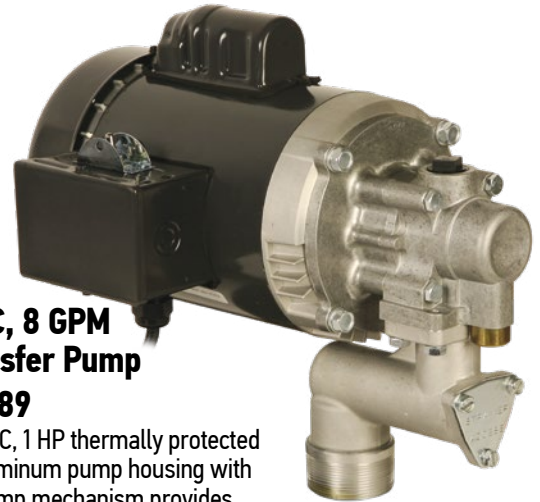
Pump housings are constructed of die cast aluminum for durability and to minimize weight. These pumps have a “center balanced” design to minimize stress on tank and drum mounting hardware and allow easy pump attachment. A fine mesh inlet screen protects pump components from damage and is easily accessed for cleaning without having to remove the pump.



### 115 VAC, 4 GPM Oil Transfer Pump

P/N **560088**

115/230 VAC, ½ HP thermally protected motor, aluminum pump housing with gerotor pump mechanism provides up to 4 GPM flow rate, has 30 minute duty cycle, 1160 cps maximum viscosity. Pump has 1” NPTF inlet, 3/4” NPTF outlet and is supplied with 36” three prong, grounded power cord, two piece suction pipe (1” x 41”), 3/4” x 8’ discharge hose and 3/4” ball valve.

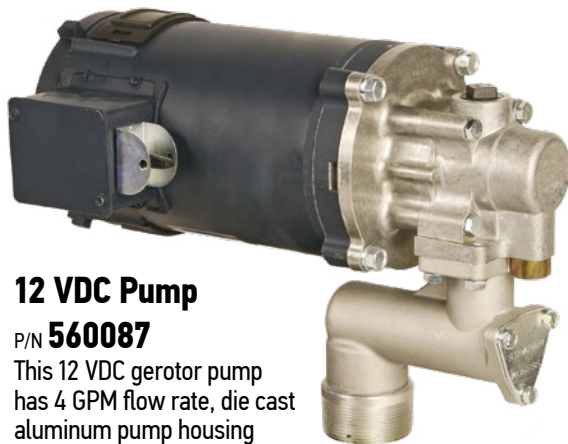


### 115 VAC, 8 GPM Oil Transfer Pump

P/N **560089**

115/230 VAC, 1 HP thermally protected motor, aluminum pump housing with gerotor pump mechanism provides up to 8 GPM flow rate, has 30 minute duty cycle, 970 cps maximum viscosity. Pump has 1” NPTF inlet, 3/4” NPTF outlet and is supplied with 36” three prong, grounded power cord, two piece suction pipe (1” x 41”), 3/4” x 8’ discharge hose and 3/4” ball valve.

**NOTE:** See page 95 for information on lubricant viscosities and changes with temperature.



### 12 VDC Pump

P/N **560087**

This 12 VDC gerotor pump has 4 GPM flow rate, die cast aluminum pump housing and provides self priming capability. Pump max current rating is 40 amps, requires a 50 amp fuse (not supplied) to protect the motor from overheating, 30 minute duty cycle, 390 cps maximum viscosity. Power cord connection requires minimum 10 gauge, 3 wire cable (not supplied – DO NOT EXCEED 15 ft. of cable). Pump kit includes two piece suction tube (1” x 41”) which can be easily trimmed to fit your particular installation, 3/4” x 8’ discharge hose and 3/4” ball valve.



### Oil Transfer Pump Accessory Kit

This accessory kit is included with Oil Transfer Pump P/N’s 560087, 560088 and 560089, Kit includes a two piece trim to fit suction pipe, 90° Elbow, 3/4” x 8’ Discharge Hose and Poly Ball Valve Nozzle.

## ELECTRIC OIL PUMPS

The Liquidynamics family of Electric Oil Pumps are designed to provide an effective alternative solution to pumping viscous fluids such as engine and gear oil, as well as non-viscous fluids such as hydraulic fluid, transmission fluid and 100% (non-mixed) antifreeze. Pumps are intended for indoor use only.

Advantages to using Electric Oil Pump includes; air compressor not being required, quiet operation, non-pulsating flow for

improved metering accuracy and reduced maintenance. Please contact Liquidynamics to ensure correct pump choice for your specific application. Variables to consider when choosing an electric pump include fluid viscosity, fluid temperature, plumbing length, plumbing diameter, suction distance and any pertinent restrictions such as hose reels, control valves, elbows, etc.



P/N 33221 shown

### P/N 33221

A great choice for use in transfer of medium and high viscosity fluids up to 2,000 centistoke. Maximum discharge pressure of 170 PSI with full bypass at 240 PSI, 3.0 gpm. Uses specially designed steel gears for efficient and quiet transfer of fluids such as engine oils, gear oils, etc. Manual on/off switch integrated into electrical connection box.

### P/N 33222

Same design as P/N 33221 but utilizes a 2.0 HP motor for additional pressure and flow rate capability. Will pump up to 4.0 GPM with pressure up to 325 PSI and is rated for continuous operation. For use with fluids up to 2,000 centistoke.



### 20 GPM High Volume Oil Transfer Pump

#### P/N 33223

Pump is ideal for transferring larger quantities of light weight oil (up to 165 cps), hydraulic fluid, transmission fluid and antifreeze including 50/50. The bronze construction allows this pump to be used for bulk transfer of premix antifreeze as well as other water based fluids.

Pump system includes 2 HP 115/230 VAC motor, 20 GPM pump w/1" NPTF inlet/outlet, 30 mesh inlet strainer, heavy duty rotary ON/OFF switch and 25' of 12 gauge, 3 wire grounded power cord.

If this pump is intended for applications where the discharge flow can be shut off, a bypass valve must be installed to prevent pump and/or motor damage. Order P/N 950057 separately (shown below) for this purpose. Bypass flow should be directed back into tank to prevent fluid and pump from overheating.

**NOTE:** Use for pumping non-flammable fluids.

**NOTE:** See page 95 for information on lubricant viscosities and changes with temperature.



### P/N 33250

This high flow pump has an adjustable bypass for pressures up to 80 PSI and is ideal for transferring larger quantities of light oils, hydraulic and transmission fluids, 100% antifreeze and similar fluids over short distances, maximum viscosity 500 cst, 7 gpm. Manual on/off switch, 115 VAC motor with short extension cord and plug for easy connection.

### 3/4" Bypass Kit

#### P/N 950057

Bypass kit protects P/N 33223 High Volume Oil Transfer Pump in cases where fluid flow is shutoff at discharge, pump fluid is then bypassed to protect pump and motor from damage. Kit includes 1" x 1" x 1" 'T' fitting and 3/4" preset bypass valve, set at 60 PSI maximum.

**NOTE:** plumbing (hose) from bypass valve to tank return is responsibility of user.





## ELECTRIC OIL PUMPS WITH SPIGOT – 115 VAC

These 115 VAC Electric Spigot Pumps provide a continuous, smooth stream of fluid and eliminate the pulsations and splashing created by air operated piston or diaphragm pumps. Applications include dispensing of motor oil, gear oil, cutting

oil, ATF, hydraulic fluid, 100% antifreeze and similar fluids. These pumps may be mounted vertically on a 55 gallon drum or horizontally on a tank or wall bracket.



P/N **33221-S1**

Versatile horizontal mount system has excellent priming capability. Ideal for use with deep tanks and wall mount systems. Inlet fitting is 3/4" NPTF.



P/N **33221-S3**

Vertical mount system includes 3.0 GPM electric pump, spigot, 2" double tap, 1" x 30" suction pipe and foot valve. Ideal for use with 55 gallon drums and bench tanks.

Part Number	Description	P by-pass	Amps	HP	Shipping Weight	Inlet Dimensions	Discharge Dimensions
33221	2.5 GPM, 170 PSI Max, Manual Shut-off	240	15	1.2	33 lbs.	3/4"	3/4"
33222	4.0 GPM, 230 PSI Max, Manual Shut-off	325	13	2.0	44 lbs.	3/4"	3/4"
33223	20 GPM, 40 PSI Max, Manual Shut-off	80	18	2.0	73 lbs.	1"	1"
33250	7.0 GPM, 80 PSI Max, Manual Shut-off	80	13	1.6	34 lbs.	1"	1"
560086	2.5 GPM, 650 PSI Max, Manual Shut-off	650	16	1.5	71 lbs.	1"	3/4"
560087	2.5 GPM, 450 PSI Max, Manual Shut-off	450	12	1.0	63 lbs.	1"	3/4"
560088	4.5 GPM, 200 PSI Max, Manual Shut-off	200	12	1.0	60 lbs.	1"	3/4"
560089	9.0 GPM, 200 PSI Max, Manual Shut-off	200	18	2.0	65 lbs.	1"	3/4"

## MECHANICAL METERS

Liquidynamics supplies a broad selection of oil meters, control valves and accessories. Preset and non-preset meters are available in both mechanical and electronic versions.

### Mechanical Meters Preset

Accuracy of these meters is +/- 0.65% within the flow range of 0.4 to 4 GPM. Maximum operating pressure is 1,000 PSI.

#### MODEL **BM19 Preset** P/N **530107**

Quart calibration with preset capability, **16 quart dial capacity**, 1 quart graduations and quart totalizer. Comes complete with rigid spout, non drip tip and 1/2" NPTF inlet swivel. For use with motor oils, gear oils, ATF and antifreeze (ethylene glycol).



#### MODEL **BM19-HM** P/N **530107-HM** Same as 530107 but with 1/2" x 12" hose and manual tip



#### MODEL **BM19-RH** P/N **530107-RH** Same as 530107 but with 4" rigid spout and manual tip, 7" overall length



#### MODEL **BM19-BA** P/N **530107-BA** Same as 530107 but with rigid bent spout and automatic tip, 7" overall length



#### MODEL **BM20 Preset** P/N **530109**

Quart calibration with preset capability, **60 quart dial capacity**, 1 quart graduations and gallon totalizer. Comes complete with rigid spout, non drip tip and 1/2" NPTF inlet swivel. For use with motor oils, gear oils, ATF and antifreeze (ethylene glycol).

#### MODEL **BM20-HM** P/N **530109-HM** Same as 530109 but with 1/2" x 12" hose and manual tip

#### MODEL **BM20-RH** P/N **530109-RH** Same as 530109 but with 4" rigid spout and manual tip, 7" overall length

#### MODEL **BM20-BA** P/N **530109-BA** Same as 530109 but with rigid bent spout and automatic tip, 7" overall length

#### MODEL **BM20G Preset** P/N **530113**

Gallon calibration with preset capability, **60 gallon dial capacity**, 1 gallon graduations and gallon totalizer. 4 GPM maximum. Meter includes rigid spout, non drip tip and 1/2" NPTF inlet swivel. For use with motor oils, ATF and antifreeze (ethylene glycol).

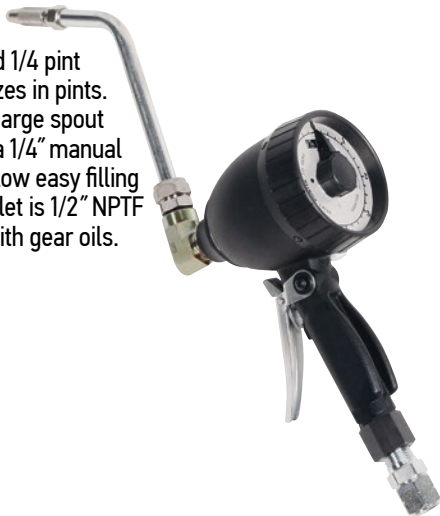


### Mechanical Meters Non-Preset

Accuracy of these meters is +/- 0.65% within the flow range of 0.4 to 4 GPM. Maximum operating pressure is 1,000 PSI.

#### MODEL **BM03 Non-Preset** P/N **530100**

Pint calibration with **8 pint dial capacity** and 1/4 pint graduation, totalizes in pints. Ten inch tall discharge spout is equipped with a 1/4" manual tip designed to allow easy filling of differentials. Inlet is 1/2" NPTF swivel. For use with gear oils.



#### MODEL **BM08 Non-Preset** P/N **530101**

Quart calibration with **16 quart dial capacity** and 1/4 quart graduations, totalizes in quarts. Rigid discharge spout has an automatic non drip tip. Meter comes standard with 1/2" NPTF inlet swivel. For use with motor oils, gear oils, ATF and antifreeze (ethylene glycol).



#### MODEL **BM15 Non-Preset** P/N **530102**

Quart calibration with **16 quart dial capacity** and 1/4 quart graduation, totalizes in quarts. Meter comes with a flex discharge spout and manual shutoff tip. For use with motor oils, gear oils, ATF and antifreeze (ethylene glycol).



## MECHANICAL METERS, NON-PRESET

The Liquidynamics LD25 mechanical meter is designed to be simple and reliable and is intended for use with engine oils, gear oils, ATF, hydraulic fluids and 100% antifreeze. Oval gear technology is used to measure the amount of fluid passing through the measuring chamber. The oval gears then drive a simple mechanical counter to provide high accuracy measurement with low pressure loss. The LD25 has a 4 digit (999.9), resettable batch total, which indicates quarts dispensed and a 6 digit non-resettable, cumulative total, which indicates cumulative gallons dispensed.

A die cast aluminum body provides a strong housing that is rated to 1,000 PSI operating pressure and 3,000 PSI burst pressure.

The control handle features an inlet strainer to protect the valve and oval gears, while a trigger guard prevents accidental activation. A "balanced" valve design reduces trigger pressure and allows gradual starting and stopping of fluid flow. The LD25 mechanical meter is available in a wide variety of nozzle configurations to fit most any application, 0.3 - 8 GPM flow range.

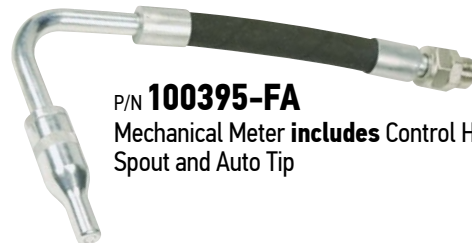


P/N 100395-RA (shown)

Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 100395-FM**.



P/N **100395-RA**  
Mechanical Meter **includes** Control Handle, Rigid Spout and Auto Tip



P/N **100395-FA**  
Mechanical Meter **includes** Control Handle, Flex Spout and Auto Tip



P/N **100395-RM**  
Mechanical Meter **includes** Control Handle, Rigid Spout and Manual Tip



P/N **100395-FM**  
Mechanical Meter **includes** Control Handle, Flex Spout and Manual Tip



P/N **100395-RMH**  
Mechanical Meter **includes** Control Handle, Rigid Spout and Manual High Flow Tip



P/N **100395-FMH**  
Mechanical Meter **includes** Control Handle, Flex Spout and High Flow Manual Tip



P/N **100395-HM**  
Mechanical Meter **includes** Control Handle, 3/8" x 12" Hose and 1/4" Manual Tip



P/N **100395-HMH**  
Mechanical Meter **includes** Control Handle, 1/2" x 12" Hose and Manual High Flow Tip

## ELECTRONIC METERS PRESET

### Model BP100 Series

This pre-settable electronic meter features a greatly simplified operation; you simply enter the quantity you wish to dispense and pull the trigger. Meter is powered by four AA alkaline batteries which can be easily replaced without loss of

calibration or data. Units of measure displayed can be changed from quarts, to pints, gallons or liters. Inlet is 1/2" NPTF and includes a filter screen to protect the oval gear metering elements. This meter is intended for use with engine oil, gear oil, transmission fluid, hydraulic fluid and 100% antifreeze. 10 GPM maximum.

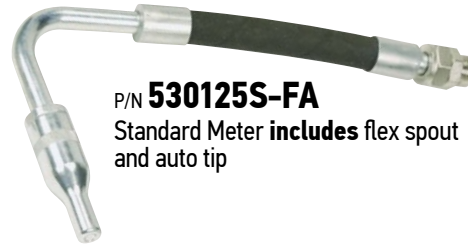
Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 530125S-FM**.



P/N 530125S-RA shown



P/N **530125S-RA**  
Standard Meter **includes** rigid spout and auto tip



P/N **530125S-FA**  
Standard Meter **includes** flex spout and auto tip



P/N **530125S-RM**  
Standard Meter **includes** rigid spout and manual tip



P/N **530125S-FM**  
Standard Meter **includes** flex spout and manual tip



P/N **530125S-RMH**  
Standard Meter **includes** rigid spout and high flow manual tip



P/N **530125S-FMH**  
Standard Meter **includes** flex spout and high flow manual tip



P/N **530125S-HM**  
Standard Meter **includes** 12" flex hose and manual tip



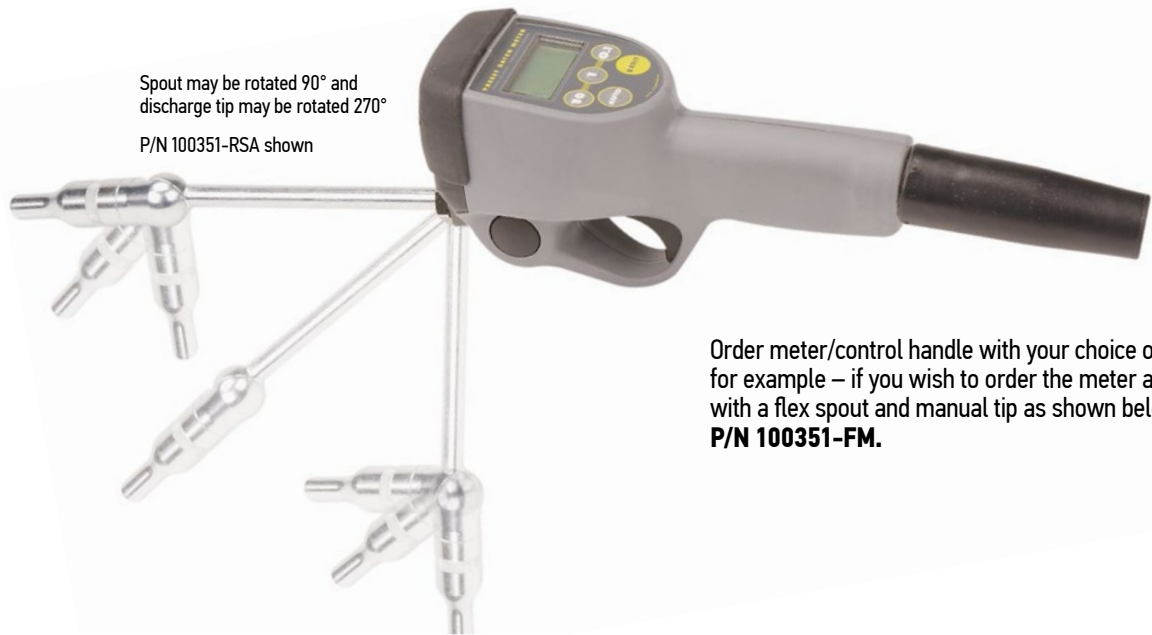
P/N **530125S-HMH**  
Standard Meter **includes** 12" flex hose and high flow manual tip

# ELECTRONIC METERS PRESET

## Model K500 Series

The K-500 Electronic Preset Meter may be used to dispense a preset quantity of oil, transmission fluid, hydraulic fluid, antifreeze and other compatible fluids. It is powered by four, field replaceable 1.5V AA batteries. Units of measurement are easily switched between pints, quarts, gallons and liters. The meter flow range is 1/4 to 8 GPM with a maximum operating pressure of 1,000 PSI and an accuracy of +/- 1/2%. Preset capability is from 0.1 to 99.9

units and may be programmed with up to 5 different frequently used preset quantities in addition to quick recall of the last used preset quantity. May also be used to show flow rate in gallons per minute. This preset meter is available with a wide selection of discharge spouts to fit most any application. Discharge spout may be positioned at five different angles and tip rotates 90°. Inlet is 1/2" NPTF swivel.



Spout may be rotated 90° and discharge tip may be rotated 270°

P/N 100351-RSA shown

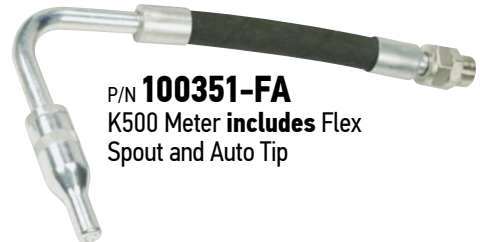
Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 100351-FM**.



P/N **100351-RSA**  
K500 Meter **includes** Rigid Spout and Automatic Tip; tip rotates 270°



P/N **100351-RM**  
K500 Meter **includes** Rigid Spout and 1/4" Manual Tip; tip rotates 270°



P/N **100351-FA**  
K500 Meter **includes** Flex Spout and Auto Tip



P/N **100351-FM**  
K500 Meter **includes** Flex Spout and 1/4" Manual Tip



P/N **100351-FMH**  
K500 Meter **includes** Flex Spout and High Flow Manual Tip

## ELECTRONIC METER NON-PRESET

### Model LD250 Series

These compact and lightweight, electronic digital meters provide the user with a cost effective method for measuring fluids such as engine oil, gear oil, transmission fluid, and 100% antifreeze (ethylene glycol). Two rotating oval gears are used to provide a simple, reliable method of measurement. Meters are powered by two field replaceable AAA alkaline batteries, with a

minimum one year life expectancy. Accuracy is +/- 0.5% over a flow range of 0.26 to 8 GPM and maximum operating pressure of 1,000 PSI, inlet is 1/2" NPTF swivel. **The units of measure are shown on the LCD display and are easily changed from quarts to pints, gallons or liters, cumulative total indicates gallons (or liters).**

Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 100200-FM**.



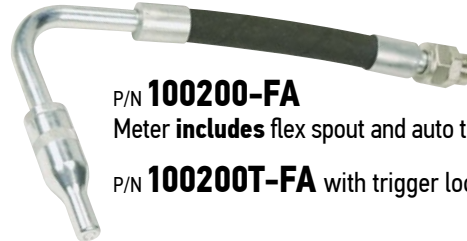
P/N 100200-FA shown



P/N **100200-RA**

Meter **includes** rigid spout and auto tip

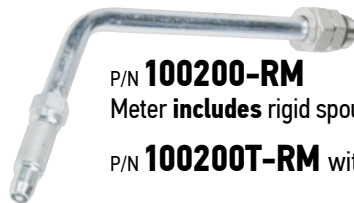
P/N **100200T-RA** with trigger lock



P/N **100200-FA**

Meter **includes** flex spout and auto tip

P/N **100200T-FA** with trigger lock



P/N **100200-RM**

Meter **includes** rigid spout and manual tip

P/N **100200T-RM** with trigger lock



P/N **100200-FM**

Meter **includes** flex spout and manual tip

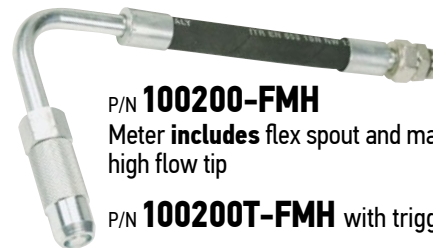
P/N **100200T-FM** with trigger lock



P/N **100200-RMH**

Meter **includes** rigid spout and manual high flow tip

P/N **100200T-RMH** with trigger lock



P/N **100200-FMH**

Meter **includes** flex spout and manual high flow tip

P/N **100200T-FMH** with trigger lock



P/N **100200-HM**

Meter **includes** 3/8" x 12" hose and 1/4" manual tip

P/N **100200T-HM** with trigger lock



P/N **100200-HMH**

Meter **includes** 1/2" x 12" hose and 1/2" manual high flow tip

P/N **100200T-HMH** with trigger lock

## ELECTRONIC METERS NON-PRESET

### Model LB300 Series

These meters may be programmed to display pints, quarts, gallons or liters. Power is supplied by a lithium battery with a life expectancy of 3 to 5 years. Flow range is 0.25 to 8.0 GPM and 1,500 PSI operating pressure.

Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 530124-FM**.



P/N **530124-RA**  
Meter **includes** rigid spout and auto tip



P/N **530124-FA**  
Meter **includes** flex spout and auto tip



P/N **530124-RM**  
Meter **includes** rigid spout and manual tip



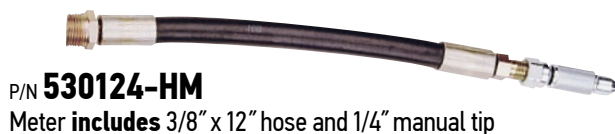
P/N **530124-FM**  
Meter **includes** flex spout and manual tip



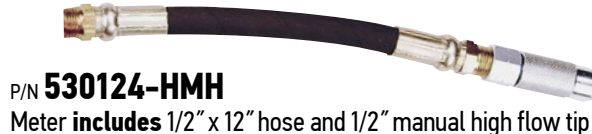
P/N **530124-RMH**  
Meter **includes** rigid spout and manual high flow tip



P/N **530124-FMH**  
Meter **includes** flex spout and manual high flow tip



P/N **530124-HM**  
Meter **includes** 3/8" x 12" hose and 1/4" manual tip



P/N **530124-HMH**  
Meter **includes** 1/2" x 12" hose and 1/2" manual high flow tip

### Electronic Meter – Pistol Grip, Non-Preset

These meters provide perfect balance and a comfortable grip while being lightweight and rugged. They are designed specifically to dispense Motor Oil, Gear Oil, Transmission Fluid and Anti-Freeze and are a perfect choice for overhead reel systems. Powered by a lithium battery with a typical 5 year life expectancy.



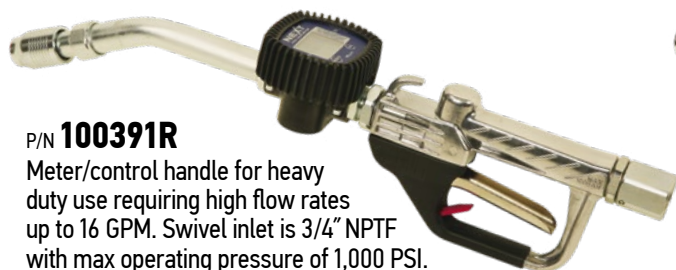
P/N **530116**  
Pistol grip electronic meter **includes** 3/8" x 12" flex spout and manual tip

## ELECTRONIC METER NON-PRESET

### High Flow Control Valve and Meter

This meter and control valve combination is rated for flow rates of 1.6 to 15 GPM with a working pressure of 1,000 PSI and is ideal for use with high flow pneumatic ratio pumps such as P/N 21200 and 21300. The meter has a 5 digit re-settable batch total

with floating decimal (will record up to 99,999 units) and a 6 digit non re-settable total. Units of measure can be easily changed from quarts to pints, gallons or liters. Valve inlet is 1" NPTF.



#### P/N 100391R

Meter/control handle for heavy duty use requiring high flow rates up to 16 GPM. Swivel inlet is 3/4" NPTF with max operating pressure of 1,000 PSI. Flow range is from 1.5 to 16 GPM. Balanced valve design allows easy flow rate adjustment, has rigid discharge spout with "pop" open tip – push to close.



#### P/N 100391F

Meter/control handle for heavy duty use requiring high flow rates up to 16 GPM. Swivel inlet is 3/4" NPTF with max operating pressure of 1,000 PSI. Flow range is from 1.5 to 16 GPM. Balanced valve design allows easy flow rate adjustment, has flex hose discharge spout with "pop" open tip – push to close.

#### P/N 100329

Fluid control handle with electronic digital meter designed for use with windshield washer fluid, 50/50 antifreeze, 100% antifreeze and other water based fluids. Meter has LCD display with resettable batch total, and non-resettable cumulative total. Uses 2 ea. 'N' size batteries, 1/2" NPTF inlet, 8 GPM max. flow rate, 365 PSI max. pressure.



#### P/N 100132

Replacement 'N' size battery (set of 2 ea.) for P/N 100329 meter.

## ELECTRONIC IN-LINE METERS AND PULSERS

A broad range of in-line meters and pulsers are available for use with viscous fluids in the range of 2 to 2,000 cst. Typical fluids include engine oil, gear oil, transmission fluid, hydraulic fluid and other compatible fluids. Material of construction include; aluminum body, chrome plated steel shafts, acetal gears, neodymium magnet and Buna N Seals.

These meters use oval gear technology to provide excellent accuracy and repeatability with very little pressure drop. The LCD display provides batch and cumulative totals, which are powered by two AAA 1.5V alkaline batteries. Pulse data is generated by a reed switch, which provides a square wave, switch closure signal. Specific meter and pulser data is detailed in the specification chart on next page.

### In-Line Meters w/Display:

#### P/N 100200

This compact and economical meter has a flow range of 0.25 to 8.0 GPM, 1/2" NPTF inlet and outlet, operating pressure rating of 1,000 PSI. Units of measure may be easily changed from pints, quarts, gallons or liters. Uses 2 ea. AAA 1.5V alkaline batteries, 3.0"W x 2.6"L x 2.15"H dim. The electronic module can be replaced without removing meter from plumbing line.



#### P/N 100386

Compact and economical turbine meter is ideal for use with windshield washer fluid, mixed antifreeze solutions and other water based fluids with low viscosities. Display features a rotatable, five digit, re-settable batch total with floating decimal and a six digit non re-settable cumulative total. Units of measure can be easily changed from quarts to gallons, pints or liters, meter is powered by two field replaceable AAA alkaline batteries. 1" BSPM inlet/outlet w/ 1 each BSP/NPT adapter. Order P/N 100376 if additional adapters are needed. 2.7 to 26 GPM.





## ELECTRONIC IN-LINE METERS AND PULSERS



**P/N 530020**  
Compact in-line meter has a flow range of 0.25 to 8.0 GPM, has 1/2" NPTF inlet and outlet, operating pressure of 1,500 PSI. Units of measure may be changed from pints, quarts, gallons or liters. Uses a lithium battery for approx. 5 year operating life, 4" Dia. x 2.75" H.

**P/N 530019**  
Same as P/N 530020 above, but for use with 50/50 antifreeze and wind shield washer fluid.

**P/N 530021**  
High flow meter has a flow range from 0.80 to 15 GPM, with a pressure rating of 1,500 PSI which makes it ideal for use with high flow 5:1 pumps as well as the higher ratio 8:1 and 13:1 oil pumps. Functionally it is the same as P/N 530020 described above, but has 3/4" NPTF inlet and outlet threads, approx. 4" dia. x 3.3" high.

**P/N 100395**  
Mechanical in-line meter uses oval gear technology to ensure low pressure drop and high precision and is intended for use with lubricating oils, hydraulic fluids, transmission fluid and 100% antifreeze. The die cast aluminum body is rated to 1,000 PSI working pressure with burst pressure of 3,000 PSI. Measured fluid is displayed via a 3 digit (plus fraction) re-settable batch total which reads in quarts, while the non re-settable totalizer has a 6 digit display reading in gallons. Inlet and outlet fittings are 1/2" NPTF, 3- 8 GPM.



### In-Line Pulsers and Remote Display:



**P/N 100104** 0.25 – 8.0 GPM, 1/2" NPTF, 1,000 PSI maximum

**P/N 100360**  
1.3 – 13.0 GPH, 1/4" NPTF (0.022 – 0.22 GPM), 14,000 PSI maximum



**P/N 100370**  
1.3 – 13.0 GPM, 3/4" NPTF, 435 PSI maximum

**P/N 100371**  
2.6 – 26.0 GPM, 1" NPTF, 435 PSI maximum

**P/N 100372**  
4.0 – 40.0 GPM, 1 1/2" NPTF, 290 PSI maximum

**P/N 100380**  
Gallon calibration, 1.3 – 13.0 GPM, 435 PSI working pressure, 3/4" NPTF

**P/N 100381**  
Gallon calibration, 2.6 – 26.0 GPM, 435 PSI working pressure, 1" NPTF

**P/N 100382**  
Gallon calibration, 4.0 – 40 GPM, 290 PSI working pressure, 1 1/2" NPTF



**P/N 100715G**  
Pulsar/solenoid module incorporates a metering pulser and 24V solenoid in one convenient package. Has 1/2" NPTF inlet/outlet. And has the additional unique feature of a built in bypass that allows the solenoid to be bypassed in cases of emergency. This bypass is normally in the closed position and security sealed in place, but can be quickly opened by cutting the wire seal and opening the valve to allow manual dispensing operation if necessary. The security seal provides tamper evidence indicating that the bypass has been opened.

### Remote Display for In-Line Pulsers:

**P/N 100366**  
Universal remote display has 4 digit, re-settable batch total and 6 digit non re-settable cumulative total. Display may be configured to indicate gallons, quarts, pints or liters and may also be used to display flow rate of fluid being measured. This display can be easily scaled to work with in-line pulsers P/N 100104, 100360, 100370, 100371 and 100372 shown above.

Unit is powered by two AA alkaline batteries which are easily field replaceable.

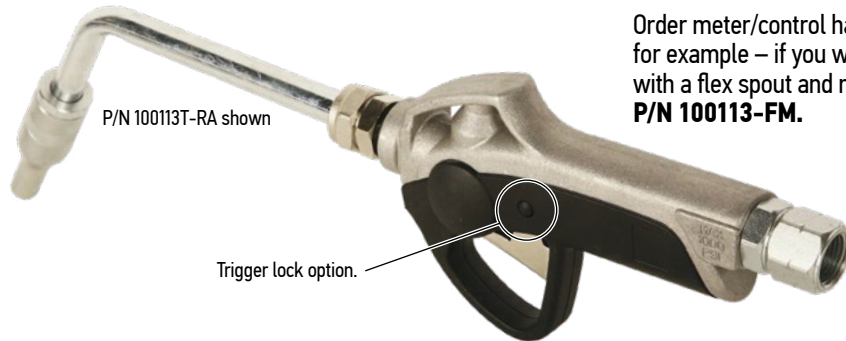


## FLUID CONTROL VALVES

### Model VN200 Series

These fluid control valves are an economical and reliable method of controlling and dispensing common shop fluids such as engine oil, gear oil, transmission fluid, antifreeze and hydraulic fluid.

The “balanced” valve design with trigger guard allows positive fluid control for easy “topping off” without splashing. The valve is also available in a “trigger lock” version.



P/N 100113T-RA shown

Trigger lock option.

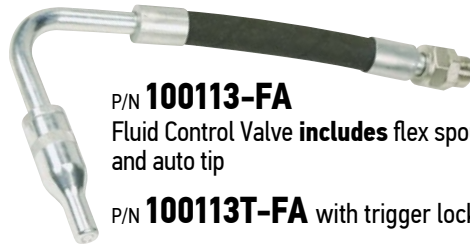
Order meter/control handle with your choice of spout and tip, for example – if you wish to order the meter and control handle with a flex spout and manual tip as shown below – then order **P/N 100113-FM**.



P/N **100113-RA**

Fluid Control Valve **includes** rigid spout and auto tip

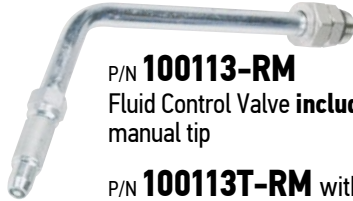
P/N **100113T-RA** with trigger lock



P/N **100113-FA**

Fluid Control Valve **includes** flex spout and auto tip

P/N **100113T-FA** with trigger lock



P/N **100113-RM**

Fluid Control Valve **includes** rigid spout and manual tip

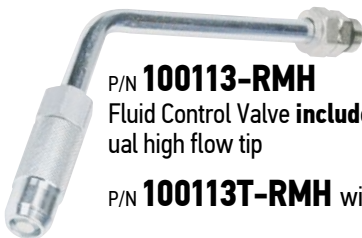
P/N **100113T-RM** with trigger lock



P/N **100113-FM**

Fluid Control Valve **includes** flex spout and manual tip

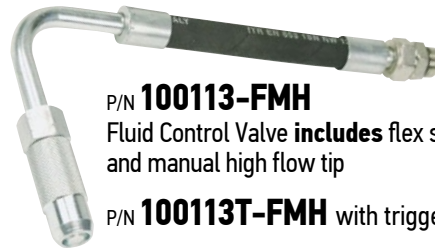
P/N **100113T-FM** with trigger lock



P/N **100113-RMH**

Fluid Control Valve **includes** rigid spout and manual high flow tip

P/N **100113T-RMH** with trigger lock



P/N **100113-FMH**

Fluid Control Valve **includes** flex spout and manual high flow tip

P/N **100113T-FMH** with trigger lock



P/N **100113-HM**

Fluid Control Valve **includes** 3/8" x 12" hose and 1/4" manual tip

P/N **100113T-HM** with trigger lock



P/N **100113-HMH**

Fluid Control Valve **includes** 1/2" x 12" hose and 1/2" manual high flow tip

P/N **100113T-HMH** with trigger lock

P/N **100113-HA**

Fluid control valve includes 3/8" x 12" hose and 1/4" auto tip

## FLUID CONTROL VALVES



P/N **32107-RM**

This high flow control valve is an excellent solution when maximum flow is required when using high flow oil pumps such as Liquidynamics P/N 21200 and P/N 21300 oil pumps. The control handle has a maximum working pressure of 1,000 PSI and up to 16 GPM flow rate. It is intended for use with engine oil, gear oil, hydraulic fluid, ATF and 100% antifreeze. Inlet fitting is 1" NPTF swivel, discharge spout is 10" long with a manual, twist to open/close tip.



P/N **32107-FM**

Same as P/N 32107-RM above, except that it is fitted with a 12" long flex hose with the same manual twist to open/close tip.

P/N **100328**

Fluid control nozzle for use with windshield washer fluid, 50/50 antifreeze, 100% antifreeze and other water based fluids, 1/2" NPTF inlet connection, 20 GPM max. flow rate, 365 PSI max. pressure.



P/N **900297**

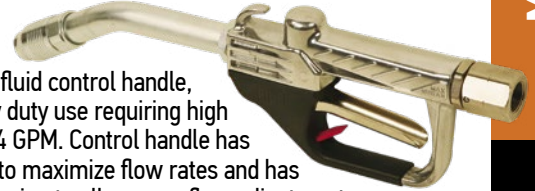
Lightweight polypropylene ball valve with 8" angled end flange for convenient transfer of liquids into tanks, drums, etc. Uses stainless steel nuts and bolts for a wide range of fluid compatibility. 1" NPTF inlet, 150 PSI max pressure.



### High Flow Control Valve

P/N **32110R**

High flow capacity fluid control handle, designed for heavy duty use requiring high flow rates, up to 24 GPM. Control handle has low pressure loss to maximize flow rates and has a balanced valve design to allow easy flow adjustments. Control handle has "pop" open tip – push to close. Max operating pressure is 1,450 PSI, 3/4" NPTF inlet swivel, rigid spout.



P/N **32110F**

High flow capacity fluid control handle, designed for heavy duty use requiring high flow rates, up to 24 GPM. Control handle has low pressure loss to maximize flow rates and has a balanced valve design to allow easy flow adjustments. Control handle has "pop" open tip – push to close. Max operating pressure is 1,450 PSI, 3/4" NPTF inlet swivel, flex hose spout.



## METER ACCESSORIES

P/N **900245**

Rigid spout with auto tip for use with mechanical meters, 1/2" NPTM



P/N **900246**

Angle spout for mechanical meters, includes 1/2" auto tip.

P/N **900247**

Rigid spout with manual tip for use with mechanical meters, 1/2" NPTM



P/N **900266**

Manual tip, 1/4" NPTF (for use with 3/8" hose P/N 81230A)

P/N **900266-BSP**

Manual tip, 1/4" BSP (for replacement on rigid and flex spouts)



P/N **900270**

Automatic tip, 1/4" NPTF (for use with 3/8" hose P/N 81230A)



P/N **900270-BSP**

Automatic tip, 1/4" BSP (for replacement on rigid and flex spouts)

P/N **81200-01A**

1/2" x 12" Hose, 1/2" NPTM x 1/2" NPTM



P/N **81230A**

3/8" x 12" Hose, 1/2" NPTM x 1/4" NPTM



P/N **81231A**

3/8" x 18" Hose, 1/2" NPTM x 1/4" NPTM

P/N **900268**

Manual high flow tip, 1/2" NPTF (for use with 1/2" hose P/N 81200-01A)



P/N **900268-BSP**

Manual high flow tip, 1/4" BSP (for replacement on rigid and flex spouts)

P/N **100138**

Compression Nut Assy.



P/N **900253**

Straight swivel, 1/2" NPTF x 1/2" NPTM, 1,000 PSI working pressure. For use on mechanical meters only.



P/N **100163**

Swivel Guard, Red

P/N **100161**

Swivel Guard, Yellow

P/N **100164**

Swivel Guard, Green

P/N **100160**

Swivel Guard, Blue

P/N **100162**

Swivel Guard, Black



## OIL BAR

Oil Bars are a simple and ideal solution for quick and easy dispensing of fluids such as engine oil, gear oil, ATF, hydraulic fluid and 100% antifreeze. Each Oil Bar is supplied with one tap and removable oil drip tray and will accommodate up to three taps and meters. These Oil Bars allow flexibility in mounting to accommodate larger containers as shown below. Oil Bars are designed for use with 1:1 ratio pneumatic pumps which provide adequate pressure for dispensing but not so much pressure that would cause a spraying problem.

### P/N 23102G

The upper and lower section of this Oil Bar may be mounted separately (as shown) or close together, in order to accommodate different containers/applications therefore provides the user maximum flexibility. This Oil Bar is supplied with one tap and can accommodate a total of three taps, order additional P/N 23105G taps as needed.



P/N 23102G shown in standard configuration with one tap.

A unique feature of this Oil Bar allows the drip tray module to be positioned independently of the upper spigot module as shown - providing maximum flexibility for the user



### P/N 23105G

Automatic Tap for oil and antifreeze, complete with fittings shown, 1/2" NPTF fitting.



### P/N 23102G-1M

Same as P/N 23102G but supplied with one oil tap and one meter

### P/N 23102G-2M

Same as P/N 23102G but supplied with two oil taps and two meters

### P/N 23102G-3M

Same as P/N 23102G but supplied with three oil taps and three meters



### P/N 950113

Electronic meter kit for use with P/N 23102G Oil Bar. Kit includes an electronic module with LCD display powered by 4 ea. AAA alkaline batteries. The four-digit display has a resettable batch total and a non-resettable cumulative total. Units of measure are shown on the LCD display and are easily changed from quarts to pints, gallons or liters, cumulative total indicates gallons or liters. For use w/ oil, hydraulic fluid, and 100% antifreeze.

## MOBILE OIL SYSTEMS

### P/N **20073-S16**

Basic 3:1 Gear Oil Pump System, Includes:

- P/N 20073T, 3:1 Oil Pump with foot valve and inlet screen
- P/N 901006, 16 gallon drum cover with 2" bung
- P/N 22157, 2" bung adapter
- 540104C, 1/4" Air Filter/Regulator w/Gauge

### P/N **21073-S16**

Same as 20073-S16 except with 5:1 Pump

### P/N **20073-S17**

Complete 3:1 Gear Oil Pump System with Control Handle, Includes:

- P/N 20073T, 3:1 Oil Pump with foot valve and inlet screen
- P/N 901006, 16 gallon drum cover with 2" bung
- P/N 22157, 2" bung adapter
- P/N 81200-10, 1/2" x 10' oil hose
- P/N 950006, 4 wheel band dolly
- P/N 100113-RA, Oil Control Handle with rigid spout and auto tip
- P/N 540104C, 1/4" Air Filter/Regulator w/Gauge

### P/N **21073-S17**

Same as 20073-S17 except with 5:1 Pump



### P/N **20073-S18**

Complete 3:1 Gear Oil Pump System with Electronic Meter, Includes:

- P/N 20073T, 3:1 Oil Pump with foot valve and inlet screen
- P/N 901006, 16 gallon drum cover with 2" bung
- P/N 22157, 2" bung adapter
- P/N 81200-10, 1/2" x 10' oil hose
- P/N 950006, 4 wheel band dolly
- P/N 100200-RA, Electronic meter with rigid spout and auto tip
- P/N 540104C, 1/4" Air Filter/Regulator w/Gauge

### P/N **21073-S18**

Same as 20073-S18 except with 5:1 Pump

## Mobile Cart System for use with 16 Gallon / 120 lb. Drums



P/N 20073-S41-V1 shown

### P/N **20073-S41**

Includes:

- P/N 20073T, 3:1 pump
- P/N 22157, bung adapter
- P/N 51003C, cart
- P/N 81200-12, 1/2" x 12' oil hose
- P/N 901006, cover
- P/N 100200-RA, electronic meter
- P/N 540104C, 1/4" air filter/regulator w/gauge

### P/N **20073-S41-V1**

Same as above but w/o cover

### P/N **20073-S42**

Includes:

- P/N 20073T, 3:1 pump
- P/N 22157, bung adapter
- P/N 51003C, cart
- P/N 81200-12, 1/2" x 12' oil hose
- P/N 901006, cover
- P/N 100113-RA, oil control handle
- P/N 540104C, 1/4" air filter/regulator w/gauge

### P/N **20073-S42-V1**

Same as above but w/o cover

## Mobile Gas Caddy

### P/N **560203**

25 Gallon Gas Caddy features heavy duty metal construction with fluid level gauge and an industrial grade two-way rotary hand pump that can be used to siphon or dispense gasoline or diesel fuel. The Caddy is supplied with a ground wire and clamp, fire-screened vent and filler neck combination and a set of decals for contents identification.

This Gas Caddy complies with OSHA guidelines and is UL listed.

Makes fuel transfer safe and easy. Ideal for auto repair shops, motorcycle shops, salvage yards and marinas where fuel tanks need to be drained before repair or removal.

Dimensions:  
46" H (with pump) x 21" W x 21" D



## MOBILE CART SYSTEMS

Mobile Heavy Duty Cart System for use with 55 gallon Drums

P/N **20094-S31**

Includes:

- P/N 20094T, 3:1 Pump
- P/N 22157, Bung Adapter
- P/N 81200-12, 1/2" x 12' Oil Hose
- P/N 100200-RA, Electronic Meter
- P/N 51009C, Heavy Duty Cart
- P/N 540104C, 1/4" Air Filter/Regulator

P/N **21094-S31**

Same as above except with 5:1 pump.

P/N 20094-S31  
shown



Mobile Heavy Duty Cart System for use with 55 gallon Drums w/ 25' Hose Reel

P/N **20094-S32**

Includes:

- P/N 20094T, 3:1 Pump
- P/N 22157, Bung Adapter
- P/N 43003, Compact Hose Reel
- P/N 81200-25A, 1/2" x 25' Oil Hose
- P/N 100200-RA, Electronic Meter
- P/N 51009C, Heavy Duty Cart
- P/N 540104C, 1/4" Air Filter/Regulator
- P/N 81200-06, 1/2" x 6' Oil Hose

P/N **21094-S32**

Same as above except with 5:1 pump.



P/N 20094-S32 shown

P/N 51009C-S2 shown



Electric Oil Transfer Cart for 55 gallon Drums w/ 25' Hose Reel, System Includes:

P/N **51009C-S1**

- P/N 51009C, Heavy Duty 55 Gallon Drum Cart
- P/N 33221, 3 GPM, 115 VAC Electric Pump, 170 PSI max.
- P/N 950065P-40, 1" x 6' Suction Hose Kit w/stinger
- P/N 43003-25L, 1/2" x 25' Hose Reel
- P/N 100200-RA, Electronic Meter w/rigid spout & auto tip

P/N **51009C-S2**

Same as 51009C-S1 except uses 7 GPM electric transfer pump and high flow manual tip on meter to maximize flow rate

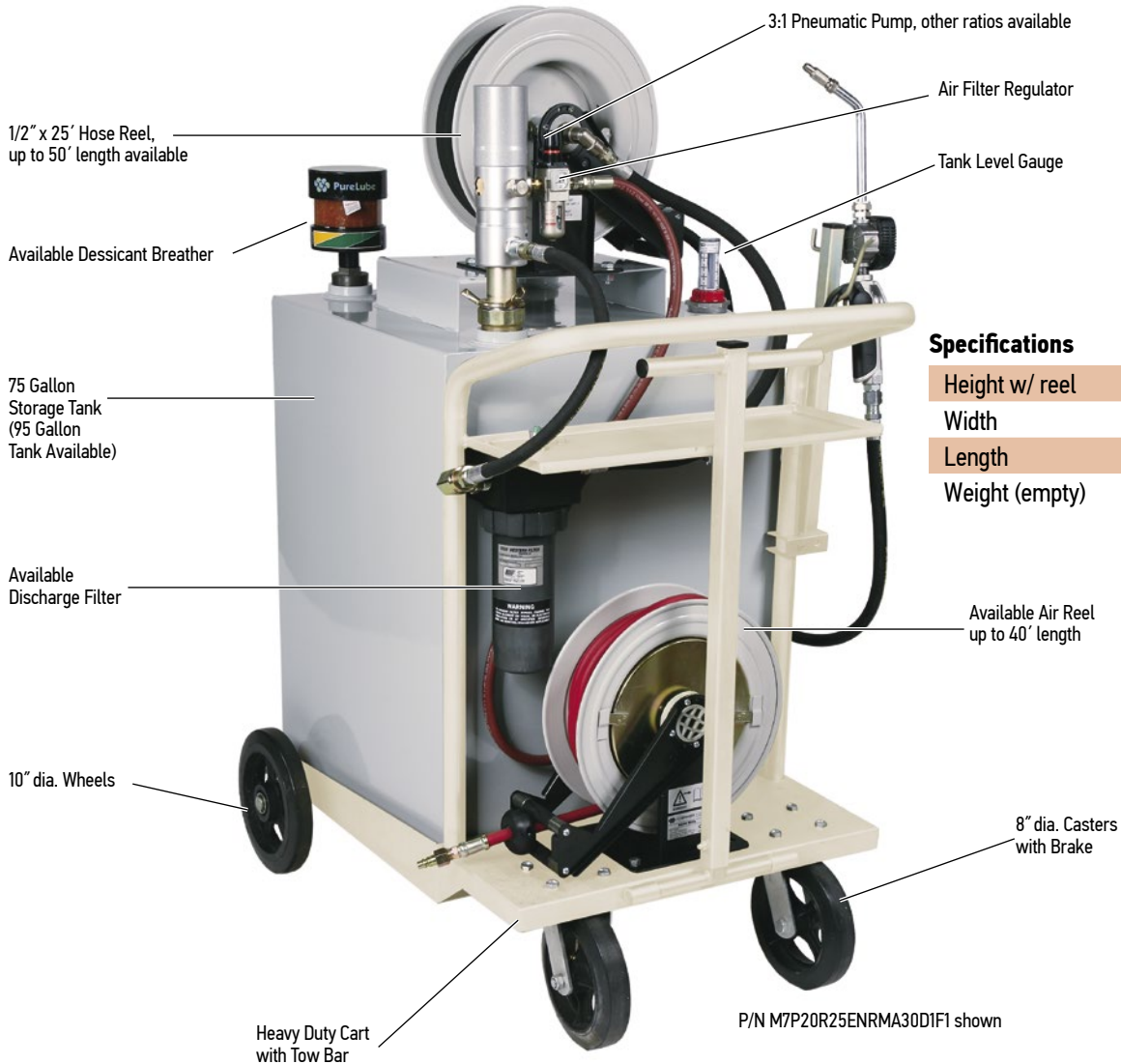
# MOBILE CART SYSTEM

The Liquidynamics Mobile Cart System with 75 gallon storage tank provides a clean, safe and efficient way to dispense fluids. The 20 additional gallons of storage capacity allows the user to add the entire contents of a 55 gallon drum before running out of product. This eliminates the potential of having partially empty 55 gallon drums accumulate and does away with the difficulty, mess and time consuming chore of changing drums – you simply pump the fluid from the 55 gallon drum into the Mobile Cart!

The standard system includes a 3:1 pneumatic pump, 1/2" x 25' hose reel, 1/2" x 6' jumper hose, electronic meter, control handle with rigid spout, automatic tip, air filter/regulator, 75 gallon

storage tank and heavy duty cart. The heavy duty cart features large 10" dia. wheels, 8" dia. casters (with brake) and tow bar for easy maneuverability.

You can easily customize this system to best fit your application by choosing components from the provided selection chart. In keeping with the current emphasis on fluid cleanliness, Liquidynamics offers dessicant breathers to ensure air drawn into the tank is free of particulate and moisture contamination. As a final assurance that only clean fluid is being dispensed from your mobile cart, a high pressure discharge filter is available in several micron ratings.



### Specifications

Height w/ reel	56"
Width	29"
Length	28"
Weight (empty)	295 lbs.

# MOBILE CART SYSTEM SELECTION GUIDE

## SYSTEM IDENTIFIER

- MX** 55 Gallon Drum Cart System
- M7** Cart System with 75 Gallon Tank
- M9** Cart System with 95 Gallon Tank

## PUMP SELECTION

- P12 1:1 Pump w/Bung Adapter
- P20** 3:1 Pump w/Bung Adapter
- P21 5:1 Pump w/Bung Adapter
- P22 5:1, 8 GPM Pump w/Bung Adapter
- P51 3.0 GPM, Manual on/off, 115 VAC, 170 PSI Max, P/N 33221
- P52 4.0 GPM, Manual on/off, 115 VAC, 325 PSI Max, P/N 33222
- P53 7 GPM, 80 PSI, 115 V AC, Manual on/off, P/N 33250

## FLUID REEL/HOSE SELECTION

- H12 1/2" x 12' Oil Hose
- R25** 1/2" x 25' Oil Hose Reel
- R40 1/2" x 40' Oil Hose Reel
- R50 1/2" x 50' Oil Hose Reel

## METER SELECTION

- VN Control Valve w/o Meter
- EN** Electronic Non-Preset Meter, LD250
- EP Electronic Preset Meter, K500
- ES Electronic Preset Meter, BP100S
- MN Mechanical Non-Preset Meter
- MP Mechanical Preset Meter
- MR Mechanical Meter, P/N 100395

## TYPE OF DISCHARGE SPOUT

- R** Rigid
- F Flex
- H Hose, 12"

## TYPE OF DISCHARGE TIP

- A Automatic
- M** Manual
- H High Flow Manual

## AIR REEL

- XXX Not Required
- A50 50' Air Reel, P/N 48002-50A

## DESSICANT BREATHERS (Includes Pre-Vent Fill Cap)

- XX Not Required
- D1 PureLube Dessicant Breather, 3"x 3"
- D2 PureLube Dessicant Breather, 5"x 5"

## DISCHARGE FILTER

- XX Not Required
- F1 Discharge Filter, 10 micron
- F3 Discharge Filter, 3 micron
- F5 Discharge Filter, 6 micron

**MX P20 R25 EN R M XXX XX XX**



P/N M7 P20 R25 EN R M XXX XX XX shown

Example: Mobile Cart System MX P20 R25 EN R M XXX XX XX as shown above is a basic mobile cart system with heavy duty cart for 55 gallon drums, 3:1 pneumatic pump to fit a 55 gallon drum, 1/2" x 25' hose reel 1/2" x 6' connection hose, air filter/regulator and electronic digital meter with rigid spout and manual tip.

Your Mobile Cart can easily be customized to fit your specific application by selecting options shown above.

**NOTE:** For pricing see back section of price booklet.



# HAND OPERATED MOBILE GEAR OIL PUMP KITS



P/N **30200-S6**  
 Mobile Hand Pump System for use with 16 gallon drums.

- Includes:
- 30200 Hand Pump
  - 51003C 4 Wheel Cart
  - 901006 Cover

P/N **30200-S7**  
 Same as above but includes P/N 100200 In-line Meter



P/N **30200-S8**  
 Mobile Hand Pump System for use with 55 gallon drums.

- Includes:
- 30200 Hand Pump
  - 51009C 4 Wheel Cart

P/N **30200-S9**  
 Same as above but includes P/N 100200 In-line Meter



Light Duty Gear Oil Hand Pump Systems for 16 gallon drums.

P/N **10007C**  
 Pump & Cover

P/N **10007-S2**  
 Pump, Cover & Dolly

P/N **10007-S1**  
 Pump, Cover, Dolly, Meter

P/N 10007-S1 shown

(Drum not included)

Heavy Duty Gear Oil Hand Pump Systems for 55 gallon drums.

P/N **30200-S10**  
 Pump & Dolly

P/N **30200-S11**  
 Pump, Dolly and Meter.

P/N 30200-S10 (shown)



(Drum not included)

1P/N 30200-S2 (shown)

Heavy Duty Gear Oil Hand Pump Systems for 16 gallon drums.

P/N **30200-C**  
 Pump & Cover

P/N **30200-S1**  
 Pump, Cover, Dolly

P/NL **30200-S2**  
 Pump, Cover, Dolly and Meter



(Drum not included)



P/N **51009C-S16**  
 75 Gallon Cart for Two Way Oil Transfer, 3/4" D.D. Pump.

P/N **51009C-S17**  
 95 Gallon Cart for Two Way Oil Transfer, 3/4" D.D. Pump.

## MOBILE OIL DISPENSERS

The mobile oil dispensers shown here will provide many years of reliable operation. They are designed for easy and convenient transfer of engine oil, gear oil, ATF, hydraulic fluid and 100% antifreeze. They are not designed for use with flammable, explosive or corrosive fluids.

**WARNING:** These dispensers are not for use with flammable, explosive or corrosive products such as gasoline, diesel fuel or chemicals. Do not do any welding on the reservoir



### P/N 24127R

Hand operated 8 Gallon portable oil dispenser (6 Gal. useable capacity) has 6' discharge hose with ball valve shutoff and curved discharge spout. Tank includes a fluid level gauge with graduations in Liters and Gallons. Heavy duty hand pump has approximately 8 oz. discharge per stroke (four strokes per quart). Oil dispenser includes a handy tool tray, removable funnel with dust cap and 'T' handle plug. Dim.: 12" W x 14" D x 33" H, empty weight is 28 lb.

### P/N 24127RM

Same as P/N 24127R above, except it includes P/N 100200 electronic digital meter. Meter has a resettable batch total, non – resettable cumulative total and can display batch totals in pints, quarts, liters or gallons. Cumulative total displays Liters or Gallons, Requires 2 ea. AAA alkaline batteries (included).

### P/N 24128R

Air operated 8 Gallon portable oil dispenser (5½ gal. useable capacity) is pressurized with regulated shop air to 90 PSI to dispense engine oil, gear oil, hydraulic fluid, ATF and 100% antifreeze. Dispenser is equipped with a 6' discharge hose and control handle with rigid spout. Tank includes a tank pressure gauge, fluid level gauge with graduations in Liters and Gallons, integral tool tray, removable funnel with dust cap and 'T' handle plug. Dim.: 12" W x 14" D x 33" H, empty weight is 28 lb.

### P/N 24128RM

Same as P/N 24128R above, except it includes P/N 100200 electronic digital meter. Meter has a resettable batch total, non – resettable cumulative total and can display batch totals in pints, quarts, liters or gallons. Cumulative total displays Liters or Gallons. Requires 2 ea. AAA alkaline batteries (included).

## MOBILE OIL DISPENSERS

### P/N 24130R

Hand operated 21 Gallon mobile oil dispenser (18 Gal. useable capacity) has 6' discharge hose with ball valve shutoff and curved discharge spout. Tank includes a fluid level gauge with graduations in Liters and Gallons. Heavy duty hand pump has approximately 8 oz. discharge per stroke (four strokes per quart). Oil dispenser includes a handy tool tray and fill/breather cap to allow easy refilling of tank. Dim.: 15" W x 21" D x 44" H, empty weight is 56 lb.

### P/N 24130RM

Same as P/N 24130R above, except it includes P/N 100200 electronic digital meter. Meter has a resettable batch total, non – resettable cumulative total and can display batch totals in pints, quarts, liters or gallons. Cumulative total displays Liters or Gallons. Requires 2 ea. AAA alkaline batteries (included).



### P/N 24134R-04

21 Gallon mobile oil dispenser with a Fill-Rite FR112 rotary hand pump mounted on board allows continuous fluid transfer at up to 10 gallons per 100 revolutions. Kit includes an 8' nitrile hose with aluminum spout and vacuum breaker to prevent siphoning. The mobile tank includes a tank level sight gauge with graduations in Gallons and Liters, tool tray and sintered metal fill/breather cap.

### P/N 24135R

Mobile oil dispensing system includes a 3:1 ratio pneumatic pump with air filter/regulator/gauge, 1/2" x 12' discharge hose and oil control handle with rigid spout and auto tip. This twenty one gallon tank (18 Gal. useable capacity) system is ideal for dispensing engine oil, gear oil, hydraulic fluid, ATF and 100% antifreeze. Tank includes a fluid level gauge with graduations in Liters and Gallons, an integral tool tray and fill/breather cap to allow easy refilling of tank. Dim.: 15" W x 21" D x 46" H, empty weight is 60 lb.

### P/N 24135RM

Same as P/N 24135R above, except it includes P/N 100200 electronic digital meter. Meter has a resettable batch total, non – resettable cumulative total and can display batch totals in pints, quarts, liters or gallons. Cumulative total displays Liters or Gallons. Requires 2 ea. AAA alkaline batteries, (included).



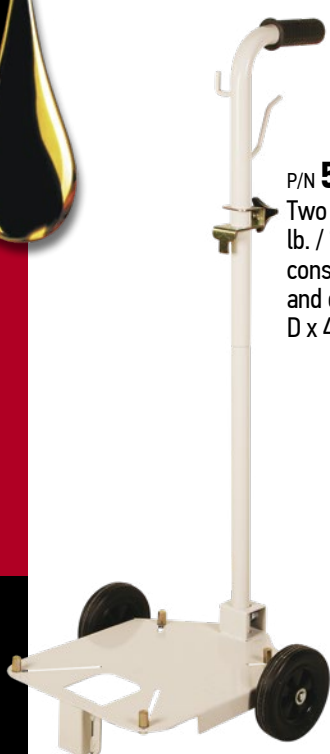
## DRUM CARTS AND DOLLIES

### P/N 51004C

Two wheel drum cart for 35 lb. and 120 lb. / 16 gallon drums. Powder coated steel construction. Features hanger for hose and oil control handle. Dim. 18½" W x 24" D x 41½" H.

### P/N 51003C

Four wheel drum cart for 35 lb. and 120 lb. / 16 gallon drums. Powder coated steel construction, includes drip tray for pump placement during drum change. Dim. 20" W x 21" D x 38" H.



Tool tray



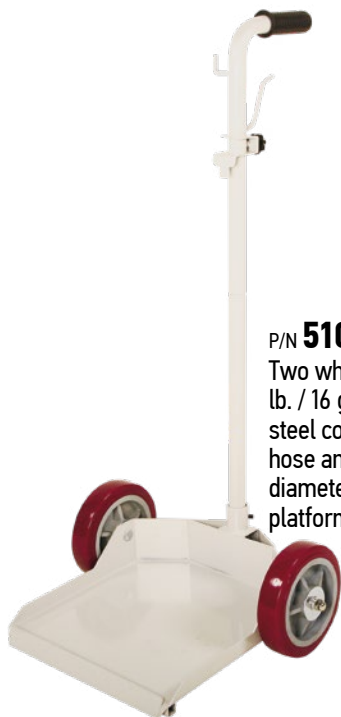
Bracket and drip tray for drum change



Swivel caster with brake

### P/N 51004D

Two wheel drum cart for 35 lb. and 120 lb. / 16 gallon drums. Powder coated steel construction. Features hanger for hose and oil control handle, has large 8" diameter wheels and low profile drum platform for easy on/off loading.



### P/N 51009C

Heavy duty four wheel drum cart for 420 lb. / 55 gallon drums. Heavy duty powder coated steel construction with bracket and drip tray for drum change. Now includes tow bar for improved handling capability. Dim. 31" W x 36" D x 36" H. 2,600 lb. load rating.

These drum dollies utilize heavy duty steel wheels on ball bearings. Casters are bolted to the powder coated 12 gauge steel frame, allowing easy replacement.

### P/N 950012

30 gallon Drum Dolly

### P/N 950008

55 gallon / 420 lb. Drum Dolly

### P/N 950007

5 gallon / 35 lb. Drum Dolly

### P/N 950006

16 gallon / 120 lb. Drum Dolly

Drum dollies have powder coated finish w/ outrigger casters for stability and durability. Urethane ball bearing casters provide quiet, trouble free operation and long life. Adjustable band to fit variations in drum diameter.



Casters are bolted for easy replacement

## DRUM HANDLING EQUIPMENT AND COVERS



### 55 Gallon Drum Handler

Height 38½" x 33" overall width and 27" opening width. Shipping weight is 48 lb., unit is UPS shippable.

P/N **950060**

### Heavy Duty Drum Cradle

Heavy duty one piece construction provides an economical drum stand for draining and storing 30 and 55 gallon drums. Complete with zinc plated handle for additional leverage.

P/N **950009** Drum Cradle, 1,000 lb. capacity



### Hand Truck

Dual purpose design allows moving conventional boxed items as well as 16, 30 and 55 gallon drums. Unique chime hook design can be rotated out of the way when not being used. 600 lb. capacity, 10" solid rubber wheels, 50" overall height.

P/N **950066**



### Drum Handling Hand Truck

P/N **950068**

Engineered to efficiently and safely move a variety of drum types and sizes. The unique chime hook assembly will handle both steel or fiber drums from 25" to 48" in height. The drum cradle provides perfect balance while loading and moving. Small rollers placed behind the "toes" allow easy loading and unloading from pallets. This drum handler is equipped with 10" x 2½" mold-on rubber wheels with roller bearings and grease fittings for long life. 1,000 pound capacity. Ships via common carrier, 75 lb.

### Heavy Duty Drum Covers

Recommended for use with air operated pumps as well as hand pumps. Complete with 2" bung.

P/N **901002** 5 Gallon Cover

P/N **901006** 16 Gallon Cover

P/N **901005** 55 Gallon Cover



### Drum Heaters

Heavy duty silicone rubber band heaters feature a patented serpentine wound and grounded heating element laminated between two layers of 20 mil fiberglass reinforced silicone rubber. These 120 VAC heaters include a 6 foot power cord and plug. **Not for use with lined steel drums or plastic drums.**

P/N **950071-05**

Fits 5 gallon/35 lb pails, 120 VAC, 550 watt, 4.6 amp heater

P/N **950071-16**

Fits 16 gallon/120 lb drums, 120 VAC, 700 watt, 6 amp heater

P/N **950071-30**

Fits 30 gallon drums, 120 VAC, 1000 watt, 8.4 amp heater

P/N **950071-55**

Fits 55 gallon/420 lb drums, 120 VAC, 1200 watt, 10 amp heater



## COMPLETE TANK SYSTEMS



P/N 970023-225 shown

New Oil Bench Tank Kits With 3/4" Double Diaphragm Pump and 4-Way Valve can be used for filling mobile containers and drums and then, with a simple re-positioning of the 4-way valve and connection to an external source, the tank can be quickly refilled. The system includes a lockable fill cap that can be used to fill the tank if desired. A tank level gauge provides tank level monitoring capability, while the 3/4" x 12' suction/discharge hose with included dry break disconnects allows quick and easy connection to external tanks or drums.

P/N **970023-165**  
165 Gallon Bench Tank Kit

P/N **970023-225**  
225 Gallon Bench Tank Kit

P/N **970023-280**  
280 Gallon Bench Tank Kit

## 1:1 SPIGOT PUMP TANK SYSTEMS

Model	Tank Capacity	Tank Dimensions
P/N <b>32093-S21</b>	165 Gallon	36" L x 33" D x 33" W
P/N <b>32093-S22</b>	225 Gallon	48" L x 33" D x 33" W
P/N <b>32093-S23</b>	280 Gallon	60" L x 33" D x 33" W

Systems Include:

- Tank specified above
- 32099-S1 1:1 Pump
- 901054 Vent/Fill Cap (lockable)
- 901057 Tank Level Gauge
- 540104C Air Filter/Regulator w/ gauge
- 23104 Self Closing Spigot



P/N 32093-S21 shown

## CUSTOMIZED TANK SYSTEMS

The "system selection guide" may be used to customize your tank systems, which are completely assembled at the factory and ready for introduction of product and air supply.

All tank systems include the following components to ensure that your system is ready for use:

- Your choice of tank
- Your choice of pump, 1:1, 3:1, 5:1 (3:1 pump standard)
- 2" bung adapter (allows easy adjustment of pump height)
- Suction pipe with foot valve
- Air filter/regulator (not supplied w/electric pump)
- Your choice of meter and control handle (100200-RA standard)
- Your choice of hose reel length (1/2" x 25' standard)
- 1/2" x 2' oil jumper hose
- 3/8" x 6' air jumper hose (not supplied w/electric pump)
- 1/4" air quick coupler (not supplied w/electric pump)
- Tank level gauge
- Vented fill cap (lockable)

Systems are skid mounted (oval tanks) and protected by a heavy carton to allow easy handling and to ensure the system arrives at the customers location in excellent condition.



Model TS20R40ENQRATI shown

Model TS21R25ENQRAB2 shown

# CUSTOMIZED TANK SYSTEMS SELECTION GUIDE

## SYSTEM IDENTIFIER

### TS Tank System

#### PUMP SELECTION

- 09 3/4" Double Diaphragm, 1:1 ratio
- 11 1/2" Double Diaphragm, 1:1 ratio
- 12 1:1 Pump, 5 GPM – without spigot
- 20 3:1 Pump, 5 GPM**
- 21 5:1 Pump, 5 GPM
- 22 5:1 Pump, 8 GPM
- 23 5:1 Pump, 12 GPM
- 63 115V AC, 7 GPM, Electric Pump

#### REEL SELECTION

- H20 1/2" x 20' Hose Only
- R25 1/2" x 25' Hose Reel**
- R30 1/2" x 30' Hose Reel
- R40 1/2" x 40' Hose Reel
- R50 1/2" x 50' Hose Reel
- C50 1/2" x 50' Hose Reel (Large Capacity, P/N 88402)
- C75 1/2" x 75' Hose Reel
- D75 1/2" x 75' Hose Reel (Extreme Duty, P/N 46200)

#### METER SELECTION

- VN Control Valve w/o Meter, VN200 Series
- VH High Flow Control Handle, P/N 32107
- EN Electronic Non-Preset Meter, LD250 Series**
- EB Electronic Non-Preset Meter, LB300 Series
- EW Windshield Wash Fluid (For use with 1:1 Pumps only.)
- EP Electronic Preset Meter, K500 Series
- ES Standard Model Electronic Preset Meter, BP100 Series
- BW Radiator Faucet, for use w/ 1:1 ratio pumps, P/N 900230
- MN Mechanical Non-Preset Meter
- MP Mechanical Preset Meter
- MR Mechanical Meter, P/N 100395
- WB Windshield Washer Faucet, for use w/ 1:1 ratio pumps, P/N 900234W

#### TYPE OF CALIBRATION

- X Not Applicable
- Q Quart Calibration**
- G Gallon Calibration
- P Pint Calibration

#### TYPE OF DISCHARGE SPOUT

- R Rigid**
- F Flex
- H Hose, 12"

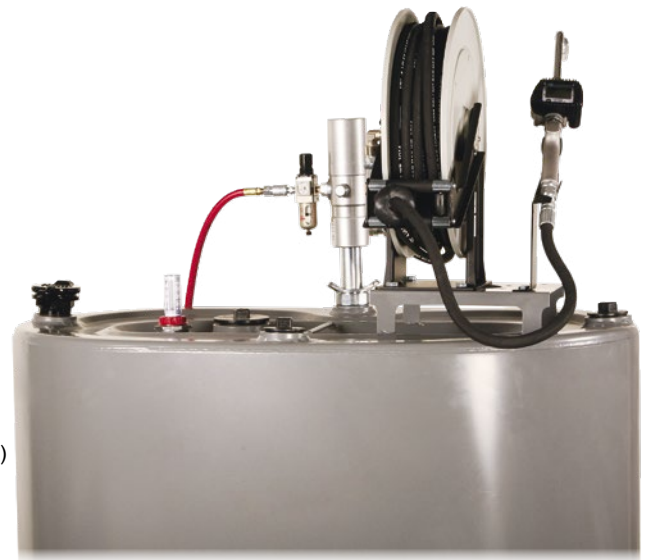
#### TYPE OF DISCHARGE TIP

- A Automatic**
- M Manual
- H High Flow Manual

#### TANK SELECTION

- T1 275 Gallon Oval**, horizontal, 60" L x 27" D x 52" H
- T2 330 Gallon Oval, horizontal, 72" L x 27" D x 52" H
- T3 275 Gallon Oval, vertical, 52" L x 27" D x 60" H
- T4 330 Gallon Oval, vertical, 17" W x 52" L x 76" H
- B1 165 Gallon Bench 36" L x 33" D x 39" H
- B2 225 Gallon Bench 48" L x 33" D x 39" H
- B3 280 Gallon Bench 60" L x 33" D x 39" H
- R6 500 Gallon Round UL Listed 46" Dia. x 71.5"

**TS 20 R25 EN Q R A T1**



Model TS 21 R50 ES Q R A T3 shown

**Example:** Tank system w/3:1 pump, 25' reel, electronic meter w/quart cal., rigid spout, auto non drip tip and 275 gallon oval tank. System comes complete with foot valve, 2" bung adapter, air filter/regulator, air coupler set, 1/2" x 2' oil connection hose, 3/8" x 6' air connection hose, tank gauge, vented fill cap.

**NOTE:** For pricing see back section of price booklet.

# ROTH DOUBLE – WALL LUBE OIL TANK SELECTION GUIDE

This “System Selection Guide” allows you to customize your tank system to best fit your specific requirements. You can choose from five different size tanks, several pump options, hose or hose reel options and a wide selection of meters. The system is supplied with all customer selected components and all required accessories such as tank gauge, fill cap, air filter/regulator and connection hoses.

Roth double wall tanks are UL 2258 Certified and are intended for use with engine oil, gear oil, transmission fluid and hydraulic fluid and generally for fluids classified as class II or class III combustible fluids.



## SYSTEM IDENTIFIER

### RW Roth Double Wall Tank System

#### PUMP SELECTION

- 09 3/4" Double Diaphragm Pump
- 11 1/2" Double Diaphragm Pump
- 12 1:1 Pump, 5 GPM (no spigot)
- 20 3:1 Pump, 5 GPM**
- 21 5:1 Pump, 5 GPM
- 22 5:1 Pump, 8 GPM
- 23 5:1 Pump, 12 GPM

#### HOSE/REEL SELECTION

- H12 1/2" x 12' Hose Only
- H20 1/2" x 20' Hose Only
- R25 1/2" x 25' Hose Reel**
- R40 1/2" x 40' Hose Reel
- R50 1/2" x 50' Hose Reel

#### METER SELECTION

- VN Control Valve w/o meter, VN 200 series
- EN Electronic Non-Preset Meter, LD250 series**
- EB Electronic Non-Preset Meter, LB300 series
- EP Electronic Preset Meter, K500 series
- ES Electronic Preset Meter, BP100 series
- MN Mechanical Non-Preset Meter, BM series
- MP Mechanical Preset Meter, BM series
- MR Mechanical Meter, Non-Preset, P/N 100395

#### TYPE OF CALIBRATION

- X Not Applicable
- Q Quart Calibration**
- G Gallon Calibration
- P Pint Calibration

#### TYPE OF DISCHARGE SPOUT

- R Rigid**
- F Flex
- H Hose

#### TYPE OF DISCHARGE TIP

- A Automatic**
- M Manual
- H High Flow Manual

#### TANK SELECTION

- 110 Gallon Double Wall Tank (29" L x 28" W x 44" H)
- 165 Gallon Double Wall Tank (29" L x 28" W x 61" H)
- 275 Gallon Double Wall Tank (43" L x 28" W x 61" H)**
- 275H Gallon Double Wall Tank (51" L x 30" W x 54" H)
- 400 Gallon Double Wall tank (64" L x 30" W x 68" x H)

**RW 20 R25 EN Q R A 275**

**Example:** Double Wall Roth tank system with 3:1 pump, 25' hose reel, electronic digital meter, with quart calibration, rigid spout and automatic non drip tip and 275 gallon Roth double wall tank. System is complete with 275 gallon tank, equipment mounting brackets, bung adapter, full length suction pipe, foot valve, air filter/regulator w/gauge, air coupler set, 3/8" x 6' air hose, 1/2" x 2' oil connection hose, tank gauge, vented fill cap and all hardware to securely attach equipment to tank.



# PUMP/OIL REEL SYSTEM SELECTION GUIDE

The selection guide below allows you to customize the pump/reel/meter system to best fit your application and allows you to take advantage of "system" pricing.

The selection guide steps you through the selection process with the end result being a unique model number detailing your system configuration. Model RS25R25ENQRAFR2 is shown below. It includes a 5:1 stub pump, foot valve, 25 foot hose reel w/ 2 foot jumper hose, electronic meter with quart calibration, rigid spout, auto-tip and a 230 PSI rated filter/regulator with gauge.

**NOTE:** Optional items that you may need to complete your system: P/N 540025 Relief Valve Kit, 750 PSI, P/N 540035 2" Double Tap with 3/8" Return Port, P/N 22159 2" Bung Spacer with 3/8" Return Port.

**NOTE:** If you will be plumbing any of these systems with hard, rigid pipe, it is highly recommended to install a relief valve kit, model P/N 540025. When using a stub pump, use relief valve kit P/N 540025 in conjunction with 2" double tap P/N 540035, or bung spacer P/N 22159, for convenient return of "relieved" fluid. See page 53.

## SYSTEM IDENTIFIER

### RS Oil Transfer System

#### PUMP SELECTION

- 20 3:1 Stub Pump w/bung adapter
- 21 3:1 Drum Pump to fit 55 Gallon drum, w/bung adapter
- 22 3:1 Pump Kit to fit 275 Gallon Oval Tank, 44" length, w/bung adapter
- 23 5:1 High Flow Stub Pump, 12 GPM
- 24 5:1 High Flow Stub Pump, 8 GPM
- 25 5:1 Stub Pump w/ bung adapter**
- 26 5:1 Drum Pump to fit 55 Gallon drum, w/bung adapter
- 27 5:1 Pump Kit to fit 275 Gallon Oval Tank, 44" length, w/bung adapter

#### REEL SELECTION

- H20 1/2" x 20' Hose Only
- R25 1/2" x 25' Hose Reel**
- R30 1/2" x 30' Hose Reel
- R40 1/2" x 40' Hose Reel
- R50 1/2" x 50' Hose Reel
- C50 1/2" x 50' Hose Reel (Large Capacity, P/N 88402)
- C75 1/2" x 75' Hose Reel

#### METER SELECTION

- VN Control Valve w/o Meter, VN200 Series
- EN Electronic Non-Preset Meter, LD250 Series**
- EB Electronic Non-Preset Meter, LB300 Series
- EP Electronic Preset Meter, K500 Series
- ES Standard Model Electronic Preset Meter, BP100 Series
- MN Mechanical Non-Preset Meter
- MP Mechanical Preset Meter
- MR Mechanical Meter, P/N 100395

#### TYPE OF CALIBRATION

- X Not Applicable
- Q Quart Calibration**
- G Gallon Calibration
- P Pint Calibration

#### TYPE OF DISCHARGE SPOUT

- R Rigid**
- F Flex
- H Hose, 12"

#### TYPE OF DISCHARGE TIP

- A Automatic**
- M Manual
- H High Flow Manual

#### AIR FILTER/REGULATOR/LUBRICATOR W/GAUGE

- xxx No Filter/Regulator
- FR1 FRL Combo, 1/4", 230 PSI
- FR2 FR COMBO, 1/4", 230 PSI**
- FR6 FR Combo, 3/8", 230 PSI

**RS 25 R25 EN Q R A FR2**

**Example:** Transfer system w/ 5:1 pump, 25' Hose Reel, non-preset electronic meter w/quart calibration, rigid spout, automatic discharge tip and filter regulator combo w/gauge.

**NOTE:** For pricing see back section of price booklet.

RS 25 R25 EN Q R A FR2 shown

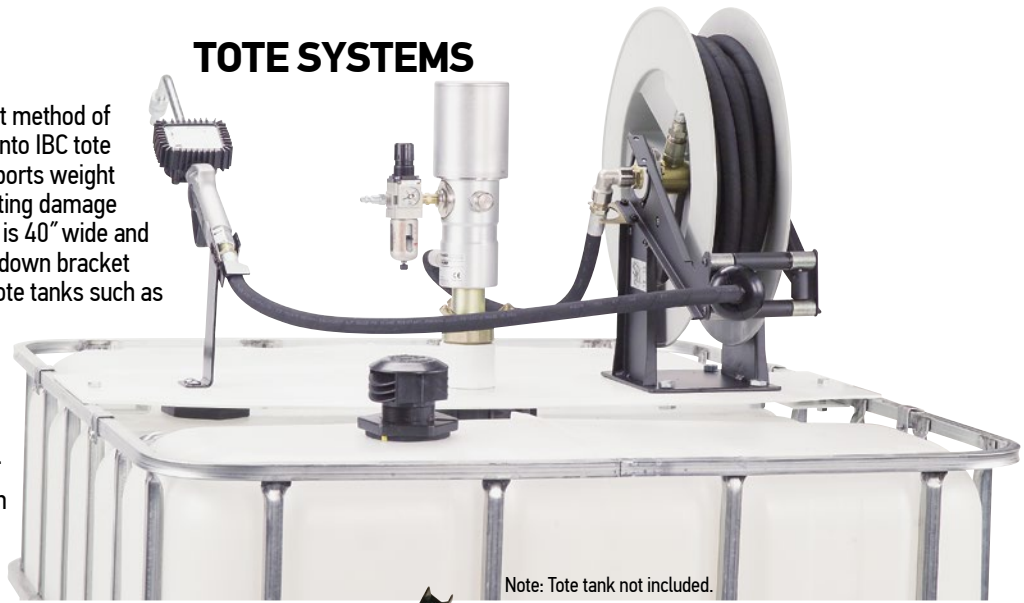


## TOTE SYSTEMS

The Tote System is a convenient method of mounting transfer equipment onto IBC tote tanks. Steel mounting plate supports weight of pump, reel and meter, preventing damage to tank. Basic mounting plate kit is 40" wide and is provided with a versatile hold down bracket to fit most commonly used IBC tote tanks such as Clawson, Hoover and Greif.

Optional bulkhead fitting and vent cap kit allows equipment to be left in place while providing tank venting and refilling access.

By using the convenient selection guide provided, you can easily customize your system to fit your particular application.

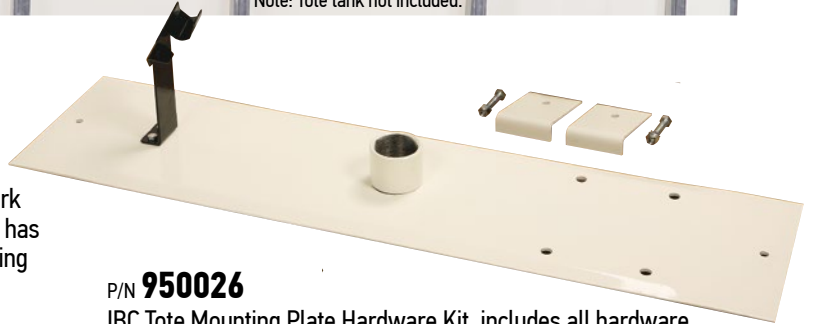


**P/N 901071**

275 Gallon IBC Tote Tank with galvanized steel tubing frame. UV stabilized, high density polyethylene blow molded tank. May be stacked up to three high. Four way fork lift access. Dimensions are 48"W x 40"D x 46"H. Six inch lid has a 2" NPTF opening and 2" discharge valve at bottom. Shipping weight, 145 lbs.

**P/N 901071-330**

330 Gallon IBC Tote Tank with galvanized steel tubing frame. UV stabilized, high density polyethylene blow molded tank. May be stacked up to three high. Four way fork lift access. Dimensions are 48"W x 47"D x 54"H. Six inch lid has a 2" NPTF opening and 2" discharge valve at bottom. Shipping weight, 155 lbs.



**P/N 950026**

IBC Tote Mounting Plate Hardware Kit, includes all hardware to attach mounting plate to tote tank and allow mounting of pneumatic pump, hose reel and discharge valve/meter. Fits most standard IBC tote tanks w/40" wide frame.

**P/N 950026A**

Tote Mounting Plate for use w/88403-75L (C75) reels Same as above, except 13" wide to accommodate 75' hose reel

**NOTE:** See page 105 for desiccant breather options.

**Vent Cap Features:**

- 2" Male NPT
- Glass reinforced polypropylene
- 304 Stainless Steel Screen, 12 Mesh

P/N **900289-S** Vent w/Screen



**Bulkhead Fitting & Vent Kit:**

**P/N 900352**

Includes Bulkhead Fitting, Viton & Vent with Screen



**Bulkhead Fitting Features:**

- 2" Bulkhead Fitting (3" hole size)
- Glass reinforced polypropylene
- Viton Gasket (EPDM optional)



**P/N 900236**

Bulkhead Fitting (comes standard with Buna N Gasket)

**P/N 900348**

EPDM Bulkhead Gasket

**P/N 900349**

Buna N Bulkhead Gasket

# IBC OIL TANK SYSTEM SELECTION GUIDE

## SYSTEM IDENTIFIER

- TOA** Tote System for 275 Gallon Tote\*
- TOB Tote System for 330 Gallon Tote\*

## PUMP SELECTION

- 09 3/4" Double Diaphragm
- 10 1:1 Pump Kit to fit 44" deep Tote Tank, w/Bung Adapter
- 11 1/2" Double Diaphragm
- 22 3:1 Pump Kit to fit 44" deep Tote Tank, w/Bung Adapter
- 27** **5:1 Pump Kit to fit 44" deep Tote Tank, w/Bung Adapter**
- 28 1:1 Stainless Steel Pump Kit to fit Tote Tank, w/Bung Adapter

## REEL SELECTION

- H20 1/2" x 20' Hose Only
- R25** **1/2" x 25' Hose Reel**
- R30 1/2" x 30' Hose Reel
- R40 1/2" x 40' Hose Reel
- R50 1/2" x 50' Hose Reel
- C75 1/2" x 75' Hose Reel

## METER SELECTION

- VN Control Valve w/o Meter, VN200 Series
- EN** **Electronic Non-Preset Meter, LD250 Series**
- EB Electronic Non-Preset Meter, LB300 Series
- EP Electronic Preset Meter, K500 Series
- ES Standard Model Electronic Preset Meter, BP100 Series
- MN Mechanical Non-Preset Meter
- MP Mechanical Preset Meter
- MR Mechanical Meter, P/N 100395

## TYPE OF CALIBRATION

- X Not Applicable
- Q** **Quart Calibration**
- G Gallon Calibration
- P Pint Calibration

## TYPE OF DISCHARGE SPOUT

- R** **Rigid**
- F Flex
- H Hose, 12"

## TYPE OF DISCHARGE TIP

- A** **Automatic**
- M Manual
- H High Flow Manual

## AIR FILTER/REGULATOR/LUBRICATOR W/GAUGE

- XXX No Filter/Regulator
- FR1 FRL Combo, 1/4", 230 PSI
- FR2** **FR Combo, 1/4", 230 PSI**
- FR6 FR Combo, 3/8", 230 PSI



Model TOA 27 R50 EN Q R A FR2 shown

**TOA** **27** **R25** **EN** **Q** **R** **A** **FR2**

**NOTE:** All systems above include mounting bracket and hardware to support pump, reel and discharge valve/meter as shown. Bulkhead fitting, vent and tote tank must be ordered separately.

**\*Tote tank not included.**

**NOTE:** For pricing see back section of price booklet.

## POLY-TANK GRAVITY FLOW SYSTEMS

These space-saving fluid storage systems are simple, dependable, versatile and strong. All tank sizes can be stacked with each other, in any combination since the "footprint" dimensions of all tanks are the same. These tanks are rotationally molded using Natural virgin high density polyethylene (HDPE) which provides exceptional stiffness, surface clarity, UV stabilization and superior environmental stress crack resistance. These tanks are designed for use with polyethylene tolerant fluids and accessories.

The transparent polyethylene material allows you to easily see fluid levels at all times, thus eliminating the need for a separate level gauge. There is no guessing on volumes since all tanks have molded-in volume indicators, therefore eliminating product run-outs and down time.

Stackable tanks have unique molded in grooves that interlock with tanks below to secure tanks in place when stacked. These tanks are easy to set up and are user friendly. A wide range of accessories are available to allow you to configure your tank system to best fit your specific application.

Complete gravity flow tank packages are also available as shown below to allow quick and easy ordering. Secondary containment vessels in two different sizes are also available if required.

**CAUTION: Total stack height not to exceed 96".  
Total stack gallonage not to exceed 360 gal.**

### Poly Tanks Only

P/N **RTT-1110**  
80 Gallon Tank, 36" L  
x 36" W x 18" H, 35 lb.

P/N **RTT-1210**  
120 Gallon Tank, 36" L  
x 36" W x 27" H, 50 lb.

P/N **RTT-1310**  
180 Gallon Tank, 36" L  
x 36" W x 39" H, 95 lb.

P/N **RTT-1410**  
225 Gallon Tank, 36" L  
x 36" W x 49" H, 150 lb.

P/N **RTT-1510**  
310 Gallon Tank, 36" L  
x 36" W x 66" H, 170 lb.



## COMPLETE GRAVITY FLOW TANK KITS

### Complete Gravity Flow Tank Kits

These 2-tank and 3-tank gravity flow tank kits have everything you need for a complete installation, Includes: Tanks, 24" stand, Drip Tray, Spring Valves, Fittings, Tubing, Hose Clamps and Thread Sealant.

P/N RTT-6333 shown

P/N **RTT-6330**  
80/80 Complete Gravity Flow Kit

P/N **RTT-6333**  
80/80/80 Complete Gravity Flow Kit

P/N **RTT-6220**  
120/120 Complete Gravity Flow Kit

P/N **RTT-6320**  
80/120 Complete Gravity Flow Kit

P/N **RTT-6880**  
180/180 Complete Gravity Flow Kit

P/N **RTT-6280**  
120/180 Complete Gravity Flow Kit



## ACCESSORIES FOR POLY TANKS

### Valves

P/N **RTT-4001**  
Spring Release Valve,  
w/ Buna seal

P/N **RTT-4036**  
Brass Ball Valve

P/N **RTT-4002**  
Polyethylene Ball valve

### Tank Stands

Heavy duty steel construction with powder coat finish for corrosion resistance. One stand fits all size tanks.

P/N **RTT-2000**  
Tank Stand Kit, 4" Legs

P/N **RTT-2500**  
Tank Stand Kit, 18" Legs

P/N **RTT-2100**  
Tank Stand Kit, 24" Legs

P/N **RTT-4000**  
Elbow Kit w/Nut for Stand

P/N **RTT-2200**  
Tank Stand Kit, 36" Legs

### Drip Trays

P/N **RTT-3000**  
Drip Tray Holder (Frame Only)

P/N **RTT-3200**  
Drip Tray Kit (Holder, 4 Pans  
and Screens)

P/N **RTT-3100**  
Drip Tray Inserts, w/Screen

### Gravity Feed Accessory Kit

Includes 1" Braided Tubing, Hose Connectors, Hose Clamps, Elbow Kit and Thread Sealant. **(Order valves separately.)**

P/N **RTT-4092**  
2 Tank Accessory Kit

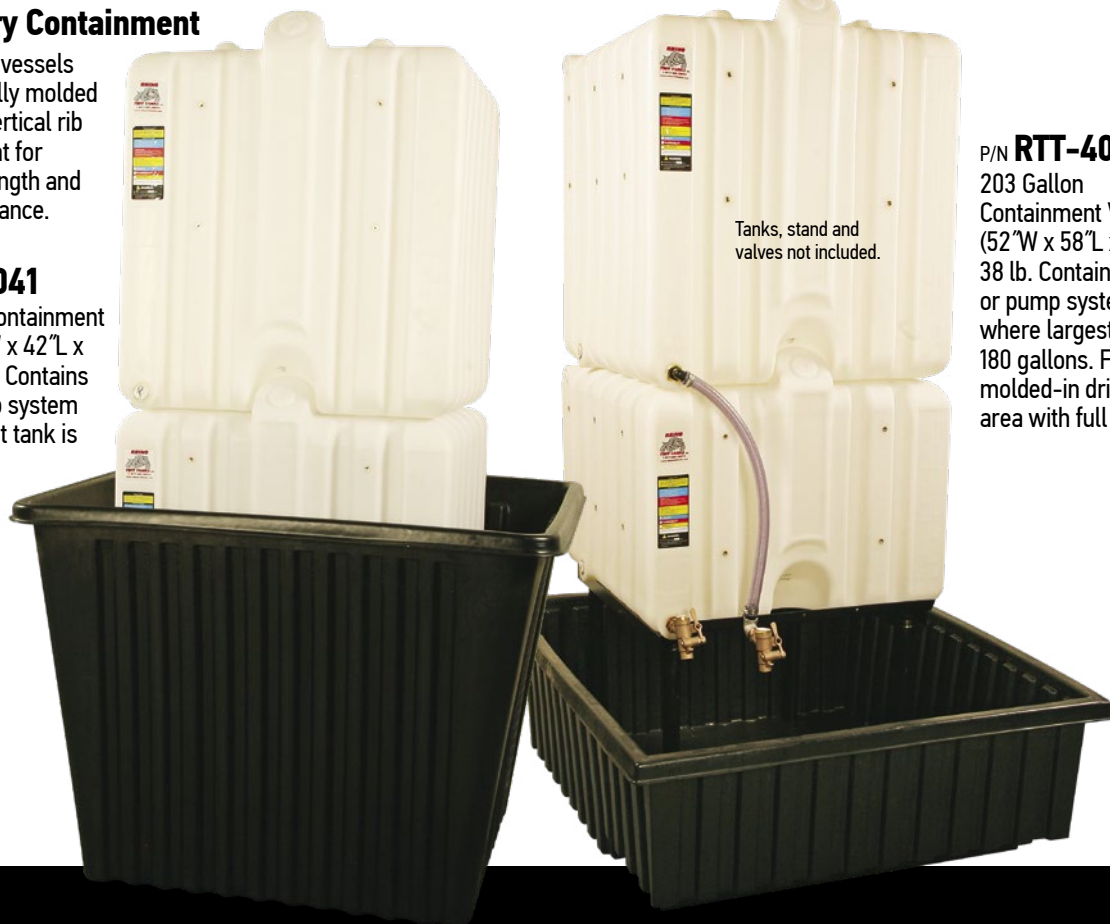
P/N **RTT-4094**  
4 Tank Accessory Kit

P/N **RTT-4093**  
3 Tank Accessory Kit

### Secondary Containment

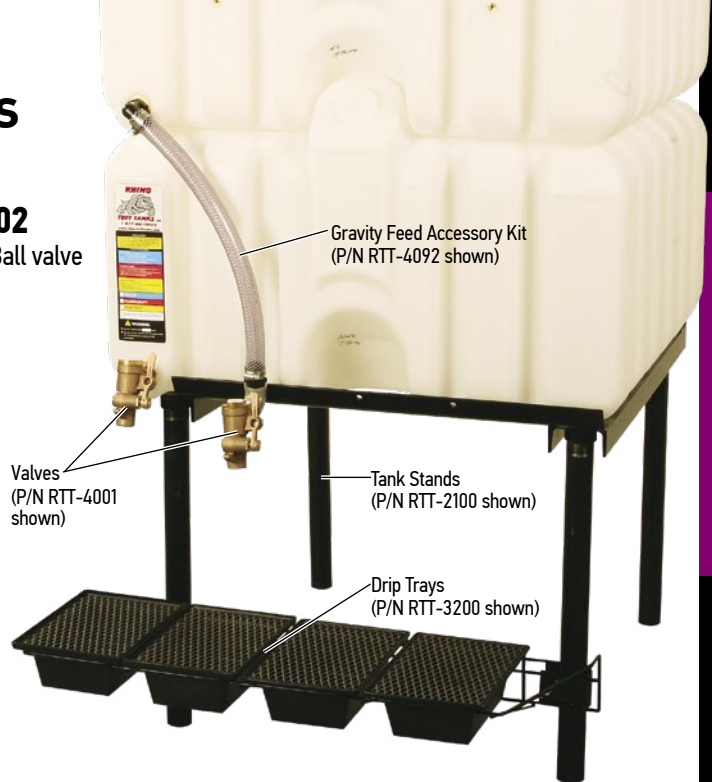
Containment vessels are rotationally molded HDPE with vertical rib reinforcement for superior strength and impact resistance.

P/N **RTT-4041**  
360 Gallon Containment  
Vessel (42"W x 42"L x  
42"D), 100 lb. Contains  
tank or pump system  
where largest tank is  
320 gallons.



Tanks, stand and  
valves not included.

P/N **RTT-4040**  
203 Gallon  
Containment Vessel  
(52"W x 58"L x 20"D),  
38 lb. Contains tank  
or pump system  
where largest tank is  
180 gallons. Features  
molded-in drip tray  
area with full screen.



Gravity Feed Accessory Kit  
(P/N RTT-4092 shown)

Valves  
(P/N RTT-4001  
shown)

Tank Stands  
(P/N RTT-2100 shown)

Drip Trays  
(P/N RTT-3200 shown)

### Gravity Feed Accessories

P/N **RTT-4003**  
Polyethylene Elbow  
w/barbed End

P/N **RTT-4009**  
Braided Poly Tubing, 1" ID  
(1 ft. Increments)

P/N **RTT-4004**  
Polyethylene Union  
w/Barbed End

P/N **RTT-4033**  
Hose Clamp (ea.)

P/N **RTT-4031**  
Thread Sealant, 2 Oz. Tube

# POLY-TANK SYSTEM SELECTION GUIDE

**NOTE:** These systems do not include tank, stand or containment vessel.

## SYSTEM IDENTIFIER

**PTS Poly-Tank Tank Mount Equipment Package**

**PWS Poly-Tank Wall Mount Equipment Package**

**80G 80 Gallon Poly Tank Pump System**

**120G 120 Gallon Poly Tank Pump System**

**180G 180 Gallon Poly Tank Pump System**

**225G 225 Gallon Poly Tank Pump System**

**310G 310 Gallon Poly Tank Pump System**

## PUMP SELECTION

**31 1:1 Pump w/Bung Adapter**

**33 3:1 Pump w/Bung Adapter**

**35 5:1 Pump w/Bung Adapter**

## HOSE/REEL SELECTION

**H12 1/2" x 12' Oil Hose**

**H15 1/2" x 15' Oil Hose**

**R25 1/2" x 25' Oil Hose Reel**

**R30 1/2" x 30' Oil Hose Reel**

**R40 1/2" x 40' Oil Hose Reel**

**R50 1/2" x 50' Oil Hose Reel**

**C75 1/2" x 75' Oil Hose Reel**

## METER SELECTION

**VN Control Valve w/o Meter**

**EN Electronic Non-Preset Meter, LD250**

**ES Standard Electronic Preset Meter, BP100S**

## TYPE OF DISCHARGE SPOUT

**R Rigid**

**F Flex**

## TYPE OF DISCHARGE TIP

**A Automatic**

**M Manual**

## AIR FILTER/REGULATOR W/GAUGE

**FR2 Air F/R combo, 1/4", 230 PSI**



**PTS 120G 33 R25 EN R A FR2**

Example: Poly-Tank System, PTS 120G 33 R25 EN R A FR2 as shown above is a tank mount equipment package including a 3:1 pump sized to fit a 120 gallon poly tank, 2" bung adapter, air filter/regulator, 25' hose reel, 1/2" x 6' connection hose, electronic digital meter with rigid spout & automatic tip and wall mounted drip tray.

**NOTE:** Poly tank, support stand and containment vessel must be ordered separately.

**NOTE:** For pricing see back section of price booklet.

## STORAGE TANKS



P/N 901060 shown

### P/N **901060V**

275 Gallon Vertical Oval Tank has five 2" bung openings, one 3" emergency vent opening and one 1" drain plug. 27" W x 45" L x 64" H, shipping weight 328 lbs. U.L. Listed.

### P/N **901061V**

330 Gallon Vertical Oval Tank has five 2" bung openings, one 3" emergency vent opening and one 1" drain plug. 27" W x 52" L x 76" H, shipping weight 350 lbs. U.L. Listed.



### Oval Tanks:

These tanks are UL 142 listed, constructed of 12 gauge carbon steel with reinforced "strap" legs. Tanks have three 2" bung openings, one 3" emergency vent and a 1" drain. Powder coat finish.

### P/N **901060**

275 Gallon Oval; 60" L x 27" W x 50" H, shipping weight 328 lbs.

### P/N **901061**

330 Gallon Oval; 72" L x 27" W x 50" H, shipping weight 369 lbs.



### Round Storage Tanks:

Constructed from 12 gauge carbon steel with reel mounting plate, four 2" bung openings and one 3" emergency vent opening, lifting lug and a 1" drain. Legs are 2" x 2" x 1/8" angle iron, w/ light gray enamel finish.

### P/N **901068-UL**

500 Gallon Round; 45½" Dia. x 74" L, shipping weight 455 lbs. UL Listed.

### P/N **901076-CH**

300 Gallon Round; 37.75" Dia. x 62" L, shipping weight 250 lb.



P/N 901064 shown

### Bench Tanks:

Bench tanks are constructed from 12 gauge carbon steel with 3" channel bottom and 3" backsplash on three sides. Tank has a 1" drain, three 2" bung openings and comes standard with a reel mounting plate, powder coated finish.

### P/N **901062**

165 Gallon Bench; 36" L x 33" W x 33" H (39" high overall), shipping weight 255 lbs.

### P/N **901063**

225 Gallon Bench; 48" L x 33" W x 33" H (39" high overall), shipping weight 255 lbs.

### P/N **901064**

280 Gallon Bench; 60" L x 33" W x 33" H (39" high overall), shipping weight 285 lbs.

**NOTE:** Contact Liquidynamics for availability of other tanks such as double wall or special sizes.



P/N 901076-CH shown



## HAND OPERATED PUMPS

MODEL **MA-2** P/N 10002

Rugged polypropylene construction with polypropylene coated steel shaft and nitrile seals. Fits 5 to 55 gallon containers and comes with adapter to fit 2" buttress as well as 2" pipe threads. For use with light oils, hyd. fluid, ATF, mixed antifreeze and mild corrosive fluids. Approx. 14 strokes/gal.

MODEL **MA-20** P/N 560008

Polypropylene piston pump uses Buna-N seals for transfer of fluids such as engine oil, gear oil, antifreeze and similar fluids compatible with materials of construction. Complete with telescoping suction pipe to fit drums up to 55 gallon. Approx. 12 strokes/gal.

MODEL **MA-2N** P/N 10002N

Strong nylon body utilizes a stainless steel pump shaft and Teflon shaft seal for compatibility with a broad range of fluids. Pump is sized to fit 55 gallon drums, complete with 2" bung adapter and discharge spout.

MODEL **MA-20V** P/N 560008V

Same as MA-20 except uses viton seals for use with diesel exhaust fluid (DEF) and various industrial chemicals such as mild acids and similar fluids.

MODEL **MA-3** P/N 560006

Polypropylene plunger pump screws directly onto the Reike spout on 5 gallon containers. Complete with 5' nylon reinforced hose, ball valve nozzle and spout. For use with light oils, ATF, hyd. fluid and 100% antifreeze. Approx. 4 strokes/qt.

MODEL **MA-31** P/N 10031

Polypropylene construction with nitrile seals and stainless steel piston shaft which allows use with water, water based chemicals, mild acids and mild alkali solutions as well as oils. Approx. 16 strokes/gal.

MODEL **MA-3J** P/N 560006J

Same features and construction as the MA-3 above, except made to fit 2 1/2 gallon jug with 63mm cap. For use with light oils, ATF, hyd. fluid and 100% antifreeze. Approx. 1 fluid oz. per stroke.

P/N **560101**

Buttress adapter allows use of NPT threaded pumps in plastic drums using buttress threads.

P/N **560102**

NPT adapter allows use of buttress threaded pumps to be used on drums with NPT threads, 2" Buttress female x 2" NPT male.

MODEL **MA-6** P/N 10006C

Heavy duty syphon pump constructed of polyethylene. For use with light oils, water, antifreeze and many chemicals. Flow rate of approx. 5 gal./min. nominal.

MODEL **MA-40** P/N 560019

All brass plunger pump ideal for use with solvents and chemicals compatible with brass construction and PTFE seals. Complete with 2" NPT threads to fit 55 gallon drums. Approx. 1/2 pint/stroke. Ideal for use with brake cleaner fluids.





## HAND OPERATED PUMPS



MODEL **MA-7** P/N **10007**  
 Lever hand pump for use with heavy gear oils. Fits 16 gallon and 30 gallon drums. Comes complete with 2" bung adapter and 6' nylon reinforced discharge hose with curved discharge spout. Approx. 12 strokes/qt.

P/N **10007C**  
 Same as P/N 10007 above, but includes cover for 16 gallon drum.

Same as P/N 10007 above, but includes P/N 100200 Electronic Meter

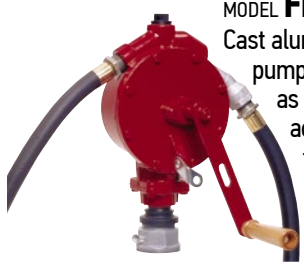
P/N **10007-S3**



MODEL **MA-70** P/N **30200**  
 Heavy duty gear oil hand pump designed to fit 5, 16, 30 and 55 gallon containers. Comes complete with 2" bung adapter, telescoping suction pipe, 6' nylon reinforced discharge hose, ball shutoff valve and curved discharge spout. Approx. 8 oz. per stroke, and four strokes per quart.

P/N **30200-S3**  
 Same as P/N 30200 above, but includes P/N 100200 Electronic Meter

P/N **30200-C**  
 Same as P/N 30200 above, but includes cover for 16 gallon drum.



MODEL **FR112** P/N **560003**  
 Cast aluminum rotary vane pump suitable for pumping medium viscosity liquids as well as oils, gasoline and diesel fuels. Rotary action allows smooth, continuous fluid transfer at up to 10 gallons per 100 revolutions. Complete with telescoping suction pipe, bung adapter, 8 ft. nitrile hose with nozzle and vacuum breaker to prevent siphoning.



(Drum not included)



MODEL **FR152** P/N **560000**  
 Lightweight cast aluminum piston hand pump uses a stainless steel inner liner to prevent wear of cylinder. Pump delivers up to 20 gallons per 100 strokes and is ideal for use with gasoline, diesel fuel and light oils. Includes anti-siphoning device, padlock feature, bung adapter and telescoping suction pipe.

P/N **10015**  
 High Flow rotary hand pump discharges approximately 1 quart per revolution and can empty a 55 gallon drum in a matter of minutes. Pump body is constructed of lightweight aluminum with gear driven impellers and Nitrile seals which makes this pump ideal for transferring larger quantities of lightweight oils, hydraulic fluids, transmission fluid, 100% antifreeze and diesel fuel.  
 Pump is supplied with bung adapter, suction pipe, inlet strainer and 1" x 6' oil discharge hose with nozzle.



## HAND OPERATED PUMPS

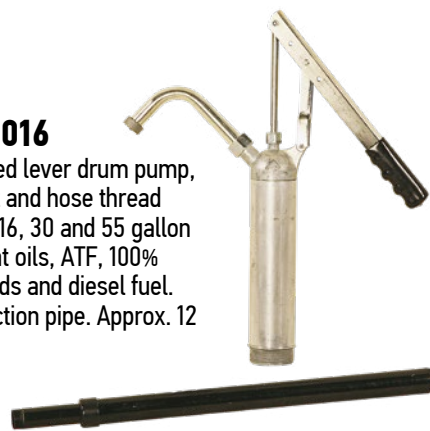
### MODEL MA-5R P/N 10005R

Cast iron rotary hand pump, two vane construction, for use with lubricating oils. Comes complete with 2" bung adapter and three piece steel suction pipe. Not recommended for use with gasoline. Approx. 20 revolutions per gallon.



### MODEL MA-16 P/N 10016

Heavy duty hand operated lever drum pump, with high volume output and hose thread fitting at discharge. Fits 16, 30 and 55 gallon drums. For use with light oils, ATF, 100% antifreeze, hydraulic fluids and diesel fuel. Includes telescoping suction pipe. Approx. 12 strokes/gal.



### P/N 904005

Non Drip Tip with garden hose threads for use with MA-16 hand pumps.



### MODEL MA-9 P/N 10009

'T' Handle pump with curved "turn up" non drip spout. Includes 2" bung adapter suitable for 16 to 55 gallon drums. Typical uses include diesel fuel, light oils, ATF, antifreeze and other similar petroleum products. Approx. 1 stroke/qt.



### MODEL MA-9T P/N 10009T

Same as above but with heavy duty construction for heavy duty applications.

### MODEL MA-10 P/N 10010

Lever pail pump fits 5 to 6½ gallon pails. Dispenses gear lube via a 6' nylon reinforced vinyl hose with curved discharge spout. Positive lock nut holds pump securely in position. Approx. 16 strokes/pint.



### MODEL MA-10P P/N 10010P

Same as MA-10, but includes P/N 100200 electronic meter, w/ units of measure that can be easily changed from quarts, pints, gallons, or liters.



### MODEL MA-10M P/N 10010M

Same as P/N 10010 except a lower gear case fitting replaces the discharge spout. For use with outboard marine engines.



### MODEL MA-12 P/N 10012

Tire sealant pump constructed entirely from aluminum to prevent corrosion. Has unique double shaft seal to allow high pressure application without leakage past piston seal. Includes 2" bung adapter with integral return port, quick release coupler, graduated pump shaft and 6' nylon reinforced hose. Max. discharge volume of 8 oz. per stroke.



### MODEL MA-12-C P/N 10012-C

Same as model MA-12 except this includes cover and retaining nut to fit 5 - 6½ gallon container.



### MODEL MA-12-K P/N 10012-K

Extension kit designed to fit models MA-12 to allow pump to be used with 16 gallon, 30 gallon and 55 gallon drums. Also includes 6' discharge hose extension.



### P/N 981001R

5' Hose Kit with curved spout and hose clamp to fit MA-5R.



### P/N 981001P

5' Hose Kit with curved spout and garden hose connection to fit MA-16.

## VALVES AND FAUCETS

### Gate Valves

Available in cast iron or aluminum construction. Excellent for dispensing viscous products such as heavy oils, flowable greases, varnish and molasses from drums by gravity draining.



- P/N **900226** 3/4" Iron Gate Valve
- P/N **900227** 2" Iron Gate Valve
- P/N **900228** 3/4" Aluminum Gate Valve
- P/N **900229** 2" Aluminum Gate Valve

### Self-Closing Drum Faucet

P/N **810233**  
Zinc plated steel for improved corrosion resistance. For dispensing petroleum products, lacquers, varnishes, thinners and antifreeze from drums by gravity draining, 3/4" NPTM.



### 1" Four-Way Reversing Valve

P/N **900372**  
Simplifies plumbing and installation by eliminating the need for multiple valves typically found on waste oil systems. Allows one pump to be used to fill waste oil tank as well as to empty it, has four 1" NPTF ports. Aluminum body with brass spool. Rated to 200 PSI, 4.75" Dia. x 4.5" H.



### Bung Wrench

Aluminum die-casting prevents sparks. Can be used for 3/4" and 2" bung closures.

P/N **810200**



### Drum Faucets

Constructed of polyethylene for excellent chemical resistance.

- P/N **810202** 3/4" Drum Faucet
- P/N **810201** 2" Drum Faucet



P/N **900230**  
Radiator faucet with rubber spout, thumb operated control valve, 1/4" NPTF inlet thread with maximum operating pressure of 300 PSI.

P/N **900230A**  
Same as P/M 900230 above, except it has 3/8" NPTF inlet threads.



P/N **900234**  
Radiator faucet with aluminum spout, thumb operated control valve, 1/4" NPTF inlet thread, maximum operating pressure of 300 PSI.



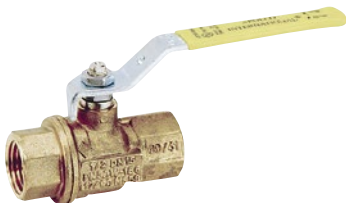
P/N **900234W**  
Control faucet for use with windshield washer fluid, has stainless steel wetted parts, 3/8" NPTF inlet. Maximum operating pressure 300 PSI.

# VALVES AND FITTINGS

## Isolation Valves:

Low Pressure Ball Valves, for use with air and water applications. Rated to 600 PSI maximum working pressure, bronze construction.

- P/N **900366** 1/4" NPTF
- P/N **900367** 3/8" NPTF
- P/N **900285** 1/2" NPTF
- P/N **900287** 3/4" NPTF
- P/N **900288** 1" NPTF
- P/N **900324** 1/2" NPTF w/bleed-off



Medium Pressure Ball Valves, for use with oil systems. Rated to 2,000 PSI maximum working pressure, carbon steel construction.

- P/N **900286** 1/2" NPTF
- P/N **900299** 3/4" NPTF
- P/N **900371** 1" NPTF



High Pressure Needle Valve, for use with grease systems. Rated to 10,000 PSI maximum working pressure, carbon steel construction.

- P/N **900787** 1/2" NPTF
- P/N **900360** 3/4" NPTF



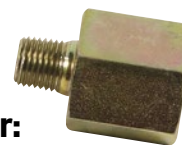
## Nipple – Reducing

- | Part No.      | Thread Size<br>Male x Male, NPT |
|---------------|---------------------------------|
| <b>900382</b> | 1/4" x 1/8" NPT                 |
| <b>900383</b> | 3/8" x 1/4" NPT                 |
| <b>900384</b> | 1/2" x 1/4" NPT                 |
| <b>900385</b> | 1/2" x 3/8" NPT                 |
| <b>900386</b> | 3/4" x 1/2" NPT                 |
| <b>900399</b> | 1" x 3/4" NPT                   |



## Plug – Square Head

- | Part No.      | Thread Size<br>NPT Male |
|---------------|-------------------------|
| <b>900265</b> | 1/4" NPT                |
| <b>900284</b> | 3/8" NPT                |
| <b>900404</b> | 1/2" NPT                |
| <b>900405</b> | 3/4" NPT                |
| <b>900406</b> | 1" NPT                  |



## Pipe Adapter:

- | Part No.      | Thread Size<br>Female x Male, NPT |
|---------------|-----------------------------------|
| <b>900392</b> | 3/8" x 1/4" NPT                   |
| <b>900393</b> | 1/2" x 1/4" NPT                   |
| <b>900342</b> | 1/2" x 3/8" NPT                   |
| <b>900394</b> | 3/4" x 1/2" NPT                   |
| <b>900398</b> | 1" x 3/4" NPT                     |



## Reducing Bushings:

- | Part No.      | Thread Size<br>Male x Female, NPT |
|---------------|-----------------------------------|
| <b>900375</b> | 1/4" x 1/8" NPT                   |
| <b>900361</b> | 3/8" x 1/4" NPT                   |
| <b>900231</b> | 1/2" x 1/4" NPT                   |
| <b>900376</b> | 1/2" x 3/8" NPT                   |
| <b>900328</b> | 3/4" x 1/2" NPT                   |
| <b>900377</b> | 1" x 1/2" NPT                     |
| <b>900323</b> | 1" x 3/4" NPT                     |
| <b>900365</b> | 1 1/2" x 1" NPT                   |
| <b>900510</b> | 2" NPTM x 1/2" NPTF               |



## Elbow

- | Part No.      | Thread Size<br>Male x Female, NPT |
|---------------|-----------------------------------|
| <b>900387</b> | 1/4" x 1/4" NPT                   |
| <b>900388</b> | 3/8" x 3/8" NPT                   |
| <b>900262</b> | 1/2" x 1/2" NPT                   |
| <b>900389</b> | 3/4" x 3/4" NPT                   |
| <b>900390</b> | 1" x 1" NPT                       |
| <b>900417</b> | 1" x 1" NPTF both ends            |



## Nipple – Standard

- | Part No.      | Thread Size<br>Male x Male, NPT |
|---------------|---------------------------------|
| <b>900232</b> | 1/4" x 1/4" NPT                 |
| <b>900313</b> | 3/8" x 3/8" NPT                 |
| <b>900314</b> | 1/2" x 1/2" NPT                 |
| <b>900397</b> | 3/4" x 3/4" NPT (close)         |
| <b>900396</b> | 1" x 1" NPT (close)             |



## Coupler

- | Part No.      | Thread Size<br>Female x Female, NPT |
|---------------|-------------------------------------|
| <b>900223</b> | 1/4" x 1/4" NPT                     |
| <b>900401</b> | 3/8" x 3/8" NPT                     |
| <b>900327</b> | 1/2" x 1/2" NPT                     |
| <b>900402</b> | 3/4" x 3/4" NPT                     |
| <b>901036</b> | 1" x 1" NPT                         |

# OIL PUMP ACCESSORIES

P/N **22159**

Bung Spacer, 2" NPT w/ 3/8" return port for use w/models 1:1, 3:1 and 5:1 pumps. Provides convenient return path for relief valve kits.



## 2" Double Tap Connection with Return Port:

P/N **540035**

with 1" NPTF Suction, 1" NPTM Pump Connection & 3/8" Relief Valve Return Port.



P/N **540036**

with 1/2" NPTF Suction, 1/2" Pump Connection & 3/8" Relief Valve Return Port. To allow use with P/N 21200 and 21300 pumps.

## 2" Double Tap Duplex Bushing:

P/N **540038** 2" x 1" x 1"

P/N **540039** 1 1/2" x 1" x 1"



## Bung Adapters:

P/N **22157**

Heavy duty 2" bung adapter fits 1:1, 3:1 and 5:1 pumps.



P/N **22158**

Heavy duty 2" bung adapter for 5:1 high flow pumps 21200, 21300, and high ratio pumps 21400 and 21500.



P/N **22157-V2**

Heavy duty weathertight 2" bung adapter fits 1:1, 3:1 and 5:1 pumps.

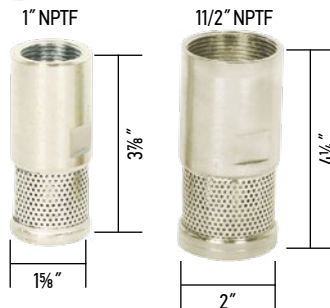


## Foot Valves:

For use with modular tubes and NPT extension pipe, includes inlet screen.

P/N **950002** 1" NPTF

P/N **950047** 1 1/2" NPTF



## Dry Break Disconnect

P/N **900290** Female 1/2" Dry Break Coupler

P/N **900291** Male 1/2" Dry Break Nipple

P/N **900294** Female 3/4" Dry Break Coupler

P/N **900295** Male 3/4" Dry Break Nipple

P/N **900292** Female 1" Dry Break Coupler

P/N **900293** Male 1" Dry Break Nipple



P/N **900325-100**

Polypropylene 'T' Strainer, 100 mesh (150 micron), 3/4" NPTF

P/N **900351-16**

Polypropylene 'T' Strainer, 16 mesh, 1" NPTF



## Expansion/Thermal Relief Valve Kits:

All fluids are subject to thermal expansion, this can be a significant problem in any shop and may be the cause of leaks, blistered hoses, dripping meter/control handles, stiff and hard to pull triggers on control handles and many other related problems. This is especially the case when fluid is pumped from outside or basement locations or when fluid lines are near ceilings subject to heating. Pressure has been measured to increase approximately 43 PSI per degree Fahrenheit in a typical hose reel. These potential over pressurization problems can be easily remedied with the installation of a thermal expansion relief kit, so as to limit fluid line pressure buildup.

**Used on installed plumbing for relief of excessive pressure, due to fluid temperature rise.**

## 750 PSI Relief Valve Kits, for use with 3:1 and 5:1 Ratio Pumps

P/N **540025**

Relief valve kit for 1/2" discharge pumps

P/N **540037**

Relief valve kit for 3/4" discharge pumps



## 150 PSI Relief Valve Kits, for use with 1:1 and Double Diaphragm Pumps

P/N **540043**

Relief valve kit for 1/2" Double Diaphragm pumps

P/N **540044**

Relief valve kit for 3/4" Double Diaphragm pumps

P/N **540045**

Relief valve kit for 1" Double Diaphragm pumps

P/N **540060**

Brass relief valve for use with water based products. Adjustable from 20 to 300 PSI.



## 1500 PSI Relief Valve Kits, for use with 8:1 and 13:1 Ratio Pumps

P/N **540046**

Relief valve kit for 3/4" discharge pumps. Use with P/N 22159 bung spacer for convenient fluid return port.

## Double Diaphragm Mounting Brackets

P/N **950019**

Wall Mounting Bracket for 1/4" Double Diaphragm Pumps. 4" H x 4 3/4" W x 3" D.

P/N **950020**

Wall Mounting Bracket for 1/2", 3/4" and 1" Double Diaphragm Pumps. 10" H x 12" W x 10" D.



P/N 950020 shown

# STORAGE TANK ACCESSORIES

## Level Gauges:

Simple, direct mechanical action ensures reliability and high visibility. These gauges are available for tanks up to 12 ft. deep and can be used when mounting close to a tank wall.

Contact Liquidynamics for other sizes.

P/N **901053**

Tank Gauge for 275 Gallon Oval Tank

P/N **901057**

Tank Gauge for 33" Deep Bench Tanks

P/N **901058**

Tank Gauge for 45½" Deep 500 Gallon Round Tanks

P/N **901056**

Tank Gauge for 60" Deep Tower Tank and 275 Gallon Oval Vertical

P/N **901058-38**

Tank Gauge for 38" Deep 300 Gallon Round Tank

P/N **901051**

55 Gallon Drum Gauge, fits ¾" opening



## Fill Cap:

Loose-seal vented style cap with hinged cover. Fits 2" tank openings and may be locked with a padlock for security. Construction is cast iron with a black lacquer finish.

P/N **901054**

2" NPTM Fill Cap



P/N **901055**

The Pre-Vent Fill Cap is designed for use on small above ground gasoline, diesel and oil storage tanks. The primary purpose of this cap is to pressurize the storage tank and reduce evaporation loss and condensation. The pressure cap valve opens at 2½ PSI and the vacuum release opens at 1½ ounces. Threads are 2" NPTM. Use this fill cap when using desiccant breathers.



P/N **900256**

¼" Quick Connect Air Coupler set

P/N **900283**

¾" Quick Connect Air Coupler set



P/N **900257**

½" Quick Connect Air Coupler set

## Poly Containment Vessel

P/N **901069-P330**

Rotationally molded polypropylene secondary containment vessel holds 330 gallons. Designed for use with 275 gallon oval tanks, top dimensions are 46½" W x 86" L x 28½" H (foot print is 30½" W x 70½" L) Shipping weight 90 lb.



## Emergency Vent:

Emergency Vents (pressure relief only) are used on above ground tanks as a code requirement and helps prevent tanks from becoming over-pressurized and rupturing if exposed to fire, UL listed.

P/N **901946**

3" Emergency Vent, 8 oz./sq in. opening pressure, with 60,994 CFH @ 2.5 PSI Venting Capacity, UL Listed.



P/N **901948**

4" Emergency Vent, 8 oz./sq. in. opening pressure, with 119,750 CFH @ 2.5 PSI venting capacity. UL Listed.

## Thread Sealant

Designed for hydraulic and pneumatic systems up to 2" diameter. Sealant has excellent solvent resistance and a temperature range of -65° F to +300° F. Most importantly, it has a pressure rating of 10,000 PSI which allows it to be used on oil and grease systems. May also be disassembled with hand tools.

P/N **904001**

50 ml bottle, enough for hundreds of fittings.

P/N **904003**

250 ml bottle.

P/N **904002**

0.5 ml tube, ideal for small jobs.



# AIR FILTERS, REGULATORS AND LUBRICATORS

Aluminum and zinc die cast construction provides a rugged housing that is compact and modular in design. Space requirements are reduced by combining the regulator and filter into one unit. A large, easy to read pressure gauge is provided

as standard on every regulator. These regulators and lubricators have a maximum operating input pressure of 230 PSI and a regulating pressure range of 7 to 175 PSI output pressure. The filter element is rated at 40 micron.

## Mini Filter/Regulator - 230 PSI

Maximum 230 PSI input pressure. Pressure gauge included, manual drain.

P/N **540104C**

1/4" Manual Drain Air Filter/Regulator, w/ gauge, 230 PSI max. inlet pressure, 175 PSI max. outlet pressure, 1/4" NPT inlet/outlet

P/N **540115C**

3/8" Manual Drain Air Filter/Regulator w/gauge, 230 PSI max inlet pressure, 175 PSI max outlet pressure, 3/8" NPT inlet/outlet

P/N **540119C**

1/2" Manual Drain Air Filter/Regulator w/gauge, 230 PSI max inlet pressure, 175 PSI max outlet pressure, 1/2" NPT inlet/outlet

P/N **540120C**

3/4" Manual Drain Air Filter/Regulator w/ gauge, 230 PSI max inlet pressure, 175 PSI max outlet pressure, 3/4" NPT inlet/outlet

P/N **540104C-A**

1/4" **Auto Drain** Air Filter/Regulator, w/gauge, 230 PSI max. inlet pressure, 175 PSI max. outlet pressure, 1/4" NPT inlet/outlet



P/N **540103C**

1/4" Lubricator, 230 PSI max inlet pressure, 1/4" NPT inlet/outlet

P/N **540111C**

3/8" Lubricator, 230 PSI max inlet pressure, 3/8" NPT inlet/outlet

## Ambient Air Dryers

Removes 99% of all free moisture and includes a built in automatic drain. Excellent solution for "problem" air supplies without the expense of refrigerant or desiccant dryers. **NOTE:** Does not lower dew point of air.

P/N **540300** 1/4" Ambient Dryer

P/N **540301** 3/8" Ambient Dryer

P/N **540302** 1/2" Ambient Dryer

P/N **540303** 3/4" Ambient Dryer



## Modular Filter/Regulator/Lubricator - 230 PSI

Two unit combo air filter/regulator with lubricator provides excellent water removal efficiency and is rated to 40 SCFM with a maximum input pressure of 230 PSI.

P/N **540100C**

1/4" Manual Drain Air Filter/Regulator/Lubricator w/gauge, 230 PSI max inlet pressure, 175 PSI max outlet pressure, 1/4" NPT inlet/outlet

P/N **540112C**

3/8" Manual Drain Air Filter/Regulator/Lubricator w/gauge, 230 PSI max inlet pressure, 175 PSI max outlet pressure, 3/8" NPT inlet/outlet

P/N **540117C**

1/2" Manual Drain Air Filter/Regulator/Lubricator w/gauge, 230 PSI max inlet pressure, 175 PSI max outlet pressure, 1/2" NPT inlet/outlet

P/N **540121C**

3/4" Manual Drain Air Filter/Regulator/Lubricator w/gauge, 230 PSI max inlet pressure, 175 PSI max outlet pressure, 3/4" NPT inlet/outlet



## Mini Filter/Regulator/Lubricator combination w/ auto drain

This mini combo includes an air filter/regulator and mini lubricator, rated to 18 SCFM with a maximum air input pressure of 230 PSI w/ automatic drain.

P/N **540100C-A**

1/4" Auto Drain Air Filter/Regulator/Lubricator w/gauge, 230 PSI max inlet pressure, 175 PSI max outlet pressure, 1/4" NPT inlet/outlet

P/N **540112C-A**

3/8" Auto Drain Air Filter/Regulator/Lubricator w/gauge, 230 PSI max inlet pressure, 175 PSI max outlet pressure, 3/8" NPT inlet/outlet



## Nipple - Standard

P/N **900232** 1/4" x 1/4" NPT

P/N **900313** 3/8" x 3/8" NPT

P/N **900314** 1/2" x 1/2" NPT



**NOTE:** See page 52 for additional connecting nipples and fittings.

# MEASURES AND FUNNELS

ACCESSORIES

MEASURES AND FUNNELS

## Plastic Measures

Transparent high density polyethylene construction with flex spout, cap and lid to prevent contamination.

P/N **810240**  
1 Quart Measure

P/N **810241**  
2 Quart Measure

P/N **810244**  
5 Quart Measure



## Plastic Funnels

Molded from high density polyethylene. Complete with flex spout, threaded cap, lid and screen filter.

P/N **810253** 7" diameter funnel

P/N **810254** 9" diameter funnel



P/N **950010**

Combo Kit includes 5qt. Pitcher and 7" Funnel.



P/N **810261**

10" diameter drain funnel screws securely to 2" drum or tank openings. Allows rapid filling without danger of funnel tipping over. Hinged cover prevents contamination and may be pad locked. 3.5 quart capacity.



## Transmission Funnel

P/N **810270**

Six inch funnel with a 13" flexible spout. High density polyethylene construction.



## Super Funnel

P/N **810271**

Five inch diameter funnel with tapered rigid length of 18". High density polyethylene construction.



## 3 Piece Funnel Set

P/N **810272**

Sizes include 1 ea. 2 quart, 1 pint and 1/2 pint funnels. High density polyethylene construction.

## Drum Funnel

P/N **2400-14**

Eliminate overspills while pouring. Large surface area permits drainage of multiple containers simultaneously. Highly durable, it will resist rust, dents and chemicals and will give many years of trouble free service. Fits all types of 55 gallon drums.





# OILCOP™



## FLUID MANAGEMENT

Today's Fluid Management Systems help improve operational efficiencies and improve inventory control. **OilCop™ Fluid Management** delivers the latest technology available today using either wireless or wired systems to accurately track fluid inventory and usage and deliver that data in customizable reports so facilities can make informed decisions about their operations.

**OilCop Fluid Management** can be engineered in a variety of variations to meet every customer's specific needs. Systems can be configured for:

- Tank Overfill Protection
- Tank Monitoring
- Mobile Cart Systems
- Basic Systems using OilCop Jr.
- Full Fluid Management Systems using OilCop

**OilCop Fluid Management** benefits include:

### **COST SAVINGS**

- Unbilled fluid usage
- Technician errors
- Wrong fluid dispensed

### **IMPROVED EFFICIENCY**

- Improved inventory control
- Technician performance is monitored
- Automated alerts and customizable reports

### **ACCOUNTABILITY**

- Track issues to the source
- Know what was dispensed, where and by whom

### **USER FRIENDLY**

- No software to install
- No Dedicated PC Required
- LAN access allows any computer/Smart device access with permission

# OILCOP FLUID MANAGEMENT SYSTEM COMPONENTS

## Fluid Command Module (FCM)

P/N **100901**

Each Fluid Command Module (FCM) operates up to four Pulsar/Solenoid Modules (PSM's) which are typically connected to hose reels for fluid control and monitoring. The FCM's communicate with the OilCop Controller (CTR) via self-healing, mesh network wirelessly or, if desired, via two wire current loop. Any portion of the OilCop system can be hard wired or used wirelessly in order to achieve maximum reliability and coverage.



Each Fluid Command Module (FCM) includes a 115 VAC power module that is used to power the FCM as well as providing 24 volts to up to four Pulsar/Solenoid Modules (PSM's). The PSM's are quickly and easily connected to the Fluid Command Module (FCM) via a four conductor cable. This four conductor cable provides pulser/metering data to the Fluid Command Module (FCM) as well as power to the solenoids, thus simplifying connectivity immensely.

OilCop Fluid Command Modules (FCM's) incorporate communication protocols that allow an unlimited number of FCM's to be connected to the OilCop Controller (CTR), providing virtually endless expansion capability as well as full flexibility in system configuration and layout.

Fluid Command Modules (FCM'S) have on board capability to perform dispensing computations, maintain dispense totals, maintain calibration data, buffer transaction data and participate as a node in the unique, self-healing, OilCop mesh network.

## Technician Access Console (TAC)

P/N **100903**

In applications where technicians do not have access to a LAN connected computer or lap top, the Technician Access Console (TAC) provides a convenient and reliable way to access the OilCop System. This Console allows technicians to enter their pin codes, work orders, odometer readings, preset dispense amounts, select which fluid to dispense and many other vital functions. Feedback from the Console is provided via a high contrast digital LCD display.

The Technician Access Console can operate wirelessly or, if desired can be hardwired via a two conductor wire connection.



## Communications Data Module (CDM)

P/N **100904**

This unit provides a communications interface between the Fluid Command Modules (FCM's) and the OilCop Controller (CTR). The Communications data Module (CDM) can be operated wirelessly or may be hardwired via a two conductor cable if desired. The Communications Data Module also serves as a range extender to allow the FCM's to communicate over large distances or in cases where there are electrically noisy environments or metal obstructions. The Communications Data Module is connected to the OilCop Controller to download information transmitted from components (e.g. FCMs, tank monitors, etc).



## Controller (CTR)

P/N **100854C**

The OilCop Controller (CTR) is able to communicate with an unlimited number of Fluid Command Modules (FCM's) via a self-healing mesh wireless network or, if desired can be hard wired via a two wire cable. This arrangement assures reliable communication since any, or all portions of the system may operate either hard wired or via wireless. Extended distances can be easily accommodated with the addition of Communication data Modules (CDM's).

The primary purpose of the OilCop Controller (CTR) is to act as a communication hub and control center for the OilCop system. It records and stores transaction information such as User ID, date and time of dispense, fluid type, dispense amount, work order, oil inventory, etc. all in a dynamic relational database that allows for flexible report generation. A unique feature of the OilCop system is that any smart device with Internet connectivity such as iPads, iPhones, laptops or Internet connected computers can access the OilCop System. When the OilCop Controller (CTR) is connected to an office network, the OilCop System can be accessed by any computer on the network, the system also allows integration with 3rd party management software systems. In addition, if the OilCop Controller is connected to the Internet, it can email various reports and alarm conditions as well as receive software updates.

The Controller (CTR) contains all operational firmware, eliminating the need to install application software on office computers accessing the OilCop System. A powerful start-up wizard is embedded in the Controller (CTR) which prompts the system administrator through the set up procedure and configuring automated system maintenance such as purging old data and system backup.



# OILCOP FLUID MANAGEMENT SYSTEM COMPONENTS

## Remote LED Display (RED)

P/N **100905**

The Remote LED Display (RED) provides excellent visibility from a distance via brightly lit 2¼" tall digits, while still providing a compact, easily installed package, with overall dimensions of 10" W x 5" H x 2½" D. The primary purpose of the Remote LED Display (RED) is to display the on-going batch total amount during a dispense operation. The Remote LED Display (RED) can operate wirelessly or can be hardwired via a simple two conductor cable if preferred.



## Pulser/Solenoid Module (PSM)

P/N **100715G** (WITH BYPASS CAPABILITY)

The Pulser/Solenoid Module (PSM) is a unique combination of products that is designed to simplify installation and significantly improve reliability. The PSM provides one simple product in what is typically sold and installed as three separate items e.g. 24 VDC solenoid valve to start and stop fluid flow, a metering pulser that provides flow measurement information and an inlet filter screen to protect the metering pulser and solenoid valve from foreign material damage. In addition, the PSM provides a simple and convenient electrical connection interface for 24 V power and metering pulse data output via a simple 4 conductor cable. A single ½" NPTF inlet and outlet connection to the PSM replaces the typical six connections in competitor installations. This provides not only faster installation, but also greatly reduces possibilities of leaks by reducing the number of fluid connections from six connections to two.



Pulser accuracy is +/- 0.5% with a maximum flow of 7.9 GPM and viscosity range of 9 – 3,000 cSt. Maximum operating pressure is 1,000 PSI, inlet filter/strainer is 150 micron.

An additional unique feature of this Pulser/Solenoid Module (PSM) is the built in bypass capability that allows the PSM to be bypassed in cases of emergency. This bypass is normally in the closed position and security sealed in place, but can be quickly opened by cutting the wire seal and opening the valve to allow manual dispensing operation if necessary. The security seal provides tamper evidence indicating that the bypass has been opened.

## USB Extension Cables

USB 2.0 Hi Speed Extension cable used to provide a connection between the Controller (CTR) and Communication Data Module (CDM). To achieve the best possible clear path communication between the CDM and other OilCop components such as Fluid Command Modules, Technician Access Consoles and Remote LED Display it is best to mount the CDM at a high point in the facility.

P/N **907078-16**

16' high speed USB 2.0 extension cable

P/N **907078-33**

33' high speed USB 2.0 extension cable

P/N **907078-65**

65' high speed USB 2.0 extension cable with amplifier to ensure good transmission of data

## Transaction Printer (TRP)

P/N **100906A** WIRELESS PRINTER

P/N **100906B** HARDWIRE PRINTER

OilCop and OilCop Junior transaction details can be easily printed either locally or remotely using the Transaction Printer (TRP). Two versions of this printer are available, one is for use wirelessly for applications where the printer needs to be located remotely and the other is designed to be connected directly to the OilCop Technicians Console or the OilCop Junior Console.



Both printers print out transaction details upon completion of a transaction and may include;

**Date:** Date of transaction

**Time:** Time of transaction

**W/O:** Work order number

**Name:** Name of technician

**Product:** Product designation, e.g.; 10W/30

**Amount:** Amount dispensed

**Top Off:** Amount of top off, if any

Example of paper tape.



## 2 Conductor Cable (per foot)

P/N **100710-XX**

This 2 strand, **20 gauge**, wire cable is used to connect any of the OilCop and OilCop Junior Modules if Wireless communication is not desired or practical. Sold by the foot or rolls of 2000 feet.

## 4 Conductor Cable (per foot)

P/N **100709-XX**

Hard wire connection between the OilCop Fluid Command Module (FCM) or OilCop Junior Console (JRC) and the Pulser/Solenoid Module (PSM), 4 strand, **18 gauge**, wire cable (max. distance of 75'). This cable provides 24 VDC power to the solenoids as well as metering information from the pulsers. Sold by the foot or 1000 ft. rolls.

P/N **100711-XX**

4 conductor, **16 gauge**, wire allows extended distance of 150' max. between FCM and PSM.

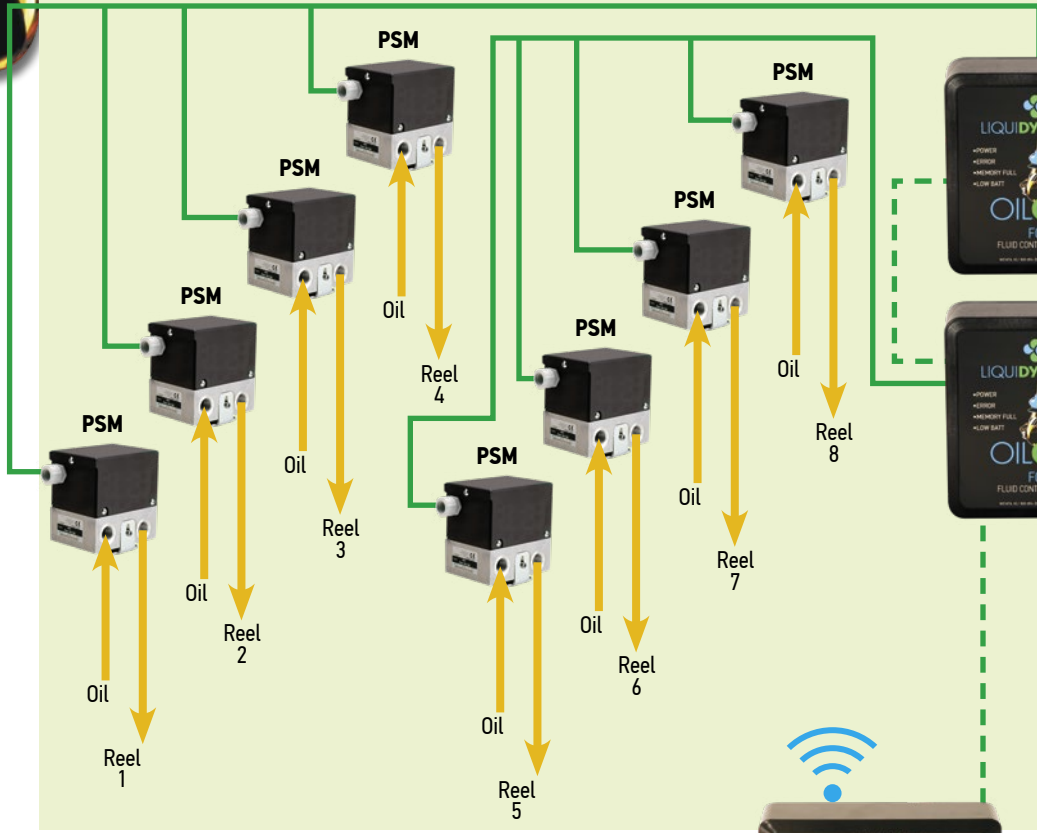


# OILCOP FLUID CONTROL SYSTEM CONFIGURATION

FLUID MGMT.

OILCOP FLUID CONTROL SYSTEM CONFIGURATION

## STATION 1



P/N **100901**  
**Fluid Command Module (FCM)**  
Wireless or 2 Wire

2 Wire or Wireless Connection  
3000' total maximum length wire



P/N **100901**  
**Fluid Command Module (FCM)**  
Wireless or 2 Wire



P/N **100903**  
**Technician Access Console (TAC)**  
Optional Accessory  
Wireless or 2 Wire



P/N **100905**  
**Remote LED Display (RED)**  
Optional Accessory  
Wireless or 2 Wire



P/N **100906A** WIRELESS PRINTER

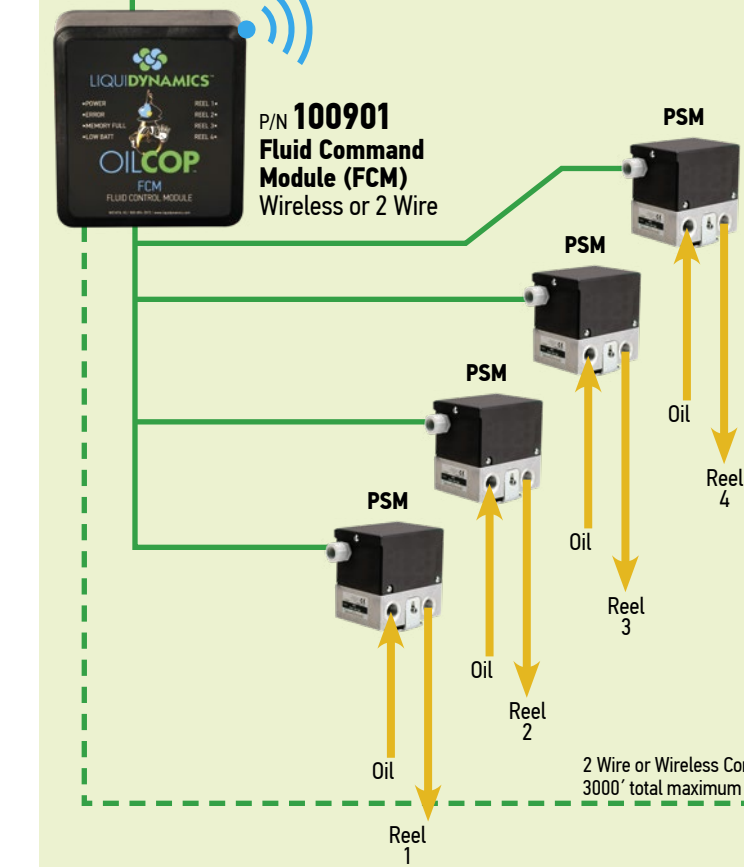
P/N **100906B** HARDWIRE PRINTER

**Transaction Printer (TRP)**  
Optional Accessory  
Wireless or 2 Wire.

## STATION 2



P/N **100901**  
**Fluid Command Module (FCM)**  
Wireless or 2 Wire



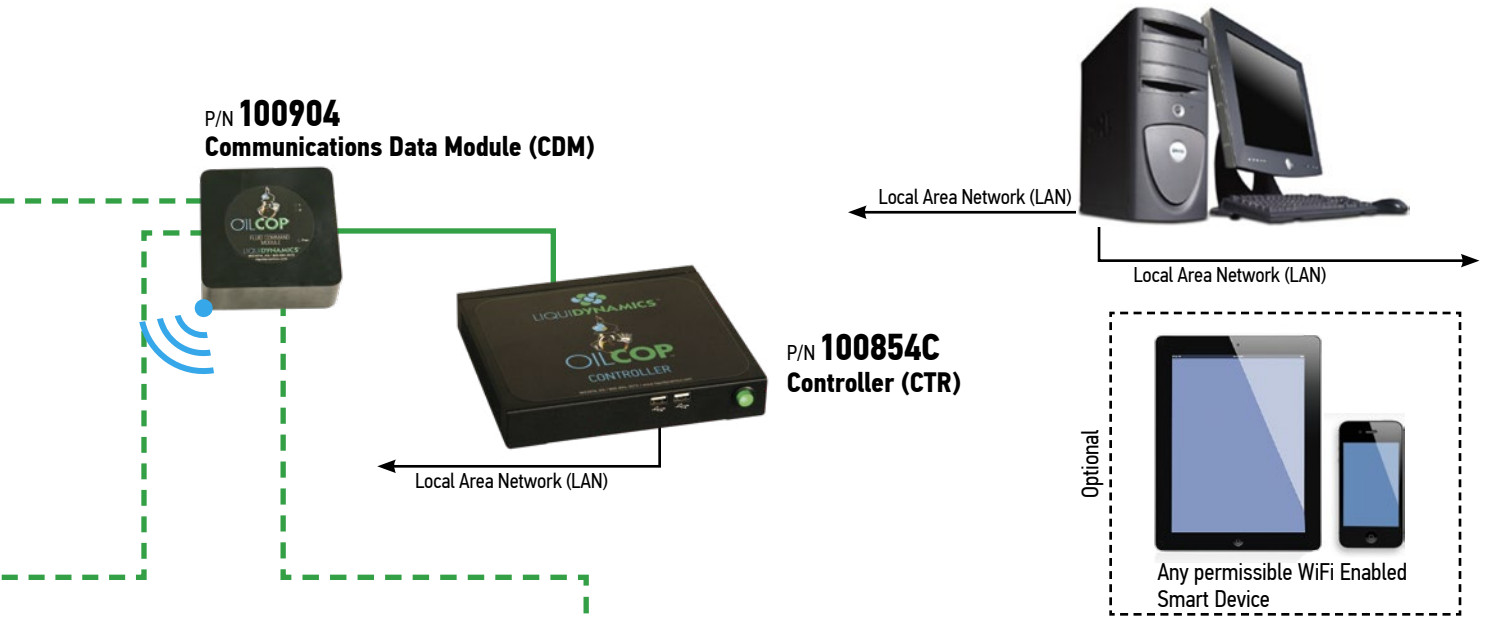
P/N **100903**  
**Technician Access Console (TAC)**  
Optional Accessory  
Wireless or 2 Wire



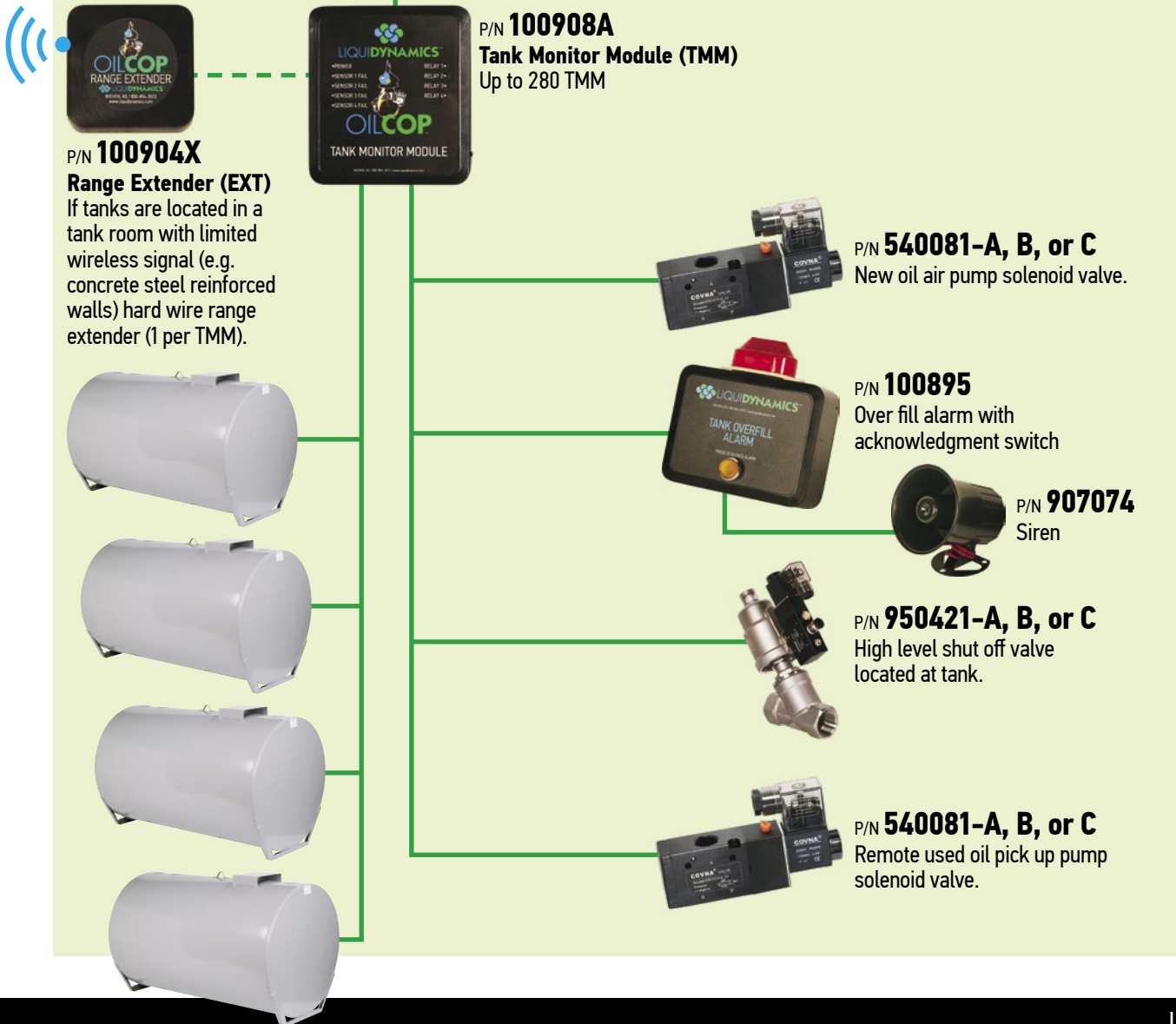
P/N **100905**  
**Remote LED Display (RED)**  
Optional Accessory  
Wireless or 2 Wire

2 Wire or Wireless Connection  
3000' total maximum length wire

# OILCOP FLUID CONTROL SYSTEM CONFIGURATION



## TANK ROOM



# DEF FLUID MANAGEMENT

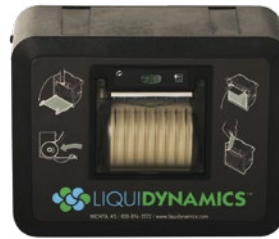
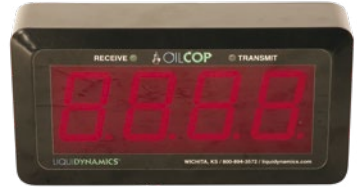
**NOTE:** The OilCop Jr. system may be used to monitor a total of four fluids by simply adding additional pulser/solenoids such as Liquidynamics P/N's 100715 or 100715G. This provides the ability to monitor three additional fluids besides DEF.

Please visit [www.liquidynamics.com](http://www.liquidynamics.com) for additional information regarding the OilCop Jr. system.



**P/N 950372**  
DEF Fluid Management Kit, includes OilCop Jr. Console (P/N 100902) w/keypad and flash drive to easily download/transfer information, DEF turbine pulser (P/N 100388) with a flow range of 1.5 – 26 GPM and stainless steel, solenoid valve (P/N 540085-A).

**P/N 100905**  
Optional remote LED display provides excellent visibility of amount being dispensed via brightly lit 2½" tall digits.



**P/N 100906B**  
Optional transaction printer provides the ability to print transaction details such as; date and time of transaction, work order number, name of technician and amount dispensed.

## DEF TANK MONITORING

**NOTE:** OilCop Tank Monitoring Systems are the basis for a fully functional and virtually endlessly expandable Fluid Management system that is capable of not only monitoring a variety of tank levels at various locations but can also provide total control of fluid dispensing operations.

Please visit [www.liquidynamics.com](http://www.liquidynamics.com) for additional information regarding the OilCop Tank Monitoring and Fluid Management Systems.

**P/N 950373-6**  
DEF OilCop Tank Monitoring kit, includes all components required to remotely monitor DEF tank levels. The system includes a Tank Monitor Module (P/N 100908A), Controller (P/N 100854B), Communication Data Module (P/N 100904) and 6' tank probe (P/N 100881-06-20). System can be easily expanded to monitor additional tanks with fluids such as oil, hyd. fluid, anti-freeze, etc.

**P/N 950373-21**  
Same as 950373-6 except tank probe has a working depth range of 21' (probe P/N 100881-20-20)

**P/N 950373-BOT**  
Same as 950373-6 except tank probe is fitted with 1/2" NPTM threads intended for connection at bottom of Poly tanks or IBC totes, has a working range of up to 54" depth.



# MOBILE FLUID MANAGEMENT

## Multi-Tank Stretch Cart

The Multi-Tank Stretch Cart is available in various configurations and can be outfitted with up to six 20 gal. poly tanks and/or up to two 75 or 95 gal. powder coated steel tanks. This versatile cart can be configured with a variety of different pumps, hoses, hose reels, meters and/or OilCop™ Fluid Management Systems to fit most any required application. The 75/95 gal. tanks can be configured with valving to allow two way oil transfer which provides a convenient way to evacuate oil from engines, gear boxes or hydraulic reservoirs onto the on board tank and then easily discharge the tank contents by a simple valve adjustment.



P/N **33391-01**

This particular Multi-Tank Cart model includes items listed below and is ideal for servicing equipment such as gear boxes, hydraulic systems and engines located throughout an industrial or manufacturing complex.

- Four wheel heavy duty “stretch” cart (26” W x 68” L x 60” H)
- 20 Gal. Poly Tanks w/ lockable prevent fill caps
- 75 Gal. Steel Tank w/ lockable prevent fill cap and tank level gauge
- 3:1 Ratio pneumatic pumps
  - Air Filter/regulator
  - Heavy duty bung adapters
  - Fluid control handles
  - 1/2” x 50’ Hose Reels
  - OilCop Jr. Fluid Mgt. System
  - OilCop Printer and Flash Drive
  - Pulsar/solenoid modules w/ bypass capability and security seal
  - 24 VDC battery pack w/charger

## 55 Gallon Drum Systems

Presenting an excellent combination of mobility, control and function - this unique system brings together mobile fluid dispensing capabilities and state of the art fluid management control. The heart of the system lies in the OilCop Fluid Management system which communicates wirelessly from the mobile cart to the OilCop Controller/Communication Data Module and is accessed via any smart device or networked computer/laptop.

This mobile system can be used as part of an installed fluid management system made up of any number of tanks/fluid hose reels and service bays. In this case the system will have already required the use of an OilCop Controller/Communication Data Module. Alternatively, the mobile system can be used entirely independently with the addition of an OilCop Controller and Communication Data Module.

This versatile mobile cart system includes everything required for a fully functioning mobile dispensing cart which is capable of handling drums up to 55 gallons.

P/N **21094-S51**

- Four wheel heavy duty cart
- 5:1 Pneumatic drum pump
- Air Filter/regulator
- Bung adapter
- 1/2” x 12’ Discharge hose
- 1/2” x 6’ Connection hose
- Wireless Fluid Control Module (FCM)
- Pulsar/Solenoid Module (PSM)
- Rechargeable Battery Pack w/charger



# OILCOP JUNIOR FLUID CONTROL SYSTEM

FLUID MGMT.

OILCOP JUNIOR FLUID CONTROL SYSTEM



## OILCOP Junior

State of the art technology allows the OilCop Junior to be the perfect solution for maintaining control of fluid inventory in small shops with limited number of dispense points and fluid types. The OilCop Junior system has many of the features found in larger more expensive Fluid Management systems, but is designed to address the needs and concerns of smaller shops. It is simple to install, simple to operate and simple to maintain, while providing the security and traceability shop owners require.

Features such as three security levels of Pin Code assignments (Administrator, Manager and Technician) allows positive control over who is authorized to dispense fluid, assign PIN Numbers, change Pin Numbers, Tank inventory, Tank reorder alarm along with many additional features. The system will allow only those technicians with valid PIN Numbers to dispense fluid and will tie each dispense operation to a work order. The technician can choose to dispense a preset amount or perform a manual dispense. A record of the last 2,000 transactions (date, pin #, work order, fluid type, fluid quantity) is maintained and can be

easily downloaded to a flash drive for transfer to a PC.

Each OilCop Junior will handle any combination of 4 hose reels (dispense points) and 4 products, e.g.: one product and 4 dispense points or 2 products and 2 dispense points, etc. Each OilCop Junior Console (JRC) is complete with its own keyboard, digital LCD display and 115 VAC power supply that powers not only the Junior Console (JRC), but also feeds power to each Pulser/Solenoid Module (PSM) which can be located up to 1,000 ft. away.

An available optional printer (PRT) can be connected directly to the OilCop Junior (JRC), or may be remotely located wirelessly. The printer can be dedicated to an individual OilCop Junior Console (JRC) or shared with any number of Junior Consoles wirelessly.

To provide a remote indication of what is being dispensed during a dispensing operation, a brightly lit LED display (RED) is available. This display can be connected wirelessly, or if desired may be hard wired via a two wire connection.

### OilCop Junior Console (JRC)

P/N 100902

OilCop Junior is designed to be a simple system that can be installed and configured by the end user, yet provides comprehensive transaction information for shop owners to efficiently track fluid movement.

The OilCop Junior Console (JRC) provides the ability to set up the Junior system with three levels of Pin Code security, set tank product names, set current tank Volumes, set tank alarm levels, pulser/metering calibration and print transaction journals. Additionally, the Junior Console stores up to 999 technician pin

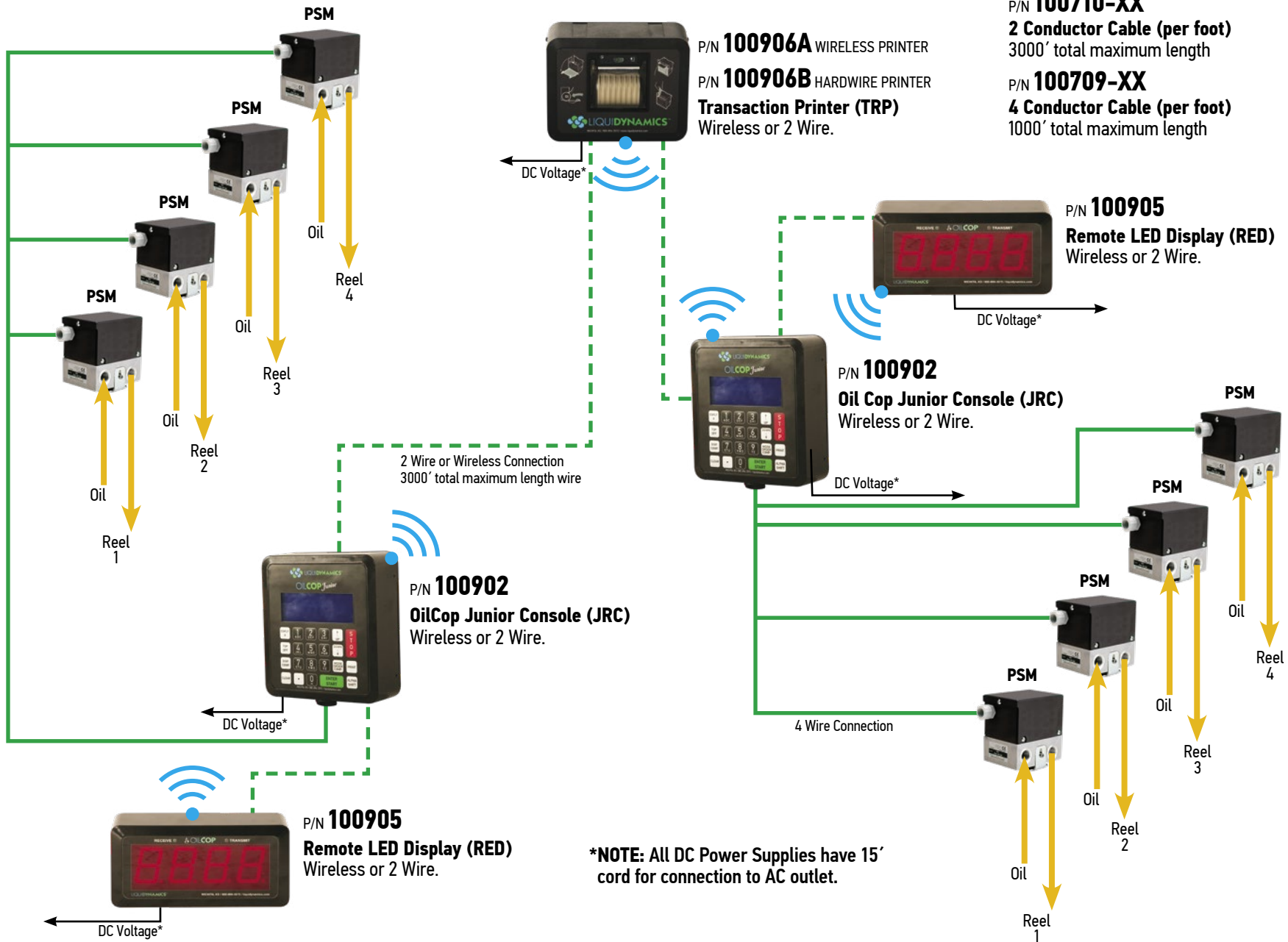


numbers and is used by the technicians to select which fluid to dispense, initiate dispensing operations such as preset dispense, manual dispense and top-off dispense.

The Console can be easily mounted to a wall, beam or any convenient working surface, connect the four wire cable between the Console and the Pulser/Solenoid Module (PSM), plug in the power supply and the system is ready for configuration.

The OilCop Junior Console (JRC) can be operated wirelessly or, if desired can be hardwired via a two conductor wire connection to communicate with the printer and remote display.

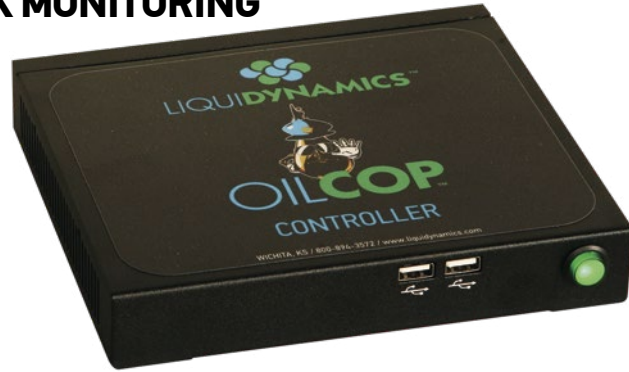




**OILCOP JR. FLUID CONTROL SYSTEM CONFIGURATION**

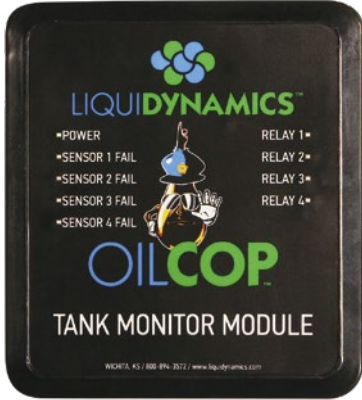
# OILCOP TANK MONITORING

- Designed for Lube Oil, Hydraulic Fluid, Transmission Fluid, Used Oil, Antifreeze, Windshield Washer Fluid, Diesel Exhaust Fluid, Mild Chemicals and Water
- Each Tank Monitor Module (TMM) supports up to four tanks
- Monitors 55 gallon drums and up to 30' deep tanks
- Tank probe fits through 3/4" opening
- Fluid level accuracy of 1/8"
- Can control on/off function of electric or air operated pumps
- Configurable relays to shut off air supply to prevent fluid spills due to plumbing leaks or hose rupture.
- Audible and visible alert notifications
- No ping charges



P/N **100854C**  
**Controller (CTR)**

The OilCop™ controller is a communication hub and control center for the Tank Monitoring system. It is capable of communicating with up to 256 Tank Monitor Modules (1,024 tanks) and allows future expansion to include the OilCop Fluid Management System.

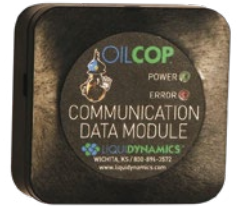


P/N **100908A**  
**Tank Monitor Module (TMM)**

Acts as a junction box for up to four tank probes, provides 24V power to tank probes. This module also incorporates four relays that can be assigned up to four activation points such as low level shutoff, reorder point, high level warning and high level shutoff.

P/N **100904**  
**Communication Data Module (CDM)**

Provides a communication interface between the OilCop controller (CTR) and the Tank Monitor Modules (TMM). This can be done wirelessly or hardwired via a two conductor cable.



P/N **100904X**  
**Range Extender (EXT)**

Allows Tank Monitor Modules (TMM) to communicate over large distances or in cases where there are electrically noisy environments or metal obstructions which may prevent optimal communication.

Poly Tank Monitoring System



New Oil Tank Monitoring System



# OILCOP TANK MONITORING

- No monthly fees or “ping” charges for remote tank monitoring information
- All tank monitoring software is imbedded in system components, eliminating the need to install any external software
- Multi – level security access
- Remote access for multiple location monitoring and inventory control
- Secure website allows zero cost customer access to extended features and support
  - Ability to download inventory information from multiple OilCop™ tank locations
  - Portal for fluid suppliers to access customer tank inventory
  - Software update notifications
  - “Equipment Sentry” monitors status of tank monitor system
  - On-line user manuals
- OilCop software provides a means to configure relays to shut off air supply to pumps during unattended hours of operation (evenings, weekends, holidays, etc.)
- User defined high level, low level alarms and reorder alerts
- Delivery reports



## P/N 540081-A

1/4" NPT air solenoid valve w/3 ports, either normally open or normally closed, for use in controlling air supply to pneumatic pumps. 24 VDC coil has red LED power indicator and accepts 8 mm push to connect tubing.

## P/N 540081-B

3/8" NPT air solenoid valve w/3 ports, either normally open or normally closed, for use in controlling air supply to pneumatic pumps. 24 VDC coil has red LED power indicator and accepts 8 mm push to connect tubing.

## P/N 540081-C

1/2" NPT air solenoid valve w/3 ports, either normally open or normally closed, for use in controlling air supply to pneumatic pumps. 24 VDC coil has red LED power indicator and accepts 8 mm push to connect tubing.



## P/N 100881-06-20

Tank probe for tanks up to 6' deep, includes additional 20' cable for a total cable length of 26'. Kit includes a 3/4" NPTM adapter and 0.862" dia. probe which fits through a standard 3/4" opening. Pressure sensitive tank level probe has a working range of up to 6' depth and total cable length of 26'.

## P/N 100881-10-10

Tank probe for tanks up to 10' deep, includes additional 10' cable for a total cable length of 20'. Kit includes a 3/4" NPTM adapter and 0.862" dia. probe which fits through a standard 3/4" opening. Pressure sensitive tank level probe has a working range of up to 10' depth and total cable length of 20'.

## P/N 100881-20-20

Tank probe for tanks up to 20' deep, includes additional 20' cable for a total cable length of 40'. Kit includes a 3/4" NPTM adapter and 0.862" dia. probe which fits through a standard 3/4" opening. Pressure sensitive tank level probe has a working range of up to 20' depth and total cable length of 40'.

## P/N 907061

### Tank probe junction box, water resistant

Weather resistant junction box provides a safe and convenient method to connect incoming cable from the tank probe/transducer to the outgoing cable (customer supplied) which connects to the Tank Monitor Module.



## P/N 907062

### Tank probe junction box, water resistant with lightning protection

Lightning proof and weather resistant junction box provides a safe and convenient method to connect incoming cable from the tank probe/transducer to the outgoing cable (customer supplied) which connects to the Tank Monitor Module.



Used Oil Tank Monitoring System



# TANK MONITORING FLEXIBILITY

- The OilCop™ fluid management system can be accessed using existing PC's, laptops, tablets or smart phones via local area networks or Wi-Fi
- Easy upgrade to comprehensive fluid management system with capability to track work orders, usage by fluid type, operator, date, time along with many additional features

- Remote access for multiple location usage, inventory control and "Keep – it – Full" supplier programs
- Uses wireless self-healing mesh network and/or two wire communication
- No monthly fee or "ping" charges for remote tank monitoring

## Tank Level Transducers

These tank level transducers have a 1/2" NPTM thread and are used to attach to the outside bottom of a tank instead of inserting the probe from the top of a tank. Choose a transducer that most closely fits the tank depth you are working with in order to achieve the best accuracy.

**P/N 100881-4.5-24**

Transducer with tank level working range of 4.5' (54") and a 24' cable length

**P/N 100881B-10-06**

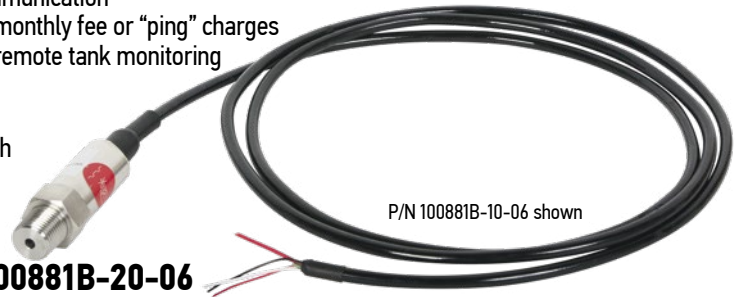
Transducer with tank level working range of 10' and a 6' cable length

**P/N 100881B-20-06**

Transducer with tank level working range of 20' and a 6' cable length

**P/N 100881B-30-06**

Transducer with tank level working range of 30' and a 6' cable length



**P/N 950416**

Connection kit provides all fittings required to allow the 1/2" NPTM tank level transducer, P/N 100881B, to connect to the bottom of poly tanks with a 1" NPTF fitting.



**P/N 950417**

Connection kit includes all fittings necessary to allow P/N 100881B tank level transducer to connect to a 2" NPTM fitting such as found on the bottom of IBC tote tanks.



# TANK MONITORING

## P/N 100550

Self-contained, battery operated, High/Low level Sentry tank monitor is designed for use with single or double wall above ground tanks. Float sensor can be easily adjusted for sensor depth from 2" to 10' and may be used to monitor interstitial space of double wall tanks. When activated to an alarm condition, the alarm sounds a 103 decibel siren for up to four days with a fresh 9 volt battery. This unit is designed for indoor use for use with fresh oil, used oil, diesel fuel, antifreeze, water and other fluids with a high flash point.



## P/N 100550-110

Same as 100550 above, except it includes a 110VAC/12 Volt power source.



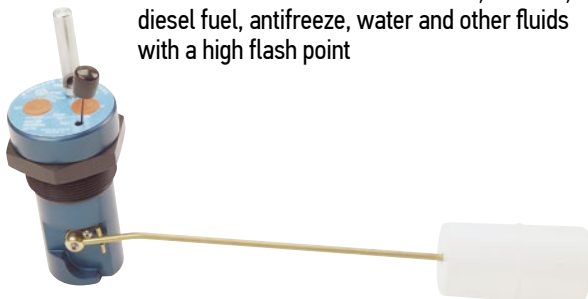
## P/N 100550W

The Sentry tank monitor is designed to be wall mounted indoors and used with the included weather resistant float sensor located remotely on the tank to be monitored. Function of the tank alarm and float sensor is otherwise identical to P/N 100550 above.



## P/N 100551

The 007 Tank Monitor will sense either high or low tank levels and will sound a 103 decibel alarm along with a flashing strobe light when activated. The 007 Tank Monitor can activate an optional solenoid valve P/N 100554L to shut off pump air supply when in an alarm condition. This unit is designed for indoor use for use with fresh oil, used oil, diesel fuel, antifreeze, water and other fluids with a high flash point



## Overfill Warning Valve for Used Oil Systems

### P/N 100555-AS

Valve installs on 2" bung opening at top of used oil tank, air supply is routed through valve before going to the pump. Valve will close off pump air supply when liquid level reaches 90% of tank capacity diverting air to provide an audible signal.

## P/N 100552

TM3 shuts off pump air supply thus preventing tank overflow when a high fluid tank condition occurs. It is fully mechanical/pneumatic, with no electrical/electronic parts. Operating air pressure range of 50 – 150 PSI. Designed for indoor use with most single or double wall above ground tanks. For use with fluids such as fresh oil, used oil, diesel fuel, antifreeze, water and other fluids with a high flash point.



## P/N 100554L

Low voltage solenoid valve for use with P/N 100551 Tank Monitor, shuts off pump air supply when the 007 Tank Monitor is the alarm condition. May be located up to 350' away from the 007, includes a wall mounted 115 VAC/12 V transformer. Inlet/outlet ports are 1/2" NPTF, operating pressure range is 10 – 200 PSI. For use with P/N 100551 007 Tank Monitor.

## P/N 100554LT

Same as P/N 100554L except it includes an adjustable timer to shut off pump, may be set within a 3 – 15 minute range.



# OILCOP™ TANK OVERFILL PROTECTION

Best practices dictate that above ground lube storage tanks be provided with means for overflow protection. To fill this need, the "OilCop™ Tank Overflow Protection System" has been developed to provide all necessary components to ensure a tank overflow situation does not occur.

The "OilCop Tank Overflow Protection System" provides the basic tank level monitoring you would expect via visual and audible alarms. In addition, the "OilCop Tank Overflow Protection System" goes beyond the basics by also allowing you to easily program and receive email notifications for reorder level, low level shutoff, high level warning and high level alarm conditions. The system

can also be configured to control remote solenoids and pump relays or, by using the available (normally closed), pneumatically operated shutoff valve which will isolate the subject tank to prevent any further fluid introduction. This has an added advantage by eliminating the need to install and route wires to control air solenoid valves at the remote pump location.

Overflow alarms are provided via a 110 db audible alarm along with a bright visual flashing strobe light. An acknowledgment switch allows you to silence the audible alarm while the strobe light continues flashing until the high level alarm condition is rectified.

## Tank Overflow Visual/Audible Alarm Module

P/N **100895**

Bright red strobe light flashes as warning when tank level reaches the preset "High Level Shutoff" level. Warning levels are set for each tank via the "Product and Tank Configuration" screen found in the OilCop "Administration" desktop setup. Includes an acknowledge button to silence audible alarm, strobe light continues flashing until high level condition has been corrected.

Audible alarm sounds at 110 Db when fluid tank level reaches the preset "High Level Shutoff" level in conjunction with the visual alarm P/N 100895. The audible alarm can be silenced by depressing the "Press To Silence Alarm" located on the Tank Overflow Alarm module.



## Pneumatic Valves

These valves should be used with an air filter/regulator set between 80 – 100 PSI for proper operation. They are engineered to ensure rapid valve closure since fluid flow assists the pneumatic operation.

P/N **950421-A**

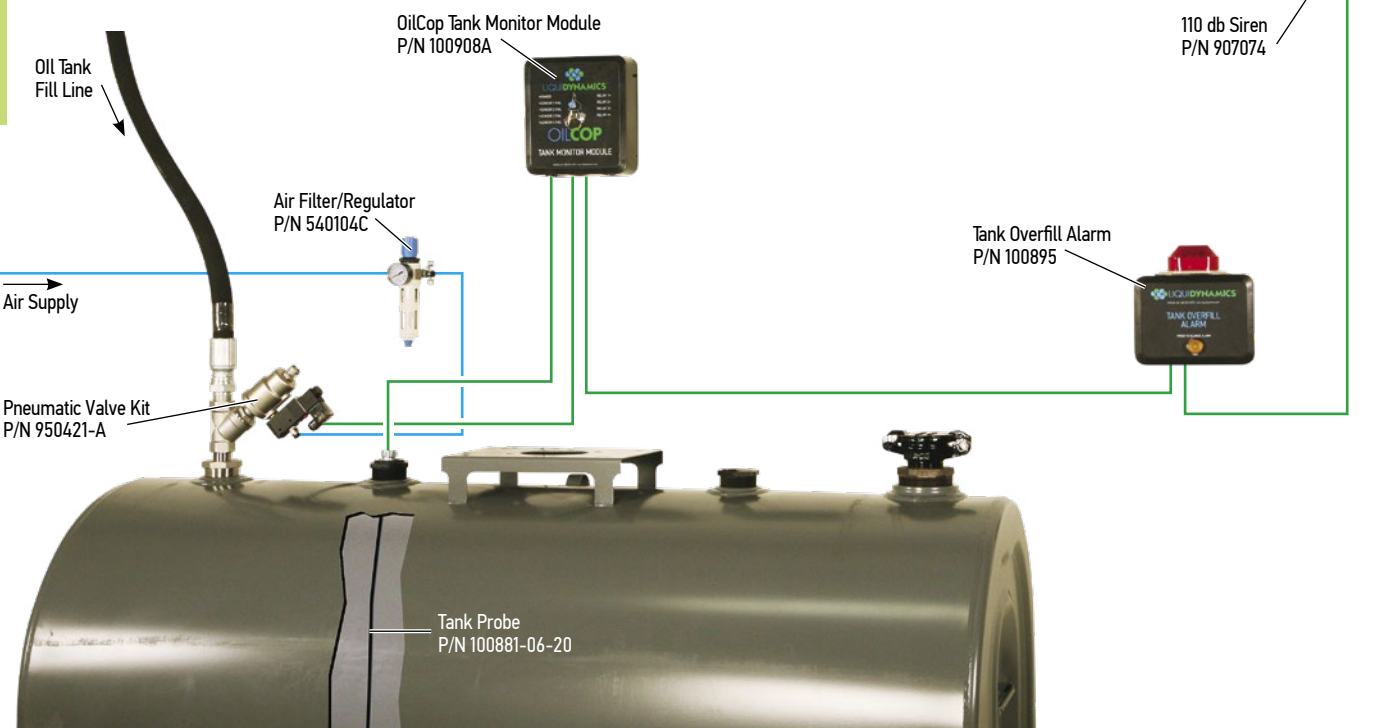
1" NPTF Stainless Steel pneumatic valve

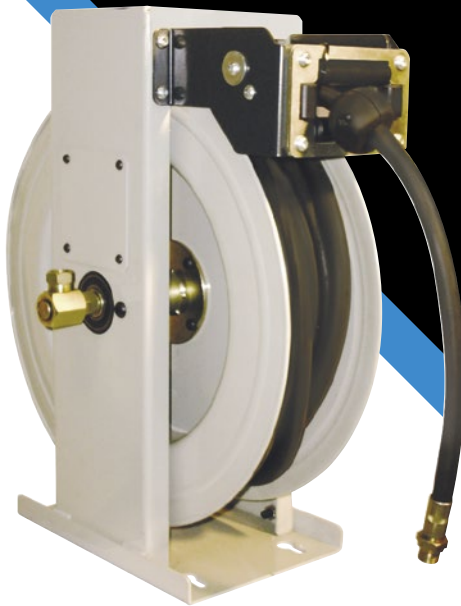
P/N **950421-B**

1½" NPTF Stainless Steel pneumatic valve

P/N **950421-C**

2" NPTF Stainless Steel pneumatic valve





## HOSE REELS

An excellent tool to ensure a clean, efficient and safe working environment. Our spring rewind models are used widely in industrial and automotive settings to improve efficiency and safety by keeping hoses off the ground.

These reels are constructed of heavy gauge, powder coated steel with a high-density polypropylene hose drum to ensure durability and corrosion resistance. Reels have double pedestal and double arm construction for rigidity. Easy access inlet swivel design utilizes “quad” seals with PTFE backup and secondary ‘O’ Ring to ensure long life.

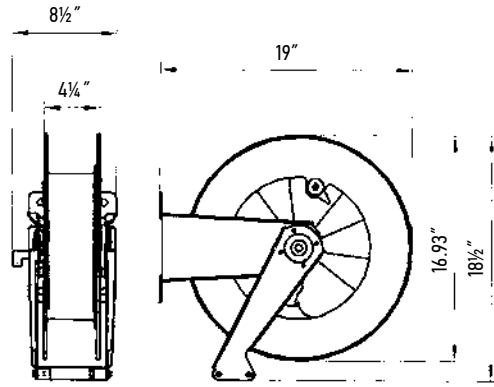
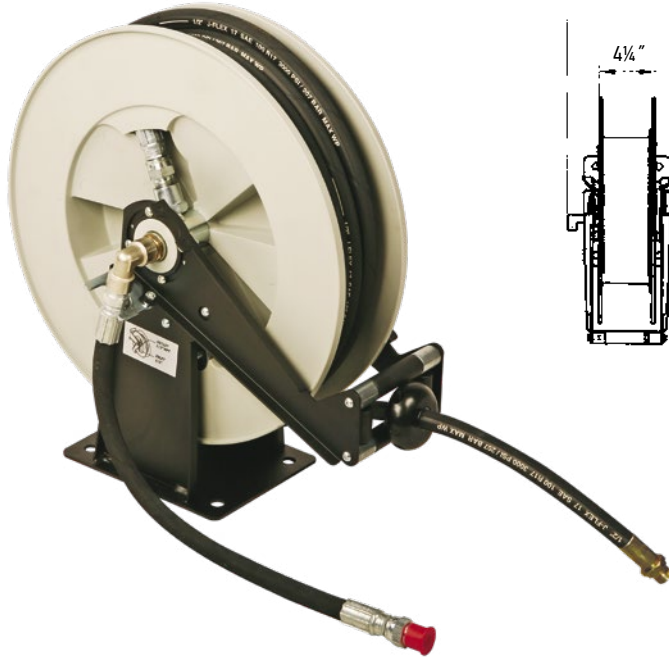
Many of our reels are backed with our industry leading 5-year Limited Warranty against defects in material and workmanship. These pages are filled with a broad offering of:

- Spring Rewind Hose Reels-Oil, Grease & Fuel
- Extreme Duty Hose Reels-Oil, Grease & Fuel
- Open Drum Hose Reels-Air & Water
- Reel Accessories

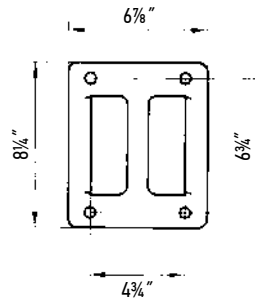
# SPRING REWIND HOSE REELS – OIL

## Open Reel, 43002 and 43003 Series:

P/N **43002**



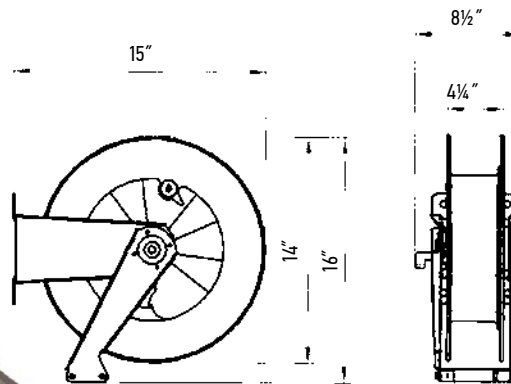
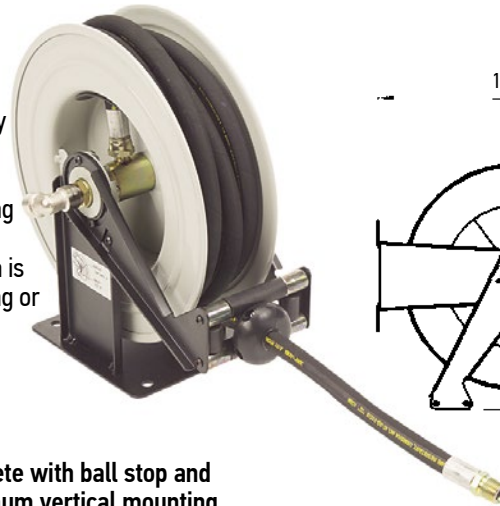
**Mounting Pattern**  
Common both reels.



## Compact Hose Reel:

P/N **43003-25L**

This compact reel offers heavy duty steel construction with corrosion resistant powder coated finish, fully enclosed with lubricated spring and full flow swivel to minimize pressure drop. The hose guide arm is easily adjusted to allow wall, ceiling or floor mounting.



**NOTE:** Reels are supplied complete with ball stop and 1/2" x 2' connecting hose. Maximum vertical mounting height is 12'. Contact Liquidynamics if higher mounting height is required.

	P/N 43002	P/N 43002-25L	P/N 43002-30L	P/N 43002-40L	P/N 43002-50L	P/N 43003	P/N 43003-25L
Working Pressure	1,700 PSI	1,700 PSI	1,700 PSI	1,700 PSI	1,700 PSI	1,700 PSI	1,700 PSI
Hose Length	—	25 ft.	30 ft.	40 ft.	50 ft.	—	25 ft.
Hose Dia., ID	—	1/2"	1/2"	1/2"	1/2"	—	1/2"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTM	1/2" NPTM	1/2" NPTM	1/2" NPTM	1/2" NPTM	1/2" NPTM
Connecting Hose Length	—	2 ft.	2 ft.	2 ft.	2 ft.	—	2 ft.
Shipping Weight, lb.	28	36	38	40	43	27	36

**NOTE:** See page 81 for reel mounting kits.



# SPRING REWIND HOSE REELS – OIL

## Spring Rewind Hose Reels – Large Capacity:

These large capacity hose reels are ideal for use with 1/2" hose up to 75', 3/4" hose up to 50' lengths and 1" hose with lengths up to 40'. They are compact, sturdy and versatile. Reels are constructed from heavy gauge steel with full double pedestal and

double arm supports for rigidity and powder coated for durability. Support arm is easily adjusted to allow installation on ceiling, wall, floor or bench without binding hose. Hose ball stop included.

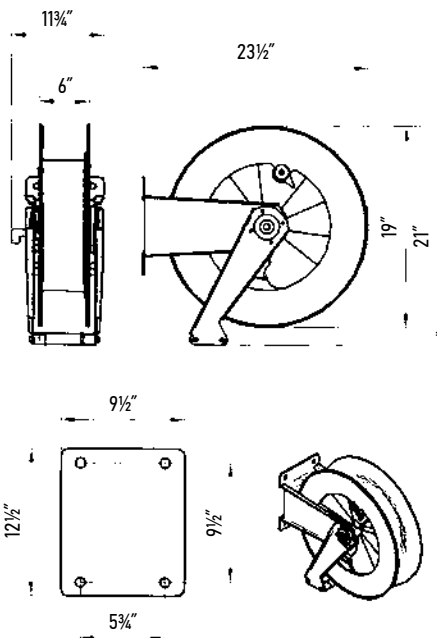


P/N 88402-40L shown

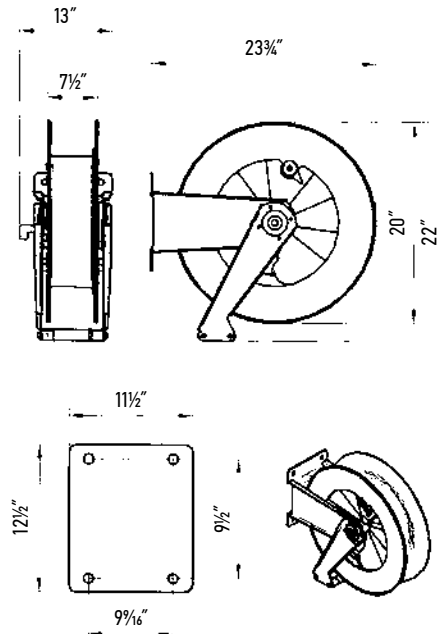


P/N 88405-40L shown

### 88402 and 88403 Series



### 88405 Series



	P/N 88403-50L	P/N 88403-75L	P/N 88402	P/N 88402-40L	P/N 88402-50L	P/N 88405	P/N 88405-30L	P/N 88405-40L
Working Pressure	1,160 PSI	1,160 PSI	1,160 PSI	1,160 PSI	870 PSI	1,160 PSI	1,160 PSI	1,160 PSI
Hose Length	50 ft.	75 ft.	—	40 ft.	50 ft.	—	30 ft.	40 ft.
Hose Dia., ID	1/2"	1/2"	—	3/4"	3/4"	—	1"	1"
Inlet Connection	1/2" NPTF	1/2" NPTF	3/4" NPTF	3/4" NPTF	3/4" NPTF	1" NPTF	1" NPTF	1" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTF	3/4" NPTF	3/4" NPTF	3/4" NPTF	1" NPTF	1" NPTF	1" NPTF
Max Winding Capacity	1/2" x 75'	1/2" x 75'	3/4" x 50'	—	—	1" x 40'	—	—
Connecting Hose	2 ft.	2 ft.	—	See Note	See Note	—	See Note	See Note
Shipping Weight	79 lb	86 lb	54 lb	74 lb	80 lb	74 lb	93 lb	97 lb

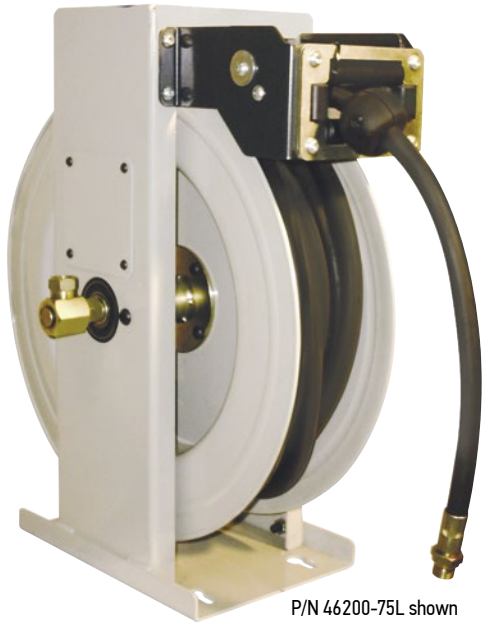
**NOTE:** Order connecting hose separately to fit your specific installation

# SPRING REWIND HOSE REELS – EXTREME DUTY – OIL

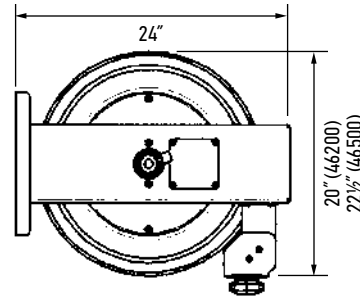
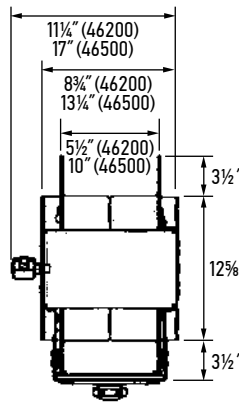
These reels are intended for industrial applications where an extra heavy duty reel is required. Reels are constructed from thick gauge, powder coated steel with full double pedestal drum supports.

Drum shaft is 3/4" diameter supported by ball bearings on each side. Inlet swivel is machined solid brass with easily accessible seals for simple maintenance.

**46200 series reels are supplied complete with ball stop and connecting hose.**

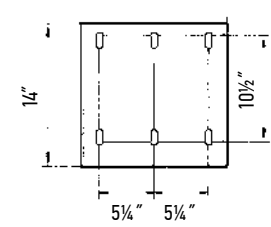
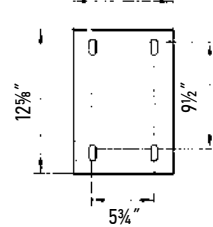


P/N 46200-75L shown



46200 Series Mounting Plate  
9 1/4"

46500 Series Mounting Plate  
13 1/2"



	P/N 46200	P/N 46200-50L	P/N 46200-75L	P/N 88503-100L	P/N 46500	P/N 46501-50L	P/N 46502-40L
Working Pressure	1,700 PSI	1,700 PSI	1,700 PSI	2,000 PSI	1,160 PSI	1,160 PSI	1,160 PSI
Hose Length	—	50 ft.	75 ft.	100 ft.	—	50 ft.	40 ft.
Hose Dia., ID	—	1/2"	1/2"	1/2"	—	3/4"	1"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	1" NPTF	1" NPTF	1" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTM	1/2" NPTM	1/2" NPTM	1" NPTM	3/4" NPTM	1" NPTM
1/2" Max. Winding Capacity	75 ft.	—	—	—	—	—	—
1" Max. Winding Capacity	—	—	—	—	45 ft.	—	—
Connecting Hose Length	—	2 ft.	2 ft.	4 ft.	—	See Note	See Note
Shipping Weight, lb.	75	97	103	134	109	94	96

**NOTE:** Order connecting hose separately to fit your specific installation.

## Spring Rewind Hose Reels – Large Capacity:

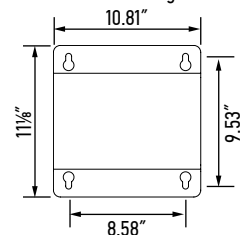
### P/N 88503-100L

High capacity reel features double pedestal and double arm, all metal construction for superior strength and rigidity. This reel has a powder coated finish to ensure long lasting durability and appearance. Reel is suitable for use with air, water, antifreeze and oil products and is supplied complete with 1/2" x 100' hose rated to 2,000 PSI working pressure, ball stop and 1/2" x 4' connection hose. The adjustable arms provide floor, wall or ceiling mount capability.

Swivel inlet fitting is 1/2" NPTF, connection hose is 1/2" NPTM rigid x 1/2" NPTM swivel, discharge hose fitting is 1/2" NPTM rigid. Reel dimensions are 14.5" W x 23" D x 24.8" H, reel weight (empty) including hose is 133 lb.



88503-100L Mounting Plate



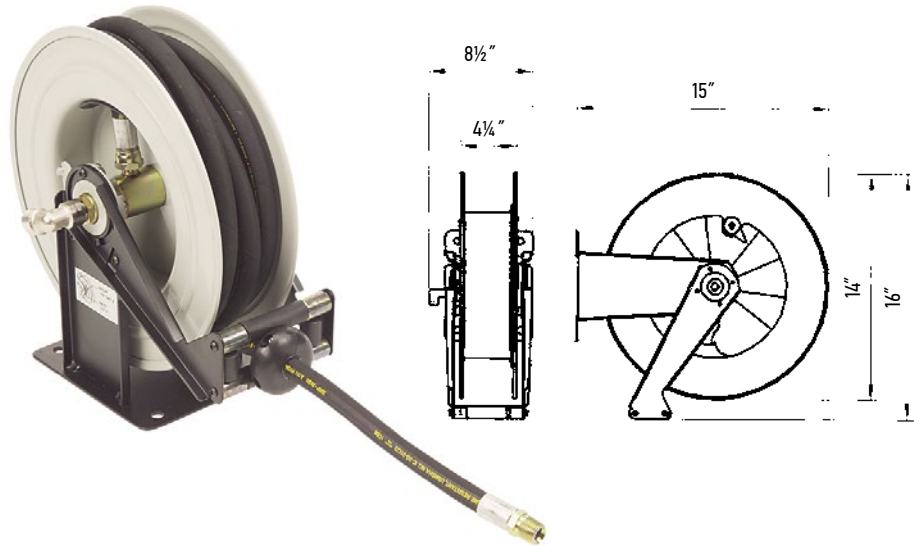
# SPRING REWIND HOSE REELS – GREASE

## Open Reel, 43102, 43103 and 43104 Series:

### Compact Hose Reel:

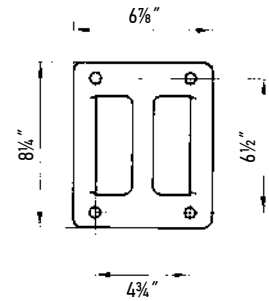
P/N **43104**

This compact reel offers heavy duty construction with corrosion resistant powder coated finish, fully enclosed and lubricated spring and full flow swivel to minimize pressure drop. The hose guide arm is easily adjusted to allow wall, ceiling or floor mounting.



P/N 43102 shown

**Mounting Pattern**  
Common both reels.



**NOTE:** Reels are supplied complete with ball stop and connecting hose.

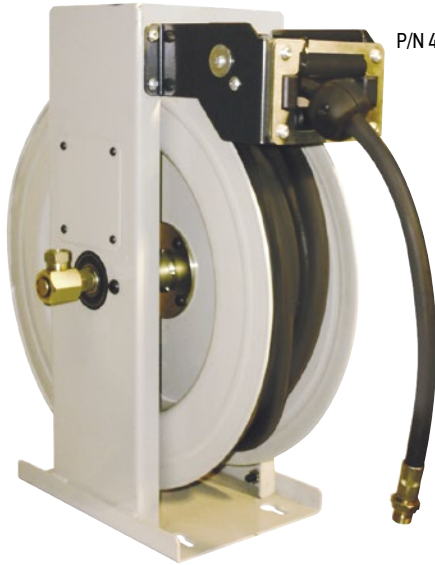
	P/N 43102	P/N 43102-30G	P/N 43102-50G	P/N 43103-30G	P/N 43103-50G	P/N 43104	P/N 43104-25G	43104-30G
Working Pressure	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI
Hose Length	—	30 ft.	50 ft.	30 ft.	50 ft.	—	25 ft.	30 ft.
Hose Dia., ID	—	1/4"	1/4"	3/8"	3/8"	—	1/4"	1/4"
Inlet Connection	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF
Outlet Connection	1/4" NPTM	1/4" NPTM	1/2" NPTF	1/4" NPTM	1/4" NPTM	1/4" NPTM	1/4" NPTM	1/4" NPTM
1/4" Max. Winding Cap.	65 ft.	—	—	—	—	35 ft.	—	—
3/8" Max. Winding Cap.	60 ft.	—	—	—	—	30 ft.	—	—
Connecting Hose L.	—	2 ft.	2 ft.	2 ft.	2 ft.	—	2 ft.	2ft.
Shipping Weight, lb.	28	35	40	40	45	27	33	35

## HOSE REELS – EXTREME DUTY – GREASE

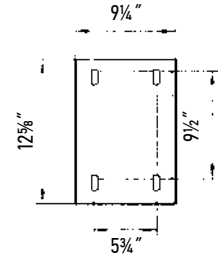
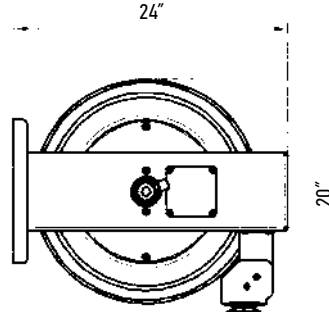
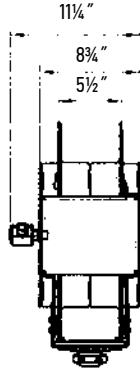
These reels are intended for extreme applications where an extra heavy duty reel is required. Reels are constructed from thick gauge, powder coated steel with full double pedestal drum supports.

Drum shaft is 3/4" diameter supported by ball bearings on each side. Inlet swivel is machined solid brass with easily accessible seals for simple maintenance.

**NOTE:** Reels are supplied complete with ball stop and connecting hose.



P/N 46202-75G shown

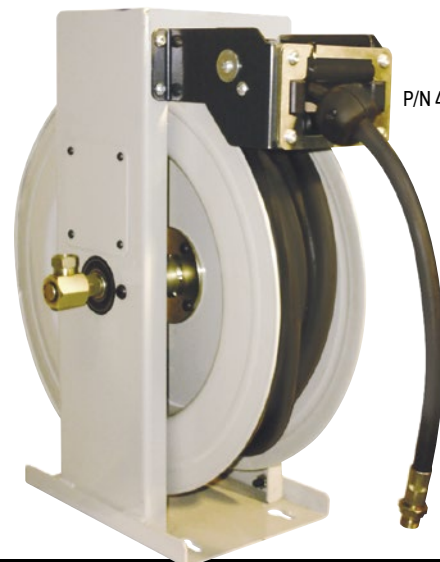


	P/N 46201	P/N 46201-50G	P/N 46201-75G	P/N 46202-50G	P/N 46202-75G
Working Pressure	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI	8,700 PSI
Hose Length	—	50 ft.	75 ft.	50 ft.	75 ft.
Hose Dia., ID	—	1/4"	1/4"	3/8"	3/8"
Inlet Connection	3/8" NPTF	3/8" NPTF	3/8" NPTF	3/8" NPTF	3/8" NPTF
Outlet Connection	1/4" NPTF	1/4" NPTM	1/4" NPTM	1/4" NPTM	1/4" NPTM
1/4" Max. Winding Capacity	80 ft.	—	—	—	—
3/8" Max. Winding Capacity	80 ft.	—	—	—	—
Connecting Hose Length	—	2 ft.	2 ft.	2 ft.	2 ft.
Shipping Weight, lb.	82	95	100	100	106

## SPRING REWIND HOSE REELS – AIR/WATER

### Extreme Duty 46200 Series:

	46200	46200-50A	46200-75A
Working Pressure	1,160 PSI	250 PSI	250 PSI
Hose Length	—	50 ft.	75 ft.
Hose Dia., ID	—	1/2"	1/2"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTM	1/2" NPTM
1/2" Max. Winding Capacity	80 ft.	—	—
Connecting Hose Length	—	2 ft.	2 ft.
Shipping Weight, lb.	75	82	86



P/N 46200-75A shown

# SPRING REWIND HOSE REELS – AIR/WATER

## Open Reel, 43002 and 43003 Series:

An excellent tool to ensure a clean, efficient and safe working environment. Liquidynamics reels are constructed of heavy gauge, powder coated steel with a high density polypropylene hose drum to ensure durability and corrosion resistance. These reels are extremely rugged and are intended for heavy duty use.

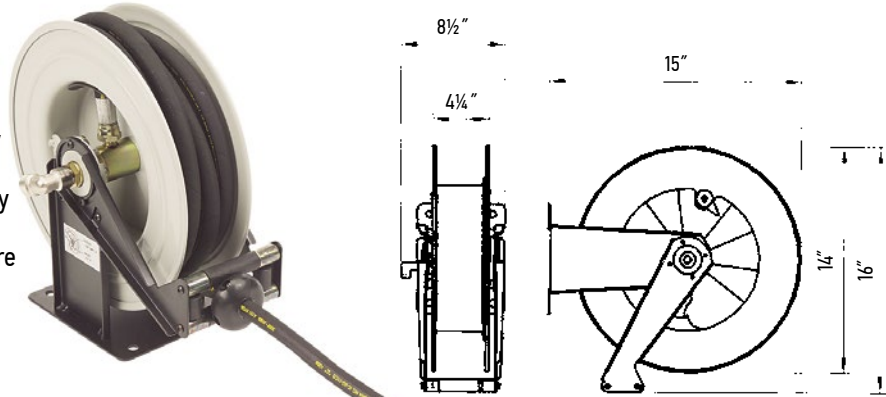
Both open and enclosed styles are supplied with a standard rigid fixed mount. An optional swivel mount bracket is available for both the open and enclosed reel styles.

**NOTE:** Reels are supplied complete with ball stop and connecting hose. Maximum vertical mounting height is 15'.

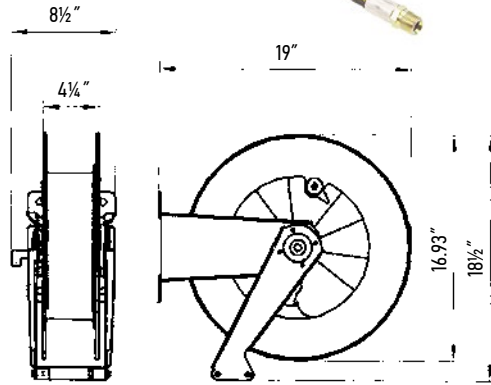
## Compact Hose Reel:

### P/N 43003-30A

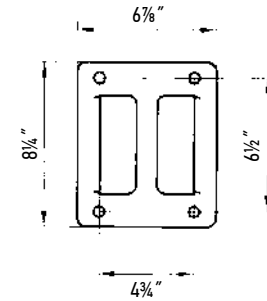
This compact reel offers heavy duty steel construction with corrosion resistant powder coated finish. Fully enclosed and lubricated spring and full flow swivel to minimize pressure drop. The hose guide arm is easily adjusted to allow wall, ceiling or floor mounting.



### P/N 43002



**Mounting Pattern**  
Common both reels.

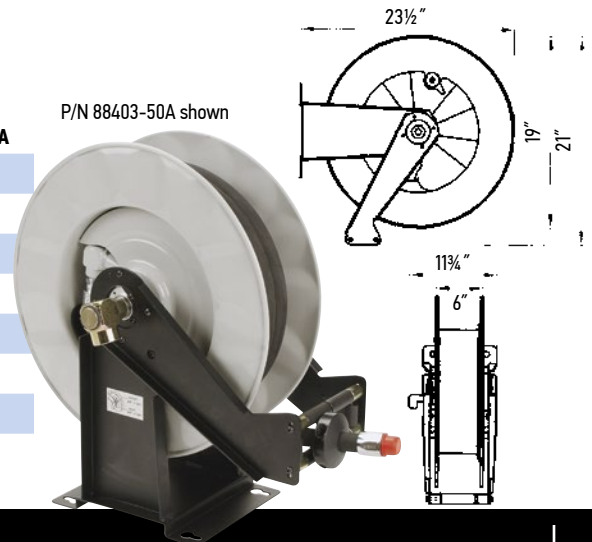


	P/N 43002	P/N 43002-30A	P/N 43002-50A	P/N 43002-50A2	P/N 43003	P/N 43003-30A	P/N 43003-50A
Working Pressure	1,160 PSI	300 PSI	300 PSI	300 PSI	1,160 PSI	300 PSI	300 PSI
Hose Length	—	30 ft.	50 ft.	50 ft.	—	30 ft.	50 ft.
Hose Dia., ID	—	3/8"	3/8"	1/2"	—	3/8"	3/8"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	1/2" NPTF	3/8" NPTF	3/8" NPTF
Outlet Connection	1/2" NPTF	3/8" NPTM	3/8" NPTM	1/2" NPTM	1/2" NPTM	3/8" NPTF	3/8" NPTF
Connecting Hose Length	—	2 ft.	2 ft.	2 ft.	—	2 ft.	2 ft.
Shipping Weight, lb.	28	34	37	42	27	32	38

## Large Capacity, 88403 Series:

	P/N 88403	P/N 88403-50A	P/N 88403-75A
Working Pressure	1,160 PSI	250 PSI	250 PSI
Hose Length	—	50 ft.	75 ft.
Hose Dia., ID	—	1/2"	1/2"
Inlet Connection	1/2" NPTF	1/2" NPTF	1/2" NPTF
Outlet Connection	1/2" NPTF	1/2" NPTM	1/2" NPTM
3/8" Max. Winding Capacity	80 ft.	—	—
Connecting Hose Length	—	2 ft.	2 ft.
Shipping Weight, lb.	62	68	74

P/N 88403-50A shown



# SPRING REWIND HOSE REELS – FUEL

## Spring Rewind Hose Reels – Large Capacity:

These large capacity hose reels are ideal for use with 3/4" hose up to 50' lengths and 1" hose with lengths up to 40'. They are compact, sturdy and versatile. Reels are constructed from heavy

gauge steel with full double pedestal and double arm supports for rigidity and powder coated for durability. Support arm is easily adjusted to allow installations on ceiling, wall, floor or bench without binding of hose. Hose ball stop included.

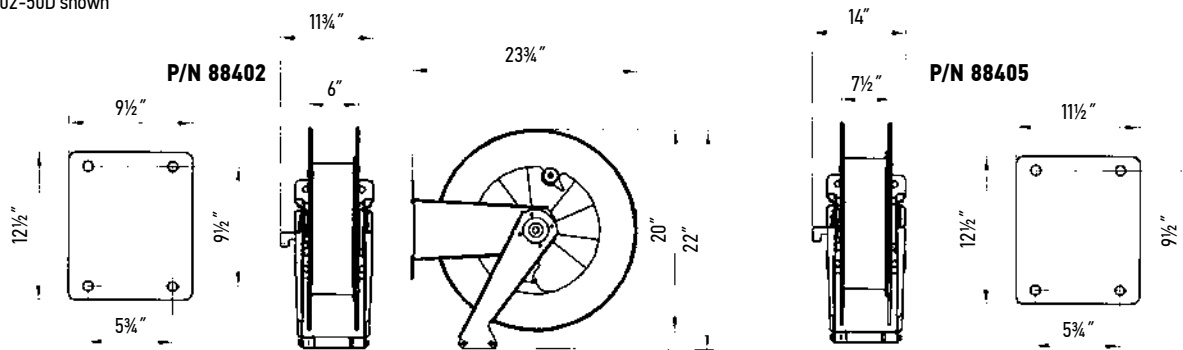
### Diesel 88400 Series:



P/N 88402-50D shown

	88402	88402-40D	88402-50D	88405	88405-30D	88405-40D
Working Pressure	870 PSI	150 PSI	150 PSI	870 PSI	150 PSI	150 PSI
Hose Length	—	40 ft.	50 ft.	—	30 ft.	40 ft.
Hose Dia., ID	—	3/4"	3/4"	—	1"	1"
Inlet Connection	3/4" NPTF	3/4" NPTF	3/4" NPTF	1" NPTF	1" NPTF	1" NPTF
Outlet Connection	3/4" NPTF	3/4" NPTM	3/4" NPTM	1" NPTM	1" NPTM	1" NPTM
Max. Winding Capacity	3/4" x 50'	—	—	1" x 40'	—	—
Connecting Hose	—	Note	Note	—	Note	Note
Shipping Weight, lb.	62	78	86	74	84	96

**NOTE:** Order connecting hose separately to fit your specific installation.

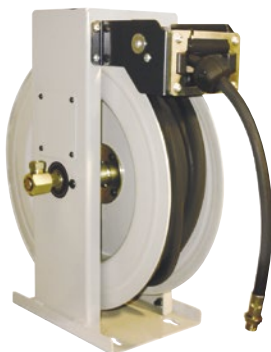


These reels are intended for industrial applications where an extra heavy duty reel is required. Reels are constructed from thick gauge, powder coated steel with full double pedestal drum supports.

Drum shaft is 3/4" diameter supported by ball bearings on each side. Inlet swivel is machined solid brass with easily accessible seals for simple maintenance.

**46000 series reels are supplied complete with ball stop.**

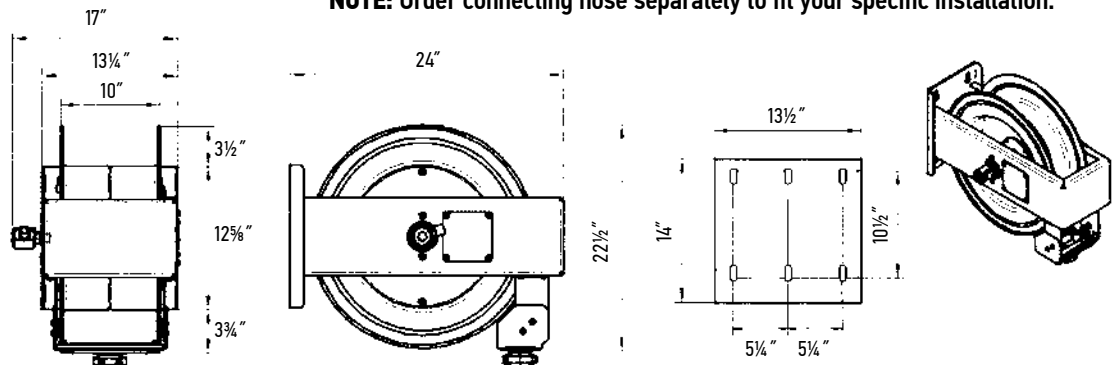
### Diesel Reel, 46500 Series:



P/N 46504-50D shown

	46500	46504-25D	46504-50D	46505-25D	46505-40D
Working Pressure	1,160 PSI	150 PSI	150 PSI	150 PSI	150 PSI
Hose Length	—	25 ft.	50 ft.	25 ft.	40 ft.
Hose Dia., ID	—	3/4"	3/4"	1"	1"
Inlet Connection	1" NPTF	1" NPTF	1" NPTF	1" NPTF	1" NPTF
Outlet Connection	1" NPTF	3/4" NPTM	3/4" NPTM	1" NPTM	1" NPTM
Connecting Hose Length	—	Note	Note	Note	Note
Shipping Weight, lb.	109	128	146	130	142

**NOTE:** Order connecting hose separately to fit your specific installation.



# FLUID AND AIR HOSES – LOW & MEDIUM PRESSURE

These hoses are suitable for use with Air, Water, Oil, Hydraulic Fluid, Transmission Fluid and Antifreeze as appropriate. Hoses are typically supplied with a rigid fitting on one side and a swivel fitting on the other side.

**Please contact Liquiddynamics if you require a special hose type, length or fittings.**

## LOW PRESSURE AIR AND WATER HOSE

A premium high quality multi-purpose hose that is an excellent choice for air and water applications. The hose is constructed with high tensile textile cord reinforcement and a red neoprene cover. This construction provides excellent kink resistance, a working pressure of 300 PSI, a 4:1 safety factor and a temperature range of -20° F to +212° F.

P/N	HOSE SIZE	FITTINGS	NOTE
81100-02	3/8" x 2'	1/4" x 1/4"	(A)
81100-04	3/8" x 4'	1/4" x 1/4"	(A)
81100-06	3/8" x 6'	1/4" x 1/4"	(A)
81100-10	3/8" x 10'	1/4" x 1/4"	(A)
81100-15	3/8" x 15'	1/4" x 1/4"	(A)
81100-25	3/8" x 25'	1/4" x 1/4"	(A)
81100-30	3/8" x 30'	1/4" x 1/4"	(A)
81100-40	3/8" x 40'	1/4" x 1/4"	(A)
81100-50	3/8" x 50'	1/4" x 1/4"	(A)
81125-02	3/8" x 2'	3/8" x 3/8"	(A)
81125-04	3/8" x 4'	3/8" x 3/8"	(A)
81125-06	3/8" x 6'	3/8" x 3/8"	(A)
81125-10	3/8" x 10'	3/8" x 3/8"	(A)
81125-15	3/8" x 15'	3/8" x 3/8"	(A)
81125-25	3/8" x 25'	3/8" x 3/8"	(A)
81125-30	3/8" x 30'	3/8" x 3/8"	(A)
81125-40	3/8" x 40'	3/8" x 3/8"	(A)
81125-50	3/8" x 50'	3/8" x 3/8"	(A)
81150-02	1/2" x 2'	1/2" x 1/2"	(A)
81150-04	1/2" x 4'	1/2" x 1/2"	(A)
81150-06	1/2" x 6'	1/2" x 1/2"	(A)
81150-10	1/2" x 10'	1/2" x 1/2"	(A)
81150-15	1/2" x 15'	1/2" x 1/2"	(A)
81150-25	1/2" x 25'	1/2" x 1/2"	(A)
81150-30	1/2" x 30'	1/2" x 1/2"	(A)
81150-40	1/2" x 40'	1/2" x 1/2"	(A)
81150-50	1/2" x 50'	1/2" x 1/2"	(A)
81150-75	1/2" x 75'	1/2" x 1/2"	(A)

**(A) NPTM Rigid fitting x NPTM Swivel fitting**

## MEDIUM PRESSURE OIL HOSE 1/2" ID

For use with all ratio pumps up to and including 13:1 pumps.

An excellent general purpose hose used for oil, hydraulic fluid, transmission fluid and antifreeze. Hose is constructed with a neoprene tube, high tensile steel wire braid and oil and weather resistant synthetic rubber. Hose is rated to a maximum working pressure of 3,000 PSI and a minimum burst of 10,000 PSI and has a temperature range of -40° F to +250° F. The hose is SAE/USCG marine listed and exceeds SAE 100R1 specifications. It is very flexible with a minimum bend radius of 3.0 inches, OD is 0.75". Hose may be used for suction or discharge.

P/N	HOSE SIZE	FITTINGS	NOTE
81200-02	1/2" x 2'	1/2" x 1/2"	(A)
81200-04	1/2" x 4'	1/2" x 1/2"	(A)
81200-05	1/2" x 5'	1/2" x 1/2"	(A)
81200-06	1/2" x 6'	1/2" x 1/2"	(A)
81200-08	1/2" x 8'	1/2" x 1/2"	(A)
81200-12	1/2" x 12'	1/2" x 1/2"	(A)
81200-15	1/2" x 15'	1/2" x 1/2"	(A)
81200-20	1/2" x 20'	1/2" x 1/2"	(A)
81200-25	1/2" x 25'	1/2" x 1/2"	(A)
81200-30	1/2" x 30'	1/2" x 1/2"	(A)
81200-35	1/2" x 35'	1/2" x 1/2"	(A)
81200-40	1/2" x 40'	1/2" x 1/2"	(A)
81200-50	1/2" x 50'	1/2" x 1/2"	(A)
81200-75	1/2" x 75'	1/2" x 1/2"	(A)
81200-100	1/2" x 100'	1/2" x 1/2"	(A)

**(A) NPTM Rigid fitting x NPTM Swivel fitting**

## MEDIUM PRESSURE OIL HOSE 3/4" & 1" ID

For use with High Volume Ratio Pumps.

An excellent general purpose hose used for oil, hydraulic fluid, transmission fluid and antifreeze. Hose is constructed with a neoprene tube, high tensile steel wire braid and oil and weather resistant synthetic rubber. Hose is rated to a maximum working pressure of 1,250 PSI and a minimum burst of 5,000 PSI and has a temperature range of -40° F to +250° F. The hose is SAE/USCG marine listed and exceeds SAE 100R1 specifications. It is very flexible with a minimum bend radius of 4.3" inches, OD is 1.01". Hose may be used for suction or discharge.

P/N	HOSE SIZE	FITTINGS	NOTE
81250-02	3/4" x 2'	3/4" x 3/4"	(A)
81250-04	3/4" x 4'	3/4" x 3/4"	(A)
81250-06	3/4" x 6'	3/4" x 3/4"	(A)
81250-12	3/4" x 12'	3/4" x 3/4"	(A)
81250-20	3/4" x 20'	3/4" x 3/4"	(A)
81250-25	3/4" x 25'	3/4" x 3/4"	(A)
81250-30	3/4" x 30'	3/4" x 3/4"	(A)
81250-40	3/4" x 40'	3/4" x 3/4"	(A)
81250-50	3/4" x 50'	3/4" x 3/4"	(A)
81260-02	1" x 2'	1" x 1"	(A)
81260-04	1" x 4'	1" x 1"	(A)
81260-06	1" x 6'	1" x 1"	(A)
81260-12	1" x 12'	1" x 1"	(A)
81260-20	1" x 20'	1" x 1"	(A)
81260-25	1" x 25'	1" x 1"	(A)
81260-30	1" x 30'	1" x 1"	(A)
81260-40	1" x 40'	1" x 1"	(A)
81260-50	1" x 50'	1" x 1"	(A)

**(A) NPTM Rigid fitting x NPTM Swivel fitting**

# GREASE HOSE & FUEL HOSE

These hoses are suitable for use with Hydraulic Fluid and Grease. Hoses are typically supplied with a rigid fitting on one side and a swivel fitting on the other side.

**Please contact Liquidynamics if you require a special hose type, length or fittings**

## HIGH PRESSURE HOSE

For use with 60:1 Grease Pumps.

High pressure hose used for grease and hydraulic fluid transfer. Hose is constructed with a neoprene tube, two high tensile strength wire braids and MSHA approved oil and weather resistant synthetic rubber cover, (3/8" hose has a polyester tube and neoprene cover). Maximum working pressure for the 1/4" ID hose is 5,800 PSI with a minimum burst pressure of 20,000 PSI, while the 3/8" ID hose has a maximum working pressure of 4,800 PSI and a minimum bursting pressure of 16,000 PSI. High pressure hoses are flexible, with a minimum bend radius of 2.0" and 6.0" respectively. Hoses have a working temperature of -40° F to +212° F and are SAE/USCG marine listed.

P/N	HOSE SIZE	FITTINGS	NOTE
81300-02	1/4" x 2'	1/4" x 1/4"	(A)
81300-04	1/4" x 4'	1/4" x 1/4"	(A)
81300-05	1/4" x 5'	1/4" x 1/4"	(A)
81300-06	1/4" x 6'	1/4" x 1/4"	(A)
81300-08	1/4" x 8'	1/4" x 1/4"	(A)
81300-12	1/4" x 12'	1/4" x 1/4"	(A)
81300-15	1/4" x 15'	1/4" x 1/4"	(A)
81300-20	1/4" x 20'	1/4" x 1/4"	(A)
81300-25	1/4" x 25'	1/4" x 1/4"	(A)
81300-30	1/4" x 30'	1/4" x 1/4"	(A)
81300-40	1/4" x 40'	1/4" x 1/4"	(A)
81300-50	1/4" x 50'	1/4" x 1/4"	(A)
81301-25	1/4" x 25'	1/4" x 9/16"	(B)
81301-30	1/4" x 30'	1/4" x 9/16"	(B)
81301-40	1/4" x 40'	1/4" x 9/16"	(B)
81301-50	1/4" x 50'	1/4" x 9/16"	(B)
81301-60	1/4" x 60'	1/4" x 9/16"	(B)
81315-02	3/8" x 2'	3/8" x 3/8"	(A)
81315-04	3/8" x 4'	3/8" x 3/8"	(A)
81315-06	3/8" x 6'	3/8" x 3/8"	(A)
81315-12	3/8" x 12'	3/8" x 3/8"	(A)
81315-20	3/8" x 20'	3/8" x 3/8"	(A)
81315-25	3/8" x 25'	3/8" x 3/8"	(A)
81315-30	3/8" x 30'	3/8" x 3/8"	(A)
81315-40	3/8" x 40'	3/8" x 3/8"	(A)
81315-50	3/8" x 50'	3/8" x 3/8"	(A)
81315-60	3/8" x 60'	3/8" x 3/8"	(A)
81316-25	3/8" x 25'	3/8" x 9/16"	(B)
81316-30	3/8" x 30'	3/8" x 9/16"	(B)
81316-40	3/8" x 40'	3/8" x 9/16"	(B)
81316-50	3/8" x 50'	3/8" x 9/16"	(B)
81317-06	1/2" x 6'	1/2"	(C)
81317-12	1/2" x 12'	1/2"	(C)
81317-20	1/2" x 20'	1/2"	(C)
81317-50	1/2" x 50'	1/2"	(C)
81318-06	3/4" x 6'	3/4"	(C)
81318-12	3/4" x 12'	3/4"	(C)
81318-20	3/4" x 20'	3/4"	(C)

- (A) NPTM Rigid fitting x NPTM Swivel fitting
- (B) NPTM Rigid fitting x 18 JICV fitting
- (C) NPTM Rigid fitting both ends, 10,000 PSI Working Pressure

## GROUNDING FUEL HOSE

For use with Electric Fuel Pumps and U.L. Approved D.D. Pumps, available as non-stock item.

Single wire braid construction provides the flexibility of a softwall and the durability of a hardwall and is resistant to crushing, cuts, abrasions, sun and weather. This hose is compatible with leaded and unleaded gasoline, gasohol and diesel fuel. Tubing is black nitrile with black nitrile / PVC cover and has a single wire braid with solid brass couplings for positive grounding. Temperature range is -40° F to +180° F and a working pressure of 150 PSI.

P/N	HOSE SIZE	FITTINGS	NOTE
82400-06	3/4" x 6'	3/4" x 3/4"	(A)
82400-10A	3/4" x 10'	3/4" x 3/4"	(D)
82400-12	3/4" x 12'	3/4" x 3/4"	(A)
82400-12A	3/4" x 12'	3/4" x 3/4"	(D)
82400-20A	3/4" x 20'	3/4" x 3/4"	(D)
82400-25	3/4" x 25'	3/4" x 3/4"	(A)
82400-30	3/4" x 30'	3/4" x 3/4"	(A)
82400-35	3/4" x 35'	3/4" x 3/4"	(A)
82400-40	3/4" x 40'	3/4" x 3/4"	(A)
82400-50	3/4" x 50'	3/4" x 3/4"	(A)
82410-06	1" x 6'	1" x 1"	(A)
82410-10	1" x 10'	1" x 1"	(A)
82410-10A	1" x 10'	1" x 1"	(D)
82410-12A	1" x 12'	1" x 1"	(D)
82410-25	1" x 25'	1" x 1"	(A)
82410-25A	1" x 25'	1" x 1"	(D)
82410-30	1" x 30'	1" x 1"	(A)
82410-35	1" x 35'	1" x 1"	(A)
82410-40	1" x 40'	1" x 1"	(A)
82410-50	1" x 50'	1" x 1"	(A)

- (A) NPTM Rigid fitting x NPTM Swivel fitting
- (D) NPTM Rigid fitting both ends

## NON GROUNDED FUEL HOSE

For use with Gravity or Hand Operated Equipment.

A quality hose designed for gravity flow applications for use in agricultural and construction sites. Hose has a working pressure of 75 PSI with a 2 spiral polyester yarn construction and Nitrile / PVC cover.

P/N	HOSE SIZE	FITTINGS	NOTE
82450-08	3/4" x 8'	3/4"	(D)
82450-10	3/4" x 10'	3/4"	(D)
82450-12	3/4" x 12'	3/4"	(D)
82450-15	3/4" x 15'	3/4"	(D)
82450-20	3/4" x 20'	3/4"	(D)
82460-08	1" x 8'	1"	(D)
82460-10	1" x 10'	1"	(D)
82460-12	1" x 12'	1"	(D)
82460-15	1" x 15'	1"	(D)
82460-20	1" x 20'	1"	(D)

- (D) NPTM Rigid fitting both ends



## REEL ACCESSORIES

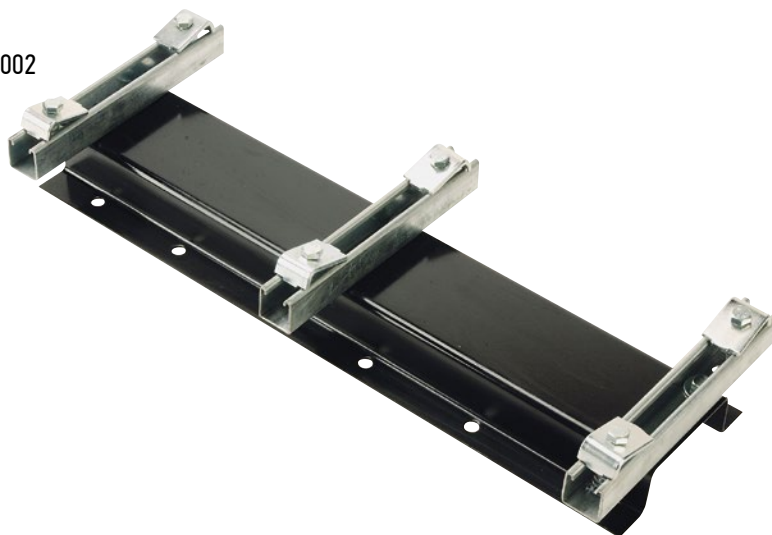
### Hose Reel Mounting Channel Kit

Reel mounting kits secure the 43002, 43003 and 44002 reels to 'I' beams without having to drill any holes. Will fit 'I' beams with flanges up to 7" wide. Kits are available for mounting 1 to 3 reels. For reel banks over 3 reels, use multiple channels, e.g. for 6 reel bank, use two 950043 reel kits.

P/N **950041** 1 Reel Mounting Kit

P/N **950042** 2 Reel Mounting Kit

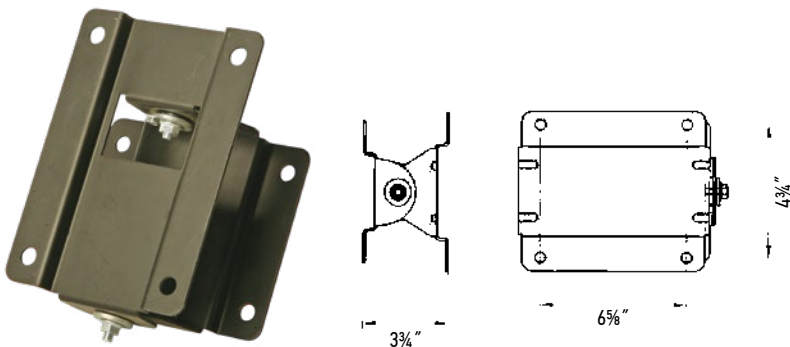
P/N **950043** 3 Reel Mounting Kit



### Swivel Mount Kit

P/N **950091**

Swivel mount bracket adapts rigid mount open and enclosed reels to swivel mount, for P/N 43002, 43003 and 44002 series reels.



P/N **42015**

Wall mounted drip tray. Used to retain control handle and catch the occasional drip. Catch tray is easily removed for cleaning. 6" wide x 6 1/2" deep x 27" tall.





# GREASE

Liquidynamics Grease Pumps and Systems have been performance proven in automotive, marine, agricultural, heavy-duty and construction markets for years. These products are packed with industry-leading technology and are built for years of trouble-free service.

Liquidynamics grease products are uniquely designed and have features not found on competitive products. Some of these unique features/products include:

- Grease pumps are available in a variety of ratios for best performance (35:1, 60:1 and 80:1)
- Follower plate hub forces pump to feed grease from bottom of suction tube resulting in maximum removal of grease from the drum
- Double 'O' ring seals ensure leak-free seal of the pump suction tube and follower plate to prevent pump cavitation
- Our Greaster™ Meter Control Valve allows the technician visual proof of how much grease is dispensed regardless of operating conditions

Whether you're looking for pneumatic, hand-operated or battery-powered, Liquidynamics likely has the grease product for your specific application.

## AIR OPERATED GREASE PUMPS



Part Number	11148T	11174T	11195T	11374	11395	11595
Pump Ratio	60:1	60:1	60:1	80:1	80:1	35:1
Delivery Rate (oz/min)	48	48	48	126	126	140
Working Pressure PSI	80-120	80-120	80-120	80-120	80-120	80-120
Air Inlet (NPTF)	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"
Grease Outlet (NPTF)	*1/4"	*1/4"	*1/4"	3/4"	3/4"	3/4"
Air Consumption (cfm)	12	12	12	20	20	20
Noise (dB)	79	79	79	79	79	79
Drum Size (lb)	30/60	120	420	120	420	420
Dia., Suction Tube (in)	1.26	1.26	1.26	1.42	1.42	1.65
Length Suction Tube (in)	19.75	29.50	37.50	29.50	37.50	37.5
Shipping Weight (lb)	12	14	16	22	24	26

**NOTE:** For longer pump life and efficiency, we recommend the use of dried air or an air filter. As with any pneumatic equipment, you can expect longer trouble free operation with the use of clean, dry air. The use of an air drier, separator (filter), or minimally an air filter is advantageous. See page 55 for selection of air regulators, separators (filter) and dryers.

\*Order with a "-02" suffix (eg; 11174T-02) to receive 3/8" discharge.

# AIR OPERATED GREASE PUMP ACCESSORIES

## Follower Plates:

The follower plate is indispensable when using heavy greases. The follower is pulled towards the bottom of the drum by the vacuum created by the pump operation and provides the following advantages:

- Keeps the grease clean and free of impurities.
- Compresses the grease which eliminates the formation of air pockets and possible cavitation of the pump.
- Insures complete emptying of the drum contents.
- Constructed of heavy duty materials with a double 'O' ring seal on the I.D. to prevent air entrainment.

**P/N 12031T**  
Follower plate for use with P/N 11148T, 60:1 pumps and 5-6½ gal. pails, with I.D. between 10.6" and 11.8".



**P/N 12037T**  
Follower plate for use with P/N 11174T, 60:1 pumps and 120 lb. drums, with I.D. between 13.2" and 14.2".

**P/N 12037HV**  
Follower plate for use with P/N 11374, 80:1 high volume grease pump and 120 lb. drums with ID between 13.2" and 14.2".

**P/N 12058T**  
Follower plate for use with P/N 11195T, 60:1 pumps and 420 lb. drums with I.D. between 21.3" and 22.8".

**P/N 12059**  
Follower plate for use with P/N 11395, 80:1 high volume, high pressure grease pumps and 420 lb. drums with I.D. between 21.3" and 22.8".

**P/N 12063**  
Follower plate for use with P/N 11595, 35:1 high volume grease pumps, 1:1, 3:1 and 5:1 oil pumps to fit 420 lb./55 gal. drums with I.D. between 21.3" and 22.8".

## Grease Drum Covers:

The drum cover keeps dust and impurities from contaminating the grease. It also keeps the pump in a vertical position and at the proper height to prevent the pump from sucking up the "bag" used in many drums.



**P/N 12132T**  
Drum cover for use with P/N 11148T pumps and 35/60 lb. grease containers. Will fit containers with O.D. between 10.2" and 12.2".

**P/N 12138T**  
Drum cover for use with P/N 11174T pumps and 120 lb. drums. Will fit containers with O.D. between 13.4" and 15.2".

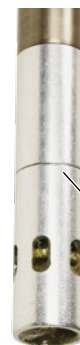
**P/N 12138HV**  
Drum cover for use with P/N 11374 80:1 high volume, high pressure grease pump and 120 lb. drums with OD between 13.4" and 15.2".

**P/N 12160T**  
Drum cover for use with P/N 11195T, 60:1 pumps and 420 lb. drums. Will fit containers with O.D. between 21.6" and 23.6".

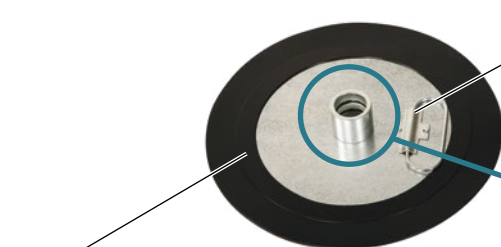
**P/N 12161**  
Drum cover for use with P/N 11395, 80:1 high volume, high pressure grease pumps and 420 lb. drums with O.D. between 21.6" and 23.6".

**P/N 12163**  
Drum cover for use with P/N 11595, 35:1, high volume grease pumps, 1:1, 3:1 and 5:1 oil pumps to fit 420 lb./55 gal. drums with O.D. between 21.6" and 23.6".

**P/N 12136**  
Closure plug for grease covers prevents water and dust entry when used outdoors. Plugs slot normally used to secure drum to cart.

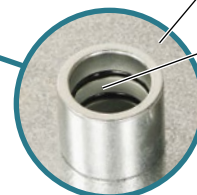


## PUMP AND FOLLOWER PLATE FEATURES



Heavy gauge membrane provides efficient seal against drum inner wall to prevent air ingestion

Convenient "bale" allows easy removal of follower plate



Follower plate hub forces pump to feed grease from bottom of suction tube resulting in maximum removal of grease from drum

Double 'O' ring seals ensure leak free seal of pump suction tube and follower plate to prevent pump cavitation

# GREASE CONTROL VALVES AND ACCESSORIES

## Grease Control Valves

### P/N 12070C

Grease control valve with 12" flex hose and 4 jaw coupler. Inlet connection is 1/4" NPTF.

### P/N 12070CS

Same as 12070C above, but includes P/N 12001C straight swivel.

### P/N 12070CZ

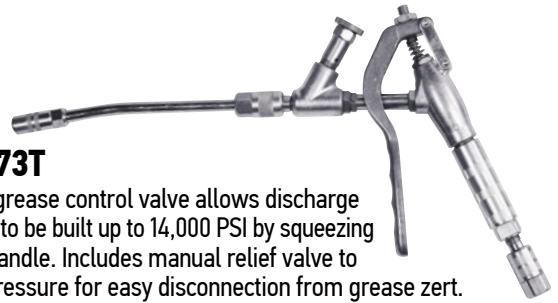
Same as 12070C above, but includes P/N 12003C 'Z' swivel.



P/N 12070CZ shown

### P/N 12073T

Booster grease control valve allows discharge pressure to be built up to 14,000 PSI by squeezing control handle. Includes manual relief valve to relieve pressure for easy disconnection from grease zert.



### P/N 12072C

Grease control valve with rigid tube and 4 jaw coupler. Length of discharge tube including coupler is 6 1/2". Inlet connection is 1/4" NPTF.

### P/N 12072CS

Same as 12072C above, but includes P/N 12001C straight swivel.

### P/N 12072CZ

Same as 12072C above, but includes P/N 12003C 'Z' swivel.



P/N 12072C shown

### P/N 12085C

Grease control valve with 6" rigid tube, 12" flex hose and 4 jaw coupler.

### P/N 12085C

Same as 12085C above, but includes P/N 12001T straight swivel.

### P/N 12085CZ

Same as 12085C above, but includes P/N 12003C 'Z' swivel.



P/N 12085C shown

P/N 12085CZ shown

**High pressure grease hose to fit grease control valves P/N 12070C, 12072C, 12073C and 12085C. 23,000 PSI burst, heavy duty.**

P/N 12087 M10X1 threads, 12" long

P/N 12087-20 M10X1 threads, 20" long

P/N 12087-24 M10X1 threads, 24" long

P/N 12087-36 M10X1 threads, 36" long

P/N 12087-40 M10X1 threads, 40" long

### P/N 12001C

Straight swivel with 1/4" NPTM x 1/4" NPTF fittings. This swivel allows free rotation of the control handle even when system is under pressure.



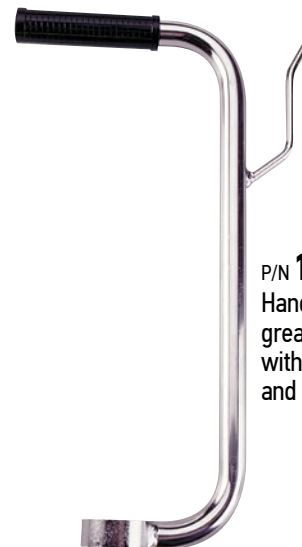
### P/N 12071T

Heavy duty 4 jaw grease coupler to fit control valves P/N 12070C, 12072C and 12085C.



### P/N 12003C

'Z' swivel with 1/4" NPT male/female fittings. Allows free rotation of grease control handle in all directions, even when system is under pressure.



### P/N 12112T

Handle for portable grease kits. For use with P/N 11148T pumps and 12132T covers.

## STATIONARY AND MOBILE GREASE PUMP KITS

### 35 lb. Portable Grease System

#### P/N 13027T-S1

Portable Grease Kit for 35-60 lb. (5-6½ gal.) Pails. Kit comes complete with a unique carrying handle which allows easy movement of the grease pail.

Includes:

- P/N 11148T 60:1 Grease Pump
- P/N 12132T Drum Cover
- P/N 12031T Follower Plate
- P/N 12072C Control Valve w/Rigid Tube and Four Jaw Coupler
- P/N 12003C 'Z' Swivel
- P/N 81300-06 1/4" X 6 ft. High Pressure Hose
- P/N 12112T Grease Kit Carrying Handle



### 120 lb. Mobile Grease System

#### P/N 13051T-S1

Portable Grease Kit for 120 lb. (16 gal.) Drums. Kit includes sturdy two wheel cart which allows the operator to easily maneuver over obstructions such as hoses, floor cracks and tools.

Includes:

- P/N 11174T 60:1 Grease Pump
- P/N 12138T Drum Cover
- P/N 12037T Follower Plate
- P/N 12072C Control Valve w/Rigid Tube and Four Jaw Coupler
- P/N 12003C 'Z' Swivel
- P/N 81300-12 1/4" x 12 ft. High Pressure Hose
- P/N 51004C Two Wheel Cart, secures drum to cart at top and bottom of drum



#### P/N 13027T-S3

Recommended for use with thick, tacky and heavy greases, includes 3/8" x 6' hose and air filter/regulator, otherwise same as 13027T-S1 above.

#### P/N 13027T-S3F

Same as 13027T-S3 except with flex spout control valve P/N 12070CZ.

P/N 13027T-S3 shown



#### P/N 13051T-S4

Ideal for use with thick, tacky and heavy greases, includes 3/8" x 12' hose and air filter/regulator, otherwise same as P/N 13051T-S1 above.

#### P/N 13051T-S4F

Same as 13051T-S4 except with flex spout control valve P/N 12070CZ.

P/N 13051T-S4 shown



### 120 lb. Stationary Grease System 60:1

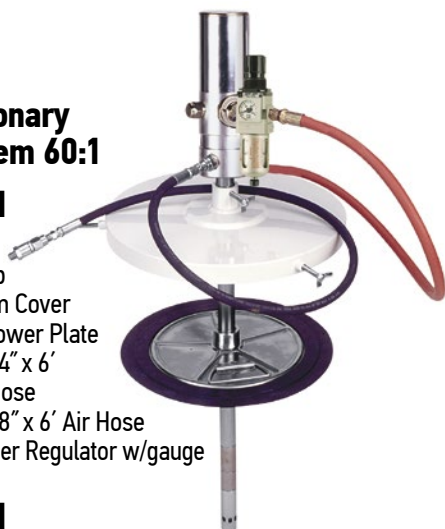
#### P/N 13062T-S1

Includes:

- P/N 11174T Pump
- P/N 12138T Drum Cover
- P/N 12037T Follower Plate
- P/N 81300-06 1/4" x 6' High Pressure Hose
- P/N 81100-06 3/8" x 6' Air Hose
- P/N 540104C Filter Regulator w/gauge

#### P/N 13063T-S1

Same as 13062T-S1 except has 12' grease hose P/N 81300-12 and P/N 12072CZ grease control handle with 'Z' swivel.



### 420 lb. Stationary Grease System 60:1

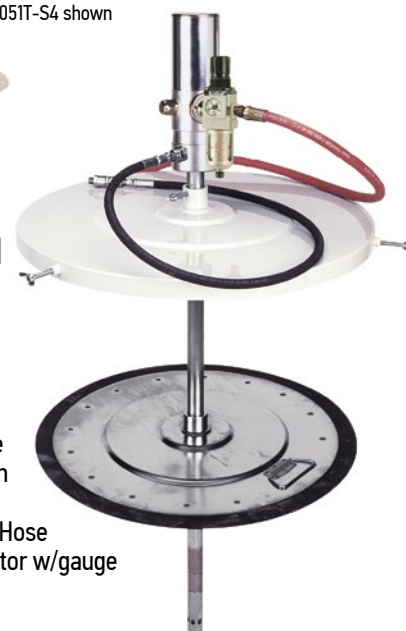
#### P/N 13071T-S1

Includes:

- P/N 11195T Pump
- P/N 12160T Drum Cover
- P/N 12058T Follower Plate
- P/N 81300-06 1/4" x 6' High Pressure Hose
- P/N 81100-06 3/8" x 6' Air Hose
- P/N 540104C Filter Regulator w/gauge

#### P/N 13072T-S1

Same as 13071T-S1 except has 12' grease hose P/N 81300-12 and P/N 12072CZ grease control handle with 'Z' swivel.



## MOBILE GREASE KITS

### Mobile Grease Kit for 120 lb. (16 gal.) drums.

This system is optimized to handle thick greases efficiently. Starting with the 60:1 ratio pneumatic pump, it provides up to 7,200 PSI of pumping pressure to ensure thick, tackified greases can be pumped with ease.

To make sure that this increase in pumping capability is not lost in pushing grease through a 1/4" hose, this system uses a 3/8" x 12' high pressure hose to ensure maximum pressure is applied at the grease fitting, where it is needed.

An integral part of a grease pumping system is the follower plate. The primary purpose of a follower plate is to keep grease "compacted" as it is pumped from the bottom of the drum (thus preventing cavitation). The Liquidynamics follower plate

incorporates a double 'O' ring design that seals snugly on the pump shaft to ensure that air is not ingested causing the pump to cavitate.

The follower plate center hub also works in conjunction with the inlet of the grease pump as grease nears the bottom of the drum. The follower plate hub covers the suction slots on the side of the pump shaft, forcing the pump to draw grease from the bottom of the drum. This allows almost all of the grease to be emptied from the drum, saving money, cleanup time and the environment.

This system includes a 60:1 ratio grease pump, cover, follower plate, air filter/regulator with connecting nipple, 3/8" x 15' high pressure grease hose, 'Z' swivel, grease control handle with rigid spout/4 jaw coupler and heavy duty two wheel cart.



P/N 13051T-S4H shown

#### P/N 13051T-S4H

These systems incorporate our NEW heavy duty two wheel cart which features large 8" diameter wheels and heavy gauge steel platform, providing the operator with excellent control when transporting, preventing equipment damage and lost time. Many competitors' systems use drum dolly's which are typically pulled via the hose or pushed via the pump head and are therefore easily tipped over when they encounter obstructions on the floor.

#### P/N 13051T-S4FH

This system is the same as P/N 13051T-S4H above, except it uses a flex grease control handle in place of the rigid.

Part Number	13051T-S4H	13051T-S4FH
Pump Ratio	60:1	60:1
Delivery Rate (oz/min)	48	48
Working Air Pressure, PSI	50-120	50-120
Grease Discharge Pressure	3,000-7,200	3,000-7,200
Air Inlet (NPTF)	1/4"	1/4"
Grease Outlet (NPTF)	3/8"	3/8"
Air Consumption (cfm) Max.	12	12
Noise (dB)	79	79
Drum Size (lb)	120	120
Dia., Suction Tube (in)	1.26	1.26
Length Suction Tube (in)	29.50	29.50
Shipping Weight (lb)	56	56

## MOBILE GREASE KITS

### 420 lb. Mobile Grease System with Heavy Duty Cart

P/N **13070-S1**

Portable Grease Kit for 420 lb. (55 gal.) Drums. Convenient kit allows efficient dispensing of grease for high volume applications. Heavy duty cart has large wheels and tow bar for easy maneuverability and space for addition of hose reel if desired. Retainer bracket to hold pump during drum change is standard. **FOB Wichita, KS.**

Items included in kit are as follows:

- P/N 11195T 60:1 Grease Pump
- P/N 12160T Drum Cover
- P/N 12058T Follower Plate
- P/N 12070C Control Valve with Flex Hose
- P/N 12003C 'Z' Swivel
- P/N 81300-12 12 ft. High Pressure Hose
- P/N 51009C Heavy Duty 4 Wheel Cart
- P/N 540104C Air Filter/Regulator w/gauge

**NOTE:** See selection guide page 89 if variations from base system are desired.



### 420 lb. Mobile Grease Kit with Heavy Duty Cart and Reel

P/N **13070-S3**

Mobile Grease Kit for 420 lb. drums with heavy duty cart and 50' reel. System is ideal for use in shops with rough and uneven floors. **FOB Wichita, KS.**

Following items are included:

- P/N 11195T 60:1 Grease Pump
- P/N 12160T Drum Cover
- P/N 12058T Follower Plate
- P/N 12070C Control Valve with Flex Hose
- P/N 12003C 'Z' Swivel
- P/N 43102-50G 1/4" x 50' Grease Reel
- P/N 540104C Air Filter/Regulator w/gauge
- P/N 81300-06 1/4" x 6' Grease Connection Hose
- P/N 51009C Heavy Duty 4 Wheel Cart

**NOTE:** See selection guide page 89 if variations from base system are desired.





# GREASE SYSTEM SELECTION GUIDE

This grease system selection guide allows you to customize your Grease Pump System and still take advantage of our kit pricing. System pricing applies when a minimum of four additional items are selected in addition to the base systems G35, G120 or G420.\*

**SYSTEM IDENTIFIER**

<b>G35</b>	35 lb. Grease System, 60:1 Pump, F/P & Cover
<b>G120</b>	120 lb. Grease System, 60:1 Pump, F/P & Cover
<b>G420</b>	420 lb. Grease System, 60:1 Pump, F/P & Cover

**CONTROL HANDLE SELECTION**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	Not Required
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R	Control Handle w/Rigid Spout
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	F	Control Handle w/ Flex Spout
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B	Control Handle w/ Rigid and Flex Spouts
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	Control Handle w/ Meter and Flex Spouts

**SWIVEL SELECTION**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	Not Required
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S	Straight Swivel
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Z	Z Swivel

**GREASE HOSE/REEL SELECTION**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	XX	Not Required
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	H6	1/4" x 6' Hose
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	H12	1/4" x 12' Hose
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	H20	1/4" x 20' Hose
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L6	3/8" x 6' Hose
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L12	3/8" x 12' Hose
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L20	3/8" x 20' Hose
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S30	3/8" x 30' Grease Reel
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	R50	1/4" x 50' Grease Reel
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S50	3/8" x 50' Grease Reel

**AIR HOSE SELECTION**


<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	XX	Not Required
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A6	3/8" x 6' Hose
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A10	3/8" x 10' Hose
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A15	3/8" x 15' Hose

**CART/DOLLY SELECTION**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	XX	Not Required
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D1	Carrying Handle
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D2	Drum Dolly (G35 Only)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D3	Drum Dolly (G120 Only)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D4	Drum Dolly (G420 Only)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D5	2 Wheel Cart (G35 and G120), P/N 51004C
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D6	4 Wheel Cart (G35 and G120), P/N 51003C
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D7	2 Wheel Heavy Duty Cart, P/N 51004D
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	D8	Heavy Duty 4 Wheel Cart (G420 Only), FOB Wichita, KS

**AIR FILTER/REGULATOR SELECTION**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	XXX	Not Required
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FR1	FRL Combo, 230 PSI
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	FR2	FR Combo, 230 PSI



P/N G120 F Z L12 XX D3 FR2 shown

**G120**   **F**   **Z**   **L12**   **XX**   **D3**   **FR2**

Example of customized grease system for 120 lb. drums includes a flex control handle with 'Z' swivel, a 3/8" x 12' hose, no air hose, a 120 lb. drum dolly and air filter/regulator w/gauge (230 PSI input capability).

\*NOTE: For pricing see back section of price booklet.

# GREASE METER CONTROL VALVE

## Greaster

The compact and lightweight design of this metered control handle allows it to be used in place of normal, non-metered, grease control handles. As with any grease control handle it may be fitted with your choice of flex or rigid discharge spout and either a straight or 'Z' swivel at the inlet.

The Greaster incorporates both a resettable batch total displayed in ounces, and a non-resettable cumulative total displayed in pounds.

Why use a grease meter? Under normal operating conditions the amount of grease dispensed is highly variable due to various factors such as pump size, efficiency, plumbing diameter and length, type of grease, ambient temperature and line restrictions to name just a few. With the Greaster Meter you can now be assured of the amount of grease that is actually dispensed, regardless of the system operating conditions.



P/N 100451 shown

**Body:** Machined aluminum body, handle and gear cover. Steel control lever handle contains receptacle for two user replaceable 1.5V standard AA batteries.

**Inlet:** 1/4" NPTF

**Outlet:** 1/8" NPTF

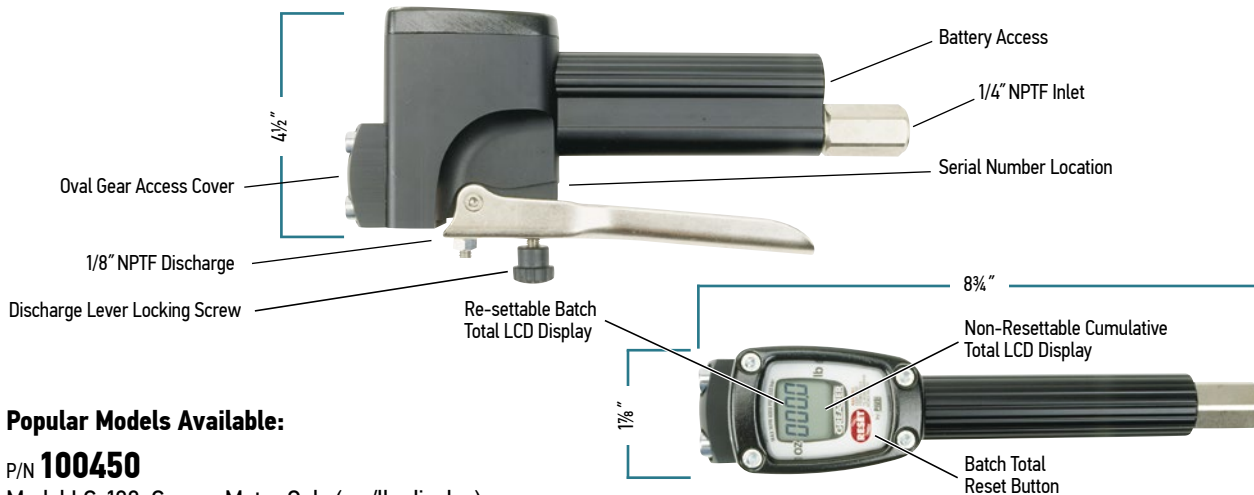
**Meter:** Oval gear sensing elements, easily accessed via front cover held in place by 4 ea. 3 mm allen screws.

**Electronics:** Microprocessor controlled with LCD display. Batch total (resettable), cumulative total (non-resettable).

**Control Lever Lock:** Allows discharge lever to be safely secured to prevent accidental opening of the discharge valve.

### Performance Specifications:

Operating Pressure (max.)	7,250 PSI
Burst Pressure (min.)	14,500 PSI
Metering Accuracy	+/- 3%
Display	Batch Total (oz.), 4 digits, 0.31" digit height Cumulative Total (lb.), 4 digits, 0.16" digit height
Battery Type/Life	2 ea. AA / 10,000 hrs.
Weight	2.16 lb. (batteries included)
Operating Temperature Range	30° F to 140° F



### Popular Models Available:

P/N **100450**

Model LG-100, Grease Meter Only (oz./lb. display)

P/N **100451**

Model LG-100-ZR, Grease Meter w/ 'Z' swivel and rigid spout

P/N **100452**

Model LG-100-ZF, Grease Meter w/ 'Z' swivel and flex spout

P/N **100454**

Model LG-100-F, Grease Meter w/ straight swivel and flex spout

**NOTE:** Other models available upon request

P/N **100460**

Low flow capability In-Line Meter for grease applications at working pressures up to 7,800 PSI. A re-settable LCD display indicates oz. (weight) of grease dispensed and a non re-settable cumulative total in lb. Metering accuracy is +/- 3%, power is supplied by two 1N alkaline batteries, 1/8" NPTF threads.



## HAND OPERATED GREASE PUMPS

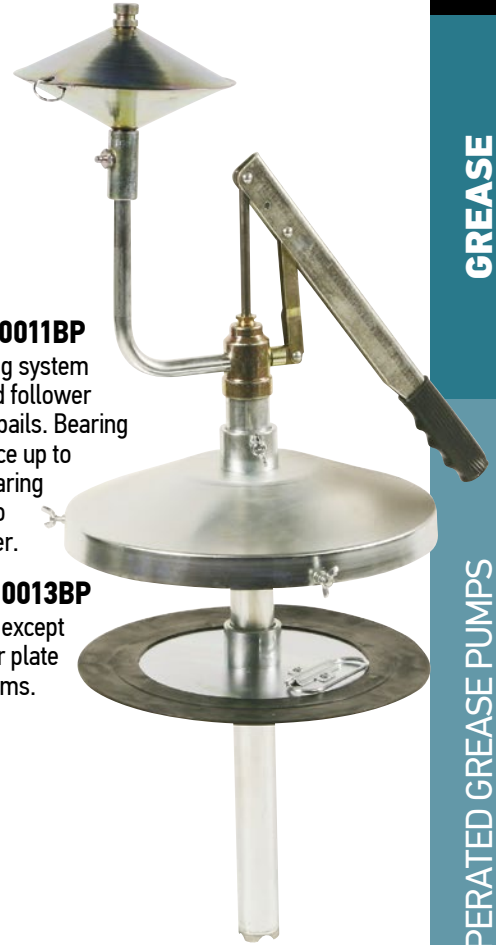


MODEL **MA-11** P/N 10011  
Bulk Fill Hand Operated Grease Pump Kit, fits 5 to 6½ gallon pails. Pump is used to refill grease guns, bearing packers and for bulk transfer of grease. Pump is not intended for pressure applications. Kit includes pump, cover, follower plate, and grease gun bulk fill nozzle.

MODEL **MA-13** P/N 10013  
Same as MA-11 above except pump, cover and follower are sized to fit 120 lb. drums.

MODEL **MA-11BP** P/N 10011BP  
Complete Bearing Packing system includes pump, cover and follower plate, fits 5 to 6½ gallon pails. Bearing Packer designed to service up to 6" diameter bearings. Bearing Packer mounts directly to pump via supplied adapter.

MODEL **MA-13BP** P/N 10013BP  
Same as MA-11BP above except pump, cover and follower plate are sized to fit 120 lb. drums.



MODEL **BP-11** P/N 10113  
Bearing packer for portable or permanent application. Ideal for use with hand or air operated grease guns. Will accommodate bearings up to 6" diameter. Silver zinc plated for durability.



P/N **10050**  
Heavy duty hand operated grease pump to fit 5 to 6½ gallon pails. Pump is intended for pressure applications and is supplied complete with cover, follower plate, 6 ft. hose, shut-off valve and 4 jaw coupler. Generates 6,000 PSI and 1 oz. per stroke.

## HAND OPERATED GREASE GUNS

### P/N 500102

Mini pistol grip grease gun for use with 3 oz. cartridges or bulk suction loading. Features dual port head which allows straight on use. Bright zinc plate finish and knurled barrel. Includes 6" rigid extension with 4 jaw coupler. Approximately 35 strokes per oz.



### P/N 500101

Standard lever grease gun with bright zinc finish for use with 14 oz. grease cartridge. Supplied with 6½" rigid extension and 4 jaw coupler. May be fitted with bulk loader nipple, P/N 500123, sold separately. Approximately 18 strokes per oz.

### P/N 500101F

Same as P/N 500101 except provided with 12" flex extension in place of rigid extension.



Alternate spout mounting

### P/N 500100

Handgrip grease gun with 3 way loading capability, 14 oz. cartridges, filler pump or bulk fill. Features an air vent and dual port head, which allows straight on use. Bright zinc plate finish with knurled barrel. Includes 4" rigid extension with 4 jaw coupler. Approximately 35 strokes per oz.

### P/N 500100F

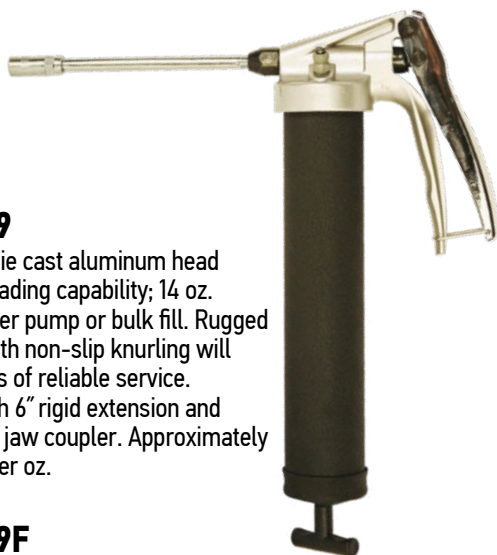
Same as P/N 500100 except provided with 12" flex extension in place of rigid extension.



Alternate spout mounting

### P/N 500129

Heavy duty die cast aluminum head has 3 way loading capability; 14 oz. cartridge, filler pump or bulk fill. Rugged steel tube with non-slip knurling will provide years of reliable service. Provided with 6" rigid extension and heavy duty 4 jaw coupler. Approximately 24 strokes per oz.



### P/N 500129F

Same as P/N 500129 except provided with 12" flex extension in place of rigid extension.

### P/N 500128

Premium high performance lever grease gun with heavy steel barrel, cast iron head and bright zinc finish. Has short stroke capability and will produce better than 10,000 PSI using extra leverage steel handle. 6" rigid extension with 4 jaw coupler may be attached in one of two directions for maximum flexibility. Fill 3 ways, bulk fill pump using available bulk loader nipple (P/N 500123 sold separately), 14 oz. cartridge or bulk hand fill. Approximately 15 strokes per oz.

### P/N 500128F

Same as P/N 500128 except provided with 12" flex extension in place of rigid extension.

## HAND, BATTERY AND AIR OPERATED GREASE GUNS



P/N **500103**

Premium high performance lever grease gun with heavy steel barrel and head. Will produce better than 10,000 PSI using extra leverage steel handle. Scales on handle allows "metering" of grease using "short" stroke capability. Fill 3 ways using filler nipple (P/N 500123 sold separately), 14 oz. cartridge or bulk fill. Includes 7" rigid extension, heavy-duty 4-jaw coupler and ergonomic cushioned handle grip. Approximately 15 strokes per oz.

P/N **500103F**

Same as P/N 500103 except provided with 12" flex extension in place of rigid extension.



P/N **500141R**

Unique lever grease gun has seals designed for use with oils and light (flowable) greases without leakage. Hydraulic coupler is fitted with a ball check to prevent leakage. Will generate 5,800 PSI pressure with oil or grease, may be bulk loaded (using P/N 500123 sold separately). Supplied with 7" rigid extension and 4 jaw coupler. Approximately 21 strokes per oz.

**NOTE:** Does not accept standard 14 oz. grease cartridges.

P/N **500141F**

Lever grease gun same as P/N 500141R but with 12" flex spout.



P/N **500119**

Oil suction gun holds approximately 16 oz. of fluid. Comes with 10" flexible suction tube and bright zinc plated finish. Ideal for emptying small reservoirs.



P/N **500177**

### 18 VDC Battery Operated Grease Gun

This Liquidynamics Battery Operated Grease Gun combines versatility, reliability and increased power to provide the user with excellent greasing capability. The powerful 18 VDC motor delivers a constant flow of grease at up to 6,000 PSI at a flow rate of 2.4 oz./min. providing reliable and effective lubrication. Complete with carrying case, two 18 V NiCad batteries, battery charger and 42" flex tube with coupler. Fill three ways, using filler nipple (P/N 500123 sold separately), 14 oz. cartridge or bulk fill.

**NOTE:** A unique feature of this grease gun is a pressure release valve that allows easy removal of the coupler after a greasing operation – **No more Stuck-On couplers!**



## **BULK TRANSFER**

Liquidynamics, portable and fixed base, Bulk Transfer and Filter Systems provide efficient solutions for transfer and filtration of motor oils, gear oil, transmission & hydraulic fluids and more. These systems offer flexibility, economy and simplicity to handle a broad range of viscosities and flow rates in order to efficiently and economically filter any size tank.

Liquidynamics offers:

- Four-wheel Carts, Two-wheel mini-carts, Skids, Kidney Loop Systems, Wall-Mount and hand carry systems
- Systems with & without Purelube high efficiency filtration capability
- Single-speed carts for light & medium viscosities
- Three-speed carts to handle almost any viscosity
- Three-speed carts using PowerMaster™ Technology which automatically adjusts to prevent circuit breaker tripping
- 115 VAC, Air-Operated and Gas-Powered systems
- Models equipped with "Weights and Measures" approved meters
- Replacement PureLube Filters

When you want the best, ask for Liquidynamics Bulk Transfer and Filter Systems!

# BULK TRANSFER PUMPS

The "Pump Viscosity Chart" shown below provides a general guideline for the "Single Speed" as well as "Three Speed" transfer pump capability. It also shows the viscosity pumping range for each fixed gear pump along with 1st, 2nd and 3rd gear capability for the "Three Speed" pump.

PUMP VISCOSITY CHART			
Fixed Gear Pumps	3 Speed pump setting	Typical operating range	** Pump should be empty to start
2 HP 40 GPM	3rd Gear 40 GPM	Up to 230 Centipoise	180 Centipoise and above
2 HP 20 GPM	2nd Gear 20 GPM	Up to 1600 Centipoise	1500 Centipoise and above
2 HP 10 GPM	1st Gear 10 GPM	Up to 4900 Centipoise	3500 Centipoise and above
<b>NOT RECOMMENDED</b>			<b>5000 Centipoise and above</b>
** "Pump should be empty to start" column indicates the viscosity at which pump needs to be empty in order to "start" when pumping the higher viscosities noted in the "Typical operating range" column.			

**NOTE:** Use of the optional "PowerMaster" in conjunction with a single speed or Three Speed Pump greatly extends the viscosity pumping range by gradually slowing down the pump rate to maintain amp draw below circuit breaker "trip" amperage.

LUBRICANT VISCOSITY TABLE												
Temperature		100 F	90 F	80 F	70 F	60 F	50 F	40 F	30 F	20 F	10 F	0 F
FLUID	ISO No.	38 C	32 C	27 C	21 C	15 C	10 C	4 C	-1 C	-7 C	-12 C	-18 C
A.T.F		35	44	56	72	95	127	176	250	366	544	872
5w-20		46	59	76	101	136	188	268	394	598	944	1557
10w	32	37	49	64	87	122	176	263	407	659	1120	2012
5w-30		61	78	101	134	182	252	359	528	801	1262	2070
Hydraulic	46	46	61	82	114	163	241	370	592	995	1763	3319
10w-30		70	91	121	165	230	331	491	755	1205	2010	3517
20w	68	68	92	127	181	266	405	640	1059	1843	3392	6651
30w	100	100	135	187	267	392	596	940	1547	2670	4854	9364
10w-40		97	126	168	228	317	454	669	1017	1605	2635	4523
15w-40		123	164	223	311	445	656	998	1575	2585	4437	7999
40w	150	128	178	253	370	562	887	1457	2510	4555	8765	18015
20w-50		164	222	308	440	645	976	1530	2494	4243	7575	14266
80W-90		143	198	282	412	622	975	1591	2717	4880	9275	18770
50w	220	226	321	470	709	1110	1807	3074	5491	10358	20769	44595
80W-140		263	359	502	720	1062	1615	2542	4152	7068	12596	23621
90w gear	320	331	479	713	1099	1757	2926	5099	9346	18121	37417	82894
140w gear	460	479	702	1060	1658	2693	4557	8077	15065	29745	62574	141305
Readings are in centipoise (formula used is centistoke X .9 = centipoise).												

## Example of proper Chart usage

**Example #1:** If you would like to pump 15w-40 motor oil at a minimum temperature of 40° F, the maximum viscosity at this temperature is 998 cps, which is in the "green" zone of the chart (as determined from the lower chart). Next, look at the green line in the upper chart to determine that you can pump this oil at 10 GPM by using a fixed gear pump (4:1 ratio) or using 1st gear on a Three Speed Pump. An obvious advantage to the Three Speed Pump in this case is that you can utilize 2nd or 3rd gear to pump at 20 or 40 GPM when the viscosity falls into their pumping range.

**Example#2:** If you need to transfer oil at 40 GPM, the lower chart shows that you can pump any of the oils in the "orange" range of the chart. For instance, 10w-30 motor oil can be pumped at 40 GPM down to 60° F. With the use of a PowerMaster, the pump will continue to pump 10w-30 at gradually lower pumping rates as the temperature decreases (viscosity increases).

## BULK TRANSFER PUMPS

Designed for the transfer of Motor Oil, Gear Oil, Transmission Fluid, Hydraulic Fluid and 100% Antifreeze, these versatile pumps offer flexibility, economy and simplicity. A unique patented gear and rotor design provides for efficient positive displacement pumping. This, in conjunction with a specially designed bypass allows for the transfer of a wide range of fluids up to a viscosity of 3,150 cps. Liquidynamics Bulk Transfer Pumps are designed to automatically minimize current draw

by responding to increases in viscosity by limiting output flow, thus staying within the amperage limitations imposed by 115 VAC power sources. Other configurations available, contact Liquidynamics for more information. Any of the Transfer Pumps below may be fitted with the optional "PowerMaster" control by adding a 'P' suffix to the base number, e.g.; P/N 33280 with PowerMaster becomes P/N 33280P. See 99 for features and benefits of the PowerMaster control option.



P/N 33280 shown

### Three Speed Bulk Transfer Cart

P/N **33280** and P/N **33280P**

A unique three speed gear box allows this pump to be used over a tremendous range of viscosities ranging up to 3,150 cps. By simply shifting gears you can pump "thin" fluids such as 100% Antifreeze or Hydraulic Oil at 40 GPM, medium viscosity fluids such as 10W30 Motor Oil at 20 GPM or "thick" fluids such as 120 wt Gear Oil at 10 GPM.

The mobile cart is constructed of heavy gauge 1" steel tubing for strength and powder coated for durability. The cart is supplied complete with 2" x 10' suction hose, 1½" x 15' discharge hose, 1½" manual nozzle and 12 ga. x 25' three wire power cord. An integral 2½ gallon drip catch tank stores any drippage from the suction hose, stinger or discharge nozzle and has a convenient drain valve for draining. Cam and grooves are provided on both ends of the suction and discharge hoses for easy removal of hoses and accessories. Dimensions, 24" W x 24" D x 48" H.

### Single Speed Transfer Cart for Medium Viscosities

P/N **33267-20CG** and P/N **33267P-20CG**

This cart system is similar in design and function to P/N 33280 described above, except that it has a single speed gear reduction, which allows pumping of "light" and medium viscosities (max 1,500 cps) at 20 GPM. It is a more economical solution for applications where the versatility of the three speed gear flexibility is not required.

### High Volume Transfer Cart for Light Viscosities

P/N **33267** and P/N **33267P**

Ideal for high volume transfer of "light" (max 180 cps) viscosities such as 100% Antifreeze, Transmission Fluid, Hydraulic Fluid and Cutting Oils. It is similar in design and function to P/N 33280 described above, except that it does not utilize a gear reduction between the pump and motor, which allows transfer rates of 40 GPM. It is an excellent solution for applications where a fixed gear reduction or the versatility of the three speed gear reduction is not required.

### Medium Viscosity 20 GPM Transfer Cart

P/N **33271** and P/N **33271P**

Designed for transfer of light Oils, Hydraulic Fluid, Transmission Fluid and Antifreeze, this versatile gear pump offers economy, reliability and simplicity. The Bronze construction allows this pump to be used for bulk transfer of pre-mixed antifreeze and other water based fluids up to 165 cps. 'C' face mountings ensure rigid and maintenance free alignment between pump and motor.

The system is equipped with a 1" x 10' suction hose, 1" x 20' discharge hose, ball control nozzle and a 30 mesh inlet strainer. Plumbing is constructed of bronze fittings and schedule 40 bronze piping for maximum compatibility with a wide range of fluids. The sturdy two wheel cart is constructed of heavy gauge 1" powder coated steel tubing and has large 10" pneumatic tires for ease of portability. A rotary on/off switch is provided for pump control along with 25' of 12 gauge, 3 wire power cord. An optional meter may be installed to monitor transfer quantities for inventory control purposes. Dimensions; 24"W x 16"D x 48"H



P/N 33271 shown



## BULK TRANSFER PUMPS

These unique lube oil transfer carts use high capacity, 2:1 ratio, double diaphragm pumps to facilitate bulk transfer of viscous lubricants such as locomotive engine oils, gear oils and similar heavy viscosity lubricants. The carts are supplied with 10' suction and 20' discharge hoses complete with cam and groove fittings and discharge shutoff nozzle. The heavy duty two wheel cart has a convenient "drip" catch tank which also serves as a receptacle for the discharge nozzle. The cart is constructed from 1" steel tubing for strength and powder coated for durability and features large 10" pneumatic tires for ease of portability. An included air filter/regulator provides control of fluid pumping rate.

### 1½" PUMP CART, 50 GPM

P/N **33286**

- 1½" Double Diaphragm Pump, 2:1 Ratio
- Flow Rates up to 50 GPM
- 2" x 10' Suction Hose
- 1½" x 20' Discharge Hose
- Aluminum Pump with Buna N (NBR) Seals and Diaphragm
- Maximum Liquid Temperature 180° F
- Air Supply Pressure 20 – 100 PSI at up to 100 CFM required
- Maximum Solid Size 9/32" (7 mm)

### 2" PUMP CART, 75 GPM

P/N **33287**

- 2" Double Diaphragm Pump, 2:1 Ratio
- Flow Rates up to 75 GPM
- 2" x 10' Suction Hose
- 2" x 20' Discharge Hose
- Aluminum Pump with Buna N (NBR) Seals and Diaphragm
- Maximum Liquid Temperature 180° F
- Air Supply Pressure 20 – 100 PSI at up to 180 CFM required
- Maximum Solid Size 5/16" (8 mm)



P/N 33286 shown.

## 4 WHEEL TRANSFER CARTS



### Single Speed Cart with PowerMaster

P/N **33380-V1**

Single speed transfer cart provides 20 GPM flow rate using a fixed 2:1 gear ratio for use with medium viscosity fluids up to 1,500 cps. The included PowerMaster provides flow rate control as well as circuit breaker protection. A Weights and Measures approved meter includes an air eliminator. Ticket printer and/or preset capability may added as additional options.

The cart frame is constructed from 1/4" plate steel for strength and rigidity and powder coated for durability. Large 10" pneumatic casters and wheels provide maneuverability and reliability.

### Three Speed Cart With PowerMaster

P/N **33380P**

This unique, 115 VAC heavy duty cart is designed to transfer a wide variety of oils and hydraulic fluids to 4,900 cps, which includes 80-90W gear oil down to 40° F.

The 3 speed gear box allows you to transfer lighter viscosities at up to 40 GPM in third gear, 20 GPM in second gear for medium viscosities, while first gear will allow up to 10 GPM for heavy viscosities. The PowerMaster provides additional flow rate control within each selected gear as well as automatically adjusting pump speed to prevent circuit breaker tripping.

The onboard Weights and Measures approved meter includes an air eliminator. Ticket printer, preset capability are available as an additional option.

The cart is supplied with a 12 gauge x 20' power cord, manual high flow nozzle, 2" x 10' suction hose and 1½" x 15' discharge hose. Hoses and cart are fitted with camlock fittings to easy connection/disconnection.



P/N 33380P shown.

The cart frame is constructed from 1/4" plate steel for strength and rigidity and powder coated for durability. Large 10" pneumatic casters and wheels provide maneuverability and reliability.

# BULK TRANSFER PUMP ACCESSORIES

## Suction and Discharge Hoses for use with bulk transfer carts/skids and filter carts/skids

Hoses are heavy duty curb type hoses that resist abrasion and kinking. 1" hoses are rated to 250 PSI, 1½" and 2" hoses are rated to 150 PSI.



P/N **81291-10A**  
2" x 10' Petro Hose assembly with male/female Cam and Groove fittings

P/N **81291-15A**  
2" x 15' Petro Hose assembly with male/female Cam and Groove fittings

P/N **81291-20A**  
2" x 20' Petro Hose assembly with male/female Cam and Groove fittings

P/N **81281-10A**  
1½" x 10' Petro Hose assembly with male/female Cam and Groove fittings

P/N **81281-15A**  
1½" x 15' Petro Hose assembly with male/female Cam and Groove fittings

P/N **81281-20A**  
1½" x 20' Petro Hose assembly with male/female Cam and Groove fittings

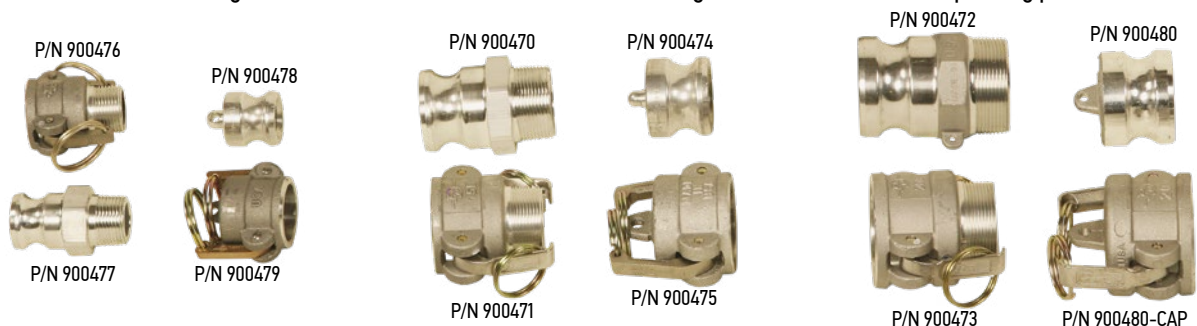
P/N **900279-B-10**  
1" x 10' Petro Hose assembly with male/female Cam and Groove fittings

P/N **900279-B-15**  
1" x 15' Petro Hose assembly with male/female Cam and Groove fittings

P/N **900279-B-20**  
1" x 20' Petro Hose assembly with male/female Cam and Groove fittings

## Cam and Groove Fittings

These Cam and Groove fittings are aluminum construction and have Buna N gaskets with a maximum operating pressure of 250 PSI.



P/N **900476**  
1" Female Coupler x 1" NPTM

P/N **900477**  
1" Male Adapter x 1" NPTM

P/N **900478**  
1" Dust Plug

P/N **900479**  
1" Dust Cap

P/N **900470**  
1½" Male Adapter x 1½" NPTM

P/N **900471**  
1½" Female Coupler x 1½" NPTM

P/N **900474**  
1½" Dust Plug

P/N **900475**  
1½" Dust Cap

P/N **900472**  
2" Male Adapter x 2" NPTM

P/N **900473**  
2" Female Coupler x 2" NPTM

P/N **900480**  
2" Dust Plug

P/N **900480-CAP**  
2" Dust Cap

## Suction Wands



P/N **950085**  
1" x 48" Suction wand has 45° angle at suction tip, SCH 80 PVC construction with 90° elbow and 1" Male Adapter Cam and Groove fitting at discharge end.

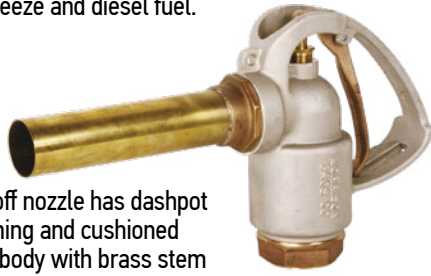
P/N **950084**  
1½" x 48" Suction wand has 45° angle at suction tip, SCH 80 PVC construction with 90° elbow and 2" Male adapter Cam and Groove fitting at discharge end. Suction tube is 1½" ID to allow OD (1.91") to fit into standard 2" bung opening.

## BULK TRANSFER PUMP ACCESSORIES



P/N **32108**

1½" NPTF inlet, high flow manual shutoff nozzle, has an aluminum body with brass valve stem, 1½" dia. x 8" long brass spout with Viton seals. Body includes "hold - open" notches. Ideal for use in dispensing oils, hydraulic fluids, antifreeze and diesel fuel. Weight 6 lb.



P/N **32105**

2" NPTF Manual shutoff nozzle has dashpot design for easier opening and cushioned close. Has aluminum body with brass stem and spout, 2½" x 9" long brass spout. Viton disc and Teflon packing, Weight 11 lb.

### PowerMaster Control Option

The "PowerMaster" is a revolutionary device that prevents nuisance tripping of circuit breakers which commonly occurs when transferring or filtering viscous fluids. This amazing device automatically senses available circuit current, user selectable for either 15 or 20 amp circuits, and adjusts pump speed to maintain current draw below circuit breaker limits. This eliminates tripping of circuit breakers, speeds up filtering and ensures efficient filtering.

Additional benefits of this technology allows the user to manually adjust flow rate to "best" filter specifications depending on fluid viscosity, required ISO cleanliness level and quantity of fluid to be filtered. You can also extend filter element life by adjusting flow rate to maintain optimum filtration performance. Whereas, fixed flow rate systems oblige you to change filters when the maximum differential pressure is exceeded.



P/N **32104A**

High flow manual shutoff nozzle with 1½" NPTF inlet, supplied standard with an inlet swivel and Viton 'O' ring. Body is die cast aluminum with a maximum working pressure of 125 PSI and max. flow rate of 85 GPM. Positive flow control is achieved via a lever action ball valve that can be turned right or left and is easy to close under pressure., 2" dia. x 8" long aluminum discharge spout. Nozzle is ideal for use in dispensing lube oil, hydraulic fluid, antifreeze and diesel fuel. Weight 6 lb.



P/N **32104B**

Same as 32104A above, except has 1¼" dia. x 8" long brass discharge spout.

P/N **32104-01**

2" dia. x 8" long aluminum discharge spout replacement for use with P/N 32104A or 32104B nozzles



P/N **32104-02**

1¼" dia. x 8" long brass discharge spout replacement for use with P/N 32104A or 32104B nozzles



### Dry-Mate Disconnect Fittings

Dry-Mate fittings are lightweight polypropylene construction with Viton seals and PTFE seats. Provides unrestricted 1½" flow with minimal spillage (2 ml) during disconnection. The Dry-Mate system does not allow valves to be uncoupled while in the open position thus preventing accidental spillage. Maximum operating pressure is 100 PSI.



P/N 900580 shown

P/N 900581 shown

P/N **900580A**

1½" Female Dry-Mate x 1½" NPTF

P/N **900580**

2" Female Dry-Mate x 2" NPTF

P/N **900581A**

1½" Male Dry-Mate x 1½" NPTF

P/N **900581**

2" Male Dry-Mate x 2" NPTF

## BULK TRANSFER SKIDS



### High Volume Transfer Pump Skid for Light Viscosities

P/N **33265**

An economical solution for the high volume transfer at 40 GPM of "light" (max 180 cps) viscosities such as 100% Antifreeze, Hydraulic Fluid, Transmission Fluid and Cutting Oils. The pump and motor are identical to the High Volume Transfer Pump Cart System P/N 33267, but utilizes a heavy duty skid frame to house the pump and motor. 1½" inlet and discharge. Order optional accessories shown on page 98 and 99 as necessary, to customize your skid configuration.

### Single Speed Transfer Pump Skid for Medium Viscosities

P/N **33265-20SG**

This versatile skid mounted gear pump offers an economical, reliable and simple solution for the transfer of "medium" viscosity fluids such as 10W30 Motor Oils (max 1,500 cps). The pump, motor and gear reduction are identical to the Single Speed Transfer Pump Cart system P/N 33267-20CG, but utilizes a skid frame to house the pump, motor and gear box. Order optional accessories shown on page 98 and 99 as necessary, to customize your skid configuration.

The skid cage is constructed of heavy gauge 1" steel tubing for strength and powder coated for durability. The pump is fitted with 1½" quick connect cam lock fittings to allow easy attachment of available accessories such as suction hose, stinger, discharge hose and nozzle, see page 98 and 99.



P/N 33265P-20SG shown

P/N **33265P-20SG**

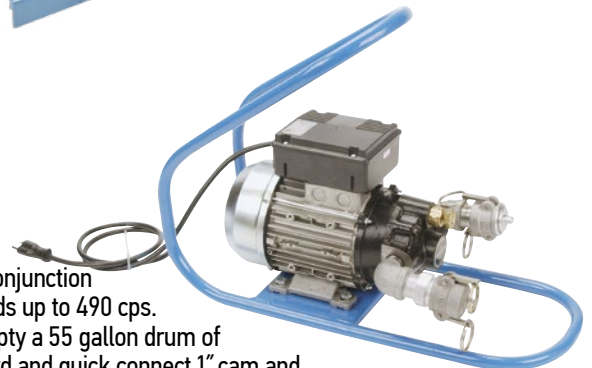
Same as above except includes PowerMaster control.

### Hand Carry 7 GPM Bulk Transfer Pump

P/N **33261**

Ideal for transfer of Motor Oils, Transmission Fluid, Hydraulic Fluid and 100% Antifreeze, this versatile vane pump offers economy, reliability and simplicity. The five vane rotor design provides efficient positive displacement pumping. This, in conjunction with the continuous rated, 1½ HP motor allows for transfer of a wide range of fluids up to 490 cps.

The unique hand carry frame mount is extremely portable, yet the system can empty a 55 gallon drum of oil in less than 8 minutes. An integral on/off rocker switch, 6' grounded power cord and quick connect 1" cam and groove fittings are provided for convenient pump connection and control. The use of a cast iron pump body bolted directly to the motor ensures a rigid and maintenance free alignment between pump and motor. Dimensions 14"W x 21"L x 12"H.



Part Number	Nominal GPM	Max. Viscosity, cps	Fluid Inlet	Fluid Outlet	Horsepower	Voltage	Amperage	Weight
33261	7	490	1"	1"	1.5	115/230	16/8	45
33265	40	180	1.5"	1.5"	2	115/230	16/8	149
33265-20CG	20	1500	1.5"	1.5"	2	115/230	16/8	160
33267	40	180	2"	1.5"	2	115/230	16/8	172
33267-20CG	20	1500	2"	1.5"	2	115/230	16/8	170
33271	20	165	1"	1"	2	115/230	6/12	125
33280	10/20/40	180/1500/3500	2"	1.5"	2	115/230	16/8	320
33286	50	3000	2"	1.5"	N/A	Air	N/A	210
33287	75	3000	2"	2"	N/A	Air	N/A	240
33380-V1	20	1600	2"	1.5"	2	115/230	16/8	290
33384P	10/20/40	230/1600/4900	2"	1.5"	2	115/230	16/8	320

# PURELUBE FILTER SYSTEMS

Liquidynamics PureLube Filter Systems offer excellent solutions for fluid filtering applications by providing a wide selection of filter carts, mini carts, portable hand carry systems and custom designed systems. These filter carts are designed to handle a broad range of viscosities and flow rates in order to efficiently and economically filter small, medium and large capacity gear boxes, reservoirs and storage tanks.

For high viscosity applications, Liquidynamics uses "Depth" type filters that provide efficient particulate removal via long flow paths which, achieves low micron filtration in the 1 to 3 micron range. These filters are also efficient for removing water at up to 1 gallon per element. Choose your filter element below to best fit your application.

## High Viscosity Filter Cart

P/N **33277**

For absolute filtration of high viscosity fluids up to and including ISO 680, this is the solution. Two Depth Filters plumbed in parallel provide a large surface area which allows very slow movement of fluid for effective filtration of particles in the 1 to 3 micron range along with water removal of up to 1 gallon of water per element.

The heavy gauge 1" steel tubing cart frame is powder coated for strength and durability, 10" pneumatic wheels provide easy control and movement. Standard equipment includes 5 GPM internal gear pump with 2 HP, 115 VAC motor, 1" x 10' suction hose with 4' probe, 1" x 15' discharge hose with probe, cam and groove hose connections, filter pressure gauges and probe/discharge nozzle retainer/drip catch system.



## High Viscosity Filter Cart w/PowerMaster Control

P/N **33277-P**

Same as P/N 33277 but includes PowerMaster option. See page 99 for additional information on PowerMaster features and benefits.



## Replacement Filter Elements

For use with P/N 33277 and 33277-P High Viscosity Filter Carts.

P/N **71460-4**

Four section filter for use with medium weight oils, ISO 32 through 68, such as mineral and synthetic hydraulic, dielectric, turbine oil, lubricating oils and cutting oils, 2-6 micron filtration.

P/N **71460-6**

Six section filter for use with medium weight lube oils, ISO 68 through 150.

P/N **71460-8**

Eight section filter for use with heavy weight lube oils, ISO 150 through 680.

## 4 GPM Absolute Filtration Cart

P/N **33278**

This 115 VAC filter cart is a perfect solution for filtering or transferring light to medium viscosities up to 2,000 centistoke (80/90 gear oil at 50° F) at 4 GPM. The cart is supplied with two high efficiency filters plumbed in series allowing you to cut in half the time it takes to circulate and reduce your fluid cleanliness by one ISO level. Alternatively, you may select a dewatering filter for the first filter and a particulate filter as the second filter, thus solving two problems in one pass. This cart can also be used to transfer fluid without filtration by simply switching two valve positions. When ordering this cart, please specify which filters you would like from those shown at the bottom of page 102, e.g.; 71246-03, 71246-05, 71246-10, 71246-20 or 71246-10W.



1" x 15' suction and discharge hoses are included and have convenient cam and groove couplings at each end to allow easy connection/disconnection. An inlet strainer protects the pump from damage. The Cart is constructed of heavy gauge 1" steel tubing for strength and powder coated for durability, large 10" pneumatic tires provide easy maneuverability.



## PURELUBE FILTER SYSTEMS

To ensure efficient filtering, Liquidynamics uses 5 layer, high performance filter elements, which have exceptionally high contaminant holding capacities while also achieving Beta ratios exceeding 1,000. This ensures reaching your target ISO fluid cleanliness levels while maintaining high fluid quality and superior system longevity. These elements are available in cartridge and spin-on styles for both particulate and water removal applications.



P/N 33276 shown w/ series filtration

### 20 GPM Absolute Filtration Cart

P/N **33276**

Practical, versatile and reliable are some of the ways to describe this Filter/Transfer Cart. Versatile plumbing allows this cart to be used for bulk transfer at up to 20 GPM, as well as filtration, by simply opening and closing a couple of valves. With its well designed features and sturdy construction, this cart is eminently practical. Engineered reliability is evident from the heavy gauge 1" steel tubing construction, powder coated for durability. Easy maneuverability is assured with 10" pneumatic tires. Unit is supplied with unique probe/discharge nozzle retainer/drip catch system.

The cart is equipped with a 10' suction hose, 20' discharge hose and 4' suction and discharge probe. Hose and probes are fitted with cam and groove fittings to allow easy connection/disconnection. Probes are easily stored in the handy drip receptacles while the hoses can be coiled on the provided retainers. Optional fluid sample ports may be added before and/or after the filter as desired. Differential pressure gauges are provided to allow monitoring of filter condition.

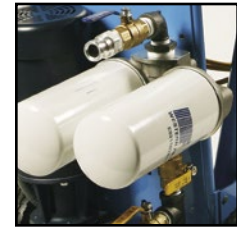
### 20 GPM Absolute Filtration Cart w/ PowerMaster Control

P/N **33276-P**

Same as P/N 33276 but includes PowerMaster option. See page 99 for features and benefits of the PowerMaster control option.

P/N **33276L-P**

Same as P/N 33276 but includes PowerMaster option and parallel filters. See page 99 for features and benefits of the PowerMaster control option.



### Three Speed Cart with PowerMaster and Filtration

P/N **33384P**

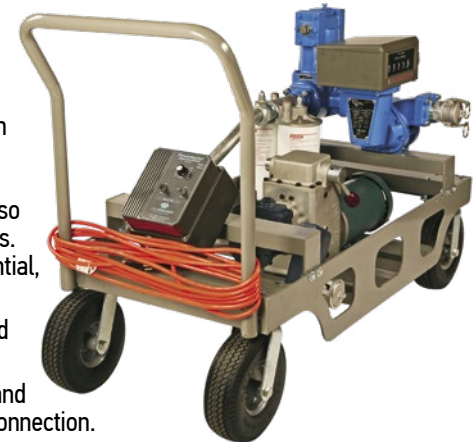
This unique, 115 VAC heavy duty cart is designed to transfer and/or filter a wide variety of oils and hydraulic fluids up to 4,900 cps, which includes 80-90W gear oil down to 40°F.

The 3 speed gear box allows you to transfer lighter viscosities at up to 40 GPM in third gear, 20 GPM in second gear for medium viscosities, while first gear will allow up to 10 GPM for heavy viscosities. The PowerMaster provides additional flow rate control within each selected gear as well as automatically adjusting pump speed to prevent circuit breaker tripping. An optional differential pressure sensor is also available, which allows the operator to set the optimum differential pressure across the filter elements. The PowerMaster will then automatically control pump speed to maintain this preset pressure differential, thus prolonging filter life and ensuring optimum filtration efficiency.

The onboard Weights and Measures approved meter with automatic air eliminator provides accurate fluid measurement and can be ordered with an optional ticket printer and/or preset capability.

The cart is supplied with a 12 gauge x 20' power cord, manual high flow nozzle, 2" x 10' suction hose and 1½" x 15' discharge hose. Hoses and cart are fitted with camlock fittings to allow easy connection/disconnection.

The cart frame is constructed from 1/4" plate steel for strength and rigidity and powder coated for durability. Large 10" pneumatic casters and wheels provide maneuverability and reliability.



P/N 33384P shown

### Replacement Filter Media

For use with P/N 33276, 33276-P, 33276L-P, 33273-1, 33273-1A, 33273-2, 33273L-2, 33276LL-P, 33278, 33351, 33352, and 33384P Filter Systems.

These high efficiency filter canisters are designed to meet a full range of filtration requirements. They use an exceptionally durable and highly efficient proprietary 5 layer synthetic media that assures trouble free operation for all hydraulic and lubrication oil applications. With Beta rating of 1000 based on ISO 16889, pressure rating of 150 PSI (Element diff. pressure collapse) and exceptionally high dirt holding capacities, these elements are the best choice for achieving target fluid cleanliness levels while maintaining high fluid quality.

P/N **71246-03**

For target fluid cleanliness Level of 16/14/12 or better

P/N **71246-05**

For target fluid cleanliness Level of 18/16/14 or better

P/N **71246-10**

For target fluid cleanliness Level of 20/18/15 or better

P/N **71246-20**

For target fluid cleanliness Level of 22/19/16 or better

P/N **71246-10W**

For water absorption and cleanliness Level of 20/18/15, absorbs 350 ml of water.

## PURELUBE FILTER SYSTEMS

### Hand Carry Absolute Filter Module w/ Dual Inline Filters

P/N 33273-2 shown

P/N **33273-2**



This small, compact hand carry module is ideal for use with light to medium viscosities such as hydraulic fluids and engine oils, 500 cps max. Applications include kidney loop systems, 55 gallon drums and other portable or temporary applications. This model uses two 11" spin-on filter elements, your choice of 3, 5, 10 or 20 micron elements, plumbed in series with a 7 GPM pump. Pump inlet is protected with a 20 mesh 'Y' strainer and has 3/4" NPTF suction/discharge.

Pump discharge/bypass pressure is adjustable to 80 PSI, 1.5 HP Motor, 115 VAC, 13 amp.

### Hand Carry Absolute Filter Module w/ Parallel Filters

P/N **33273L-2**

Same as P/N 33273-2 except filters are plumbed in parallel for increased contaminant holding capacity and/or higher viscosity capability.

### Hand Carry Absolute Filter Module w/ Single Filter

P/N **33273-1**

Same as P/N 33273-2 except that only one 11" canister filter is used. This provides a more economical initial investment and is ideal for situations where contaminant loads are not expected to be very high.

### Oil Filter Cart, With Nominal Filtration

P/N **33275**

The ideal tool for circulating and filtering oil in existing tanks, 500 cps max. This portable cart uses a 115 VAC pump rated at 7 GPM and includes a 6' suction hose with inlet screen. The 6' discharge hose includes a 3' stinger. An included pressure gauge allows easy determination of when the 10 micron, cellulose, nominal filter is dirty. See page 106 for replacement filter elements.

P/N **33275-05**

Same as P/N 33275 except that this filter cart uses a 5 micron, highly efficient, five layer synthetic media with Beta rating of 1,000 based on ISO 16889 specifications and has exceptionally high dirt holding capacity. Order replacement filter P/N DON-P564967 as needed. See page 106 for replacement filter elements.

P/N **33275-11**

Same as P/N 33275 except that this filter cart uses an 11 micron, highly efficient, five layer synthetic media with Beta rating of 1,000, based on ISO 16889 specifications, and has exceptionally high dirt holding capacity. Order replacement filter P/N DON-P560693 as needed. See page 106 for replacement filter elements.



P/N 33275 shown

## KIDNEY LOOP FILTRATION SYSTEMS

Kidney loop filtration is an essential component of your equipment reliability program and is critical to maintain target fluid cleanliness within specified levels. The 33350 series Kidney Loop Systems are designed to efficiently re-circulate and filter 100% antifreeze, hydraulic fluid, transmission fluid, engine oil

P/N **33351**

This kidney loop system is rated at 2.5 GPM and is designed to be used to recirculate and filter small tanks and/or high viscosities, up to 2,000 centistoke. The system uses a continuous duty, IP55 rated motor and internal gear pump rated to 170 PSI.

P/N **33351-03**

System with 3 micron, Beta 1000 filter element

P/N **33351-05**

System with 5 micron, Beta 1000 filter element

P/N **33351-10**

System with 10 micron, Beta 1000 filter element

P/N **33351-20**

System with 20 micron, Beta 1000 filter element

P/N **33351-10W**

System with 10 micron water adsorption filter element

and gear oil. All systems are supplied with 115 VAC pump/motor with an integrated on/off switch, suction strainer to protect the pump, mounting bracket to allow wall mounting and a differential pressure gauge and your choice of filter element.

P/N **33352**

This system is rated at 7 GPM and is ideal for use with larger tank volumes and light to medium viscosities up to 500 centistoke. The motor is rated for continuous duty and has an IP55 rating. The vane pump design is very efficient for use with lighter viscosities and higher flow rates.

P/N **33352-03**

System with 3 micron, Beta 1000 filter element

P/N **33352-05**

System with 5 micron, Beta 1000 filter element

P/N **33352-10**

System with 10 micron, Beta 1000 filter element

P/N **33352-20**

System with 20 micron, Beta 1000 filter element

P/N **33352-10W**

System with 10 micron water adsorption filter element



P/N 33352-10 shown

## WALL MOUNT PUMP SYSTEM

The 8" long filter housing has a working pressure of up to 1,200 PSI and includes a pop-up indicator to warn when the element requires changing. The BetaPore™ 5-Layered, high performance filters used in these systems have  $\beta$  ratios of 1,000 and exceptionally high dirt holding capacities. A selection of filter elements allows you to meet your cleanliness requirements as outlined below.

The 1:1 pump systems are ideal for use with low viscosity fluids that are being pumped short distances of less than 100 ft.

P/N **32091-S5-03**  
1:1 Pump System w/3 micron filter, for target cleanliness levels of 16/14/12 or better

P/N **32091-S5-06**  
6 micron filter, for target cleanliness levels of 18/16/14 or better

P/N **32091-S5-12**  
12 micron filter, for target cleanliness levels of 20/18/15 or better

3:1 ratio pump systems are the best choice for medium viscosity fluids and intermediate distances of up to approximately 150 feet and may also be used for any 1:1 applications.

P/N **20001T-S5-03**  
3:1 Pump System w/3 micron filter, for target cleanliness levels of 16/14/12 or better

P/N **20001T-S5-06**  
6 micron filter, for target cleanliness levels of 18/16/14 or better

P/N **20001T-S5-12**  
12 micron filter, for target cleanliness levels of 20/18/15 or better

A 5:1 pump system is a good choice for heavier viscosities and/or pumping distances greater than 150 feet. The 5:1 pump system is also applicable to any 3:1 and 1:1 applications.

P/N **21100T-S7-03**  
5:1 Pump System w/3 micron filter, for target cleanliness levels of 16/14/12 or better

P/N **21100T-S7-06**  
6 micron filter, for target cleanliness levels of 18/16/14 or better

P/N **21100T-S7-12**  
12 micron filter, for target cleanliness levels of 20/18/15 or better

This versatile wall mount pump system provides a convenient means to not only dispense your oils and hydraulic fluids, but also ensures that the fluid being dispensed meets your ISO cleanliness standards. This is accomplished with the use of a high performance filtration system with Beta Ratios of up to 1,000. Filter isolation valves and a bowl-ring design allows for quick and easy filter element change outs.

## PURELUBE ABSOLUTE HIGH PRESSURE FILTERS

Purelube absolute Discharge Filters are designed to be installed on the discharge side of 1:1, 3:1 and 5:1 ratio pneumatic pumps and will handle working pressures up to 1,200 PSI. A convenient visual indicator provides a warning when the filter element needs to be changed, a 45 PSI differential pressure will cause the indicator to show "Red". The filter head has 2" NPTF threads to minimize pressure drop and maximize fluid flow. Filter elements

are easily changed by unscrewing the canister from the filter head and replacing the element.

Purelube absolute discharge filters are 8" in length, have a Beta rating of 1,000 and are available in your choice of 3, 6, 12 and 25 micron ratings to achieve ISO cleanliness ratings of 16/14/12, 18/16/14, 20/18/15 and 22/19/16 respectively.

All filter assemblies include 800 PSI rated filter head and bowl, 50 PSI bypass, 35 PSI visual indicator and filter element as indicated below.

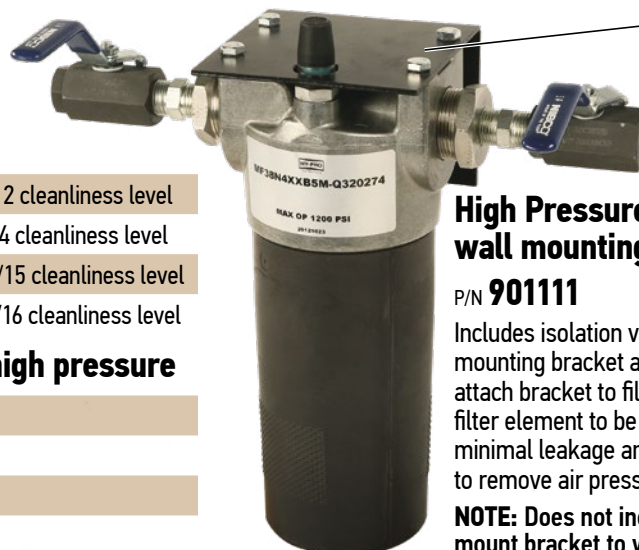
### 8" Bowl Filter Assembly

Part Number Description

71150-03	Includes 3 micron filter for ISO 16/14/12 cleanliness level
71150-06	Includes 6 micron filter for ISO 18/16/14 cleanliness level
71150-12	Includes 12 micron filter for ISO 20/18/15 cleanliness level
71150-25	Includes 25 micron filter for ISO 22/19/16 cleanliness level

### Replacement 8" filter elements - high pressure

71250-03	3 micron filter element for 8" bowls
71250-06	6 micron filter element for 8" bowls
71250-12	12 micron filter element for 8" bowls
71250-25	25 micron filter element for 8" bowls



P/N 901111 wall mounting kit sold separately below.)

P/N 71150-06 shown with P/N 901111

### High Pressure Filter wall mounting kit

P/N **901111**

Includes isolation valves, wall mounting bracket and hardware to attach bracket to filter head. Allows filter element to be changed with minimal leakage and without having to remove air pressure from pump.

**NOTE:** Does not include hardware to mount bracket to wall.



# PURELUBE DESICCANT AND AIR BREATHER FILTER

Liquidynamics PureLube desiccant breathers are a unique, patented air filter and vapor removal system designed to eliminate water, particulate and vapor contamination from entering storage tanks, drums, industrial equipment, transformers and other fluid reservoirs. Silica Gel desiccant adsorbs up to 40% of its weight in water and turns from gold to dark green to indicate when the breather needs to be replaced. Solid contaminants are removed prior to air entering the water adsorbent desiccant section of the filter by a two micron particulate filter. Another two micron particulate filter at the bottom of the unit prevents any desiccant

dust from entering the storage vessel. Additionally, a layer of activated carbon removes oil vapors, fumes and odors as air is expelled from the storage vessel.

These desiccant breathers are available in a variety of shapes and sizes to fit most any application, the most popular sizes are listed below. Additional sizes and designs are available for applications that require larger quantities of desiccant, metal construction or special connections.

## Compact Desiccant Breathers, 10 CFM Max Air Flow

Part Number	Description
710131	2" diameter, 1.35" tall, 1/2" NPTF Fitting
710132	2" diameter, 3" tall, 1/2" NPTF Fitting
710133	3 3/4" diameter, 1.75" tall, 1/2" NPTF Fitting
710134	3 3/4" diameter, 3" tall, 1/2" NPTF Fitting

## Disposable Desiccant Breathers, 35 CFM Max Air Flow

710100	5" diameter, 3.5" tall, 0.2 lb water capacity, 1" Slip Fitting*
710101	5" diameter, 5" tall, 0.4 lb water capacity, 1" Slip Fitting*
710102	5" diameter, 8" tall, 0.9 lb water capacity, 1" Slip Fitting*
710103	Same as P/N 710102 except with NPT fitting
*900424-01	1" female slip x 1" NPTM dapter fitting

## Disposable Desiccant Breather, 100 CFM Max Air Flow

710108	5" diameter, 10" tall, 1.3 lb water capacity, 2" NPTM Fitting
--------	---



## PURELUBE AIR BREATHER FILTER

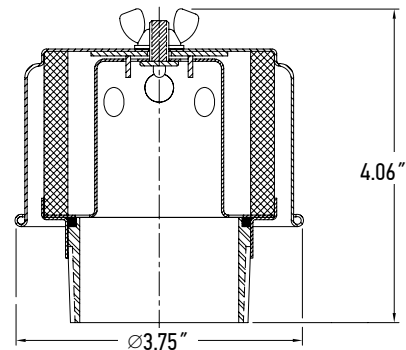
Storage tanks "breathe" as fluid and air temperatures vary as well as when fluid is removed or added to storage tanks. This breathing process also introduces contaminants such as dust, dirt, pollen and other particulate matter. A simple solution is to add a breather filter in place of an open vent. The Liquidynamics PureLube Air Breathers are engineered for use on lubricant storage drums, tanks and totes. These breathers come standard with 3/4" or 2" NPTM threads. And your choice of filter media.

Following is a listing of available breathers:

**P/N 72102**  
2" NPTM, 5 Micron Polyester Media, 98% efficient, w/ metal housing

**P/N 72103**  
2" NPTM, 5 Micron Pleated Paper Media, 99.3% efficient, w/ metal housing

**P/N 900570**  
Adapter fitting, 2" NPTM x 3/4" NPTF



**P/N 192192**  
3/4" NPTM, 10 Micron Media w/ polypropylene housing



## HIGH EFFICIENCY β 1000 SPIN ON FILTER MEDIA

For use with P/N 33276, 33276-P, 33276L-P, 33273-1, 33273-1A, 33273-2, 33273L-2, 33276LL-P, 33278, 33351, 33352, and 33384P Filter Systems.

These high efficiency filter canisters are designed to meet a full range of filtration requirements. They use an exceptionally durable and highly efficient proprietary 5 layer synthetic media that

assures trouble free operation for all hydraulic and lubrication oil applications. With Beta rating of 1000 based on ISO 16889, pressure rating of 150 PSI and exceptionally high dirt holding capacities, these elements are the best choice for achieving target fluid cleanliness levels while maintaining high fluid quality. 5" dia. x 11" height.

**P/N 71246-03**

For target fluid cleanliness Level of 16/14/12 or better

**P/N 71246-05**

For target fluid cleanliness Level of 18/16/14 or better

**P/N 71246-10**

For target fluid cleanliness Level of 20/18/15 or better

**P/N 71246-20**

For target fluid cleanliness Level of 22/19/16 or better



**P/N 71246-10W**

For water absorption and cleanliness Level of 20/18/15, absorbs 350 ml of water.

**P/N DON-P564967**

5 Micron, high efficiency, beta 1000 synthetic filter element for use with P/N 33275, 33275-05 and 33275-11 filter carts

**P/N DON-P560693**

11 Micron, high efficiency, beta 1000 synthetic filter element for use with P/N 33275, 33275-05 and 33275-11 filter carts

## LOW PRESSURE NOMINAL, CELLULOSE FILTERS AND ADAPTERS

Liquidynamics offers a wide range of water absorption and nominal cellulose particulate filters for use with oil, diesel and gasoline. Maximum flow ranges are from 15 GPM for your dispenser type pumps to 40 GPM for truck service applications.

Included are filter elements utilizing a 3/4" and 1" flow path to minimize the pressure drop for gravity flow applications.

**NOTE:** Not for use in filtering aviation fuels.

Filter Part Number	Hydrosorb	Particulate Micron Rating	with Draincock	Max. Flow Rate	Case Qty.	Flow Port Size	Recommended Adapters				Thread Type
							Aluminum 3/4"	Aluminum 1 1/2"	Iron 3/4"	Iron 1"	
70003	—	10μ	No	18 GPM (67 LPM)	6	3/4"	50182	—	50003	50002	NPT
70004	—	10μ	Yes	18 GPM (67 LPM)	6	1"	—	—	—	50004	NPT
70062	Type 2	10μ	No	18 GPM (67 LPM)	12	3/4"	50182	—	50003	50002	NPT
70019	—	10μ	No	40 GPM (150 LPM)	6	1 1/4"	—	50163	—	—	NPT
70063	Type 2	10μ	No	40 GPM (150 LPM)	6	1 1/4"	—	50163	—	—	NPT

**P/N 70003**

Without draincock, 3.7" dia. x 7.25" tall, 1 3/8" - 12 UNF Thread.

**P/N 70004**

With draincock, 3.7" dia. x 8" tall, 1 3/8" - 12 UNF Thread.

**P/N 70062**

Without draincock, water absorption filter, 3.7" dia. x 8.65" tall, 1" - 12 UNF Thread.

**P/N 70019 and 70063**

Without draincock, water absorption filter, 5.06" dia. x 11" tall, 1 1/2" - 16 UN Thread.

## NOMINAL FILTER ELEMENTS, CELLULOSE

**P/N 70003**

10 micron cellulose particulate filter without draincock, 3/4" flow port, 18 GPM max flow.

**P/N 70004**

10 micron cellulose particulate filter with draincock, 1" flow port, 18 GPM max flow.

**P/N 70019**

10 micron cellulose particulate filter without draincock, 1 1/4" flow port, 40 GPM max flow.

**P/N 70062**

Type 2 water absorption filter, 10 micron particulate, 3/4" flow port, 18 GPM max flow.

**P/N 70063**

10 micron filter for water absorption, 1 1/4" flow port, 40 GPM max flow.



# PURELUBE, ABSOLUTE, HIGH PRESSURE FILTERS

## P/N 71144

Purelube absolute Discharge Filters are designed to be installed on the discharge side of 1:1, 3:1 and 5:1 ratio pneumatic pumps and will handle working pressures up to 1,200 PSI with typical burst pressure of 3,000 PSI. A convenient visual indicator provides a warning when the filter element needs to be changed, a 45 PSI differential pressure will cause the indicator to show "Red." The filter head has 2" NPTF threads and is fitted with 2" NPTM x 1/2" NPTF reducing busings to allow use with typical oil dispensing systems. Filter elements are easily changed by unscrewing the canister from the filter head and replacing the element.



P/N 71144 shown

## High-Pressure 8" filter elements

Purelube absolute discharge filters are 8" in length, have a Beta rating of 1,000 and are available in your choice of 3, 6, 12 and 25 micron ratings to achieve.

### P/N 71250-03

3 micron filter element for 8" bowls, ISO cleanliness ratings of 16/14/12

### P/N 71250-06

6 micron filter element for 8" bowls, ISO cleanliness ratings of 18/16/14

### P/N 71250-12

12 micron filter element for 8" bowls, ISO cleanliness ratings of 20/18/15

### P/N 71250-25

25 micron filter element for 8" bowls, ISO cleanliness ratings of 22/19/16



P/N 71250-06 shown

## FILTER ADAPTERS

### P/N 50003

3/4" inlet/outlet NPTF Cast Iron in line filter adapter (3/4" flow path)



P/N 50003 shown

### P/N 50002

1" inlet/outlet NPTF Cast Iron in line filter adapter (3/4" flow path)

### P/N 50004

1" inlet/outlet NPTF Cast Iron in line filter adapter (1" flow port)

### P/N 50182

3/4" inlet/outlet NPTF Aluminum in line filter adapter (3/4" flow port)



### P/N 50109

1" inlet/outlet NPTF Aluminum in line filter adapter (1/4" flow port). For use with P/N 70019 and 70063 high flow filter elements.



### P/N 50163

1/2" inlet/outlet NPTF Aluminum in line filter adapter (1/4" flow path). For use with P/N 70019 and 70063 high flow filter elements.



### P/N 71140A

1/4" filter head, non-bypass spin on type, 150 PSI working pressure, includes 2 ea. 1/8" NPTF gauge ports.



### P/N 71146A

Dual element aluminum filter adapter **with 25 PSI internal bypass**, spin on type. Has 1/8" NPTF threads for use with P/N 70019 and 70063 high flow filter elements. Filter head has differential ports available for installation of gauges and/or visual indicator to warn of dirty filters.



### P/N 71146B

Same as P/N 71146A except **without bypass**.

## REFERENCE INFORMATION

### Relative Sizes of Particles

Substance	Micron	Inches
Grain of table salt	100	.0039
Human hair	70	.0027
Lower limit visibility	40	.0016
Milled flour	25	.0010
Red blood cells	8	.0003
Bacteria	2	.0001



## USED OIL

Avoiding spills and eliminating the mess associated with used oils and fluids has never been made simpler than it is today. Liquidynamics offers solutions for nearly every application. In today's table to grave, regulation filled workplace, it is imperative to use solutions designed for the professional that are both functional and simple to operate.

Liquidynamics offers solutions from the mundane to the extreme. These next few pages incorporate the most professional offering in the industry today. Our products include:

- Economy Oil Drains
- Gravity-Type Oil Drains
- Self-Evacuating Oil Drains
- Low-profile Oil Drains
- Fluid Extractors and Systems
- Used Oil Tanks and Systems
- Two-Way Oil Transfer Carts
- Spill Containment Skids

All of these products help comply with today's exacting environmental guidelines, minimizing the risk of potentially hazardous materials coming in contact with personnel or the environment.

# USED OIL DRAINS

Avoid spills and the mess associated with collecting used oil, gear oil, differential oil, transmission fluid or engine coolant with the use of these high-quality oil drains.

These used oil drains help comply with today's exacting environmental guidelines, minimizing the risk of hazardous materials coming into contact with personnel or the environment.

### Outstanding features include:

- Heavy gauge steel construction for added strength
- Powder coat finish for durability
- Handy tool tray
- Padded handle for improved comfort
- High visibility tank level sight gauge
- Convenient handle to raise and lower drain funnel
- Removable 22" collection bowl extension
- Large 6" ball bearing wheels for ease of movement

- Dry break quick connects for rapid tank emptying (24177 and 24177A Only)
- For use with external double diaphragm pump, standard w/ 24177 and optional w/ 24176
- Pressurized discharge via 6½" discharge hose w/plug to prevent drips (24176 Only)
- "USED COOLANT ONLY" decal included with all models

### P/N 24176

21 gallon used oil drain features heavy gauge steel construction with a powder coat finish for long lasting durability. Large 6" dia. ball bearing wheels allow for easy movement, a handy tool tray and padded handle provide added convenience and comfort. Used oil is emptied by pressurizing the tank with approximately 7 – 10 PSI of shop air. A large "USED COOLANT ONLY" decal is also provided for use with used antifreeze.

P/N 24176 shown



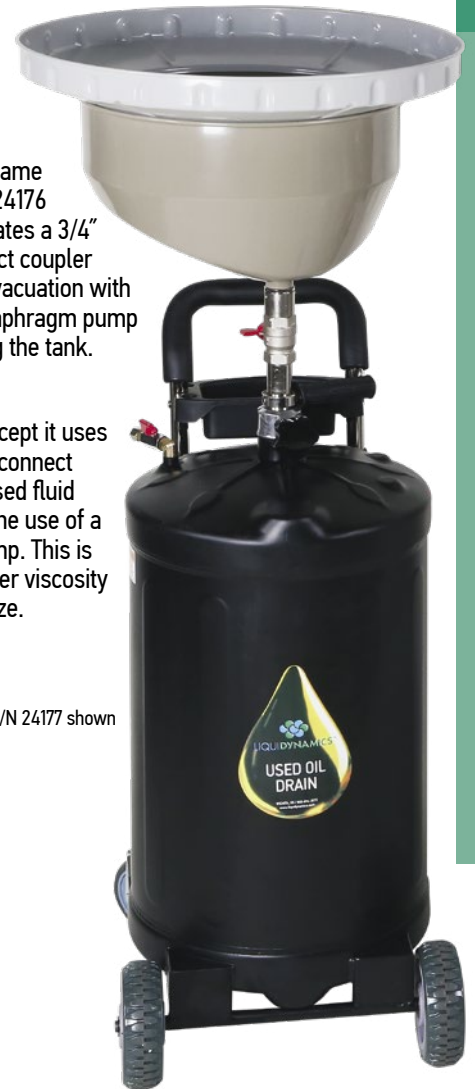
### P/N 24177

This oil drain has the same specifications as P/N 24176 except that it incorporates a 3/4" dry break quick connect coupler set that allows fluid evacuation with the use of a double diaphragm pump instead of pressurizing the tank.

### P/N 24177A

Same as P/N 24177 except it uses a 1/2" dry break quick connect coupler set to allow used fluid to be evacuated with the use of a double diaphragm pump. This is ideal for use with lighter viscosity fluids such as antifreeze.

P/N 24177 shown



**WARNING: Do Not Use This Oil Drain for Diesel Fuel, Gasoline or Other Flammable Fluid**

### Specifications:

Model Number	24176	24177	24177A
Tank Capacity	21 gallon	21 Gallons	21 Gallons
Collection Bowl Capacity	3½ Gallons	3½ Gallons	3½ Gallons
Fluid Discharge	Pressurized Discharge	3/4" Dry Break Connection	1/2" Dry Break Connection
Min. Working Height	47.5"	47.5"	47.5"
Max. Working Height	76.4"	76.4"	76.4"
Shipping Weight	70 lb.	68 lb.	68 lb.

## USED OIL DRAINS

**P/N 950100**

Economical Used Oil Drain Kit for 16-gallon drums (drum not included).

Includes:

- P/N 24220 Collection Bowl Drain Kit
- P/N 950006 16 Gallon Drum Dolly
- P/N 901006 16 Gallon Cover



P/N 950100G shown

NOTE: Drum not included

**P/N 950103**

Economical Used Oil Drain Kit for 55 gallon drums (drum not included).

Includes:

- P/N 24220 Collection Bowl Drain Kit
- P/N 950008 55 Gallon Drum Dolly



P/N 950103G shown

NOTE: Drum not included



P/N 950102 shown

NOTE: Drum not included

**P/N 950102**

Used Oil Drain Kit for 55-gallon drums. Includes heavy-duty 4-wheel cart that comes complete with a tool

tray and provision for storing drain pan while drum is being emptied. Drain pan kit is supplied with 2" bung adapter to fit standard openings.

Includes:

- P/N 24220 Collection Bowl Drain Kit
- P/N 51009C 4 Wheel Cart, 55 Gallon



**P/N 950101**

Same as P/N 950102 except fits 16-gallon drums.

Includes:

- P/N 24220 Collection Bowl Drain Kit
- P/N 51003C 4 Wheel Cart, 16 Gallon
- P/N 901006 16 Gallon Cover

P/N 950101 shown

NOTE: Drum not included

## USED OIL DRAINS & SYSTEMS

### P/N 42070

Low profile, Portable Used Oil Drain has a large 25-gallon capacity and two internal baffles to prevent sloshing. Has 9" overall height, 2½" silent, non marking P.P. casters and sturdy 'T' handle for easy maneuverability. Standard unit comes with 1" ball valve drain. Dry break disconnects available for use with Double Diaphragm Pumps. 9" H x 24½" W x 46" L.



### P/N 42071

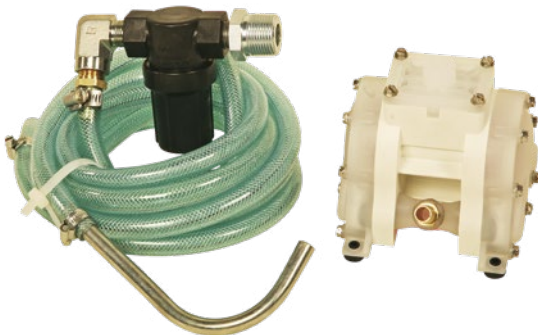
Same as P/N 42070 above except has an on board 3/8" Double Diaphragm Pump and 6' discharge hose with curved spout. Flow rate of 5 GPM @ 100 PSI will empty full drain in less than 5 minutes. Includes 'T' strainer to protect pump.



'T' Strainer with 30 Mesh Screen

### P/N 950004

Evac kit only. 3/8" Double Diaphragm Pump, mounting hardware, 'T' strainer and 6' discharge hose with curved spout. Flow rate of 5 GPM @ 100 PSI will empty full drain in less than 5 minutes.



### Male Dry Break Nipples:

P/N 900291 1/2" NPTF nipple

P/N 900295 3/4" NPTF nipple

P/N 900293 1" NPTF nipple



### Female Dry Break Couplers:

P/N 900290 1/2" NPTF coupler

P/N 900294 3/4" NPTF coupler

P/N 900292 1" NPTF coupler



### P/N 950093

1/4 HP, 115 VAC Electric Pump Kit with inlet screen. Pump is rated at 7 GPM and will empty full drain in less than 4 minutes.



### P/N 950092

1/2" Double Diaphragm Pump Kit with wall mounting bracket, 1/2" x 6' suction hose, 1/2" x 2' discharge hose, air filter regulator w/gauge, 3/8" x 6' air hose and 1/4" air coupler set and 1/2" dry break coupler set. Used to quickly empty low profile oil drain in less than 3 minutes (approximately 10 GPM at 100 PSI).

P/N 950092 shown



### P/N 950095

3/4" Double Diaphragm Pump Kit, same as P/N 950092 above, except includes 3/4" suction hose, discharge hose and 3/4" dry break coupler set.

## USED OIL TANKS

P/N **901076-CH**

300 Gallon Used Oil Tank for bulk storage, has convenient hatch opening with cover to allow filter elements to be drained prior to disposal. Hatch opening is also handy for emptying small containers of used oil. Tank has two 2" bung openings along with a 1" drain.

Dimensions: 37.5" dia. x 63" long x 45" max height at chute handle. Chute opening, 21½" x 14¼" x 6¾" deep.



P/N **901076-12**

Used Oil Pump/Tank kit includes 300 gallon chute tank P/N 901076-CH shown above along with a 3/4" double diaphragm pump, 3/4" x 12' suction hose with dry break disconnect and 4 way valve system that allows the operator to evacuate portable oil drains via the suction valve position, or empty the tank by simply selecting the discharge valve position on the 4 way valve. A tank level gauge is also included to allow monitoring of fluid level along with an air filter/regulator to control pumping rate.

Dimensions: 37.5" dia x 63" long x 58" max height at pump.



P/N **950027-55**

3/4" D.D. Pump w/vertical inlet manifold kit to fit 55 gallon drum. Kit includes suction pipe and double tap with 3/8" return port for use with thermal expansion valve kit.

P/N **950027-275**

3/4" D.D. Pump w/vertical inlet manifold to fit 275 gallon tank. Has 44" long suction pipe, double tap with 3/8" return port for use with thermal expansion valve kit. Schedule 80 PVC suction pipe can easily be trimmed to fit shorter tank depths.



P/N **970023-225**

225 gallon bench tank with 3/4" double diaphragm pump and 4 way valve system can be used to evacuate portable oil drains in the suction valve position (fills the tank) and then the tank can be emptied by positioning the valve to the discharge position. System includes an air filter/regulator, 3/4" x 12' suction/discharge hose with dry break disconnect, tank level gauge and lockable fill cap. The bench tank provides a convenient work surface in shops where space is a premium.

Dimensions: 48" x 33" x 39" H



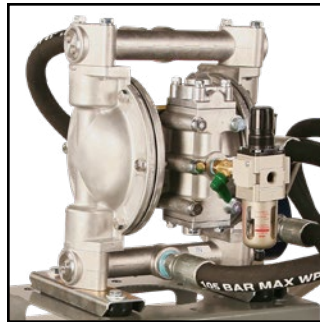
## TWO WAY OIL TRANSFER

### P/N 51009C-S16

Convenient transfer cart allows you to quickly and easily extract used engine oil, gear oil, hydraulic fluid, antifreeze or other compatible fluids from engines, gear boxes, sumps or similar containers and transfer it to this large 75 gallon steel portable tank. The heavy duty 4 wheel cart provides portability of the collected fluid which can then be conveniently transferred from the portable 75 gallon tank by a simple turn of the handle on the 4 way reversing valve.

### P/N 51009C-S17

Same as P/N 51009C-S16 except that this kit replaces the 75 gallon tank with a larger 95 gallon tank to provide added capacity.



Closeup of pump and regulator.



## SPILL CONTAINMENT PANS FOR 55 GALLON DRUMS

### P/N 42073

These modular spill containment pans are injection molded polyethylene which makes them strong and durable. They can be used individually or easily connected to accommodate any number of drums. Each pan holds up to 60.5 gallons and incorporate forklift/pallet jack pockets to allow easy movement.

Grates are removable to allow compact stacking for storage when not in use.

Dimensions: 52" x 26.4" x 16.5" H, weight: 47 lb.



### P/N 42073-01

A Tripod cap is used to hide the small space between pans when three pans are being connected together. These caps are used to improve appearance and housekeeping of connected pan systems and are not functionally required.



### P/N 42073-02

A Quapod cap is used to hide the small space between pans when four pans are being connected together. These caps are used to improve appearance and housekeeping of connected pan systems and are not functionally required.



## OIL EXTRACTORS

These fluid extractors are a reliable and efficient method for removing fluids from most any engine, transmission, differential, transfer case or gearbox. They are extremely easy to operate and maintain and are ideal for use with automobiles, trucks, tractors, farm machinery, marine engines, forklifts, industrial machinery and various other small engines. Fluid extractors are designed to be used with hot engine oil, 104° F – 140° F, which allows the oil to flow more freely. A specially designed extractor is also available for use with Diesel Engine Exhaust Fluid (DEF), P/N 24226, see page 128.

A shop air supply at approximately 100 PSI @10 CFM is all that is needed to create a vacuum. All extractors are supplied with a set of 6 flexible probes, 3 adapters (to fit Mercedes, BMW and

VW), 6' suction hose and 6' discharge hose. Units are powder coated for durability and long life.

**WARNING: NOT FOR USE WITH FLAMMABLE, CORROSIVE OR EXPLOSIVE FLUIDS**



### P/N **24224R**

This compact fluid extractor has an eight gallon tank capacity with a suction capacity of up to 5 gallons. Vacuum charge is easily monitored by a vacuum gauge while tank level is visible via a sight gauge. Once the maximum fluid level is reached, used fluid can be quickly emptied by pressurizing the tank with approximately 10 PSI of shop air. Overall dimensions are 13" W x 15" D x 38" H, empty weight is 28 lb.

### P/N **24270R**

Fluid extractor with 21 gallon capacity is equipped with a tank level sight, vacuum gauge, 6' suction hose with shutoff valve, 6' discharge hose and a full complement of suction probes and three adapters as described above. Vacuum generation time is approximately 3 – 4 minutes using 100 PSI of shop air. Overall dimensions are 17" W x 21" D x 38" H, empty weight is 48 lb.

### P/N **24271R**

This fluid extractor is the same as P/N 24270 but is equipped with a transparent bowl with 2½ gallon capacity. Extracted fluid may be drawn directly into the transparent bowl to allow a visual check of the extracted fluid for moisture, contaminants or to measure the quantity of extracted fluid. Fluid can then be drained into the reservoir below. If desired, extracted fluid may be drawn into the tank reservoir without stopping in the intermediate step at the transparent bowl. Overall dimensions are 17" W x 21" D x 52" H, empty weight is 55 lb.

## OIL EXTRACTORS



### P/N **24272R**

Model 24272R combines the features and functions of the model 24270R Oil Extractor and 24176 Oil Drain. Tank capacity is 21 gallons, fluid extraction is accomplished in the same manner as with model 24270R and gravity oil draining is the same as with the 24176. Once the maximum fluid level is reached, used fluid can be quickly emptied by pressurizing the tank with approximately 10 PSI of shop air. Minimum drain bowl height is 47", maximum drain bowl height is 71". Overall dimensions are 17" W x 21" D x 51" H, empty weight is 60 lb.

### P/N **24273R**

A combination 21 gallon Oil Extractor with 2½ gallon transparent bowl and gravity Oil Drain combines all the capability, features and functions needed in handling used oil in most any shop. This model includes the features and functions of the 24271R Extractor and 24176 Oil Drain. It is self - evacuating with the application of approximately 10 PSI shop air. A metal support frame serves to protect and stabilize the transparent bowl and gravity drain tube. Overall dimensions are 17" W x 21" D x 61" H, empty weight is 80 lb. Minimum drain bowl height is 61", maximum drain bowl height is 71".

## OIL EXTRACTOR ACCESSORIES

P/N **24300**  
Connector for VW Engine



P/N **24302**  
Connector for BMW Engine



P/N **24303**  
Connector for Citroen Engine



P/N **24304**  
Flexible Probe 0.20" (5 mm)  
Dia., 27.5" (700 mm) Length



P/N **24305**  
Metal Probe 0.20" (5 mm)  
Dia., 27.5" (700 mm) Length



P/N **24306**  
Metal Probe 0.24" (6 mm)  
Dia., 27.5" (700 mm) Length



P/N **24307**  
Flexible Probe 0.28" (7 mm)  
Dia., 39.4" (1000 mm), Length



P/N **24308**  
Flexible Probe 0.31 (8 mm)  
Dia., 27.5" (700 mm) Length



P/N **24310**  
Flexible Probe 0.20" (5 mm) Dia., 59" (1500 mm) Length

P/N **24316**  
Flexible Probe 0.24" (6 mm)  
Dia., 27.5" (700 mm) Length



P/N **24426**  
Flexible Probe 0.24" (6 mm) Dia., 59" (1500 mm) Length

P/N **24427**  
Flexible Probe 0.28" (7 mm) Dia., 59" (1500 mm) Length

P/N **24428**  
Flexible Probe 0.31" (8 mm) Dia., 59" (1500 mm) Length

P/N **900210\***  
Connector for OMC Marine Engine



P/N **900235\***  
Connector for Marine  
Outboard Engines



P/N **900199\***  
Connector for Mastercraft  
Marine Engine



P/N **950054**  
Probe Container Kit with  
Wall Mount Bracket



### Connectors for use with 'R' series extractors

P/N **S46103-40**  
Connector for VW Engine



P/N **S46103-41**  
Connector for BMW Engine



P/N **S46103-42**  
Connector for Mercedes Engine



P/N **S46103-69**  
Metal, 0.24 (6 mm) Dia., 27.5" Length



P/N **S46103-68**  
Metal, 0.20 (5 mm) Dia., 27.5" Length



P/N **S46103-67**  
Flexible, 0.32 (8 mm) Dia., 27.5" Length



P/N **S46103-64**  
Flexible, 0.28 (7 mm) Dia., 39.4" Length



P/N **S46103-66**  
Flexible, 0.24 (6 mm) Dia., 27.5" Length



P/N **S46103-65**  
Flexible, 0.20 (5 mm) Dia.,  
27.5" Length



\* NOTE: Use P/N S46103-42 to adapt 'R' series extractors for use with P/Ns 900210, 900235, 900199.



# DIESEL EXHAUST FLUID

In late 2009 global vehicle manufacturers began introducing models equipped with Selective Catalytic Reduction (SCR) systems requiring the use of Diesel Exhaust Fluid (DEF). DEF is a non-hazardous solution, which is 32.5% urea and 67.5% de-ionized water. DEF is sprayed into the exhaust stream of diesel vehicles to break down dangerous NOx emissions into harmless nitrogen and water. SCR systems are now found on all diesel-powered vehicles (trucks & cars) as well as off-road equipment and tractors.

Also in late 2009 Liquidynamics introduced the first full line of DEF service equipment in the U.S. This line has continued to evolve and LDI remains a leader in this category today.

As a full-line supplier, the following pages highlight the latest in technology. Included are:

- DEF Pumps (Hand, Double Diaphragm, Electric and Air-Operated)
- DEF Hose Reels
- DEF Meters
- Complete Tank Packages (Totes/Drums)
- DEF Tank Systems
- DEF Transfer Carts & Systems
- DEF Filtration
- DEF Valves and Couplers

DEF handling products shown in this catalog conform to ISO 22241 specifications and include both “open” and “closed” systems which allows users to choose equipment that best fits their specific requirements.

## "CLOSED" IBC TRANSFER SYSTEMS

P/N **970027-06A**

**275 or 330 Gallon DEF IBC Tote system for use with closed system couplers and valves of your choice. This system is designed to be compatible with Micro Matic RSV and EPV series couplers as well as Colder Products "DrumQuick Pro" couplers. Order an appropriate coupler separately to match your system requirements.**

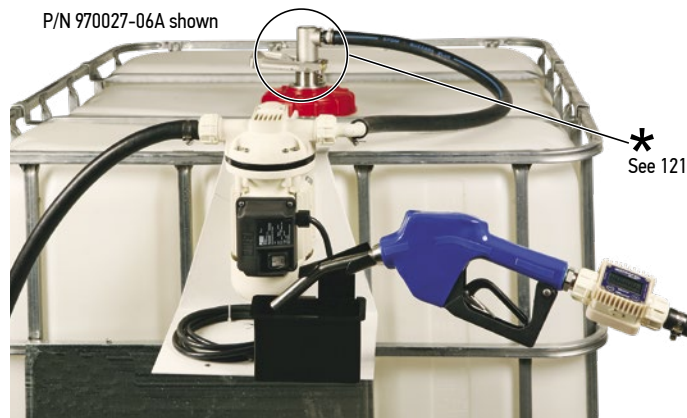
**System includes:**

- 8 GPM, 115 VAC Self Priming Pump, w/ 6 min. timeout feature
- Electronic Digital Turbine Meter
- Stainless Steel Automatic Discharge Nozzle
- 3/4" x 12' Discharge & Pump Connection Hose
- Convenient Pump Hanger Plate w/Nozzle Holder and Drip Cup

P/N **970027-06M**

Same as 970027-06A above, except with manual nozzle.

P/N 970027-06A shown



\* See 121

Note: IBC Tote Tank and coupler not included

P/N **970027-02A**

**275 or 330 Gallon DEF IBC Tote system for use with closed system couplers and valves of your choice. This system is designed to be compatible with Micro Matic RSV and EPV series couplers as well as Colder Products "DrumQuick Pro" couplers. Order an appropriate coupler separately to match your system requirements.**

**System includes:**

- 8 GPM, 115 VAC Self Priming Pump, w/ 6 min. timeout feature
- Electronic Digital Turbine Meter
- Stainless Steel Automatic Discharge Nozzle
- 3/4" x 25' Hose reel
- Tote Mounting Plate and Hardware
- Nozzle Holder and Drip Cup

P/N **970027-02M**

Same as 970027-02A above, except with manual nozzle.

P/N 970027-02A shown



\* See 121

Note: IBC Tote Tank and coupler not included

P/N **970020-12A**

**This simple system is designed to draw from the bottom of the Tote tank, therefore eliminating air pockets which cause DEF crystallization. A separate air vent is required to allow the IBC Tote to breathe, see page 127 for choice of vents, P/N 950391, 950392 and P/N 950392P.**

**System includes:**

- 8 GPM, 115 VAC Self Priming Pump, w/ 6 min. timeout feature
- Electronic Digital Turbine Meter
- Stainless Steel Automatic Discharge Nozzle
- 3/4" x 12' DEF Discharge Hose
- Pump Connection Hose w /2" NPTF Tote Connection Fitting
- Convenient Pump Hanger Plate w/Nozzle Holder and Drip Cup

P/N **970020-12M**

Same as 970020-12A above, except the stainless steel automatic nozzle is replaced by a manual nozzle.

P/N 970020-12A shown



Note: IBC Tote Tank not included

## COMPLETE TOP DRAW SYSTEMS INCLUDE 4 PIN COUPLER



Note: IBC Tote Tank not included

### P/N 970014-AC

Complete DEF system for use with 275 and 330 gallon IBC tote tanks, includes all components required to transfer DEF fluid from your tote tank including a 4 pin coupler to fit standard 4 pin valves.

#### System includes:

- 115 VAC, 8 GPM self-priming pump
- Automatic shutoff DEF nozzle with built-in meter and stainless steel spout and break away system
- DEF filter to ensure DEF cleanliness
- Strong stainless steel mounting plate with built-in roll bar for added protection, mounting plate fastens securely to IBC frame via a security lock bracket
- Mounting plate incorporates a high capacity hose retainer for convenient hose storage of the included 3/4" x 20' DEF hose
- 4 Pin coupler to fit standard 4 pin stainless steel or poly RSV valves

### P/N 970014-DC

Same as 970014-AC above, except pump is replaced with 12 VDC pump.

## "CLOSED" 55 GALLON DRUM CART SYSTEM

### P/N 51009C-S9A

55 Gallon Drum Cart system for use with closed couplers and valves of your choice. This system is compatible with Micro Matic RSV and EPV couplers as well as Colder Products "DrumQuick Pro" couplers. Order your choice of coupler separately to match your system requirements.

- 8 GPM, 115 VAC Self Priming Pump, w/ 6 min. timeout feature
- Electronic Digital Turbine Meter
- SS Automatic Discharge Nozzle
- 3/4" x 12' Discharge & Pump Connection Hose
- Heavy Duty Mobile Cart, with 2,600 lb. load rating

### P/N 51009C-S9M

Same as 51009C-S9A above except the stainless steel automatic nozzle is replaced by a manual nozzle.



Note: Drum and Coupler not included

P/N 51009C-S9A shown

## DEF HAND PUMPS SYSTEMS

### P/N 51009C-S15A

55 Gallon drum cart system is designed to maintain DEF product integrity while still allowing easy drum change as necessary. System includes:

- 55 Gallon heavy duty drum cart
- Lever action piston pump with stainless steel RSV coupler
- 3/4" x 12' discharge hose
- Stainless steel automatic nozzle

### P/N 51009C-S15M

Same as 560008V-S15A above, except with manual nozzle.



Note: Drum not included

P/N 51009C-S15 shown

### P/N 51009C-S18AP

Same as 51009C-S15A except it uses a poly RPV coupler and poly nozzle in place of the stainless steel coupler and nozzle, has 3/4" x 15' discharge hose.

### P/N 51009C-S18M

Same as 51009C-S15M except it uses a poly RPV coupler in place of the stainless steel coupler, has 3/4" x 15' discharge hose.



Note: Drum not included

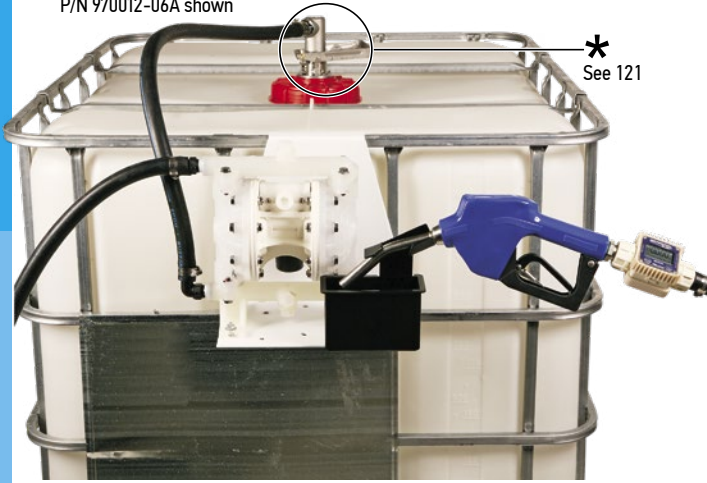
P/N 51009C-S18AP shown

## AIR OPERATED PUMP SYSTEMS FOR DEF

The air operated pump systems offered on this page utilize a 1:1 ratio pump that is rated at up to 14 GPM, flow rate can be controlled via the discharge nozzle or with the included air regulator. These systems provide an economical solution for

pumping DEF fluid and are offered in both “open” and “closed” variations in order to accommodate most any application. These systems offer the added advantage of not having to constantly switch the pump on and off manually, as is the case with electric pumps.

P/N 970012-06A shown



Note: IBC Tote Tank and coupler not included

P/N **970012-06A**

**275 or 330 Gallon DEF IBC Tote system for use with closed system couplers and valves of your choice. This system is designed to be compatible with Micro Matic RSV and EPV series couplers as well as Colder Products “DrumQuick Pro” couplers. Order an appropriate coupler separately to match your system requirements. System includes:**

- 14 GPM Air Operated Double Diaphragm Pump
- Electronic Digital Turbine Meter
- Stainless Steel Automatic Discharge Nozzle
- 3/4” x 12’ Discharge & Pump Connection Hose
- Convenient Pump Hanger Plate w/Nozzle Holder and Drip Cup

P/N **970012-06M**

Same as 970012-06A above, except the stainless steel automatic nozzle is replaced by a manual nozzle.

P/N **560008A-S1A**

**Economical “Closed” 1:1 ratio air operated pump system designed for use with 55 gallon drums that are fitted with the Micro Matic RSV drum valve. May also be used with 275 and 330 gallon IBC tote tanks fitted with the Micro Matic RSV valve. System includes;**

- 1:1 ratio air operated pump, 6 GPM
- 3/4” x 12’ DEF discharge hose
- Poly automatic nozzle
- Stainless steel Micro Matic coupler

P/N **560008A-S1M**

Same specification as P/N 560008A-S1A, but supplied with poly manual nozzle in place of the poly auto nozzle.



P/N 560008A-S1M shown

Note: Drum not included

P/N **560008A-S2A**

Economical 1:1 ratio pneumatic pump designed for use with 55 gallon drums as well as 275 and 330 gallon IBC tote tanks that are fitted with 4 pin RSV type drum valves. System is the same as 560008A-S1A except the stainless steel RSV coupler is replaced with a poly RPV coupler.

P/N **560008A-S2M**

Same as 560008A-S2A except the this system has a poly manual nozzle in place of the poly auto nozzle.

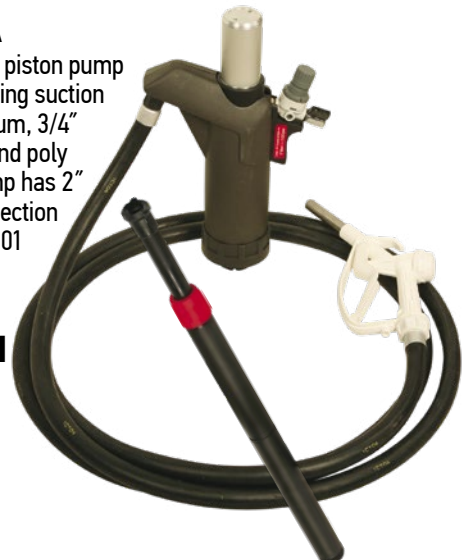


P/N **560008A-12A**

“Open” 1:1 air operated piston pump supplied with telescoping suction pipe to fit 55 gallon drum, 3/4” x 12’ discharge hose and poly automatic nozzle. Pump has 2” male NPS thread connection to drum. Use P/N 560101 to adapt to buttress threaded drums.

P/N **560008A-12M**

Same specification as P/N 560008A-12A but supplied with poly manual nozzle.





# 55 GALLON DRUM TOPPER SYSTEMS FOR DEF

## P/N 33115-S1A

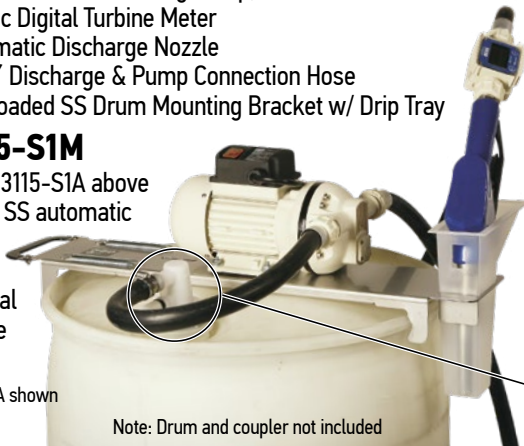
**115 VAC 55 Gallon Drum Topper System for use with closed couplers and valves of your choice. This system is compatible with Micro Matic RSV and EPV couplers as well as Colder Products "DrumQuick Pro" couplers. Order your choice of couplers separately to match your system requirements. System includes:**

- 8 GPM, 115 VAC Self Priming Pump, w/ 6 min. timeout feature
- Electronic Digital Turbine Meter
- SS Automatic Discharge Nozzle
- 3/4" x 12' Discharge & Pump Connection Hose
- Spring Loaded SS Drum Mounting Bracket w/ Drip Tray

## P/N 33115-S1M

Same as 33115-S1A above except the SS automatic nozzle is replaced by a manual poly nozzle

P/N 33115-S1A shown



Note: Drum and coupler not included

## P/N 33115-S2A

**12 VDC 55 Gallon Drum Topper System for use with closed couplers and valves of your choice. This system is compatible with Micro Matic RSV and EPV couplers as well as Colder Products "DrumQuick Pro" couplers. Order your choice of couplers separately to match your system requirements. System includes:**

- 8 GPM, 12 VDC Self Priming Pump, w/ 6 min. timeout feature
- 18' Power Cable with Battery Clips
- Electronic Digital Turbine Meter
- SS Automatic Discharge Nozzle
- 3/4" x 12' Discharge & Pump Connection Hose
- Spring Loaded SS Drum Mounting Bracket w/ Drip Tray

## P/N 33115-S2M

Same as 33115-S2A above except the SS automatic nozzle is replaced by a manual poly nozzle

\* See 121



P/N 33115-S2A shown

Note: Drum and coupler not included

## DEF SYSTEMS SELECTION GUIDE

### SYSTEM IDENTIFIER

- DR** DEF Tote "Closed" System w/ Hose Reel Capability
- DS** DEF Tote "Closed" System (hanger system on side of tote)
- DT** DEF Drum Topper System (not for use with Hose Reels)
- DC** DEF Drum Cart System (can be used with 25' Hose Reel)

### PUMP SELECTION

- 12** 12 VDC Membrane Pump
- 15** 115 VAC Membrane Pump
- 20** 1/2" DD Air Operated Pump (includes air F/R)

### HOSE/REEL SELECTION

- H08** 3/4" x 8' DEF Hose
- H10** 3/4" x 10' DEF Hose
- H12** 3/4" x 12' DEF Hose
- H15** 3/4" x 15' DEF Hose
- H20** 3/4" x 20' DEF Hose
- H25** 3/4" x 25' DEF Hose
- H30** 3/4" x 30' DEF Hose
- R25** 3/4" x 25' Hose Reel (may be used on DR tote or DC cart systems)
- R50** 3/4" x 50' Hose Reel (for use on DR tote system only)

### METER SELECTION

- X** No Meter
- T** Digital Turbine Meter

### CONTROL HANDLE SELECTION

- XX** Not Required
- MP** Manual Poly Nozzle
- AS** Automatic SS Nozzle
- AP** Automatic Poly Nozzle
- AM** Automatic Poly Nozzle with Meter

### CART SELECTION

- XX** Not Required
- D4** Drum Dolly, 55 Gallon (can not be used with reel)
- C8** Heavy Duty 4 Wheel Cart (will accept 25' reel)

### COUPLER SELECTION

- XXX** Not Required
- COL** Colder Products DrumQuick Coupler
- EPV** Micro Matic EPV Coupler
- RPV** Micro Matic 4 Pin RPV Coupler (poly)
- RSV** Micro Matic 4 Pin RSV Coupler (stainless)

DS 15 H12 T MP XX RSV

### \* Order Coupler Separately

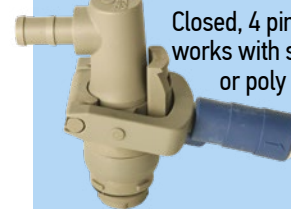
#### P/N 195205D

Stainless Steel 4 pin RSV Series Quick Coupler



#### P/N 195205P

Closed, 4 pin poly coupler works with stainless RSV or poly RPV valves



#### P/N 195206A

Stainless Steel EPV Dispensing Coupler



#### P/N 195207A

Polypropylene DrumQuick® PRO Coupler



# DEF HAND PUMPS AND SYSTEMS

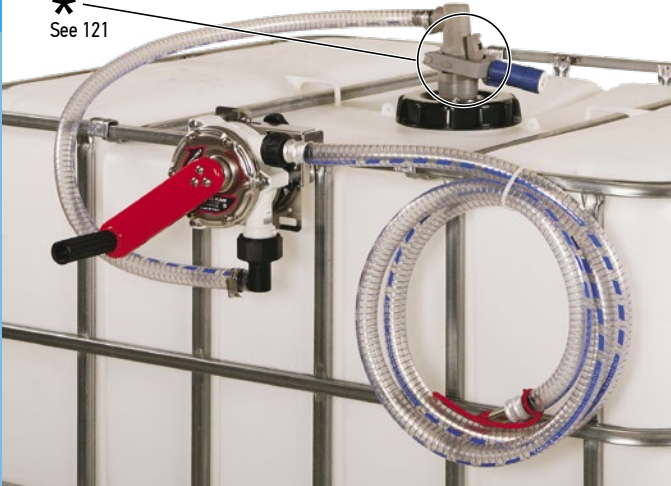
DEF PRODUCTS

DEF HAND PUMPS AND SYSTEMS

## P/N 10034

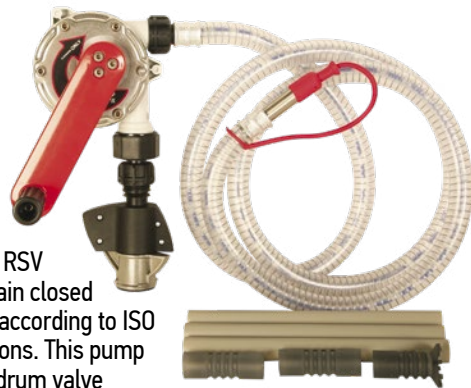
This unique rotary hand pump kit allows you to conveniently pump DEF from 275 and 330 gal. IBC Tote tanks. This has been accomplished by attaching the rotary hand pump to a sturdy stainless steel support bracket which is designed to fit most IBC frames. The bracket is easily attached to the IBC frame and can be moved from tote to tote as necessary. The kit includes a rotary hand pump, mounting bracket, 3/4" x 4' suction hose and 3/4" x 8' discharge hose with dust cap. This pump can also be fitted with an optional discharge filter P/N 70170 shown below. **Order an appropriate coupler separately to match your system requirements.**

\* See 121



## P/N 10036

Same as P/N 10035 pump (pg. 7), except the buttress bung fitting is replaced by a 4 pin compatible RSV coupler to maintain closed system integrity according to ISO 22241 specifications. This pump will fit any 4 pin drum valve including stainless steel or polypropylene versions such as those supplied by Micro Matic.



## P/N 70170

3D filter kit designed to fit onto the discharge fitting of P/N 10034, 10035 and 10036 rotary hand pumps as shown. Filter protects against possible particulate contamination of the vehicle catalyst during DEF transfer operations. Order replacement filter element P/N 70170-01 as necessary.



## P/N 560008V-S1A

**Economy lever action piston pump system without a cart is designed to maintain product integrity.**

### System includes:

- Lever action piston pump with stainless steel RSV coupler
- 3/4" x 12' discharge hose
- Poly automatic nozzle
- Stainless steel Micro Matic closure system



Note: Drum not included

P/N 560008V-S1A shown

## P/N 560008V-S1M

Same as 560008V-S1A above, except uses manual poly nozzle.

## P/N 560008V-S2A

**New economical DEF hand pump system uses a 4 key poly coupler that mates with standard 4 key RSV stainless steel or RPV poly valves to maintain closed system DEF product integrity per ISO 22242 specifications. This system can be used with any DEF drum or IBC tote that is provided with a 4 key valve on board. Lever action hand pump provides approximately 12 strokes per gallon.**

### System includes:

- Lever action piston pump with poly RPV coupler
- 3/4" x 12' discharge hose
- Poly auto shutoff nozzle
- RPV 4 key coupler



P/N 560008V-S2A shown

## P/N 560008V-S2M

Same as 560008V-S2A above, except the auto shutoff nozzle is replaced by a manual poly nozzle.

## P/N 560008V-S3AP-55

Complete DEF hand pump system includes everything you need to outfit your 55 gallon DEF drum. System includes suction tube and drum valve.

## P/N 560008V-3AP-275

Same as 560008V-3AP-55 except suction tube length fits 275 gal. IBC totes

## P/N 560008V-S3A-330

Same as 560008V-3AP-55 except suction tube length fits 330 gal. IBC totes

## P/N 560008V-S3M-55

Same as 560008V-S3AP-55 except auto nozzle is replaced by manual poly nozzle.

## P/N 560008V-S3M-275

Same as 560008V-S3M-55 except suction tube length fits 275 gal. IBC totes

## P/N 560008V-S3M-330

Same as 560008V-S3M-55 except suction tube length fits 330 gal. IBC totes

P/N 560008V-S3M-55



## DEF HAND PUMPS AND SYSTEMS



P/N **560008V** MA-20V  
Polypropylene piston hand pump uses viton seals for use with various industrial chemicals such as mild acids, mild alkali solutions, diesel exhaust fluid and similar water based fluids. Complete with telescoping suction pipe to fit drums up to 55 gallon. Approx. 12 strokes/gal.

P/N **10031** MA-31  
Polypropylene construction hand pump with nitrile seals and stainless steel piston shaft which allows use with water, water based chemicals, mild acids and mild alkali solutions as well as oils and DEF fluid. Approx. 16 strokes/gal.



### P/N **560008V-12M**

Lever action piston hand pump with telescoping suction pipe to fit 55 gallon drum, includes 3/4" x 12' discharge hose and manual shutoff nozzle with trigger lock, approx. 12 strokes/gallon.



### P/N **10035**

This rotary hand pump is constructed of stainless steel and heavy duty polymers and is specifically designed for use with DEF, non-potable water, anti-freeze and similar water based fluids. The pump is fitted with a 2.5" x 5 buttress bung fitting, 3/4" x 8' discharge hose w/ spout cap and modular suction tubes to fit various drum sizes. Pump has a discharge capacity of 10 gallons per 100 revolutions and features an inlet check valve to maintain pump prime.



Note: Drum not included

**NOTE:** Pumping cavity must be primed with fluid for proper operation.

## "OPEN" SYSTEMS FOR DEF

### P/N **51009C-S4A**

**55 Gallon Drum Mobile Cart System with in-line meter is a complete transfer system, including:**

- Submersed Impellor Drum Pump, 115 VAC, 15 GPM
- Electronic Digital Turbine Meter
- Stainless Steel Automatic Discharge Nozzle
- 3/4" x 12' Discharge Hose
- 2" Bung Adapter w/ filtered air breather
- Heavy Duty Mobile Cart, with 2,600 lb. load rating



Note: Drum not included

### P/N **51009C-S4M**

Same as 51009C-S4A above, except the automatic nozzle is replaced by a manual poly nozzle.

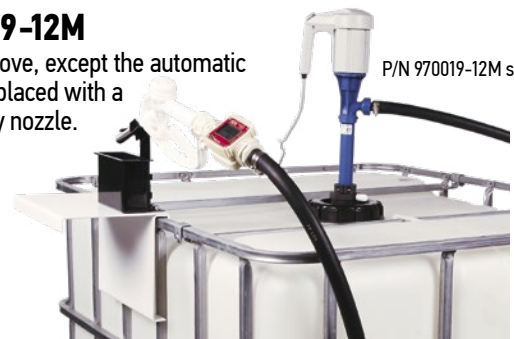
### P/N **970019-12A**

**Economical pump system designed for use with 275 Gal. IBC Tote tanks, system includes:**

- Two Speed, 115 VAC, DEF Pump, 15 GPM w/ filtered air vent and sealed bung adapter
- 3/4" x 12' Discharge Hose
- Electronic Digital Turbine Meter
- Stainless Steel Automatic Discharge Nozzle
- Nozzle Holder, Drip Tray and Mounting Hardware

### P/N **970019-12M**

Same as above, except the automatic nozzle is replaced with a manual poly nozzle.



P/N 970019-12M shown

Note: IBC Tote Tank not included

## DEF HOSE REELS

P/N **43002DEF-25**

Hose reel utilizes stainless steel hub and swivel to ensure DEF compatibility. Includes 3/4" x 25' hose mounted on reel, has 3/4" NPTM poly discharge fitting, **other fittings available.**

P/N **43002DEF-25A**

Same as 43002DEF-25 except has P/N 100378 fitting at end of hose to mate directly to DEF meter P/N 100386

P/N **43002DEF-25B**

Same as 43002DEF-25 except has P/N 100378B fitting at end of hose to mate directly to DEF manual nozzle P/N 100389M (with blue grip)

P/N **43002DEF-25C**

Same as 43002DEF-25 except has P/N 100383 fitting at end of hose to mate directly to stainless steel auto nozzle P/N 100389A

P/N **88402DEF-50**

This compact and sturdy hose reel has double pedestal and double arm support for rigidity and is powder coated for durability. Reel has stainless steel hub and swivel and is supplied with 3/4" x 50' DEF hose, has 3/4" NPTM poly discharge fitting, **other fittings available.**

P/N **88402DEF-50A**

Same as 88402DEF-50 except has P/N 100378 fitting at end of hose to mate directly to DEF meter P/N 100386

P/N **88402DEF-50B**

Same as 88402-50 except has P/N 100378B fitting at end of hose to mate directly with DEF manual nozzle P/N 100389M (with blue grip)

P/N **88402DEF-50C**

Same as 88402DEF-50 except has P/N 100383 fitting at end of hose to fit 100389A stainless steel auto nozzle

## DEF HOSE

An EPDM hose with polyester braid reinforcement. This hose is processed without any zinc during manufacturing and has been peroxide cured for use with DEF.

P/N **81240-10**

3/4" x 10' DEF hose w/ male Poly NPT fittings both ends

P/N **81240-12**

3/4" x 12' DEF hose w/ male Poly NPT fittings both ends

P/N **81240-15**

3/4" x 15' DEF hose w/ male Poly NPT fittings both ends

P/N **81240-20**

3/4" x 20' DEF hose w/ male Poly NPT fittings both ends

P/N **81240-25**

3/4" x 25' DEF hose w/ male Poly NPT fittings both ends

P/N **81240-50**

3/4" x 50' DEF hose w/ male Poly NPT fittings both ends

P/N **81241-10**

1" x 10' DEF Hose w/rigid, male SS NPTM fittings both ends

P/N **81241-20**

1" x 20' DEF Hose w/rigid, male SS NPTM fittings both ends

P/N **81241-25**

1" x 25' DEF Hose w/rigid, male SS NPTM fittings both ends

## SUCTION HOSES WITH DRY-MATE CONNECTION

P/N **81242C-10**

1/2" x 10' DEF Suction Hose with male Dry-Mate x 1/2" NPTM.

P/N **81242C-15**

1/2" x 15' DEF Suction Hose with male Dry-Mate x 1/2" NPTM.

P/N **81242C-20**

1/2" x 20' DEF Suction Hose with male Dry-Mate x 1/2" NPTM.

**NOTE:** Contact Liquidynamics for additional hose lengths and fitting options.

## CONTROL HANDLES AND METERS



P/N **100389A**  
Stainless Steel Automatic Nozzle with 3/4" BSP female inlet threads.

P/N **100389M**  
Manual poly discharge nozzle with 3/4" hose barb and manual trigger lock.



P/N **100389PA**  
Poly automatic shutoff nozzle w/ SS spout has 1" BSPM inlet and supplied with 3/4" hose barb inlet. Provides an economical auto shutoff solution for DEF applications.

These stainless steel meters are weights and measures approved for use with DEF fluid. Meters are supplied standard with an air eliminator, 40 mesh inlet strainer and 5 digit resettable mechanical register (8 digit non-reset totalizer). Inlet/outlet fittings are 1 1/2" NPTF. The meter can also be configured to include a ticket printer as well as pre-set capability.



- P/N **195260A**  
40 GPM SS Meter, 1 1/2" w/ mechanical register
- P/N **195260B**  
40 GPM SS Meter, 1 1/2" w/ mechanical register and printer
- P/N **195261A**  
40 GPM SS Meter, 1 1/2" w/ preset and mechanical register
- P/N **195261B**  
40 GPM SS Meter, 1 1/2" w/ preset, mechanical register and printer

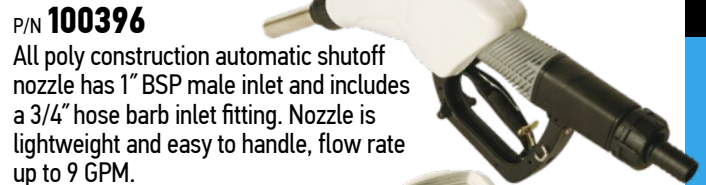
**NOTE:** Contact Liquidynamics for additional meter configurations.

### Gravity Flow Kits for Totes

P/N **950390-12M**  
Gravity flow dispensing kit for use with 275 and 330 gallon IBC totes. Kit has 2" poly NPTF adapter to allow connection to bottom of IBC tote tank, 3/4" x 12' EPDM hose and manual shutoff nozzle.

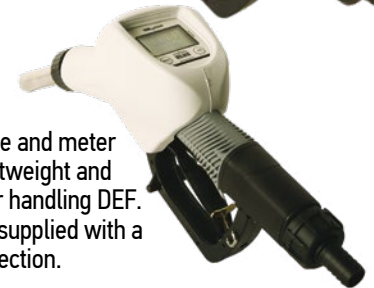
P/N **950390-25M**  
Same as P/N 950390-12M above except it has 3/4" x 25' EPDM hose.

**NOTE:** Use P/N 950391, 950392 or 950392P vent kits to allow filtered air into tote as fluid is being drained.



P/N **100396**  
All poly construction automatic shutoff nozzle has 1" BSP male inlet and includes a 3/4" hose barb inlet fitting. Nozzle is lightweight and easy to handle, flow rate up to 9 GPM.

P/N **100398**  
This ergonomic, all poly construction automatic nozzle and meter combination is compact, lightweight and offers improved reliability for handling DEF. Has 1" male BSP inlet and is supplied with a 3/4" hose barb for easy connection.

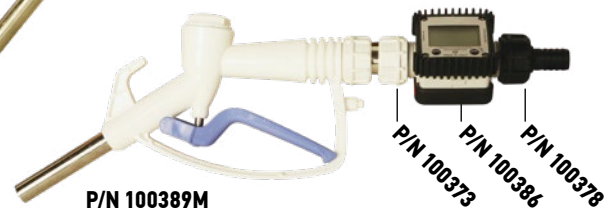


P/N **100386**  
In Line Electronic Digital Turbine Meter, 1" BSP male threads.

P/N **100388**  
DEF turbine pulse meter has a flow range of 1.5 – 26 GPM and working pressure up to 145 PSI. Fittings are 1" male BSPP and two each stainless steel adapters, 1" female BSPP x 1" female NPT are included.



P/N **560038**  
In Line Electronic DEF Turbine Meter, 1" NPT inlet/outlet with flow range of 2 – 35 GPM, +/- 1% accuracy, 50 PSI operating pressure. Uses 2 ea. AA batteries, units of measure can be easily changed from pints to quarts, liters or gallons. Polypropylene construction with an operating temperature of 0° F – 130° F. For use with DEF, Anti-Freeze, De-Icing fluid and Non-Potable water.



## CLOSED VALVES AND COUPLERS

### Closed Drum Valves and Couplers

P/N **195205A**

Closed stainless steel RSV coupler, self venting with 1" BSP thread.



P/N **195205B**

Closed stainless steel RSV series drum valve, 2.5" x 5 buttress thread.



P/N **195205C**

RSV series drum key for installation and removal of P/N 195205B and 195205N drum valves.



P/N **195205D**

Closed stainless steel RSV coupler, self venting with 3/4" hose barb connection used to pump DEF from container.



P/N **195205F**

Stainless steel coupler for filling closed systems using RSV valves. Allows approximately 30 GPM fill rate, coupler is self venting and has 1" NPTM inlet fitting.



P/N **195205E**

Micro Matic RSV dust cover protects RSV valve from dirt and debris when the RSV coupler is disconnected. HDPE construction.



P/N **195206A**

Stainless Steel EPV series coupler, 3/4" hose barb connection.



P/N **195206B**

Plastic EPV series drum valve, 2.5" x 5 buttress thread.



P/N **195206C**

Keyed tool used to install and remove EPV valves, uses standard 1/2" socket driver.



### Non Sealed Drum Valves and Couplers Polypropylene Couplers & HDPE Drum Valves

P/N **195207A**

DrumQuik PRO coupler, 3/4" hose barb discharge.



P/N **195207B**

DrumQuik PRO drum valve, 2" NPS.



P/N **195207C**

DrumQuik PRO drum valve, 2.5" x 5 buttress thread.



P/N **195207D**

Torque tool for installation and removal of "DrumQuik" PRO drum valves, P/N 195207B and 195207C.



P/N **195205N**

Closed, 4 pin poly valve works with stainless RSV or poly RPV couplers



P/N **195205P**

Closed, 4 pin poly coupler works with stainless RSV or poly RPV valves, 3/4" hose barb fitting



P/N **195205Q**

"Closed" 4 pin poly coupler is compatible with stainless steel RSV and poly RPV valves, has 1" NPTM fitting at top of valve.

### Tote Cap

P/N **901081**

6" IBC Tote Cap with two 2" NPS openings



P/N **901081-A**

6" IBC Tote Cap with one 2.5" x 5 buttress opening

P/N **901089**

6" IBC Tote Cap with two standard 2.5" x 5 buttress openings

P/N **560101**

Buttress adapter allows use of NPT threaded pumps to be used on drums with buttress threads, 2" NPT female x 2.5" x 5 buttress male thread.



P/N **560102**

NPT adapter allows use of buttress threaded pumps to be used on drums with 2" NPT threads. 2.5" x 5 female buttress x 2" NPT male.



### Suction tubes for RSV and RPV drum valves

Poly flex suction tube assembly for drums and totes, fits RSV and RPV valves



P/N **195205-32**

For 55 gallon drums

P/N **195205-40**

For 275 gallon totes

P/N **195205-46**

For 330 gallon totes

P/N **195205-59**

59" Tube Length

### Suction tubes for EPV series drum valves

Poly flex suction tube assembly for drums and totes, fits EPV valves



P/N **195206-32**

For 55 gallon drums

P/N **195206-40**

For 275 gallon totes

P/N **195206-46**

For 330 gallon totes

### Suction tubes for DrumQuik® PRO drum valves

HDPE suction tube for drums and totes



P/N **195207-35**

For 55 gallon drums

P/N **195207-39**

For 275 gallon totes

P/N **195207-47**

For 330 gallon totes

## ACCESSORIES FOR DIESEL EXHAUST FLUID (DEF)



P/N **100373**  
Adapts manual and auto poly nozzles to DEF meter, 1" BSPFF x 1" BSPFF

P/N **100374**  
90° Adapter, 1" BSP female x 1" BSP female threads

P/N **100375**  
90° Adapter, 1" BSP female x 3/4" hose barb

P/N **100376**  
Manual nozzle adapter, 1" BSPFF x 1" NPTF.

P/N **100377**  
Couples manual nozzle to adapter, 1" BSPFF x 1" BSPPM.

P/N **100378**  
Meter to supply hose, 1" BSPFF x 3/4" hose barb.

P/N **100379**  
Couples S.S. auto nozzle to meter, 3/4" BSPPM x 1" BSPFF.

P/N **100383**  
Stainless Steel 3/4" BSP x 3/4" Hose Barb swivel used to connect P/N 100389A SS auto nozzle to DEF hose.

P/N **100383-A**  
Swivel adapter w/ 3/4" hose barb to fit poly auto nozzle P/N 100389PA

### IBC TOTE FILTERED VENTS

In order to adequately vent your IBC tote when using bottom draw/flooded suction, you must order separately one of three available vent kits below. These vent kits provide 10 micron air filtration at up to 19.3 CFM (144 GPM):



P/N **950391**  
Filtered vent with 2.5" x 5 buttress fitting



P/N **950392**  
Filtered vent with stainless steel RSV coupler



P/N **950392P**  
Filtered air vent with 4 pin poly RPV coupler

### DRY-MATE FITTINGS

Polypropylene Dry-Mate fittings use cam levers for positive connection and provide an economical way to minimize leaks and eliminate accidental spillage when disconnecting hoses. These fittings provide unrestricted 1 1/2" flow, are light weight and are easy to use, maximum operating pressure is 100 PSI. The Dry-Mate fittings are available in two sizes, part numbers shown below, and are supplied with dust covers and lanyard to protect balls and seals when not in use:

P/N **900580A**  
1 1/2" female Dry-Mate x 1 1/2" NPTF

P/N **900581A**  
1 1/2" male Dry-Mate x 1 1/2" NPTF

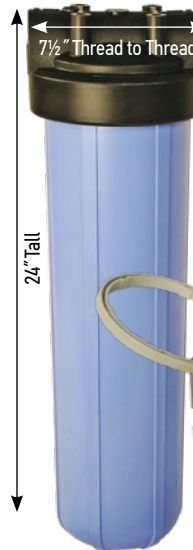
P/N **900580**  
2" female Dry-Mate x 2" NPTF

P/N **900581**  
2" male Dry-Mate x 2" NPTF



P/N **70177-01**  
DEF compatible filter assembly includes filter housing and 1 micron filter element. Large 10" element ensures low pressure drop and large dirt holding capacity. Filter wrench included, 3/4" NPTF ports.

P/N **70176-01**  
Replacement filter element for above filter assembly, 1 micron



P/N **70180-01**  
Polypropylene, high flow capacity DEF filter housing has 1 1/2" NPTF inlet/outlet ports, uses 20" filter cartridge for maximum contaminant holding capacity, filter included. Up to 60 GPM flow rate capacity.

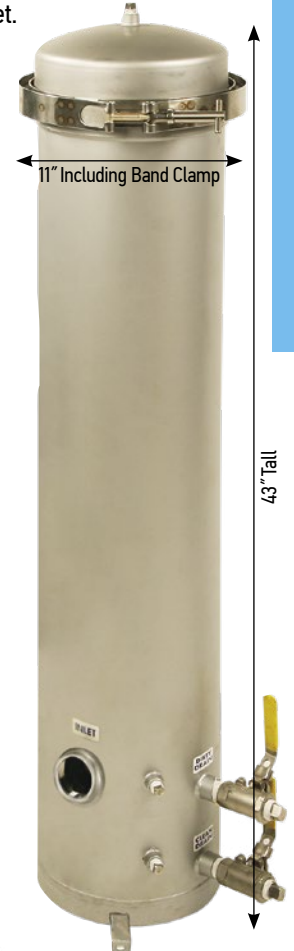
P/N **70179-01**  
Replacement filter element for above filter assembly, 1 micron.

P/N **70182**  
Filter Wrench.

P/N **70183**  
Filter mounting bracket.

P/N **195195**  
High flow stainless steel filter housing is rated to 105 GPM, uses 30" long, 1 micron cartridges (5 ea.) with 2" NPTM inlet/outlet, filter elements not included.

P/N **195194-01**  
Replacement 1 micron filter cartridge for 195195 filter housing, 5 ea. required



P/N **904013**  
Heron Dripestop 940 pipe thread sealant is third party tested and approved, as specified in ISO-22241-2, for use with diesel exhaust fluid (DEF), 8.25 Fl. Oz. (250 ml) tube for use with NPT threads.

P/N **904014**  
Heron Dripestop 940 thread sealant for DEF, 50 ml. tube

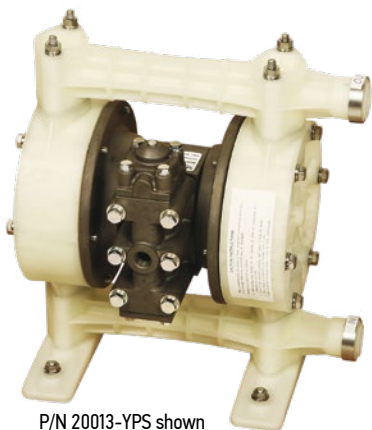


43" Tall

## DEF PUMPS

### P/N 20014-PS

1/2" Double Diaphragm pump has polypropylene construction with Santoprene seals and diaphragm. Pump is rated at up to 15 GPM at 100 PSI. Has 1/4" air connection and 1/2" NPTF inlet and outlet.



P/N 20013-YPS shown

### P/N 20015-YPS

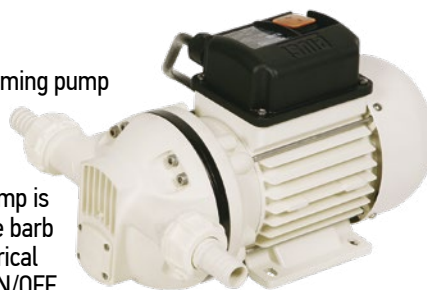
3/4" Double Diaphragm Pump rated up to 30 GPM, has 3/4" NPTF inlet/outlet and 1/4" air inlet.

### P/N 20013-YPS

1" Double Diaphragm Pump rated up to 45 GPM, has 1" NPTF inlet/outlet and 3/8" air inlet.

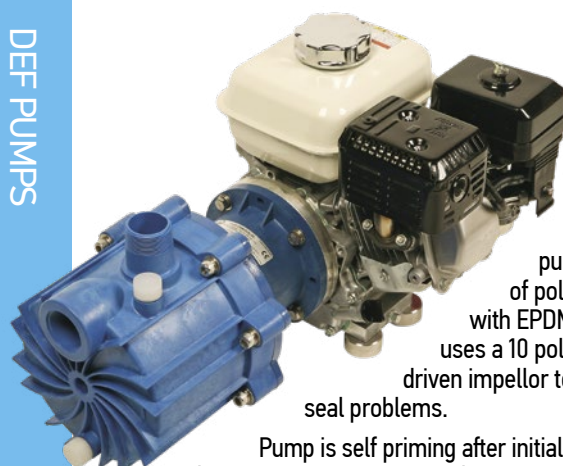
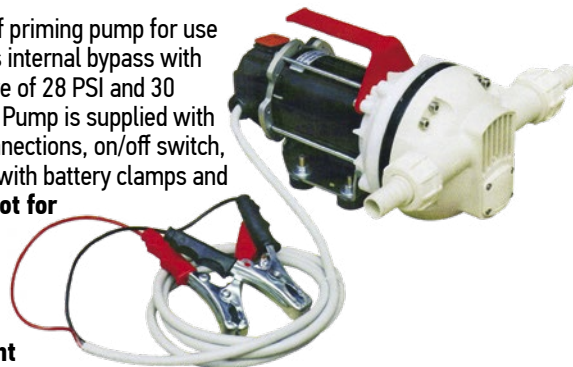
### P/N 33101

115 VAC, 8 GPM self priming pump for use with DEF fluid, has internal bypass with maximum pressure of 22 PSI. Pump is supplied with 3/4" hose barb connections, 6 ft. electrical cable and integrated ON/OFF switch. **Not for continuous duty use, includes automatic 6 minute timeout feature to prevent motor overheating.**



### P/N 33102

12 VDC, 8 GPM self priming pump for use with DEF fluid, has internal bypass with maximum pressure of 28 PSI and 30 minute duty cycle. Pump is supplied with 3/4" hose barb connections, on/off switch, 18 ft. power cable with battery clamps and carrying handle. **Not for continuous duty use, includes automatic 6 minute timeout feature to prevent motor overheating.**



### P/N 195250

Gasoline engine driven pump for bulk transfer of DEF fluid. This pump is constructed of polypropylene with EPDM static seal, uses a 10 pole magnetically driven impellor to eliminate shaft seal problems.

Pump is self priming after initial filling of the pump housing reservoir. It is rated up to 50 GPM with 25' lift capability (water), with maximum discharge pressure of 90 PSI and is driven by a high quality 4 HP Honda engine. 1/2" NPT inlet and outlet.

### P/N 195257



Self Priming centrifugal pump with 1/2" inlet/outlet features stainless steel construction with Viton seals, ideal for use with DEF and other water based fluids such as 50/50 anti-freeze. This pump uses a 1 HP TEFC motor, 115/230 VAC and is rated at 30 GPM with 60' head pressure (26 PSI). 61 lb shipping weight.

## DEF FLUID EXTRACTOR

### P/N 24226

This DEF fluid extractor is used to easily and safely remove DEF fluid from on-board DEF tanks to allow repair or removal of contaminated fluid. The 8 gallon capacity stainless steel tank will allow removal of up to 5 gallons of DEF with one vacuum charge. Simply connect shop air supply at approximately 100 PSI for 45 seconds to charge the tank with a vacuum. The extractor is then completely mobile and can be used without an air connection until the next vacuum charge is required. Two suction probes, 7 and 8 mm dia. x 60" long are supplied as standard equipment. 13" D x 16" W x 32"H, 21.5 lb. empty.



### P/N 195254

Same as 195250 above, except that it is powered by a 2 HP, 115 VAC motor.



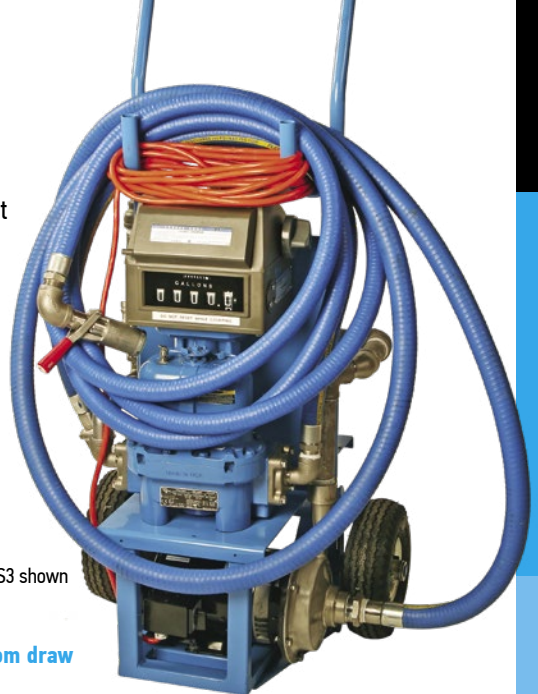
# DEF MINI BULK TRANSFER CARTS

## P/N **33296-S3 (Bottom Draw)**

This is a very capable and compact two wheel DEF mini transfer cart with features that are normally only found in large skid configurations. The cart includes stainless steel plumbing and components in conformance with ISO 22241 specifications and features a 1 micron high capacity poly filter, weights and measures approved meter, with ticket printer, and 30 GPM flow capability.

The cart is configured to allow suction via an included 1½" x 15' suction hose with 2"NPTM fitting that can then easily connect to the bottom of a 275 or 330 gallon IBC tote tank for transfer to 55 gallon drums, bulk tanks or another tote. A Micro Matic fill valve is supplied on the 1" x 20' discharge hose to allow "closed system" transfer of DEF to any mating container such as 55 gallon drums, IBC totes or bulk containers.

The heavy duty two wheel cart with "no flat" tires is nicely balanced and is easily maneuvered.



33296P-S3 shown

## BOTTOM DRAW SELECTION GUIDE

The BD mini transfer cart is intended for use where the primary purpose of the cart will be to draw DEF fluid from the bottom/flooded suction of an IBC tote, typically through a shutoff valve and Cam & Groove adapter, and then transfer to another tank or drum.

**NOTE:** This system is designed to maximize flow rate when used with **Weights and Measures Meters**.

### Example of cart with **Weights and Measures approved meter with bottom draw capability:**

This system is a two wheel DEF Mini Bulk Cart Bottom Draw system (BD) that uses a (P1) 30 GPM non self-priming pump, a 15' suction hose (S15) with a 2" NPTM fitting (BF), Filtered Tank Vent with RSV Coupler (V2), One micron poly filter assembly (F2), a **Weights & Measures approved meter w/o printer** (M2), 20' discharge hose (H20) with RSV fill coupler (FM).

### SYSTEM IDENTIFIER

**BD** DEF Mini Transfer Cart System for bottom draw

### PUMP SELECTION

**P1** 30 GPM Non Self Priming

### SUCTION HOSE SELECTION

- XXX No Suction Hose
- S10 1½" x 10' Suction Hose
- S15 1½" x 15' Suction Hose**
- S20 1½" x 20' Suction Hose

### SUCTION HOSE FITTING SELECTION

- BF 2" NPTM fitting (order Cam Lock or IBC adapter fitting separately)**
- SV Micro Matic RSV Suction/Fill Valve

### TANK VENT

- XX No Vent
- V1 Filtered Vent with 2" Buttress Fitting
- V2 Filtered Vent with RSV Coupler**

### FILTER SELECTION

- XX No Filter
- F1 1 Micron SS Filter Assembly
- F2 1 Micron Poly Filter**

### METER SELECTION

- XX No Meter
- M1 Reference Meter
- M2 Weights and Measures Approved Meter w/o printer**
- M3 Weights and Measures approved Meter w/printer

### DISCHARGE HOSE SELECTION

- XXX No Discharge Hose
- H10 1" x 10' Discharge Hose
- H15 1" x 15' Discharge Hose
- H20 1" x 20' Discharge Hose**
- H25 1" x 25' Discharge Hose

### DISCHARGE HOSE FITTING SELECTION

- XX No Fitting
- FM Micro Matic RSV Fill Coupler**

Example: **BD P1 S15 BF V2 F2 M2 H20 FM**

## DEF HEAVY DUTY 4 WHEEL CART

### P/N **33381DEF**

DEF Heavy Duty 4 Wheel Cart w/4 HP Gas Engine, Resale Meter w/Ticket Printer, One Micron Filter and 1" x 50' Hose Reel. Order suction hose separately from choices shown on page 124. Suction hose sets include Dry-Mates for easy connection to cart on one end of hose and 1½" NPTF on the other end.

### P/N **33383DEF**

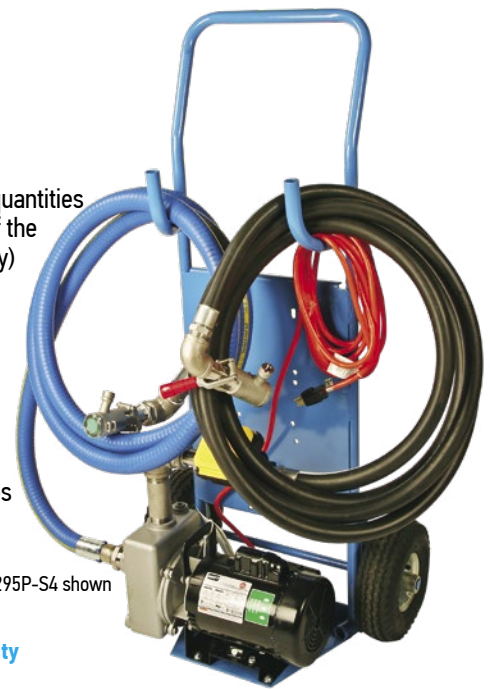
DEF Heavy Duty 4 Wheel Cart w/2 HP 115 VAC Electric Motor, Resale Meter w/Ticket Printer, One Micron Filter and 1" x 50' Hose Reel. Order suction hose separately from choices shown on page 124. Suction hose sets include Dry-Mates for easy connection to cart on one end of hose and 1½" NPTF on the other end.



## DEF MINI BULK TRANSFER CARTS

### P/N 33295P-S4 (Top Draw)

This economical Mini Bulk Transfer Cart is designed for use in transferring intermediate quantities of DEF, such as from one IBC tote tank to another or to fill 55 gallon drums. At the heart of the system is a 115 VAC, 316 stainless steel, 25 GPM, self priming pump (up to 20' lift capability) that allows DEF fluid to be pulled through the Micro Matic RSV valve located at the top of 275 or 330 gallon IBC tote tanks therefore maintaining "closed" system integrity. A 1 1/4" x 15' suction hose with attached RSV fill coupler allows easy connection to a Micro Matic RSV fill valve, while on the discharge side of the pump a 1" x 20' discharge hose with RSV fill coupler allows connection to the receiving tanks' RSV valve. These fill valves include venting capability on both the supply tank as well as the receiving tank thus ensuring efficient transfer of fluid. An included flow meter provides flow rate and total indication for inventory purposes. Meter accuracy is approximately +/- 1% and is powered by AA batteries that are field replaceable.



33295P-S4 shown

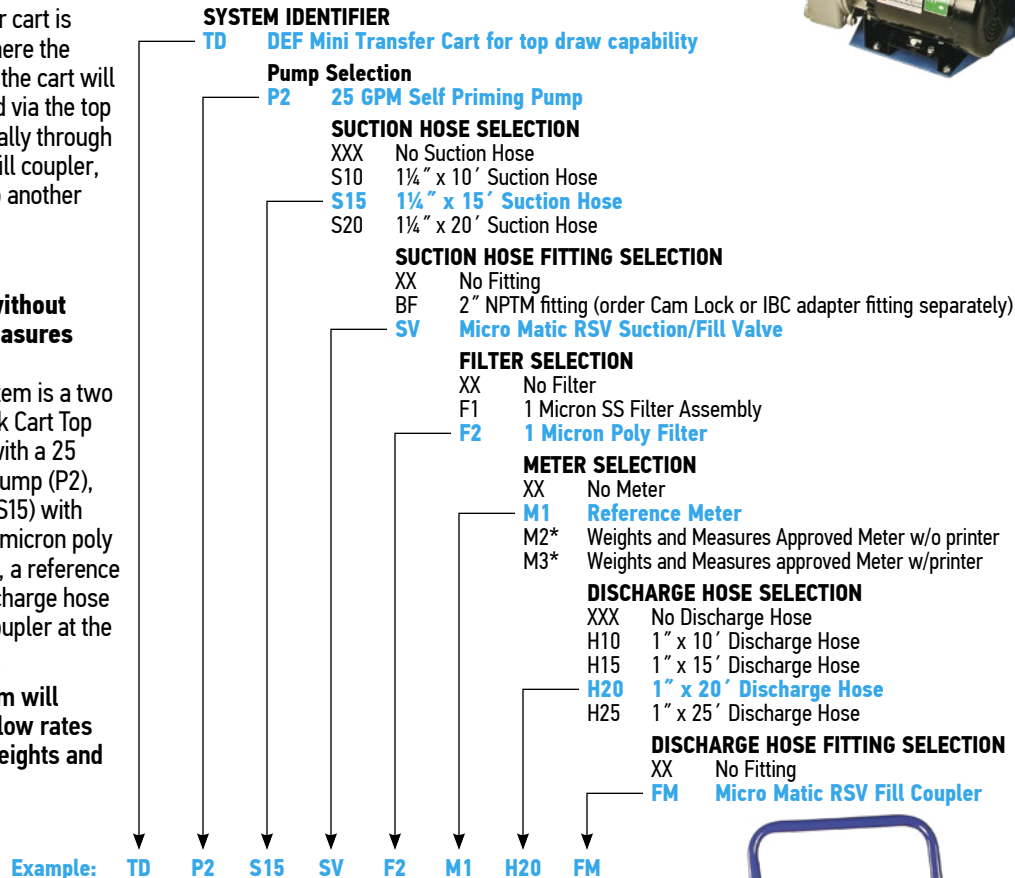
### TOP DRAW SELECTION GUIDE

The TD mini transfer cart is intended for use where the primary purpose of the cart will be to draw DEF fluid via the top of an IBC tote, typically through a Micro Matic RSV fill coupler, and then transfer to another tank or drum.

#### Example of cart without a Weights and Measures approved meter:

In this case the system is a two wheel DEF Mini Bulk Cart Top Draw system (TD) with a 25 GPM self-priming pump (P2), a 15' suction hose (S15) with RSV coupler (SV), 1 micron poly filter assembly (F2), a reference meter (M1), 20' discharge hose (H20) with a RSV coupler at the discharge end (FM).

**\*NOTE:** This system will result in reduced flow rates when used with Weights and Measures Meters.



### 1" DOUBLE DIAPHRAGM MINI BULK DEF TRANSFER CART

#### P/N 33297-S1 (Top Draw)

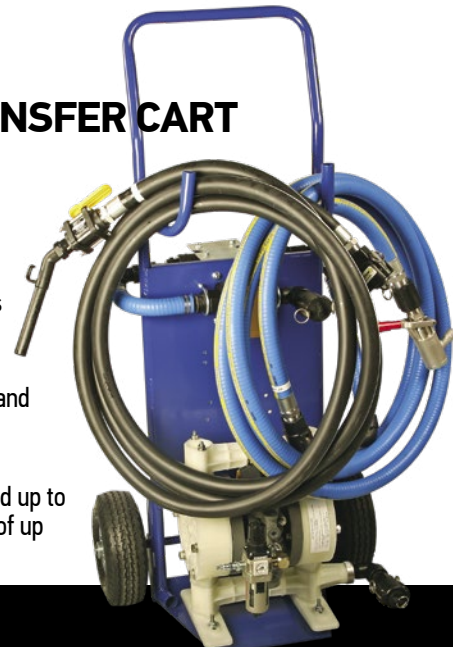
A perfect solution when you need to transfer large amounts of DEF in a short period of time. This two wheel Mini Bulk cart is designed for use in transferring intermediate quantities of DEF, such as from one IBC tote tank to another, to fill 55 gallon drums or to fill larger capacity vehicle DEF tanks such as those found on farm and other off road equipment.

This system includes the following;

- 1" Double Diaphragm Pump
- Electronic Digital Meter (for inventory purposes – not for resale use)
- High Flow Polypropylene 1 Micron Filter
- 1" x 15' Suction hose w/Micro Matic Fill Valve
- 1" x 20' Discharge Hose w/Poly Nozzle

- Cam Lock Fittings to allow quick and easy removal of hoses
- Heavy Duty Two Wheel Cart

The double diaphragm pump is rated up to 45 GPM and requires an air supply of up to 40 cfm.



# DEF BULK TRANSFER SKIDS

DEF Bulk Transfer Skids can be easily configured to meet customer specific requirements. These skids are configured to pump either 40 or 70 GPM via gasoline engine or 115/230 VAC motor driven pumps. Various hose reel configurations are available as well as "for-resale" meters, high flow filters and other accessories to help make the transfer of bulk DEF as easy and efficient as possible.

The selection guide below is a great tool to help you configure your skid to your own specifications.

Liquidynamics offers a unique combination of DEF Bulk Transfer Skids that can be easily customized to fit your specific application via this easy to use Selection Guide.

This guides you through the selection process with the end result being a unique model number detailing your specific system configuration.

The model S1 P2 R10 D4 H2 FH P5 4KXX (shown below) includes a 45 GPM 115/230 VAC motor driven pump, 1½" x 100' AC motor powered hose reel with a 1½" x 15' suction hose, Micro Matic Fill Head w/Cam Lock and Ball Valve on the discharge side, pre-settable meter with air eliminator, counter and printer. The system also includes the four sided guard rail option along with the poly dry break suction valve kit and the 115 VAC, 23 amp generator.

## DEF BULK TRANSFER SKID SELECTION GUIDE

**SYSTEM IDENTIFIER**

- S1 45 GPM DEF Skid
- S2 75 GPM DEF Skid

**PUMP SELECTION**

- P2 115/230 VAC Motor Drive
- P3 Gasoline Engine Drive

**REEL SELECTION**

- R50 1½" x 50' Hose Reel
- R75 1½" x 75' Hose Reel
- R10 1½" x 100' Hose Reel

**HOSE REEL DRIVE**

- D1 Hand Crank
- D2 12 VDC Motor
- D4 115 VAC Motor
- A6 Air Operated Motor

**SUCTION HOSE OPTIONS**

- XX No Suction Hose
- H1 1½" x 10' Suction Hose
- H2 1½" x 15' Suction Hose
- H3 1½" x 20' Suction Hose

**DISCHARGE OPTIONS**

- BV 1½" SS Ball Valve w/Cam Lock Set
- FH Micro Matic Fill Head w/Cam Lock and Ball Valve

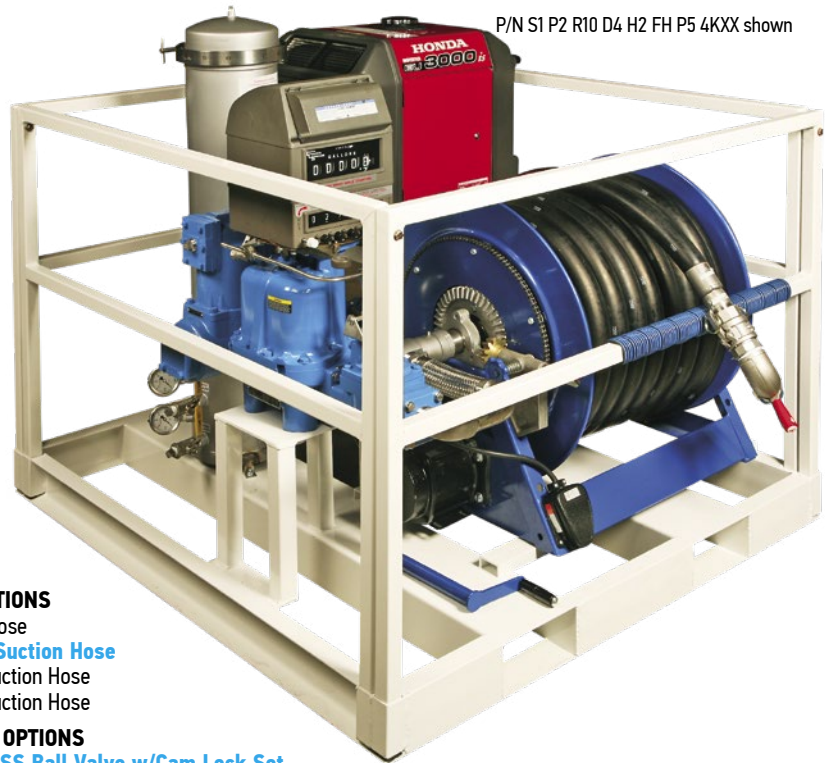
**METER SELECTION**

- XX No Meter
- M3 Meter w/Air Eliminator, Register
- M5 Meter w/Air Eliminator, Register, Printer
- P3 Preset Meter w/Air Eliminator, Register
- P5 Preset Meter w/Air Eliminator, Register, Printer

**ACCESSORIES**

X	X	X	X	No Accessories
4				Four Sided Guard Rail
-	K			115/230 VAC, 23/11 Amp Generator
-	-	A		Air Eliminator Recovery container
-	-	-	T	Hose Storage Tray

**Example Model Number:** S1 P3 R75 D1 H1 BV M3 XXXX



**Example:** Bulk transfer DEF skid system with 45 GPM Gasoline Engine driven pump, 1½" x 75; Hand Crank Hose Reel, 1½" x 10' Suction Hose (includes Dry Mate dry disconnect set at each end of hose), 1½" Stainless Steel Ball Valve shutoff with Cam Lock at discharge hose and weights and measure approved meter with air eliminator and register. No additional accessories are selected in this example.

# NUMERIC INDEX

10002	48	100351-FM	21	100881B-30-06	68	195205-32	126
10002N	48	100351-FMH	21	100895	70	195205-40	126
10005R	50	100351-RM	21	100901	58	195205-46	126
10006C	48	100351-RSA	21	100902	64	195205-59	126
10007	49	10036	122	100903	58	195205A	126
10007-S1	33	100360	25	100904	58, 66	195205B	126
10007-S2	33	100366	25	100905	59, 62	195205C	126
10007-S3	49	100370	25	100904X	66	195205D	121, 126
10007C	33, 49	100371	25	100906A	59	195205E	126
10009	50	100372	25	100906B	59, 62	195205F	126
10009T	50	100373	127	100908A	66	195205N	126
10010	50	100374	127	10113	91	195205P	121, 126
100104	25	100375	127	11148T	83	195206-32	126
10010M	50	100376	127	11174T	83	195206-40	126
10010P	50	100377	127	11195T	83	195206-46	126
10011	91	100378	127	11374	83	195206A	121, 126
100113-FA	26	100379	127	11395	83	195206B	126
100113-FM	26	100380	25	11595	83	195206C	126
100113-FMH	26	100381	25	12001C	85	195207-35	126
100113-HA	26	100382	25	12003C	85	195207-39	126
100113-HM	26	100383	127	12031T	84	195207-47	126
100113-HMH	26	100386	24, 125	12037HV	84	195207A	121, 126
100113-RA	26	100388	125	12037T	84	195207B	126
100113-RM	26	100383-A	127	12058T	84	195207C	126
100113-RMH	26	100389A	125	12059	84	195207D	126
100113T-FMH	26	100389M	125	12063	84	195250	128
100113T-HM	26	100389PA	125	12070C	85	195254	128
100113T-HMH	26	100395	25	12070CS	85	195257	128
100113T-RA	26	100396	125	12070CZ	85	195260A	125
100113T-RM	26	100398	125	12071T	85	195260B	125
100113T-RMH	26	100391F	24	12072C	85	195261A	125
10011BP	91	100391R	24	12072CS	85	195261B	125
10012	50	100395-FA	19	12072CZ	85	20001-S7	11
10012-C	50	100395-FM	19	12073T	85	20001-S8	11
10012-K	50	100395-FMH	19	12085C	85	20001T	6
10013	91	100395-HM	19	12085CZ	85	20001T-S2	6, 8
100132	24	100395-HMH	19	12087	85	20001T-S5-03	104
100138	27	100395-RA	19	12087-20	85	20001T-S5-06	104
10013BP	91	100395-RM	19	12087-24	85	20001T-S5-12	104
10015	49	100395-RMH	19	12087-36	85	20001TSS	10
10016	50	100450	90	12087-40	85	20011-Y	12
100160	27	100451	90	12112T	85	20013-Y	13
100161	27	100452	90	12132T	84	20013-Y2	13
100162	27	100454	90	12136	84	20013-YPS	128
100163	27	100460	90	12138HV	84	20013Y-HP	13
100164	27	10050	91	12138T	84	20014-AN	12
100200	24	100550	69	12160T	84	20014-PN	12
100200-FA	22	100551	69	12161	84	20014-PN-I	12
100200-FM	22	100552	69	12163	84	20014-PS	12, 128
100200-FMH	22	100550-110	69	13027T-S3	86	20015-Y	12
100200-HM	22	100550W	69	13027T-S3F	86	20015-Y2	12
100200-HMH	22	100554L	69	13051T-S1	86	20015-YPS	128
100200-RA	22	100554LT	69	13051T-S4	86	20015-YV	12
100200-RM	22	100555-AS	69	13051T-S4F	86	20015Y-HP	13
100200-RMH	22	100709-XX	59	13051T-S4FH	87	20016-Y	12
100200T-FM	22	100710-XX	59	13051T-S4H	87	20017-Y	13
100200T-FMH	22	100711-XX	59	13062T-S1	86	20018-HP	13
100200T-HM	22	100715G	25, 59	13063T-S1	86	20018-Y	13
100200T-HMH	22	100854C	58, 66	13070-S1	88	20019-HP	13
10031	48, 123	100881-06-20	67	13070-S3	88	20019-Y	13
100328	27	100881-10-10	67	13071T-S1	86	20025-V	12
100329	24	100881-20-20	67	13072T-S1	86	20073-S16	29
10034	122	100881-4.5-24	68	192192	105	20073-S17	29
10035	123	100881B-10-06	68	195195	127	20073-S18	29
100351-FA	21	100881B-20-06	68	195194-01	127	20073-S41	29

# NUMERIC INDEX

20073-S41-V1.....	29	24224R.....	114	33115-S2M.....	121	43002DEF-25.....	124
20073-S42.....	29	24226.....	128	33221.....	16, 17	43002DEF-25A.....	124
20073-S42-V1.....	29	24270R.....	114	33221-S1.....	17	43002DEF-25B.....	124
20073T.....	6	24271R.....	114	33221-S3.....	17	43002DEF-25C.....	124
20073T-S2.....	6	24272R.....	115	33222.....	16, 17	43003.....	77
20094-S31.....	30	24273R.....	115	33223.....	16, 17	43003-25L.....	72
20094-S32.....	30	24300.....	116	33250.....	16, 17	43003-30A.....	77
20094-S9.....	11	24302.....	116	33261.....	100	43003-50A.....	77
20094T.....	6	24303.....	116	33265.....	100	43102.....	75
20094T-S2.....	6	24304.....	116	33265-20SG.....	100	43102-30G.....	75
20094T-S4.....	11	24305.....	116	33265P-20SG.....	100	43102-50G.....	75
20094TSS.....	10	24306.....	116	33267.....	96, 100	43103.....	75
21073-S16.....	29	24307.....	116	33267-20CG.....	96, 100	43103-30G.....	75
21073-S17.....	29	24308.....	116	33267P.....	96	43103-50G.....	75
21073-S18.....	29	24310.....	116	33267P-20CG.....	96	43104.....	75
21073T.....	7	24316.....	116	33271.....	96, 100	43104-25G.....	75
21073T-S2.....	7	24426.....	116	33271P.....	96	43104-30G.....	75
21094-S31.....	30	24427.....	116	33273-1.....	103	46000.....	78
21094-S32.....	30	24428.....	116	33273-2.....	103	46200.....	74, 76
21094-S51.....	63	30200.....	49	33273L-2.....	103	46200-50A.....	76
21094-S9.....	11	30200-C.....	33, 49	33275.....	103	46200-50L.....	74
21094T.....	7	30200-S1.....	33	33275-05.....	103	46200-75A.....	76
21094T-S2.....	7	30200-S10.....	33	33275-11.....	103	46200-75L.....	74
21094T-S4.....	11	30200-S11.....	33	33276.....	102	46201.....	76
21100-S7.....	11	30200-S2.....	33	33276-P.....	102	46201-50G.....	76
21100-S8.....	11	30200-S3.....	49	33276L-P.....	102	46201-75G.....	76
21100T.....	7	30200-S6.....	33	33277.....	101	46202-50G.....	76
21100T-S2.....	7, 8	30200-S7.....	33	33277-P.....	101	46202-75G.....	76
21100T-S7-03.....	104	30200-S8.....	33	33278.....	101	46500.....	74, 78
21100T-S7-06.....	104	30200-S9.....	33	33280.....	96, 100	46501-50L.....	74
21100T-S7-12.....	104	3027T-S1.....	86	33280P.....	96	46502-40L.....	74
21200.....	7	32071.....	6	33286.....	97, 100	46504-25D.....	78
21200-S1.....	7, 9	32071-S1.....	6	33287.....	97, 100	46504-50D.....	78
21300.....	7	32091.....	6	33295P-S4.....	130	46505-25D.....	78
21300-S1.....	7, 9	32091-S1.....	6, 8	33296-S3.....	129	46505-40D.....	78
21400.....	7	32091-S5-03.....	104	33297-S1.....	130	50002.....	107
21400-S2.....	7, 9	32091-S5-06.....	104	33351.....	103	50003.....	107
21500.....	7	32091-S5-12.....	104	33351-03.....	103	50004.....	107
21500-S2.....	7, 9	32091-S7.....	11	33351-05.....	103	500100.....	92
22157.....	53	32091SS.....	10	33351-10.....	103	500101.....	92
22157-V2.....	53	32093-S21.....	38	33351-10W.....	103	500102.....	92
22158.....	53	32093-S22.....	38	33351-20.....	103	500103.....	93
22159.....	53	32093-S23.....	38	33352.....	103	500100F.....	92
22242.....	11	32095.....	6	33352-03.....	103	500101F.....	92
22243.....	11	32095-S1.....	6	33352-05.....	103	500103F.....	93
23102G.....	28	32095SS.....	10	33352-10.....	103	500119.....	93
23102G-1M.....	28	32097-S1.....	10	33352-10W.....	103	500128.....	92
23102G-2M.....	28	32099-S1.....	10	33352-20.....	103	500129.....	92
23102G-3M.....	28	32099-S2.....	10	33380-V1.....	97, 100	500128F.....	92
23104.....	10	32099-S6.....	10	33380P.....	97	500129F.....	92
23105G.....	28	32104-01.....	99	33381DEF.....	129	500141F.....	93
23106.....	10	32104-02.....	99	33383DEF.....	129	500141R.....	93
2400-14.....	56	32104A.....	99	33384P.....	100, 102	500177.....	93
24127R.....	34	32104B.....	99	33391-01.....	63	50109.....	107
24127RM.....	34	32105.....	99	40060.....	53	50163.....	107
24128R.....	34	32107-FM.....	27	42015.....	81	50182.....	107
24128RM.....	34	32107-RM.....	27	42070.....	111	51003C.....	36
24130R.....	35	32108.....	99	42071.....	111	51004C.....	36
24130RM.....	35	32110F.....	27	42073.....	113	51004D.....	36
24134R-04.....	35	32110R.....	27	42073-01.....	113	51009C.....	36
24135R.....	35	33101.....	128	42073-02.....	113	51009C-S1.....	30
24135RM.....	35	33102.....	128	43002.....	72, 77	51009C-S15A.....	119
24176.....	109	33115-S1A.....	121	43002-30A.....	77	51009C-S15M.....	119
24177.....	109	33115-S1M.....	121	43002-50A.....	77	51009C-S16.....	33, 113
24177A.....	109	33115-S2A.....	121	43002-50A2.....	77	51009C-S17.....	33, 113

# NUMERIC INDEX

51009C-S18AP	119	540300	55	71246-03	102, 106	900223	52
51009C-S18M	119	540301	55	71246-05	102, 106	900226	51
51009C-S2	30	540302	55	71246-10	102, 106	900227	51
51009C-S4A	123	540303	55	71246-10W	102, 106	900228	51
51009C-S4M	123	560000	49	71246-20	102, 106	900229	51
51009C-S9A	119	560003	49	71250-03	104, 107	900230	51
51009C-S9M	119	560006	48	71250-06	104, 107	900231	52
530019	25	560006J	48	71250-12	104, 107	900232	52, 55
530020	25	560008	48	71250-25	104, 107	900234	51
530021	25	560008A-12A	120	71460-4	101	900235	116
530100	18	560008A-12M	120	71460-6	101	900236	42
530101	18	560008A-S1A	120	71460-8	101	900230A	51
530102	18	560008A-SIM	120	72102	105	900234W	51
530107	18	560008A-S2A	120	72103	105	900245	27
530109	18	560008A-S2M	120	810200	51	900246	27
530107-BA	18	560008V	48, 123	810201	51	900247	27
530107-HM	18	560008V-12M	123	810202	51	900253	27
530107-RH	18	560008V-3AP-275	122	810233	51	900256	54
530109-BA	18	560008V-S1A	122	810240	56	900257	54
530109-HM	18	560008V-SIM	122	810241	56	900262	52
530109-RH	18	560008V-S2A	122	810244	56	900265	52
530113	18	560008V-S2M	122	810253	56	900266	27
530116	23	560008V-S3A-330	122	810254	56	900268	27
530124-FA	23	560008V-S3AP-55	122	810261	56	900266-BSP	27
530124-FM	23	560008V-S3M-275	122	810270	56	900268-BSP	27
530124-FMH	23	560008V-S3M-330	122	810271	56	900270	27
530124-HM	23	560008V-S3M-55	122	810272	56	900270-BSP	27
530124-HMH	23	560019	48	81200-01A	27	900279-B-10	98
530124-RA	23	560038	125	81230A	27	900279-B-15	98
530124-RM	23	560086	17	81231A	27	900279-B-20	98
530124-RMH	23	560087	15, 17	81240-xx	124	900283	54
530125S-FA	20	560088	15, 17	81242-xx	124	900284	52
530125S-FM	20	560089	15, 17	81281-10A	98	900285	52
530125S-FMH	20	560101	48, 126	81281-15A	98	900286	52
530125S-HM	20	560102	48, 126	81281-20A	98	900287	52
530125S-HMH	20	560203	29	81291-10A	98	900288	52
530125S-RA	20	70003	106	81291-15A	98	900289-S	42
530125S-RM	20	70004	106	81291-20A	98	900290	53, 111
530125S-RMH	20	70019	106	81300-xx	80	900291	53, 111
540025	53	70062	106	81301-xx	80	900292	53, 111
540035	53	70063	106	81315-xx	80	900293	53, 111
540036	53	70170	122	81316-xx	80	900294	53, 111
540037	53	70176-01	127	81317-xx	80	900295	53, 111
540038	53	70177-01	127	81318-xx	80	900297	27
540039	53	70179-01	127	82400-xx	80	900299	52
540043	53	70180-01	127	82410-xx	80	900313	52, 55
540044	53	70182	127	82450-xx	80	900314	52, 55
540045	53	70183	127	82460-xx	80	900323	52
540046	53	710100	105	88400	78	900324	52
540081-A	67	710101	105	88402	73, 78	900327	52
540081-B	67	710102	105	88402-40D	78	900328	52
540081-C	67	710103	105	88402-50D	78	900325-100	53
540100C	55	710108	105	88402DEF-50	124	900342	52
540100C-A	55	710131	105	88402DEF-50A	124	900348	42
540103C	55	710132	105	88402DEF-50B	124	900349	42
540104C	55	710133	105	88402DEF-50C	124	900352	42
540104C-A	55	710134	105	88403	73, 77	900351-16	53
540111C	55	71140A	107	88403-50A	77	900360	52
540112C	55	71144	107	88403-75A	77	900361	52
540112C-A	55	71146A	107	88405	73, 78	900365	52
540115C	55	71146B	107	88405-30D	78	900366	52
540117C	55	71150-03	104	88405-40D	78	900367	52
540119C	55	71150-06	104	88503-100L	74	900371	52
540120C	55	71150-12	104	900199	116	900372	51
540121C	55	71150-25	104	900210	116	900375	52

# NUMERIC INDEX

900376	52	901063	47	950071-05	37	MA-10M	50
900377	52	901064	47	950071-16	37	MA-10P	50
900382	52	901060V	47	950071-30	37	MA-11	91
900383	52	901061V	47	950071-55	37	MA-11BP	91
900384	52	901068-UL	47	950084	98	MA-12	50
900385	52	901069-P330	54	950085	98	MA-12-C	50
900386	52	901071	42	950091	81	MA-12-K	50
900387	52	901071-330	42	950092	111	MA-13	91
900388	52	901076-12	112	950095	111	MA-13BP	91
900389	52	901076-CH	47, 112	950100	110	MA-16	50
900390	52	901081	126	950101	110	MA-2	48
900392	52	901089	126	950102	110	MA-20	48
900393	52	901081-A	126	950103	110	MA-20V	48, 123
900394	52	901946	54	950113	28	MA-2N	48
900396	52	901948	54	950372	62	MA-3	48
900397	52	904001	54	950373-21	62	MA-31	48, 123
900398	52	904002	54	950373-6	62	MA-3J	48
900399	52	904003	54	950373-BOT	62	MA-40	48
900401	52	904005	50	950391	127	MA-5R	50
900402	52	904013	127	950392	127	MA-6	48
900404	52	904014	127	950390-12M	125	MA-7	49
900405	52	907061	67	950390-25M	125	MA-70	49
900406	52	907062	67	950392P	127	MA-9	50
900417	52	907078-16	59	950416	68	MA-9T	50
900424-01	105	907078-33	59	950417	68	RTT-1110	44
900470	98	907078-65	59	950421-A	70	RTT-1210	44
900471	98	950002	53	950421-B	70	RTT-1310	44
900472	98	950003	14	950421-C	70	RTT-1410	44
900473	98	950004	111	970012-06A	120	RTT-1510	44
900474	98	950006	36	970012-06M	120	RTT-2000	45
900475	98	950007	36	970014-AC	119	RTT-2100	45
900476	98	950008	36	970014-DC	119	RTT-2200	45
900477	98	950009	37	970019-12A	123	RTT-2500	45
900478	98	950010	56	970019-12M	123	RTT-3000	45
900479	98	950012	36	970020-12A	118	RTT-3100	45
900480	98	950019	53	970020-12M	118	RTT-3200	45
900480-CAP	98	950020	53	970023-165	38	RTT-4000	45
900510	52	950026	42	970023-225	38, 112	RTT-4001	45
900570	105	950022-16	14	970023-280	38	RTT-4002	45
900580	99, 127	950022-275	14	970027-02A	118	RTT-4003	45
900581	99, 127	950022-330	14	970027-06A	118	RTT-4004	45
900580A	99, 127	950022-55	14	981001P	50	RTT-4009	45
900581A	99, 127	950026A	42	981001R	50	RTT-4031	45
900787	52	950027-275	14, 112	BM03	18	RTT-4033	45
901002	37	950027-330	14	BM08	18	RTT-4036	45
901005	37	950027-55	14, 112	BM15	18	RTT-4040	45
901006	37	950041	81	BM19	18	RTT-4092	45
901019A-XX	8	950042	81	BM19-BA	18	RTT-4093	45
901019A-XXA	8	950043	81	BM19-HM	18	RTT-4094	45
901020A-XX	8	950047	53	BM19-RH	18	RTT-6220	44
901020A-XXA	8	950049	14	BM20	18	RTT-6280	44
901021A-XX	8	950051	14	BM20-BA	18	RTT-6320	44
901021A-XXA	8	950057	16	BM20-HM	18	RTT-6330	44
901036	52	950060	37	BM20-RH	18	RTT-6333	44
901051	54	950066	37	BM20G	18	RTT-6880	44
901053	54	950068	37	BP-11	91	S46103-40	116
901054	54	950063P-40	9	BP100	20	S46103-41	116
901055	54	950063P-46	9	DON-P560693	106	S46103-42	116
901056	54	950063P-52	9	DON-P564967	106	S46103-64	116
901057	54	950064P-40	9	FR112	49	S46103-65	116
901058	54	950064P-46	9	FR152	49	S46103-66	116
901058-38	54	950064P-52	9	K500	21	S46103-67	116
901060	47	950065-52	9	LB300	23	S46103-68	116
901061	47	950065P-40	9	LD250	22	S46103-69	116
901062	47	950065P-46	9	MA-10	50	VN200	26

## GENERAL REFERENCE DATA

The general reference information provided on the following pages will familiarize you with the different viscosities of oil that are commonly handled in our industry. The "ISO Viscosity Grade Number Table" provides a list of common ISO grades and the viscosity ranges within each ISO grade.

The second chart is intended to give you an idea of some common fluid and material viscosities that will allow you to relate everyday materials to motor oils.

Generally, viscosity is a measure of a fluid's resistance to flow and can be measured in various different units such as centipoise (cPs), which is a measure of dynamic or absolute viscosity and kinematic viscosity which is measured in units of centistoke (cSt).

Kinematic viscosity is the ratio of absolute or dynamic viscosity to density and can be obtained by dividing the absolute viscosity of a fluid (cPs) by its density. An easy rule of thumb for typical oils, use a density of 0.90, therefore as an example if an ISO 100 oil (30 wt. engine oil) has an absolute viscosity of 267 cPs at 70° F, it would have a kinematic viscosity of 296.6 cSt.

Another common unit of measure for viscosity is Saybolt universal seconds (SUS or SSU), it is a measure of kinematic viscosity, it's the time that a volume of 60 cm<sup>3</sup> of oil takes to flow through a calibrated tube at a controlled temperature.

### ISO Viscosity Grade Number Table:

Viscosity range expressed in centistokes (cSt) at 40°C

ISO #	Mid-Point	Minimum	Maximum
2	2.2	1.98	2.42
3	3.2	2.88	3.52
5	4.6	4.14	5.06
7	6.8	6.12	7.48
10	10	9	11
15	15	13.5	16.5
22	22	19.8	24.2
32	32	28.8	35.2
46	46	41.4	50.6
68	68	61.2	74.8
100	100	90	110
150	150	135	165
220	220	198	242
320	320	288	352
460	460	414	506
680	680	612	748
1000	1000	900	1100
1500	1500	1350	1650

### Approximate Viscosities of Common Materials

(At Room Temperature-70°F) \*

Material	Viscosity in Centipoise
Water	1 cps
Milk	3 cps
SAE 10 Motor Oil	85-140 cps
SAE 20 Motor Oil	140-420 cps
SAE 30 Motor Oil	420-650 cps
SAE 40 Motor Oil	650-900 cps
Castrol Oil	1,000 cps
Karo Syrup	5,000 cps
Honey	10,000 cps
Chocolate	25,000 cps
Ketchup	50,000 cps
Mustard	70,000 cps
Sour Cream	100,000 cps
Peanut Butter	250,000 cps



# GENERAL REFERENCE DATA

## Viscosity Conversion Chart

Centipoise (CPS) or Millipascal (MPas)	Centistokes (cSt)	Saybolt Universal (SSU)	Centipoise (CPS) or Millipascal (MPas)	Centistokes (cSt)	Saybolt Universal (SSU)
0.9	1	31	1080	1200	5620
1.8	2	34	1170	1300	6100
3.6	4	38	1260	1400	6480
6.3	7	47	1350	1500	7000
9	10	60	1440	1600	7500
13.5	15	80	1530	1700	8000
18	20	100	1620	1800	8500
22.5	25	130	1710	1900	9000
27	30	160	1800	2000	9400
36	40	210	1890	2100	9850
45	50	260	1980	2200	10300
54	60	320	2070	2300	10750
63	70	370	2160	2400	11200
72	80	430	2250	2500	11600
81	90	480	2700	3000	14500
90	100	530	3150	3500	16500
108	120	580	3600	4000	18500
126	140	690	4050	4500	21000
144	160	790	4500	5000	23500
162	180	900	4950	5500	26000
180	200	1000	5400	6000	28000
198	220	1100	5850	6500	30000
216	240	1200	6300	7000	32500
234	260	1280	6750	7500	35000
252	280	1380	7200	8000	37500
270	300	1475	7650	8500	39500
288	320	1530	8100	9000	41080
306	340	1630	8550	9500	43000
324	360	1730	13500	15000	69400
342	380	1850	18000	20000	92500
360	400	1950	27000	30000	138500
378	420	2050	36000	40000	185000
396	440	2160	45000	50000	231000
414	460	2270	54000	60000	277500
432	480	2380	63000	70000	323500
450	500	2480	72000	80000	370000
495	550	2660	81000	90000	415500
540	600	2900	90000	100000	462000
630	700	3380	112500	125000	578000
720	800	3880	135000	150000	694000
810	900	4300	157500	175000	810000
900	1000	4600	180000	200000	925000
990	1100	5200			

# GENERAL REFERENCE DATA

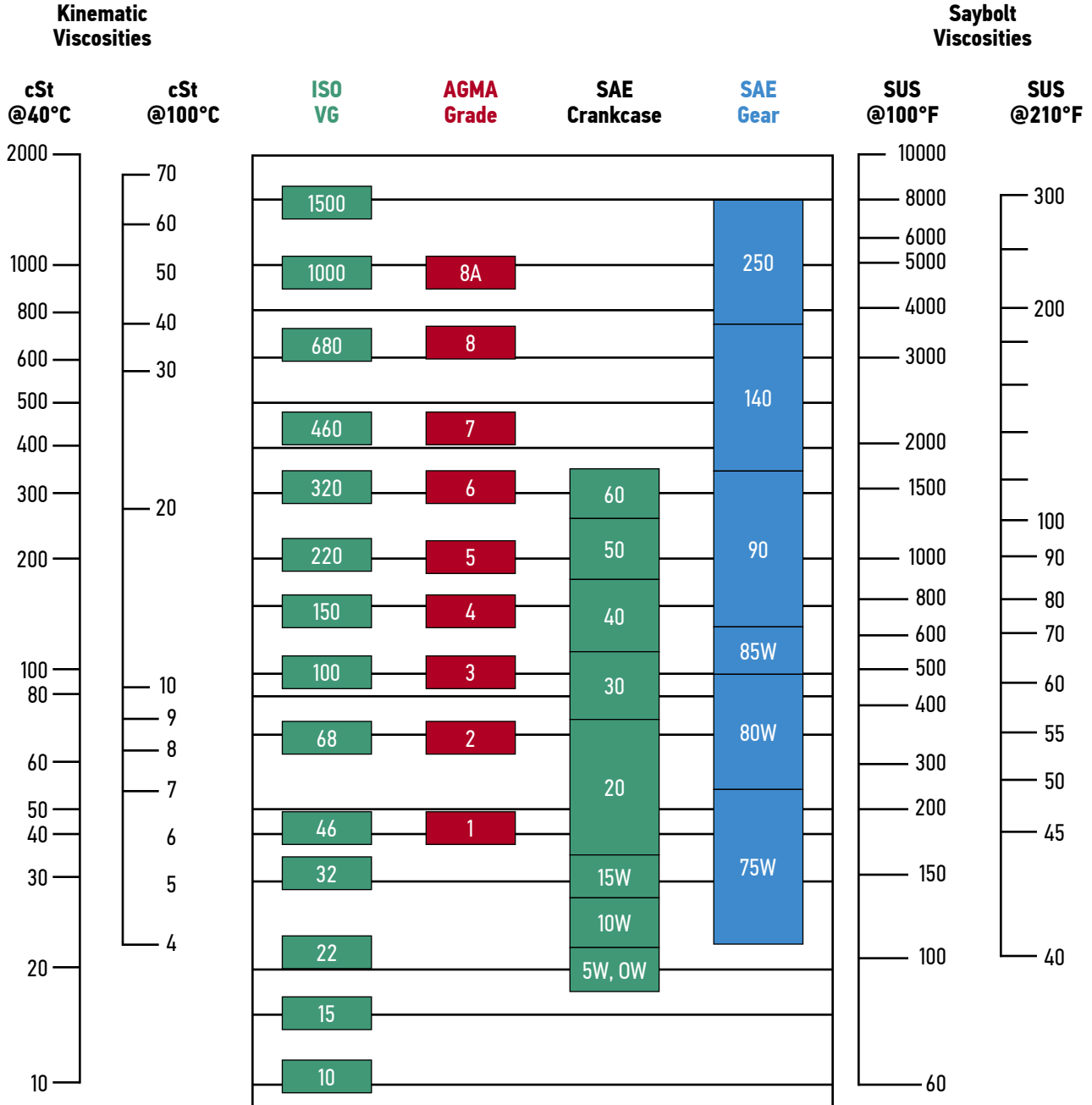
## Viscosity Comparison Table

Due to the fact that there are number of differing Viscosity measuring standards it is sometimes confusing to determine what is the viscosity of fluid in a viscosity system of interest if the viscosity is quoted in units used in another viscosity system.

The chart below gives approximate equivalence of values for a typical conventional fluids.

REFERENCE

GENERAL REFERENCE DATA



# GENERAL REFERENCE DATA

TUBING SIZE	WALL	O.D.	I.D.	AREA	WORKING PRESSURE	WEIGHT PER FT.	GALLONS PER FT.	TUBING SUPPORT
<b>LOW PRESSURE STEEL TUBING</b>								
5/8"	0.035	0.625	0.555	0.242	2500	0.221	0.0126	8 ft. O.C.
3/4"	0.035	0.750	0.680	0.363	2100	0.267	0.0188	8 ft. O.C.
1"	0.049	1.000	0.902	0.639	2200	0.498	0.0332	8 ft. O.C.
Tubing conforming to SAE J525 and J536 specifications								
<b>HIGH PRESSURE STEEL TUBING</b>								
5/8"	0.083	0.625	0.459	0.166	8100	0.480	0.0086	8 ft. O.C.
3/4"	0.095	0.750	0.560	0.246	7700	0.665	0.0128	8 ft. O.C.
1"	0.120	1.000	0.760	0.454	7250	1.130	0.0236	8 ft. O.C.
Tubing conforming to SAE J525 and J536 specifications								
<b>LOW PRESSURE SCHEDULE 40 STEEL PIPE</b>								
1/2"	0.109	0.840	0.620	0.304	640	0.850	0.00158	
3/4"	0.113	1.050	0.824	0.533	560	1.130	0.0277	8 ft. O.C.
1"	0.133	1.315	1.049	0.864	490	1.678	0.0449	8 ft. O.C.
1 1/4"	0.140	1.660	1.380	1.496	440	2.272	0.0777	8 ft. O.C.
1 1/2"	0.145	1.900	1.610	2.036	420	2.717	0.1058	
<b>LOW PRESSURE TYPE 'L' COPPER TUBING</b>								
1/2"	0.040	0.625			613	0.285		
3/4"	0.045	0.875	0.660	0.342	495	0.455		8 ft. O.C.
1"	0.050	1.125	0.900	0.636	420	0.655		8 ft. O.C.
1 1/4"	0.055		1.140	1.020	373	0.884		8 ft. O.C.
1 1/2"	0.060	1.625	1.380	1.495	347	1.140		
<b>LOW PRESSURE TYPE 'M' COPPER TUBING</b>								
1/2"	0.028							
3/4"	0.032	0.875	0.686	0.369	346	0.328		8 ft. O.C.
1"	0.035	1.125	0.930	0.679	286	0.465		8 ft. O.C.
1 1/4"	0.042	1.375	1.166	1.067	287	0.682		8 ft. O.C.
1 1/2"	0.049	1.625	1.527	1.831	282	0.940		

The following viscosity information is provided as a general guide to help you determine which pump would be most suitable for your application. It is also helpful in determining consequences of changes in temperature and how it will affect system performance. Please contact Liquidynamics if you need help in choosing equipment for your specific application and environment.

Technical information provided in the plumbing chart is a composite of generally available industry information and is meant to be used as a guide only. For specific information pertaining to your installation please contact your plumbing supplier.

TEMPERATURE		100 F	90 F	80 F	70 F	60 F	50 F	40 F	30 F	20 F	10 F	0 F
Fluid	ISO No.	38 C	32 C	27 C	21 C	15 C	10 C	4 C	-1 C	-7 C	-12 C	-18 C
A.T.F		35	44	56	72	95	127	176	250	366	544	872
5w-20		46	59	76	101	136	188	268	394	598	944	1557
10 w	32	37	49	64	87	122	176	263	407	659	1120	2012
5w-30		61	78	101	134	182	252	359	528	801	1262	2070
Hydraulic	46	46	61	82	114	163	241	370	592	995	1763	3319
10w-30		70	91	121	165	230	331	491	755	1205	2010	3517
20w	68	68	92	127	181	266	405	640	1059	1843	3392	6651
30w	100	100	135	187	267	392	596	940	1547	2670	4854	9364
10w-40		97	126	168	228	317	454	669	1017	1605	2635	4523
15w-40		123	164	223	311	445	656	998	1575	2585	4437	7999
40w	150	128	178	253	370	562	887	1457	2510	4555	8765	18015
20w-50		164	222	308	440	645	976	1530	2494	4243	7575	14266
80w-90		143	198	282	412	622	975	1591	2717	4880	9275	18770
50w	220	226	321	470	709	1110	1807	3074	5491	10358	20769	44595
80w-140		263	359	502	720	1062	1615	2542	4152	7068	12596	23621
90w gear	320	331	479	713	1099	1757	2926	5099	9346	18121	37417	82894
140w gear	460	479	702	1060	1658	2693	4557	8077	15065	29745	62574	141305
#2 grease					60,000							
Peanut Butter					250,000							

Numbers shown are absolute viscosity in centipoise (In this case; centipoise = centistokes x 0.9)

Grease is a thixotropic fluid: a fluid whose viscosity decreases as shear rate or agitation increases