

# Pattison

Expect the Best!



**admin@liquidsystems.net**  
**www.liquidsystems.net**  
**1-866-509-0715**

**EST. 1979**



# Meet the Pattison Team



Rick Pattison  
President / Owner



Tim Pattison  
Vice President



Michele Ruecker  
Finance Controller



Kim Lingelbach  
Admin Manager/  
Internal Sales



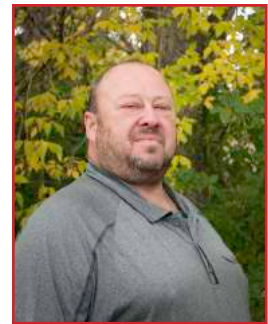
Doug Steel  
Production Manager  
Powder Coat Manager



Ron Hughes  
Sales Manager



Cody Meroniuk  
Southern Territory  
Manager



Brad Hodel  
Parts Manager

**PATTISON SWAG-** Ask us about our Pattison Gear!





# Celebrating Over 40 Years In Business

**PATTISON LIQUID SYSTEMS INC.** - is a leading manufacturer of liquid fertilizer application and handling equipment for the last 42 years, located in Lemberg, Saskatchewan. Originally founded as Pattison Bros. Agro Ltd. in 1979, Rick Pattison along with his brother Larry retailed all forms of fertilizer (with liquid being the majority), crop inputs, crop production and provided custom application from their retail outlets in Lemberg and Wadena, and partnered with Bell Agro Ltd. in Indian Head and Edenwold. The retail locations were sold in 1998. Rick continued to dedicated his focus on continuing innovation and manufacturing the highest quality liquid fertilizer application and handling equipment as Pattison Brothers had done since the beginning.

Pattison Liquid Systems continues to be a family owned and run Saskatchewan success story as Rick, Michele and their son Tim lead the company into the future.

Today, Pattison's is not only an OEM manufacturer of agriculture equipment and application technology, but also offers a large, well stocked parts business serving Canada and growers, retailers, and equipment dealers. For applying, mixing, storing, metering, or transporting liquid products. Pattison's is second to none with products from suppliers like Banjo, Raven, Hypro, John Blue, TeeJet, Flowserve, Sotera and Wilger.

Over the years trends have changed in the methods of fertilizer application and the equipment required. The staff and owners of Pattison Liquid Systems Inc. understand the demands of today's agricultural landscape and are focused on building the highest quality, most accurate product while standing behind those products with a knowledgeable team boasting close to 200 years of combined experience.

With their dedication to continue providing leading edge equipment for producers, Pattison's partnered with DOT Technologies to manufacture implements for the autonomous robot in 2018. The agreement was signed in March of 2018 and by June of 2018 the first Connect S120 Sprayer was showcased at Farm Progress Show. The Prototype Sprayer was utilized across Saskatchewan for testing and even in Arizona with over 20,000 acres covered. They sprayer development continues with partners and is even showcased by Olds College in Alberta for their on-farm research.

The Connect S120 sprayer features 120-foot aluminum booms, 1,600 USG stainless steel product tank, recirculating stainless steel wet booms, Raven XRT boom height controller, Raven Hawkeye 2 with individual nozzle control and turn compensation.

After designing and building a world class autonomous sprayer Pattison's continued to develop autonomous implements. By July of 2018 they also featured a 40-foot coulter bar suited for injecting liquid fertilizer into the soil at the farm show Ag In Motion at Saskatoon.

With the success of using the Connect S120 Sprayer on their family farm Pattison's recognized an opportunity to manufacture a pull-type version of their Connect Sprayer. The Sniper is a leading pull-type applicator that rivals any version in the market. The Sniper is available with in three configurations, with WeedIt Quadro for spot spraying (the only pull-type OEM offering see and spray technology from factory). Raven Hawkeye 2 with individual nozzle control, turn compensation and variable rate capabilities. Or lastly, with 11 section boom valves specifically designed to meet the needs of consumers who want to top dress liquid fertilizer.

As we develop equipment to fit the needs of the Canadian agriculture market there are still two application methods that are presently quite popular, the first being direct seeding with liquids, where all of your nutrient requirements are placed at the time of seeding and the second being dribble banding, where nutrients are top dressed to meet the needs of economic and environmental factors.

There are many reasons for the current demand of liquid fertilizers. Here are a few of the most popular reasons more and more farmers are switching to liquid.

- **Placement** - The ability to precisely place the nutrients in close proximity to the seed without risking seedling damage.
- **Efficiency** - By connecting a liquid wagon to an air seeder the grower is able to in many cases, double the number of acres/fill of seed.
- **Cost** - It is very simple and low cost to convert ones existing equipment to a direct seeding system.
- **Agronomics** - The composition of liquid nitrogen (28-0-0) being UAN or urea ammonium nitrate, allows for a some what timed release of nitrogen throughout the growing year.
- **Flexibility** - The ability to dribble band liquids in a post emergent application.
- **Simplicity and Safety!**

Pattison Liquid Systems Inc. presently manufacture a full line of equipment for the application and handling of liquid fertilizer. If you are considering making a change to your seeding tool or seeding system, be sure to give Pattison Liquid Systems Inc. a call to discuss using liquid fertilizer as your source of plant nutrition. Make the switch, you won't be sorry!

Celebrating Over 40 Years in Business

## PATTISON LIQUID SYSTEMS CUSTOM MANUFACTURING

As Pattison Liquid Systems continues to grow over the years our services that we offer to customers has grown as well.

We offer manufacturing services to local business as well as large OEM manufactures. With an in-house engineering team we have the capacity to design, build and powder coat your ideas.

Starting in the beginning of 2022 Pattison's will also offer custom powder coating services to customers as well. The new powder booth and batch oven are commercial grade with dimensions of 8' W x 30' L accomodating room for large pieces.





# Statement of Policy

## PRICES

All quotations are made for immediate acceptance unless otherwise stated. Prices are subject to change without notice. Please phone toll free to verify pricing. F.O.B. our warehouse. All taxes extra where applicable.

## PAYMENT

Invoice payable at the time of purchase, we accept VISA, MC, CHEQUE or CASH with invoice balances less than \$5000.00. Invoice balance of over \$5,000.00 only payable by cheque. Authorized credit accounts are due and payable within 30 days of the invoice. Finance charges will apply to accounts over 30 days.

## CREDIT LIMIT (DEALERS ONLY)

Only approved credit holders (dealers only) will be permitted credit privileges. C.O.D. or net 30 days is subject to prior credit approval. Interest will be charged on unpaid balances over 30 days. Dealers who wish to establish a credit account with Pattison Liquid Systems, please call the toll free number to request a credit application.

## DAMAGE/SHORTAGE CLAIMS

All Pattison merchandise is carefully packed and inspected prior to shipping. Check all merchandise immediately upon receipt. Goods that are damaged or lost in transit are not the responsibility of Pattison Liquid Systems. If damage should occur during shipping, the customer should immediately file a claim, with the carrier and also notify Pattison Liquid Systems. Please note all damages and shortages on freight bill before signing.

## SHIPMENTS

Ground transportation and postal services will be prepaid and invoiced to the customer. Customers wishing to use Purolator will need to provide their own account number.

## SPECIAL ORDERS

On special order items that we do not normally stock, we cannot accept returns or cancellations. A deposit of 15% of the total order is required prior to a special order being placed.

## PRODUCT RETURNS

Merchandise returns will only be accepted within 30 days of purchase. Special order items cannot be returned. Returns must have prior approval and have received a Return Merchandise Authorization number. All merchandise must be returned prepaid in original packaging with a copy of the invoice. In store credit only for the value of merchandise returned. Restocking charge may apply.

## WARRANTY

Warranties as expressed by individual manufacturers will be honored. Please contact Pattison Liquid Systems to obtain a RMA number prior to the return of a warranty item. Warranty items will not be accepted without prior RMA authorization, item will be returned. We will comply with all instructions given by the manufacturer in each given instance. All freight charges incurred on warrantable items are the customers responsibility. Please return warrantable/defective items to Pattison within 30 days or the warranty will be void.



# Important Facts About the Use of Liquid Fertilizer

## Liquid Nitrogen for Phased Crop Feeding

Urea ammonium nitrate (UAN) 28-0-0 is composed of three forms of nitrogen which deliver phased-release crop feeding: 25% nitrate nitrogen for the growing crop's immediate uptake in cold spring soils; 25% ammonium nitrogen and 50% urea for longer lasting use. Each imperial gallon of 28-0-0 contains 3.58 lbs. of nitrogen. UAN is a non-pressure solution with a pH of 7. It is safe, convenient and easy to handle.

## Nitrogen Increases Yield and Improves Quality

Nitrogen is an essential part of protein from which all cells are made. It is also an important component of chlorophyll, which enables plants to effectively utilize the sun's energy for growth. Large amounts of nitrogen are taken up by the wheat plants in the early stages of growth. Some of this may be held for later use. Nitrogen is required throughout all of the growth period. An inadequate supply of nitrogen can result in stunted growth, increased damage from root disease and reduced yield. An inadequate supply of N will also have an adverse effect on wheat protein content. At low levels, the available N will be utilized for vegetative growth at the expense of protein content. Protein content levels less than 13.2% in Hard Red Spring wheat are an indication of inadequate N. The answer to maximizing yields and protein content might be found in the proper timing of N application. The addition of N over and above the recommended levels at the start of the growing season may simply lead to over-growth and lodging. An additional application of N later in the season can have a significant effect on wheat protein content.

## Flexibility of Application

The flexibility and adaptability of UAN solution provides you with a wide range of options available in timing and placement of your crop's nitrogen requirement. Accuracy of application, including consistent rate, precise placement and evenness of application, work together to enhance efficient nutrient utilization by your crops. UAN solution blends readily with liquid 10-34-0, 15-0-0-20, as well as liquid micronutrients to form homogeneous blends of quality crop nutrient. Combining crop production operations like "one-pass" seeding and fertilizing reduces cost, saves moisture and conserves soil. Liquid 28-0-0 adapts well to one pass seed and fertilizer systems, provided that a separation between the seed and fertilizer is maintained. Liquid fertilizer travels through tubing that is separate from the seed. You therefore have the flexibility to separate the fertilizer and the seed as they enter the soil. The degree of soil separation is largely dependent upon the kind of soil opener being used on the seeder. With low soil disturbance applicators like the spoke injection, coulter banding and surface banding, you can correct nitrogen deficiency even after the crop has emerged.

## Give Your Crop the Start it Deserves

Phosphorus (P) is involved in almost every process within plants, due to its essential role in energy storage and transfer. P also is an important structural component of a wide variety of biochemicals in plants. An adequate supply of P early in the life of a plant is important in the development of its reproductive parts. Large quantities of P are found in seed and fruit and is considered essential for seed formation. A good supply of P is associated with increased root growth. When ammonium phosphate compounds are applied in a band, plant roots proliferate extensively in the area of treated soil. The greatly increased root proliferation should encourage extensive exploitation of the treated soil areas for nutrients and moisture. Several other effects on plant growth are attributed to P fertilization. P is associated with early maturity of crops. An adequate supply of P is associated with greater straw strength in cereals. The quality of certain fruit, forage, vegetable and grain crops is improved and disease resistance increased when these crops have satisfactory P nutrition. P is mobile in plants and when a deficiency occurs, it is translocated from older tissues to the active growing points. Because of the marked effect of P efficiency on retarding overall growth, the striking foliar symptoms that are evident with N or K deficiency are seldom observed.

## Crops Need Higher Amounts of P During Early Growth Period

Research indicates that P deficiency at early growth stages can cause non-recoverable loss in yield. Spring wheat accumulates about 20 to 40 percent of shoot P (P in the above ground portion of the plant) during the first month after emergence. Almost all of the remaining accumulation occurs during the next month (D.J.Tomasiewicz 1997, unpublished).

## APP is 100% Water Soluble

Ammonium Polyphosphate (APP) 10-34-0 is a liquid containing 10% N and 34% P<sub>2</sub>O<sub>5</sub> with about 70 and 30% of the P present as polyphosphate and orthophosphate respectively. Unlike granular dry phosphate, APP is 100% water soluble. APP has the ability to sequester micronutrients, making them more available for plant uptake.

## Achieve Homogeneous Blends with APP

APP blends easily with UAN (28-0-0) and ATS (12-0-0-26 and 15-0-0-29) to form homogenous phosphate blends of solution fertilizer. The fluid characteristics of solution fertilizer can provide producers with opportunities for both improved operational efficiency and more effective crop nutrient utilization. ATP (10-34-0) and other solution fertilizers have the flexibility farmers need to tailor an efficient nutrient program to fit producer's farming practices. APP may be applied by itself or in a blend.

## Agronomic Considerations

Fertilizer placed with or near the seed provides greater use efficiency than broadcast or remote banding; particularly for a pop-up effect with non-mobile phosphate or potassium. A band containing a homogeneous blend of all nutrients (even acknowledging that nitrogen and sulphur are mobile) creates a localized environment around the band that improves the fertilizer use efficiency of all applied nutrients, particularly in high pH soils containing lime.

## Sulphur - The Key to Crop Yield and Quality

Sulphur is a major constituent of plant protein and is essential for producing high yielding, high quality crops. Without sulphur, crops will not make efficient use of other nutrients and will not reach their full yield or quality potential. Sulphate sulphur (S<sub>04</sub>) is the form of sulphur most available to plants. It is soluble in water and follows the movement of soil moisture. Requirements differ depending on the crop and the severity of the deficiency. Canola is particularly sensitive to sulphur deficiencies and responds well to ATS applications with better seed set and high oil production. In forage crops like alfalfa, ATS can produce a dramatic increase in vegetative growth as well as protein content. In most soils, sulphur reserves exist primarily in organic matter and are released with nitrogen when decomposition occurs. The ratio of nitrogen to sulphur in soil organic matter is generally about 7:1. The symptoms of sulphur deficiency are often confused with the similar symptoms of nitrogen deficiency. In less severe cases of sulphur deficiency, visual symptoms may not show up, but crop yields and quality will be affected.

Sulphur deficiency occurs most often in grey wooded soils that are sandy and low in organic matter. However, deficiencies are not exclusive to these soil types. Many black soils that are low in organic matter can also be deficient in sulphur. Soil testing will indicate sulphur fertilizer requirements. For a clearer picture of a crop's sulphur status, an early season tissue test can be used. Research shows that for optimum performance and efficiency, plants should contain 1 part sulphur for every 12-15 parts nitrogen.

## Liquid Sulphur for Continuous Crop Feeding

Sulphur solution 15-0-0-20 (ammonium thiosulphate - ATS) is an excellent source of sulphur for plants. When applied to the soil, ATS forms colloidal S and ammonium sulphate. The sulphate (S<sub>04</sub>) portion is immediately available to the crop. The colloidal S will be oxidized by soil micro-organisms to S<sub>04</sub>, thus extending the availability of S to the crop.

Applied as a band, ATS can reduce the pH of the fertilizer band in calcareous soils and enhance the availability of other nutrients such as phosphorous, iron and manganese.

ATS is a clear, non-pressurized solution that is safe, easy to work with and blends readily with other solution and suspension fertilizer materials to form homogeneous blends of quality crop nutrients.

## Balanced Fertility Is Important

Research has shown that nitrogen applied alone on sulphur deficient soils may actually decrease yields, it is therefore important that sulphur fertilizer is kept in balance with nitrogen fertilizer application rates to maintain a desirable N:S ratio in the soil. For most soils a blend containing an N:S ratio of 8:1 to 6:1 will be sufficient.





## Letter from the past

Box 336, Lemberg, Saskatchewan, Canada, SOA 2B0

Phone: 306-335-2265



April 4, 1989

Pat Beaujot  
Simplot Canada  
Box 940  
Brandon, Manitoba  
R7A-6N1

Dear Pat

It sure doesn't seem like that many years ago, that we were considering a new fertilizer application technique called BANDING! At the time, we probably received our fair share of criticism, however, looking back it appears our judgement was sound.

Not only was our judgement sound, but the BANDING concept has proven to be the preferred fertilizer application technique in the Prairie provinces, over the past decade.

Once again we are going through another period of change. This change is in the shift from the conventional seeding methods to that of pneumatic seeding, the air seeder. As these airseeders are being perfected, and they are, more and more farmers are seeing the advantages to this method of seed placement. The leaders in this industry, namely Flexicoil and Bourgalt are having problems meeting their production requirements, due to the high demand.

The coming of the Airseeder age is not all bad, if you are a farmer wishing to use this seeding method, an Airseeder salesman or a DRY FERTILIZER salesman. Airseeders and DRY FERTILIZER application seem to have a lot in common.

As all of us in the LIQUID FERTILIZER world watch this shift, we have two options we can take.



Box 336, Lemberg, Saskatchewan, Canada, SOA 2B0

Phone: 306-335-2265



We can, all buy airseeders and apply DRY FERTILIZER, or  
We can once again try to change the so called conventional  
methods.

My suggestion is we combine a great fertilizer application  
method with a great seed placement method and do two jobs  
in one. You and I both know there is several benefits to  
placing LIQUID FERTILIZER in a BAND with the seed and even  
more benefits to placing the fertilizer in a band with Paired  
Row seed placement. The unfortunate part is that you know  
and I know, but not enough Airseeder users know.

With this in mind , I would like to suggest that SIMPLOT  
allocate both time and funds in 1989 to increase the available  
information on this concept.


I have a few ideas on how we could start the process and  
would like to sit down with you and the other marketing  
people to bounce a few of these ideas around.

We could also use this time to give you an update on the  
SPOKED WHEEL and some of our plans for the summer of 1989.

As we had discussed on Monday, I will be in Brandon by 11:00  
A.M. on Friday April 7. I will call ahead to confirm the  
time is all right.

See you Friday!

Regards



Rick Pattison

rp/rp

# Table of Contents

<b>LIQUID KITS</b>	
EVEN FLO SK - SERIES DISTRIBUTION KIT	2
EVEN FLO SP (STARTER PHOS) - DISTRIBUTION KIT	3
VR SERIES DISTRIBUTION KIT	8
PATTISON AUTO RATE/ SECTIONAL CONTROL	10
<b>FIELD EQUIPMENT</b>	
FERTILIZER WAGONS	16-21
TANKER TRANSPORTS	22
CONNECT PULL-TYPE SPRAYERS	23
LIQUID FERTILIZER CART ACCESSORIES	24
<b>HOSE</b>	
WATER HOSE	28
FERTILIZER SUCTION HOSE	29
HOSE CLAMPS	30
<b>STORAGE TANKS</b>	
LIQUISTOR STAINLESS STEEL STORAGE TANKS	32
LIQUID TATTLE- TANK MONITORING	33
PATTISON FERTANK	33
REPLACEMENT TANK PARTS	34
<b>PUMPS</b>	
ON FARM BLEND STATION	35
GAS PUMPS	36-37
PUMP ONLY ASSEMBLIES	38
BANJO PUMP REPLACEMENT PARTS	39
HYPRO PUMP REPLACEMENT PARTS	40
GROUND DRIVEN PUMPS	43-59
HYDRAULIC PUMPS	60-65
ELECTRIC PUMPS	66-67
ELECTRIC CHEMICAL TRANSFER PUMPS	68-69
FLOWSERVE DEF TRANSFER PUMPS	70
AIR PISTON PUMP	71
PEDESTAL PUMPS	72-74
<b>SOIL SAMPLING EQUIPMENT</b>	76-77
<b>FLOW METERS</b>	78-80
<b>INDUCTOR SYSTEMS</b>	
PATTISON INDUCTOR METERING SYSTEM	81
PATTISON INDUCTOR FLEX	82
PATTISON DRY INDUCTOR	83
INDUCTOR TANKS, SAND POINTS AND TOTE GAGUES	84
<b>SPRAY TIPS</b>	
TEEJET & WILGER NOZZLE BODIES AND BOOM ENDS	86
TEEJET STREAMJET FERTILIZER VARIABLE RATE TIPS	87
TEEJET SJ3 STREAMJET FERTILIZER TIPS	90
QUICK TEEJET CAPS	92
WILGER COMBO-JET TIPS	94-98
TEEJET SPRAY TIPS	99
<b>BANJO FITTINGS</b>	102-132
<b>STAINLESS STEEL FITTINGS</b>	133





## Featured Product!

The new Inductor series by Pattison Liquid Systems is designed with flexibility in mind. The Inductor FLEX system is offered in three configurations: the Main Tank Assembly, a Tote Meter Option, and a 3 inch Pump Option. To pre-order your Inductor Flex for the upcoming season contact your territory representative for more information.



### Main Tank Assembly Includes:

- 60-gallon cone bottom tank
- A stainless-steel jug knife installed with a jug rinse
- An anti-vortex plug to ensure air is not introduced into the chemical line
- 3" inductor plumbing capable of inducing 200 liters per minute. The fastest on the market!
- The inductor plumbing can be mounted on any side of the tank or moved onto the sprayer deck for easy access
- Fresh water valving for tank sanitation or mixing dry powders



### Tote Meter Option Includes:

- Two 2" valves and one 1" valve to connect to totes
- One Mcnaught MX Positive Displacement flow meter
- Remote meter display kit available
- Fresh water valving to clean chemical lines between products
- The tote option can be mounted on the side of the tank or mounted directly to the sprayer deck



### Pump Option Includes:

- 13 hp electric start Hypro pump with flow rates of 440 gallons per minute
- 3" plumbing
- The pump option can also be mounted on any face of the main tank assembly to suit your needs
- Upgradeable to a 13HP Honda Pump
- Optional remote start kit available

# Fertilizer Distribution Systems

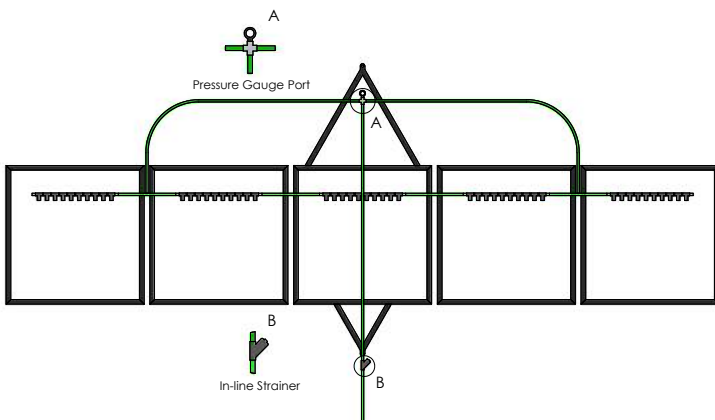


## EVEN FLO SK - SERIES DISTRIBUTION KIT

A Liquid Fertilizer Distribution Kit designed to deliver a precise placement of liquid fertilizer at various row spacings and application rates.

### Standard Features:

- The Even Flo SK Series distribution kit operates by metering each outlet individually with a colour-coded orifice (see application chart in resource section), which can be changed easily.
  - Even Flow SK Series Kits are a pressurized system. This allows for frame mounting of the manifolds, eliminating problems encountered with high stands on multiple folding implements. The frame mount gives safe and convenient access to the manifolds for changing orifices while standing on the ground.
  - The closed pressurized system is a drip free system, helping to keep your equipment like new.
  - Each outlet has a diaphragm check valve, which prevents drainage of hoses when stopped or while turning corners with the pump disengaged. Each outlet has a diaphragm check valve, which prevents drainage.
- **NOTE:** It requires approx. 10-12 psi to open the diaphragms, so we suggest you not operate the system less than 20 psi or all the outlets may not open causing uneven distribution! In line check valves are not required with the SK series distribution kit, as diaphragm check valves on the nozzle bodies are already ensuring that the lines will not drain when not in use.
  - The 1/4" I.D. flexible nylon braided hose makes for neat, easy and long lasting installation.
  - A large filter near the distributor and slotted strainers attached to each orifice makes it easy to keep the product clean, which will help prevent plugged orifices. NOTE: the orifices have a small diameter opening so it is important to keep all the filters clean! CLEAN FILTERS DAILY!
  - It is very important that the SK-Series System not to be operated with missing or mismatched orifices. A quick way to check for plugged or missing orifices, is to drive over a bare piece of ground with the implement out of the ground and the fertilizer pump engaged, stop and check the ground for missing rows or also rows that are heavier applied than the rest, which can be caused by a missing or plugged orifice.



### To Order:

To place a Distribution Kit order please contact our office or your Territory Manager.

\*Install time is estimated 15 minutes per opener

\*Replacement Distribution Kit parts are listed on page 6



# Fertilizer Distribution Systems



## EVEN FLO SP (STARTER PHOS) - DISTRIBUTION KIT

A Liquid Fertilizer Distribution Kit designed for the precise placement of liquid starter phosphate during seeding.

### Standard Features:

- The SP-Series operates by metering each outlet individually with a colour-coded orifice, which can be easily changed. This SP series is supplied with one set of orifices. Nozzle bodies are fitted with 1/4" barbed nozzle caps, fitting the 1/4" I.D. clear braided hose.
- Being a pressurized system it allows for frame mounting of the manifolds, eliminating problems encountered with high stands on multiple folding implements. The frame mount gives safe and convenient access to the manifolds for changing orifices while standing on the ground.
- The closed pressurized system is a drip free system, helping to keep your equipment like new with the pump disengaged.
- Each outlet has a diaphragm check valve, which prevents drainage of hoses when stopped or while turning



corners with the pump disengaged. NOTE: It requires approx. 10-12 psi to open the diaphragms, so we suggest you not operate the system less than 15 psi or all the outlets may not open causing uneven distribution!

- The 1/4" I.D. flexible tubing makes for a neat, easy and long lasting installation. Tubing accommodates most seed openers which have the capability for seed row placement of liquid fertilizer.
- A large filter near the distributor and slotted strainers attached to each orifice makes it easy to keep the product clean, which will help prevent plugged orifices. NOTE: the orifices have a small diameter opening so it is important to keep all the filters clean! CLEAN FILTERS DAILY!
- It is very important that the SK-Series System not to be operated with missing or mismatched orifices. A quick way to check for plugged or missing orifices, is to drive over a bare piece of ground with the implement out of the ground and the fertilizer pump engaged, stop and check the ground for missing rows or also rows that are heavier applied than the rest, which can be caused by a missing or lost orifice!

### To Order:

To place a Distribution Kit order please contact our office or your Territory Manager.

# Fertilizer Distribution Systems

## EVEN-FLO SK SERIES COLOURED ORIFICE CHARTS- US GALLONS / ACRE AT 5 MPH

ROW SPACING		6"	7"	8"	9"	10"	12"	14"	20"	24"	30"	
ORIFICE	PSI											
BLACK	15	5.2	4.5	3.9	3.4	3.1	2.6	2.2	1.6	1.3	1.0	
	20	5.9	5.1	4.4	3.9	3.5	2.9	2.5	1.9	1.5	1.2	
	25	6.7	5.8	5.0	4.4	4.0	3.4	2.9	2.1	1.7	1.3	
	30	7.3	6.3	5.5	4.8	4.4	3.7	3.2	2.2	1.8	1.5	
	40	8.3	7.2	6.2	5.5	5.0	4.1	3.6	2.5	2.1	1.7	
50	9.5	8.2	7.1	6.3	5.7	4.7	4.1	3.0	2.4	1.9		
PINK	15	7.3	6.3	5.5	4.8	4.4	3.7	3.2	2.2	1.8	1.5	
	20	7.9	6.9	5.9	5.2	4.8	4.0	3.4	2.4	2.0	1.6	
	25	8.9	7.7	6.7	5.9	5.3	4.4	3.8	2.7	2.2	1.8	
	30	9.7	8.4	7.3	6.4	5.8	4.9	4.2	2.9	2.4	1.9	
	40	11.3	9.8	8.5	7.4	6.8	5.6	4.9	3.4	2.8	2.3	
50	12.6	10.9	9.5	8.3	7.6	6.3	5.5	3.8	3.2	2.5		
ORANGE	15	11.2	9.7	8.4	7.4	6.7	5.6	4.8	3.3	2.8	2.2	
	20	11.8	10.2	8.8	7.8	7.1	5.9	5.1	3.5	2.9	2.4	
	25	13.4	11.6	10.1	8.9	8.1	6.7	5.8	4.0	3.4	2.7	
	30	15.1	13.1	11.3	10.0	9.1	7.6	6.5	4.5	3.8	3.0	
	40	16.8	14.5	12.6	11.1	10.1	8.4	7.3	5.0	4.2	3.4	
50	18.5	16.0	13.9	12.2	11.1	9.2	8.0	5.5	4.6	3.7		
GREEN	15	17.9	15.5	13.4	11.8	10.7	8.9	7.7	5.4	4.5	3.6	
	20	18.5	16.0	13.9	12.2	11.1	9.2	8.0	5.5	4.6	3.7	
	25	20.3	17.6	15.2	13.4	12.2	10.1	8.8	6.1	5.1	4.1	
	30	22.0	19.0	16.5	14.5	13.2	11.0	9.5	6.6	5.5	4.4	
	40	25.3	21.9	19.0	16.7	15.2	12.7	11.0	7.6	6.3	5.1	
50	28.7	24.8	21.5	18.9	17.2	14.3	12.4	8.6	7.2	5.7		
YELLOW	15	22.9	19.8	17.2	15.1	13.8	11.5	9.9	6.9	5.7	4.6	
	20	23.6	20.5	17.7	15.6	14.2	11.8	10.2	7.1	5.9	4.7	
	25	27.0	23.4	20.3	17.8	16.2	13.5	11.7	8.1	6.8	5.4	
	30	28.7	24.8	21.5	18.9	17.2	14.3	12.4	8.6	7.2	5.7	
	40	33.7	29.2	25.3	22.3	20.2	16.9	14.6	10.1	8.4	6.7	
50	37.1	32.1	27.8	24.5	22.2	18.5	16.1	11.1	9.3	7.4		
PURPLE	15	29.6	25.7	22.2	19.6	17.8	14.8	12.8	8.9	7.4	5.9	
	20	30.4	26.3	22.8	20.0	18.2	15.2	13.1	9.1	7.6	6.1	
	25	33.7	29.2	25.3	22.3	20.2	16.9	14.6	10.1	8.4	6.7	
	30	37.1	32.1	27.8	24.5	22.2	18.5	16.1	11.1	9.3	7.4	
	40	42.1	36.5	31.6	27.8	25.3	21.1	18.2	12.6	10.5	8.4	
50	47.2	40.8	35.4	31.1	28.3	23.6	20.4	14.1	11.8	9.4		
Teal	15											
	20											
	25											
	30											
	40											
50												
WHITE	15	34.7	30.0	26.0	22.9	20.8	17.3	15.0	10.4	8.7	6.9	
	20	35.4	30.7	26.6	23.4	21.2	17.7	15.3	10.6	8.9	7.1	
	25	40.4	35.0	30.3	26.7	24.3	20.2	17.5	12.1	10.1	8.1	
	30	43.8	37.9	32.9	28.9	26.3	21.9	19.0	13.1	11.0	8.8	
	40	50.5	43.8	37.9	33.3	30.3	25.3	21.9	15.2	12.6	10.1	
50	57.4	49.7	43.0	37.9	34.4	28.7	24.8	17.2	14.3	11.5		
BLUE	15	46.6	40.3	34.9	30.7	27.9	23.3	20.2	14.0	11.6	9.3	
	20	47.2	40.8	35.4	31.1	28.3	23.6	20.4	14.1	11.8	9.4	
	25	53.9	46.7	40.4	35.6	32.3	26.9	23.3	16.2	13.5	10.8	
	30	59.0	51.1	44.3	39.0	35.4	29.5	25.6	17.7	14.8	11.8	
	40	67.4	58.4	50.6	44.5	40.5	33.7	29.2	20.2	16.9	13.5	
50	75.8	65.7	56.9	50.1	45.5	37.9	32.8	22.8	19.0	15.2		
RED	15	58.3	50.5	43.7	38.5	35.0	29.2	25.3	17.5	14.6	11.7	
	20	59.0	51.1	44.3	39.0	35.4	29.5	25.6	17.7	14.8	11.8	
	25	67.4	58.4	50.6	44.5	40.5	33.7	29.2	20.2	16.9	13.5	
	30	72.5	62.8	54.4	47.8	43.5	36.2	31.4	21.7	18.1	14.5	
	40	84.2	73.0	63.2	55.6	50.5	42.1	36.5	25.3	21.1	16.8	
50	94.4	81.8	70.8	62.3	56.7	47.2	40.9	28.3	23.6	18.9		
BROWN	15	70.1	60.7	52.6	46.3	42.0	35.0	30.3	21.0	17.5	14.0	
	20	70.8	61.3	53.1	46.7	42.5	35.4	30.7	21.2	17.7	14.2	
	25	79.2	68.6	59.4	52.3	47.5	39.6	34.3	23.8	19.8	15.8	
	30	87.6	75.9	65.7	57.8	52.6	43.8	37.9	26.3	21.9	17.5	
	40	101.2	87.6	75.9	66.8	60.7	50.6	43.8	30.3	25.3	20.2	
50	112.9	97.8	84.7	74.5	67.8	56.5	48.9	33.9	28.2	22.6		
GREY	15	95.4	82.6	71.6	63.0	57.2	47.7	41.3	28.6	23.9	19.1	
	20	96.1	83.2	72.1	63.4	57.7	48.1	41.6	28.8	24.0	19.2	
	25	106.2	92.0	79.7	70.1	63.7	53.1	46.0	31.9	26.6	21.2	
	30	116.3	100.7	87.2	76.7	69.8	58.1	50.3	34.9	29.1	23.3	
	40	134.9	116.8	101.2	89.0	80.9	67.4	58.4	40.5	33.7	27.0	
50	150.0	129.9	112.5	99.0	90.0	75.0	65.0	45.0	37.5	30.0		
LT BLUE	15	115.2	99.8	86.4	76.0	69.1	57.6	49.9	34.6	28.8	23.0	
	20	117.7	101.9	88.3	77.7	70.6	58.9	51.0	35.3	29.4	23.5	
	25	131.2	113.6	98.4	86.6	78.7	65.6	56.8	39.3	32.8	26.2	
	30	144.0	124.7	108.0	95.0	86.4	72.0	62.4	43.2	36.0	28.8	
	40	164.4	142.4	123.3	108.5	98.6	82.2	71.2	49.3	41.1	32.9	
50	184.8	160.0	138.6	122.0	110.9	92.4	80.0	55.4	46.2	37.0		

Calculation of rates when travelling other than 5 mph:

- 5mph / new ground speed x charted application rate = actual application rate in US gallons per acre.

Note:





# Fertilizer Distribution Systems

## EVEN-FLO SK SERIES STAINLESS STEEL ORIFICE CHARTS- US GALLONS / ACRE AT 5 MPH

ROW SPACING		6"	7"	8"	9"	10"	12"	14"	20"	24"	30"
ORIFICE	PSI	5.0	4.3	3.7	3.3	3.0	2.5	2.0	1.5	1.2	1.0
	15	5.9	5.0	4.4	3.9	3.5	2.9	2.3	1.8	1.5	1.2
4916-20	25	6.5	5.6	4.9	4.3	3.9	3.2	2.6	1.9	1.6	1.3
	30	7.1	6.1	5.3	4.7	4.3	3.6	2.8	2.1	1.8	1.4
	40	8.2	7.1	6.2	5.5	4.9	4.1	3.3	2.5	2.1	1.6
	50	9.2	7.9	6.9	6.1	5.5	4.6	3.7	2.8	2.3	1.8
	15	7.6	6.5	5.7	5.1	4.6	3.8	3.0	2.3	1.9	1.5
	20	8.9	7.6	6.6	5.9	5.3	4.4	3.5	2.7	2.2	1.8
4916-25	25	9.8	8.4	7.4	6.5	5.9	4.9	3.9	2.9	2.5	2.0
	30	10.8	9.2	8.1	7.2	6.5	5.4	4.3	3.2	2.7	2.2
	40	12.5	10.7	9.4	8.3	7.5	6.3	5.0	3.8	3.1	2.5
	50	13.9	11.9	10.4	9.3	8.4	7.0	5.6	4.2	3.5	2.8
	15	10.9	9.4	8.2	7.3	6.6	5.5	4.4	3.3	2.7	2.2
	20	12.8	11.0	9.6	8.5	7.7	6.4	5.1	3.8	3.2	2.6
4916-30	25	14.2	12.2	10.7	9.5	8.5	7.1	5.7	4.3	3.6	2.8
	30	15.7	13.4	11.8	10.4	9.4	7.8	6.3	4.7	3.9	3.1
	40	18.0	15.5	13.5	12.0	10.8	9.0	7.2	5.4	4.5	3.6
	50	20.1	17.2	15.1	13.4	12.1	10.1	8.0	6.0	5.0	4.0
	15	15.0	12.9	11.3	10.0	9.0	7.5	6.0	4.5	3.8	3.0
	20	17.6	15.1	13.2	11.7	10.5	8.8	7.0	5.3	4.4	3.5
4916-35	25	19.6	16.8	14.7	13.0	11.7	9.8	7.8	5.9	4.9	3.9
	30	21.5	18.5	16.1	14.4	12.9	10.8	8.6	6.5	5.4	4.3
	40	24.9	21.3	18.6	16.6	14.9	12.4	9.9	7.5	6.2	5.0
	50	27.9	23.9	20.9	18.6	16.7	13.9	11.1	8.4	7.0	5.6
	15	16.5	14.1	12.3	11.0	9.9	8.2	6.6	4.9	4.1	3.3
	20	19.3	16.6	14.5	12.9	11.6	9.7	7.7	5.8	4.8	3.9
4916-37	25	21.5	18.4	16.1	14.3	12.9	10.7	8.6	6.4	5.4	4.3
	30	23.6	20.2	17.7	15.7	14.2	11.8	9.4	7.1	5.9	4.7
	40	27.2	23.3	20.4	18.2	16.3	13.6	10.9	8.2	6.8	5.4
	50	30.4	26.1	22.8	20.3	18.2	15.2	12.2	9.1	7.6	6.1

ROW SPACING		6"	7"	8"	9"	10"	12"	14"	20"	24"	30"
ORIFICE	PSI	22.1	18.9	16.6	14.7	13.3	11.0	8.8	6.6	5.5	4.4
	15	25.8	22.1	19.4	17.2	15.5	12.9	10.3	7.7	6.5	5.2
4916-43	25	28.7	24.6	21.6	19.2	17.2	14.4	11.5	8.6	7.2	5.7
	30	31.7	27.1	23.7	21.1	19.0	15.8	12.7	9.5	7.9	6.3
	40	36.6	31.3	27.4	24.4	21.9	18.3	14.6	11.0	9.1	7.3
	50	40.8	35.0	30.6	27.2	24.5	20.4	16.3	12.3	10.2	8.2
	15	28.3	24.2	21.2	18.8	17.0	14.1	11.3	8.5	7.1	5.7
	20	33.1	28.4	24.8	22.1	19.9	16.5	13.2	9.9	8.3	6.6
4916-49	25	36.7	31.5	27.5	24.5	22.0	18.4	14.7	11.0	9.2	7.3
	30	40.4	34.6	30.3	26.9	24.2	20.2	16.1	12.1	10.1	8.1
	40	46.7	40.0	35.0	31.1	28.0	23.4	18.7	14.0	11.7	9.3
	50	52.2	44.8	39.2	34.8	31.3	26.1	20.9	15.7	13.1	10.4
	15	36.1	30.9	27.1	24.1	21.7	18.0	14.4	10.8	9.0	7.2
	20	42.3	36.2	31.7	28.2	25.4	21.1	16.9	12.7	10.6	8.5
4916-55	25	46.9	40.2	35.2	31.3	28.2	23.5	18.8	14.1	11.7	9.4
	30	51.6	44.2	38.7	34.4	31.0	25.8	20.6	15.5	12.9	10.3
	40	59.7	51.2	44.8	39.8	35.8	29.8	23.9	17.9	14.9	11.9
	50	66.7	57.1	50.0	44.4	40.0	33.3	26.7	20.0	16.7	13.3
	15	49.9	42.7	37.4	33.2	29.9	24.9	19.9	15.0	12.5	10.0
	20	58.4	50.1	43.8	38.9	35.1	29.2	23.4	17.5	14.6	11.7
4916-65	25	65.0	55.7	48.7	43.3	39.0	32.5	26.0	19.5	16.2	13.0
	30	71.6	61.3	53.7	47.7	42.9	35.8	28.6	21.5	17.9	14.3
	40	82.6	70.8	62.0	55.1	49.6	41.3	33.1	24.8	20.7	16.5
	50	92.5	79.3	69.3	61.6	55.5	46.2	37.0	27.7	23.1	18.5
	15	61.2	52.5	45.9	40.8	36.7	30.6	24.5	18.4	15.3	12.2
	20	71.7	61.5	53.8	47.8	43.0	35.9	28.7	21.5	17.9	14.3
4916-72	25	79.7	68.3	59.8	53.1	47.8	39.9	31.9	23.9	19.9	15.9
	30	87.7	75.2	65.8	58.5	52.6	43.9	35.1	26.3	21.9	17.5
	40	101.3	86.9	76.0	67.6	60.8	50.7	40.5	30.4	25.3	20.3
	50	113.4	97.2	85.0	75.6	68.0	56.7	45.3	34.0	28.3	22.7

PART NUMBER
SSCP4916-20
SSCP4916-25
SSCP4916-30
SSCP4916-35
SSCP4916-37

PART NUMBER
SSCP4916-43
SSCP4916-49
SSCP4916-55
SSCP4916-65
SSCP4916-72

Calculation of rates when travelling other than 5 mph:

- 5mph / new ground speed x charted application rate = actual application rate in US gallons per acre.

# Fertilizer Distribution Systems

## New Orifice Kit Replacement Parts



NOZZLE BODIES SK & SP KIT	
DESCRIPTION	PART NUMBER
Single nozzle assembly- 1" wet boom, combo jet	WI4051100



DIAPHRAM CHECK VALVE GASKET	
DESCRIPTION	PART NUMBER
Diaphragm check valve gasket	WI4015523



WILGER CAP STRAINER	
DESCRIPTION	PART NUMBER
Slotted strainer- C/J 50 mesh	WI40249-00



WILGER ORIFICE	
DESCRIPTION	PART NUMBER
Pre-Orifice R80-005 Black	WI4916BLACK
Pre-Orifice R80-0067 Pink	WI4916PINK
Pre-Orifice R80-01 Orange	WI4916ORANGE
Pre-Orifice R80-015 Green	WI4916GREEN
Pre-Orifice R80-02 Yellow	WI4916YELLOW
Pre-Orifice R80-025 Purple	WI4916PURPLE
Pre-Orifice R80-03 Blue	WI4916BLUE
Pre-Orifice R80-04 Red	WI4916RED
Pre-Orifice R80-05 Brown	WI4916BROWN
Pre-Orifice R80-06 Grey	WI4916GREY
Pre-Orifice R80-08 White	WI4916WHITE
Pre-Orifice R80-010 Light Blue	WI4916LIGHTBLUE



WILGER CAP SEAL	
DESCRIPTION	PART NUMBER
Wilger cap seal	WI4026000



WILGER CAP WITH HOSE BARB	
DESCRIPTION	PART NUMBER
Radiallock hose barb cap 1/8"	WI4042005
Radiallock hose barb cap 1/4"	WI4042205
Radiallock hose barb cap 3/8"	WI4042405
Radiallock hose barb cap 1/2"	WI4042605
Radiallock blank cap	WI4042705

## Old Orifice Kit Replacement Parts



QJ NOZZLE - SINGLE (S.S. Orifice)	
DESCRIPTION	PART NUMBER
1" Teejet-nozzle body	SSQJ17560A1NYB
Combo-jet conventional Nozzle body	WI4019400



STRAINER	
DESCRIPTION	PART NUMBER
Strainer assembly	SS4514NY10



GASKET SEAL	
DESCRIPTION	PART NUMBER
Gasket seal	SSCP19438EPR
Gasket seal- orifice fits in ring	SSCP18999EPR



THREADED QJ CAP	
DESCRIPTION	PART NUMBER
1/4" threaded QJ cap	SSQJ467614NYB



HOSE BARB	
DESCRIPTION	PART NUMBER
1/4" hose barb	BAHB025



LINE STRAINER ASSEMBLY	
DESCRIPTION	PART NUMBER
3/4" line strainer assembly	SSAA12234PP50
Bowl only	SSCP23172PP
Gasket for bowl assembly	SSCP23173EPR



MESH FILTER ASSEMBLY	
DESCRIPTION	PART NUMBER
50 mesh filter- blue	SSCP451023SSPP
80 mesh filter- yellow	SSCP451024SSPP



8 STATION MANIFOLD ASSEMBLY	
DESCRIPTION	PART NUMBER
8 station manifold assembly	BATM075050



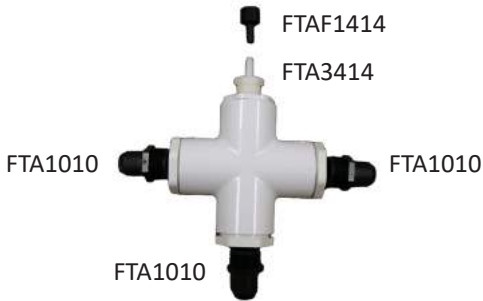
# Fertilizer Distribution Systems



## Boom Components for SK Series Kit



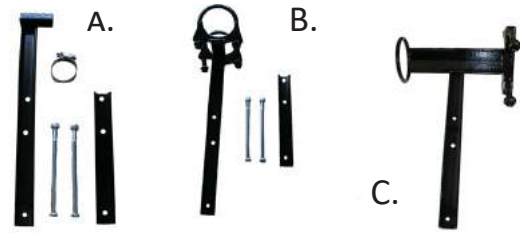
STRAINER ASSEMBLY	
DESCRIPTION	PART NUMBER
Strainer assembly	BALS15080
80 mesh filter assembly	BALS280
Reducer bushing	BARB150100
Hose barb	BAHB150100



CROSS ASSEMBLY	
DESCRIPTION	PART NUMBER
Cross with inserts	FTCRASS
1" hose barb (3 required)	FTA1010
3/4" - 1/4" gauge fitting	FTA3414
1/4" gauge fitting	FTAF1414



WET BOOM COMPONENTS	
DESCRIPTION	PART NUMBER
A. single shank clip	PPST04
B. single shank clip	PPST14
C. double shank clip	PPST14D
D. push in restrictor	PP46336
E. stainless steel 1/4" tubing	PPSST4035
F. "Y" connector	FTTY1400P



KIT BRACKETS	
DESCRIPTION	PART NUMBER
A. Boom brackets c/w bolts	PPST08
B. Cross brackets c/w bolts	PPST09
C. Strainer bracket c/w bolts	PPST10



WET BOOM COMPONENTS	
DESCRIPTION	PART NUMBER
1. 1" slip x 1" FPT	FT435-010
2. 1" slip x 1" MPT	FT436-010
3. 1" slip coupler cap	FT447-010
4. 1" slip coupler 1"	FT429-010
5. PVC glue	PP31515
5. PVC primer	PP31525
6. 1" PVC pipe (pre-drilled)	PP1580PVC



CHECK VALVES	
DESCRIPTION	PART NUMBER
3 PSI check valve	PP7187690

STAINLESS STEEL MID ROW HOSE BARB	
DESCRIPTION	PART NUMBER
stainless 1/4" HB x 1/8 MPT	FTHB0402MP

HOSE MENDER	
DESCRIPTION	PART NUMBER
1/4" to 1/2" hose mender	FTSHM1214
1/4" to 3/8" hose mender	FTSHM3814

Fertilizer Distribution Systems



# Fertilizer Distribution Systems

Fertilizer Distribution Systems



## VR SERIES DISTRIBUTION KIT

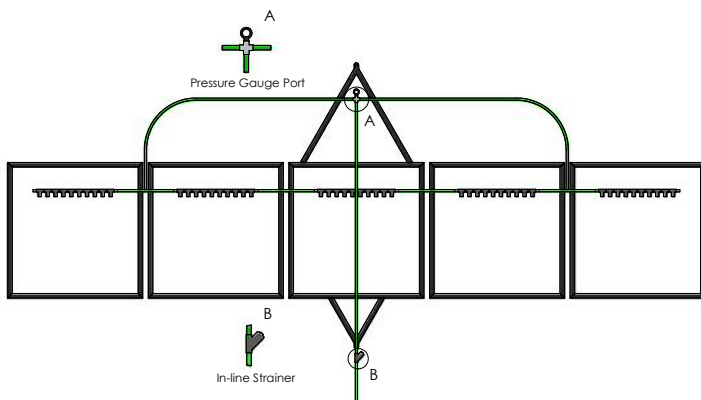
A liquid fertilizer distribution kit that combines “on-the-go” variable rates with precision placement of liquid fertilizer at narrower spacing and various application rates associated with today’s seeding methods.

### Standard Features:

- The VR Series operates by metering each outlet individually with the VR nozzle body. The nozzle bodies are available with different flow rates to match the application rates of the user (as shown in the application charts). Simply by adjusting the pressure of the system, rates will change as you travel through the field. No changing of orifices is required to change application rates.
- Being a pressurized system it allows for frame mounting of the manifolds, eliminating problems encountered with high stands on multiple folding implements.
- The closed pressurized variable rate system is drip free, helping keep the equipment looking like new.
- When the system is used with a single barb cap, one nozzle feeding each individual seed row, no check valve is required to keep the system from dripping. When the system is used with a dual barb cap, one nozzle feeding two seed rows, check valves must be installed in the lines to ensure the lines do not drip.
- The 1/4” I.D. flexible nylon braided hose makes for neat, easy and long lasting installation.
- A large filter near the distributor and slotted strainers attached to each orifice makes it easy to keep the product clean, which will help prevent plugged orifices. **NOTE:** the orifices have a small diameter opening so it is important to keep all the filters clean!

### To Order:

To place a Distribution Kit order please contact our office or your Territory Manager.



VR KIT RELACEMENT PARTS	
DESCRIPTION	PART NUMBER
Standard blue nozzle	VRVFB
Standard orange nozzle	VRVFO
Standard yellow nozzle	VRHFY
Standard white nozzle	VRHFW
1” wet boom nozzle body	WI4019400
VR cap- single 1/4” barb	VRC100
VR cap- double 1/4” barb	VRC200
Cap / nozzle gasket	SSCP19438EPR



1-866-509-0715

[www.liquidsystems.net](http://www.liquidsystems.net)



# Fertilizer Distribution Systems

## VRVFO Series Application Chart- Orange Nozzle Single Barb Cap

Reference Pressure PSI	Nozzle Flow Rate GPM	US GALLON / ACRE AT 5 MPH								
		8"	9"	10"	12"	14"	15"	20"	24"	30"
20	0.1	11.4	10.0	9.1	7.6	6.4	5.2	4.4	3.8	2.6
25	0.11	12.6	11.1	10.1	8.4	7.1	5.8	4.9	4.2	2.9
30	0.15	16.4	14.4	13.1	10.9	9.2	7.8	6.6	5.5	3.9
35	0.22	27.7	24.4	22.2	18.5	15.7	13.3	11.1	9.3	6.7
40	0.35	40.3	35.5	32.3	26.9	24.1	20.6	16.2	13.5	10.3
45	0.37	47.9	42.2	38.4	32.1	29.4	25.3	19.2	16.1	12.7
50	0.44	54.2	47.8	43.4	36.2	31.7	27.7	21.7	18.1	13.9



## VRHFY Series Application Chart- Yellow Nozzle Single Barb Cap

Reference Pressure PSI	Nozzle Flow Rate GPM	US GALLON / ACRE AT 5 MPH								
		8"	9"	10"	12"	14"	15"	20"	24"	30"
20	0.13	16.4	14.4	13.1	10.9	9.2	7.3	6.6	5.5	3.7
25	0.18	17.6	15.5	14.1	11.8	10.1	7.8	7.1	5.9	4.1
30	0.2	19.0	16.6	15.1	12.6	10.6	8.2	7.6	6.3	4.2
35	0.3	21.5	19.1	17.1	14.3	12.1	10.6	8.5	7.2	5.3
40	0.4	50.4	44.9	40.3	33.6	28.3	21.7	20.2	16.8	10.9
45	0.5	63.0	56.0	50.5	42.1	35.5	29.9	25.2	21.1	15.1
50	0.55	75.6	67.2	60.6	50.5	42.6	36.1	30.2	25.2	18.1



## VRVFB Series Application Chart- Blue Nozzle Single Barb Cap

Reference Pressure PSI	Nozzle Flow Rate GPM	US GALLON / ACRE AT 5 MPH								
		8"	9"	10"	12"	14"	15"	20"	24"	30"
20	0.18	22.8	20.0	18.1	15.2	12.8	10.3	8.8	7.6	5.2
25	0.2	25.2	22.2	20.2	14.0	14.2	11.5	9.8	8.4	5.8
30	0.26	32.9	28.8	26.2	21.8	18.4	15.6	13.2	10.9	7.8
35	0.44	55.4	40.6	37.0	30.8	26.2	22.2	18.4	15.4	11.1
40	0.64	80.6	71.0	64.5	53.8	48.2	41.3	32.4	26.9	20.6
45	0.76	95.8	84.4	76.8	64.2	58.8	50.6	38.4	32.1	25.3
50	0.86	108.5	95.5	86.8	72.4	63.4	55.4	43.4	36.2	27.7



## VRHFW Series Application Chart- White Nozzle Single Barb Cap

Reference Pressure PSI	Nozzle Flow Rate GPM	US GALLON / ACRE AT 5 MPH								
		8"	9"	10"	12"	14"	15"	20"	24"	30"
20	0.26	32.9	28.8	26.2	21.8	18.5	14.6	13.2	11.0	7.4
25	0.28	35.3	31.0	28.3	24.7	19.9	15.6	14.4	11.8	7.9
30	0.3	36.7	33.4	30.2	25.2	21.1	16.3	15.1	12.6	8.2
35	0.34	43.0	38.4	34.3	28.6	24.2	21.1	17.0	14.4	10.6
40	0.8	100.8	89.8	80.6	67.2	56.8	43.4	40.3	33.6	21.8
45	1	126.0	112.1	101.0	84.2	71.0	59.8	50.4	42.1	30.0
50	1.2	151.2	134.4	121.2	101.0	85.2	72.2	60.5	50.5	36.2



**IMPORTANT!** When nozzle bodies are fitted with the dual barb cap, all application rates in the above charts will be cut in half. Example: Application rates for Blue nozzle double barb cap – 12" row spacing 30 PSI = 10.9 US GPA. Calculation of rates when traveling other than 5 mph: (5/new ground speed x charted application rate) = actual application rate (GPA).

Application chart is to be used as a point of reference only. Ensure product delivery pump is set to deliver the required amount of gallons per acre. Installation of a flow monitor can assist operator in monitoring application rates.

# Fertilizer Distribution Systems



## AUTO RATE AND SECTIONAL PACKAGES

DESCRIPTION	PART NUMBER
Basic control package	RAXARC
3 section boom system	RAXBOOM3
4 section boom system	RAXBOOM4
5 section boom system	RAXBOOM5
6 section boom system	RAXBOOM6
7 section boom system	RAXBOOM7
8 section boom system	RAXBOOM8
9 section boom system	RAXBOOM9
10 section boom system	RAXBOOM10
11 section boom system	RAXBOOM11
12 section boom system	RAXBOOM12



## PATTISON AUTO RATE/ SECTIONAL CONTROL

Picture shown above: RAXARC auto rate control package with RAXBOOM6 sectional control.

A liquid fertilizer application system that allows you to control and change rates on the go. When used in conjunction with sectional boom controls, the system can assist in reducing fertilizer costs. Basic control package includes, flow regulating valve, manual pressure relief valve, flow meter, mounting stand and hardware, and up to 12 sectional boom valves. This system can be easily adapted to existing application controllers.

### Standard Features:

- A complete pre-assembled auto rate package, for easy installation
- Mounted on a heavy steel frame
- Shield protects components from damage
- Components are resistant to the corrosive effects of liquid fertilizer
- System allows for higher rates of today's fertilizer usage
- Pressure monitor system included with the purchase of multi sectional boom controls
- System is compatible with seed sectional control systems



### ISOBUS - Product control also available

- Industry leading flow and application control technology
  - Optional switch box for manual override of individual section
  - Universal Terminal product page no matter what controller you use
  - Task controller interface, section control compatibility, data-logging, and variable rate application with supporting virtual terminals
- Call our office today for pricing.

### Standard Features:

- Highly visible gauges, monitor flow of each section of your fertilizer applicator
- Each individual gauge will monitor each section of your seeding equipment
- Stainless steel gauges ensure longer life when used with corrosive fertilizers
- 0-60 PSI rating
- 1/4" gauge lines fed directly from each boom supply line
- Modular mounting plate comes with a stand
- Modular mounting plate allows for easy adapting to 3 - 8 section seeding equipment
- Kit comes complete with mounting plate and magnet, gauges and fittings
- Can be adapted to existing systems with sectional controls



## PRESSURE MONITORING SYSTEM

DESCRIPTION	PART NUMBER
3 gauge monitor	PPPMONITOR3
4 gauge monitor	PPPMONITOR4
5 gauge monitor	PPPMONITOR5
6 gauge monitor	PPPMONITOR6
7 gauge monitor	PPPMONITOR7
8 gauge monitor	PPPMONITOR8
9 gauge monitor	PPPMONITOR9
10 gauge monitor	PPPMONITOR10
11 gauge monitor	PPPMONITOR11
12 gauge monitor	PPPMONITOR12





# Fertilizer Distribution Systems



The 1 1/2" poly Control Valve 200 PSI max (Butterfly) Flanged, complements Raven's fine line of products, making your Raven System even more effective. Used in sprayer application systems.

- 200 PSI working pressure
- 8 GPM at 60 PSI fully closed
- 12 VDC supply voltage



**NOTE:** 1/4" hose barb quick coupler allows for quick detachment of pressure gauge lines.



1/2 Couplers



3/4 Couplers



## ACCESSORIES- CABLES

DESCRIPTION	PART NUMBER
12' product cable 16 pin	RA11150171129
10' consul cable 16 pin	RA11150171085
24' extension cable 16 pin	RA11150159875
12' product cable 37 pin 12 section	RA11150172423
24' extension cable 37 pin	RA11150171320
10' consul cable 37 pin	RA11150171300
2' 47 pin to 37 pin adapter	RA11157347008
12' product cable 47 pin 12 section	RA11157347053
24' extension harness 47 pin	RA11157347011
Cable adapter- new 210 valve to 313 cable	RA11150171807
Cable adapter- 423 cable to old 172 valve	RA11150171857

## PRESSURE TRANSDUCER

DESCRIPTION	PART NUMBER
0-5V, 250 PSI transducer	RA14220000119

## 1 1/2" BUTTERFLY CONTROL VALVE

DESCRIPTION	PART NUMBER
Flanged M200 (1 1/2" FPT) poly control valve	RA10630171894

## GAUGES

DESCRIPTION	PART NUMBER
0-60 dry gauge SS 2 1/4"	PPPG060225
0-60 dry gauge SS 4"	PPPG0604
0-60 liquid filled gauge SS 2 1/4"	PPWJ7846P
0-160 liquid gauge, brass 2 1/4"	PPWJ7652P
Lens cover for PPG060225	PPAF212

## QUICK COUPLERS- HOSE BARBED

DESCRIPTION	PART NUMBER
1/4" male coupler	PPPLCD2200412
1/4" female coupler	PPPLCD1700412
1/2" male coupler	PPNS6D24008
1/2" female coupler	PPNS6D10008
3/4" male coupler	PPNSHD24012
3/4" female coupler	PPNSHD10012



# Fertilizer Distribution Systems



Fast valve motor assembly



Fast valve motor only



3 way valve assembly



Fast Valve repair kit



Section Valve motor assembly



Section valve motor only



Boom valve body



Flanged outlet and Viton O-Ring



U-clip



**Standard Features:**

- FKM (viton type) seals
- Precision molded in polypropylene
- Preset pressure spring
- Poppet is diamond turned, after molding to provide precise seal
- 360° orientation
- Quick and easy to assemble

**1" 3 WAY SS BALL VALVE / FAST CLOSE**

The 1" stainless steel 3-way ball valve with fast close motor is used for controlling flow of liquid fertilizer.

**Features:**

- Stainless steel 3-way ball valve
- 0.6 second reaction time
- 200 PSI working pressure
- Capacity of 40 GPM
- Positive motor drive

**FLOW REGULATING VALVES**

DESCRIPTION	PART NUMBER
Motor c/w 1" valve assembly	RA10630173210
Motor only	RA11170171360
Valve assembly only	RA13340002043
SS valve repair kit	RA9000601
Clamp	RA11070171394
Coupler	RA11070172480
Cap Screw 1/4" x 1/2"	RA13110068064
Cap Screw (two used) 1/4" x 1"	RA13110068068

**1" FLANGED BOOM VALVES**

The 1" flanged boom valves are used to shut sections off on sprayers or liquid fertilizer applicators.

**Features:**

- Inlet size mates with M200 series Banjo fittings
- Outlet size is 3/4" female NPT or mates with Banjo M100 series fittings
- 175 PSI working pressure
- Capacity of 40 GPM at 10 PSI pressure drop
- Plunger style valve for complete shut-off
- 0.7 second on-time/off-time

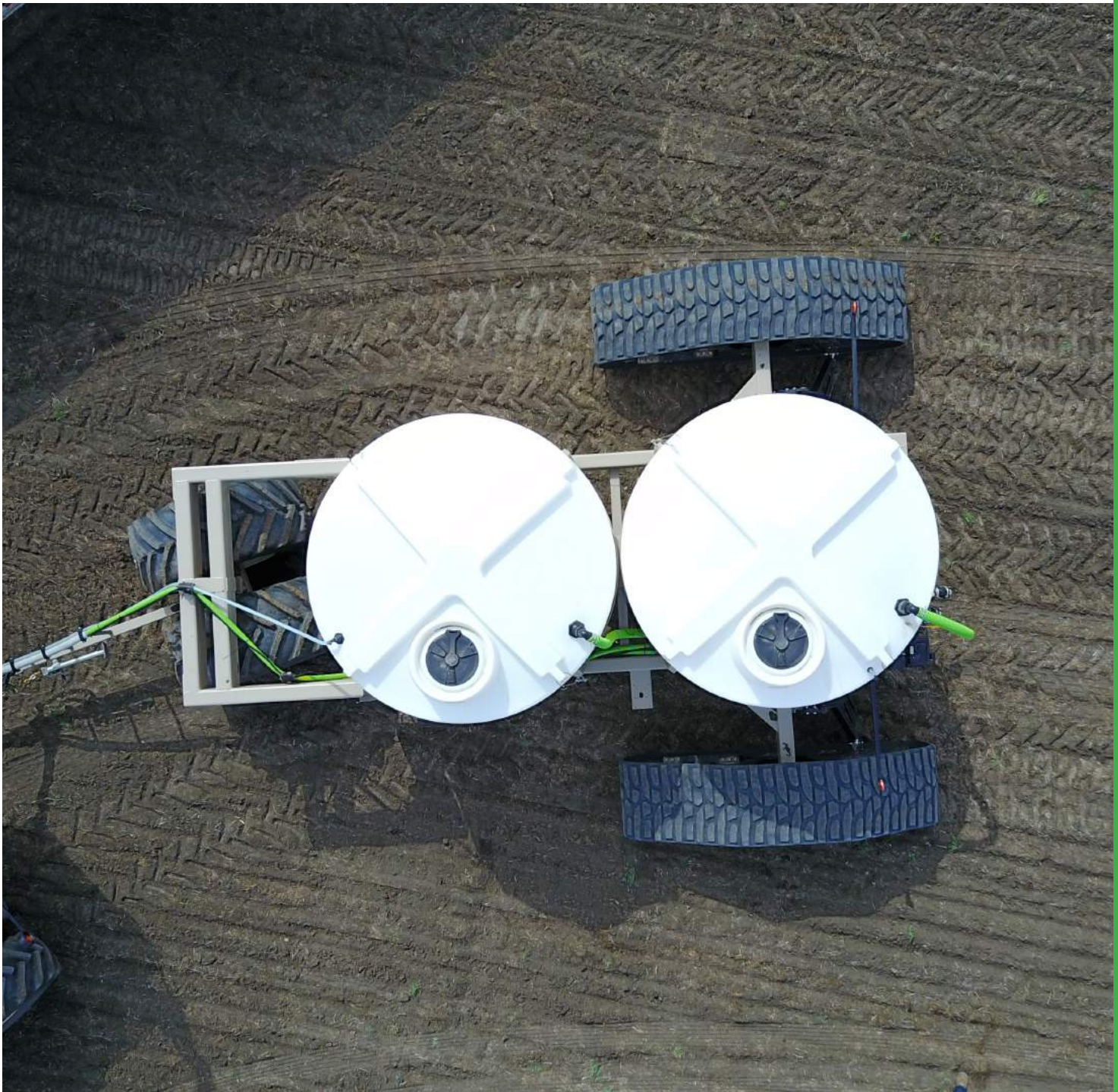
**FLANGED SECTION ON / OFF VALVES**

DESCRIPTION	PART NUMBER
1" flanged boom valve (each)	RA10630171926
Boom valve motor only	RA10630172330
Boom valve body only	RA11060159522
Flanged inlet	RA11060159523
Viton O-ring for flanged inlet	RA12190002214
U-Clip	RA11070171327

**BANJO PRESSURE RELIEF VALVE**

DESCRIPTION	PART NUMBER
1" pressure spike valve- 75PSI	BAMPRV100075





### Field Tested and Quality Assured

All our models of liquid fertilizer wagons are built with the customer in mind, assuring that the quality of workmanship is the best in the industry. New models are field-tested prior to being offered to the market place, to ensure that the design meets or exceeds customer expectations. Our heavy-duty tubular construction, axles, and hubs are designed to exceed the total load limit, giving you many years of trouble-free service. We also offer a variety of tires and track systems to greatly reduce soil compaction. Other options include, 13 HP PowerPro fill pump to reduce fill times, John Blue ground-driven pumps for tractors with limited hydraulic oil flow, and automatic fill pump shutoffs.



# Field Equipment

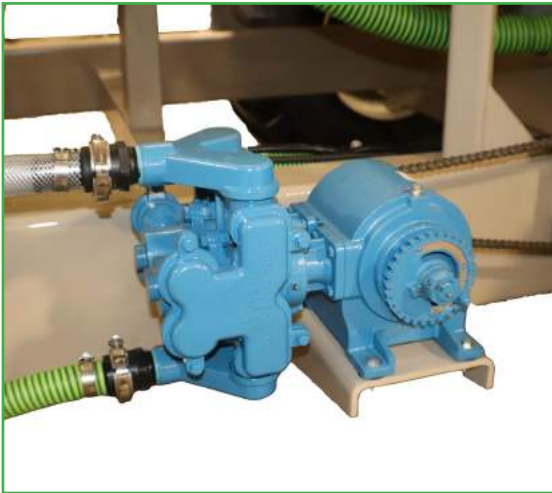
Field Equipment



Optional high capacity 13 hp Honda powered 3" Hypro pump.



The standard 3" Hypro pump powered by a 13 HP Power Pro engine delivers up to 440 GPM.



John Blue ground drive pumps are available as an option on all of our wagons.



Weather resistant plastic tube for storage and chemwash for hand sanitation after filling.



Durable industrial paint finish will last for many years in corrosive environments.



Built with heavy tube frames for increased load bearing strength.



## Field Equipment



Optional auto shutoff for the fill pump allows the operator to do more than one task while filling.



Tow Between Wagons are fitted with stainless steel hydraulic lines from front to back.



All Tow Between carts are capable of carrying many hydraulic lines to match your seeding equipment.



High capacity cam-lock strainer is accessible for quick access outside the wagon frame.



Hyrpo 9303 series stainless steel product pumps are standard on all our wagons.



Signal light packages are standard on our carts. Also available is an optional work light.

Field Equipment

## PATTISON LIQUID SYSTEMS- TOW BEHIND WAGONS

### PLS2610 TOW BEHIND WAGON



#### PLS2610 Standard Features:

- 2610 US gallon tank capacity
- 15 degree cone bottom tank with total drainage
- Wagon dimensions: 248" L x 191" W x 145" H
- Shipping dimensions: 168" L x 178" W x 137" H
- 21.5 X 16 front and 750/65R26 rear tires
- 8,000 lb. front and 16,000 lb. rear hubs and spindles
- Hypro 9300 series stainless steel hydraulic driven pump
- Heavy duty 3.5" ball and socket (fifth wheel steering)
- Heavy duty (6" x 12" x .25") tube frame
- Banjo polypropylene flange manifold fittings and chemwash
- Reflector package
- 13 HP Power Pro with 3" Hypro fill pump (max 440 GPM)
- Towing light package- stop and turn signal
- Fitted with hydraulic lines from hitch to Hyd product pump

#### Options:

- CDS/John Blue NGP 6055 single piston pump (max 21 US GPM)
- CDS/John Blue NGP 9055SS double piston pump (max 68.4 US GPM)
- 13 HP Power Pro with 3" Hypro fill pump (max 440 GPM)
- Automatic fill pump shut off package (shuts fill pump off when tank is full)
- Electric clutch, disengages chain drive on ground drive pumps
- 2" Banjo electric diverter valve with spike valve
- Work flood light in fill area

### PLS4210 TOW BEHIND WAGON



#### PLS4210 Standard Features:

- 4200 US gal, 15° cone bottom tanks
- Wagon dimensions: 379" L x 191" W x 127" H
- Shipping dimensions: 302" L x 178" W x 132" H
- 16,000 lb. hubs on front and 20,000 lb. on rear
- 750/65R26 front tires, 900/60 R32 rear tires (tractor lug style)
- Hypro 9300 Series stainless steel hyd. driven centrifugal pump
- Heavy duty 3.5" ball & socket (fifth wheel steering)
- Heavy duty (6" x 12" x .25") tube frame
- Banjo poly flanged style manifold fittings and chemwash
- 13 HP Power Pro with 3" Hypro fill pump (max 440 GPM)
- Towing light package- stop and turn signal
- Fitted with hydraulic lines from hitch to Hyd product pump

#### Options:

- Optional rear duals are available. Standard duals 800/65R32 rear tires
- CDS/John Blue NGP 9055SS double piston pump (max 68.4 US GPM)
- Automatic fill pump shut off package on rear tank (shuts fill pump off when tank is full)
- Electric clutch, disengages chain drive on ground drive pumps
- 2" Banjo electric diverter valve with spike valve
- Work flood light in fill area

#### To Order:

To place an equipment order please contact our office or your Territory Manager.



## PATTISON LIQUID SYSTEMS- TOW BEHIND WAGONS

### PLS4710 TOW BEHIND WAGON



### PLS4710 Standard Features:

- 4200 US gal, 15 degree cone bottom tank
- 15° cone bottom tanks c/w indent (total drainage)
- 500 USG, starter tank, placed over front axle
- Wagon dimensions: 379" L x 191" W x 127" H
- Shipping dimensions: 302"L x 178"W x 132"H
- 750/65R27 front tires / 900/60 R32 rear tires
- 16,000 lb. front and 20,000 rear hubs & spindles
- Hypro 9300 series stainless steel hyd. driven centrifugal pump
- Heavy duty 3.5" ball & socket (Fifth wheel steering)
- Heavy duty (6" x 12" x .25") tube frame
- Banjo polypropylene flanged manifold fittings and chemwash
- Reflector package / chemwash
- 13 HP Power Pro with 3" Hypro fill pump (max 440 GPM)
- Towing light package- stop and turn signal
- Fitted with hydraulic lines from hitch to Hyd product pump

### Options:

- CDS/John Blue NGP 9055SS double piston pump (max 68.4 US GPM)
- CDS/John Blue NGP6055 (max 21 US GPM) for starter tank
- Automatic fill pump shut off package installed on rear tank (shuts fill pump off when tank is full)
- Electric clutch, disengages chain drive on ground drive pumps
- 2" Banjo electric diverter valve with spike valve
- Work flood light in fill area and transport safety lights
- Optional rear duals are available. Standard duals 30.5L x 32 rear tires

### PLS5210 TOW BEHIND WAGON



### PLS5210 Standard Features:

- 5200 US gal, 15 degree cone bottom tank
- 15° cone bottom tank c/w indent for total drainage
- Wagon dimensions: 379" L x 252" W x 138" H
- Shipping dimensions: 310"L x 198"W x 145"H
- Front tires 800/65R32 tractor lug design
- Dual rear tires are 800/65R32 Tractor lug design
- 16,000 lb. & 20,000 lb. hubs & spindles
- Hypro 9300 series stainless steel hydraulic driven centrifugal pump
- Heavy duty 3.5" ball & socket fifth wheel assembly
- Banjo polypropylene manifold fittings
- 3" plumbing package
- Chemwash, reflector kit
- 13 HP Power Pro with 3" Hypro fill pump (max 440 GPM)
- Heavy duty (6" x 12" x .375) tube frame
- Towing light package- stop and turn signal
- Fitted with hydraulic lines from hitch to Hyd product pump

### Options:

- CDS/John Blue NGP 9055SS double piston pump (max 68.4 US GPM)
- Automatic fill pump shut off package on rear tank (shuts fill pump off when tank is full)
- Electric clutch, disengages chain drive on ground drive pumps
- 2" Banjo electric diverter valve with spike valve
- Work flood light in fill area
- Track option available

### To Order:

To place an equipment order please contact our office or your Territory Manager.

## PATTISON LIQUID SYSTEMS- TOW BEHIND WAGONS



PLS5510 TOW BEHIND WAGON



### PLS5510 Standard Features:

- Twin horizontal tank configuration
- 4500 Us gal, 15 main tank - nitrogen
- 1000 us gal. (secondary tank - phosphate)
- Wagon dimensions: 359" L x 252" W x 146" H
- Shipping dimensions: 289" L x 196" W x 146" H
- 20,000 lb. hubs & spindles
- 6" x 12" x .375 heavy duty frame
- 3 1/2" ball and socket (fifth wheel steering)
- 800/65 R32 tires on front axle and duals on rear
- HY9303C-HM1SS hydraulic driven pump (main)
- 93HYS114-M05 hydraulic driven pump (secondary)
- Banjo polypropylene flanged style fittings
- Reflector and light package
- 13 HP Power Pro with 3" Hypro fill pump (max 440 GPM)
- Fitted with hydraulic lines from hitch to hydraulic product pump
- Towing light package- stop and turn signal

### Options:

- Brake upgrade package
- Second fill pump
- Rear hitch
- Automatic fill pump shut off package (shuts fill pump off when tank is full)
- 2" Banjo electric diverter valve with spike valve

## PATTISON LIQUID SYSTEMS- TOW BETWEEN WAGONS



PLS2610 TOW BETWEEN WAGON



### PLS2610 Standard Features:

- 2600 US gal.
- 15° cone bottom tank
- Horizontal tank
- Wagon dimensions: 248" L x 191" W x 145" H
- Shipping dimensions: 201" L x 178" W x 137" H
- 800/65R32 rear tires
- 16,000 lb. hubs & spindles
- Hypro 9300 series stainless steel hydraulic driven centrifugal pump
- Heavy duty 6" x 10" x .25" tube frame - drop leg jack/ adjustable front and rear hitches
- Banjo polypropylene flanged manifold fittings
- Chemwash
- 13 HP Power Pro with 3" Hypro fill pump (max 440 GPM)
- 2 – 1" and 6 – 1/2" steel hydraulic lines
- Fitted with hydraulic lines from hitch to hydraulic product pump
- Also fitted with hydraulic lines from hitch to hitch
- Towing light package- stop and turn signal

### Options:

- CDS/John Blue NGP 6055 single piston pump (max 21 US GPM)
- CDS/John Blue NGP 9055SS double piston pump (max 68.4 US GPM)
- Optional 800 or 900 metric rear tires
- Automatic fill pump shut off package (shuts fill pump off when tank is full)
- Electric clutch, disengages chain drive on ground drive pumps
- Work flood light in fill area

### To Order:

To place an equipment order please contact our office or your Territory Manager.



## PATTISON LIQUID SYSTEMS- TOW BETWEEN WAGONS

### PLS4210 TOW BETWEEN WAGON



#### Options:

- CDS/John Blue NGP 9055SS double piston stainless steel pump (max 68.4 US GPM)
- Automatic fill pump shut off package (shuts fill pump off when tank is full)
- Optional 900 metric rear tires
- Work flood light in fill area

#### PLS4210 Standard Features:

- 4200 US gal.
- 15° cone bottom tanks for complete drainage
- Wagon dimensions: 328" L x 191" W x 134" H
- Shipping dimensions: 308" L x 198" W X 132" H
- 900/60 R32 tires tractor lug design
- 20,000 lb. hubs & spindles
- Heavy duty 6" x 12" x .375" steel tubing
- Banjo polypropylene manifold fittings
- Chemwash, reflector package
- Drop leg jack with adjustable front and rear hitches
- 13 HP Power Pro with 3" Hypro fill pump (max 440 GPM)
- 2 – 1" and 6 – ½" steel hydraulic lines
- Fitted with hydraulic lines from hitch to Hyd product pump
- Also Fitted with hydraulic lines from hitch to hitch
- Towing light package- stop and turn signal

### PLS5210 TOW BETWEEN WAGON



#### Options:

- Work flood light in fill area
- Transport safety lights
- Automatic fill pump shut off package (shuts fill pump off when tank is full)

#### PLS5210 Standard Features:

- 5200 US Gallon capacity
- 15 degree cone bottom tank c/w indent (total drainage)
- Wagon dimensions: 328"L x 252"W x 138"H
- Shipping dimensions: 320"L x 198"W x 138"H
- 6" x 12" x .375 frame tubing
- 800/65R32 rear duals
- 32,000 lb. hubs and spindles
- Hypro 9300 series stainless steel hyd. Driven centrifugal pump
- Banjo polypropylene flanged fittings
- Chemwash
- 2 – 1" and 6 – ½" steel hydraulic lines
- 13 Hp Power Pro c/w 3" Hypro fill pump
- Fitted with hydraulic lines from hitch to Hyd product pump
- Also Fitted with hydraulic lines from hitch to hitch-pump
- Towing light package- stop and turn signal

#### To Order:

To place an equipment order please contact our office or your Territory Manager.



## PATTISON LIQUID SYSTEMS- NH3 WAGON FRAMES

Field Equipment

### NH3 WAGON FRAMES



NH3 frames are available in both tow between and tow behind versions.

### NH3 Frames Standard Features:

- NH3 2000/2500, capable of carrying two 1000 USG or two 1250 USG ammonia tanks
  - 8,000 lb. front axle and rear axle
  - 21.5L x 16.1L front tires
  - 28L x 26 rear tires
  - NH3 3000/4000, capable of carrying two 1500 USG or two 2000 USG ammonia tanks
  - 8000 ln. front axle with 21.5L x 16.1L tires
  - 16,000 lb. rear axle with 28L x 26 tires
  - NH3 4800, capable of carrying two 2400 USG tanks
  - 16,000 lb. front axle with 28L x 26 tires
  - 20,000 lb. rear with 800/65 R32 tires
- (Please specify tank dimensions when ordering)*

### To Order:

To place an equipment order please contact our office or your Territory Manager.

## OPTIONAL SOUCY TRACKS

### TRACKS ON A TOW BEHIND WAGON



With the increased flotation provided by the Soucy Tracks compared to tires, you'll be able to fill your liquid fertilizer wagon to full capacity without running the risk of getting bogged down or damaging your soil. By reducing the number of trips to and from the field, you can finish your work faster!

### Do more work while protecting your soil:

- Optional Soucy Tracks, can be used on most models of Pattison carts. The rubber tracks minimize soil compaction by considerably reducing the pressure that vehicles exert on the ground. The less soil is compacted, the greater its water and air supply, and the better the harvest. This is a significant benefit in the medium and long term.





## TIRE COMPACTION COMPARISON CHART

WAGON MODEL/TIRE SIZE	FLAT PLATE AREA sq. in.	FRONT TIRE lbs./sq. in.	REAR TIRE lbs./sq. in.
<b>PLS2610</b>			
21.5 x 16.1 Front Tire	306	13.25	
750/65R 26 Rear Tire	453		27.46
<b>PLS2610TB</b>			
800/65R 32 Rear Tire	539		27.36
900/60R 32 Rear Tire	564		26.15
<b>PLS4210</b>			
750/65R 26 Front Tire	453	25.53	
900/60R 32 Rear Tire	564		29.14
30.5 x 32 Rear Tire - Duals	936		21.85
800/65R32 Rear Tire - Duals	1078		15.24
<b>PLS4210TB</b>			
800/65R32 Rear Tire	539		38.96
900/60R32 Rear Tire	564		37.22
800/65R32 Rear Tire - Duals	1078		19.48
Soucy Tracks	3683.5		5.7
<b>PLS4710</b>			
750/65R 26 Front Tire	453	21.89	
900/60R 32 Rear Tire	564		27.38
<b>PLS5210</b>			
800/65R32 Font Tire	539	20.87	
800/65R32 Rear Tire - Duals	1078		22.95
Soucy Tracks	3683.5		5.55
<b>PLS5210TB</b>			
800/65R32 Rear Tire - Duals	1078		26.45
Soucy Tracks	3683.5		8.42
<b>PLS5510</b>			
800/65R32 Front Tire	539	27.18	
800/65R32 Rear Tire - Duals	1078		20.73



## PATTISON LIQUID SYSTEMS- TANKER TRANSPORTS

Field Equipment

### TANKER TRANSPORTS



#### Standard Features:

- Single or dual tank configurations
- Single tank 96”L x 96”W x 80”H
- Dual tank 196”L x 96”W x 80”H
- 3” bulkhead with total drainage
- Standard 1,500 USG gallon tanks, 30° cone
- Optional 1,900 USG gallon tanks, 30° cone



### TANKER TRANSPORTS

DESCRIPTION	PART NUMBER
1,500 USG single transport tank	TM1510
3,000 USG dual transport tank	TM3010
3,800 USG dual transport tank	TM3810

## PORTABLE LIQUID FERTILIZER STORAGE

### FERTANK TRANSPORT SYSTEM



#### Standard Features:

- Heavy duty frame 2” x 8” tubing
- 2 hydraulic cylinders for lifting into transport position
- Clevis style hitch assembly
- 3000 lb. hub and spindles with 15” tires
- Weight of frame and tank empty - 4300lbs.
- 156”W x 255”L
- Overall height with tank – 159”
- Transport frame only – Fertank is in addition
- Additional Fertank has a capacity of 9900 USG
- System is transported with tank empty
- Requires a tractor with hydraulics



#### To Order:

To place an equipment order please contact our office or your Territory Manager.

### FIELD STORAGE UNIT



#### Standard Features:

- 2”x6” tubular heavy duty frame construction, powder coated
- 20,000lb. Clevis hitch, with 7 pin highway light package
- Hydraulic jacking system
- 10 degree cone bottom tanks, equipped with sight gauges
- 235/80R16 hwy tires with 3500 lb. Ag spindles
- Dry weight 4070lbs.
- Dimensions, 29long x 100” wide x 158” raised height
- Tanks use 3” daisy chain plumbing c/w sight gauges – no pump
- Total tank capacity is 9900 USG
- Must be empty before transporting



Can be legally towed down highways & roads with a truck (as it is not over width)



### CONNECT PULL-TYPE SPRAYERS



The Sniper is in a class of its own for Pull-Types with the latest technology integrated into the spraying system. The Connect Sniper is designed to apply liquid fertilizer while top dressing and filling in on applications when the high clearance is falling behind.

Why use your expensive high clearance to do jobs easily done by the Connect Sniper? Leave your high clearance parked in the shed for spring and fall applications, then bring it out for in crop applications. We are introducing an alternative means to fill the spraying gap on the farm with our Connect Pull-Type models. You get the best quality products at a third of the cost.

The Connect Sniper is designed with a stainless steel 1,600 USG product tank, 100 USG fresh water tank, 1" stainless steel wet booms, 120-foot aluminum booms on top of 800 metric tires for less compaction and floatation.

The Sniper is available with three hardware configurations:

- **Raven Rate Control Module** to control 11 boom sections to reduce application overlaps. The smaller section widths ensure consistent application pressures are maintained across the 120 foot boom.
- **Raven Hawkeye 2.0** brings technology to the Connect Sniper that rivals today's high clearance sprayers. Hawkeye 2.0 boasts a 10% flow increase per nozzle control valve over its predecessor Hawkeye 1.0 extending spray tip application windows. With recirculating wet booms, turn compensation, individual nozzle control and precise application controls this sprayer is equipped to save application costs.
- **WEED-IT Quadro** with robust weed detection sensors placed every meter on the boom to pinpoint every weed substantially reducing input costs. This hardware selection is outfitted with Connect's signature recirculating wet boom to keep chemistry in the boom suspended whether the nozzles are spraying or not.

#### To Order:

To place an equipment order please contact our office or your Territory Manager.



# Field Equipment

## HUBS AND SPINDLE ASSEMBLIES AND PARTS

Field Equipment

HUB NO.	INNER RACE / CUP	OUTER RACE / CUP	INNER BEARING	OUTER BEARING	DUST CAP	WHEEL BOLT	GREASE SEAL
PPHUB3000	PLM48510	PPLM67010	PPLM48548 1.375	PPLM67048 1.250	PPD3000	500-20	PPCR1761
PPHUB5000	PPLM603011	PPLM48510	PPLM603049 1.781	PPLM48548 1.375	PPD5000	916-18	PPCR20044
PPHUB8000	PPLM506810	PPLM501310	PPLM506849 2.165	PPLM501349 1.625	PPD8000	58-18	PPCR27361
PPHUB10000	PP28921	PP25520	PP28995 2.470	PP25581 1.750	PPD10,000	5/8" X 2 1/8"	PPCR29273
PPHUB16000	PP47620	PP39520	PP47687 3.250	PP39585 2.500	PPD16,000 Gasket	3/4" x 3 1/2"	PPCR38730
PPHUB20000	PPHM218210	PPHM212011	PPHM218248 3.542	PPHM212049 2.625	PPD20,000 Gasket	750-35	PPCR43771
PPHUB32000	PP71750	PP653	PPN910356	PPN910357	PPN90992	PPN963035	PPN906980
SPINDLE NO.	SPINDLE DIA. (IN)	NUT	WASHER	COTTER PIN	CAPACITY	INTERCHANGES WITH	
PPSPIN3000	1.75	SF7814	SAE78	316150	3,000 lbs		
PPSPIN5000	2	SF114	SAE100H	316175	5,000 lbs.		
PPSPIN8000	3	SF114	EM8000	3162	8,000 lbs	F&H #107013 Armstong #608	
PPSPIN10000	3	SF12512	EM12510,000	416250	10,000 lbs.		
PPSPIN16000	4	SF17512	EM17516,000	516350	16,000 lbs		
PPSPIN20000	5	SF212	EM20M	3753 Roll Pin	20,000 lbs	Wilton #W811 CTD. #H1020	
PPSPIN32000	6	PP913250	PP913638	PP905948	32,000 lbs		

## LIQUID FERTILIZER CART ACCESSORIES



CONTROL VALVE BY-PASS SWITCH	
DESCRIPTION	PART NUMBER
In-cab valve c/w female plug end	PPSW3
In-cab valve switch (single pole prior to 2013)	PPSW3SP
In-cab valve switch (single pole new for 2013)	PPSW3SP13

AUTO SHUTOFF FOR TRANSFER PUMP	
DESCRIPTION	PART NUMBER
Box and float assembly	PLSAS10



AEROSOL TOUCH-UP PAINT	
DESCRIPTION	PART NUMBER
Old beige- prior to 2010	PP441
Cummins beige 2011-present	PP2551



DECAL KITS	
DESCRIPTION	PART NUMBER
Wagon information decal	PLSDEC01
Pattison decal	PLSDEC02
Model number decal	PLSDEC03
Warning tank decal	PLSDEC04
Warning nut decal	PLSDEC05



# Field Equipment

CHAINS	
DESCRIPTION	PART NUMBER
Chains	PP501R PP601R PP602R PP801R
Chain connections	PP501CL PP601CL PP601OL PP602CL PP801CL



SPROCKETS	
DESCRIPTION	PART NUMBER
Outer jackshaft sprocket c/w 1" hub	PP50x18x
Outer jackshaft sprocket c/w 1" hub	PP50x24x
Outer jackshaft sprocket c/w 1" hub	PP50x30x
Inner jackshaft sprocket c/w 1" hub	PP60B11F1
Inner jackshaft sprocket c/w 1" hub	PPD60B11F-1
Inner jackshaft sprocket c/w 1.25" hub	PPD60B11F125
Idler sprocket	PPID50A1758
Outer jackshaft sprocket c/w 1 1/4" hub	PP50x24x125
Outer jackshaft sprocket c/w 1 1/4" hub	PP50x30x125
Hub sprocket (not machined to fit)	PP6060x
Hub sprocket (4" bore custom fit)	PP6060x4
Hub sprocket (6" bore custom fit)	PP6060x6
Hub sprocket (not machined to fit)	PP8045x
Hub sprocket (6" bore custom fit)	PP8045x6
Hub sprocket (7" bore custom fit)	PP8045x7
Weld on sprocket c/w 1 1/4" hub	PP80x09W
One piece sprocket c/w 1 1/4" hub	PPH809x104
One piece sprocket c/w 1 1/4" hub	PPH5030x104

JACKSHAFTS WITH KEYWAY	
DESCRIPTION	PART NUMBER
1/4" x 1 1/2" keystone	PP92752
1" x 22" jackshaft	JS10022
1" x 24" jackshaft	JS10024
1" x 30" jackshaft	JS10030
1" x 33.5" jackshaft	JS100335
1 1/4" x 30" jackshaft	JS12530
1 1/4" x 32" jackshaft	JS12532
1 1/4" x 40" jackshaft	JS12540
1 1/4" x 32" jackshaft	JS125432



PILLOW BLOCK AND BEARINGS	
DESCRIPTION	PART NUMBER
1" pillow block	PPP205
1" bearing	PPSA20516G
1 1/4" pillow block	PPP206
1 1/4" bearing	PPSA20620G
1 1/4" pillow block and bearing	PPPE206104G



CHEMWASH	
DESCRIPTION	PART NUMBER
Chemwash	PPCHEMWASH
Spigot	PPDF0750
Cap	PP0670341



3.5" Ball



Mounting Box



Socket Halves

SAFETY CHAINS	
DESCRIPTION	PART NUMBER
28" chain assembly- 5,000 lb.	PPASCH70
72" chain assembly- 21,000 lb.	PPSC21A
72" chain assembly- 41,000 lb.	PPSCH41A

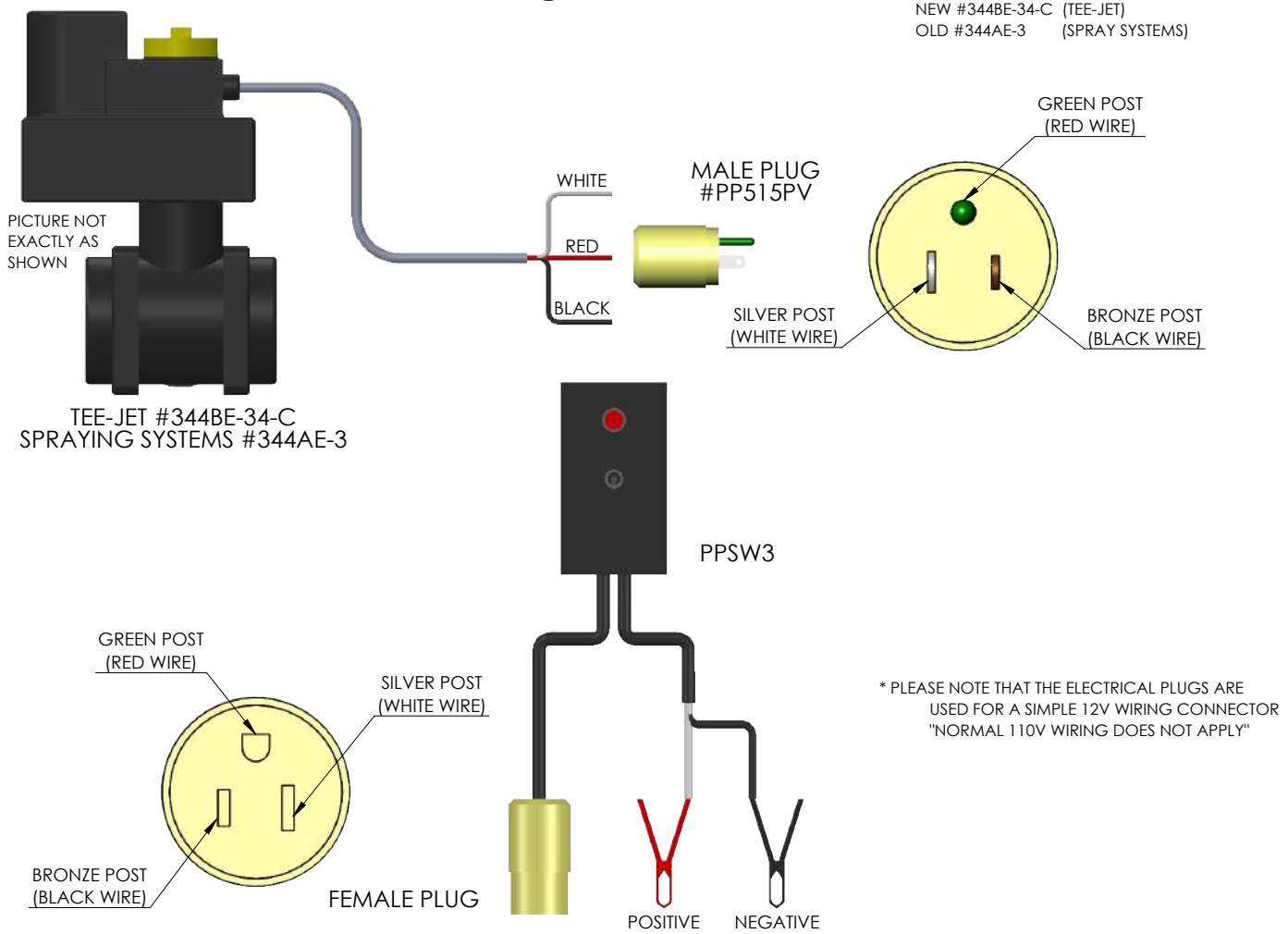
BALL AND SOCKET	
DESCRIPTION	PART NUMBER
3.5" ball	PATT10035
Mounting box	PPSMB350
Nylon socket halves- 2 needed	PATT10050

Field Equipment





## TeeJet #344BE34C Wir- ing Schematic



## WATER HOSE

Hose



### 100CL WATER SUCTION AND AIR SEEDER HOSE

#### Standard Features:

- Constructed with flexible PCV hose with rigid PVC helix
- Smooth bore, corrugated O.D.
- -13°F - 158°F temperature range
- Ideal water suction hose
- Comes in 100 foot rolls



DESCRIPTION	PART NUMBER	I.D.	O.D.	PITCH	BEND RADIUS	W.P @ 72°F PSI	B.P @ 72°F PSI	72°F IN./HG	WEIGHT LBS/FT
1" water suction hose	HS112CL100	1"	1.25"	0.3"	1.5"	50	140	29.8	0.18
1 1/4" water suction hose	HS112CL125	1 1/4"							
1 1/2" water suction hose	HS112CL150	1 1/2"							
2" water suction hose	HS112CL200	2"	2.36"	0.39"	2.6"	40	132	28.8	0.5
2 1/2" air seeder hose	HS112CL250	2 1/2"	2.5"	0.56"	4.5"	35	120	29.8	1
3" water suction hose	HS112CL300	3"	3.50"	0.59"	2.8"	35	115	29.8	1

### V136 BLUE LAY FLAT DISCHARGE HOSE



#### Standard Features:

- Constructed with black PVC tube, polyester reinforcement fabric and blue PVC cover
- -14°F - 140°F temperature range
- Longer life due to high adhesions between tube and cover
- 300 foot rolls

DESCRIPTION	PART NUMBER	I.D.	WEIGHT LBS/FT	W.P PSI
V136 blue layflat hose 2"	HSLF200	2"	0.18	75
V136 blue layflat hose 3"	HSLF300	3"	0.27	55

### CLEAR SIGHT GAUGE HOSE



#### Standard Features:

- Light duty air and water hose
- 1°F - 189°F temperature range
- Low pressure rating
- Comes in 100 foot rolls

DESCRIPTION	PART NUMBER
V3500 clear braid 3/4"	HSV3500075
V3500 clear braid 1"	HSV3500100

### DOUBLE BRAIDED BLACK SPRAYER HOSE



#### Standard Features:

- Designed for sprayer product hoses from hand held to high clearance
- 4 braid reinforcement
- Maximum 200 PSI working pressure
- Long life on sprayer fold points

DESCRIPTION	PART NUMBER
3/4" ID sprayer hose	HS310000750011
1" ID sprayer hose	HS310001000008
1 1/4" ID sprayer hose	HS310001250012
1 1/2" ID sprayer hose	HS310001500015



## FERTILIZER SUCTION HOSE

### EPDM SUCTION HOSE



#### Standard Features:

- Chemical, weather & ozone resistant EPDM suction hose with polyethylene helix reinforcement
- -40°F - 140°F temperature range with excellent low temperature flexibility
- Light weight and easy to handle -100' rolls

DESCRIPTION	PART NUMBER	I.D.	O.D.	BEND RADIUS	W.P @ 72°F PSI	VACUUM @ 72°F IN./HG	WEIGHT LBS/FT
EPDM 1 1/2" suction hose	HSEPDM150	1 1/2"	1.93"	3.5"	50	29.8	0.5
EPDM 2" suction hose	HSEPDM200	2"	2.43"	5.2"	50	29.8	0.57
EPDM 3" suction hose	HSEPDM300	3"	3.52"	7.1"	43	29.8	1.1
EPDM 4" suction hose	HSEPDM400	4"	4.55"	9.1"	40	29.8	1.84

### N645 EPDM TRANSFER HOSE



#### Standard Features:

- High grade EPDM/SBR blend with high textile spiral and steel helix wire
- Abrasion, oil, weather and ozone resistant
- -30°F - 195°F temperature range
- 100' rolls

DESCRIPTION	PART NUMBER	I.D.	O.D.	BEND RADIUS	W.P @ 72°F PSI	VACUUM @ 72°F IN./HG	WEIGHT LBS/FT
N645 EPDM 2" black with wire helix	HSN645200	2"	2.5"	8"	150	27	1.1
N645 EPDM 3" black with wire helix	HSN655300	3"	3.5"	12"	150	27	1.85

### V3010 CLEAR BRAIDED TRANSFER HOSE



#### Standard Features:

- Clear, flexible PVC with textile braid reinforcement
- Non-Toxic compound meets FDA requirements
- Easy to clean smooth tube
- 5°F - 140°F temperature range

DESCRIPTION	PART NUMBER	I.D.	WALL THICKNESS	B.P @ 72°F PSI	W.P @ 72°F PSI	WEIGHT LBS/100FT
V3010 clear braided 1/4"- 100' and 300' rolls	HSCBH14	1/4"	0.12"	1,100	370	7
V3010 clear braided 3/8"- 300' rolls	HSCBH38	3/8"	0.12"	975	325	10
V3010 clear braided 1/2"- 300' rolls	HSCBH12	1/2"	0.12"	675	225	12
V3010 clear braided 3/4"- 300' rolls	HSCBH34	3/4"	0.14"	525	175	22
V3010 clear braided 1"- 100' and 200' rolls	HSCBH1	1"	0.16"	450	150	28
V3010 clear braided 1 1/4"- 100' rolls	HSCBH125	1 1/4"	0.18"	375	125	44
V3010 clear braided 1 1/2"- 100' rolls	HSCBH150	1 1/2"	0.22"	330	110	58

### BLUE STARTER PHOS HOSE



#### Standard Features:

- 1/8" Blue hose is ideal for low flow rates of start fertilizers
- 1/8" ID, flexible hose will adapt to most seeding equipment

DESCRIPTION	PART NUMBER
1/8" hose- 500' rolls	HS18BLUE

## HOSE CUTTERS



Effortlessly and safely cut hose up to 2" in diameter with these hand held hose cutters. Place over hose and squeeze handles together to cut. Stainless steel blade.

### HAND HELD HOSE CUTTERS

DESCRIPTION	PART NUMBER
Hose cutter	GLG99
Replacement blade	GLG99B

## HOSE CLAMPS

Hose



- Stainless steel with silver plated nut to prevent seizing
- 360° sealing - ideal for high torque application

BANJO T-BOLT HOSE CLAMPS		
DESCRIPTION	PART NUMBER	MIN/MAX DIA
Clamp, T-bolt 1"	BATC151	1.31" - 1.65"
Clamp, T-bolt 1 1/4"	BATC162	1.62" - 1.87"
Clamp, T-bolt 1 1/2"	BATC181	1.81" - 2.06"
Clamp, T-bolt 1 1/2"	GLG89028	1.81" - 2.06"
Clamp, T-bolt 2"	BATC218	2.18" - 2.50"
Clamp, T-bolt 2"	BATC231	2.31" - 2.62"
Clamp, T-bolt 2"	BATC250	2.50" - 2.81"
Clamp, T-bolt 3"	BATC331	3.31" - 3.62"
Clamp, T-bolt 3"	BATC343	3.43" - 3.75"
Clamp, T-bolt 4"	BATC425	4.25" - 4.56"



- S.A.E. Stainless Steel Band housing with steel, case hardened, plated screws
- Made with all stainless steel band and screw assembly to withstand corrosion

STAINLESS STEEL GEAR CLAMPS		
DESCRIPTION	PART NUMBER	MIN/MAX DIA
S.S gear clamp 1/4" hose	PPHAS04	3/16" - 5/16"
S.S gear clamp 3/8" hose	PPHAS05	1/4" - 3/8"
S.S gear clamp 1/2" hose	PPHAS06	5/16" - 3/8"
S.S gear clamp 5/8" hose	PPHAS08	3/8" - 5/8"
S.S gear clamp 3/4" hose	PPHAS12	5/8" - 1 1/4"
S.S gear clamp 1" hose	PPHAS16	1 1/16" - 1 1/2"
S.S gear clamp 1 1/4" hose	PPHAS20	1 3/16" - 1 1/4"
S.S gear clamp 1 1/2" hose	PPHAS24	1 1/4" - 1 7/8"
S.S gear clamp 2" hose	PPHAS32	1 1/2" - 2 3/8"
S.S gear clamp 2 1/4" hose	PPHAS36	1 3/4" - 2 1/2"
S.S gear clamp 2 1/2" hose	PPHAS 40	2" - 2 3/4"
S.S gear clamp 3" hose	PPHAS48	2 9/16" - 3 1/2"



- These hybrid pressure seal HD clamps are widely used in applications in the automotive and heavy duty markets and we are now bringing them into the farm market
- 5/8" band width, all 300 stainless steel construction and 150 in/lbs ultimate torque
- Spring compression of liner creates 360 degree pressure on hose
- Liner of clamp has a trough feature which exerts additional pressure on hose and also eliminates the leak paths of a t-bolt or worm drive clamp under the housing

HYBRID PRESSURE SEAL HD CLAMPS		
DESCRIPTION	PART NUMBER	MIN/MAX DIA
Pressure Seal HD clamp, 3/4"	PPPSWS16	0.05" - 0.95"
Pressure Seal HD clamp, 1"	PPPSWS19	0.08" - 1.50"
Pressure Seal HD clamp, 1.25"	PPPSWS24	1.20" - 2.35"
Pressure Seal HD clamp, 1.5"	PPPSHD0238	1.62" - 2.12"
Pressure Seal HD clamp, 2"	PPPSHD0300	2.25" - 2.75"
Pressure Seal HD clamp, 2.5"	PPPSHD0325	2.50" - 3.00"
Pressure Seal HD clamp, 3"	PPPSHD0400	3.12" - 3.75"
Pressure Seal HD clamp, 4"	PPPSHD0512	4.0" - 4.875"



# Liquid Storage Tanks



Liquid Storage Tanks



1-866-509-0715

**Pattison**  
Expect the Best!  
31

[www.liquidsystems.net](http://www.liquidsystems.net)

# Liquid Storage Tanks

## LIQUISTOR STAINLESS STEEL STORAGE TANKS

Liquid Storage Tanks

### STAINLESS STEEL STORAGE TANKS



#### Standard Features:

- Flat bottom dome style tank
- Made from 304 stainless steel
- 1 - 24" manway for easy tank access
- 2 - 4" FPT tank fittings for recirculation and fill/discharge
- 3/4" auto shutoff valve and sight gauge
- Lifting lugs
- Backed by a one year warranty
- Sight gauge tank volume measurements



### STAINLESS STEEL STORAGE TANKS

Model - Height	Capacity
1620 -23'6"	30,750 us gal 148 tonne
1625 -28'6"	38,268 us gal 184 tonne
1630 -33'6"	45,800 us gal 220 tonne
1635 -38'6"	53,304 us gal 257 tonne
1640 -43'6"	60,800 us gal 293 tonne
1830 -33'6"	58,068 us gal 279 tonne
1835 -38'6"	67,560 us gal 325 tonne
1840 -43'6"	77,076 us gal 371 tonne
1850 -48'6"	95,570 us gal 460 tonne

#### Stainless Steel Tanks Offer:

- Superior corrosion resistance to regular steel tanks
- Competitively priced to other storage tanks
- Proven record, for trouble free storage of liquid fertilizers
- Maintenance free with little upkeep
- Manufactured in Canada by highly experienced company backed by a one year warranty

### REPLACEMENT MANWAY GASKET

DESCRIPTION	PART NUMBER
18" manway gasket- 20 bolt	MER18820
24" manway gasket- 20 bolt	MER18079
<b>Bolt torque- 55 FT/LBS</b>	

#### To Order:

To place a tank order please contact our office or your Territory Manager.

### AIRMIX LIQUID FLUIDIZER

#### STANDARD FEATURE:

The new AirMix Liquid Fluidizer is a computerized system of pulsating air injection across the bottom of the tank to agitate and suspend liquids. Ensure your liquids are ready to go with the Meridian AirMix. Users can select the speeds and settings of the pulsing action with Meridian's Variable Control System, changing the duration and frequency of the air agitation within the tank. Gentle mixing action, low compressor HP requirements and full automation make the AirMix a great feature on any liquid storage tank.



Positioned on the base of the floor are four air discharge chambers to allow even pulsating distribution throughout the tank.



Control panel installed with the air line feeding the four floor mounted pulsating discharge chambers.



Control panel will allow operator to increase air flow and change speed of pulsating.

### AIRMIX SYSTEM

DESCRIPTION	PART NUMBER
Airmix floor package	MER40623
Airmix control panel	MER40622
Retrofit air mix hardware pkg.	MER40647

**Note:** Retrofit kit does not include floor brackets. Discharge chambers sit on floor. Uses existing fill port in old tank.



## LIQUID TATTLE- TANK MONITORING



### Standard Features:

Tattle Systems maximize IoT and M2M connectivity. Tattle devices, application and software are completely designed and produced in Canada by North Star Systems engineers. Tattle Systems work as a complete and closed system, connecting the device to the user through any smartphone, web app, or tablet from anywhere. The combination creates an innovative, real-time controlled and remote monitoring and data solution. Client's operations benefit from increased efficiencies, increased profitability, enhanced safety, sustainability, and compliance when utilizing Tattle Systems.

TATTLE SYSTEM	
DESCRIPTION	PART NUMBER
Solar powered box	PPLIQTATTLE
110V powered box	PPLIQTATTLELITE
Sensor cable- 10 meter	PPLIQTATSEN10

## PATTISON FERTANK



### Standard Features:

- Large capacity - Holds a complete B-train load of liquid fertilizer, with room to spare!
- Lower cost - Polyethylene FERTANK costs significantly less than steel or fiberglass tanks
- Corrosion proof - Fertilizer will not corrode the polyethylene material. Inner and/or outer coating (or maintenance re-coating) are not required
- Heavy duty - The FERTANK is designed to store fertilizer, with a thicker wall than standard poly tanks to accommodate fertilizer's greater weight
- Durable - Polyethylene material has a high durability with a long, maintenance free, life
- Easier to move - Polyethylene is lighter than steel so the tanks are easier to move and transport
- Molded in lugs - Provide a convenient attachment point for loading or moving lifting empty tanks and for holding down tanks during transport or on site
- Lid - Large 22" diameter lid
- Fittings - 3" threaded fitting standard. 1" through 4" fitting available
- Vent - Standard vent located on top of tank
- Comes with either 2" or 3" Banjo valve packages
- 150" W x 147" High, Empty weight 2527 Lbs.
- Every 1" of tank wall represents aprox. 75 US Gallons

FERTANK STORAGE TANK	
DESCRIPTION	PART NUMBER
Fertank 9,900 USG capacity	QP706831
Fertank sight gauge package	PPFERTANKSGP



Fertank Transport System  
-see page 22 for details

**To Order:**  
To place a tank order please contact our office or your Territory Manager.





# Liquid Storage Tanks

## REPLACEMENT TANK PARTS



TANK LIDS	
DESCRIPTION	PART NUMBER
16" vented lid	QP30006-1
16" hinged lid	QP30013-1
16" hinged lid- (used on FLEX)	EPCFLP16HV
22" non vented lid	QP30027-1

STRAINER BASKETS	
DESCRIPTION	PART NUMBER
8" plastic mesh	QP30009-1
12" plastic mesh	QP30010-1
16" plastic mesh	QP30011-1



TANK REPAIR KIT	
DESCRIPTION	PART NUMBER
Tank repair kit	ZZMD40W
Roll of plastic repair wire (50')	ZZT1

Liquid Storage Tanks

## 40K BATCH SCALE SYSTEM



### STANDARD FEATURES:

- Tank size 3,000 US gal.
- 30° cone bottom tank with indent for total drainage
- UV protected tank 96" diameter
- 4 leg saddle painted with primer and two part epoxy/urathene
- Four 10K single ended beam load cells c/w mounts
- Stainless steel sump and trim box
- M2000 Digital monitor
- 2" bulkhead
- Height 142", Width 98"

### Options:

- 3" plumbing and Ticket printer
- CDS John Blue 2" or 3" centrifugal load out pumps

### To Order:

To place a tank order please contact our office or your Territory Manager.



## ON FARM BLEND STATION

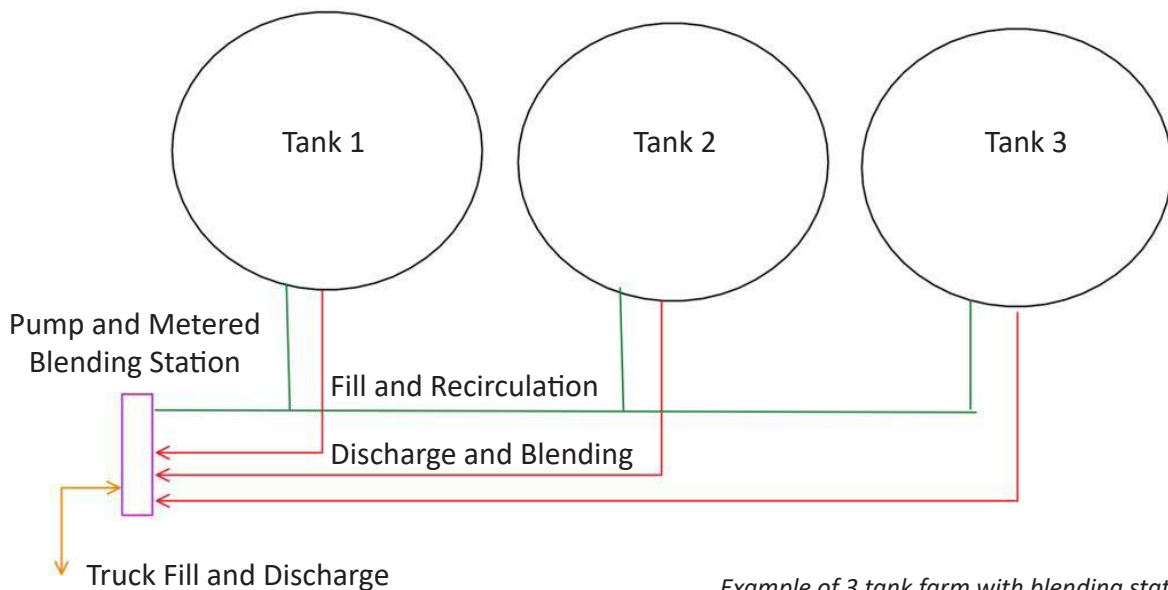
At Pattison Liquid Systems we can help design your tank storage layout including fittings, hose, pumps and tank monitoring systems.



This **On Farm Blending Station** allows the operator to quickly blend fertilizer from individual tanks. The 3" Banjo poly pump is powered by a 7.5 HP electric motor and product is accurately measured through the 3" Banjo flow meter.

The system is also designed to fill and unload trucks, and fill, empty and recirculate product from multiple tanks. The system in the picture is built to be used with three tanks, but can be easily modified to accommodate as many tanks that are required. Pre-assembled on the powder coated stand, it will look new and withstand many years of use in the corrosive environment.

The system will allow for the choice of multiple tanks that can be either made of Stainless Steel or Poly. Tanks will come complete with both discharge and recirculating 3" ports. Sight gauges on each tank allows for visual checking of tank volumes. The optional Liquid **Tattle System**, featured on Page 33 can offer individual monitoring of each tank.



Example of 3 tank farm with blending station

## GAS PUMPS



### 5.5 HP HONDA POWERED 2" BANJO PUMP

DESCRIPTION	PART NUMBER
2" pump is specially designed high output pump capable of pumping and incredible 180 Imp. gal./min. This unit is powered by a 5.5 hp Honda GX160 commercial grade engine.	PPM225HP55

- Inlet/outlet size: 2 inch
- Maximum GPM: 200
- Pump material: polypropylene
- Maximum PSI: 45 PSI
- Motor HP: 5.5HP
- Weight: 49 lbs



### 6.5 HP HONDA POWERED 3" BANJO PUMP

DESCRIPTION	PART NUMBER
3" polypropylene Banjo pump coupled to a Honda GX200, 6.5 HP, four stroke overhead valve gas engine. This rugged transfer pump can move up to 300 gpm of water.	PPM300HP65

- Inlet/outlet size: 3 inch
- Maximum GPM: 300 GPM
- Pump material: polypropylene
- Maximum PSI: 30 PSI
- Motor HP: 6.5HP
- Weight: 49 lbs.



### 13 HP HONDA POWERED 3" HYPRO PUMP

DESCRIPTION	PART NUMBER
The reliability of GX390 Honda engines meets the high performance of Hypro pumps. Move up to 440 gpm of water filling your equipment faster. Electric start gas engine.	PPHYFGX390

- Weight: 105 lbs
- Dimensions: 27 x 24.75 x 23 in
- Inlet/Outlet Size: 3"
- Material: Polypropylene
- Engine: 13 hp electric start
- Pump GPM: 440 GPM
- Max PSI: 54 PSI

**NEW!**



### 13 HP HONDA POWERED 3" M350 PUMP

DESCRIPTION	PART NUMBER
The M350 self-priming pump with fast flow technology can achieve 500+ gallons per minute. With wet seals the pump can run dry for up to 1 hour.	PPBAGX390M350

- Maximum capacity: 500+ GPM
- Inlet/outlet port size: 3"
- Suction lift: 25 feet
- 1 hour run dry time
- Engine: 13 hp electric start
- Weight: 88.2 lbs
- Wet seal polypropylene



### 13 HP POWER PRO 3" HYPRO PUMP

DESCRIPTION	PART NUMBER
Achieve the highest performance available with the Power Pro 3" Hypro pump up to 440 gpm with the highest efficiency and horsepower on the market. Electric start gas engine.	HY13HP3F

- Weight: 105 lbs
- Dimensions: 27 x 24.75 x 23 in
- Inlet/Outlet Size: 3"
- Material: Polypropylene
- Engine: 13 hp electric start
- Pump GPM: 440 GPM
- Max PSI: 54 PSI



## GAS PUMPS



### KODIAK 2" PUMP

DESCRIPTION	PART NUMBER
The 2" Kodiak pump PPPWP-2P7RT is a reliable and light weight pump powered by a Kodiak OHV engine. The viton and EPDM seals provide resistance to corrosive chemicals.	PPPWP2P7RT

- Maximum capacity: 150 GPM
- Inlet/outlet port size: 2"
- Suction lift: 25 feet
- Maximum head: 134 feet
- Engine: 7HP Kodiak OHV
- Weight: 48 lbs
- Carbon ceramic seal



### 1" HONDA GENERAL WATER PUMP

DESCRIPTION	PART NUMBER
The 1" water pump PWP1H is powered by a Honda 1 HP, GX25 OHC motor. This little pump provides reliability in water or chemical transfer with a cast aluminum pump housing and volute.	PPPWP1H

- 1" inlet and outlet port size
- 31 gpm max capacity
- 26 feet of suction lift
- 114 feet maximum head
- Weighs 11 lbs
- Carbon ceramic mechanical seal
- Handles solids up to 1/4"



### GX160 HONDA ENGINE ONLY

DESCRIPTION	PART NUMBER
The GX160 offers improved fuel economy, lower noise levels, lower vibration, and lower emissions – without sacrificing power output or performance.	PPGX160KQX

- 160 cc, net 4.8 HP
- 3/4" x 2 3/64" crankshaft
- Automatic decompression for easy starting
- Heavy duty ball bearing supported crankshaft
- Recoil start
- Oil alert



### GX200 HONDA ENGINE ONLY

DESCRIPTION	PART NUMBER
The GX200 offers lower noise levels, lower vibration, and lower emissions without sacrificing power output or performance. Fits dimensions of the previous models.	PPGX200KQX

- 200 cc, net 5.5 HP
- 3/4" x 2 7/16" crankshaft
- Recoil start
- Standard muffler
- Oil alert



### GX390 HONDA ENGINE ONLY

DESCRIPTION	PART NUMBER
The GX390 features more power, quieter performance, lower fuel consumption, and lower emissions than the previous version. With new features and better performance, the new GX engines establish themselves one of the best engines.	PPGX390QAE

- 390 cc, net 13 HP
- 1" x 3 1/64" crankshaft
- Electric & recoil start
- 3 amp charging system
- Silent muffler with spark arrestor and deflector
- Oil alert



## PUMP ONLY ASSEMBLIES



2" & 3" BANJO PUMP ONLY	
DESCRIPTION	PART NUMBER
The 2" & 3" Banjo Pump only kit includes the components necessary to mount to your own engine. Banjo's 2" & 3" Poly Manifold Pump Only fits to a 3/4" Shaft and includes a 5 Vane Impeller.	2" Pump Only: BAM225PO  3" Pump Only: BAM300PO

- Self priming
- High strength polypropylene
- Light weight and portable
- High performance impeller
- Large weep holes between pump and engine
- Not rated for flammable liquids



M350 3" BANJO PUMP ONLY	
DESCRIPTION	PART NUMBER
The 3" Banjo M350 Pump Only is designed to protect the pump seals with wet seal technology. Couple it to a 13 HP Honda engine and power the pump to achieve flow rates of up to 500+ gallons per minute!	BAM350POW

- Weight: 17.1 lbs
- Self priming
- High strength polypropylene
- 3,600 RPM Operating Speed
- Wet Seal Technology
- Fast Flow diffuser design
- Comes full assembled



3" HYPRO PUMP ONLY	
DESCRIPTION	PART NUMBER
The 3" Hypro flanged pump only kit includes the components necessary to mount to your own engine. Hypro's 3" poly manifold flange pump only fits to a 3/4" shaft.	HY3430069202

- Weight: 5 lbs
- Self priming
- High strength polypropylene
- Corrosion resistant
- Light weight and portable
- High performance impeller
- Not rated for flammable liquids

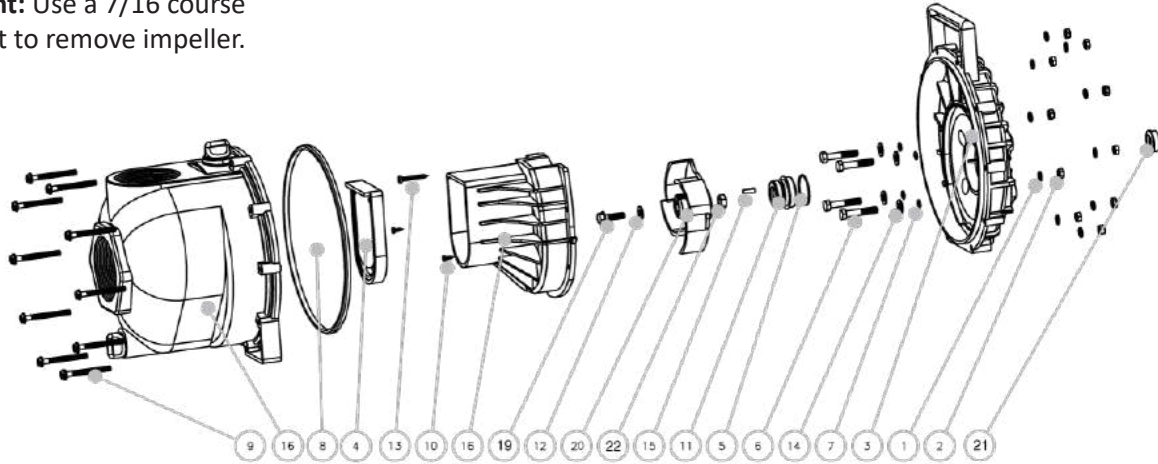


JOHN BLUE 3" PUMP ONLY	
DESCRIPTION	PART NUMBER
The John Blue 3" Pump JBSP3340 can run dry without damaging the seal. John Blue Centrifugal Pumps are second to no other pump manufacturer- all at an affordable price.	JBSP3340

- Maximum GPM: 340 GPM
- GPM at 25 PSI: 265 PGM
- Maximum pressure: 64 PSI
- Max RPM: 3,600
- Motor HP required: 10
- Inlet/outlet size: 3"
- Shaft size: 1 1/8"

## BANJO PUMP REPLACEMENT PARTS

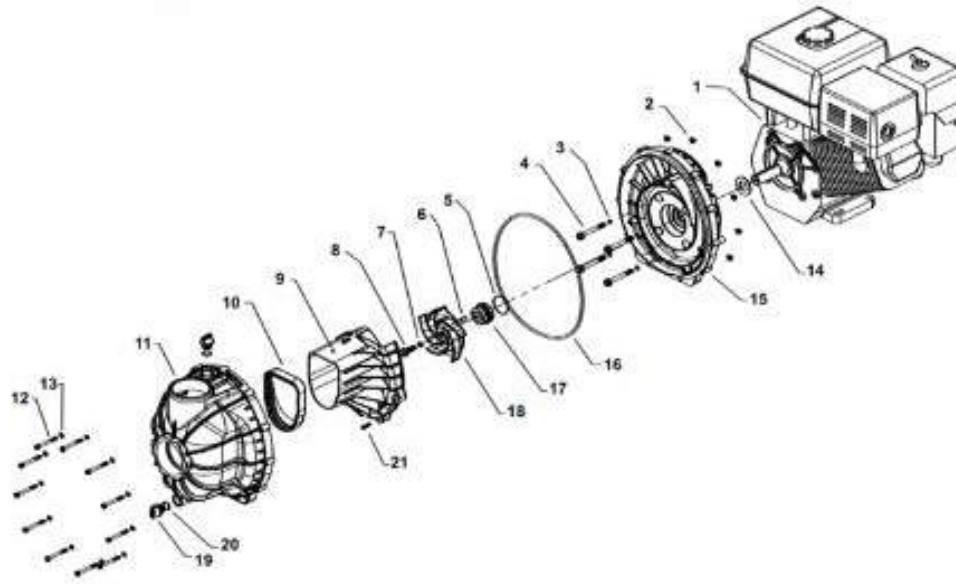
**Helpful hint:** Use a 7/16 course thread bolt to remove impeller.



ITEM	DESCRIPTION	QTY.	PUMP SIZE AND TYPE			
			1 1/2"	2" NEW STYLE	2" OLD STYLE	3"
2	Body Nuts SS	10	BAV07019	BAV07019	BAV07019	BAV07019
3	Lock washer SS	10	BAV07018	BAV07018	BAV07018	BAV07018
4	Rear bracket	1	BA12703A	BA12703A	BA12703A	BA12703A
5 & 6	Shaft seal assembly SS	1	BA12713	BA12713	BA12713	BA12713
	FKM (Viton) shaft seal assembly SS		BA12713V	BA12713V	BA12713V	BA12713V
7	Screw heads O-rings	4	BA12717	BA12717	BA12717	BA12717
	Screw heads O-rings	4	BA12717V	BA12717V	BA12717V	BA12717V
8	Rear bracket screws SS	4	BA12715A	BA12715A	BA12715A	BA12715A
9	O-ring segment	1	BA12754	BA12754	BA12754	BA12754
	FKM (Viton) O-ring segment	1	BA12754V	BA12754V	BA12754V	BA12754V
10	Body O-ring	1	BA12719A	BA12719A	BA12719A	BA12719A
	FKM (Viton) body O-ring	1	BA12719V	BA12719AV	BA12719AV	BA12719AV
11	3 vane impeller	1	BA12771A			
	5 vane impeller	1		BA12772		
	3 vane impeller	1			BA12771	
	4 vane impeller	1				BA13772
12	Impeller bolt SS	1	BA12765A	BA12765A	BA12765A	BA12765A
13	Impeller bolt gasket	1	BA12774VA	BA12774VA	BA12774VA	BA12774VA
14	Impeller hex nut	1	BA12775A	BA12775A	BA12775A	BA12775A
15	Volute	1	BA12702A	BA12702A	BA12702	
	Volute-old style					BA13702
16	Volute screw SS	1	BA12725	BA12725	BA12725	BA12725
17	Check valve	1	BA12705	BA12705	BA12705	BA12705
	FKM (Viton) check valve	1	BA12705V	BA12705V	BA12705V	BA12705V
18	Pump body	1	BA12711A	BA12712A	BA12712A	BA12712
19	Body screw/washer SS	10	BA12720	BA12720	BA12720	BA12720
20	Prime/drain plug	2	BA12777	BA12777	BA12777	BA12777
21	Prime/drain o-ring	2	BA12722	BA12722	BA12722	BA13778
25	Upper volute screws	1	BA12900	BA12900	BA12900	BA12900
26	Rear bracket washer	4	BA12901	BA12901	BA12901	BA12901
27	Impeller key SS	1	BA12902A	BA12902A	BA12902A	BA12902A
28	Shaft slinger	1	BA12706	BA12706	BA12706	BA12706
29	O-ring for seal assembly	1	BA12710	BA12710	BA12710	BA12710



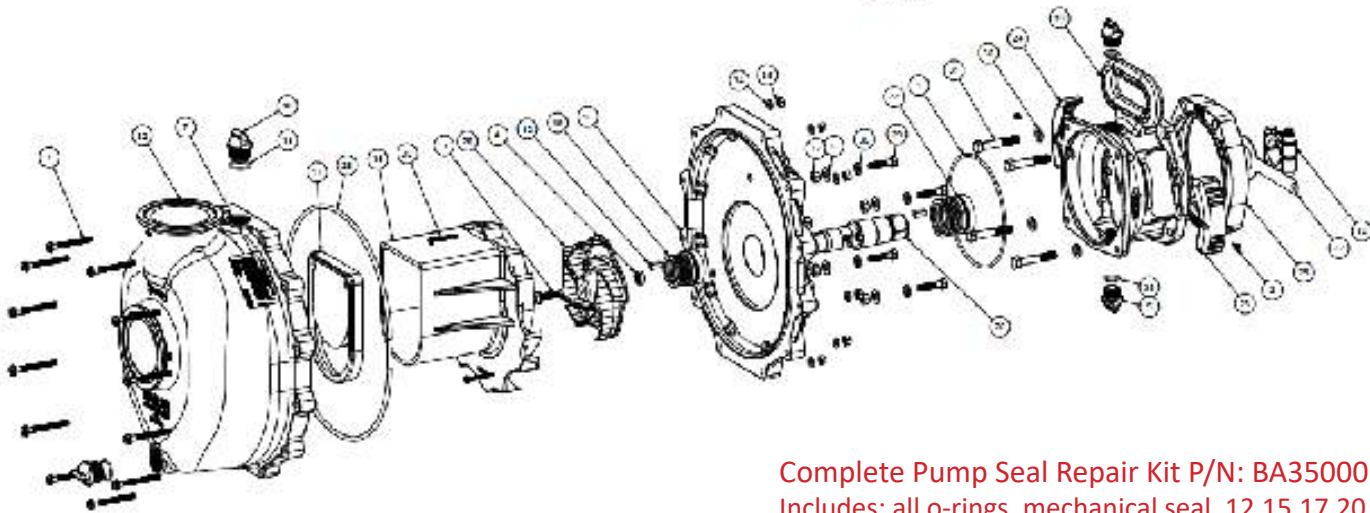
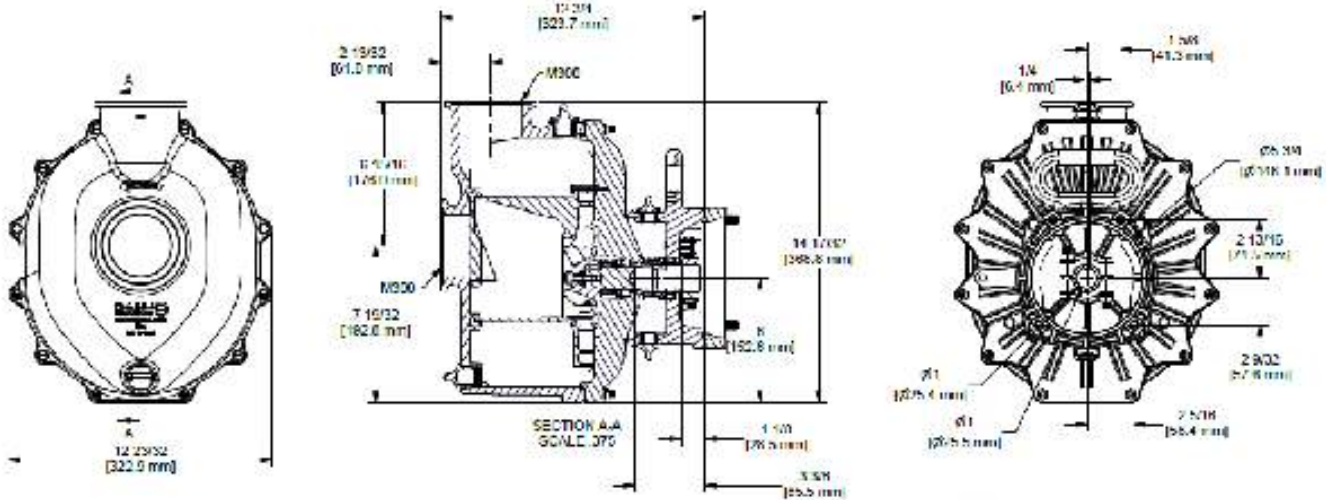
## HYPRO PUMP REPLACEMENT PARTS



ITEM	DESCRIPTION	QTY.	PART NUMBER
2	Hex flange nut	11	HY22500087
3*	O-ring	4	HY17230149
4	Hex flange bolt	4	HY22100182
5*	O-ring	1	HY17230148
6	Key (square)	1	HY16100069
7*	O-ring	1	HY17230142
8	Hex flange bolt	1	HY22100181
9	Pump volute	1	HY01501543P
10*	Flapper valve	1	HY17000232
11	Pump housing	1	HY01001543P
11A	Pump housing flanged		HY01011543PK
12	Hex head cap screw	11	HY22100141
13	Flat washer	11	HY22700115
14	Slinger ring	1	HY14100091
15	back plate	1	HY07501543PK
16*	O-ring	1	HY17230146
17*	Mechanical seal 1		HY21200055
18	Impeller	1	HY04001543P
19	Fill/drain plug	2	HY24040350P
20	O-ring	2	HY17200230
21	Hex washer head screw	4	HY22100183
	Mechanical seal kit includes (*)		HY34300757
	Engine gasket		HY25450062

DESCRIPTION	PART NUMBER
<b>Replacement Engine Parts</b>	
Gas cap	HY25450190
Fuel Tank	HY25450192
Breather	HY25450191
Ignition box	HY25450198
Starter	HY25450196
Air cleaner cover- old style	HY25450134
Air filter (oval style- older engines)	HY25450038
Recoil assembly	HY25450044
Solenoid	HY25450139
Air filter (round style- new engines)	HY25450186
Carburetor	HY25450181
Coil	HY25450183
Muffler only	HO18310Z5T010
Muffler cover only	HO18320Z5T000
Engine gasket kit	HY25450062
Air cleaner assemble with filter- snap on style	HY25450185

## BANJO M350 PUMP REPLACEMENT PARTS



Complete Pump Seal Repair Kit P/N: BA35000  
Includes: all o-rings, mechanical seal, 12,15,17,20,28

ITEM	QTY	PART NUMBER	DESCRIPTION	ITEM	QTY	PART NUMBER	DESCRIPTION
1	12	BA12720	1/4-20 X 2 IQ" SL IND HEX WASHER HEAD SCREW	20	1	BA35073	M350 5-VANE IMPELLER
2	2	BA12725	#6 X 1/2" PPH SMS	21	1	BA35201	M350 WET SEAL RESERVOIR
3	1	BA12765A	5/16-24 X 1 1/8" HFS	22	1	BA35313E	1.375" MECHANICAL SEAL, EPDM, BULK
4	1	BA12775A	7/16-14 HEX NUT	23	1	BA35246GL	LEFT SHAFT GUARD FOR M350P
5	2	BA12777	1/2" DRAIN PLUG	24	1	BA35246GR	RIGHT SHAFT GUARD FOR M350P
6	8 (4 SHOWN)	BA12901	5/16" FLAT WASHER	26	1	BA35255A	3" WET SEAL POLY PUMP SHAFT ADAPTER FOR BEM15-100
7	1	BA12910	PUMP WARNING LABEL	27	1	BA35901	350 PUMP SEAL SPACING TOOL
9	1	BA13719	AS568A -256 O-RING, EPDM. BLACK	28	1	BAA380E	AS568 #380 ERDM O-RING
10	2	BA13777	3/4" DRAIN PLUG, MOLDED	30	3	BAB1014150TS	#10 X 1/2 THREAD FORMING SCREW, 18-8 SS
11	2	BA13778	AS568A -119 O-RING, EPDM. BLACK	32	1	BAM35012	M350 MANIFOLD BODY
12	2	BA16901SS	1/4" SO. X 5/8" KEY 18-8 SS	33	2	BAUV15163	AS568A -114 O-RING, EPDM, BLACK
13	4 (N/S)	BA17034	5/16-18 X 1-1/2" HHCS	34	12	BAV07018	1/4" LOCKWASHER
14	1	BA18029	CLAMP	35	12	BAV07019	1/6-20 S.S. HEX NUT
15	1	BA35002	M350 DIFFUSER	36	8 (4 SHOWN)	BAV10118	5/16" LOCKWASHER
16	1	BA35004	M350 REAR BRACKET	37	8 (4 SHOWN)	BAV10119	5/16"- 18 SS NUT
17	1	BA35005	3" WET SEAL POLY PUMP CHECK VALVE	38	4	BAV20018	3/8" LOCKWASHER
18	1	BA35113E	1.125" MECHANICAL SEAL. EPDM, BULK	29	4	BAB0516138	5/16-18 X 3/8" HHCS
19	2 (N/S)	BA35033	Z-RAIL FOR M350PH13W	31	4	BABF207	3/8-16 x 2 1/4" HHCS
				25	1	BA35248	M350 ENGINE SPACER

# BLACK ACE ENGINE REMOTE CONTROLLER

**NEW PRODUCT!**



### Part Number: PPREMOTESTART

The Honda Remote Engine Starter is a device designed for small engines with electric start that allows remote operation of the engine using a wireless remote control. This device enables the user to start or stop the engine from a distance and increase or decrease the RPM's, making it an ideal solution for applications where the engine is difficult to access or is installed in a remote location. The Remote Engine Command is easy to install and use, and it is compatible with a wide range of Honda small engines. With its reliable performance and user-friendly design, the Honda Remote Engine Starter is an excellent choice for anyone looking to streamline their filling operation and improve their overall efficiency.

The engine starter kit has been confirmed to work with Honda GX390, GX200, GX160 and GC120 engines. This kit also works on 13hp Power Pro Engines with electric start but requires a throttle cable clip (screw clamps) to secure the cable to the engine throttle as one does not ship with the Power Pro Engine.

For engines without the electric start option the remote can be used to stop the engine, as well as increase or decrease the engine RPM's. Just not start the engine.



## GROUND DRIVEN PUMPS

### Piston Pumps - We have a Next Generation Pump for Your Application

When it comes to metering pumps and injection pumps for agricultural fertilizers and chemicals, our Next Generation Piston Pump (NGP) will redefine your precision application expectations. Our ground driven and hydraulic driven, variable rate piston pumps have a reputation and history built on superior performance, serviceability and overall quality. All CDS-John Blue Ag Piston Pumps have been designed, engineered, and extensively field tested to set the standard for liquid metering pumps.

1. NEW Inlet & Outlet Flanges make it easier to plumb your piston pump system and eliminate leaks with flange fittings. (Add -F after model number).
  2. Double Piston Rod Seals work in unison to offer multiple stage protection between the wet end and crankcase.
  3. Outboard Cylinder Plunger Packing can be inspected or replaced in the field without removing the hoses.
  4. Check Valves are designed for positive seal, easy priming, and long life.
  5. Single Valve Cap provides easy access to check valves without removing the hoses.
  6. Simple to service in the field.
  7. Common or Independent Manifolds are available on the double piston pumps. Independent manifolds allow for dual flow divider usage or half width fertilizer application.
  8. Main Shaft Seals incorporate a dual wiper that is enclosed in a grease cavity to flush out contamination. This helps to extend the life of the metering pump.
- **Common or Independent Manifolds** - The larger capacity NGP double metering pumps come standard with a common inlet and outlet. The manifold which can be removed for independent pumping chambers allowing dual flow divider usage or half width applications. More flexible to meet your needs.
  - **Variable Rate Ready** - The new modular design means you can expand the basic NGP to variable rate applications in the future.



JOHN BLUE NGP-6055 PUMP	
DESCRIPTION	PART NUMBER
When it comes to ag metering pumps for agricultural fertilizers and chemicals, our Next Generation Piston Pump NGP-6055 will redefine your precision application expectations.	JBNGP-6055

- Maximum capacity: 21 GPM
- Maximum pressure: 120 PSI
- Inlet/outlet port size: 1 1/2" NPT
- Maximum RPM: 450 RPM
- Stroke: variable
- Piston: single piston double acting



JOHN BLUE NGP-9055S PUMP	
DESCRIPTION	PART NUMBER
When it comes to ag metering pumps for agricultural fertilizers and chemicals, our Next Generation Piston Pump NGP-9055 will redefine your precision application expectations.	JBNGP-9055S

- Maximum capacity: 68.4 GPM
- Maximum pressure: 120 PSI
- Inlet/outlet port size: 1 1/2" NPT
- Maximum RPM: 450 RPM
- Stroke: variable
- Piston: double piston double acting

## PUMP SERVICING PROGRAM



**Pattison Liquid Systems Inc. offers a complete repair service performed by our technicians at a fixed net base cost.**

**Please Note:** Due to the ever increasing safety concerns for our employees and the diversity of materials being used in these pumps, **please thoroughly flush all pumps before returning for repairs!**

### This service includes:

1. Steam cleaning, sandblasting, and flushing of all parts.
2. Visual inspection and checking of all wearing parts.
3. Complete reassembly, including the replacement of all normally work sealing parts (gaskets, seals and packings). These items are included in the base repair price!
4. Replacement of all worn or damaged metal parts. These parts are not included in the repair kit and will be charged on the basis of regular repair parts. However, there will not be any extra labour charged for the replacement of any necessary worn parts.
5. A complete production test, calibration, degreasing, painting, ect.
6. This pump will carry a 1 year warranty from the repair date.

## PATTISON WINTERIZING ANTI-FREEZE - PROPYLENE GLYCOL



### Be Wise and Winterize:

Using the proper type of Anti-Freeze will enhance the longevity of your fertilizer pumps from the elements of our cold winters. Improper storage can cause expensive unwanted repairs!

#### PATTISON WINTERIZER

DESCRIPTION	PART NUMBER
4 liter jug	PPWINT4L
20 liter pail	PPWINT20L
205 liter barrel	PPWINT205L

- Environmentally friendly • Rust inhibitor • Will not damage gaskets & seals that would occur with using methanol or ethanol brands causing unwanted costly pump repairs. • Safe up to -48° C • Recommended by CDS/John Blue Company
- Available in 4 liter, 20 liter jugs and 205 liter barrels

### Problems caused with other products:

#### 50/50 diesel & oil mixture

- Causes plugging in distribution kit screens if not flushed properly
- Causes gaskets & seals to swell out of shape
- Can still freeze or gel and cause internal and external damages

#### RV anti-freeze/windshield antifreeze

- No rust inhibitor (most brands)
- Contains methanol & ethanol, which dries out gaskets and seals
- No lubrication qualities

#### Automotive anti-freeze

- Not environmentally friendly
- Contains ethylene (which dries out gaskets & seals)
- May contain silicate
- Can freeze or gel if not mixed properly

## JOHN BLUE PUMP REPAIR KITS AND ACCESSORIES

REPAIR KITS- JOHN BLUE	
DESCRIPTION	PART NUMBER
Gasket repair kit - JBLM-4950 series	JB111947
Gasket repair kit - JBLM-4450 series	JB111953
Gasket repair kit - JBLM-2450 series	JB113717
Gasket repair kit - JBL-5100 series	JB106029
Gasket repair kit - JBL-4910 series	JBL3090
Gasket repair kit - JBL4400 series	JBL4090
Gasket repair kit - NGP6055 series	JB115788
Gasket repair kit - NGP9055S series	JB115689S

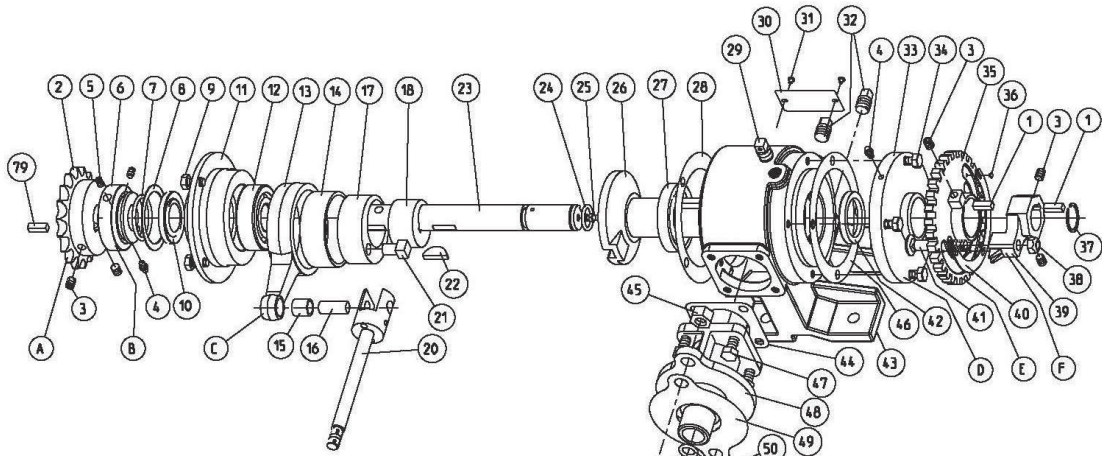
SLIDE CHARTS- PUMP SETTING SCALES	
DESCRIPTION	PART NUMBER
For JBLM-4950 series	JB10591391
For JBL-4900 series	JB10591391
For JBLM-445 & 4400 series	JB10653491
For JBLM-2400 series	JB10591391
For JBNGP6055 series	JB11569891
For JBNGP9055 series	JB11569891
Pump setting wrench- 2450 series	JB11391801S
Pump setting wrench- 4900 series	JBL3092AS
Pump setting wrench- 6055 series	JB11563101
Pump setting wrench- 9055 series	JB11563101

## Successful Seasons Start With Dependable Pumps



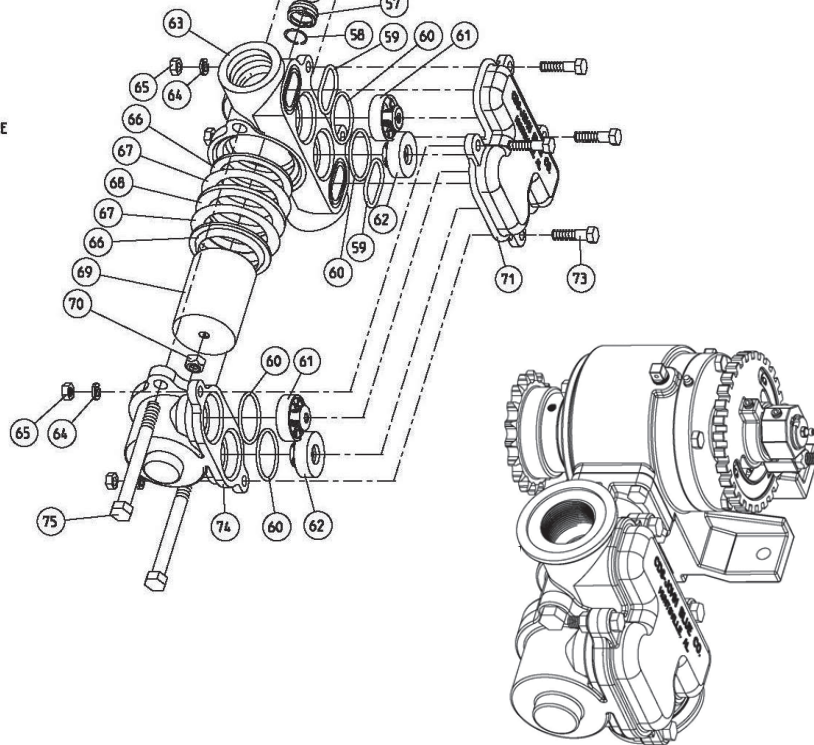


## PARTS FOR NGP 6055 & 7055 SERIES



ITEM	DESCRIPTION	INCLUDES ITEM #S
A	SPROCKET	2 3
B	SPACER	4 5 6 7 8
C	CONNECTING ROD	13 14 15
D	FLANGE COVER	4 33
E	SETTING HUB	3 35 36 40
F	SETTING POINTER	3 39
G	GASKET KIT	7 8 10 15 24 28 37 42 44 49 50 51 52 53 56 58 59 60 66 67 68
H	OPERATORS KIT	NOT SHOWN

- G — GASKET KIT
- H — OPERATORS KIT
  - MANUAL
  - WRENCH
  - SLIDE CHART
  - MOUNTING HARDWARE



# Pumps and Pumping Systems

## PARTS FOR NGP 6055 & 7055 SERIES

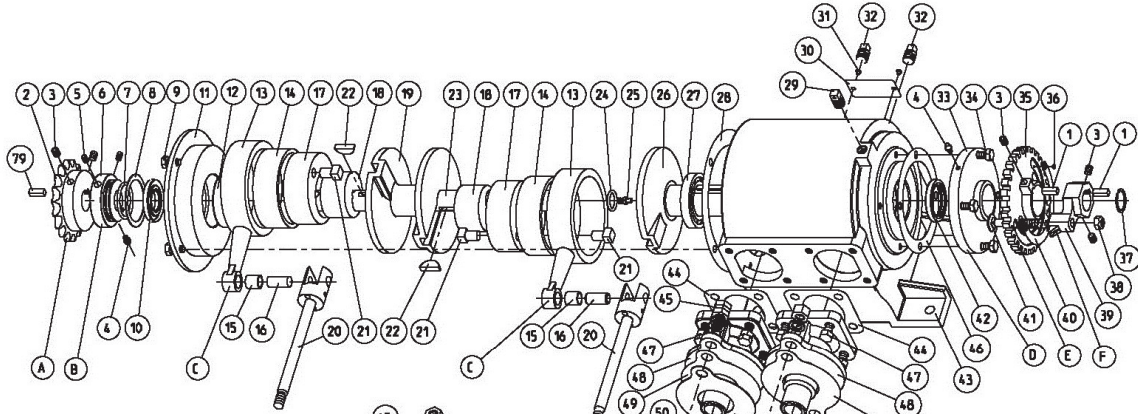
Pumps and Pumping Systems

#	DESCRIPTION	NGP-6055 Part #	NGP-7055 Part #
1	Key	JBL1020	JBL1020
2	Sprocket RC50-18T	JB11266101	JB11266101
-K	No Sprocket	Not Used	Not Used
-R	Sprocket RC40-18T	JB11390501	JB11390501
3	5/16x3/8 Set Screw	JB90532	JB90532
4	Grease Fitting	JBH28	JBH28
5	1/4x3/8 Set Screw	JB90532	JB90532
6	Sprocket Spacer	JB11562501	JB11562501
7	O'Ring	JBS316	JBS316
8	Thrust Washer	JB11562601	JB11562601
9	5/16x1 Hex Bolt	JB90637	JB90637
310	Oil Seal	JB11562101	JB11562101
11	Cover Plate	JB11572301	JB11562301
12	Bearing	JBL3019	JBL3019
13	Connecting Rod	JBL1008A	JB11363001
14	Journal Bearing	JBL928	JB11362901
15	Rod Bushing	JB11358801	JB11358801
16	Rod Pin	JB10589501	JB10589501
17	Eccentric - outer	JBL1013A	JB11363301
18	Eccentric - Inner	JBL1015	JBL3017
19	Transfer Sleeve	Not Used	Not Used
20	Piston Rod Assembly	JB115712-91	JB105900-91
21	Eccentric Pin	JBL-3004	JBL3004
22	Woodruff Key	JB108093-01	JBA4333
23	Crankshaft	JB115614-01	JB11561401
24	O'Ring	JBL1022	JBL1022
25	Grease Zerk	JB11564701	JB11564701
26	Setting Sleeve	JB11571801	JB11561801
27	Bearing	JBL1007A	JBL1007A
28	Gasket	JBL1006	JBL3002
29	Vent Plug	JBS350	JBS350
30	Name Plate	JB11195801	JB11195801
31	Drive Screw	JBA3557	JBA3557
32	Oil Plug	JBC431B	JBC431B
33	Flange Cover	JB11572401	JB11572401
34	5/16x1 Hex Bolt	JB90637	JB90637
35	Setting Hub	JB11562701	JB11562701
36	Setting Scale Screw	JBA368	JBA368
37	Snap Ring	JB11579101	JB11579101
38	3/8 Self-Locking Nut	JBA3097	JBA3097
39	Setting Pointer	JB11563091	JB11562801
40	Setting Scale	JB11564501	JB11564501
41	3/8x2 Carriage Bolt	JB11564601	JB11564601
42	Oil Seal	JB11156210	JB11562201
43	Crankcase	JB11572001	JB11562001
44	Casket - Crosshead	JB11571101	JB11561101
45	1/2 Hex Nut	JB92029	JB92029
-S	Stainless	JB92030	JB92030
46	Not Used		
47	Hex bolt	JB90637	JB90860
48	Crosshead Guide	JB115700-01	JB115600-01
49	Gasket - Stuffing Box	JB115610-01	JB115610-01
-U	Fumigant	JB104828-01	JB104828-01
50	O'Ring	JB111943-01	JB111943-01

#	DESCRIPTION	NGP-6055 Part #	NGP-7055 Part #
51	Packing 'V' Set	JBL1109	JBL1109
-U	Fumigant	JBL1109U	JBL1109U
52	Packing Washer	JBL1041	JBL1041
53	Packing Spring	JBL1063	JBL1063
54	Grease Zerk	JBH30	JBH30
55	Stuffing Box	JB11579001	JB11569001
-S	Stainless	JB11579001S	JB11569001S
56	Gasket - Inboard Cylinder	JB11571001	JB11571001
-U	Fumigant	JB10482602	JB10482602
57	Stuffing Box Insert	JBL10312	JBL10312
-S	Stainless	Not Used	Not Used
58	Packing - Snap Ring	JBL1042	JBL-1042
59	O'Ring	JBS316	JB11560401
-S	Stainless	JB10482401	JB11561201
-U	Fumigant	JB10482401	JB11561201
60	O'Ring	JBL3031	JBA2848
-S	Stainless	JB11476801	JB11487001
-U	Fumigant	JB11476801	JB11487001
61	Discharge Valve	JB11570791	JB11560701
62	Suction Valve	JB11570601	JB11560601
63	Inboard Cylinder	JB11570102	JB11560102
-S	Stainless	JB11570102S	JB11570102S
64	3/8 Lock Washer	JB93024	JB93024
-S	Stainless	JB93025	JB93025
65	3/8 Hex Nut	JB92024	JB92024
66	Plunger - Packing	JBL-1045-V	JBL-1045-V
67	Plunger - Gasket	JBL1098	JBL1098
-U	Fumigant	JB11476901	JB11476901
68	Plunger Washer	JBL1044A	JBL1044A
69	Plunger	JB10329091	JB11281691
70	Plunger - Locking Nut	JBL1047	JBL1047
71	Valve Cover	JB11570301	JB11560301
-S	Stainless	JB11570301S	JB11560301S
72	1/2 Flat Washer	Not Used	Not Used
-DR	Not Used	Not Used	Not Used
73	3/8x1-1/2 Hex Bolt	JB90911	JB90911
-S	Stainless	JB90654	JB90654
74	Outboard Cylinder	JB11570201	JB11560201
-S	Stainless	JB11570201S	JB11560201S
75	1/2 Hex Bolt	JB90704	JB90705
-S	Ultra Coated	JB90714	JB90705
76	Gasket - Manifold	Not Used	Not Used
-DR	Not Used	Not Used	Not Used
77	Manifold - Common	Not Used	Not Used
-S	Not Used	Not Used	Not Used
-DR	Not Used	Not Used	Not Used
78	1/2 Hex Bolt	Not Used	Not Used
-DR	Not Used	Not Used	Not Used
A	Sprocket Assy. RC50-18T	JB10653201	JB10653201
-K	No Sprocket	Not Used	Not Used
-R	Sprocket Assy. RC40-18T	JB11390701	JB11390701
B	Sprocket Spacer Assy.	JB11562491	JB11562491
C	Connecting Rod Assy.	JBL11008B	JB11364591
D	Flange Cover Assy.	JB11572591	JB11572591
E	Setting Hub Assy.	JB11562991	JB11562991
F	Setting Pointer Assy.	JB11563091	JB11563091
G	Gasket Kit	JB115788	JB115688
-S	Gasket Kit - Stainless	JB115788S	JB115688S
-U	Gasket Kit - Fumigant	JB115788U	JB115688U
H	Operators Kit	JB115787	JB115787
N/S	Slide Chart	JB11569891	JB11569891
N/S	Setting Wrench	JB11563101	JB11563101

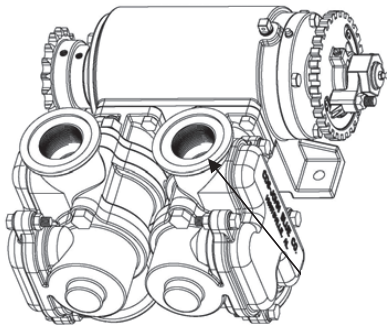
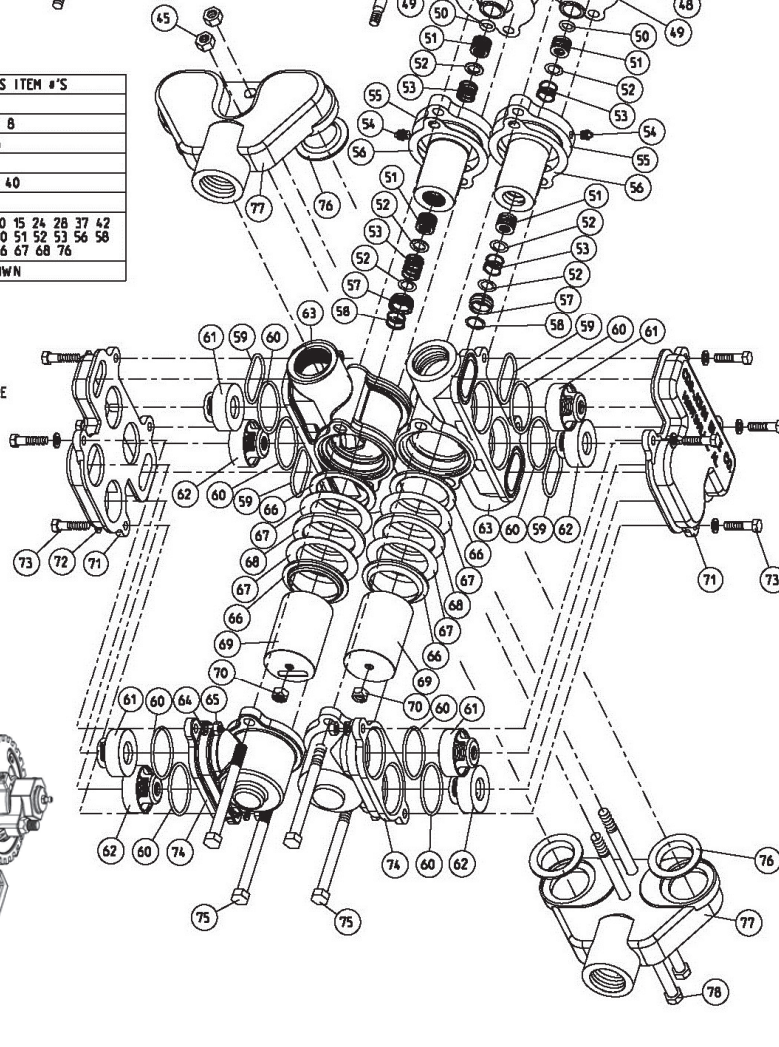


## PARTS FOR NGP 8055 & 9055 SERIES



ITEM	DESCRIPTION	INCLUDES ITEM #'S
A	SPROCKET	2 3
B	SPACER	4 5 6 7 8
C	CONNECTING ROD	13 14 15
D	FLANGE COVER	4 33
E	SETTING HUB	3 35 36 40
F	SETTING POINTER	3 39
G	GASKET KIT	7 8 10 15 24 28 37 42 44 49 50 51 52 53 56 58 59 60 66 67 68 76
H	OPERATORS KIT	NOT SHOWN

- G — GASKET KIT
- H — OPERATORS KIT
  - MANUAL
  - WRENCH
  - SLIDE CHART
  - MOUNTING HARDWARE





# Pumps and Pumping Systems

## PARTS FOR NGP 8055 & 9055 SERIES

Pumps and Pumping Systems

#	DESCRIPTION	NGP-8055 Part #	NGP-9055 Part #
1	Key	JBL1020	JBL1020
2	Sprocket RC50-18T	JB11266101	JB11266101
-K	No Sprocket	Not Used	Not Used
-R	Sprocket RC40-18T	JB11390501	JB11390501
3	5/16x3/8 Set Screw	JB90532	JB90532
4	Grease Fitting	JBH28	JBH28
5	1/4x3/8 Set Screw	JB90532	JB90532
6	Sprocket Spacer	JB11562501	JB11562501
7	O'Ring	JBS316	JBS316
8	Thrust Washer	JB11562601	JB115626-01
9	5/16x1 Hex Bolt	JB90637	JB90637
10	Oil Seal	JB11562101	JB11562101
11	Cover Plate	JB11572301	JB11562301
12	Bearing	JBL3019	JBL3019
13	Connecting Rod	JBL1008A	JB11363001
14	Journal Bearing	JBL928	JB11362901
15	Rod Bushing	JB11358801	JB11358801
16	Rod Pin	JB10589501	JB10589501
17	Eccentric - outer	JBL1013A	JB11363301
18	Eccentric - Inner	JBL1015	JBL3017
19	Transfer Sleeve	JB11578301	JB11568301
20	Piston Rod Assembly	JB11571291	JB10590091
21	Eccentric Pin	JB11268601	JBL3004
22	Woodruff Key	JB10809301	JBA4333
23	Crankshaft	JB11568101	JB11568101
24	O'Ring	JBL1022	JBL1022
25	Grease Zerk	JB11564701	JB11564701
26	Setting Sleeve	JB11571801	JB11561801
27	Bearing	JBL1007A	JBL1007A
28	Gasket	JBL1006	JBL3002
29	Vent Plug	JBS350	JBS350
30	Name Plate	JB11195801	JB11195801
31	Drive Screw	JBA3557	JBA3557
32	Oil Plug	JBC431B	JBC431B
33	Flange Cover	JB11572401	JB11572401
34	5/16x1 Hex Bolt	JB90637	JB90637
35	Setting Hub	JB11562701	JB11562701
36	Setting Scale Screw	JBA368	JBA-368
37	Snap Ring	JB11579101	JB11579101
38	3/8 Self-Locking Nut	JBA3097	JBA-3097
39	Setting Pointer	JB11563091	JB11562801
40	Setting Scale	JB11564501	JB11564501
41	3/8x2 Carriage Bolt	JB11564601	JB11564601
42	Oil Seal	JB11562201	JB115622-01
43	Crankcase	JB11578001	JB11568001
44	Casket - Crosshead	JB11571101	JB11561101
45	1/2 Hex Nut	JB92029	JB92029
-S	Stainless	JB92030	JB92030
46	Not Used		
47	Hex bolt	JB90637	JB90860
48	Crosshead Guide	JB11570001	JB11560001
49	Gasket - Stuffing Box	JB11561001	JB11561001
-U	Fumigant	JB10482801	JB10482801
50	O'Ring	JB11194301	JB11194301

#	DESCRIPTION	NGP-8055 Part #	NGP-9055 Part #
51	Packing 'V' Set	JBL1109	JBL1109
-U	Fumigant	JBL1109U	JBL1109-U
52	Packing Washer	JBL1041	JBL-041
53	Packing Spring	JBL-063	JBL1063
54	Grease Zerk	JBH-30	JBH30
55	Stuffing Box	JB11579001	JB11569001
-S	Stainless	JB11579001S	JB11569001S
56	Gasket - Inboard Cylinder	JB11571001	JB11571001
-U	Fumigant	JB10482602	JB10482602
57	Stuffing Box Insert	JBL10312	JBL1031-2
-S	Stainless	Not Used	Not Used
58	Packing - Snap Ring	JBL1042	JBL1042
59	O'Ring	JBS316	JB11560401
-S	Stainless	JB10482401	JB11561201
-U	Fumigant	JB10482401	JB11561201
60	O'Ring	JBL3031	JBA2848
-S	Stainless	JB11476801	JB11487001
-U	Fumigant	JB11476801	JB11487001
61	Discharge Valve	JB11570791	JB11560701
62	Suction Valve	JB11570691	JB11560691
63	Inboard Cylinder	JB11570102	JB11560102
-S	Stainless	JB11570102S	JB11560102S
64	3/8 Lock Washer	JB93024	JB93024
-S	Stainless	JB93025	JB93025
65	3/8 Hex Nut	JB92024	JB92024
66	Plunger - Packing	JBL1045V	JBL1045V
67	Plunger - Gasket	JBL1098	JBL-1098
-U	Fumigant	JB114769-01	JB11476901
68	Plunger Washer	JBL1044A	JBL1044A
69	Plunger	JB10329091	JB11281691
70	Plunger - Locking Nut	JBL1047	JBL1047
71	Valve Cover	JB11570301	JB11560301
-S	Stainless	JB11570301S	JB11560301S
72	1/2 Flat Washer	JB93013	JB93013
-DR	Dual Rate (Cylinders)	Not Used	Not Used
73	3/8x1-1/2 Hex Bolt	JB90911	JB90911
-S	Stainless	JB90654	JB90654
74	Outboard Cylinder	JB11570201	JB11560201
-S	Stainless	JB11570201S	JB11560201S
75	1/2 Hex Bolt	JB90704	JB90705
-S	Ultra Coated	JB90714	JB90705
76	Gasket - Manifold	JB11269601	JB11269601
-DR	Dual Rate (Cylinders)	Not Used	Not Used
77	Manifold - Common	JB11579601	JB11569601
-S	Stainless	JB11579601S	JB11569601S
-DR	Dual Rate (Cylinders)	Not Used	Not Used
78	1/2 Hex Bolt	JB11579301	JB11569301
-DR	Dual Rate (Cylinders)	Not Used	Not Used
A	Sprocket Assy. RC50-18T	JB10653201	JB10653201
-K	No Sprocket	Not Used	Not Used
-R	Sprocket Assy. RC40-18T	JB11390701	JB11390701
B	Sprocket Spacer Assy.	JB11562491	JB11562491
C	Connecting Rod Assy.	JBL1008B	JB11364591
D	Flange Cover Assy.	JB11572591	JB11572591
E	Setting Hub Assy.	JB11562991	JB11562991
F	Setting Pointer Assy.	JB11563091	JB11563091
G	Gasket Kit	JB115789	JB115689
-S	Gasket Kit - Stainless	JB115789S	JB115689S
-U	Gasket Kit - Fumigant	JB115789U	JB115689U
H	Operators Kit	JB115787	JB115787
N/S	Slide Chart	JB11569891	JB11569891
N/S	Setting Wrench	JB11563101	JB11563101

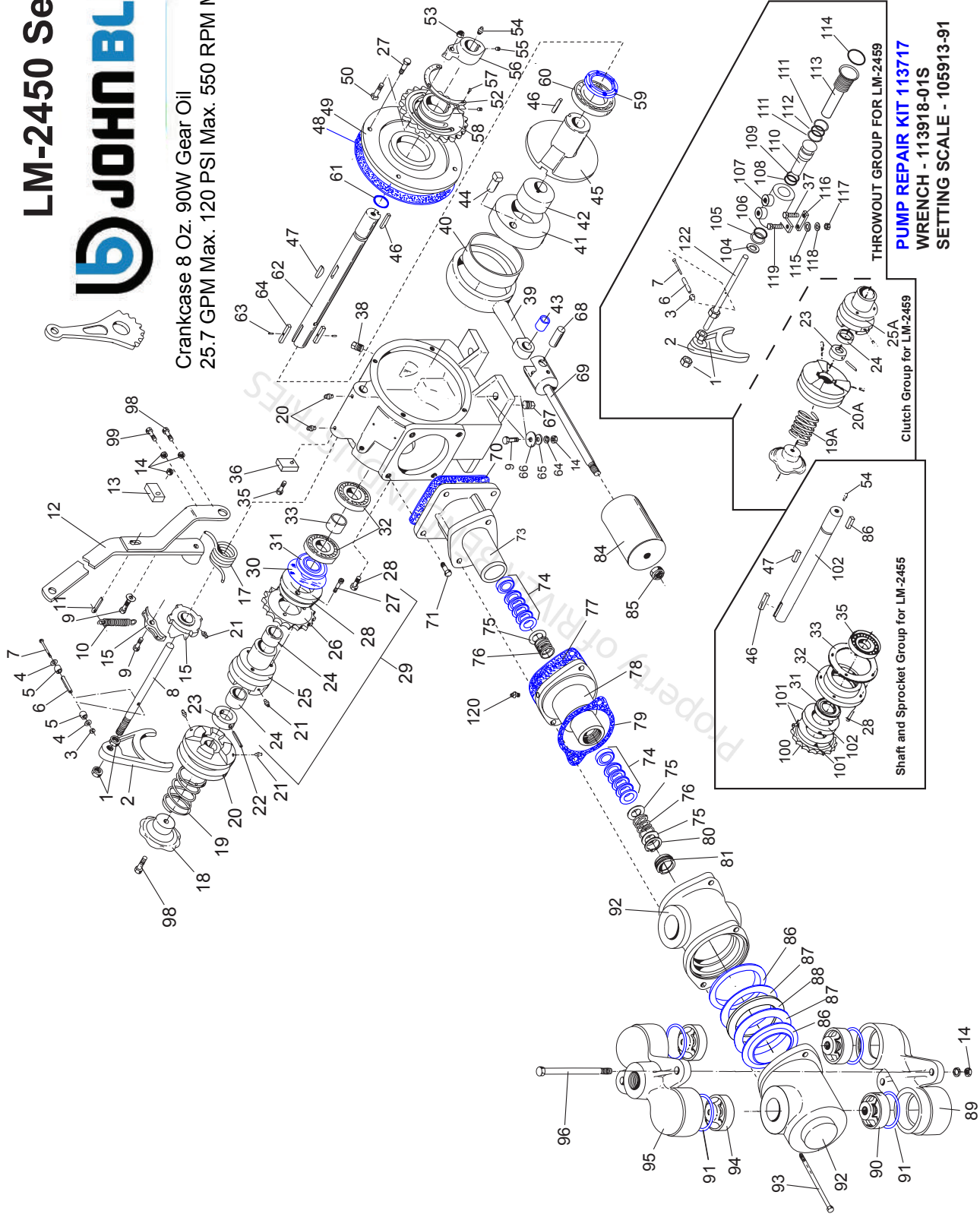
## PARTS FOR LM 2450 SERIES

Pumps and Pumping Systems

LM-2450 Series



Crankcase 8 Oz. 90W Gear Oil  
25.7 GPM Max. 120 PSI Max. 550 RPM Max



# Pumps and Pumping Systems

## PARTS FOR LM 2450 SERIES



\* Parts contained in  
113717 Repair Kit  
\*\*Parts Unique to the  
LM-2450-SS Series ONLY

Ref #	Description	Part No.	2450 Qty.	2455 Qty.	2459 Qty.
1	5/8" Jam Nut	JB92037	2	0	2
2	Throw-Out Yoke	JBA70	1	0	1
3	#10 Square Nut	JB92014	1	0	0
4	Washer	JBA697	2	0	0
5	Cam Roller	JBA2762	2	0	0
6	Roll Pin	JBA2763	1	0	1
7	2-1/4 RD HD Screw	JB90953	1	0	0
8	Throw-Out Rod	JBA2761	1	0	0
9	3/8 x 1 1/2 Hex Bolt	JB90655	5	4	4
10	Throw-Out Lever Spring	JBF48	1	0	0
11	5/32 x 1 Cotter Pin	JB94010	1	0	0
12	Throw-Out Lever	JBA2756	1	0	0
13	Spring Clip	JBA2760	1	0	0
14	3/8 Hex Nut	JB92024	11	6	6
14**	3/8 Hex Nut, SS	JBT2010	2	2	2
15	Pawl	JBA2758A	1	0	0
16	Throw-Out Cam	JBA2757A	1	0	0
17	R H Torsion Spring	JBA37R	1	0	0
18	Handwheel	JBA50	1	0	1
19	Safety Clutch Spring	JBHA57	1	0	0
19A	Safety Clutch Spring	JB10890701	0	0	1
20	Clutch	JBA260	1	0	0
20A	Clutch	JB10890591	0	0	1
21	Grease Fitting	JBH28	5	1	4
22	Drive Pin	JBL4249	1	0	1
23	Clutch Collar	JB10537301	1	0	1
24	Oilite Bushing	JBA116	2	0	2
25	Carrier	JBL4008A	1	0	0
25A	Carrier	JB10890601	0	0	1
26	16T Sprocket	JBL4006	1	0	1
27	1/4 x 1 1/2 Bolt	JB90993	3	0	3
27A	5/16 x 1 Hex Bolt	JB90637	4	4	4
28	5/16 x 1 Hex Bolt	JBL4009	1	0	1
29	16T Sprocket Assembly	JBL4004	1	0	1
30*	Washer	JB11015501	1	0	1
31*	Oil Seal	JB11562101	1	1	1
32	Crankshaft Bearing	JBL1017	2	2	2
33	Bearing Spacer	JBL1016	1	1	1
34	Name Plate	JB111958-01	1	1	1
35	5/16 x 1/2 Hex Bolt	JB90634	3	3	3
36	Spring Clip (Lower)	JBA2759	1	0	0
37	Crankcase	JBL1001A	1	1	1
38	Vent Plug	JBS350	1	1	1
39	Connecting Rod	JBL1008B	1	1	1
40	Bearing	JBL928	1	1	1
41	Large Eccentric	JBL1013A	1	1	1
42	Small Eccentric	JBL1015	1	1	1
43*	Connecting Road Bushing	JB11358801	1	1	1
44	Eccentric Pin	JBL3004	1	1	1
45	Stroke Locating Sleeve	JBL1089	1	1	1
46	Setting Arm Key	JBL1020	2	2	2
47	Key, Woodruff	JB10809301	1	1	1
48*	Cover Plate Gasket	JBL1006	1	1	1
49	Cover Plate	JBL1004A	1	1	1
50	3/8 x 1 3/4 Sq Head Bolt	JB91017	1	1	1
51	5/16 x 3/4 Hex Bolt	JB90636	4	4	4
52	Pump Setting Scale	JBL1002	1	1	1
53	3/8 Self Locking Nut	JBA3097	1	1	1
54	Grease Fitting	JBH30	1	1	1
55	5/16 x 3/8 Set Screw	JB90532	3	3	3
56	Stroke Setting Arm	JB10593391	1	1	1
57	Setting Scale.Screw	JBA368	3	3	3
58	Stroke Setting.Flange	JB10593291	1	1	1
59*	Oil Seal	JB11562201	1	1	1
60	Crankshaft Bearing	JBL1007A	1	1	1
61*	Crankshaft O-Ring	JBL1022	1	1	1
62	Crankshaft	JBL1019	1	0	1
63	Square Key	JBA261	2	0	2
64	3/8 Lock Washer	JB93024	4	4	4
65	3/8 Flat Washer	JB93011	4	4	4

Ref #	Description	Part No.	2450 Qty.	2455 Qty.	2459 Qty.
66	Leg Mounting Pad	JBA147	4	4	4
67	Plug	JBC431B	3	3	3
68	Crosshead Pin	JB10589501	1	1	1
69	Piston Rod Assembly	JB10592691	1	1	1
70*	Crosshead Guide Gasket	JBL1038	1	1	1
71	5/16 x 1 Hex Bolt	JB90637	4	4	4
72	1/2 x 2 Hex Bolt	JB90692	2	2	2
72**	1/2 x 2 Hex Bolt, SS	JB90693	2	2	2
74*	Rod Vee Packing Set	JBL1109	2	2	2
73	Crosshead Guide	JBL1000	1	1	1
75	Washer Packing	JBL1041	3	3	3
76	Packing Spring	JBL1063	2	2	2
77*	Stuffing Box Gasket	JBL1030	1	1	1
78	Outboard Stuffing Box	JBL30311	1	1	1
78**	Outboard Stuffing Box, SS	JBL10311S	1	1	1
79*	Gasket	JBL1023	1	1	1
80	Retaining Ring	JBL1042	1	1	1
81	Stuffing Box Insert	JBL10312	1	1	1
82	Inboard Cylinder	JB11365001	1	1	1
82**	Inboard Cylinder, SS	JB11365001	1	1	1
83	Hex Nut	JB92029 1/2	4	4	4
83**	Hex Nut, SS	JB92030 1/2	4	4	4
84	Piston Plunger Assembly	JB10329091	1	1	1
85	Self Locking Nut	JBL1047	1	2	1
86*	Flange Plunger Packing	JBL1045V	2	2	2
87*	Packing Adj. Gasket	JBL1098	2	2	2
88	Flange Packing Washer	JBL1044A	1	1	1
89	Suction Manifold	JB11364901	1	1	1
89**	Suction Manifold, SS	JB11364901S	1	1	1
90	Suction Valve Light Spring	JB10648992	2	2	2
91*	Valve O-Ring	JBL3031	4	4	4
92	Outboard Cylinder	JB11365101	1	1	1
92**	Outboard Cylinder, SS	JB11365101S	1	1	1
93	1/2 x 1 1/2 Hex Bolt	JB90689	2	2	2
93**	1/2 x 1 1/2 Hex Bolt, SS	JB90687	2	2	2
94	Discharge Valve Heavy Spring	JB10649092	2	2	2
95	Discharge Manifold	JB11364801	1	1	1
95**	Discharge Manifold, SS	JB11364801S	1	1	1
96	Bolt 3/8 x 7 1/2 HHMB	JB90672	2	2	2
96**	Bolt 3/8 x 6 Bolt, SS	JB91071	2	2	2
97	Plastic Plug	JBC3518	1	1	1
98	3/8 x 1-1/4 HHMB	JB90653	2	0	1
99	3/8 x 2 HHMB	JB90657	1	0	1
100	16T Sprocket	JB11368501	0	1	0
101	3/8 x 5/8 Screw	JB90986	0	4	0
102	Crankshaft	JBL1019A	0	1	0
103	Rod Throw-Out Assembly	JB11470691	0	0	1
104	SAE Flat Washer	JB93016	0	0	1
105	Back-Up-Ring	JB10544801	0	0	1
106	O-Ring	JBA3776	0	0	1
107	Body	JB10544701	0	0	1
108	Back-Up-Ring	JB10545201	0	0	2
109	O-Ring	JB10546101	0	0	1
110	Cylinder	JB10544901	0	0	1
111	Body O-Ring	JB10546201	0	0	2
112	O-Ring	JBA2849	0	0	1
113	Piston	JB10546301	0	0	1
114	Body O-Ring	JB10550001	0	0	1
115	5/16 Flat Washer	JB93010	0	0	2
116	Strap	JB11364801	0	0	2
117	5/16 Hex Nut	JB92020	0	0	2
118	5/16 Lock Washer	JB93023	0	0	4
119	5/16 x 3/4 Hex Bolt	JB90636	0	0	2
120	Grease Fitting	JB11465201	1	1	1
121	Spacer	JB11014701	0	1	0

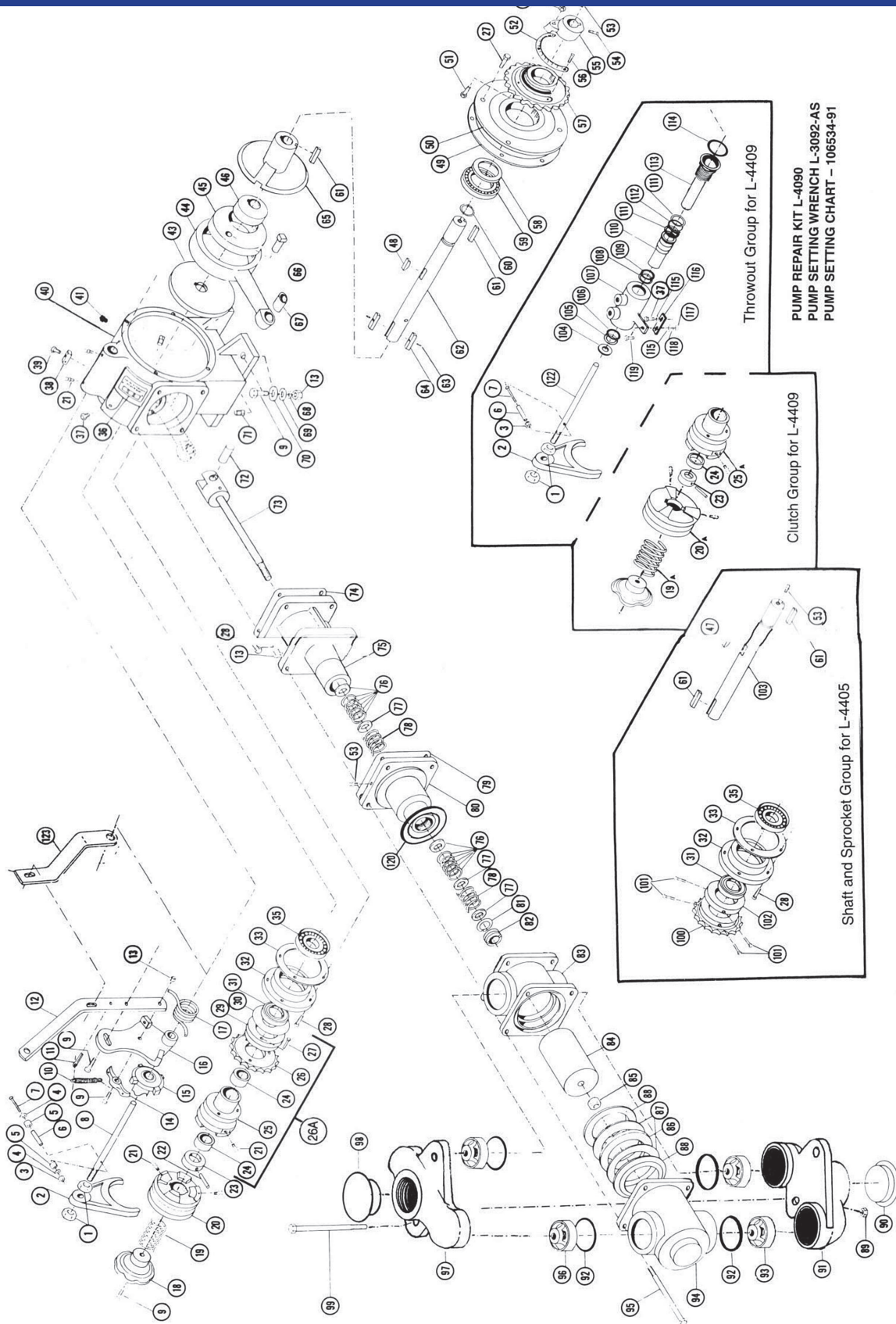
Pumps and Pumping Systems





## PARTS FOR L4400 , L4405, L4409

Pumps and Pumping Systems



# Pumps and Pumping Systems

## PARTS FOR L4400 , L4405, L4409

#	DESCRIPTION	4400	4405	4409	Part #
1	5/8" Jam nut	2	0	2	JB92037
2	Throw-out yoke	1	1	1	JBL3065
3	#10 square nut	1	0	0	JB92014
4	Washer	2	0	0	JBA697
5	Cam roller	2	0	0	JBA2762
6	Roll pin	1	0	0	JBA2763
7	2 1/4" RD head screw	1	0	0	JB90953
8	Throw-out rod	1	0	0	JBL4011
9	3/8 x 1 1/2 Hex bolt	7	4	5	JB90655
10	Throw-out lever spring	1	0	0	JBF48
11	5/32 x 1 cotter pin	1	0	0	JB94010
12	Throw-out lever	1	0	0	JBL3064
13	3/8 Hex nut	10	8	8	JB92024
14	Pawl	1	0	0	JBA2758A
15	Throw-out cam	1	0	0	JBA2757A
16	Throw-out Bracket	1	0	0	JBL3007
17	R H Torsion spring	1	0	0	JB11416501
18	Handwheel	1	0	1	JBA50
19	Safety clutch spring	1	0	0	JBHA57
19A	Safety clutch spring	0	0	1	JB10890701
20	Clutch	1	0	0	JBA260
20A	Clutch	0	0	1	JB10890591
21	Grease fitting	5	2	5	JBH28
22	Drive pin	1	0	1	JBL4249
23	Clutch collar	1	0	1	JB10537301
24	Oilite bushing	2	0	2	JBA116
25	Carrier	1	0	0	JBL4008A
25A	Carrier	0	0	1	JB10891091
26	18T Sprocket (OR) 16T Sprocket	1 1	0 0	1 1	JBL4007 JBL4006
26A	18T Sprocket 18T Sprocket	1 0	0 0	0 1	JBL4005 JB10890991
27	1/4 x 1 1/2 Bolt	3	0	3	JB90993
28	5/16 x 1 Hex bolt	12	12	12	JB90637
29	Retaining collar	1	0	1	JBL4009
30	Washer	1	1	1	JB11015501
31	Oil seal	1	1	1	JB11156210
32	Bearing housing	1	1	1	JBL3023
33	Bearing housing gasket	1	1	1	JBL3021
35	Crankshaft bearing	1	1	1	JBL3019
36	Name plate	1	1	1	JBL10653701
37	5/16 x 1/2 hex bolt	1	2	1	JB90634
38	Spring anchor	1	0	0	JBL4014
39	5/16 x 3/4 hex bolt	1	0	1	JB90636
40	Crankcase assembly	1	1	1	JBL4013
41	Vent plug	1	1	1	JBS350
43	Crankshaft disc	1	1	1	JBL3020
44	Connecting rod	1	1	1	JBL3026A
45	Large eccentric	1	1	1	JB11363301
46	Small eccentric	1	1	1	JBL3017
48	#808 Woodruff key	1	1	1	JBA4333
49	Cover plate gasket	1	1	1	JBL3002
50	Cover plate	1	1	1	JBL3001
51	3/8 x 1 3/4 Sq. head bolt	1	1	1	JB91017
52	Pump setting scale	1	1	1	JB11476301
53	Grease fitting	2	2	2	JBH28
54	5/16 X 3/8 set screw	3	3	3	JB90532
55	Clutch Carrier	1	1	1	JB11563091
56	Setting scale screw	3	3	3	JBA368
57	Stroke setting flange	1	1	1	JB10593291
58	Oil seal	1	1	1	JB11562201
59	Crankshaft bearing	1	1	1	JBL1007A
60	Crankshaft O'ring	1	1	1	JBL1022

#	DESCRIPTION	4400	4405	4409	Part #
61	Setting arm key	2	3	2	JBL1020
62	Crankshaft	1	0	1	JBL4012
64	Square key	2	0	2	JBA261
65	Stroke locating sleeve	1	1	1	JBL3056
66	Eccentric pin	1	1	1	JBL3004
67	Connector rod bushing	1	1	1	JB111358801
68	3/8 lock washer	4	4	4	JB93024
69	3/8 flat washer	4	4	4	JB93011
70	Leg mounting pad	4	4	4	JBA147
71	Plug	3	3	3	JBC431B
72	Crosshead pin	1	1	1	JB10589501
73	Piston rod assembly	1	1	1	JB10590091
74	Crosshead guide gasket	1	1	1	JBL3052
75	Crosshead guide	1	1	1	JB11193501
76	Rod VEE packing set	2	2	2	JBL1109
77	Washer	3	3	3	JBL1041
78	Packing spring	2	2	2	JBL1063
79	Stuffing box gasket	1	1	1	JBL3074
80	Outboard stuffing box	1	1	1	JBL3049
81	Retaining ring	1	1	1	JBL1042
82	Stuffing box insert	1	1	1	JBL10312
83	Inboard cylinder	1	1	1	JBL3055
84	Piston plunger assembly	1	1	1	JBL11281691
85	Self-locking nut	1	1	1	JBL1047
86	Flange packing washer	1	1	1	JBL004A
87	Packing adj. gasket	2	2	2	JBL1098
88	Flange plunger packing	2	2	2	JBL1045V
89	Hex nut	2	2	2	JB92028
90	1/2 plastic plug	1	1	1	JBL3115
91	Suction manifold	1	1	1	JBL4017A
92	Valve O-ring	4	4	4	JBL3031
93	Suction valve assembly	2	2	2	JB10648992
94	Outboard cylinder	1	1	1	JBL3045
95	3/8 x 5 1/2 hex bolt	4	4	4	JB90669
96	Discharge valve assembly	2	2	2	JB10649092
97	Discharge manifold	1	1	1	JBL4016
98	Plastic plug	1	1	1	JBA-3233
99	7/16 x 7 1/2 hex bolt	2	2	2	JB90681
100	Sprocket	0	1	0	JB10653201
101	3/8 x 5/8 screw	0	4	0	JB90986
102	Spacer	0	1	0	JB11014701
103	Crankshaft	0	1	0	JB10345302
104	SAE flat washer	0	0	1	JB93016
105	Back up ring	0	0	1	JB10544801
106	O-ring	0	0	1	JBA3776
107	Body	0	0	1	JB10544701
108	Back-up ring	0	0	1	JB10545201
109	Piston rod O'ring	0	0	1	JB10546101
110	Piston	0	0	1	JB10544901
111	Back-up ring	0	0	2	JB10546201
112	O'ring	0	0	1	JBA2849
113	Cylinder	0	0	1	JB10546301
114	Body O'ring	0	0	1	JB10550001
115	5/16 flat washer	0	0	2	JB93010
116	Strap	0	0	2	JB10550101
117	5/16 hex nut	0	0	2	JB92020
118	5/16 lock washer	0	0	4	JB93023
119	Hex head bolt	0	0	1	JB90635
120	Gasket	1	1	1	JBL3035
121	3/8 lock nut	1	1	1	JBA3097
122	Rod throw-out assembly	0	0	1	JB11470591
123	Support handle	1	0	0	JBL4025
124	O-ring	1	1	1	JB11194301

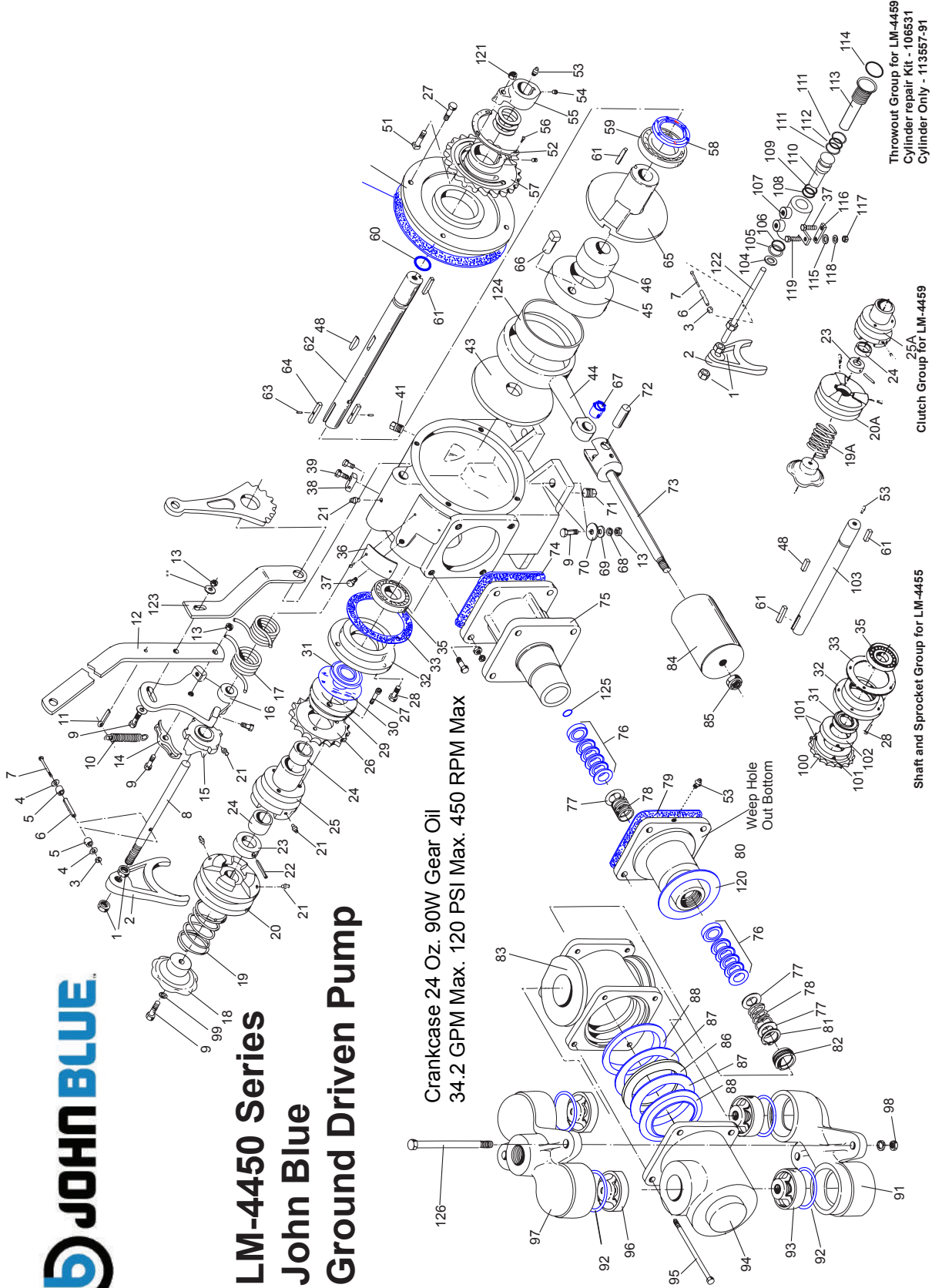
## PARTS FOR LM 4450 SERIES

Pumps and Pumping Systems



### LM-4450 Series John Blue Ground Driven Pump

Crankcase 24 Oz. 90W Gear Oil  
34.2 GPM Max. 120 PSI Max. 450 RPM Max



Throwout Group for LM-4459  
Cylinder repair Kit - 106531  
Cylinder Only - 113557-91

**PUMP REPAIR KIT - 111953**  
**PUMP SETTING WRENCH - L-3092-AS**  
**PUMP SETTING SCALE - 106534-91**

Clutch Group for LM-4459

Shaft and Sprocket Group for LM-4455



# Pumps and Pumping Systems

## PARTS FOR LM 4450 SERIES



\* Parts Contained in  
111953 Repair Kit  
\*\* Parts Unique to the  
LM-4450-S Series Only

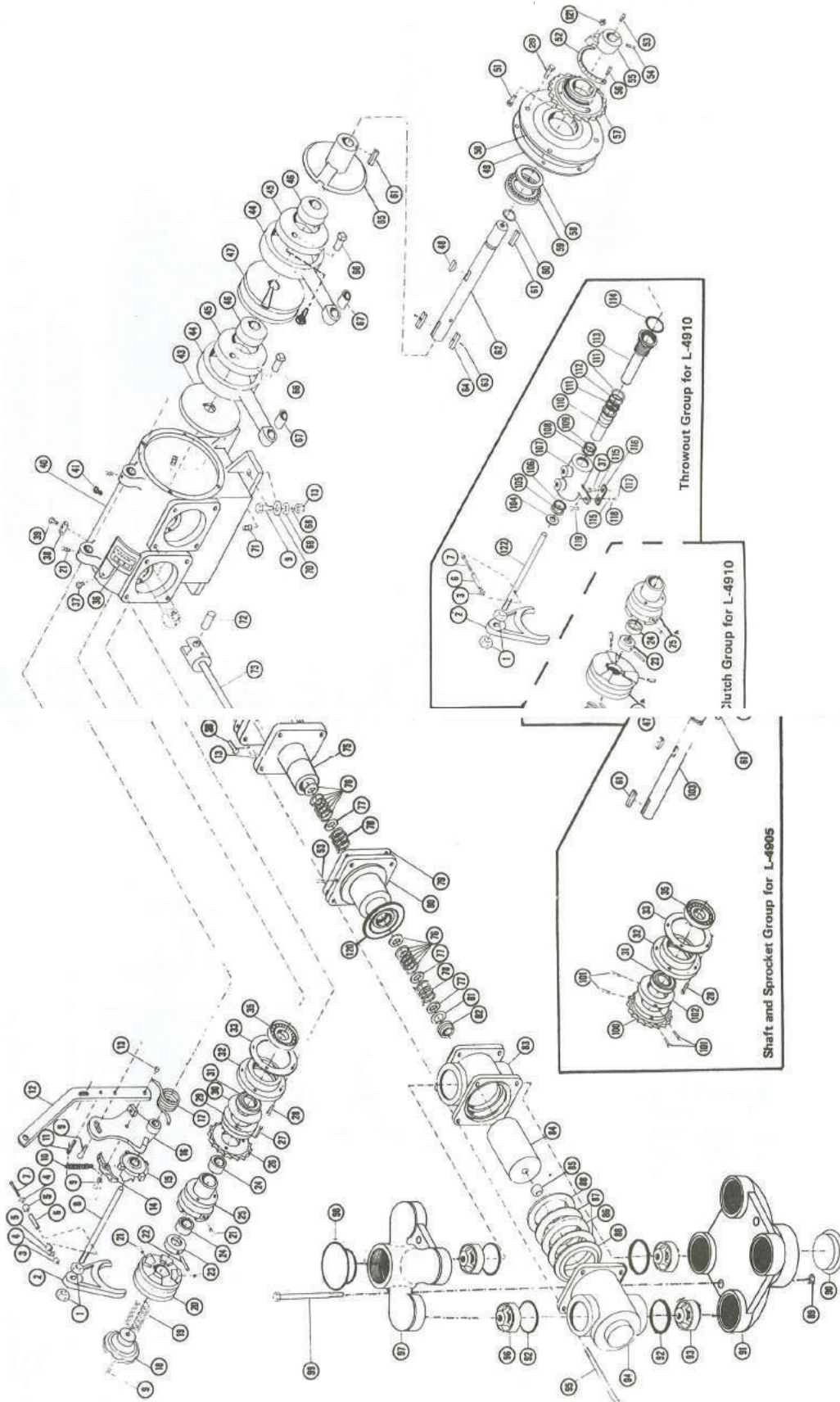
REF. #	DESCRIPTION	PART #	4450 QTY.	4455 QTY.	4459 QTY.
1	5/8" Jam Nut	JB92037	2	0	1
2	Throw-Out Yoke	JB11362801	1	0	1
3	#10 Square Nut	JB92014	1	0	0
4	Washer	JBA697	2	0	0
5	Cam Roller	JBA2762	2	0	0
6	Roll Pin	JBA2763	1	0	0
7	2 1/4 RD HD Screw	JB90953	1	0	0
8	Throw-Out Rod	JBL4011	1	0	1
9	3/8 x 1 1/2 Hex Bolt	JB90655	6	4	5
10	Throw-Out Lever Spring	JBF48	1	0	0
11	5/32 x 1 Cotter Pin	JB94010	1	0	0
12	Throw-Out Lever	JBL3064	1	0	0
13	3/8 Hex Nut	JB92024	10	8	8
13**	3/8 Hex Nut-SS	JBT2010	6	6	6
14	Pawl	JBA2758A	1	0	0
15	Throw-Out Cam	JBA2757A	1	0	0
16	Throw-Out Bracket	JBL3007	1	0	0
17	R H Torsion Spring	JB11416501	1	0	1
18	Handwheel	JBA50	1	0	1
19	Safety Clutch Spring	JBHA57	1	0	0
19A	Safety Clutch Spring	JB10890701	0	0	1
20	Clutch	JBA260	1	0	0
20A	Clutch	JB10890591	0	0	1
21	Grease Fitting	JBH28	5	2	5
22	Drive Pin	JBL4249	1	0	1
23	Clutch Collar	JB10537301	1	0	1
24	Oilite Bushing	JBA116	2	0	2
25	Carrier	JBL4008A	1	0	0
25A	Carrier	JB10890601	0	0	1
26	16T Sprocket (OR)	JBL4006			
	18T Sprocket	JBL4007	1	0	1
26A	16T Sprocket (OPT)	JBL4004			
	18T Sprocket Assembly	JBL4005	1	0	0
27	1/4 x 1 1/2 Bolt	JB90993	3	0	3
28	5/16 x 1 Hex Bolt	JB90637	12	12	12
29	Retaining Collar	JBL4009	1	0	1
30*	Washer	JB11015501	1	1	1
31*	Oil Seal	JB11562101	1	1	1
32	Bearing Housing	JBL3023	1	1	1
33*	Bearing Housing Gasket	JBL3021	1	1	1
35	Crankshaft Bearing	JBL3019	1	1	1
36	Name Plate	JB11195801	1	1	1
37	5/16 x 1/2 Hex Bolt	JB90634	1	2	1
38	Spring Anchor	JBL4014	1	0	0
39	5/16 x 3/4 Hex Bolt	JB90636	1	0	1
40	Crankcase Assembly	JB11363201	1	1	1
41	Vent Plug	JBS350	1	1	1
43	Crankshaft Disc	JBL3020	1	1	1
44	Connecting Rod	JB11364591	1	1	1
45	Large Eccentric	JB11363301	1	1	1
46	Small Eccentric	JBL3017	1	1	1
48	#808 Woodruff Key	JBA4333	1	1	1
49*	Cover Plate Gasket	JBL3002	1	1	1
50	Cover Plate	JBL3001	1	1	1
51	3/8 x 1 3/4 Sq Head Bolt	JB91017	1	1	1
52	Pump Setting Scale	JB11476301	1	1	1
53	Grease Fitting	JBH30	2	2	2
54	5/16 x 3/8 Set Screw	JB90532	3	3	3
55	Setting Pointer Assy.	JB11563091	1	1	1
56	Setting Scale Screw	JBA368	3	3	3
57	Stroke Setting Flange	JB10593291	1	1	1
58*	Oil Seal	JB11562201	1	1	1
59	Crankshaft Bearing	JBL1007A	1	1	1
60*	Crankshaft O-Ring	JBL1022	1	1	1
61	Setting Arm Key	JBL1020	2	3	2
62	Crankshaft	JBL4012	1	0	1
64	Square Key	JBA261	2	0	2

REF. #	DESCRIPTION	PART #	4450 QTY.	4455 QTY.	4459 QTY.
65	Stroke Locating Sleeve	JBL3056	1	1	1
66	Eccentric Pin	JBL3004	1	1	1
67*	Connector Rod Bushing	JB11358801	1	1	1
68	3/8 Lock Washer	JB93024	4	4	4
69	3/8 Flat Washer	JB93011	4	4	4
70	Leg Mounting Pad	JBA147	4	4	4
71	Plug	JBC431B	3	3	3
72	Crosshead Pin	JB10589501	1	1	1
73	Piston Rod Assembly	JB10590091	2	2	2
74*	Crosshead Gde, Gasket	JBL3052	1	1	1
75	Crosshead Guide	JB11193501	1	1	1
76*	Rod Vee Packing Set	JBL1109	2	2	2
77	Washer	JBL1041	3	3	3
78	Packing Spring	JBL1063	2	2	2
79*	Stuffing Box Gasket	JBL3074	1	1	1
80	Outboard Stuffing Box	JB11193701	1	1	1
80**	Outboard Stuffing Box-SS	JB11193701S	1	1	1
81	Retaining Ring	JBL1042	1	1	1
82	Stuffing Box Insert	JBL10312	1	1	1
83	Inboard Cylinder	JB11193801	1	1	1
83**	Inboard Cylinder-SS	JB11193801S	1	1	1
84	Piston Plunger Assembly	JB11281691	1	1	1
85	Self Locking Nut	JBL1047	1	1	1
86	Flange Packing Washer	JBL1044A	1	1	1
87*	Packing Adj. Gasket	JBL1098	2	2	2
88*	Flange Plunger Packing	JBL1045V	2	2	2
90	1/2 Plastic Plug	JBL3115	1	1	1
91	Suction Manifold	JB11194501	1	1	1
91**	Suction Manifold-SS	JB11194501S	1	1	1
92*	Valve O-Ring	JBA2848	4	4	4
93	Suction Valve	JB10911292	2	2	2
94	Outboard Cylinder	JB11194001	1	1	1
94**	Outboard Cylinder-SS	JB11194001S	1	1	1
95	3/8 x 8 Hex Bolt	JB91051	4	4	4
95**	3/8 x 5-1/2 Hex Bolt - SS	JB91072	4	4	4
96	Discharge Valve	JB10911392	2	2	2
97	Discharge Manifold	JB11194401	1	1	1
97**	Discharge Manifold-SS	JB11194401S	1	1	1
98	Plastic Plug	JBC3517	1	1	1
100	Sprocket	JB10653201	0	1	0
101	3/8 x 5/8 Screw	JB90986	0	4	0
102	Spacer	JB11014701	0	1	0
103	Crankshaft	JB10345302	0	1	0
104	SAE Flat Washer	JB93016	0	0	1
105	Back-Up-Ring	JB10544801	0	0	1
106	O-Ring	JBA3776	0	0	1
107	Body	JB10544701	0	0	1
108	Back-Up-Ring	JB10545201	0	0	1
109	O-Ring, Piston Rod	JB10546101	0	0	1
110	Cylinder	JB10544901	0	0	1
111	Backup Ring	JB10546201	0	0	2
112	O-Ring	JBA2849	0	0	1
113	Piston	JB10546301	0	0	1
114	Body O-Ring	JB10550001	0	0	1
115	5/16 Flat Washer	JB93010	0	0	2
116	Strap	JB10550101	0	0	2
117	5/16 Hex Nut	JB92020	0	0	2
118	5/16 Lock Washer	JB93023	0	0	4
119	Hex Head Bolt	JB90635	0	0	1
120*	Gasket	JBL3035	1	1	1
121	3/8 Lock Nut	JBA3097	1	1	1
122	Rod Throw-Out Assembly	JB11470591	0	0	1
123	Support Handle	JBL4025	1	0	0
124	Bearing, Crank Pin	JB11362901	1	1	1
125*	O-Ring	JB11194301	1	1	1
126	Bolt 3/8 x 7 Hex Bolt	JB91063	2	2	2
126**	Bolt 3/8 x 7 Hex Bolt	JB91063	2	2	2

Pumps and Pumping Systems



## PARTS FOR LM4900, LM4905, LM4910 SERIES



# Pumps and Pumping Systems

## PARTS FOR LM4900, LM4905, LM4910 SERIES

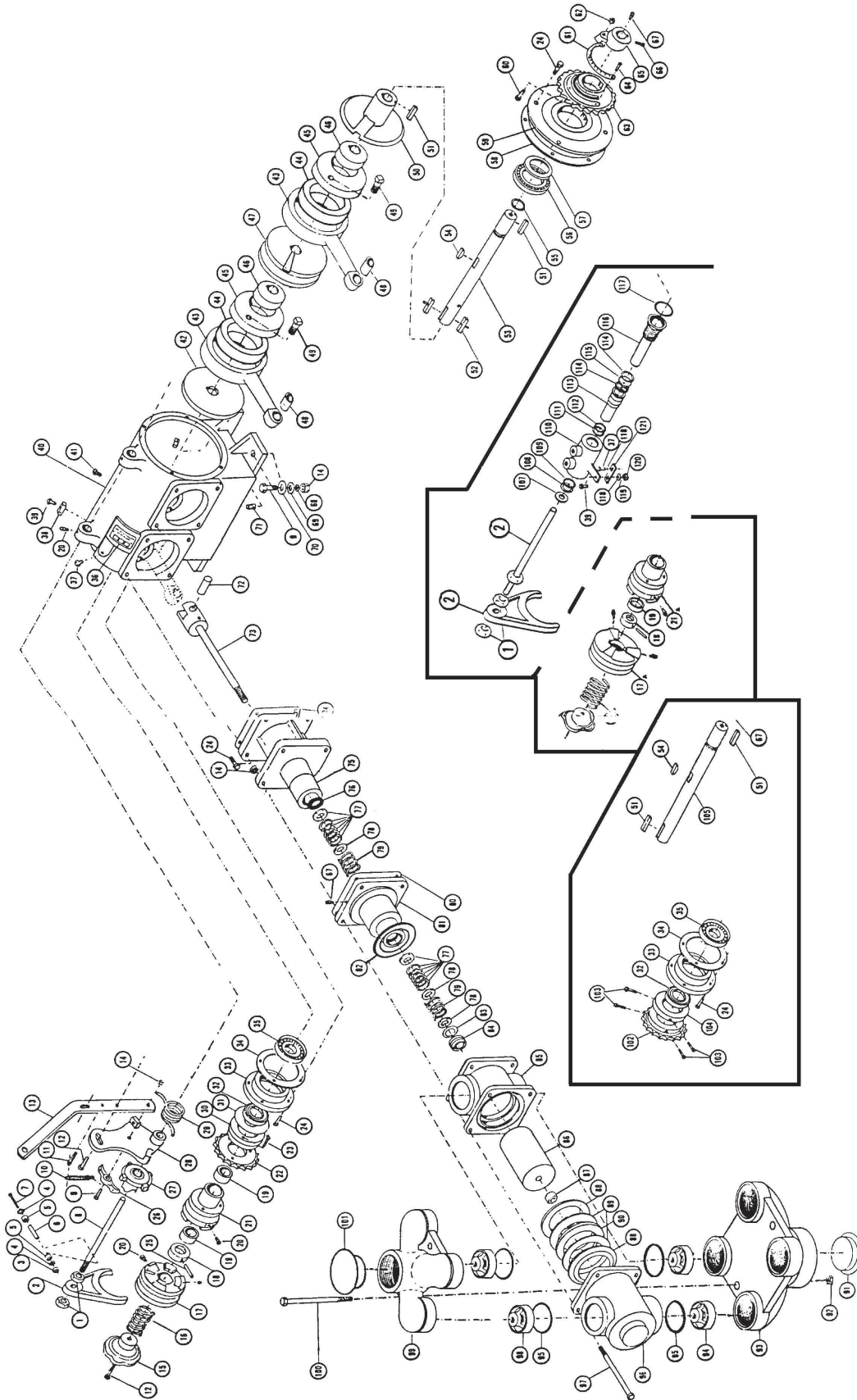
#	DESCRIPTION	4900	4905	4910	Part #
1	5/8" Jam nut	2	0	2	JB92037
2	Throw-out yoke	1	0	1	JBL3065
3	#10 square nut	1	0	0	JB92014
4	Washer	2	0	0	JBA697
5	Cam roller	2	0	0	JBA2762
6	Roll pin	1	0	0	JBA2763
7	2 1/4" RD head screw	1	0	0	JB90953
8	Throw-out rod	1	0	0	JBL3006
9	3/8 x 1 1/2 Hex bolt	6	4	5	JB90655
10	Throw-out lever spring	1	0	0	JBF48
11	5/32 x 1 cotter pin	1	0	0	JB94010
12	Throw-out lever	1	0	0	JBL3064
13	3/8 Hex nut	11	10	10	JB92024
14	Pawl	1	0	0	JBA2758A
15	Throw-out cam	1	0	0	JBA2757A
16	Throw-out Bracket	1	0	0	JBL3007
17	R H Torsison spring	1	0	0	JBL3076R
18	Handwheel	1	0	1	JBA50
19	Safety clutch spring	1	0	0	JBHA57
19A	Safety clutch spring	0	0	1	JB10890701
20	Clutch	1	0	0	JBA260
20A	Clutch	0	0	1	JB10890591
21	Grease fitting	5	2	5	JBH28
22	Drive pin	1	0	1	JBL4249
23	Clutch collar	1	0	1	JB10537301
24	Oilite bushing	2	0	2	JBA116
25	Carrier	1	0	0	JBL4008A
25A	Carrier	0	0	1	JB10890601
26	16T Sprocket (OR) 18T Sprocket	1	0	1	JBL4006 JBL4007
27	1/4 x 1 1/2 Bolt	3	0	3	JB90993
28	5/16 x 1 Hex bolt	16	16	16	JB90637
29	Retaining collar	1	0	1	JBL4009
30	Washer	1	1	1	JB11015501
31	Oil seal	1	1	1	JB11156210
32	Bearing housing	1	1	1	JBL3023
33	Bearing housing gasket	1	1	1	JBL3021
35	Crankshaft bearing	1	1	1	JBL3019
36	Name plate	1	1	1	JBL10590101
37	5/16 x 1/2 hex bolt	1	2	2	JB90634
38	Spring anchor	1	0	0	JBL4014
39	5/16 x 3/4 hex bolt	1	0	0	JB90636
40	Crankcase assembly	1	1	1	JBL3025
41	Vent plug	1	1	1	JBS350
43	Crankshaft disc	1	1	1	JBL3020
44	Connecting rod	2	2	2	JBL3026A
45	Large eccentric	2	2	2	JB11363301
46	Small eccentric	2	2	2	JBL3017
47	Stroke transfer sleeve	1	1	1	JBL3018
48	#808 Woodruff key	2	2	2	JBA4333
49	Cover plate gasket	1	1	1	JBL3002
50	Cover plate	1	1	1	JBL3001
51	3/8 x 1 3/4 Sq. head bolt	1	1	1	JB91017
52	Pump setting scale	1	1	1	JBL1002
53	Grease fitting	3	3	3	JBH28
54	5/16 X 3/8 set screw	3	3	3	JB90532
55	Clutch Carrier	1	1	1	JB11563091
56	Setting scale screw	3	3	3	JBA368
57	Stroke setting flange	1	1	1	JB10593291
58	Oil seal	1	1	1	JB11562201
59	Crankshaft bearing	1	1	1	JBL1007-A
60	Crankshaft O'ring	1	1	1	JBL1022

#	DESCRIPTION	4900	4905	4910	Part #
61	Setting arm key	2	3	2	JBL1020
62	Crankshaft	1	0	1	JBL3013
63	Key Pin	2	0	2	JBA3314
64	Square key	2	0	2	JBA261
65	Stroke locating sleeve	1	1	1	JBL3056
66	Eccentric pin	3	3	3	JBL3004
67	Connector rod bushing	2	2	2	JBL1065
68	3/8 lock washer	4	4	4	JB93024
69	3/8 flat washer	4	4	4	JB93011
70	Leg mounting pad	4	4	4	JBA147
71	Plug	3	3	3	JBC431B
72	Crosshead pin	2	2	2	JB10589501
73	Piston rod assembly	2	2	2	JB10590091
74	Crosshead guide gasket	2	2	2	JBL3052
75	Crosshead guide	2	2	2	JB11193501
76	Rod VEE packing set	4	4	4	JBL1109
77	Washer	6	6	6	JBL1041
78	Packing spring	4	4	4	JBL1063
79	Stuffing box gasket	2	2	2	JBL3074
80	Outboard stuffing box	2	2	2	JBL3049
81	Retaining ring	2	2	2	JBL1042
82	Stuffing box insert	2	2	2	JBL10312
83	Inboard cylinder	2	2	2	JBL3055
84	Piston plunger assembly	2	2	2	JBL112816-91
85	Self-locking nut	2	2	2	JBL1047
86	Flange packing washer	2	2	2	JBL1044
87	Packing adj. gasket	4	4	4	JBL1098
88	Flange plunger packing	4	4	4	JBL1045V
89	1/2 hex nut	2	2	2	JB92029
90	1/2 plastic plug	1	1	1	JBC3519
91	Suction manifold	1	1	1	JBL10589902
92	Valve O-ring	8	8	8	JBL3031
93	Suction valve assembly	4	4	4	JB10648992
94	Outboard cylinder	2	2	2	JBL3045
95	3/8 x 5 1/2 hex bolt	8	8	8	JB90681
96	Discharge valve assembly	4	4	4	JB10649092
97	Discharge manifold	1	1	1	JBL3027A
98	Plastic plug	1	1	1	JBA3115
99	1/2 x 7 1/2 hex bolt	2	2	2	JB90681
100	Sprocket	0	1	0	JB10653201
101	3/8 x 5/8 screw	0	4	0	JB90986
102	Spacer	0	1	0	JB11014701
103	Crankshaft	0	1	0	JB11503101
104	SAE flat washer	0	0	1	JB93016
105	Back up ring	0	0	1	JB10544801
106	O-ring	0	0	1	JBA3776
107	Body	0	0	1	JB10544701
108	Back-up ring	0	0	1	JB10545201
109	Piston rod O'ring	0	0	1	JB10546101
110	Piston	0	0	1	JB10544901
111	Back-up ring	0	0	2	JB10546201
112	O'ring	0	0	2	JBA2849
113	Cylinder	0	0	1	JB10546301
114	Body O'ring	0	0	1	JB10550001
115	5/16 flat washer	0	0	4	JB93010
116	Strap	0	0	2	JB10550101
117	5/16 hex nut	0	0	2	JB92020
118	5/16 lock washer	0	0	4	JB93023
119	Hex head bolt	0	0	2	JB90635
120	Gasket	2	2	2	JBL3035
121	Self locking nut	1	1	1	JBA-097
122	Throw-out rod assembly	0	0	1	JB11345601



## PARTS FOR LM4950, LM4955, LM4955-S SERIES

Pumps and Pumping  
Systems



# Pumps and Pumping Systems

## PARTS FOR LM4950, LM4955, LM4955-S SERIES

#	DESCRIPTION	Part #
1	5/8" Jam nut	JB92037
2	Throw-out yoke	JB11362801
3	#10 square nut	JB92014
4	Washer	JBA697
5	Cam roller	JBA2762
6	Roll pin	JBA2763
7	2 1/4" RD head screw	JB90953
8	Throw-out rod	JBL3006
9	3/8 x 1 1/2 Hex bolt	JB90655
10	Throw-out lever spring	JBFA48
11	5/32 x 1 cotter pin	JB94010
12	3/8 x 1 1/4 Hex nut	JB90653
13	Throwout lever	JBL3064
14	3/8 Hex nut	JB92024
15	Handwheel	JBA50
16	Safety clutch spring	JBHA57
16A	Safety clutch spring	JB10890701
17	Clutch 4-jaw	JBA260
17A	Clutch 3-jaw	JB10890591
18	Clutch collar	JB10537301
19	Oilite bushing	JBA116
20	Grease fitting	JBH28
21	Sprocket Carrier	JBL4008A
21A	Sprocket Carrier	JB10890601
22	18T Sprocket	JBL4007
23	1/4 x 1 1/2 Socket Hd. bolt	JB90993
24	5/16 x 1 Hex bolt	JB90637
25	Drive Pin	JBL4249
26	Pawl	JBA2758A
27	Throw-out cam	JBA2757A
28	Throw-out bracket	JBL3007
29	Rt. hand torsion spring	JB114165-01
30	Retaining collar	JBL4009
31	Washer, nylon	JB11015501
32	Oil seal	JB11156210
33	Bearing housing	JBL3023
34	Bearing housing gasket	JBL3021
35	Crankcase bearing	JBL3019
36	Nameplate	JB11195801
37	5/16 x 1/2 bolt	JB90634
38	Spring Anchor	JBL4014
39	5/16 x 3/4 bolt	JB90636
40	Crankcase	JB11363401

#	DESCRIPTION	Part #
41	Vent plug	JBS350
42	Crankshaft disc	JBL3020
43	Connection rod	JB11364591
44	Bearing crank pin	JB11362901
45	Large eccentric	JB11363301
46	Small eccentric	JBL3017
47	Stoke transfer sleeve	JBL3018
48	Connecting rod bushing	JB11358801
49	Eccentric pin	JBL3004
50	Stroke locating sleeve	JBL3056
51	Setting arm key	JBL1020
52	Clutch key	JBA261
53	Crankshaft	JBL3013
54	Woodruff key	JBA4333
55	Crankshaft O-ring	JBL1022
56	Locating sleeve bearing	JBL1007A
57	Oil seal	JB11562201
58	Cover plate gasket	JBL3002
59	Cover plate	JBL3001
60	Sq. Head Bolts	JB91017
61	Pump setting scale	JB11476301
62	3/8 self-locking nut	JBA3097
63	Stroke setting flange	JB10593291
64	Serring scale screw	JBA368
65	Stroke setting arm	JB11563091
66	5/16 x 3/8 set screw	JB90532
67	Grease fitting	JBH30
68	3/8 lock washer	JB93024
69	3/8 flat washer	JB93011
70	Leg mounting pad	JBA147
71	Plug	JBC-431-B
72	Crosshead pin	JB10589501
73	Piston rod assembly	JB10590091
74	Crosshead guide gasket	JBL3052
75	Crosshead guide	JB11193501
76	O'ring	JB11194301
77	Rod Vee packing set	JBL1109
78	Washer	JBL1041
79	Packing spring	JBL1063
80	Stuffing box gasket	JBL3074
81	Outboard stuffing box	JB11193701
82	Gasket	JB11513401
83	Retaining ring	JBL1042

#	DESCRIPTION	Part #
84	Stuffing box insert	JBL10312
85	Inboard cylinder	JB11193801
86	Piston plunger assembly	JB11281691
87	Self-locking nut	JBL1047
88	Flange plunger package	JBL1045V
89	Packing adjust. gasket	JBL1098
90	Flange packing washer	JBL1044A
91	2" thread protector	JBC3519
92	1/2 hex nut	JB92029
93	Suction manifold	JB11193901
94	Suction valve	JB10911292
95	Valve O-ring	JBA2848
96	Outboard cylinder	JB11194001
97	3/8 x 8 hex head bolt	JB91051
98	Discharge valve	JB10911392
99	Discharge manifold	JB11193601
100	Stud, manifold	JB90711
101	1 1/2 thread protector	JBL3115
102	18T sprocket	JB10653201
103	3/8 x 5/8 set screw	JB90986
104	Spacer	JB11014701
105	Crankshaft	JB11503101
106	Throwout rod assembly	JB11470891
107	Flat washer	JB93016
108	Back-up ring	JB10544801
109	O-ring	JBA3776
110	Body	JB10544701
111	Back-up ring	JB10545201
112	O-ring	JB10546101
113	Piston	JB10544901
114	Back-up ring	JB10546501
115	O-ring	JBA2849
116	Cylinder	JB10546301
117	Body O-ring	JB10550001
118	5/16 flat washer	JB93010
119	5/16 lock washer	JB93023
120	5/16 hex nut	JB92020
121	Strap	JB10550101

Pumps and Pumping Systems



## HYPRO 9303 SERIES HYDRAULIC PUMPS

Pumps and Pumping Systems



HYPRO 9303 STAINLESS PUMP	
DESCRIPTION	PART NUMBER
For superior performance and versatility, rely on the stainless Hypro 9303 hydraulic pump. Hypro centrifugal pumps are designed for agricultural and industrial spraying and transfer of a variety of fluids.	HY9303SHM1CU

- Recommended hydraulic flow: 8-13 GPM
- Hydraulic system: Open/ Closed, Max 13 gpm
- Hydraulic motor ports: SAE -8 inlet, SAE -10 outlet
- 9303S Inlet: M220 flange/1.5" NPT, outlet: M200 flange/1.25" NPT
- 9303C Inlet: 1.5" NPT, Outlet: 1.25" NPT
- 9303S Stainless steel housing
- 9303C cast housing
- Motor: Internal gear gerotor
- Max motor psi: 3000 PSI (207 bar)
- Max output: 118 GPM
- Max output PSI: 130 PSI
- Max fluid temperature: 140°F
- Weight: 26 lbs/ 11.8 kg



HYPRO 9303 CAST PUMP	
DESCRIPTION	PART NUMBER
Designed for mounting on a tractor or sprayer, this hydraulic motor-driven centrifugal pump is ideally suited for dispersing water, liquid fertilizers, herbicides, wettable powders and other substances.	HY9303CHM1C

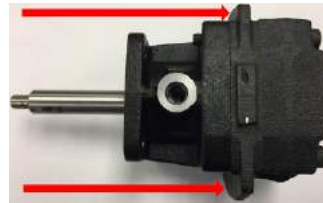
OTHER HYPRO HYDRAULIC PUMPS	
DESCRIPTION	PART NUMBER
Stainless 9306 HM5C hydraulic pump	HY9306SHM5CU
Cast 9303 HM4C hydraulic pump	HY9303CHM4C
Cast 9306 HM5C hydraulic pump	HY9306CHM5CU

HYDRAULIC CENTRIFUGAL PUMP KITS	
DESCRIPTION	PART NUMBER
Hydraulic motor only	HY25400806C
Hydraulic motor repair kit (old)	HY34300748
Hydraulic motor repair kit (new)	HY34300881
Pump seal kit	HY34300589

Hydraulic motor repair kits fit the following motors: 9303C(S)-HM1C, HM2C, HM3C, HM4C and HM5C. Refer to pump manual.

HYDRAULIC CENTRIFUGAL PUMP SERVICING	
DESCRIPTION	PART NUMBER
Pump side repair only	HYBASIC
Hydraulic motor and pump repair	HYCOMPLETE

CENTRIFUGAL AIR BLEED OFF KIT	
DESCRIPTION	PART NUMBER
1/8" nipple	FTNIP018SS
1/4" street elbow	FTSL02590SS
1/8" to 1/4" bushing	FTRB025018SS
1/4" valve	FTV025FPSS
1/4" hose barb	BAHB025

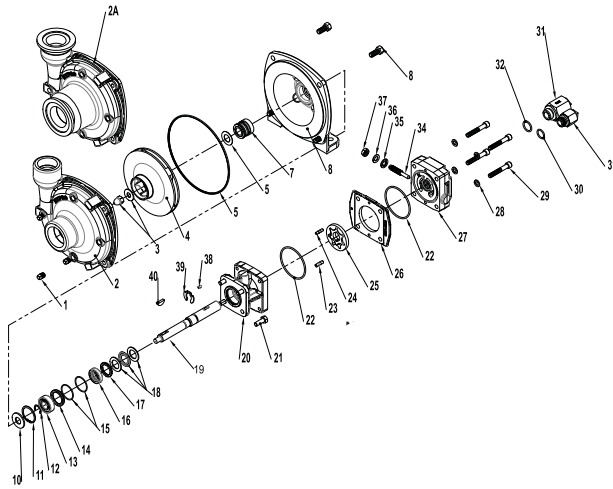


\*OLD MOTOR REFERENCE





## HYPRO 9303 HYDRAULIC PUMP REPLACEMENT PARTS



9303C and 9303S Pumps		
Item #	Description	Part Number
1	Drain/Vent Plug (9303C)	HY24060007
1	Drain/Vent Plug (9303S)	HY24060016
2	Pump Casting (9303C)	HY01509000C
2	Pump Casting (9303S)	HY01509000S
2A	Pump Casing (Universal Flange Model C-U)	HY01539000C
3	Impeller Nut and washer (9303C)	HY22530002
3	Impeller Nut and washer (9303S)	HY34300825
4	Impeller (Nyglass, std.) (9303C)	HY04019100P
4	Impeller (Opt. Polypropylene) (Std.9303S)	HY04029100P
5	O-Ring	HY17200083
6	Gasket	HY17000100
7	Mechanical Seal (Viton/Ceramic)(Std.9303C)	HY3430332
7	Mechanical Seal (Silicon Carbide)(Std 9303S)	HY34300589
8	Mounting Flange (9303C)	HY07509300C
8	Mounting Flange (9303S)	HY07569300S
9	Hex Head Cap Screw (9303C)	HY22100020
9	Hex Head Cap Screw (9303S)	HY22100125
10	Slinger Ring	HY14100056
11	Snap Ring	HY18100014
12	Retaining Ring	HY18200013
13	Ball Bearing	HY20000010
14	Cartridge, Front	HY14100131
15	O-Ring	HY17200268
16	Lip Seal	HY21040010
17	Seal Spacer	HY14100130
18	Thrust Bearing Assembly	HY20290014

19	Shaft (HM2C/HM4C)	HY34300850
19	Shaft (HM1C/HM5C)	HY34300852
19	Shaft (HM3C)	HY34300855
	Motor Body (includes needle bearing)	HY01502500C
20	Hex Head Cap Screw	HY22100005
22	O-Ring	HY17200110
23	Dowel Pin (HM2C/HM4C)	HY16000045
23	Dowel Pin (HM1C/HM5C)	HY16000044
23	Dowel Pin (HM3C)	HY16000052
24	Dowel Pin (HM2C/HM4C)	HY16000042
24	Dowel Pin (HM1C/HM5C)	HY16000037
24	Dowel Pin (HM3C)	HY16000068
25	Gerotor (HM1C)	HY39000022
25	Gerotor (HM2C)	HY39000023
25	Gerotor (HM3C)	HY39000024
25	Gerotor (HM4C)	HY39000025
25	Gerotor (HM5C)	HY39000048
	Gerotor Housing (HM2C models)1/4" wide	HY07012500C1
	Gerotor Housing (HM1C Models) 1/2" wide	HY07002500C1
	Gerotor Housing (HM4C Models) 5/16" wide	HY07032500C1
	Gerotor Housing (HM3C Models) 1" wide	HY07022500C1
	Gerotor Housing (HM5C Models) 5/8" wide	HY07042500C1
26	Motor End Plate (incl.needle bearing)	HY02542500C2
27	Washer	HY22700039
28	Cap Screw (HM2C/HM4C Models)	HY22200045
28	Cap Screw (HM1C Models)	HY22200021
28	Cap Screw (HM3C Models)	HY22200044
28	Cap Screw (HM5C Models)	HY22200032
29	O-Ring	HY17200108
29	Pressure Port Adapter (incl.o-ring)	HY33600021A
30	O-Ring	HY17200262
31	Tank Adapter (incl.o-ring)	HY33200051A
32	Bypass Adjusting Screw	HY32200029
33	Gasket	HY17000047
34	Washer	HY22700027
35	Lock Nut	HY22500038
36	Roll Pin (HM2C/HM4C)	HY16100032
36	Roll Pin (HM1C/HM5C)	HY16100031
36	Roll Pin (HM3C)	HY16100055
37	Snap Ring	HY18100026
38	Woodruff Key (9303C)	HY16100012
38	Woodruff key (9303S)	HY044325HW

## HYPRO 9313 FORCEFIELD SERIES HYDRAULIC PUMPS

ForceField Technology is a superior wet seal technology that provides the ultimate protection for the mechanical seal and avoids costly downtime.

- Protects the mechanical seal against common failures related to dry run and chemical bonding by using a barrier fluid to keep it cool and lubricated
- Actively maintains a pressure differential between the barrier fluid and the pumping solution, which results in longer life and worry free operation
- Designed to be a drop-in replacement for standard Hypro hydraulically driven centrifugal pumps
- One year warranty covering pump, motor and seals



Pumps and Pumping Systems



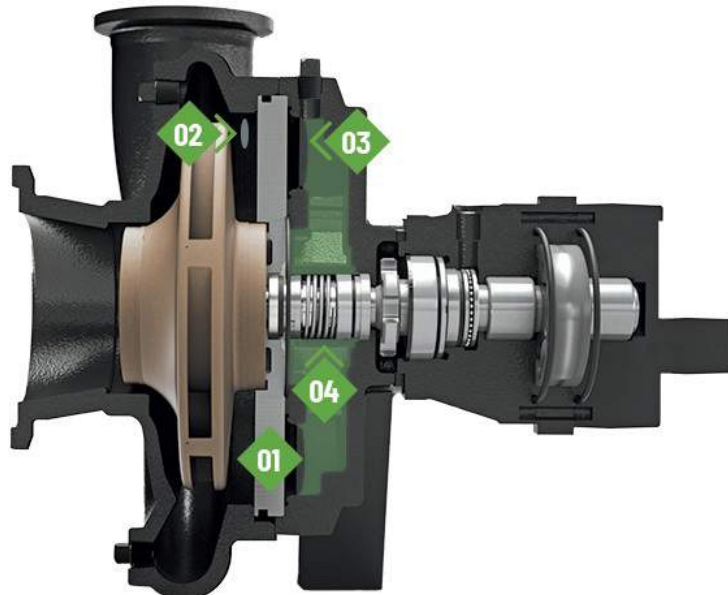
### 9313 CENTRIFUGAL PUMP

DESCRIPTION	PART NUMBER
For superior performance and versatility, rely on the stainless Hypro 9313 hydraulic pump. Hypro centrifugal pumps are designed for agricultural and industrial spraying and transfer of a variety of fluids.	HY9313SUM08

- Max flow: 188 gpm
- Max pressure: 137 psi
- Port sizes: 220 x 200 universal flange
- Housing: Stainless steel
- Seal: ForceField® Technology – Self regulated wet seal chamber with Viton®/Silicon Carbide seal
- Impeller: GTX
- Hydraulic system: Open/ Closed, Max 13 gpm
- Hydraulic motor ports: SAE -8 inlet, SAE -10 outlet
- Current Hypro equivalent pump: 9303S-HM1C-U
- Max fluid temperature: 140°F
- Weight: 40 lbs

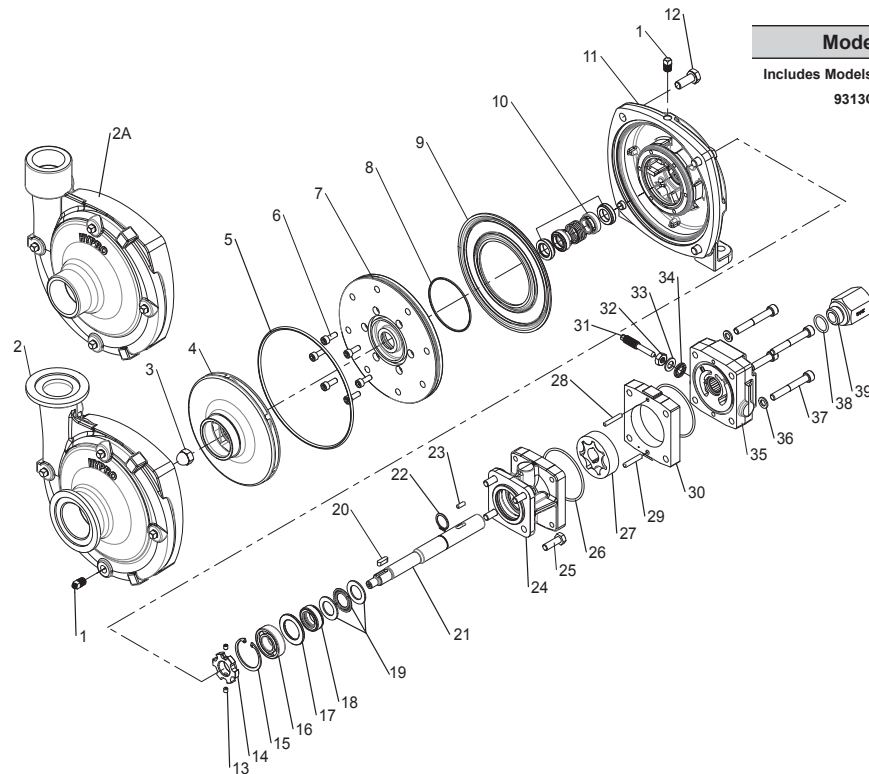
### HYDRAULIC CENTRIFUGAL PUMP KITS

DESCRIPTION	PART NUMBER
Cap screw	HY22200124
Impeller	HY04009313
Hydraulic motor repair kit	HY34300949
Seal kit (no tool)	HY34300947
Seal kit (with tool)	HY34300948



1. Chamber front plate encloses wet seal chamber
2. Holes in plate allows pressure to translate to membrane
3. Membrane communicates pressure to barrier fluid
4. Double mechanical seal (Viton/silicon carbide)

## HYPRO 9313 HYDRAULIC PUMP REPLACEMENT PARTS



**Model 9313 Part Illustrations and Repair Kits**

Includes Models 9313C(S) -M04, -M05, -M05Y, -M08, -M08Y, M10, -M10Y, and -M16  
9313CU(SU) -M04, -M05, -M05Y, -M08, -M08Y, M10, and -M16

Ref. No.	Qty. Req'd.	Description	Part No.	Ref. No.	Qty. Req'd.	Description	Part No.
1	5	Drain/Vent Plug (SS)	HY24060016	25	4	Hex Head Cap Screw	HY22100209
2	1	Pump Casing (9313CU)	HY01539310C	26	2	O-ring	HY17200110
2	1	Pump Casing (9313SU)	HY01539310SM	27	1	Gerotor (M04 Motor)	HY39000023
2A	1	Pump Casing (9313C)	HY01519310C	27	1	Gerotor (M05 Motor)	HY39000025
2A	1	Pump Casing (9313S)	HY01519310SM	27	1	Gerotor (M08 Motor)	HY39000022
3	1	Impeller Nut	HY22530015	27	1	Gerotor (M10 Motor)	HY39000048
4	1	Impeller	HY04009313	27	1	Gerotor (M16 Motor)	HY39000024
5	1	O-ring, Large	HY17200292	28	1	Dowel Pin, Small (M04/M05 Motor)	HY16000086
6	6	Socket Head Cap Screw	HY22200124	28	1	Dowel Pin, Small (M08/M10 Motor)	HY16000084
7	1	Plate, Front Chamber	HY07519310	28	1	Dowel Pin, Small (M16 Motor)	HY16000085
8	1	O-ring, Small	HY17200294	29	1	Dowel Pin, Large (M04/M05 Motor)	HY16000097
9	1	Membrane	HY25350015	29	1	Dowel Pin, Large (M08/M10 Motor)	HY16000095
10	1	Mechanical Seal, Double (Silicon Carbide)	HY21200069	29	1	Dowel Pin, Large (M16 Motor)	HY16000096
11	1	Mounting Flange	HY07529310C	30	1	Gerotor Housing (M04 Motor)	HY07202601
12	4	Hex Head Cap Screw	HY22100194	30	1	Gerotor Housing (M05 Motor)	HY07202602
13	2	Socket Set Screw	HY22300051	30	1	Gerotor Housing (M08 Motor)	HY07202603
14	1	Tone Wheel	HY14100137	30	1	Gerotor Housing (M10 Motor)	HY07202604
15	1	Retaining Ring	HY18200039	30	1	Gerotor Housing (M16 Motor)	HY07202606
16	1	Ball Bearing	HY20000017	31	1	Bypass Screw (Std Motor)	HY32200029
17	1	Spacer	HY14100145	32	1	Lock Nut, Bypass (Std Motor)	HY22500038
18	1	Motor Lip Seal	HY21040011	33	1	Washer, Bypass (Std Motor)	HY22700027
19	2	Thrust Bearing Assy	HY20290010	34	1	Gasket, Bypass Screw (Std Motor)	HY17000047
20	1	Shaft Key	HY16100072	35	1	Motor End Plate (Std Motor)	HY02542500C2
21	1	Shaft (M04/M05 Motor)	HY05332511	35	1	Motor End Plate (Y series motors, no Bypass)	HY02542500C3
21	1	Shaft (M08/M10 Motor)	HY05332510	36	4	Washer	HY22700039
21	1	Shaft (M16 Motor)	HY05332512	37	4	Socket Head Cap Screw (M04/M05 Motor)	HY22100207
22	1	Retaining Ring	HY18100011	37	4	Socket Head Cap Screw (M08 Motor)	HY22200135
23	1	Roll Pin (M04/M05 Motor)	HY16100032	37	4	Socket Head Cap Screw (M10 Motor)	HY22100204
23	1	Roll Pin (M08/M10 Motor)	HY16100031	37	4	Socket Head Cap Screw (M16 Motor)	HY22100208
23	1	Roll Pin (M16 Motor)	HY16100055	38	1	O-ring, Check valve	HY17200262
24	1	Motor Body (std)	HY01502517C	39	1	Motor Check Valve Assy (incl. o-ring)	HY33200052A
24	1	Motor Body (Y series case drain motors)	HY01502515C	n/a	1	Seal Chamber Fluid (not shown, pump requires 10.5 oz)	HY21600096



## HYDRAULIC DRIVEN CENTRIFUGAL PUMPS

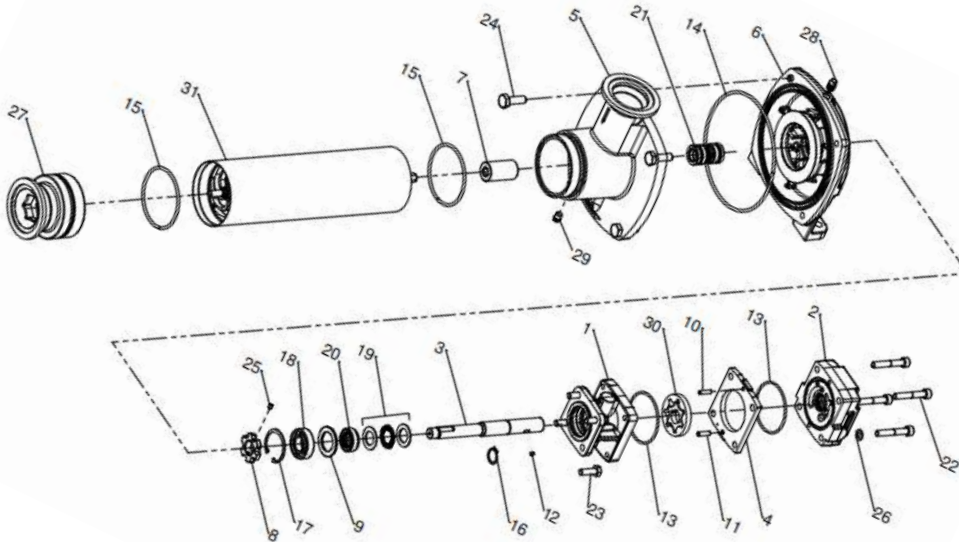


### COBALT CENTRIFUGAL PUMP

DESCRIPTION	PART NUMBER
The Cobalt series centrifugal pump powered by a hypro hydraulic motor achieves up to 60 gpm (227 lpm) and 250 psi (17 bar).	HY93HPS114M05

The **Cobalt Centrifugal Pump** by Hypro is designed for controlled low flow rates of agricultural spraying applications and liquid fertilizers. It features a versatile multistage centrifugal pump with dry run protection and utilizes ceramic wear surfaces for superior abrasive handling. Manufactured out of stainless steel this pump will have an extended life time against corrosive materials. Available with electrically actuated priming assistance.

- Max flow: 60 gpm at 7 gpm hydraulic flow, 227 lpm at 26.5 lpm hydraulic flow
- Max pressure: continuous 250 psi 17 bar,
- Max liquid temp: 140°F/60°C
- Max hydraulic PSI: 3000 PSI
- Max hydraulic flow: 7 gpm
- Max RPM: 5000
- Max hydraulic outlet PSI: 100 PSI (6.9 bar)
- Motor in port size: #8 SAE
- Motor out port size: #10 SAE
- Pump inlet/outlet: 2" flange
- Housing: stainless
- Shaft seals: Viton® standard
- Dry weight: 43 lbs



- **Pump Repair Kit No. HY3430-0953** Contains: O-rings (Ref. 13), mechanical seal (Ref. 21), seal installation tool, and pump chamber fluid
- **Pump Repair Kit No. HY3430-0954** Contains: Same as HY3430-0953, except installation tool is not included
- **Hydraulic Parts Kit No. HY3430-0952** Contains: Bearing (Ref. 18), motor lip seal (Ref. 20), and o-rings (Ref. 13)

### Replacement Parts

Ref. #	Qty. Req'd.	Part Number	Description	Ref. #	Qty. Req'd.	Part Number	Description
1	1	HY0150-2514C	MOTOR BODY	15	2	HY1723-0171	O-RING
1	1	HY0150-2522C	MOTOR BODY	16	1	HY1810-0011	RETAINING RING
2	1	HY0255-2500C1	END PLATE (-8 -8)	17	1	HY1820-0039	RETAINING RING
2	1	HY0255-2500C4	END PLATE BLOCK	18	1	HY3430-0952	BALL BEARING
3	1	HY0542-2500	MOTOR SHAFT	19	1	HY2029-0014	THRUST BEARING KIT
4	1	HY0720-2602	GEROTOR HOUSING	20	1	HY3430-0952	HYDRAULIC LIP SEAL
5	1	HY0750-1584S	INLET FLANGE	21	1	HY3430-0952 OR -53 OR -54	MECHANICAL SEAL
6	1	HY0752-9310C4	SPEED SENSOR MOUNT	22	4	HY2210-0207	SOCKET HEAD SCREW
6	1	HY0752-9310C3	MOUNTING FLANGE	23	4	HY2210-0209	HEX HEAD BOLT
7	1	HY1410-0137	SHAFT ADAPTOR	24	4	HY2210-0230	HEX HEAD BOLT
8	1	HY1410-0137	TONE WHEEL	25	2	HY2230-0051	SOCKET HEAD SCREW
9	1	HY1410-0145	SPACER	26	4	HY2270-0039	FLAT WASHER
10	1	HY1600-0086	DOWEL PIN	27	1	HY2404-0447S	DISCHARGE ASSEMBLY
11	1	HY1600-0037	DOWEL PIN	28	1	HY2406-0016	PIPE PLUG
12	1	HY1610-0032	KEY	29	1	HY2406-0039	GEROTOR
13	2	HY3430-0953 OR -54	O-RING	30	1	HY3900-0025	PUMP STACK ASSEMBLY
14	1	HY1723-0170	O-RING	31	1	P325-1704N	SEAL CHAMBER FLUID 23 OZ

## HYDRAULIC TRANSFER PUMPS



### 2" & 3" HYDRAULIC BANJO PUMP

DESCRIPTION	PART NUMBER
The 2" & 3" Banjo Pump Hydraulic-driven centrifugal transfer pumps, provide an option for not having to use gas or electric motors. Simply plumb into your existing hydraulic system.	2" Pump: BA200PHY
	3" Pump: BA300PHY

- Flow Rate: 200 GPM (2")
- Flow Rate 300 GPM (3")
- GPM max pressure: 52PSI
- Total head: 120 feet max
- Suction lift: 25 feet
- Ports: 2" or 3" NPT inlet/outlet
- Hydraulic ports: SAE 10 inlet. SAE 12 outlet
- Minimum hydraulic GPM required: 6 GPM 2400 RPM
- Ideal hydraulic GPM required: 9 GPM 3600 RPM



### 3" M350 HYDRAULIC BANJO PUMP

DESCRIPTION	PART NUMBER
The 3" Banjo Pump Hydraulic-driven centrifugal transfer pumps, provide an option for not having to use gas or electric motors. Simply plumb into your existing hydraulic system.	BAM350PHYW

- Flow Rate: 500+ GPM
- Suction Lift: 25 feet
- Ports: 3" NPT inlet/outlet
- Hydraulic ports: SAE 10 inlet. SAE 12 outlet
- Operating RPM 3600 RPM
- 1 hour run dry rating
- Wet seal technology



### 3" HYDRAULIC HYPRO PUMP

DESCRIPTION	PART NUMBER
The HY9343PGM6SP 3" Hypro pump is a self-priming polypropylene hydraulic centrifugal pump that can handle big, high-capacity, liquid transfer jobs with ease.	HY943PGM6YSP

- Flow rate: 440 GPM
- Maximum pressure: 52 PSI
- Total head: maximum 120 feet
- Suction lift: 25 feet
- Inlet/outlet size: 3 inch
- Maximum Hydraulic flow: 11 GPM
- Hydraulic ports: 10 SAE inlet, 12 SAE outlet
- Weight: 30 lbs
- Includes case drain motor

### HYPRO HYDRAULIC PUMP REPAIR PARTS

DESCRIPTION	PART NUMBER
Hypro hydraulic motor seal kit	HY34300788

**Replacement Pump Parts:**  
View pages 39 and 40 for replacment Banjo and Hypro pump parts.



## ELECTRIC PUMPS



### 3" ELECTRIC POWERED BANJO PUMP

DESCRIPTION	PART NUMBER
The 3" electric-powered Banjo pump is the most efficient way to transfer liquid fertilizer from one tank to another, recirculating or for loading/unloading truck and trailer units.	Single Phase: PP47530UJ
	Three Phase: PP3PHASEEUJ

### ELECTRIC POWERED PUMP PARTS

DESCRIPTION	PART NUMBER
1 3/8" motor shaft coupler	PPCL100138
3/4" pump shaft coupler	PPCL10034
1" pump shaft coupler	PPCL1001
Rubber lovejoy coupler	PPJC1R100
Plumbing package	BAMEPSP
Universal Joint Coupler	PP1310H13834

### 12V PUMP SPEED CONTROLLER

DESCRIPTION	PART NUMBER
12V Pump Flow Control (no digital gauge or wiring included)	JBAKSC35205
12V Pump Flow Control with Pressure Sensor & 20' Cable	JBAKSC35202

- Rheostat manual speed control for 12-Volt pumps with built in circuit breaker and reverse polarity protection. Controller comes with a 2-year warranty

### LOFLO II PUMPING SYSTEM

DESCRIPTION	PART NUMBER
LOFLO II system	PPLOFLOII
25' 10 gauge extension harness	PLSLF21025
25' pressure transducer cable	PLSFT13419
50' pressure transducer cable	PLSFT13209

- 7 HP total enclosed electric motor
  - 3" Banjo high performance poly pump
  - 5 vane impeller
  - Pump and motor are directly coupled together and can easily be removed from panel for servicing
  - Panel is painted with corrosive resistant material
- Single phase specifications**
- 3450 RPM at 17.8 amps
  - Max draw is 33 amps
  - Continuous draw is 17 amps
- Available with or without integrated stainless steel gauge
  - Mounts in the tractor cab for easy access
  - Run/hold feature on 25 and 35 AMP models, works with limit switch or hall effect
  - Comes with heavy gauge wiring, 1/4" pressure tubing and fittings
  - Metal enclosures with mounting flanges



The **LOFLO II System** is designed to pump your low rate liquid Phos with ease and accuracy. The system uses two John Blue 12 volt electric diaphragm pumps capable of 9.6 us gal/min at 45 psi head pressure and a John Blue 12 volt Speed controller with built in Digital pressure gauge. To operate the system correctly you will need to calculate what pressure is required at your seeding speed with the orifices in your distribution kit, once this is known you will adjust the dial on the controller to achieve the pressure required to apply the correct rate. Mounted on a stainless steel bracket, the system comes completely assembled, with 1" suction and discharge fittings, screen assembly, and valve to quickly prime the system.



## ELECTRIC PUMPS



The CDS-12V John Blue Agri-Pump is the only 12-Volt pump on the market today totally protected against weather, dust and overspray – it's weatherproof tested. The JBAP1819W pump has an output flow rate of 4.8 GPM and a maximum pressure of 45 PSI.

### 12V JOHN BLUE ON DEMAND PUMP

DESCRIPTION	PART NUMBER
John Blue 12v pump 4.8 gpm	JBAP1819W
Replacement head for pump	JBAK1322
Microswitch	JBAK1317W
Pump front cover	JBAK765109W



Shurflo® 12V on demand pumps are part of the 2088 Series diaphragm pumps that deliver reliable performance in high flow, moderate pressure applications. They can be mounted in any position.

### 12V / 115V SHURFLO ON DEMAND PUMP

DESCRIPTION	PART NUMBER
12 volt diaphragm pump	HY2088514500
115 volt diaphragm pump	HY2088393120



### 12V SHURFLO ON DEMAND PUMP

DESCRIPTION	PART NUMBER
These 5 GPM on demand pumps are designed for estate sprayers and liquid fertilizer application with a 3/4" inlet and outlet.	PHY50591311D011
Replacement head	HY9423800
Replacement drive kit	HY9423803



### 4000 SERIES 12V ELECTRIC ROLLER PUMP

DESCRIPTION	PART NUMBER
Hypro 12V Roller Pumps are designed for agricultural and industrial transfer of a variety of fluids and chemicals. The 4101XL Series maximizes pressure.	HY4001XLEHT3
Roller pump repair kit	HY34300390
4 roller pump only	HY44001XLH
Motor only	HY25700013
Ball bearing (2 pieces)	HY0000010

- Weatherproof: The only 12-volt pump to be totally protected against weather, dust and overspray
- 4 Piston Diaphragm for a smoother flow
- Quick Connect Port connections while reducing the number of potential leak points
- The integral pressure switch is fully sealed
- Low current draw (max 13 amps)
- Self-priming up to 12 vertical feet
- Chemical resistant
- Built in check valve to prevent back flow
- 3.6 gpm
- For spot spraying or high flow applications
- Field proven head design
- Driven by a 12V sealed motor
- Self priming up to 8 vertical feet
- 5 gpm
- 3/4" inlet/outlet
- Chemical resistant
- Ports- 3/4" NPT
- Housing Material- Silver-cast
- Seal material- Viton standard
- Max fluid temperature- 140°F/60°C
- Max PSI- 150 PSI
- Max RPM- 1800 RPM
- 12 volt



## FLOWERVE ELECTRIC CHEMICAL TRANSFER PUMPS



### FLOWERVE CT6 PUMP ONLY

DESCRIPTION	PART NUMBER
Flowserve CT6-HF pump only 12v	FSCT63EPDM12VPO
Flowserve CT6 pump only 110v	FSCT64115VPUMP-ONLY

The 12V or 110V CT6 Chemical Pump is a six-chamber diaphragm pump from Flowserve that is designed for chemical transfer applications. It is a self-priming pump with wetted parts resistant to many agricultural and industrial chemicals. The CT6 is used primarily to dispense fluids from Bulk or Mini-Bulk tanks.

The pump can be configured with a variety of brackets, dip tubes, flow meters, fittings, hoses and valves to provide a complete pumping system. 5 year motor warranty.

- Market Leading Flow Rates up to 18GPM
- Self priming from a dry state
- Dimensions: 18 x 18 x 12 in
- Voltage: 110v or 12v
- Inlet size: 2"
- Outlet size: 1"
- Seal material: EPDM
- Meter Included: no



- Market Leading Flow Rates up to 18GPM
- Self priming from a dry state
- Dimensions: 18 x 18 x 12 in
- Voltage: 110v or 12v
- Inlet size: 2"
- Outlet size: 1"
- Seal material: EPDM
- Meter Included: yes

### FLOWERVE CT6 CADDY STYLE PUMP

DESCRIPTION	PART NUMBER
Flowserve CT6-HF caddy style with meter 12v	FSCT63EPDM12VME-TER
Flowserve CT6-HF caddy style less meter 12v	FSCT63EPDM12V-NOMETER
Flowserve CT-HF Caddy style c/w meter 110v	FSCT64EPDM-115VMETER



For older PH6 pump parts refer to page number 68.

### FLOWERVE CT6 REPLACEMENT PARTS

DESCRIPTION	PART NUMBER
Wobble Plate Assembly – Aluminum	FSCT6KIT602
Pump Housing Assembly – CT6	FSCT6KIT207
Valve Plate Assembly – EPDM Black valve	FSCT6KIT304
12V HF motor assembly CT6	FSCT6KIT102
On/Off switch Assembly	FSCT6107



Wobble Plate Assembly



Valve Plate Assembly



Pump Housing Assembly



12V HF motor



On/Off switch

## SOTERA ELECTRIC CHEMICAL TRANSFER PUMPS



Rebuild kit 400 series green pump

Rebuild kit 400B series



The 115V Chemtraveller pump is an electric diaphragm pump with reciprocating, spring driven configuration that maintains constant pressure regardless of load. The pump automatically goes neutral when the end of hose valve is shut off.

### SOTERA CHEMTRAVELLER PUMP

DESCRIPTION	PART NUMBER
12 Volt Chemtraveller c/w meter	SOSS435B
115 Volt Chemtraveller c/w meter	SOSS465EXP
Rebuild kit 400 series	SO400KTF6863
Rebuild Kit 400B series (kit repairs only one side of pump)	SO400KTH1178
Motor Seal for series 400 and 400B	SO400F6707
Anti Drip Spout	SO408KTF0237
Motor Only 12V	SO400EXPF6846
400B Series Rebuild kit	SO400KTH1457
Gear assembly only	SO400F6557
90 degree flanged housing	SO400F6679
Bolts for 90 degree housing	SO400G9687

### 110V SOTERA PUMP ONLY

DESCRIPTION	PART NUMBER
The Sotera 12V chemical pump is an electric diaphragm pump with reciprocating, spring driven configuration that maintains constant pressure regardless of load. The pump automatically goes neutral when the end of hose valve is shut off.	SOSS460BX731

### 4000 SERIES 12V ELECTRIC ROLLER PUMP

DESCRIPTION	PART NUMBER
12V DC 13 GPM electric double diaphragm chemical transfer pump. Designed for pesticides, fertilizers, mild acids, soaps and water. Includes pump, 20' battery cable with clips and 30-amp fuse and thermal overload protection. Two-year warranty.	SOSS415B

- Tubular frame construction
- Top and bottom tote adapter kits
- Flow rate: 13 GPM
- Pressure: 15 PSI
- Santoprene diaphragms
- EPDM seals
- 130 degree F max temp
- 10ft suction lift
- Up to 0.1 diameter solids
- Weight: 48 lbs
- Dimensions: 22.75 x 21.25 x 15 in
- Voltage: 110v or 12v
- Inlet size: 2"
- Outlet size: 1"
- Meter included

- Flow rate: 13 GPM
- Pressure: 15 PSI
- Santoprene Diaphragms
- EPDM Seals
- 130 Degree F Max Temperature
- 10ft Suction Lift
- Up to 0.1 Diameter Solids
- Dimensions: 17 x 13 x 15in
- Voltage: 12V
- Inlet size: 2"
- Outlet size: 1"

- Flow rate: 13 GPM
- Pressure: 15 PSI
- Santoprene Diaphragms
- EPDM Seals
- 130 Degree F Max Temperature
- 10ft Suction Lift
- Up to 0.1 Diameter Solids
- Dimensions: 17 x 13 x 15in
- Voltage: 12V
- Inlet size: 2"
- Outlet size: 1"



## FLOWSERVE DEF TRANSFER PUMPS



### FLOWSERVE CT6 PUMP ONLY

DESCRIPTION	PART NUMBER
PH6 DEF Pump 12 volt (no micro-matic fitting)	FSCT6DEF
PH6 DEF Pump 110 volt (no micro-matic fitting)	FSPH6115DEF
PH6 DEF pump 12 volt	FSCT6MMDEF
PH6 DEF pump 110 volt	FSCT64DEF115VMM

The 12v or 110v PH6 DEF Pump is a six-chamber diaphragm pump designed for diesel fuel applications by Flowserve. It is a self-priming pump with wetted parts resistant to many agricultural and industrial chemicals. The CT6-DEF is used primarily to dispense diesel fuel from Intermediate Bulk Containers (IBCs).

The pump can be configured with a variety of brackets, dip tubes, flow meters, fittings, hoses and valves to provide a complete pumping system.

- Vertical or horizontal container tip mount
- Removable cartridge containing diaphragm, valves, and bypass assembly eases replacement and field maintenance
- Multiple pump chamber design or increased dependability
- EPDM seal standard
- Flows 38l/m (10 GPM)
- Pressure: 1.7 bar (25PSI)
- Pump meter and hoses are shown as options
- *Note: dip tube, fitting and nozzle are not included with DEF pump only*

Pumps and Pumping Systems



Dip tube



Dip tube fitting



DEF nozzle

DESCRIPTION	PART NUMBER
Dip Tube	FSXTUBETE
Dip tube fitting	FSPH25
Def nozzle assembly	FSPH89



Pump housing body

### REPLACEMENT PH6 PUMP PARTS

DESCRIPTION	PART NUMBER
Pump housing	FSPH6KIT02
PH6 motor only	FSPH6M01
Cartridge and gasket kit	FSPHPKIT01V
O-ring and gasket kit	FSPHPKIT02V
12' discharge hose	FSEP5804
1" valve for hose	BAUV100FP
Valve nozzle	BAV10161
1" valve with nozzle	FSPH20



PH6 motor



O-ring and gasket



Cartridge and gasket



Discharge hose valve and nozzle



1" valve with nozzle

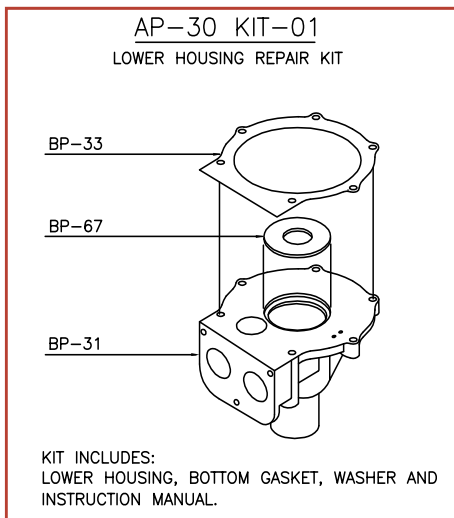
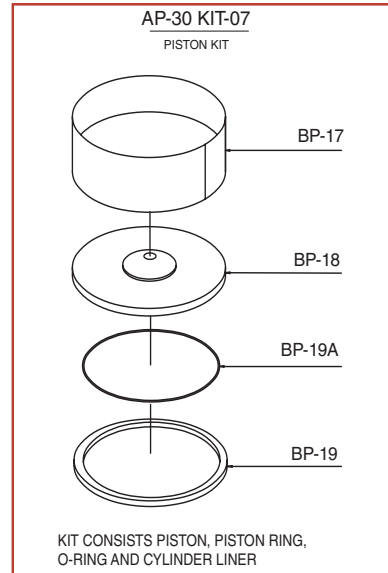
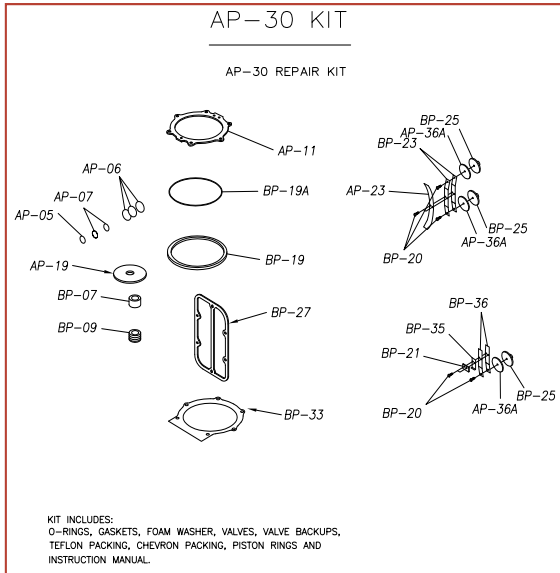
## AIR PISTON PUMP



### SOTERA CHEMTRAVELLER PUMP

DESCRIPTION	PART NUMBER
The high capacity Science FSAP30 air piston pump is ideal for agricultural and industrial services, including herbicides, diesel fuel, gasoline and lubricating oils. It offers users a high degree of reliability, versatility and long life. The FSAP30 air piston pump is ruggedly and smartly constructed. With no motor to burn out and with minimal moving parts.	FSAP30

- Flow rate: 30 GPM
- Maximum air pressure: 125 PSI
- Size: 16 x 7.5 in
- Weight: 15 lb
- Air inlet: 0.25 in NTP
- Suction port: 1 in NPT
- Discharge port: 1 in NPT
- Versatile Air Piston Design accepts stationary and portable auxiliary air compressors as well as portable carbon dioxide cylinders
- Ruggedly constructed with minimal moving parts and no metal-to-metal contact
- Includes 50 mm (2 in) NPT bung adapter and high density polyethylene dip tube
- Undamaged by dead heading



AIR PISTON PUMP REPAIR PARTS	
DESCRIPTION	PART NUMBER
Repair kit	FSAP30KIT
Lower housing repair kit	FSAP30KIT01
Air housing kit	FSAP30KIT02
Complete screw/nut kit	FSAP30KIT03
Complete top kit	FSAP30KIT06
Piston kit	FSAP30KIT07
Spool sleeve kit	FSAP30KIT08
Muffler kit	FSAP90KIT

## BANJO / HYPRO PEDESTAL PUMPS



2" & 3" BANJO PEDESTALPUMP	
DESCRIPTION	PART NUMBER
The Banjo 2" & 3" Pedestal Pump is manufactured with polypropylene and have the highest performance levels. Ideal for various agriculture liquid applications. Threaded or flanged ports.	2" Pump: BAM200PB  3" Pump: BA300PB-THREADED BAM300PB-FLANGED

- Weight: 18.95 lbs (2")
- 20 lbs (3")
- Dimensions: 16 x 14 x 15 in
- Inlet/outlet size: 2" & 3"
- Material: polypropylene
- Flow rate with 25 ft of head: 190 gpm (2")
- 300 gpm (3")



3" M350 BANJO PEDESTAL PUMP	
DESCRIPTION	PART NUMBER
Banjo M350 Self-priming centrifugal pumps have a FastFlow™ technology utilizing a customized diffuser design greatly increases flow rates. With a 500 GPM with 4 in. suction.	BAM350PBW

- Inlet/outlet size: 3"
- Material: polypropylene
- Maximum flow rate: 500+ GPM
- Maximum head: 70 feet
- shaft size: 3/4"
- Minimum 13 HP required
- 1 hour run dry time



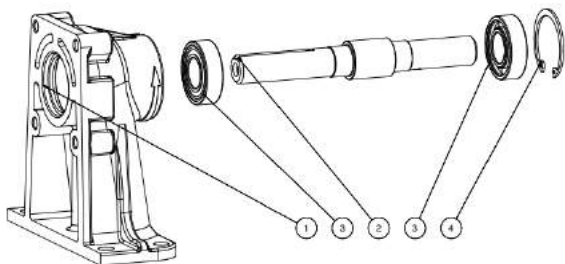
4" BANJO PEDESTAL PUMP CAST IRON	
DESCRIPTION	PART NUMBER
The Banjo BA444PBI Pedestal Pump is a 4" cast iron pump with a bearing pedestal. This pump is designed for high-capacity agricultural and industrial spraying and transfer of variety of fluids.	BA444PBI

- Weight: 175 LBS
- Maximum flow rate: 640 GPM
- Maximum pressure: 70 PSI
- Material: cast iron
- Shaft size: 1"
- "V" Shaped for quicker priming



3" THREADED HYPRO PEDESTAL PUMP	
DESCRIPTION	PART NUMBER
Hypro Self-Priming Polypropylene Transfer Pumps handle big, high-capacity, liquid transfer jobs with ease. Use them for transferring water, liquid fertilizers, and other chemicals compatible with pump materials.	HY9243PSP

- Max flow rate: 460 GPM
- Max pressure: 54 PSI
- Max total head: 125 feet
- Max suction lift: 25 feet
- Inlet size: 3" NPT
- Outlet size: 3 NPT
- Max speed: 3500 RPM

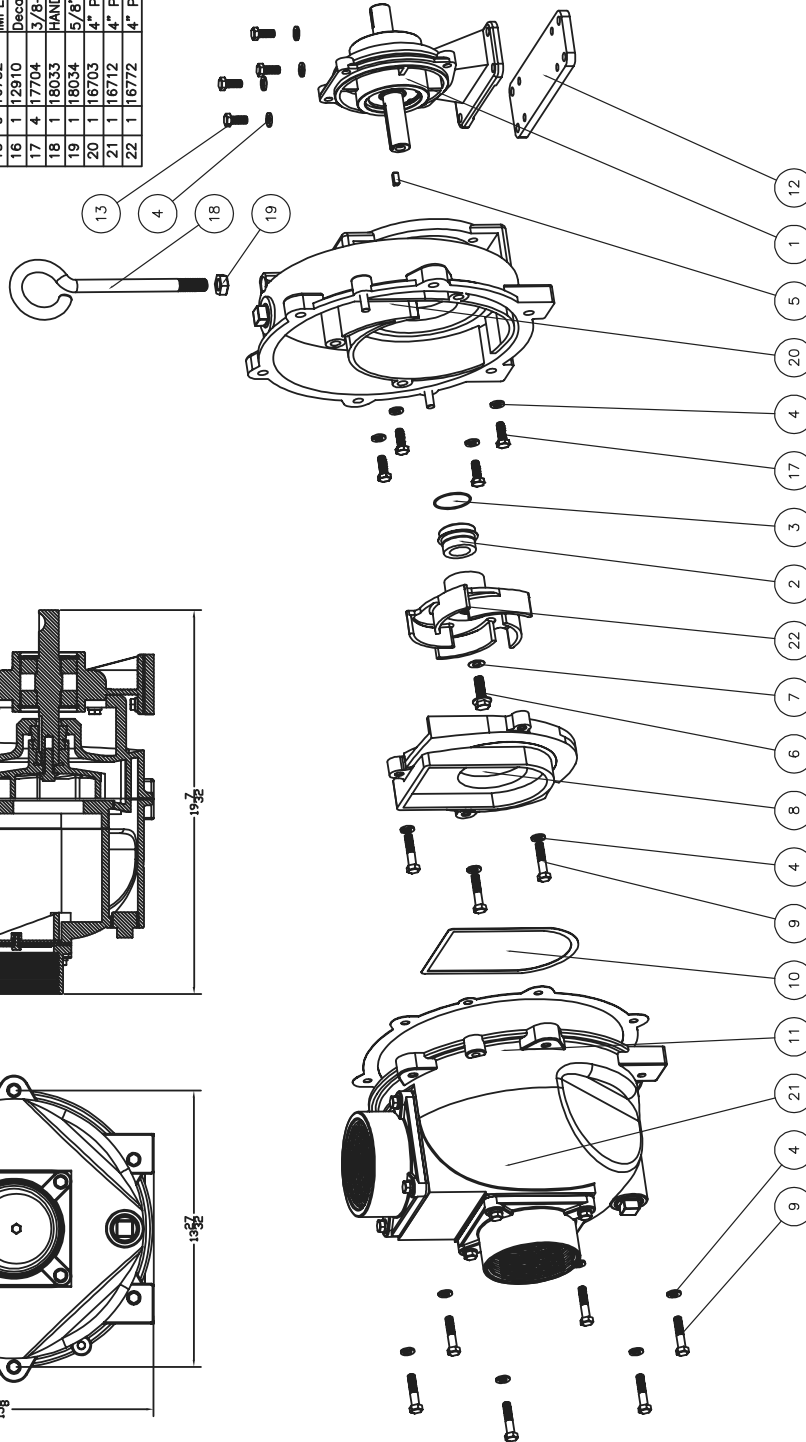
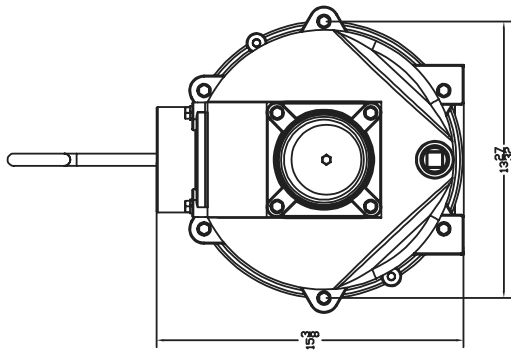
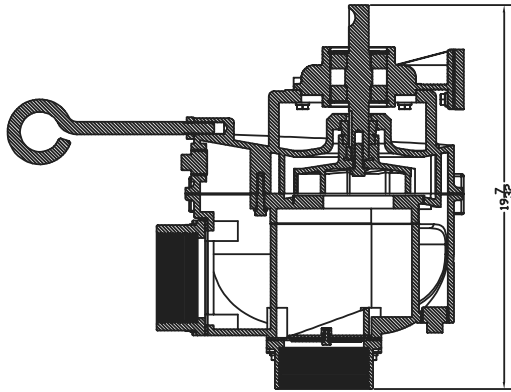


PEDESTAL PARTS	
DESCRIPTION	PART NUMBER
Bearing Pedestal Housing- Banjo	BA12882R
Bearing Pedestal Shaft- Banjo	BA12883R
Bearing- Banjo	BA12883B
Retainer Ring- Banjo	BA12884
Pedistal assy. keyed shaft- Hypro c/o 9243P-SP	HY07519243A
Pedistal assy. splined shaft-Hypro c/o 9343p-GM6SP	HY0751934A



4" BANJO PEDESTAL PUMP REPLACEMENT PARTS

Parts List	
ITEM QTY	PART NO. DESCRIPTION
1	18500 Bearing Pedestal Assembly
2	16713 Mechanical Seal
3	16710 O-ring
4	17 V20018 3/8" Split Lock Washer
5	16901 1/4" x 3/4" Shaft Key
6	16765 Impeller Bolt
7	16019C 16019 Gasket Set (A,B,C)
8	16702 Volute
9	V20011SS 3/8"-16 x 1.75" HHCS
10	16019B 16019 Gasket Set (A,B,C)
11	16019A 16019 Gasket Set (A,B,C)
12	16511 Bearing Pedestal Adapter Plate
13	4 18512 3/8"-16 x 0.87" HHCS
14	0 16751 Rear Bracket Shim (AS REQ'D)
15	0 16752 IMPELLER SHIM (AS REQ'D)
16	1 12910 Decal for Pump (N/S)
17	4 17704 3/8"-16 X 1 1/4" HHCS
18	1 18033 HANDLE
19	1 18034 5/8"-11 Jam Nut
20	1 16703 4" PUMP REAR BRACKET
21	1 16712 4" PUMP BODY ASSEMBLY
22	1 16772 4" PUMP IMPELLER



## JOHN BLUE PEDESTAL PUMPS

The John Blue Pedestal Pump can run dry without damaging the seals. This combined with a two-year factory backed warranty on cast iron models, makes the John Blue Centrifugal Pumps second to no other pump manufacturer- all at an affordable price. The two inch John Blue pump can be mounted to an electric, gas or hydraulic motor with the requirement of 3,500 RPM max.

- Operators can select from two inlet locations on 1 pump
- The standard lower inlet with back flow valves yields maximum pump flow
- The higher inlet allows the outlet lines to drain after shutoff

### JOHN BLUE PEDESTAL PUMP

DESCRIPTION	PART NUMBER
2" self-priming 152 GPM	JBSP3240P
3" self-priming 308 GPM	JBSP3340P
3" electric motor pump	JBSP3320E

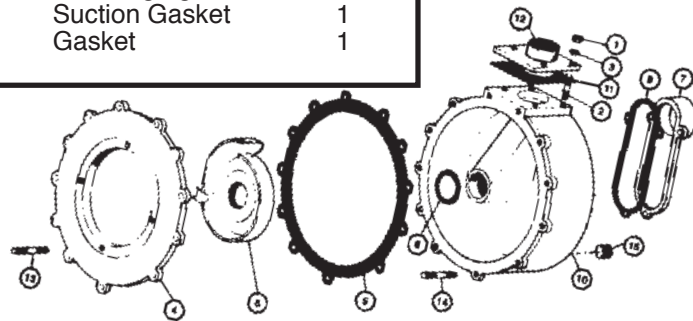
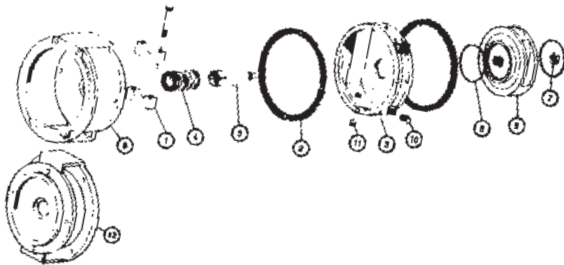


JBSP3340P



Repair kit for SP3320 – JB103278 includes:

JB43005	Double seal	1
JB11015201	Annular seal	2
JBS3638	Gasket	2
JBS3641	Large Gasket	1
JBS3656	Discharge gasket	1
JBS3654	Suction Gasket	1
JBS3648	Gasket	1



#### Parts - Double Seal - 3" Pump

#	DESCRIPTION	QTY.	Part #
1	Clamp assembly	1	JBS3608
2	Gasket, seal	2	JBS3638
3	Reservoir (w/Serial # above 9920)	1	JB10203501
4	Dble seal ass'ly (Serial # above 9920)	1	JB43005
4	Double seal assembly	1	JB43017
5	Shaft impeller	1	JBS3646
5	Shaft impeller, 1" for BS model pump	1	JB11452401
6	Adaptor - gas engine (Ser.# above 9920)	1	JB10218901
6	Adaptor - gas engine BS model pumps	1	JB11452301
7	Lock nut 3/4", 16 left hand thread	1	JBS3649
8	Annular seal	2	JB11015201
9	Impeller (Serial # above 9920)	1	JB10203701
10	View window	1	JBS3555
10	View window - Pyrex	1	JBS3555P
11	Plugs	3	JB95019
12	Adaptor/Electric Motor (Ser.# above 9920)	1	JB10219001

#### Parts - 3" Self Priming Pumps

#	DESCRIPTION	QTY.	Part #
1	Nut	23	JBS3557
2	Stud	7	JBS3561
3	Lock washer	23	JBS3562
4	Housing, Cover	1	JBS3640
5	Gasket	1	JBS3641
6	Gasket	1	JBS3648
7	Suction Flange	1	JBS3652
8	Scroll plate (Ser. # above 9920)	1	JB10203601
9	Gasket, suction flange	1	JBS3654
10	Housing	1	JBS3655
11	Gasket, discharge flange	1	JBS3656
12	Flange, 3" F.P.T.	1	JBS3657
13	Stud	4	JBS3664
14	Stud	10	JBS3666
14	Stud	2	JBS3597
15	Pipe plug	1	JB95019
16	1/4" x 3/4" Roll pin - Stainless	2	JBL4135

## BANJO PUMPS

### STANDARD PUMPS

#### FEATURES

- Proven design and construction
- Size options: 1½" – 4"
- Seal options: FKM, EPDM, Buna
- Available in manifold flange connections



### WET SEAL PUMPS

#### FEATURES

- Double seal contained in ethylene glycol reservoir enables run dry capability
- Size options: 1½" – 3"
- Seal options: EPDM, FKM
- Available in manifold flange connections



## MATERIAL CONFIGURATIONS



### POLYPROPYLENE PUMPS

Tried and true, lightweight poly pumps offer an excellent combination of portability, durability, chemical resistance, and overall economy.



### CAST IRON PUMPS

Cast iron pumps offer outstanding durability for harsh handling conditions and/or where maximum product longevity is required.

## TRUST BANJO QUALITY

Having a transfer pump fail can cost you big. Time wasted replacing or repairing is one thing, but time lost not getting fluid where it needs to go can be even more costly. A cheaply priced, inferior quality pump becomes very expensive when it's not working.

Banjo designs our pumps to have less plastic expansion to ensure materials stay put and don't separate. This material engineering precision means fewer leaks and fewer repairs, which keeps you up and running.

All Banjo pumps are liquid pressure tested before they ship.

## RUN DRY WITH WET SEAL

With a specially sealed reservoir, Wet Seal pumps enable you to use the pump while running dry and not damaging the engine or pump assembly. This design feature helps you get up and running, yet safeguards the pump when liquid flow stops. Wet Seal is an option for poly, cast iron, and stainless Banjo pumps.

## CHECK YOUR KEY SPECS

- Flow ratings: all pumps are between 140 - 720 gallons per minute (gpm)
- Temperature ratings: poly pumps = 150°F; cast iron and stainless pumps are limited by the seal material's maximum temperature ( EPDM = 300°F; FKM = 400°F)



## SOIL SAMPLING EQUIPMENT

Soil Sampling



### Soil Sampling

The most valuable piece of any farm operations is the soil in which the crops grow. We need to manage this resource carefully to promote long term sustainability on our farms. There is no bad time to get in touch with your soil to plan a multi year crop plan. The sooner you sample, the sooner you can start working to enhance your fields potential. Below are a few good reasons to soil sample and the equipment available to do it.

#### Know your fertility:

Soils vary field to field and even zone to zone within the field.

Without a soil analysis, it is nearly impossible to determine what a soil needs to be productive.

#### Avoid degradation of your soil:

With yields trending higher each year, your crops are removing more and more nutrients from the soil.

In zones where the soil is deficient, you may need substantially more nutrients that the crop removes to balance the soils and improve productivity.

#### Avoid over fertilization:

The parent materials of your soil cause them to be naturally low or high in certain nutrients, and can adjust your fertilization plan based on soil sampling results.

Over application of nutrients can lead to at best wasted input costs, or at worst environmental damage to water ways and sensitive areas.



### 2450 TRUCK MOUNT SOIL SAMPLER

DESCRIPTION	PART NUMBER
2450 truck mount sampler	AMPLI2450
24" Replacement "C" probe	AM1031407
Probe scraper	AM1018240
Probe tip (dry conditions)	AM1040969
Probe tip (normal/wet conditions)	AM1030206
Bucket completely assembled	AM1025742

- Fast - only 12 seconds to retrieve a 24"
- (60 cm) soil sample
- Easily mounted on pickup in minutes
- Designated soil sampling vehicle is not required
- Various probe tips available for varying soil conditions
- Shipping size: 87"W x 25"L x 32"H, weight
- Weight: 500 lbs.
- Mounts outside cab in box
- Automated collection of up to 25 samples
- Push-button controls with 10 foot cord
- Conveniently adjusts to lay-down position for easy transport

**Model 2450 Truck Mount Soil Sampler** is engineered to automatically collect up to 25 samples. The push-button controls with 10 foot cord lets you collect samples without having to get out of the pickup cab.

# Soil Sampling



2400 IN CAB SOIL SAMPLER	
DESCRIPTION	PART NUMBER
Model 2400 In-Cab Soil Sampler samples through frozen ground and its fast cycle time allow for more samples in less time!	AM2400IC
Slotted probe	AM1060031
Probe tip (dry conditions)	AM1040969
Probe tip (normal/wet conditions)	AM1030206

- Mounts inside cab of most vehicles
- Manual collection of samples
- Push-button controls with 10' cord
- Cycle time: 11 - 17 seconds
- Sample depth of 0 - 24 inches
- 12 volt electric over hydraulic power unit
- Samples through frozen ground
- Quick attach probe
- Direct push sampler
- Stainless steel sampling parts
- Weight: 200 lbs.



3024 ATV SOIL SAMPLER	
DESCRIPTION	PART NUMBER
ATV models have automated collection of up to 20 samples. The ATV models have a smaller, lighter platform, so a specially designed, carbide-tipped auger allows sampling of all types of soil, including frozen ground.	AMPLI3024
ATV truck mount option	PPATVSTMO
Bucket only	AM1042044
Auger bit - 24"	AM1040312

- Fast 0-24" sample in 10 - 12 sec.
- Use in all soil including frozen ground
- Collection bucket is removable while seated on ATV
- Easy mounting and dismounting
- Shipping size: 61"W x 25"L x 29"H
- Weight: 400 LBS



T-HANDLE WITH FOOTSTEP	
DESCRIPTION	PART NUMBER
Handle only soil probe	PPSHANDLE24
15" soil tube with tip	PPOAK115
Dry tip only	PPOAKS1
Normal tip only	PPOAKS2
Wet tip only	PPOAKS3



WIND, TEMP, HUMIDTY METER	
DESCRIPTION	PART NUMBER
Measures air velocity, temperature, wind chill temperature, and humidity. Display 5, 10 and 13 second average wind speeds.	ATWMT100190



MOISTURE PROBE	
DESCRIPTION	PART NUMBER
43" in length with spiral end for soil collection. 12" T handle with rubber grips.	PPMPROBE



SWEEP NET	
DESCRIPTION	PART NUMBER
Handle and hoop are made from light-weight and durable aluminum. Velcro attached net is easily replaceable. Handles are 36" long.	PLSSNET
Net only	PLSNET

Soil Sampling

# Flow Meters

## FLOW METERS



- Displays batch total volume & overall total volume!
- Flow rate allows for gal. or litres/min
- The display reads 6 digits for Rate, 8 digits for Total & 1 decimal place reading in tenths
- Magnetic style meter with stainless steel electrodes
- Self calibrating meter • Measures water and most conductive liquids • Easy to change six (6) AA batteries • No moving parts to fail during use • Glass reinforced polypropylene
- Temperature range from 0°F to 150°F • Accuracy is 99% from 14 to 670 GPM for 3"
- There are 3 photoeyes located on the face of the flow meter NOTE: These are not push buttons, to activate you must hold your finger over the photoeye for 2-4 seconds.

BANJO MAG METER	
DESCRIPTION	PART NUMBER
Banjo 1" threaded meter	BAFM100
Banjo 1" full port meter	BAMFM100
Banjo 2" full port meter	BAMFM220
Banjo 3" full port meter	BAMFM300

*Note: do not use Banjo meters with petroleum based product as the meter will not read the flow.*

**Mcnaught Oval Gear Flow Meter** fluid transfer systems make it simple and convenient to monitor product flow from the nurse truck to your sprayer. The digital display is easy to view and the controls are on the meter itself, which is right where you need it. Mcnaught MX Oval Gear Flow Meters are Industrial Grade Positive Displacement Flow Meter devices. Our MX Meters provide true volumetric measurement of liquid through the meter – not of scale, but actual flow measurement. **No calibration numbers required!**

MX Meter bodies are machined of solid aluminum, our Rotor shafts are hardened alloy and our Rotor design is unmatched for accuracy and reliability. **No flow conditioning is required! Put the meter where ever you need it.**



Mcnaught Oval Gear Flow Meter	
DESCRIPTION	PART NUMBER
Mcnaught 2" gear meter	MX50F-2SD
Remote display adapter kit	MXD-A5S MXS-WMB

**The Raven RFM** Series of electronic turbine flow meters provides an economical method of accurately measuring a wide range of liquids at various flow rates. Some applications include industrial, water, chemicals, irrigation, fertilizer and petroleum. An electronic transducer located inside the flow meter housing monitors turbine rotation. These digital signals are then interfaced to electronic totalizers or flow devices to give readouts of gallons or liters. Raven RFM Flow Meters are designed for compatibility with most chemicals and liquids. Turn down ratios of 50:1 make this an ideal flow meter for most industrial applications. Raven's wide variety of housing materials, turbine, shaft and bearing materials and flow capacities make selecting a flow meter for many different applications possible. 1 1/2" Ends Inlet and Outlet 175 PSI Pressure Rating 72 TYP Pulses/GAL Polypropylene Body 5 VDC Supply Voltage 10 mA Supply Current.

RAVEN RFM FLOW METER	
DESCRIPTION	PART NUMBER
Raven 60P high flow meter	RA10630171985
Raven 15P low flow meter	RA10630172058
Replacement sensor (new)	RA10630171669
Replacement sensor (old)	RA10630171669





## FLOW METERS



**Sotera Positive Displacement** – Nutating Disc meter is ideal for end of hose use, in line or mounted to one of our Rotary Vane or 400B Series Diaphragm Pumps. It is able to store and display the current flow amount (total) or the cumulative flow amount (totalizer) in any of six user-specified units. The 850 has a mass air sensor that distinguishes between fluid and air. That means the 850 stops metering when you've finished emptying a container, adding an extra degree of accuracy.

The rugged corrosion-resistant body for the most demanding applications is easy to install with consistent accuracy up to +/- 0.2%. Battery powered, LCD display.

SOTERA FLOW METER	
DESCRIPTION	PART NUMBER
825 Series meter only	SO825
850 Series meter only	SO850
Repair Kit – 850/825 series meters	SO825KTF1582

Compatible with most water-based and petroleum based pesticides.



Accurate within 1%, the **Tuthill TT10PN** In-line Digital Turbine Meter sets the standard for accuracy, ease of use and safety. It has factory presets for 18 fluids and more safety approvals than any other meter in its class. Replaceable AA batteries keep your meter running and downtime to a minimum. A rubber boot helps protect the meter and electronics from impact damage.

Flow Ports 1" NPT female inlet and outlet ports

Flow Range 2 to 35 U.S. GPM

Working 120°F (49°C) Pressure 120°F (49°C) Storage -40°F

Measurement ±1.0% (After field calibration)

Accuracy Measurement ±0.30% (Batch sizes ≥ 2 Gallons)

SOTERA TURBINE FLOW METER	
DESCRIPTION	PART NUMBER
Sotera in-line flow meter	SOTT10PN



The **FlowServe SEM-10** and SEM-10FT electronic flow meters employ positive displacement nutating disk technology to meter liquids of various viscosities with great accuracy and nominal pressure loss. With the largest LCD display available on the market, large positive touch buttons and simple one-touch operation, the SEM-10 and SEM-10FT flow meters are easy to read and to use.

Positive Displacement Nutating Disk Design can meter liquids of various viscosities with an accuracy of 0.5% and a minimum loss of pressure. LCD Display measure 20mm (0.75 in) and is the largest on the market. One-Inch Rear Mounting Port allows meter to be mounted directly to the pump discharge. Battery can be replaced without removing the meter and without chemical exposure.

FLOWSERVE FLOW METER	
DESCRIPTION	PART NUMBER
Flow meter (pump end)	FSSEM10
Flow meter (hose end)	FSSEM10FT
Meter housing with SEM10	FSS1005N
Electronic face	FSSEM10KIT1
Meter chamber kit	FSSEM10KIT2
Magnet kit	FSSEM10KIT4
Replacement battery	CR2032



## FLOW METERS



Flow Meters

The Pattison Liquid Fertilizer Monitor, is used to monitor application rates on seeding equipment. The 1" stainless steel flow meter is placed in the line between your applicator pump and seeding tool/distribution kit. As product is delivered the system will measure in gallons per acre, your application rate. The monitor will display:

### STANDARD FEATURES:

- An easy-to-read liquid crystal panel lighted for night use
- A large rotary switch, for quick and precise function selection
- Triple counters for volume and area
- Push button run/hold, counter reset and calibration keys
- Durable Hall-effect speed and flow meter sensors
- Weatherproof cable connector
- Monitor is capable of interfacing with existing speed sensor

### FUNCTIONS:

- Volume 1, 2, 3, displays total gallons (litres) applied
- Area 1, 2, 3 keeps running total of acres (000's of sq. ft.) applied
- Volume/Min., displays gallons, (litres) applied/min
- Tank, displays gallons, (litres) remaining in the tank
- Rate, displays application rate, GPA or litres/acre
- Distance displays distance travelled in feet
- Area/Hour displays current work rate in acres/hour
- Speed displays ground speed in miles/hour
- Warning light indicates over or under application in excess of 10% of target rate

PLS-FT LIQUID FLOW METER	
DESCRIPTION	PART NUMBER
Liquid flow monitor	PLSFT2000
25' extension harness	PLSFT13209
50' extension harness	PLSFT13419
1" stainless flow meter	PLSFM1000
3/4" low flow meter	PLSMT01650
Flow / speed sensor	PLSFT13096
Astro II GPS antenna	PLSMT01410
Speed sensor kit	PLSFT17310
Magnetic kit	PLSMT12069



1" stainless flow meter



3/4" low flow meter



Flow/speed sensor

## PATTISON INDUCTOR METERING SYSTEM



**The 3 inch Inductor Plate is capable of metering chemical as a stand alone unit, or working with pre-existing systems.**

The 3 inch Inductor metering system is capable of metering chemical directly from bulk containers with accuracy and no mess. The system can be installed into an existing fill system to allow the operator to induct chemical directly into the fresh water as the sprayer is being filled. The 3 inch Inductor system is made from corrosive resistant materials capable of handling today's chemicals. It comes pre-assembled on mounting platform. The Raven FloMax 221 meter measures chemical with high accuracy as the chemical is drawn from the bulk containers. This high volume system is available with 3" flanged style fittings. Integrated with a fresh water rinse, allows for quick rinsing of the system, as operating switches from one chemical to the next. Shipping weight – 60 lbs. 48"L x 24"W x 13"H

The chemical inductor upgrade kit (BACONVKIT) allows the operator to use the chemical inductor with an existing system. The system provides the high capacity venturi to draw from existing chemical mix tanks and supply fresh water.

PATTISON INDUCTOR METERING SYSTEM	
DESCRIPTION	PART NUMBER
3" Inductor	PPINDUCTOR
Chem tank induction system (upgrade)	BACONVKIT





## PATTISON INDUCTOR FLEX



The new Inductor series by Pattison Liquid Systems is designed with flexibility in mind. The Inductor FLEX system is offered in three configurations: the Main Tank Assembly, a Tote Meter Option, and a 3 inch Pump Option. To pre-order your Inductor Flex for the upcoming season contact your territory representative for more information.

*Base only: 44"W x 40.5"D x 46"H  
Base + Meter: 48"W x 40.5"D x 46"H  
Base + Pump: 51"W x 40.5"D x 46"H  
Complete: 62"W x 40.5"D x 46"H*

### Main Tank Assembly Includes:

- 60-gallon cone bottom tank
- A stainless-steel jug knife installed with a jug rinse
- An anti-vortex plug to ensure air is not introduced into the chemical line
- 3" inductor plumbing capable of inducing 200 liters per minute. The fastest on the market!
- The inductor plumbing can be mounted on any side of the tank or moved onto the sprayer deck for easy access
- Fresh water valving for tank sanitation or mixing dry powders
- Powder coated skid



### Tote Meter Option Includes:

- Two 2" valves and one 1" valve to connect to totes
- One Mcnaught MX Positive Displacement flow meter
- Remote meter display kit available
- Fresh water valving to clean chemical lines between products
- The tote option can be mounted on the side of the tank or mounted to the sprayer deck



### Pump Option Includes:

- 13 hp electric start Hypro pump with flow rates of 440 gallons per minute
- 3" plumbing
- The pump option can also be mounted on any face of the main tank assembly to suit your needs
- Upgradeable to a 13HP Honda Pump



## PATTISON DRY INDUCTOR



The **Dry-Inductor** system has been developed to be used to introduce a dry product into a stream of liquid.

The 30 gallon Dry-Inductor system comes plumbed with a 3" fitting package with flow rates capable of 450 US gallons per minute for quick tank fill times. The fresh water port allows for tank agitation to turn dry powder into a solution.

### DRY INDUCTOR

DESCRIPTION	PART NUMBER
Dry inductor	BADRYIN300

Every hose reel comes standard with an all steel Double O-ring Liquid Lock Swivel. These swivels are withstanding the test of time and proving to be very dependable. We only stock hose reels with stainless steel swivels, as the majority of our reels are used with liquid fertilizer to increase your equipment's longevity.



### HOSE REEL

DESCRIPTION	PART NUMBER
3" Electric hose reel c/w stainless swivel	PPHRE300SS
2" Electric hose reel c/w stainless swivel	PPHR200SS

### HOSE REEL

DESCRIPTION	PART NUMBER
12V Replacement motor	PPHR10-
Motor handle - new style	PPHRMH2
Complete wireless remote	PPCHR109901B
3" NPT Stainless steel Swivel	PPHRSS3
O-Ring for 3" Swivel – 2 required	PPHR03
Hand Crank	PPHRH
Remote Fob Only (prior to 2018 – green units)	PPHRREMOTEOF
Remote Fob Only (2018 – black units)	PPCHR1121
Motor sprocket	PPS4017BS1250K
Bushing	PPBUSH34X15
Keyed Shaft - 4" x 1/2"	PPCHR1069
Idler 40 x 12 tooth	PPS4012BS0500K

### Pre-assembled as shown

- 30 USG cone bottom tank, completely empties
- Hinged lid on tank
- No interior bulkhead for dry product to get hung up on
- High capacity induction venturi
- Dry product inducted directly into liquid stream
- Designed to be used with dry products.
- Assembled with leak proof manifold fittings
- 3" plumbing, capable of flows up to 450 USG/Min.
- Approx. 44" wide x 42" high

### Heavy duty construction

- 12V motor with hand control
- Manual hand crank included
- Guide tubes for easy liquid fertilizer
- S/S swivel for liquid fertilizer
- Manual clutch lockout for easy pull out
- 2-way wireless and manual switches
- 41" long x 31" wide x 39" high (225 lbs)
- Max draw of 38 amps, use 6-8 gauge wire when lengths are over 30'
- 3" Hose reel, recommended 50' of hose spooled on reel



Don't forget to add a full port easy fill valve to your hose reel!

## INDUCTOR TANKS, SAND POINTS AND TOTE GAUGES



### FREE STANDING CONE BOTTOM TANKS

DESCRIPTION	PART NUMBER
30 gallon inductor tank	EPTHM060KWH01
60 gallon inductor tank	EPTHM030AKWH01



### SAND POINTS AND PVC FOOT VALVES

DESCRIPTION	PART NUMBER
2" filter 2" x 38" L	PPSAND2
3" filter 3" x 51" L	PPSAND3
4" filter 4" x 63" L	PPSAND4
2" foot valve	PP100120F
3" foot valve	PP100130F
4" foot valve	PP100140F
4" to 3" reducer bushing	BARB400300



The Sandpoint filter assemblies are made to act as a pond strainer made with durable, rigid, PVC tubing. The Sandpoint filter assemblies can be easily suspended in water with a float to strain all sand and foreign material from entering the suction line. Once the filter is plugged, simply flush from the inside out to remove foreign material.

The Sandpoint filter assemblies are available in 2", 3" and 4" FPT, foot valves can be easily adapted to the end of the sand point to stop fluid from draining from the hose. 300 microns or 50 mesh.

Chemical Management



### TOTE GAUGES

DESCRIPTION	PART NUMBER
1000L tote gauge	PP1000LTOTEGAUGE
115L tote gauge	PP115LTOTEGAUGE

Reliably measure chemical out of 115L or 1000L totes without electronics or marking the side of the container. Simply hang the gauge off the side of a barrel and measure the bulk fluid level with easy to see volume markers. Designed for totes and barrels shown in the photos below.

*Contact us today to get a quote on custom tote gauges for your business. Minimum order quantity required.*





## SELECTING THE RIGHT SPRAY TIPS- LET OUR TEAM HELP



### LET US HELP YOU BE SUCCESSFUL THIS SPRAY SEASON

**Your success** in any spraying season is dependent on many individual factors. Some of these factors, like the equipment you choose to use, are controlled by you. Others, like the weather, are not. Contact us and let us assist you in an area where you have total control: spray nozzle selection and use.

Even though spray nozzles are a physically small component in your overall operation, they are vitally important. Improper application of plant protection products can be extremely costly if re-spraying is required, performance is reduced or legal issues arise as a result of chemical drift. However, many users perceive spray nozzles as fairly simple components, when in fact it is quite the opposite. There are dozens of nozzle types from various manufacturers that offer very different performance.

**Making sure** you have the proper spray nozzles for your application and that they are performing properly are two things that every user should practice to maximize performance and profitability. The spray nozzles you select will determine:

- The amount of chemical applied to an area
- The uniformity of the application
- The coverage of the chemical on the target surface
- The amount of potential drift

Using the wrong spray nozzle or a spray nozzle that isn't performing properly can result in over or under application. Over application can be wasteful and costly; under application can result in a reduction in performance or the need for re-application. The use of a rate controller can certainly help ensure the proper amount is sprayed. You can also make minor adjustments to sprayer pressure or speed to apply the correct amount of chemical. However, the proper application volume doesn't necessarily mean maximum effectiveness.

**EVEN A SPRAY NOZZLE WITH ONLY 10%  
WEAR MAY NOT GIVE YOU THE COVERAGE AND  
PERFORMANCE YOU EXPECT**

# Spraying Parts and Accessories

## TEEJET & WILGER NOZZLE BODIES AND BOOM ENDS



SSQJ363



SSQJ364



SSQJ365



SSQJ363



SSQJ364



SSQJ365

### QUICK TEEJET NOZZLE BODIES (DRY BOOM)

DESCRIPTION	PART NUMBER
Nozzle body, dry, 3 way single 3/4"	SSQJ3637501
Nozzle body, dry, 3 way single 1"	SSQJ36310001
Nozzle body, dry, 3 way double 3/4"	SSQJ3637502
Nozzle body, dry, 3 way double 1"	SSQJ36310002
Nozzle body, dry, 4 way single 3/4"	SSQJ3647501
Nozzle body, dry, 4 way single 1"	SSQJ36410001
Nozzle body, dry, 4 way double 3/4"	SSQJ3647502
Nozzle body, dry, 4 way double 1"	SSQJ36410002
Nozzle body, dry, 5 way single 3/4"	SSQJ3657501
Nozzle body, dry, 5 way single 1"	SSQJ36510001
Nozzle body, dry, 5 way double 3/4"	SSQJ3657502
Nozzle body, dry, 5 way double 1"	SSQJ36510002

### QUICK TEEJET NOZZLE BODIES (WET BOOM)

DESCRIPTION	PART NUMBER
Nozzle body, wet, 3 way single 3/4"	SSQJ3633/4
Nozzle body, wet, 3 way single 1"	SSQJ3631
Nozzle body, wet, 4 way single 3/4"	SSQJ3643/4
Nozzle body, wet, 4 way single 1"	SSQJ3641
Nozzle body, wet, 5 way single 3/4"	SSQJ3653/4
Nozzle body, wet, 5 way single 1"	SSQJ3651



### WILGER QUICK END / NOZZLE BODY PARTS

DESCRIPTION	PART NUMBER
Boom end flush valve (short handle)	WI25175-V0
Boom end flush valve (long handle)	WI25175-LV0
1 1/4" 90 degree hose barb	WI25161-00
1 1/4" 45 degree hose barb	WI25162-01
1 1/4" straight hose barb	WI25160-01
Threaded tee	WI25169-00
Female threaded quick nut	WI25170-00
Male threaded quick nut	WI25171-00
Threaded quick nut O-ring	WI25160-02
1 1/4" flanged 90 degree hose barb	WI27343-00
1 1/4" flanged 45 degree hose barb	WI27342-20
1 1/4" flanged straight hose barb	WI28112-00
Flanged tee	WI27372-00
Plastic flanged clamp	WI27310-00
Flanged tubing adapter	WI27312-00
Flanged boom pipe to fitting O-ring	WI27315-00
Flanged fitting to fitting O-ring	WI27318-00
CR11 nozzle body assembly 1" boom	WILGER5NZLB
3 position turret 1" boom	WI40623-00



Spraying Parts and Accessories

## TEEJET STREAMJET FERTILIZER VARIABLE RATE TIPS



The SJ3-VR line of variable rate fertilizer spray tips feature a variable diameter orifice that produces a wide range of flow rates - it's like having 5 tips in one. This allows for a wider range of ground speeds and/or application rates from a single tip for improved productivity. These tips are also ideal for variable prescription map applications. The elastomer orifice design provides consistent flow rate performance while utilizing a simple, reliable design with no springs or moving parts.

### TEEJET VARIABLE RATE NOZZLES

DESCRIPTION	PART NUMBER
Streamjet variable rate tip	SSSJ3VRX0.5

### SJ3-VR VARIABLE RATE FERTILIZER TIPS

		20" Nozzle Spacing									
28-0-0 Pressure	US Gallon Per Nozzle	5 mph		6 mph		7 mph		8 mph		10 mph	
		GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE
20	0.13	7.7	23.0	6.4	19.2	5.5	16.4	4.8	14.4	3.9	11.5
30	0.16	9.5	28.3	7.9	23.6	6.8	20.2	5.9	17.7	4.8	14.2
40	0.18	10.7	31.9	8.9	26.6	7.6	22.8	6.7	19.9	5.3	15.9
50	0.21	12.5	37.2	10.4	31.0	8.9	26.6	7.8	23.2	6.2	18.6
60	0.24	14.3	42.5	11.9	35.4	10.2	30.3	8.9	26.6	7.1	21.2
70	0.28	16.6	49.6	13.9	41.3	11.9	35.4	10.4	31.0	8.3	24.8
80	0.32	19.0	56.6	15.8	47.2	13.6	40.5	11.9	35.4	9.5	28.3
90	0.37	22.0	65.5	18.3	54.6	15.7	46.8	13.7	40.9	11.0	32.7
100	0.42	24.9	74.3	20.8	62.0	17.8	53.1	15.6	46.5	12.5	37.2

		20" Nozzle Spacings									
28-0-0 Pressure	US Gallon Per Nozzle	12 mph		14 mph		16 mph		18 mph		20 mph	
		GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE
20	0.13	3.2	9.6	2.8	8.2	2.4	7.2	2.1	6.4	1.9	5.8
30	0.16	4.0	11.8	3.4	10.1	3.0	8.9	2.6	7.9	2.4	7.1
40	0.18	4.5	13.3	3.8	11.4	3.3	10.0	3.0	8.9	2.7	8.0
50	0.21	5.2	15.5	4.5	13.3	3.9	11.6	3.5	10.3	3.1	9.3
60	0.24	5.9	17.7	5.1	15.2	4.5	13.3	4.0	11.8	3.6	10.6
70	0.28	6.9	20.7	5.9	17.7	5.2	15.5	4.6	13.8	4.2	12.4
80	0.32	7.9	23.6	6.8	20.2	5.9	17.7	5.3	15.7	4.8	14.2
90	0.37	9.2	27.3	7.8	23.4	6.9	20.5	6.1	18.2	5.5	16.4
100	0.42	10.4	31.0	8.9	26.6	7.8	23.2	6.9	20.7	6.2	18.6

$$GPA = \frac{(GPM \times 5,940)}{(MPH \times W)}$$

- GPM- gallons per minute per nozzle
- MPH- travel speed in miles per hour
- W- spacing width of nozzle in inches



# Spraying Parts and Accessories

## TEEJET STREAMJET FERTILIZER VARIABLE RATE TIPS



The SJ3-VR line of variable rate fertilizer spray tips feature a variable diameter orifice that produces a wide range of flow rates - it's like having 5 tips in one. This allows for a wider range of ground speeds and/or application rates from a single tip for improved productivity. These tips are also ideal for variable prescription map applications. The elastomer orifice design provides consistent flow rate performance while utilizing a simple, reliable design with no springs or moving parts.

### TEEJET VARIABLE RATE NOZZLES

DESCRIPTION	PART NUMBER
Streamjet variable rate tip	SSSJ3VRX1.0

## SJ3-VR VARIABLE RATE FERTILIZER TIPS

		20" Nozzle Spacing									
28-0-0 Pressure	US Gallon Per Nozzle	5 mph		6 mph		7 mph		8 mph		10 mph	
		GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE
20	0.21	12.5	37.2	10.4	31.0	8.9	26.6	7.8	23.2	6.2	18.6
30	0.28	16.6	49.6	13.9	41.3	11.9	35.4	10.4	31.0	8.3	24.8
40	0.35	20.8	62.0	17.3	51.6	14.9	44.3	13.0	38.7	10.4	31.0
50	0.43	25.5	76.1	21.3	63.4	18.2	54.4	16.0	47.6	12.8	38.1
60	0.51	30.3	90.3	25.2	75.2	21.6	64.5	18.9	56.4	15.1	45.1
70	0.61	36.2	108.0	30.2	90.0	25.9	77.1	22.6	67.5	18.1	54.0
80	0.71	42.2	125.7	35.1	104.7	30.1	89.8	26.4	78.5	21.1	62.8
90	0.82	48.7	145.1	40.6	121.0	34.8	103.7	30.4	90.7	24.4	72.6
100	0.93	55.2	164.6	46.0	137.2	39.5	117.6	34.5	102.9	27.6	82.3

		20" Nozzle Spacings									
28-0-0 Pressure	US Gallon Per Nozzle	12 mph		14 mph		16 mph		18 mph		20 mph	
		GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE
20	0.21	5.2	15.5	4.5	13.3	3.9	11.6	3.5	10.3	3.1	9.3
30	0.28	6.9	20.7	5.9	17.7	5.2	15.5	4.6	13.8	4.2	12.4
40	0.35	8.7	25.8	7.4	22.1	6.5	19.4	5.8	17.2	5.2	15.5
50	0.43	10.6	31.7	9.1	27.2	8.0	23.8	7.1	21.1	6.4	19.0
60	0.51	12.6	37.6	10.8	32.2	9.5	28.2	8.4	25.1	7.6	22.6
70	0.61	15.1	45.0	12.9	38.6	11.3	33.7	10.1	30.0	9.1	27.0
80	0.71	17.6	52.4	15.1	44.9	13.2	39.3	11.7	34.9	10.5	31.4
90	0.82	20.3	60.5	17.4	51.8	15.2	45.4	13.5	40.3	12.2	36.3
100	0.93	23.0	68.6	19.7	58.8	17.3	51.4	15.3	45.7	13.8	41.2

$$GPA = \frac{(GPM \times 5,940)}{(MPH \times W)}$$

- GPM- gallons per minute per nozzle
- MPH- travel speed in miles per hour
- W- spacing width of nozzle in inches

# Spraying Parts and Accessories

## TEEJET STREAMJET FERTILIZER VARIABLE RATE TIPS



The SJ3-VR line of variable rate fertilizer spray tips feature a variable diameter orifice that produces a wide range of flow rates - it's like having 5 tips in one. This allows for a wider range of ground speeds and/or application rates from a single tip for improved productivity. These tips are also ideal for variable prescription map applications. The elastomer orifice design provides consistent flow rate performance while utilizing a simple, reliable design with no springs or moving parts.

### TEEJET VARIABLE RATE NOZZLES

DESCRIPTION	PART NUMBER
Streamjet variable rate tip	SSSJ3VRX2.0

## SJ3-VR VARIABLE RATE FERTILIZER TIPS

20" Nozzle Spacing											
28-0-0 Pressure	US Gallon Per Nozzle	5 mph		6 mph		7 mph		8 mph		10 mph	
		GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE
20	0.55	32.7	97.4	27.2	81.1	23.3	69.5	20.4	60.8	16.3	48.7
30	0.7	41.6	123.9	34.7	103.3	29.7	88.5	26.0	77.4	20.8	62.0
40	0.84	49.9	148.7	41.6	123.9	35.6	106.2	31.2	92.9	24.9	74.3
50	0.97	57.6	171.7	48.0	143.1	41.2	122.6	36.0	107.3	28.8	85.9
60	1.11	65.9	196.5	54.9	163.7	47.1	140.3	41.2	122.8	33.0	98.2
70	1.25	74.3	221.3	61.9	184.4	53.0	158.0	46.4	138.3	37.1	110.6
80	1.38	82.0	244.3	68.3	203.6	58.6	174.5	51.2	152.7	41.0	122.1
90	1.51	89.7	267.3	74.7	222.7	64.1	190.9	56.1	167.1	44.8	133.6
100	1.64	97.4	290.3	81.2	241.9	69.6	207.4	60.9	181.4	48.7	145.1

20" Nozzle Spacings											
28-0-0 Pressure	US Gallon Per Nozzle	12 mph		14 mph		16 mph		18 mph		20 mph	
		GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE	GPA	N/ACRE
20	0.55	13.6	40.6	11.7	34.8	10.2	30.4	9.1	27.0	8.2	24.3
30	0.7	17.3	51.6	14.9	44.3	13.0	38.7	11.6	34.4	10.4	31.0
40	0.84	20.8	62.0	17.8	53.1	15.6	46.5	13.9	41.3	12.5	37.2
50	0.97	24.0	71.5	20.6	61.3	18.0	53.7	16.0	47.7	14.4	42.9
60	1.11	27.5	81.9	23.5	70.2	20.6	61.4	18.3	54.6	16.5	49.1
70	1.25	30.9	92.2	26.5	79.0	23.2	69.1	20.6	61.5	18.6	55.3
80	1.38	34.2	101.8	29.3	87.2	25.6	76.3	22.8	67.9	20.5	61.1
90	1.51	37.4	111.4	32.0	95.5	28.0	83.5	24.9	74.2	22.4	66.8
100	1.64	40.6	121.0	34.8	103.7	30.4	90.7	27.1	80.6	24.4	72.6

$$GPA = \frac{(GPM \times 5,940)}{(MPH \times W)}$$

- GPM- gallons per minute per nozzle
- MPH- travel speed in miles per hour
- W- spacing width of nozzle in inches

## TEEJET SJ3 STREAMJET FERTILIZER TIPS



TEEJET STREAMJET TIPS	
DESCRIPTION	PART NUMBER
TeeJet Streamjet - green	SSSJ3015VP
TeeJet Streamjet - yellow	SSSJ302VP
TeeJet Streamjet - blue	SSSJ303VP
TeeJet Streamjet - red	SSSJ304VP
TeeJet Streamjet - brown	SSSJ305VP
TeeJet Streamjet - grey	SSSJ306VP
TeeJet Streamjet - white	SSSJ308VP
TeeJet Streamjet - light blue	SSSJ310VP
TeeJet Streamjet - light green	SSSJ315VP
TeeJet Streamjet - black	SSSJ320VP



QUICK TEEJET CAPS	
DESCRIPTION	PART NUMBER
Quick cap - TJ, AI & SJ-3 - black	SSCP1144421CE
Quick cap - TJ, AI & SJ-3 - white	SSCP1144422CE
Quick cap - TJ, AI & SJ-3 - red	SSCP1144423CE
Quick cap - TJ, AI & SJ-3 - blue	SSCP1144424CE
Quick cap - TJ, AI & SJ-3 - green	SSCP1144425CE
Quick cap - TJ, AI & SJ-3 - yellow	SSCP1144426CE
Quick cap - TJ, AI & SJ-3 - brown	SSCP1144427CE
Quick cap - TJ, AI & SJ-3 - orange	SSCP1144428CE



GASKET SEAL FOR TEEJET CAPS	
DESCRIPTION	PART NUMBER
Gasket seal for caps	SSCP19438EPR

Spraying Parts and Accessories

## CAPS REQUIRED FOR COMBO-JET NOZZLE BODY



COMBO-JET CAPS	
DESCRIPTION	PART NUMBER
Conversion cap for streamjet	WI4027605



COMBO-JET CAP SEAL	
DESCRIPTION	PART NUMBER
Gasket seal for caps	WI4026000



WILGER COMBO-JET TO TEEJET ADAPTER	
DESCRIPTION	PART NUMBER
Combo jet to Teejet adapter	WI4020300
Teejet to Combo jet adapter	WI4020000



# Spraying Parts and Accessories

## TEEJET SJ3 STREAMJET FERTILIZER TIPS



- Excellent for application of liquid fertilizer on bare ground or in standing crop.
- 3-stream pattern is ideal for directed application.

### Features:

- VisiFlo® color-coding system.
- Three solid streams of equal velocity and capacity.
- Removable metering orifice for easy cleaning.
- Ten sizes for a wide range of application rates.
- Equally spaced distribution at 20" (50 cm) height.
- All acetal construction for excellent chemical resistance.
- Recommended operating pressure: 20–60 PSI (1.5–4 bar).

### Optimum Spray Height

20"	20"
30"	30"
40"	40"

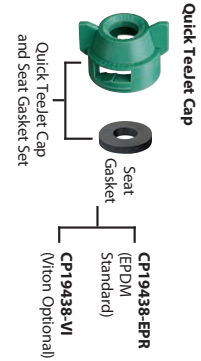
TIPO	PSI	CAPACITY ONE NOZZLE IN GPM	GPA  20"											
			3 MPH	4 MPH	5 MPH	6 MPH	8 MPH	10 MPH	12 MPH	14 MPH	16 MPH	18 MPH	20 MPH	
SJ3-015-VP (100)	20	0.11	10.9	8.2	6.5	5.4	4.1	3.3	2.7	2.3	2.0	1.8	1.6	
	30	0.13	12.9	9.7	7.7	6.4	4.8	3.9	3.2	2.8	2.4	2.1	1.9	
	40	0.15	14.9	11.1	8.9	7.4	5.6	4.5	3.7	3.2	2.8	2.5	2.2	
	50	0.16	15.8	11.9	9.5	7.9	5.9	4.8	4.0	3.4	3.0	2.6	2.4	
	60	0.17	16.8	12.6	10.1	8.4	6.3	5.0	4.2	3.6	3.2	2.8	2.5	
SJ3-02-VP (50)	20	0.14	13.9	10.4	8.3	6.9	5.2	4.2	3.5	3.0	2.6	2.3	2.1	
	30	0.17	16.8	12.6	10.1	8.4	6.3	5.0	4.2	3.6	3.2	2.8	2.5	
	40	0.20	19.8	14.9	11.9	9.9	7.4	5.9	5.0	4.2	3.7	3.3	3.0	
	50	0.21	21	15.6	12.5	10.4	7.8	6.2	5.2	4.5	3.9	3.5	3.1	
	60	0.22	22	16.3	13.1	10.9	8.2	6.5	5.4	4.7	4.1	3.6	3.3	
SJ3-03-VP (50)	20	0.24	24	17.8	14.3	11.9	8.9	7.1	5.9	5.1	4.5	4.0	3.6	
	30	0.27	27	20	16.0	13.4	10.0	8.0	6.7	5.7	5.0	4.5	4.0	
	40	0.30	30	22	17.8	14.9	11.1	8.9	7.4	6.4	5.6	5.0	4.5	
	50	0.33	33	25	19.6	16.3	12.3	9.8	8.2	7.0	6.1	5.4	4.9	
	60	0.35	35	26	21	17.3	13.0	10.4	8.7	7.4	6.5	5.8	5.2	
SJ3-04-VP (50)	20	0.30	30	22	17.8	14.9	11.1	8.9	7.4	6.4	5.6	5.0	4.5	
	30	0.36	36	27	21	17.8	13.4	10.7	8.9	7.6	6.7	5.9	5.3	
	40	0.40	40	30	24	19.8	14.9	11.9	9.9	8.5	7.4	6.6	5.9	
	50	0.43	43	32	26	21	16.0	12.8	10.6	9.1	8.0	7.1	6.4	
	60	0.47	47	35	28	23	17.4	14.0	11.6	10.0	8.7	7.8	7.0	
SJ3-05-VP (50)	20	0.36	36	27	21	17.8	13.4	10.7	8.9	7.6	6.7	5.9	5.3	
	30	0.45	45	33	27	22	16.7	13.4	11.1	9.5	8.4	7.4	6.7	
	40	0.50	50	37	30	25	18.6	14.9	12.4	10.6	9.3	8.3	7.4	
	50	0.55	54	41	33	27	20	16.3	13.6	11.7	10.2	9.1	8.2	
	60	0.59	58	44	35	29	22	17.5	14.6	12.5	11.0	9.7	8.8	
SJ3-06-VP (50)	20	0.42	42	31	25	21	15.6	12.5	10.4	8.9	7.8	6.9	6.2	
	30	0.54	53	40	32	27	20	16.0	13.4	11.5	10.0	8.9	8.0	
	40	0.60	59	45	36	30	22	17.8	14.9	12.7	11.1	9.9	8.9	
	50	0.66	65	49	39	33	25	19.6	16.3	14.0	12.3	10.9	9.8	
	60	0.70	69	52	42	35	26	21	17.3	14.9	13.0	11.6	10.4	
SJ3-08-VP	20	0.56	55	42	33	28	21	16.6	13.9	11.9	10.4	9.2	8.3	
	30	0.72	71	53	43	36	27	21	17.8	15.3	13.4	11.9	10.7	
	40	0.80	79	59	48	40	30	24	19.8	17.0	14.9	13.2	11.9	
	50	0.88	87	65	52	44	33	26	22	18.7	16.3	14.5	13.1	
	60	0.94	93	70	56	47	35	28	23	19.9	17.4	15.5	14.0	
SJ3-10-VP	20	0.65	64	48	39	32	24	19.3	16.1	13.8	12.1	10.7	9.7	
	30	0.90	89	67	53	45	33	27	22	19.1	16.7	14.9	13.4	
	40	1.00	99	74	59	50	37	30	25	21	18.6	16.5	14.9	
	50	1.11	110	82	66	55	41	33	27	24	21	18.3	16.5	
	60	1.19	118	88	71	59	44	35	29	25	22	19.6	17.7	
SJ3-15-VP	20	0.99	98	74	59	49	37	29	25	21	18.4	16.3	14.7	
	30	1.24	123	92	74	61	46	37	31	26	23	20	18.4	
	40	1.50	149	111	89	74	56	45	37	32	28	25	22	
	50	1.68	166	125	100	83	62	50	42	36	31	28	25	
	60	1.83	181	136	109	91	68	54	45	39	34	30	27	
SJ3-20-VP	20	1.41	140	105	84	70	52	42	35	30	26	23	21	
	30	1.75	173	130	104	87	65	52	43	37	32	29	26	
	40	2.00	198	149	119	99	74	59	50	42	37	33	30	
	50	2.28	226	169	135	113	85	68	56	48	42	38	34	
	60	2.49	247	185	148	123	92	74	62	53	46	41	37	

Spraying Parts and Accessories

# Spraying Parts and Accessories

## QUICK TEEJET CAPS

QUICK TEEJET CAPS	PART NUMBER	FOR USE WITH FLAT SPRAY TIPS 300 PSI (20 bar) MAXIMUM PRESSURE						
	CP25611- *-NY	<b>TeeJet® Flat Spray Tips</b> (Smaller Capacities)						
	CP25611-9-PP††	TP Standard -0067 Thru -08	XR -01 Thru -08	DG TeeJet*	TT	TTJ60 Turbo TwinJet	AIXR TeeJet*	OC TeeJet
	CP25609- *-NY	<b>TeeJet Flat Spray Tips</b> (Larger Capacities)						
		TP Standard -10 Thru -20	XR -10 Thru -15					
	CP25597- *-NY	TJ60 TwinJet*	AI TeeJet and AIUB TeeJet	SJ3 StreamJet	DG TwinJet*	Turbo TeeJet Induction*	AITTJ60 Turbo TwinJet (02-06)	
	CP98578-1-NY†	AI3070	AITTJ60 Turbo TwinJet (08-15)					
	CP25595- *-NY	<b>TeeJet Flat Spray Tips</b> (Smaller Capacities) Tips can be positioned in choice of two spray plane directions—parallel or perpendicular to wings of Quick TeeJet cap.						
	CP25599- *-NY	Turbo FloodJet® VisiFlo® Spray Tip	TK-VS FloodJet® VisiFlo Spray Tip	Locating Nib	TK-VP FloodJet® VisiFlo Spray Tip			
	CP25607- *-NY	TK FloodJet®	FL FullJet®	TX/TXA ConeJet®	TG Full Cone	Hose Shank	AITXA ConeJet	
	CP25607-9-PP††							
	CP25607- *-NY	D-Disc	Core	Core	CP18999-EPR (EPDM standard)	CP18999-VI (Viton® optional)	Used with DC-Core Inserts and CP4916 Flow Regulators (Insert Core into Seal)	
	CP26277-1-NY†	Ceramic Disc-Core	TXB ConeJet®	AITXB ConeJet				
		D-Disc	Core					
	CP114395-1-NYB†	TXR ConeJet	114396-1-NYR includes gasket and O-ring (CP7717-M10.5x1.5-VI)					



The Quick TeeJet caps are designed with grooves that fit locating lugs on the nozzle body. Caps are made of Nylon and are available for use with all TeeJet® spray tips. Maximum operating pressure of 300 PSI (20 bar).

Spraying Parts and Accessories

### QUICK TEEJET CAPS

DESCRIPTION	PART NUMBER
CAP - STD., TT, DG, AND XR -SPECIFY COLOR	SSCP25611
CAP LARGE CAPACITY STD -SPECIFY COLOR	SSCP25609
CAP - STD., TJ60, AI, SJ, DG, TTI, AITTJ60	SSCP25597
CAP - AI3070, AITTJ60 -SPECIFY COLOR	SSCP98578
CAP - STD. SMALL CAPACITIES -SPECIFY COLOR	SSCP25595
CAP - TURBO, TK-VS, TK-VP -SPECIFY COLOR	SSCP25599
CAP - TK FLOODJET, CNEJET, HOSE SHANK	SSCP25607
CAP - DISC -SPECIFY COLOR	SSCP25607
CAP - CERAMIC DISC -SPECIFY COLOR	SSCP26277
CAP - TXR CONEJET -SPECIFY COLOR	SSCP114395
SEAL/GASKET FOR QJ CAP -SPECIFY COLOR	SSCP19438EPR



### MESH CAP SCREENS

DESCRIPTION	PART NUMBER
50 mesh screen (blue)	SS8079PP50
100 mesh screen (green)	SS8079PP100





# Spraying Parts and Accessories

## WILGER COMBO-JET TIPS



### Spray Tip Chart For Standard Sprayers

Tip Cap No.	Flow Rate USGPM	PSI	US Gallons / Acre @ 20"								Spray Classification; VMD (Droplet Size in $\mu$ ); %<141 $\mu$ (Drift %); %<600 $\mu$ (Small Droplets)												Spray Tip & Part No.													
			@ Sprayer Speed - Miles / Hour								ER110 Series			SR110 Series			MR110 Series			DR110 Series			UR110 Series			Spray Tip	Part #									
			5	7.5	10	12.5	15	17.5	20	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600			Class	VMD	<141	<600					
04	0.24	15	14.5	9.7	7.3	5.8	4.8	4.2	3.6	M	251	16%	98%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	UR tips are specialty spray tips to produce ultra coarse spray. Refer to chemical application label for maximum pressures, speeds and application information.	ER110-04	40281-04			
	0.28	20	16.8	11.2	8.4	6.7	5.6	4.8	4.2	M	240	18%	97%	C	349	7%	91%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SR110-04	40287-04			
	0.32	25	18.8	12.5	9.4	7.5	6.3	5.4	4.7	M	232	20%	97%	C	330	9%	93%	VC	441	4%	80%	-	-	-	-	-	-	-	-	-	-	-	MR110-04	40291-04		
	0.35	30	21	13.7	10.3	8.2	6.9	5.9	5.1	M	225	22%	97%	C	314	11%	94%	VC	416	5%	84%	XC	510	3%	69%	UC	-	-	-	-	-	-	DR110-04	40286-04		
	0.40	40	24	15.8	11.9	9.5	7.9	6.8	5.9	F	215	24%	96%	C	288	14%	95%	C	377	7%	89%	VC	469	4%	76%	UC	-	-	-	-	-	-	UR110-04	40292-04		
	0.45	50	27	17.7	13.3	10.6	8.9	7.6	6.6	F	206	26%	96%	M	269	16%	96%	C	346	8%	92%	VC	438	5%	80%	UC	-	-	-	-	-	-	-	-		
	0.49	60	29	19.4	14.5	11.6	9.7	8.3	7.3	F	199	28%	96%	M	253	17%	96%	C	321	9%	94%	VC	412	6%	83%	UC	-	-	-	-	-	-	-	-		
	0.53	70	31	21	15.7	12.6	10.5	9.0	7.9	F	194	29%	95%	M	239	19%	97%	C	300	10%	95%	C	391	6%	85%	UC	-	-	-	-	-	-	-	-		
	0.57	80	34	22	16.8	13.4	11.2	9.6	8.4	F	189	30%	95%	M	228	20%	97%	C	282	11%	96%	C	372	7%	87%	UC	-	-	-	-	-	-	-	-		
	0.60	90	36	24	17.8	14.3	11.9	10.2	8.9	F	184	31%	95%	M	217	21%	97%	M	266	12%	96%	C	355	7%	88%	XC	-	-	-	-	-	-	-	-		
05	0.31	15	18	12.1	9.1	7.3	6.1	5.2	4.5	M	262	15%	95%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	UR tips are specialty spray tips to produce ultra coarse spray. Refer to chemical application label for maximum pressures, speeds and application information.	ER110-05	40281-05		
	0.35	20	21	14.0	10.5	8.4	7.0	6.0	5.3	M	248	18%	95%	VC	402	5%	86%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SR110-05	40287-05		
	0.40	25	23	15.7	11.7	9.4	7.8	6.7	5.9	M	237	20%	95%	C	377	7%	89%	XC	513	2%	67%	-	-	-	-	-	-	-	-	-	-	-	-	-	MR110-05	40291-05
	0.43	30	26	17.1	12.9	10.3	8.6	7.3	6.4	M	228	22%	95%	C	355	8%	91%	XC	486	3%	72%	XC	530	2%	63%	UC	-	-	-	-	-	-	-	-		
	0.50	40	30	20	15	11.9	9.9	8.5	7.4	F	214	26%	95%	C	322	11%	93%	VC	445	5%	78%	XC	503	3%	68%	UC	-	-	-	-	-	-	-	-		
	0.56	50	33	22	17	13.3	11.1	9.5	8.3	F	203	28%	95%	C	296	13%	95%	VC	412	6%	82%	XC	482	3%	72%	UC	-	-	-	-	-	-	-	-		
	0.61	60	36	24	18	14.5	12.1	10.4	9.1	F	194	30%	95%	C	275	15%	96%	C	386	7%	85%	XC	465	3%	74%	UC	-	-	-	-	-	-	-	-		
	0.66	70	39	26	20	15.7	13.1	11.2	9.8	F	187	32%	95%	M	257	16%	96%	C	364	7%	87%	VC	451	4%	76%	UC	-	-	-	-	-	-	-	-		
	0.71	80	42	28	21	17	14.0	12.0	10.5	F	180	34%	95%	M	242	17%	97%	C	344	8%	88%	VC	438	4%	78%	UC	-	-	-	-	-	-	-	-		
	0.75	90	45	30	22	18	14.9	12.7	11.1	F	174	35%	95%	M	228	19%	97%	C	327	8%	89%	VC	427	4%	79%	UC	-	-	-	-	-	-	-	-		
06	0.37	15	22	14.5	10.9	8.7	7.3	6.2	5.5	C	297	11%	94%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	UR tips are specialty spray tips to produce ultra coarse spray. Refer to chemical application label for maximum pressures, speeds and application information.	ER110-06	40281-06		
	0.42	20	25	16.8	12.6	10.1	8.4	7.2	6.3	C	282	14%	94%	XC	479	2%	73%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	0.47	25	28	18.8	14.1	11.3	9.4	8.1	7.0	M	270	16%	94%	VC	444	4%	80%	XC	528	3%	63%	-	-	-	-	-	-	-	-	-	-	-	-	-		
	0.52	30	31	20.6	15.4	12.3	10.3	8.8	7.7	M	261	18%	94%	VC	416	6%	84%	XC	507	3%	68%	XC	565	2%	57%	UC	-	-	-	-	-	-	-	-		
	0.60	40	36	23.8	17.8	14.3	11.9	10.2	8.9	M	246	20%	94%	C	371	8%	89%	XC	474	4%	74%	XC	529	2%	64%	UC	-	-	-	-	-	-	-	-		
	0.67	50	40	27	20	15.9	13.3	11.4	10.0	M	235	22%	95%	C	337	10%	92%	VC	448	4%	78%	XC	501	3%	68%	UC	-	-	-	-	-	-	-	-		
	0.73	60	44	29	22	17.5	14.5	12.5	10.9	M	225	24%	95%	C	308	12%	93%	VC	427	5%	81%	XC	478	3%	71%	UC	-	-	-	-	-	-	-	-		
	0.79	70	47	31	24	19	15.7	13.5	11.8	F	217	25%	95%	C	284	13%	94%	VC	409	5%	83%	XC	459	3%	74%	UC	-	-	-	-	-	-	-	-		
	0.85	80	50	34	25	20	16.8	14.4	12.6	F	211	27%	95%	M	264	14%	95%	C	394	6%	85%	VC	442	4%	75%	UC	-	-	-	-	-	-	-	-		
	0.90	90	53	36	27	21	17.8	15.3	13.4	F	204	28%	95%	M	245	15%	96%	C	380	6%	86%	VC	427	4%	77%	UC	-	-	-	-	-	-	-	-		
08	0.49	15	29	19	15	12	10	8	7	M	353	11%	88%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	UR tips are specialty spray tips to produce ultra coarse spray. Refer to chemical application label for maximum pressures, speeds and application information.	ER110-08	40281-08		
	0.57	20	34	22	17	13	11	10	8	M	327	14%	91%	UC	515	3%	52%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	0.63	25	38	25	19	15	13	11	9	F	307	16%	92%	UC	481	5%	61%	UC	561	4%	47%	-	-	-	-	-	-	-	-	-	-	-	-			
	0.69	30	41	27	21	16	14	12	10	F	290	17%	93%	XC	453	6%	67%	UC	531	4%	53%	UC	614	3%	40%	UC	-	-	-	-	-	-	-	-		
	0.80	40	48	32	24	19	16	14	12	F	264	20%	95%	XC	408	7%	74%	UC	483	5%	61%	UC	569	4%	47%	UC	-	-	-	-	-	-	-	-		
	0.89	50	53	35	27	21	18	15	13	F	244	22%	95%	VC	374	9%	79%	XC	446	6%	67%	UC	534	4%	51%	UC	-	-	-	-	-	-	-	-		
	0.98	60	58	39	29	23	19	17	15	F	228	23%	96%	C	346	10%	82%	XC	416	7%	70%	UC	506	4%	55%	UC	-	-	-	-	-	-	-	-		
	1.06	70	63	42	31	25	21	18	16	F	214	25%	97%	C	322	11%	84%	XC	391	7%	73%	UC	482	5%	57%	UC	-	-	-	-	-	-	-	-		
	1.13	80	67	45	34	27	22	19	17	VF	202	26%	97%	C	302	11%	86%	VC	369	8%	76%	XC	461	5%	60%	UC	-	-	-	-	-	-	-	-		
	1.20	90	71	48	36	29	24	20	18	VF	191	27%	97%	C	284	12%	87%	C	349	8%	77%	XC	442	5%	61%	UC	-	-	-	-	-	-	-	-		
10	0.61	15	36	24	18	15	12	10	9	C	389	7%	86%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	UR tips are specialty spray tips to produce ultra coarse spray. Refer to chemical application label for maximum pressures, speeds and application information.	ER110-10	40281-10		
	0.71	20	42	28	21	17	14	12	11	C	362	10%	88%	UC	536	4%	47%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	0.79	25	47	31	23	19	16	13	12	M	341	12%	89%	UC	500	5%	56%	UC	552	4%	48%	-	-	-	-	-	-	-	-	-	-	-	-			
	0.87	30	51	34	26	21	17	15	13	M	325	14%	90%	XC	470	6%	62%	UC	523	4%	53%	UC	6													

# Spraying Parts and Accessories

## WILGER COMBO-JET TIPS

### Spray Tip Chart For Standard Sprayers



Tip Cap No.	Flow Rate USGPM	PSI	US Gallons / Acre on 20" spacing								Spray Class., VMD (Droplet Size in µ); %<141µ (Drift %); %<600µ (Small Droplets)												Spray Tip & Part No.																	
			@ Sprayer Speed - Miles / Hour								ER110 Series				SR110 Series				MR110 Series				DR110 Series				Spray Tip	Part #												
			5	7.5	10	12.5	15	17.5	20	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Strainer Part #														
15	0.92	15	55	36	27	22	18	16	14	C	466	7%	58%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ER110-15	40281-15						
	1.06	20	63	42	32	25	21	18	16	C	438	8%	64%	UC	598	4%	37%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SR110-15	40287-15					
	1.19	25	70	47	35	28	23	20	18	C	416	10%	68%	UC	565	4%	45%	UC	629	4%	37%	-	-	-	-	-	-	-	-	-	-	-	-	MR110-15	40291-15					
	1.30	30	77	51	39	31	26	22	19	C	398	10%	72%	UC	538	5%	51%	UC	608	4%	40%	UC	659	3%	40%	-	-	-	-	-	-	-	-	-	DR110-15	40286-15				
	1.50	40	89	59	45	36	30	25	22	M	370	12%	76%	UC	496	6%	58%	UC	574	4%	45%	UC	624	4%	46%	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1.68	50	100	66	50	40	33	28	25	M	348	13%	79%	XC	463	6%	64%	UC	548	5%	49%	UC	597	4%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-		
	1.84	60	109	73	55	44	36	31	27	M	330	14%	81%	XC	436	7%	67%	UC	527	5%	52%	UC	575	4%	53%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1.98	70	118	79	59	47	39	34	29	F	315	15%	82%	XC	413	7%	70%	UC	508	5%	54%	UC	556	4%	55%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2.12	80	126	84	63	50	42	36	32	F	302	15%	84%	XC	393	8%	72%	UC	493	5%	56%	UC	540	5%	58%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.25	90	134	89	67	53	45	38	33	F	290	16%	85%	VC	375	8%	74%	XC	479	5%	57%	UC	526	5%	59%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20	1.22	15	73	48	36	29	24	21	18	C	528	6%	49%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ER110-20	40281-20				
	1.41	20	84	56	42	34	28	24	21	C	497	7%	56%	UC	573	5%	41%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SR110-20	40287-20			
	1.58	25	94	63	47	38	31	27	23	C	473	7%	60%	UC	543	5%	49%	UC	616	4%	39%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MR110-20	40291-20	
	1.73	30	103	69	51	41	34	29	26	C	453	8%	64%	UC	518	6%	55%	UC	593	4%	42%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2.00	40	119	79	59	48	40	34	30	C	422	9%	68%	XC	479	6%	62%	UC	557	5%	48%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2.24	50	133	89	66	53	44	38	33	C	399	9%	72%	XC	449	7%	67%	UC	529	6%	52%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2.45	60	145	97	73	58	48	42	36	C	379	10%	74%	XC	424	8%	70%	UC	506	6%	55%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2.65	70	157	105	79	63	52	45	39	C	362	10%	76%	XC	403	8%	73%	UC	487	6%	57%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2.83	80	168	112	84	67	56	48	42	M	348	11%	78%	XC	385	8%	75%	XC	470	7%	59%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.00	90	178	119	89	71	59	51	45	M	335	11%	79%	VC	369	9%	77%	XC	455	7%	60%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25	1.53	15	91	61	45	36	30	26	23	C	526	6%	45%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ER110-25	40281-25			
	1.77	20	105	70	53	42	35	30	26	C	495	6%	54%	UC	552	5%	46%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SR110-25	40287-25		
	1.98	25	117	78	59	47	39	34	29	C	472	7%	60%	UC	525	5%	52%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2.17	30	129	86	64	51	43	37	32	C	453	7%	65%	UC	503	6%	56%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2.50	40	149	99	74	59	50	42	37	C	422	7%	71%	XC	468	6%	62%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2.80	50	166	111	83	66	55	47	42	C	399	8%	74%	XC	441	7%	66%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3.06	60	182	121	91	73	61	52	45	C	380	8%	77%	XC	419	8%	69%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3.31	70	196	131	98	79	65	56	49	C	364	8%	79%	XC	400	8%	71%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3.54	80	210	140	105	84	70	60	53	C	350	8%	81%	XC	384	8%	73%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.75	90	223	149	111	89	74	64	56	C	337	9%	82%	VC	369	9%	75%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
30	1.84	15	109	73	55	44	36	31	27	VC	536	4%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ER110-30	40281-30		
	2.12	20	126	84	63	50	42	36	32	C	507	5%	55%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2.37	25	141	94	70	56	47	40	35	C	484	6%	58%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2.60	30	154	103	77	62	51	44	39	C	466	6%	61%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3.00	40	178	119	89	71	59	51	45	C	437	7%	65%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3.35	50	199	133	100	80	66	57	50	C	415	8%	68%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3.67	60	218	145	109	87	73	62	55	C	396	9%	70%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3.97	70	236	157	118	94	79	67	59	C	381	9%	72%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.24	80	252	168	126	101	84	72	63	C	367	9%	73%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4.50	90	267	178	134	107	89	76	67	C	355	10%	74%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Spraying Parts and Accessories



**TIP WIZARD**  
Use Tip Wizard  
Spray Tip Selector App  
Tip Wizard is an intuitive calculator that takes your application information (speed, rate, spacing, etc.) and gives you spray tip options that would suite your spray tip needs.

**HOW TO ORDER:**  
To order tips select which series you need (ie. ER, SR, MR) and add the tip orifice size to the end of the part number.  
For example: to order 06 ER tips use the part number: WIER110-06.

WILGER COMBO-JET TIPS	
DESCRIPTION	PART NUMBER
WILGER 110 DEGREE ER TIP	WIER110-##
WILGER 110 DEGREE SR TIP	WISR110-##
WILGER 110 DEGREE MR TIP	WIMR110-##
WILGER 110 DEGREE DR TIP	WIDR110-##
WILGER 50 MESH TIP SCREEN	WI4025000

# Spraying Parts and Accessories

## WILGER COMBO-JET TIPS



### Spray Tip Chart For PWM Sprayers

#### ASABE S572.1 Categories

The majority of chemical labels will require spray application relating to a spray quality, to achieve ideal efficacy and spray drift reduction.

- Fine (F)
- Medium (M)
- Coarse (C)
- Very Coarse (VC)
- Extremely Coarse (XC)
- Ultra Coarse (UC)

#### Recommended Strainers

Recommended strainer & mesh size is determined by the size of a tip. For larger tips (08+), strainers are not typically required.

#### % <600µ

(% Useful Droplets)  
Percentage of volume which is made up of "small" droplets. As % of useful droplets lowers, coverage is reduced.

#### VMD

(Volume Median Diameter)  
Size of the median droplet (in µ) for a sprayed volume. Half of the volume is made up of droplets smaller than VMD, with half made of droplets larger.

#### % <141µ

(% Driftable Fines)  
Percentage of volume which is likely to drift. As wind conditions and boom height increase, observed spray drift will increase substantially.

Tip Cap No.	Flow Rate USGPM	Boom PSI	Tip PSI	Sprayer Speed Range (Rounded)					Spray Class.; VMD (Droplet Size in µ); %<141µ (Drift %); %<600µ (Small Droplets)																Tip-Cap & Part No.									
				@ US Gallons/Acre on 20" Spacing					ER110 Series				SR110 Series				MR110 Series				DR110 Series				Tip-Cap	Part #								
				5 GPA	7.5 GPA	10 GPA	12.5 GPA	15 GPA	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Class	VMD	<141	<600	Strainer Part #					
01	0.06	15	15	1-4	1-2	0-2	0-1	0-1	F	155	40%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ER110-01	40281-01				
	0.07	20	20	1-4	1-3	1-2	0-2	0-1	F	149	45%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	0.08	25	25	1-5	1-3	1-2	0-2	0-2	F	144	48%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	0.09	30	30	1-5	1-3	1-3	1-2	0-2	F	140	51%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	0.10	40	40	1-6	1-4	1-3	1-2	0-2	F	133	56%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	0.11	50	50	2-7	1-4	1-3	1-3	1-2	F	128	59%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	0.12	60	60	2-7	1-5	1-4	1-3	1-2	F	124	62%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	0.13	70	70	2-8	1-5	1-4	1-3	1-3	F	121	65%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
0.14	80	80	2-8	1-6	1-4	1-3	1-3	F	118	67%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
0.15	90	90	2-9	1-6	1-4	1-4	1-3	F	115	69%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
015	0.09	15	15	1-5	1-4	1-3	1-2	0-2	F	158	35%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	0.11	20	20	2-6	1-4	1-3	1-3	1-2	F	153	40%	100%	M	238	18%	98%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	0.12	25	25	2-7	1-5	1-4	1-3	1-2	F	148	44%	100%	M	226	21%	98%	C	355	8%	91%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.13	30	30	2-8	1-5	1-4	1-3	1-3	F	145	47%	100%	F	216	24%	98%	C	323	11%	94%	C	368	7%	92%	-	-	-	-	-	-	-	-		
	0.15	40	40	2-9	1-6	1-4	1-4	1-3	F	139	51%	100%	F	200	28%	98%	C	279	16%	97%	C	329	10%	94%	-	-	-	-	-	-	-	-	-	
	0.17	50	50	2-10	2-7	1-5	1-4	1-3	F	135	55%	100%	F	188	32%	98%	M	248	20%	98%	C	302	12%	95%	-	-	-	-	-	-	-	-	-	
	0.18	60	59	3-11	2-7	1-5	1-4	1-4	F	131	58%	100%	F	178	34%	98%	M	226	23%	99%	C	282	14%	96%	-	-	-	-	-	-	-	-	-	
	0.20	70	69	3-12	2-8	1-6	1-5	1-4	F	128	61%	100%	F	169	37%	98%	F	209	25%	99%	M	265	15%	97%	-	-	-	-	-	-	-	-	-	
0.21	80	79	3-13	2-8	2-6	1-5	1-4	F	125	63%	100%	F	162	39%	98%	F	195	27%	100%	M	252	17%	97%	-	-	-	-	-	-	-	-	-	-	
0.22	90	89	3-13	2-9	2-7	1-5	1-4	F	123	65%	100%	F	156	41%	98%	F	183	29%	100%	M	241	18%	97%	-	-	-	-	-	-	-	-	-	-	-
02	0.12	15	15	2-7	1-5	1-4	1-3	1-2	F	183	26%	99%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	0.14	20	20	2-8	1-6	1-4	1-3	1-3	F	173	32%	100%	M	238	18%	99%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	0.16	25	25	2-9	2-6	1-5	1-4	1-3	F	166	36%	100%	M	228	20%	99%	C	343	9%	94%	-	-	-	-	-	-	-	-	-	-	-	-	-	
	0.17	30	29	3-10	2-7	1-5	1-4	1-3	F	160	39%	100%	M	220	22%	99%	C	317	11%	95%	VC	433	5%	82%	-	-	-	-	-	-	-	-	-	
	0.20	40	39	3-12	2-8	1-6	1-5	1-4	F	151	45%	100%	F	207	26%	99%	C	281	15%	97%	VC	394	6%	87%	-	-	-	-	-	-	-	-	-	
	0.22	50	49	3-13	2-9	2-7	1-5	1-4	F	144	49%	100%	F	197	28%	99%	M	256	18%	97%	C	364	8%	90%	-	-	-	-	-	-	-	-	-	
	0.24	60	59	4-14	2-10	2-7	1-6	1-5	F	138	52%	100%	F	189	31%	99%	M	237	21%	98%	C	339	9%	91%	-	-	-	-	-	-	-	-	-	
	0.26	70	69	4-16	3-10	2-8	2-6	1-5	F	133	55%	100%	F	182	32%	99%	M	222	23%	98%	C	318	10%	93%	-	-	-	-	-	-	-	-	-	
0.28	80	79	4-17	3-11	2-8	2-7	1-6	F	129	58%	100%	F	176	34%	99%	F	210	25%	99%	C	299	11%	94%	-	-	-	-	-	-	-	-	-		
0.30	90	88	4-18	3-12	2-9	2-7	1-6	F	125	60%	100%	F	170	35%	99%	F	199	26%	99%	C	283	12%	94%	-	-	-	-	-	-	-	-	-	-	
025	0.15	15	15	2-9	1-6	1-4	1-4	1-3	F	200	28%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	0.17	20	19	3-10	2-7	1-5	1-4	1-3	F	194	28%	100%	M	256	15%	98%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	0.20	25	24	3-12	2-8	1-6	1-5	1-4	F	190	29%	100%	M	246	17%	98%	C	372	7%	88%	-	-	-	-	-	-	-	-	-	-	-	-		
	0.21	30	29	3-13	2-8	2-6	1-5	1-4	F	187	29%	100%	M	237	19%	98%	C	353	8%	90%	VC	437	5%	79%	-	-	-	-	-	-	-	-		
	0.25	40	39	4-15	2-10	2-7	1-6	1-5	F	181	30%	100%	M	223	22%	98%	C	322	11%	93%	VC	401	6%	86%	-	-	-	-	-	-	-	-		
	0.28	50	49	4-16	3-11	2-8	2-7	1-5	F	177	30%	100%	F	213	25%	98%	C	299	13%	95%	C	373	8%	89%	-	-	-	-	-	-	-	-		
	0.30	60	58	4-18	3-12	2-9	2-7	1-6	F	173	31%	100%	F	204	27%	98%	C	280	15%	96%	C	350	9%	91%	-	-	-	-	-	-	-	-		
	0.33	70	68	5-19	3-13	2-10	2-8	2-6	F	170	31%	100%	F	196	28%	98%	M	263	16%	96%	C	331	10%	93%	-	-	-	-	-	-	-	-		
0.35	80	78	5-21	3-14	3-10	2-8	2-7	F	168	31%	100%	F	190	30%	98%	M	249	18%	97%	C	314	10%	94%	-	-	-	-	-	-	-	-			
0.37	90	88	5-22	4-15	3-11	2-9	2-7	F	166	31%	100%	F	184	31%	98%	M	237	19%	97%	C	300	11%	95%	-	-	-	-	-	-	-	-	-		
03	0.18	15	14	3-11	2-7	1-5	1-4	1-4	F	209	23%	99%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	0.21	20	19	3-12	2-8	2-6	1-5	1-4	F	199	26%	99%	C	341	7%	92%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	0.23	25	24	3-14	2-9	2-7	1-6	1-5	F	191	29%	99%	C	322	9%	93%	VC	421	5%	82%	-	-	-	-	-	-	-	-	-	-	-			
	0.26	30	29	4-15	3-10	2-8	2-6	1-5	F	185	31%	99%	C	307	11%	95%	VC	399	6%	86%	XC	484	3%	73%	-	-	-	-	-	-	-	-		
	0.29	40	39	4-17	3-12	2-9	2-7	1-6	F	175	34%	98%	C	282	14%	96%	C	364	8%	90%														





## WILGER COMBO-JET TIPS

ASABE S-572.1 Classification Category	Color Code	Estimated VMD Range for Spray Quality	Contact Insecticide & Fungicide	Systemic Insecticide & Fungicide	Contact Foliar Herbicide	Systemic Foliar Herbicide	Soil-Applied Herbicide	Incorporated Soil-Applied Herbicide	Fertilizer
Extremely Fine (XF)	Purple	Under 60							
Very Fine (VF)	Red	60-105							
Fine (F)	Orange	106-235							
Medium (M)	Yellow	236-340							
Coarse (C)	Blue	341-403							
Very Coarse (VC)	Green	404-502							
Extremely Coarse (XC)	White	503-665							
Ultra Coarse (UC)	Black	Over 665							

The above table provides general guidelines regarding droplet size and spray quality used in most spray applications. It is always required that you carefully read and follow updated chemical manufacturers application label and instructions.

### Drift vs. Efficacy

Generally speaking, smaller droplets deposit on the target more effectively than larger droplets, but larger droplets will drift less. So, when balancing drift control and efficacy, ensure to follow chemical labels and guidelines to designate the required droplet size/category.

### Importance of Spray Tip Maintenance

Often, it is easy to dismiss considering replacing worn spray tips, as the pattern “still looks good” visually; but, what you often can’t see can be creating a nasty mess of weed resistance due to misses or underapplication, or crop damage due to overapplication. Spray tips need to be considered the most important piece of the sprayer, as all results rely on their ability to do their job consistently.



#### TIP WIZARD Use Tip Wizard

*Spray Tip Selector App*  
Tip Wizard is an intuitive calculator that takes your application information (speed, rate, spacing, etc.) and gives you spray tip options that would suite your spray tip needs.

#### HOW TO ORDER:

To order tips select which series you need (ie. ER, SR, MR) and add the tip orifice size to the end of the part number.

For example: to order 06 ER tips use the part number: WIER110-06.

WILGER COMBO-JET TIPS	
DESCRIPTION	PART NUMBER
WILGER 110 DEGREE ER TIP	WIER110-##
WILGER 110 DEGREE SR TIP	WISR110-##
WILGER 110 DEGREE MR TIP	WIMR110-##
WILGER 110 DEGREE DR TIP	WIDR110-##
WILGER 50 MESH TIP SCREEN	WI
WILGER 100 MESH TIP SCREEN	WI

### TEEJET TIP REFERENCE FOR PAGE 97

EXTREMELY FINE (XF)	VERY FINE (VF)	FINE (F)	MEDIUM (M)	COARSE (C)	VERY COARSE (VC)	EXTREMELY COARSE (XC)	ULTRA COARSE (UC)

LI-TJ378-R1  
© TeeJet Technologies 2022

			GPA Conversion Factor
80°	30°	15"	
110°	20°	30"	0.67

www.teejet.com





# Spraying Parts and Accessories

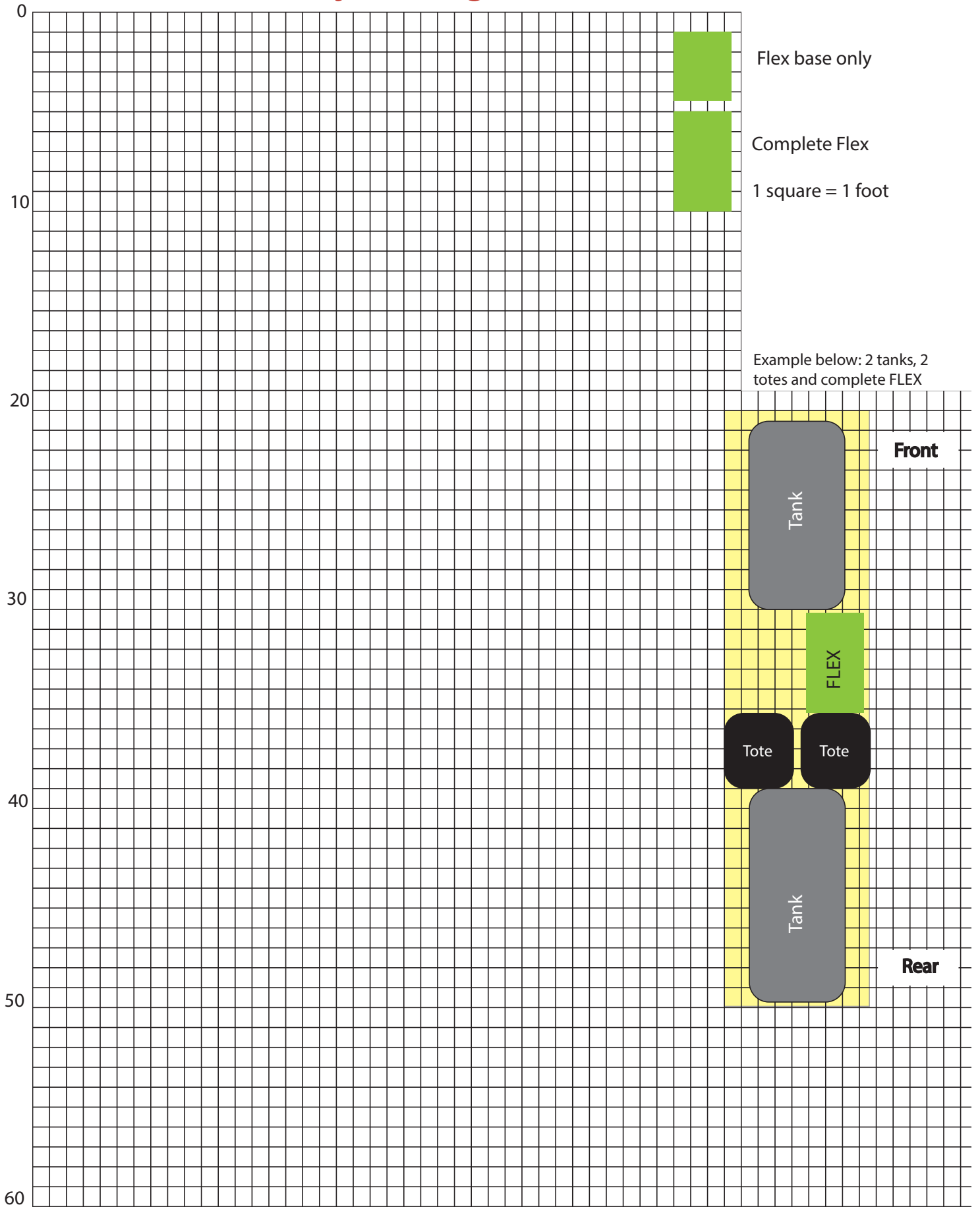
Spraying Parts and Accessories

Icon	PSI	110°XR/XRC	TT	TTJ60	AIXR	AI3070	AITTJ60	110°AV/AC	TTI60	TTI	GPM	GPA $\triangle$ 20" $\triangle$											
		15-60 PSI	15-90 PSI	20-90 PSI	15-90 PSI	20-90 PSI	20-90 PSI	30-115 PSI	20-100 PSI	15-100 PSI		4 mph	5 mph	6 mph	7 mph	8 mph	9 mph	10 mph	12 mph	14 mph	16 mph	18 mph	20 mph
015 AI AIC AIXR AI3070 TT TTI XR XRC (100)	20	F	VC	—	VC	XC	—	—	—	UC	0.11	8.2	6.5	5.4	4.7	4.1	3.6	3.3	2.7	2.3	2.0	1.8	1.6
	30	F	C	—	C	VC	—	XC	—	XC	0.13	9.7	7.7	6.4	5.5	4.8	4.3	3.9	3.2	2.8	2.4	2.1	1.9
	40	F	M	—	—	VC	—	XC	—	XC	0.15	11.1	8.9	7.4	6.4	5.6	5.0	4.5	3.7	3.2	2.8	2.5	2.2
	50	F	M	—	M	C	—	VC	—	XC	0.17	12.6	10.1	8.4	7.2	6.3	5.6	5.0	4.2	3.6	3.2	2.8	2.5
	60	F	M	—	M	C	—	VC	—	XC	0.18	13.4	10.7	8.9	7.6	6.7	5.9	5.3	4.5	3.8	3.3	3.0	2.7
	70	—	M	—	M	M	—	VC	—	VC	0.20	14.9	11.9	9.9	8.5	7.4	6.6	5.9	5.0	4.2	3.7	3.3	3.0
	80	—	F	—	M	M	—	C	—	VC	0.21	15.6	12.5	10.4	8.9	7.8	6.9	6.2	5.2	4.5	3.9	3.5	3.1
	90	—	F	—	M	M	—	C	—	VC	0.23	17.1	13.7	11.4	9.8	8.5	7.6	6.8	5.7	4.9	4.3	3.8	3.4
	02 AI AIC AIXR TT TTI TTJ60 XR XRC (50)	20	M	VC	C	VC	XC	XC	—	UC	UC	0.14	10.4	8.3	6.9	5.9	5.2	4.6	4.2	3.5	3.0	2.6	2.3
30		F	C	C	VC	VC	VC	XC	XC	UC	0.17	12.6	10.1	8.4	7.2	6.3	5.6	5.0	4.2	3.6	3.2	2.8	2.5
40		F	M	M	C	VC	VC	VC	XC	XC	0.20	14.9	11.9	9.9	8.5	7.4	6.6	5.9	5.0	4.2	3.7	3.3	3.0
50		F	M	M	M	C	C	VC	VC	XC	0.22	16.3	13.1	10.9	9.3	8.2	7.3	6.5	5.4	4.7	4.1	3.6	3.3
60		F	M	M	M	C	C	VC	VC	XC	0.24	17.8	14.3	11.9	10.2	8.9	7.9	7.1	5.9	5.1	4.5	4.0	3.6
70		—	M	M	M	M	C	C	VC	VC	0.26	19.3	15.4	12.9	11.0	9.7	8.6	7.7	6.4	5.5	4.8	4.3	3.9
80		—	F	M	M	M	C	C	C	VC	0.28	21	16.6	13.9	11.9	10.4	9.2	8.3	6.9	5.9	5.2	4.6	4.2
90		—	F	M	M	M	C	C	C	VC	0.30	22	17.8	14.9	12.7	11.1	9.9	8.9	7.4	6.4	5.6	5.0	4.5
025 AI AIC AIXR TT TTI TTJ60 XR XRC (50)		20	M	VC	VC	VC	XC	XC	—	UC	UC	0.18	13.4	10.7	8.9	7.6	6.7	5.9	5.3	4.5	3.8	3.3	3.0
	30	M	C	C	VC	VC	VC	XC	XC	UC	0.22	16.3	13.1	10.9	9.3	8.2	7.3	6.5	5.4	4.7	4.1	3.6	3.3
	40	F	M	M	C	VC	VC	VC	XC	XC	0.25	18.6	14.9	12.4	10.6	9.3	8.3	7.4	6.2	5.3	4.6	4.1	3.7
	50	F	M	M	M	C	C	VC	VC	XC	0.28	21	16.6	13.9	11.9	10.4	9.2	8.3	6.9	5.9	5.2	4.6	4.2
	60	F	M	M	M	C	C	VC	VC	XC	0.31	23	18.4	15.3	13.2	11.5	10.2	9.2	7.7	6.6	5.8	5.1	4.6
	70	—	M	M	M	C	C	VC	VC	XC	0.33	25	19.6	16.3	14.0	12.3	10.9	9.8	8.2	7.0	6.1	5.4	4.9
	80	—	F	M	M	M	C	C	C	VC	0.35	26	21	17.3	14.9	13.0	11.6	10.4	8.7	7.4	6.5	5.8	5.2
	90	—	F	M	M	M	C	C	C	VC	0.38	28	23	18.8	16.1	14.1	12.5	11.3	9.4	8.1	7.1	6.3	5.6
	03 AI AIC AIXR AITTJ60 AI3070 TT TTI TTJ60 XR XRC (50)	20	M	VC	VC	VC	XC	XC	—	UC	UC	0.21	15.6	12.5	10.4	8.9	7.8	6.9	6.2	5.2	4.5	3.9	3.5
30		M	C	C	VC	VC	VC	XC	XC	UC	0.26	19.3	15.4	12.9	11.0	9.7	8.6	7.7	6.4	5.5	4.8	4.3	3.9
40		F	M	M	C	VC	VC	VC	XC	XC	0.30	22	17.8	14.9	12.7	11.1	9.9	8.9	7.4	6.4	5.6	5.0	4.5
50		F	M	M	M	C	C	VC	VC	XC	0.34	25	20	16.8	14.4	12.6	11.2	10.1	8.4	7.2	6.3	5.6	5.0
60		F	M	M	M	C	C	VC	VC	XC	0.37	27	22	18.3	15.7	13.7	12.2	11.0	9.2	7.8	6.9	6.1	5.5
70		—	M	M	M	C	C	VC	VC	XC	0.40	30	24	19.8	17.0	14.9	13.2	11.9	9.9	8.5	7.4	6.6	5.9
80		—	F	M	M	C	C	C	VC	VC	0.42	31	25	21	17.8	15.6	13.9	12.5	10.4	8.9	7.8	6.9	6.2
90		—	F	M	M	M	C	C	VC	VC	0.45	33	27	22	19.1	16.7	14.9	13.4	11.1	9.5	8.4	7.4	6.7
04 AI AIC AITTJ60 AIXR AI3070 TT TTI TTJ60 TTJ60 XR XRC (50)		20	M	VC	VC	VC	XC	XC	—	UC	UC	0.28	21	16.6	13.9	11.9	10.4	9.2	8.3	6.9	5.9	5.2	4.6
	30	M	C	C	VC	XC	XC	XC	UC	UC	0.35	26	21	17.3	14.9	13.0	11.6	10.4	8.7	7.4	6.5	5.8	5.2
	40	M	M	C	C	VC	VC	VC	XC	XC	0.40	30	24	19.3	17.0	14.9	13.2	11.9	9.9	8.5	7.4	6.6	5.9
	50	F	M	M	C	VC	VC	VC	XC	XC	0.45	33	27	22	19.1	16.7	14.9	13.4	11.1	9.5	8.4	7.4	6.7
	60	F	M	M	C	C	C	VC	VC	XC	0.49	36	29	24	21	18.2	16.2	14.6	12.1	10.4	9.1	8.1	7.3
	70	—	M	M	M	C	C	VC	VC	XC	0.53	39	31	26	22	19.7	17.5	15.7	13.1	11.2	9.8	8.7	7.9
	80	—	F	M	M	C	C	C	VC	VC	0.57	42	34	28	24	21	18.8	16.9	14.1	12.1	10.6	9.4	8.5
	90	—	F	M	M	C	C	C	VC	VC	0.60	45	36	30	25	22	19.8	17.8	14.9	12.7	11.1	9.9	8.9
	05 AI AIC AITTJ60 AIXR AI3070 TT TTI TTJ60 TTJ60 XR XRC (50)	20	M	VC	VC	XC	UC	UC	—	UC	UC	0.35	26	21	17.3	14.9	13.0	11.6	10.4	8.7	7.4	6.5	5.8
30		M	C	C	VC	XC	XC	XC	UC	UC	0.43	32	26	21	18.2	16.0	14.2	12.8	10.6	9.1	8.0	7.1	6.4
40		M	M	C	VC	VC	VC	VC	XC	XC	0.50	37	30	25	21	18.6	16.5	14.9	12.4	10.6	9.3	8.3	7.4
50		F	M	M	C	VC	VC	VC	XC	XC	0.56	42	33	28	24	21	18.5	16.6	13.9	11.9	10.4	9.2	8.3
60		F	M	M	C	VC	C	VC	XC	XC	0.61	45	36	30	26	23	20	18.1	15.1	12.9	11.3	10.1	9.1
70		—	M	M	C	C	C	VC	VC	VC	0.66	49	39	33	28	25	22	19.6	16.3	14.0	12.3	10.9	9.8
80		—	F	M	M	C	C	VC	VC	VC	0.71	53	42	35	30	26	23	21	17.6	15.1	13.2	11.7	10.5
90		—	F	M	M	C	C	C	VC	VC	0.75	56	45	37	32	28	25	22	18.6	15.9	13.9	12.4	11.1
06 AI AIC AITTJ60 AIXR TT TTI TTJ60 TTJ60 XR XRC (50)		20	M	VC	VC	XC	—	UC	—	UC	UC	0.42	31	25	21	17.8	15.6	13.9	12.5	10.4	8.9	7.8	6.9
	30	M	C	C	VC	—	XC	XC	UC	UC	0.52	39	31	26	22	19.3	17.2	15.4	12.9	11.0	9.7	8.6	7.7
	40	M	M	C	VC	—	VC	XC	XC	XC	0.60	45	36	30	25	22	19.8	17.8	14.9	12.7	11.1	9.9	8.9
	50	M	M	M	VC	—	VC	VC	XC	XC	0.67	50	40	33	28	25	22	19.9	16.6	14.2	12.4	11.1	9.9
	60	M	M	M	C	—	VC	VC	XC	VC	0.73	54	43	36	31	27	24	22	18.1	15.5	13.6	12.0	10.8
	70	—	M	M	C	—	C	VC	VC	VC	0.79	59	47	39	34	29	26	23	19.6	16.8	14.7	13.0	11.7
	80	—	F	M	C	—	C	VC	VC	VC	0.85	63	50	42	36	32	28	25	21	18.0	15.8	14.0	12.6
	90	—	F	M	C	—	C	C	VC	VC	0.90	67	53	45	38	33	30	27	22	19.1	16.7	14.9	13.4
	08 AI AIC AITTJ60 AIXR TT TTI TTJ60 TTJ60 XR XRC (50)	20	M	VC	VC	XC	—	UC	—	UC	UC	0.57	42	34	28	24	21	18.8	16.9	14.1	12.1	10.6	9.4
30		M	VC	C	XC	—	XC	XC	UC	UC	0.69	51	41	34	29	26	23	20	17.1	14.6	12.8	11.4	10.2
40		M	M	C	VC	—	XC	XC	XC	XC	0.80	59	48	40	34	30	26	24	19.8				



# Banjo Fittings and Valves

Banjo Fittings and Valves





## Setting up a spray trailer?

Contact us for experienced advice and service on the plumbing layout and the parts you need.



Banjo Fittings and Valves

# Banjo Fittings and Valves

## BANJO FITTINGS



## Polypropylene Couplings

### STANDARD FEATURES:

- Stainless steel rings, arms & pins
- Most complete line of polypropylene couplings available
- Versatile - interchangeable with all types of cam lever couplers
- Precision molded - insures a uniform and accurate fit
- Durable - polypropylene is glass filled for rugged strength & durability
- Smooth operating - finger rings are designed for easy opening of cam levers
- Complete series of 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 3" and 4" NPT thread. BSP threads available 1" - 3" sizes (excluding 1 1/4")
- Operating conditions: 3/8" thru 2" - 100 P.S.I. at 0°F; 125 PSI at 70°F; 70 PSI at 150°F. 2 1/2", 3" & 4" Cap - 50 PSI Couplings 75 PSI max.
- Economical and superior in performance
- Standard with EPDM gaskets. Buna "N" and FKM (viton type) also available

### A Coupling

DESCRIPTION	PART #
Coupler, male cam x female thread 3/4"	BA075A
Coupler, male cam x female thread 1"	BA100A
Coupler, male cam x female thread 1 1/4"	BA125A
Coupler, male cam x female thread 1 1/2"	BA150A
Coupler, male cam 1 1/2" x female thread 1 1/4"	BA150125A
Coupler, male cam x female thread 2"	BA200A
Coupler, male cam x female thread 3"	BA300A
Coupler, male cam x female thread 4"	BA400A

### B Coupling

DESCRIPTION	PART #
Coupler, female cam x male thread 3/4"	BA075B
Coupler, female cam x male thread 1"	BA100B
Coupler, female cam x male thread 1 1/4"	BA125B
Coupler, female cam x male thread 1 1/2"	BA150B
Coupler, female cam 1 1/2" x male thread 1 1/4"	BA150125B
Coupler, female cam x male thread 2"	BA200B
Coupler, female cam x male thread 3"	BA300B
Coupler, female cam x male thread 4"	BA400B

### C Coupling

DESCRIPTION	PART #
Coupler, female cam x hose shank 3/4"	BA075C
Coupler, female cam x hose shank 1"	BA100C
Coupler, female cam x hose shank 1 1/4"	BA125C
Coupler, female cam x hose shank 1 1/2"	BA150C
Coupler, female cam x hose shank 1 1/2" 90°	BA15090
Coupler, female cam 1 1/2" x hose shank 1 1/4"	BA150125C
Coupler, female cam x hose shank 2"	BA200C
Coupler, female cam x hose shank 2", 90°	BA200C90
Coupler, female cam x hose shank 3"	BA300C
Coupler, female cam x hose shank 4"	BA400C

### D Coupling

DESCRIPTION	PART #
Coupler, female cam x female thread 3/4"	BA075D
Coupler, female cam x female thread 1"	BA100D
Coupler, female cam x female thread 1 1/4"	BA125D
Coupler, female cam x female thread 1 1/2"	BA150D
Coupler, female x female thread 1 1/2", 90°	BA150D90
Coupler, female cam 1 1/2" x female thread 1"	BA150125D
Coupler, female cam x female thread 2"	BA200D
Coupler, female x female thread 2", 90°	BA200D90
Coupler, female cam x female thread 3"	BA300D
Coupler, female cam x female thread 4"	BA400D



# Banjo Fittings and Valves

## E Coupling

DESCRIPTION	PART #
Adapter, male cam x hose shank 3/4"	BA075E
Adapter, male cam x hose shank 1"	BA100E
Adapter, male cam x hose shank 1 1/4"	BA125E
Adapter, male cam x hose shank 1 1/2"	BA150E
Adapter, male cam 1 1/2" x hose shank 1 1/4"	BA150125E
Adapter, male cam x hose shank 2"	BA200E
Adapter, male cam x hose shank 3"	BA300E
Adapter, male cam x hose shank 4"	BA400E

## F Coupling

DESCRIPTION	PART #
Adapter, male cam x male thread 3/4"	BA075F
Adapter, male cam x male thread 1"	BA100F
Adapter, male cam x male thread 1 1/4"	BA125F
Adapter, male cam x male thread 1 1/2"	BA150F
Adapter, male cam x male thread 1 1/2", 90°	BA150F90
Adapter, male cam 1 1/2 x male thread 1 1/4"	BA150125F
Adapter, male cam x male thread 2"	BA200F
Adapter, male cam x male thread 2", 90°	BA200F90
Adapter, male cam x male thread 3"	BA300F
Adapter, male cam x male thread 4"	BA400F

## Coupling Cap

DESCRIPTION	PART #
Cap, camlock, 3/4" (Fits 1/2" & 3/4")	BA075CAP
Cap, camlock, 1" (Fits 1" & 1 1/4")	BA100125CAP
Cap, camlock, 1 1/2"	BA150CAP
Cap, camlock, 2"	BA200CAP
Cap, camlock, 3"	BA300CAP
Cap, camlock, 4"	BA400CAP

## Coupling Plug

DESCRIPTION	PART #
Plug, male cam (Fits 1/2" & 3/4")	BA075PL
Plug, male cam (Fits 1" & 1 1/4")	BA100125PL
Plug, male cam, 1 1/2"	BA150PL
Plug, male cam, 2"	BA200PL
Plug, male cam, 3"	BA300PL
Plug, male cam, 4"	BA400PL



A



C



D



F

## STANDARD FEATURES:

- Precision molded in polypropylene, reinforced with fiberglass for strength and durability
- Stainless steel rings, cam levers and pins resist corrosion
- Banjo 90° angle couplings and adapters will reduce the number of elbows and other pipe fittings used in plumbing applications
- EPDM gasket, 125 max. psi

## Coupling Replacement Gasket Parts

DESCRIPTION	PART #
Gasket, EPDM, 3/4"	BA075G
Gasket, EPDM extra thick, 3/4"	BA075GXT
Gasket, EPDM, 1"	BA100G
Gasket, EPDM 1" extra thick	BA1000GXT
Gasket, EDPM 1 1/2" extra think	BA150GXT
Gasket, EPDM, 1 1/2"	BA150G
Gasket, EPDM, 2"	BA200G
Gasket, EPDM extra thick, 2"	BA200GXT
Gasket, EPDM, 3"	BA300G

## A 90° Coupling

DESCRIPTION	PART #
90° male adapter 1 1/2" female thread	BA150A90
90° male adapter 2" female thread	BA200A90

## C 90° Coupling

DESCRIPTION	PART #
90° female coupler, 1 1/2" hose shank	BA150C90
90° female coupler, 2" hose shank	BA200C90

## D 90° Coupling

DESCRIPTION	PART #
90° female coupler, 1 1/2" female thread	BA150D90
90° female coupler, 2" female thread	BA200D90

## F 90° Coupling

DESCRIPTION	PART #
90° male adapter 1 1/2" male thread	BA150F90
90° male adapter 2" male thread	BA200F90

# Banjo Fittings and Valves



## 3" w/3 Arms Poly Cam Lever Couplings

DESCRIPTION	PART #
3" Female coupler/2" male adapter	BA303B200A



## Poly Cam Lever Couplings

DESCRIPTION	PART #
3" Female coupler - 3" extended male thread	BA303B
3" Female coupler 3 arms 3" hose shank	BA303C



## Spool Adapters

DESCRIPTION	PART #
2" Male adapter - 2" male adapter	BA200FF
3" Male adapter - 2" male adapter	BA300F200F
3" Male adapter - 3" male adapter	BA300FF

## Poly 2" Cam Lever BA201B

DESCRIPTION	PART #
Female Coupler 2x2" male NPT thread	BA201B



Flanged Check Valve



## Flanged Check Valve

DESCRIPTION	PART #
2" Flanged poly check valve	BAMCV200
2" Full port Flanged poly check valve	BAMCV220
3" Flanged poly check valve	BAMCV300

## Pipe Sealant

DESCRIPTION	PART #
1 3/4 oz. Tru-Blu sealant	PP31780
1/4 pint Tru-Blu sealant	PP31631
1/2 pint Tru-Blu sealant	PP31551
1 pint Tru-Blu sealant	PP31431

Banjo Fittings and Valves

## Garden Hose Fittings

DESCRIPTION	PART #
3/4" Adapter x 3/4" Garden Hose Female Thread 225 10/bag	BAGHFT075A
3/4" Coupler x 3/4" Garden Hose Male Thread 300 10/bag	BAGHMT075B
3/4" Coupler x 3/4" Garden Hose Female Thread 300 10/bag	BAGHFT075D
3/4" Adapter x 3/4" Garden Hose Male Thread 300 10/bag	BAGHMT075F
3/4" Male NPT x 3/4" Garden Hose Female Thread 300 10/bag	BAGHFT075MPT
3/4" Female NPT x 3/4" Garden Hose Male Thread 300 10/bag	BAGHMT075FPT
3/4" Male NPT x 3/4" Garden Hose Male Thread 300 10/bag	BAGHMT075MPT



BAGHFT075A



BAGHMT075B



BAGHFT075D



BAGHMT075F



BAGHFT075MPT



BAGHMT075FPT



BAGHMT075MPT

## 3/4" Garden Hose Nozzle

DESCRIPTION	PART #
3/4" Garden hose nozzle	BAGHN075



3/4" Garden hose nozzle



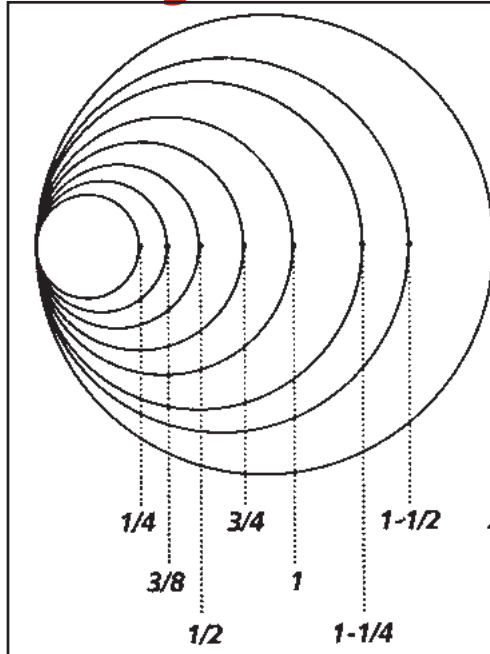
Expect the Best!

1-866-509-0715

www.liquidsystems.net

# Banjo Fittings and Valves

## Polypropylene Pipe Fittings



### Pipe size in pipe scale inches

**NOTE: Sizing  
Threaded Fittings**

Pipe sizes need to be measured by pipe size scale - which is not the same as a ruler or tape measure scale.

Use the templates at the left to determine the size of the pipe you need - not your tape measure or ruler.

### Poly Pipe Caps

DESCRIPTION	PART #
Cap, threaded, 3/4"	BACAP075
Cap, threaded, 1"	BACAP100125
Cap, threaded, 1 1/2"	BACAP150
Cap, threaded, 2"	BACAP200
Cap, threaded, 3"	BACAP300

### Poly Pipe Couplings

DESCRIPTION	PART #
Coupling, 1/2"	BACPLG050
Coupling, 3/4"	BACPLG075
Coupling, 1"	BACPLG100
Coupling, 1 1/4"	BACPLG125
Coupling, 1 1/2"	BACPLG150
Coupling, 2"	BACPLG200
Coupling, 3"	BACPLG300



## Poly Pipe Crosses



## Poly Pipe Elbows

### Poly Crosses

DESCRIPTION	PART #
Cross, 3/4	BACR075
Cross, 1"	BACR100
Cross, 1 1/4"	BACR125
Cross, 1 1/2"	BACR150
Cross, 2"	BACR200

### Poly Elbows

DESCRIPTION	PART #
Elbow, 1/2", 90°	BAEL05090
Elbow, 3/4", 90°	BAEL07590
Elbow, 1", 45°	BAEL10045
Elbow, 1", 90°	BAEL10090
Elbow, 1 1/4", 90°	BAEL12590
Elbow, 1 1/2", 90°	BAEL15090
Elbow, 2", 90°	BAEL20090
Elbow, 3", 90°	BAEL30090

Banjo Fittings and Valves





# Banjo Fittings and Valves



## Poly Hose Barbs - Pipe

### STANDARD FEATURES:

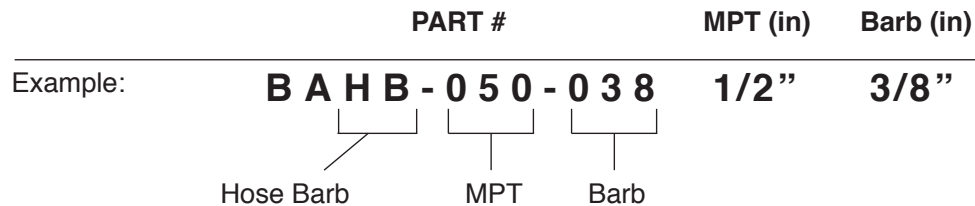
- Precision molded in polypropylene
- Glass reinforced for stability, strength and toughness
- Hose barbs are molded specifically to fit properly into hoses
- Combination sizes available for elbows and straight barbs
- Excellent chemical resistance
- Pressure to 150 P.S.I. at 70°

## Polypropylene Hose Barbs - Pipe

DESCRIPTION	PART #
Barb, male thread x hose, 1/4"	BAHB025
Barb, male thread x hose, 1/4", 90°	BAHB02590
Barb, male thread 1/4" x hose, 3/8"	BAHB025/038
Barb, male thread x hose, 3/8"	BAHB038
Barb, male thread x hose, 3/8", 90°	BAHB03890
Barb, male thread 3/8" x hose, 1/2"	BAHB038/050
Barb, male thread x hose, 1/2"	BAHB050
Barb, male thread x hose, 1/2", 90°	BAHB05090
Barb, male thread 1/2" x hose 3/8"	BAHB050/038
Barb, male thread 1/2" x hose 3/8", 90°	BAHB050/03890
Barb, male thread 1/2" x hose 3/4"	BAHB050/075
Barb, male thread 1/2" x hose 3/4", 90°	BAHB050/07590
Barb, male thread x hose, 3/4"	BAHB075
Barb, male thread x hose, 3/4", 90°	BAHB07590
Barb, male thread 3/4" x hose 3/8"	BAHB075/038
Barb, male thread 3/4" x hose 1/2"	BAHB075/050
Barb, male thread 3/4" x hose 1/2", 90°	BAHB075/05090
Barb, male thread 3/4" x hose 5/8"	BAHB075/058
Barb, male thread 3/4" x hose 1"	BAHB075/100
Barb, male thread 3/4" x hose 1", 90°	BAHB075/10090
Barb, male thread x hose, 1"	BAHB100
Barb, male thread x hose, 1", 90°	BAHB10090

DESCRIPTION	PART #
Barb, male thread 1" x hose, 3/4"	BAHB100/075
Barb, male thread 1" x hose, 3/4", 90°	BAHB100/075-90
Barb, male thread 1" x hose, 1 1/4"	BAHB100/125
Barb, male thread 1" x hose, 1 1/4", 90°	BAHB100/125-90
Barb, male thread x hose, 1 1/4"	BAHB125
Barb, male thread x hose, 1 1/4", 90°	BAHB12590
Barb, male thread 1 1/4" x hose, 3/4"	BAHB125/075
Barb, male thread 1 1/4" x hose, 1"	BAHB125/100
Barb, male thread 1 1/4" x hose 1", 90°	BAHB-25/100-90
Barb, male thread 1 1/4" x hose 1 1/2"	BAHB125/150
Barb, male thread x hose 1 1/2"	BAHB150
Barb, male thread x hose 1 1/2", 90°	BAHB15090
Barb, male thread 1 1/2" x hose, 1"	BAHB150/100
Barb, male thread 1 1/2" x hose, 1 1/4"	BAHB150/125
Barb, male thread 1 1/2" x hose 2"	BAHB150/200
Barb, male thread x hose, 2"	BAHB200
Barb, male thread x hose, 2", 90°	BAHB20090
Barb, male thread 2" x hose 1 1/2"	BAHB200/150
Barb, male thread x hose 3"	BAHB-300
Barb, male thread x hose, 3", 90°	BAHB30090
Barb, male thread x hose, 4"	BAHB400

### How to read hose barb part numbers.



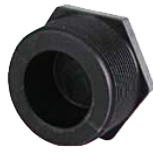
# Banjo Fittings and Valves



Poly Hose Barb Tee



Poly Hose Mender



Poly Pipe Plugs



Poly Elbow



Poly Nipples



## Poly Hose Barb Tee

DESCRIPTION	PART #
Tee, Barb, 1/2" x 1/2" x 3/8"	BAHBT050038
Tee, Barb, 1/2" x 1/2" x 3/4"	BAHBT050075
Tee, Barb, 3/4"	BAHBT075
Tee, Barb, 3/4" x 3/4" x 1/2"	BAHBT075050
Tee, Barb, 1"	BAHBT100
Tee, Barb, 1" x 1" x 3/4"	BAHBT100075

## Poly Hose Menders

DESCRIPTION	PART #
Mender, hose, 3/8"	BAHM038
Mender, hose, 1/2"	BAHM050
Mender, hose, 3/4"	BAHM075
Mender, hose, 1"	BAHM100
Mender, hose, 1 1/4"	BAHM125
Mender, hose, 1 1/2"	BAHM150
Mender, hose 2"	BAHM200
Mender, hose 3"	BAHM300

## Poly Pipe Plugs

DESCRIPTION	PART #
Plug, threaded, 1/2"	BAPLUG050
Plug, threaded, 3/4"	BAPLUG075
Plug, threaded, 1"	BAPLUG100
Plug, threaded, 1 1/4"	BAPLUG125
Plug, threaded, 1 1/2"	BAPLUG150
Plug, threaded, 2"	BAPLUG200
Plug, threaded, 3"	BAPLUG300

## Header - Poly Elbows

DESCRIPTION	PART #
1/4" 90° POLY ELBOW	BAEL025-90
3/8" 90° POLY ELBOW	BAEL038-90
1/2" 90° POLY ELBOW	BAEL050-90
3/4" 90° POLY ELBOW	BAEL075-90
1" 90° POLY ELBOW	BAEL100-90
1 1/4" 90° POLY ELBOW	BAEL125-90
1 1/2" 90° POLY ELBOW	BAEL150-90
2" 90° POLY ELBOW	BAEL200-90
3" 90° POLY ELBOW	BAEL300-90

## Poly Pipe Nipples

DESCRIPTION	PART #
Nipple, 3/8" short	BANIP038SH
Nipple, 1/2", short	BANIP050SH
Nipple, 1/2" x 3"	BANIP0503
Nipple, 3/4" x short	BANIP075SH
Nipple, 3/4" x 4"	BANIP0754
Nipple, 3/4" x 6"	BANIP0756
Nipple, 1" x short	BANIP100SH
Nipple, 1" x 4"	BANIP100-4
Nipple, 1" x 6"	BANIP1006
Nipple, 1 1/4" x short	BANIP125SH
Nipple, 1 1/4" x 4"	BANIP1254
Nipple, 1 1/4" x 6"	BANIP1256
Nipple, 1 1/2" x short	BANIP150SH
Nipple, 1 1/2" x 3"	BANIP1503
Nipple, 1 1/2" x 4"	BANIP1504
Nipple, 1 1/2" x 5"	BANIP1505
Nipple, 1 1/2" x 6"	BANIP1506
Nipple, 2" x short	BANIP200-SH
Nipple, 2" x 4"	BANIP2004
Nipple, 2" x 6"	BANIP200-6
Nipple, 3" x short	BANIP300SH
Nipple, 3" x 4"	BANIP3004
Nipple, 3" x 6"	BANIP3006
Nipple, 4" x short	BANIP400SH

## 1" Dry Poppet Couplings

DESCRIPTION	PART #
Female Dry Poppet Coupler 1"	BADPCF100
Male Dry Poppet Coupler 1"	BADPCM100



Male Adapter Dry Poppet



Female Coupling Dry Poppet

# Banjo Fittings and Valves



**Poly Reducer Bushing**



**Poly Reducer Coupling**



**Poly Reducer Nipple**



**Poly Street Elbow 90°**



**Poly Tees**



**Poly Manifold**

## Poly Reducer Bushings

DESCRIPTION	PART #
Bushing, reducer, 3/8" x 1/4"	BARB038025
Bushing, reducer, 1/2" x 1/4"	BARB050025
Bushing, reducer, 1/2" x 3/8"	BARB050038
Bushing, reducer, 3/4" x 1/8"	BARB075018
Bushing, reducer, 3/4" x 1/4"	BARB075025
Bushing, reducer, 3/4" x 3/8"	BARB075038
Bushing, reducer, 3/4" x 1/2"	BARB075050
Bushing, reducer, 1" x 1/8"	BARB100018
Bushing, reducer, 1" x 1/4"	BARB100025
Bushing, reducer, 1" x 1/2"	BARB100050
Bushing, reducer, 1" x 3/4"	BARB100075
Bushing, reducer, 1 1/4" x 3/4"	BARB125075
Bushing, reducer, 1 1/4" x 1"	BARB125100
Bushing, reducer, 1 1/2" x 3/4"	BARB150075
Bushing, reducer, 1 1/2" x 1"	BARB150100
Bushing, reducer 1 1/2" x 1 1/4"	BARB150125
Bushing, reducer, 2" x 3/4"	BARB200075
Bushing, reducer, 2" x 1"	BARB200100
Bushing, reducer, 2" x 1 1/4"	BARB200125
Bushing, reducer, 2" x 1 1/2"	BARB200150
Bushing, reducer, 3" x 1 1/2"	BARB300150
Bushing, reducer, 3" x 2"	BARB300200
Bushing, reducer 3" - 4"	BARB400300

## Poly Reducing Coupling

DESCRIPTION	PART #
Coupling, reducer, 1" x 3/4"	BARC100075
Coupling, reducer, 1 1/2" x 1"	BARC150100
Coupling, reducer, 1 1/2" x 1 1/4"	BARC150125
Coupling, reducer, 2" x 1"	BARC200100
Coupling, reducer, 2" x 1 1/4"	BARC200125
Coupling, reducer, 2" x 1 1/2"	BARC200150
Coupling, reducer, 3" x 2"	BARC300200

## Poly Manifold

DESCRIPTION	PART #
8 station 3/4" inlet, 1/2" outlets, 1/4" gauge port	BATM075/050

## Poly Reducing Nipple

DESCRIPTION	PART #
Nipple, reducer, 1/2" x 3/8"	BARN050038
Nipple, reducer, 3/4" x 1/2"	BARN075050
Nipple, reducer, 1" x 1/2"	BARN100050
Nipple, reducer, 1" x 3/4"	BARN100075
Nipple, reducer, 1 1/4" x 3/4"	BARN125075
Nipple, reducer, 1 1/4" x 1"	BARN125100
Nipple, reducer, 1 1/2" x 1"	BARN150100
Nipple, reducer, 1 1/2" x 1 1/4"	BARN150125
Nipple, reducer, 2" x 1 1/4"	BARN200125
Nipple, reducer, 2" x 1 1/2"	BARN200150
Nipple, reducer, 3" x 2"	BARN300200

## Poly Street Elbow 90°

DESCRIPTION	PART #
Elbow, street 1/4"	BASL02590
Elbow, street, 3/8". 90°	BASL03890
Elbow, street, 1/2". 90°	BASL05090
Elbow, street, 3/4", 90°	BASL07590
Elbow, street, 1", 45°	BASL10045
Elbow, street, 1", 90°	BASL10090
Elbow, street, 1 1/4", 45°	BASL12545
Elbow, street, 1 1/4", 90°	BASL12590
Elbow, street, 1 1/2", 45°	BASL15045
Elbow, street, 1 1/2, 90°	BASL15090
Elbow, street, 2", 45°	BASL20045
Elbow, street, 2", 90°	BASL20090
Elbow, street, 3", 45°	BASL30045
Elbow, street, 3", 90°	BASL30090

## Poly Tees

DESCRIPTION	PART #
Tee, 1/4"	BATEE025
Tee, 3/8"	BATEE038
Tee, 1/2"	BATEE050
Tee, 3/4"	BATEE075
Tee, 1"	BATEE100
Tee, 1 1/4"	BATEE125
Tee, 1 1/2"	BATEE150
Tee, 2"	BATEE200
Tee, 3"	BATEE300



# Banjo Fittings and Valves

## Poly Manifold Fittings



### Manifold Gaskets and Clamps

DESCRIPTION	PART #
Gasket, EPDM, 1" c/o FC100 clamp	BAM100G
Gasket, EPDM, 2" c/o FC200 clamp	BA150G
Gasket, EPDM, 2" full port c/o FC220 clamp	BA200G
Gasket, EPDM, 3" c/o FC300 clamp	BA300G
Clamp, worm-screw, 1"	BAFC100
Clamp, worm-screw, 2"	BAFC200
Clamp, worm-screw, 2", full port	BAFC220
Clamp, worm-screw, 3"	BAFC300



### Manifold Hose Barbs

DESCRIPTION	PART #
Barb, flanged x hose, 1"	BAM100BRB
Barb, flanged x hose, 1", 90°	BAM100BRB90
Barb, flanged 1" x hose, 3/4"	BAM100075BRB
Barb, flanged 1" x hose, 3/4", 90°	BAM100075BRB90
Barb, flanged 1" x hose, 1 1/4"	BAM100125BRB
Barb, flanged 1" x hose, 1 1/4", 90°	BAM100125BRB90
Barb, flanged x hose, 2"	BAM200BRB
Barb, flanged x hose, 2", 90°	BAM200BRB90
Barb, flanged 2" x hose, 1"	BAM200100BRB
Barb, flanged 2" x hose, 1", 90°	BAM200100BRB90
Barb, flanged 2" x hose, 1 1/4"	BAM200125BRB
Barb, flanged 2" x hose, 1 1/4", 90°	BAM200125BRB90
Barb, flanged 2" x hose, 1 1/2"	BAM200150BRB
Barb, flanged 2" x hose 1 1/2", 90°	BAM200150BRB90
Barb, flanged full port x hose, 2"	BAM220BRB
Barb, flanged full port x hose, 2", 90°	BAM220BRB90
Barb, flanged x hose, 3"	BAM300BRB
Barb, flanged x hose, 3", 90°	BAM300BRB90
Barb, flanged x hose 2"	BAM300220BRB
Barb, flanged x hose 2", 90°	BAM300220BRB90



### Manifold Cross

DESCRIPTION	PART #
Cross, flanged, 1"	BAM100CR
Cross, flanged, 2"	BAM200CR
Cross, flanged, 2" full port	BAM220CR
Cross, flanged, 3"	BAM300CR



### Manifold Plugs

DESCRIPTION	PART #
Plug, flanged, 1"	BAM100PLG
Plug, flanged, 2"	BAM200PLG
Plug, flanged, 2", full port	BAM220PLG
Plug, flanged, 3"	BAM300PLG
Plug, DINFWS 1", 1/4" FPT	BAM100PLG025
Plug, flanged 2", 1/4" FPT	BAM200PLG025
Plug, Flanged 2" c/w 3/4" port	BAM220PLG075
Plug, Flange 3" c/w 3/4" port	BAM300PLG075



### 45° Coupling

DESCRIPTION	PART #
Coupling, flanged 1" - 45°	BAM100CPG45
Coupling, flanged 2" - 45°	BAM200CPG45
Coupling, flanged 3" - 45°	BAM300CPG45
Coupling, flanged 2" full port 45°	BAM220CPG45



### Manifold Couplings

DESCRIPTION	PART #
Coupling, flanged, 1"	BAM100CPG
Coupling, flanged, 1", 90°	BAM100CPG90
Coupling, flanged, 2"	BAM200CPG
Coupling, flanged, 2", 90°	BAM200CPG90
Coupling, flanged 2" x flanged 1"	BAM200/100CPG
Coupling, flanged full port x flanged, 2"	BAM220/200CPG
Coupling, flanged 2" full port	BAM220CPG
Coupling, flanged 2" full port 90	BAM220CPG90
Coupling, flanged, 3", 90°	BAM300CPG90
Coupling, flanged, 3"	BAM300CPG
Coupling, flanged 3" to 2"	BAM300220CPG
3" x 3" Full port flange x 7"	BAM300CPG7



### Manifold Hose Barbs 45°

DESCRIPTION	PART #
Barb, flanged x 1" hose barb 45°	BAM100BRB45
Barb, flanged x 2" full port 45°	BAM220BRB45
Barb, flanged x 3" hose barb 45°	BAM300BRB45



### Flange x Female QDC

DESCRIPTION	PART #
2" Full port flange x 2" female coupler	BAM220D
3" Full flange x 3" female coupler 3 arms	BAM303D

# Banjo Fittings and Valves



## Manifold Flanged X Thread

DESCRIPTION	PART #
Flanged x pipe thread 3/4"	BAM100075MPT
Flanged x pipe thread, 1"	BAM100FPT
Flanged x pipe thread, 2"	BAM200FPT
Flanged x male pipe thread, 1"	BAM100MPT
Flanged x male pipe thread, 2"	BAM200MPT
Flanged 2" x male pipe thread 1 1/4"	BAM200125MPT
Flanged 2" x male pipe thread 1 1/2"	BAM200150MPT
Full port flanged x male pipe thread, 2"	BAM220MPT
Flanged x male pipe thread 3"	BAM300MPT
Full port flanged x female thread 2"	BAM220FPT
Full port flanged x female thread 3"	BAM300FPT



## Manifold Tee

DESCRIPTION	PART #
Tee, manifold, flanged, 1"	BAM100TEE
Tee, manifold, flanged, 2"	BAM200TEE
Tee, manifold, flanged, 2" x 1"	BAM200100TEE
Tee, manifold, flanged, 2", full port	BAM220TEE
Tee, manifold, flanged, 3"	BAM300TEE



## 45° Flanged Couplings

DESCRIPTION	PART #
2" Full port 45° Y flange	BAM220Y45
2" Full port 45° Y flange gauge port	BAM220YG45
3" Full port 45° Y flange	BAM300Y45
3" Full port 45° Y flange gauge port	BAM300YG45



## Flanged Reducer Couplings

DESCRIPTION	PART #
2" port x 1" Reducer flange	BAM200100CPG
2" Full port x 1" Reducer flange	BAM220100CPG
2" Full port x 2" reducer flange	BAM220200CPG
3" x 2" Port reducer flange	BAM300200CPG
3" x 2" Full port reducer flange	BAM300220CPG



## Flange X Male QDC

DESCRIPTION	PART #
1" Flange x 1" male adapter	BAM100A
2" Flange x 2" male adapter	BAM200A
2" Flange Full port x 2" male adapter	BAM220A
3" Flange x 3" male adpter	BAM300A



BAM300SWP90



BAM300MPTSWP90



BAM300MPTSWPG90



BAM300ASWP90



BAM300ASWPG90



BAM300BRBSWP90

## Sweeps

DESCRIPTION	PART #
2" Flange x flange sweep	BAM200SWP90
2" Full port flange x flange sweep	BAM220SWP90
3" Flange x flange sweep	BAM300SWP90
3" Flange x flange sweep (1/4" gauge port)	BAM300SWPG90
2" Full port flange x male npt sweep	BAM220MPTSWP90
3" Flange x male npt sweep	BAM300MPTSWP90
3" Flange x male npt sweep (1/4" gauge port)	BAM300MPTSWPG90
2" Full port flange x male adapter sweep	BAM220ASWP90
3" Flange x male adapter sweep	BAM300ASWP90
3" Flange x Hose barb sweep 90 degree	BAM300BRB90
3" Flange x 3" Hose barb	BAM300BRBSWP90



Flange & Glue Slip Fitting

## Flange & Glue Slip Fitting

DESCRIPTION	PART #
1" Manifold x 1" PVC	BAM101GSA
2" Manifold Full Port Flange x 2" PVC	BAM221GSA
3" Manifold flange x 3" PVC	BAM301GSA



3/4" Garden hose nozzle

## 3/4" Garden Hose Nozzle

DESCRIPTION	PART #
3/4" Garden hose nozzle	BAGHN075



## Hose Barb Tee

DESCRIPTION	PART #
3" Manifold Hose Barbs	BAM300300HBT

# Banjo Fittings and Valves



## Poly Bulkhead Fittings

### STANDARD FEATURES:

- Double sided threads
- Available with EPDM or FKM (viton type) gasket



## Poly Bolted Bottom Drain Bulkhead Fittings

*Allows 100% rinse free - no sediment build up! Excellent for avoiding herbicide cross contamination! Fits most cone bottom & chemical inductor tanks, 30 gallons and larger.*

### STANDARD FEATURES:

- Stainless steel bolts
- Bolt head plugs sealed ultrasonically
- Glass reinforced polypropylene
- EPDM gaskets standard FKM (viton type) available
- Longer bolts available

## Bottom Drain Bolted Bulkhead Fitting

DESCRIPTION	PART #
3/4" x 1" threaded flange EPDM	BABF075BD
1" x 1" threaded flange EPDM	BABF100BD
1 1/4" x 1" threaded flange EPDM	BABF125BD
1 1/2" x 2" threaded standard port flange EPDM	BABF150BD
2" x 2" threaded standard port flange EPDM	BABF200BD
2" x 2" threaded full port flange EPDM	BABF220BD
3" x 3" threaded flange flange EPDM	BABF300BD



## Manifold Bolted Bulk Head

DESCRIPTION	PART #
2" Full port Manifold Bulkhead	BAMBF220
3" Manifold Bulkhead	BAMBF300

## Bulkhead Fittings & Gaskets

DESCRIPTION	PART #
Bulkhead, 1/2"	BATF050
Bulkhead, 3/4"	BATF075
Bulkhead, 1"	BATF100
Bulkhead, 1 1/4"	BATF125
Bulkhead, 1 1/2"	BATF150
Bulkhead, 2"	BATF200
Bulkhead, 2"	BATF220
Bulkhead, 3"	BATF300
Bulkhead, 4"	BATF400
Gasket, EPDM, 1/2"	BA150G
Gasket, EPDM, 2"	BA200G
Gasket, EPDM, 3"	BA300G
Gasket, EPDM, 4"	BA400G

## Poly Bolted Bulkhead



### STANDARD FEATURES:

- Stainless steel bolts
- Bolt head plugs sealed ultrasonically
- Glass reinforced polypropylene
- EPDM gaskets standard FKM (viton type) available

## Bolted Bulkhead Fitting

DESCRIPTION	PART #
3/4" x 1 1/2" threaded flange EPDM	BABF075
1" x 1 1/2" threaded flange EPDM	BABF100
1 1/4" x 1 1/2" threaded flange EPDM	BABF125
1 1/2" x 2" threaded flange EPDM	BABF150
2" x 2" standard threaded standard flange EPDM	BABF200
2" x 2" full port threaded flange EPDM	BABF220
3" x 3" threaded flange EPDM	BABF300

## Manifold Bolted Bulkhead Bottom Drain

DESCRIPTION	PART #
2" Manifold Bulkhead Bottom Drain	BAMBF200BD
2" Full Port Manifold Bulkhead Bottom Drain	BAMBF220BD
2" Full Port Manifold Bulkhead Bottom Drain	BAMBF222BD
3" Full Port Manifold Bulkhead Bottom Drain	BAMBF300BD

## Flange Gaskets

DESCRIPTION	PART #
1" full gasket EPDM	BABF100GE
1 1/2" & 2" full gasket EPDM	BABF200GE
220 series full port gasket EPDM	BA200G
3" full gasket EPDM	BABF300GE



## HOW TO INSTALL A BULKHEAD FITTING



When installing a bulkhead fitting, you will need to determine the hole size. You will need to use a hole saw that is slightly larger than the O.D. of the threads on the bulkhead fitting. However, you need to ensure the hole to be smaller than the gasket on the bulkhead. Once you cut out the hole, you can then install the bulkhead fitting.

### How to check to see if you've over tightened the nut?

If the gasket is bulging out, you have over tightened the bulkhead fitting. Note that over tightening plastic fittings can cause the threads to strip.

### What side is the gasket installed on?

The gasket will go on the inside of the tank.

### What causes a bulkhead leak?

1. The nut on the outside of the tank is not tight enough.
2. The bulkhead has the incorrect gasket for the chemical that is in the tank. Refer to the Banjo website for gasket ratings for chemicals.
3. The threads are not sealed properly. Like all poly fittings, you will need to use a soft set sealant like our TruBlue sealant to seal the thread on the inside of the fitting. There is no need to put sealant on the outer threads.
4. The bulkhead fitting is cracked. This can be caused by over tightening or if there is other damage.

### What's the recommended torque for installing one?

RECCOMENDATION FOR BANJO TF FITTINGS	
FITTING	TORQUE ft-lbs
TF300	110-130
TF220	70-90
TF200/TF150	60-70
TF125/TF100	30-40
TF075/TF050	15-20

## Helpful Tip!

# Banjo Fittings and Valves

## Polypropylene 4 Bolt Ball Valves

### STANDARD FEATURES:

- Precision molded polypropylene is reinforced with fiberglass for additional strength
- Self-aligning ball moves freely against the PTFE seats for smooth operation. The valve opens and closes with very little pressure on the handle
- Ball is diamond tuned, after molding, to make it spherically perfect, which provides precise contact between ball and seats
- PTFE self-lubricating stem bushings and seats cannot stick or bind
- 150 max. psi
- Stainless steel bolts
- FKM (Viton type) seals
- 100% PTFE seats



### Polypropylene 4 Bolt Ball Valves

DESCRIPTION	Parts #
Valve, ball, 1/2"	BAV050
Valve, ball, 3/4"	BAV075
Valve, ball, 1"	BAV100
Valve, ball, full port, 1"	BAV100FP
Valve, ball, 1 1/4"	BAV125
Valve, ball, full port, 1 1/4"	BAV125FP
Valve, ball, 1 1/2"	BAV150
Valve, ball, 2"	BAV200

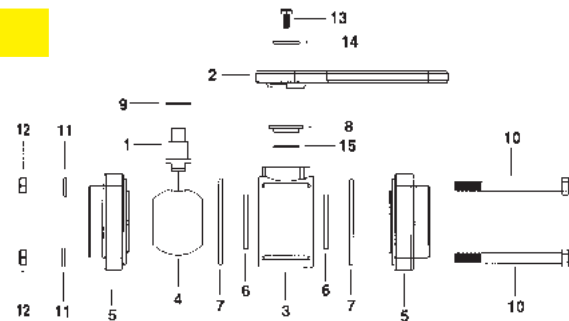
\*Valve Repair Kits Contain Items Marked With Asterisk:

1 ball	2 body O-rings	1 thrust washer
2 ball seats	1 upper stem bushing	1 stem O-ring

### Locking Device

### STANDARD FEATURES:

- Stainless steel construction
- Installs under valve handle
- Comes complete with handle & locking device (padlock not included)
- Available for V125FP, V150 & V200



### Replacement Parts

ITEM	DESCRIPTION	PART # FOR BAV050-075-100	PART # FOR BAV100FP-125	PART # FOR BAV125FP-150-200
1	Stem	BAV07151A	BAV10151A	BAV20151M
2	Handle	BAV10153A	BAV10153A	BAV20153
2	T-Handle			BAV20353T
N/S	1 1/8" plug for T-handle (cap plug)			BAV20353C
3	Valve body	BAV07254	BAV10254	BAV20254
4	Valve ball	*BAV07255	*BAV10255	*BAV20255A
5	End plate	1/2" BAV05256	1 1/4" BAV10256	1 1/2" BAV20257
5	End plate	3/4" BAV07257		2" BAV20256
5	End plate	1" BAV07256		
5	End plate (full port)		1" BAV10257	1 1/4" BAV20267
6	Ball seat	*BAV07258A	*BAV10258A	*BAV20258A
7	Valve body O-ring FKM (viton type)	*BAV07264	*BAV10264	*BAV20264
8	Upper stem bushing	*BAV07159	*BAV10159	*BAV20159
9	Thrust washer	*BAV07060	*BAV10060	*BAV20060
10	S.S. body bolt	1/4"x3" BAV07017	5/16"x3 1/2" BAV10117	3/8"x4" BAV20017
11	S.S. lock washer	1/4" BAV07018	5/16" BAV10118	3/8" BAV20018
12	S.S. nut	1/4" BAV07019	5/16" BAV10119	3/8" BAV20019
13	S.S. handle bolt	#10x3/4" BAV10020A	#10x3/4" BAV10020A	1/4"x1/2" BAV20020
14	S.S. handle washer	BAV07021A	BAV07021A	BAV20021
15	Stem O-ring FKM (viton type)	*BAV07163	*BAV10163	*BAV20163
N/S	Valve repair kit	BAV07200	BAV10200	BAV20200

Banjo Fittings and Valves



# Banjo Fittings and Valves



## Polypropylene 6 Bolt Ball Valves

### STANDARD FEATURES:

- FKM (viton type) seals • PTFE self-lubricating stem bushings and seats cannot stick or bind
- Precision molded in polypropylene. Polypropylene is reinforced with fiberglass for additional strength • Self-aligning ball moves freely against the PTFE seats for smooth operation. The valve opens and closes with very little pressure on the handle • Ball is diamond tuned, after molding, to make it spherically perfect, which provides precise contact between ball and seats • 150 max. psi on 2", 100 max. psi on 3" and 75 max. psi on 4" • Stainless steel bolts • 100% PTFE seats

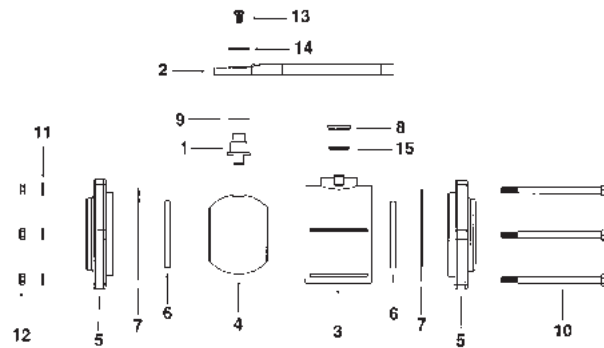
## Polypropylene 4 Bolt Ball Valves

DESCRIPTION	Parts #
Valve, ball, full port, 2"	BAV200FP
Valve, ball, 3"	BAV300
Valve, ball, full port, 3"	BAV300FP
Valve, ball full port, 4"	BAV400

### Locking Handle

#### STANDARD FEATURES:

- Stainless steel hardware
- Locks in open and closed positions
- Locking handle replaces standard handle (padlock not included)
- Available for V200FP, V300, V300FP & V400



\*Valve Repair Kits Contain Items Marked With Asterisk:

1 ball	2 body O-rings	1 thrust washer
2 ball seats	1 upper stem bushing	1 stem O-ring

### Replacement Parts

ITEM	DESCRIPTION	PART # FOR BAV200FP	PART # FOR BAV300	PART # FOR BAV300FP	PART # FOR BAV400
1	Stem	BAV25151B	BAV25151B	BAV25151B	BAV25151B
2	Handle	BAV25153	BAV25153	BAV25153	BAV25153
2	Short Handle for VFMT200FPSH	BAV25153SH			
3	Valve body	BAV25254	BAV30254	BAV35254	BAV40254
4	Valve ball	*BAV25255A	*BAV30255	*BAV35255A	*BAV40255
5	End plate 2" Female NPT	BAV25256			
5	End plate 2" Male NPT	BAVMT25256			
5	End plate 2" Male adapter	BAVF25256			
5	3" End plate		BAV30264	3" FP BAV35264	
5 & 6	End plate w/PTFE ball seat				BAV40264
6	Ball seat	*BAV25258A	*BAV30258A	*BAV35258A	
7	Valve body O-ring FKM (viton type)	*BAV25264	*BAV30265	*BAV35265	*BAV40265
8	Upper stem bushing	*BAV25160	*BAV25160	*BAV25160	*BAV25160
9	Thrust washer	*BAV25060	*BAV25060	*BAV25060	*BAV25060
10	3/8" S.S. body bolt	4 1/2" BAV25017	5" BAV30017	6" BAV35017	7 1/2" BAV40017
11	3/8" S.S. lock washer	BAV20018	BAV20018	BAV20018	BAV20018
12	3/8" S.S. nut	BAV20019	BAV20019	BAV20019	BAV20019
13	3/8" x 1/2" S.S. handle bolt	BAV25020	BAV25020	BAV25020	BAV25020
14	S.S. handle washer	BAV25121	BAV25121	BAV25121	BAV25121
15	Stem O-ring FKM (viton type)	*BAV25163	*BAV25163	*BAV25163	*BAV25163
N/S	Valve repair kit	BAV25200	BAV30200	BAV35200	BAV40200



# Banjo Fittings and Valves



## Manifold Bolted Ball Valves

### STANDARD FEATURES:

- FKM (viton type) seals
- PTFE self-lubricating stem bushings and seats cannot stick or bind
- Precision molded in polypropylene. Polypropylene is reinforced with fiberglass for additional strength
- Self-aligning ball moves freely against the PTFE seats for smooth operation. The valve opens and closes with very little pressure on the handle
- Ball is diamond turned, after molding, to make it spherically perfect, which provides precise contact between ball and seats.

## Manifold Bolted Ball Valves

DESCRIPTION	Parts #
1" x 1" Flange ball valve	BAMV100CF
2" x 2" Flange ball valve	BAMV200CF
2" x 2" Full port flange ball valve	BAMV220CF
3" x 3" Flange ball valve	BAMV300
3" x 3" Full port flange ball valve	BAMV300CF

## 6 Bolt Valves w/ "F" Adapter



DESCRIPTION	Parts #
2" Full port valve w/ F adapter	BAVFMT200FP

## 2 and 3" Standard Port Stubby Valves



DESCRIPTION	Parts #
2" Male adapter x 2" female NPT	BAVSF200
2" Male adapter x 2" male NPT	BAVSFMT200
3" Male adapter x 3" male NPT	BAVSFMT300
3" Male adapter full port x 3" male NPT	BAVSFMT300FP

# Banjo Fittings and Valves

## Replacement Parts - MV100CF - Chart 1

ITEM	DESCRIPTION	QTY.	PART NUMBER
1	1" Manifold endplate	2	BAV10278
2	Handle	1	BAV10153A
3	Valve body	1	BAV10254
4	S.S.Handle washer	1	BAV7021A
5	#10 x 3/4" S.S.handle bolt	1	BAV10021A
6	5/16" S.S. lock washer	4	BAV10118
7	5/16" S.S. nut	4	BAV10119
8	5/16" x 3 1/2" S.S. body bolt	4	BAV10117
9	Upper stem bushing	1	BAV10159
10	Stem O-ring FKM (viton type)	1	BAV10163
11	Thrust washer	1	BAV10060
12	Stem	1	BAV10151A
13	Ball seat	2	BAV10258A
14	Valve ball	1	BAV10155
15	Valve body O-ring FKM (viton type)	2	BAV10264
N/S	Valve repair kit	N/S	BAV10200

## Replacement Parts - MV200CF - Chart 1

ITEM	DESCRIPTION	QTY.	PART NUMBER
1	2" Manifold endplate	2	BAV20294
2	Handle	1	BAV20153
3	Valve body	1	BAV20254
4	S.S.Handle washer	1	BAV20021
5	1/4" x 1/2" S.S.handle bolt	1	BAV20020
6	3/8" S.S. lock washer	4	BAV20018
7	3/8" S.S. nut	4	BAV20019
8	3/8" x 4 1/2" S.S. body bolt	4	BAV20017
9	Upper stem bushing	1	BAV20159
10	Stem O-ring FKM (viton type)	1	BAV20163
11	Thrust washer	1	BAV20060
12	Stem	1	BAV20151M
13	Ball seat	2	BAV20258A
14	Valve ball	1	BAV20255A
15	Valve body O-ring FKM (viton type)	2	BAV20264
N/S	Valve repair kit	N/S	BAV20200

## Replacement Parts - MV220CF - Chart 1

ITEM	DESCRIPTION	QTY.	PART NUMBER
1	2" Manifold endplate	2	BAV25478
2	Handle	1	BAV25153
3	Valve body	1	BAV25254
4	S.S.Handle washer	1	BAV25121
5	3/8" x 1/2" S.S.handle bolt	1	BAV25020
6	3/8" S.S. lock washer	4	BAV20018
7	3/8" S.S. nut	4	BAV20019
8	3/8" x 4" S.S. body bolt	4	BAV20017
9	Upper stem bushing	1	BAV25160
10	Stem O-ring FKM (viton type)	1	BAV25163
11	Thrust washer	1	BAV25060
12	Stem	1	BAV25151B
13	Ball seat	2	BAV25258A
14	Valve ball	1	BAV25255A
15	Valve body O-ring FKM (viton type)	2	BAV25264

## Replacement Parts - MV300 - Chart 2

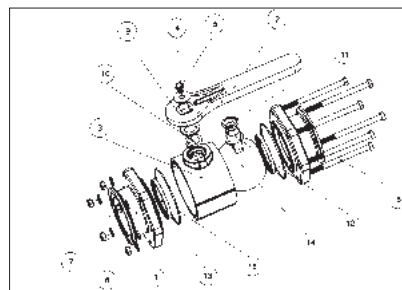
ITEM	DESCRIPTION	QTY.	PART NUMBER
1	3" FP Manifold endplate	2	BAM30264
2	Handle	1	BAV25153
3	Valve body	1	BAV30254
4	S.S.Handle washer	1	BAV25121
5	3/8" x 1/2" S.S.handle bolt	1	BAV25020
6	3/8" S.S. lock washer	6	BAV20018
7	3/8" S.S. nut	6	BAV20019
8	3/8" x 5" S.S. body bolt	6	BAV30017
9	Upper stem bushing	1	BAV25160
10	Stem O-ring FKM (viton type)	1	BAV25163
11	Thrust washer	1	BAV25060
12	Stem	1	BAV25151B
13	Ball seat	2	BAV30258A
14	Valve ball	1	BAV30255
15	Valve body O-ring FKM (viton type)	2	BAV30265
N/S	Valve repair kit	N/S	BAV30200

## Replacement Parts - MV300CF - Chart 2

ITEM	DESCRIPTION	QTY.	PART NUMBER
1	3" FP Manifold endplate	2	BAV35278
2	Handle	1	BAV25153
3	Valve body	1	BAV35254
4	S.S.Handle washer	1	BAV25121
5	3/8" x 1/2" S.S.handle bolt	1	BAV25020
6	3/8" S.S. lock washer	6	BAV20018
7	3/8" S.S. nut	6	BAV20019
8	3/8" x 6" S.S. body bolt	6	BAV35017
9	Upper stem bushing	1	BAV25160
10	Stem O-ring FKM (viton type)	1	BAV25163
11	Thrust washer	1	BAV25060
12	Stem	1	BAV25151B
13	Ball seat	2	BAV35258A
14	Valve ball	1	BAV35255A
15	Valve body O-ring FKM (viton type)	2	BAV35265
N/S	Valve repair kit	N/S	BAV35200



Chart 1



# Banjo Fittings and Valves



Manifold Valves  
2" Stubby

## Manifold Valves 2" Stubby

DESCRIPTION	Parts #
2" Flange x 2" male adapter	BAVSF200CF



2" Manifold  
Stubby Valves

## 2" Manifold Stubby Valves

DESCRIPTION	Parts #
2" Full port flange x 2" full port flange	BAMVS220CF
2" Full port flange x 2: male adapter	BAMVSF220FP



2" Manifold  
Stubby Valves



3" Manifold  
Stubby Valves

## 3" Manifold Stubby Valves

DESCRIPTION	Parts #
3" Flange x 3" male adapter	BAMVSF300
3" Full port flange x 3" male adapter	BAMVSF300FP



3" Manifold  
Stubby Valves



Manifold  
Valves 3"

## Manifold Valves 3" Stubby

DESCRIPTION	Parts #
3" Flange x 3" flange	BAMVS300CF
3" Full port flange x 3" full port flange	BAMVS300CFFP



Single Union  
Manifold Valve

## Single Union Manifold Valve

DESCRIPTION	Parts #
Single Union Manifold Valve 1" x 1"	BAMSUV100FP



# Banjo Fittings and Valves

## 3-Way Polypropylene Ball Valves

### STANDARD FEATURES:

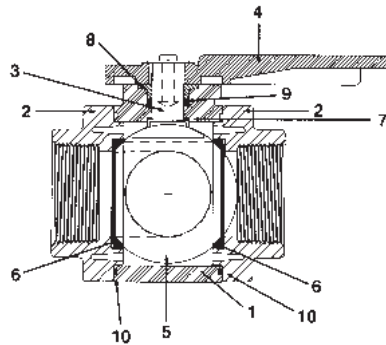
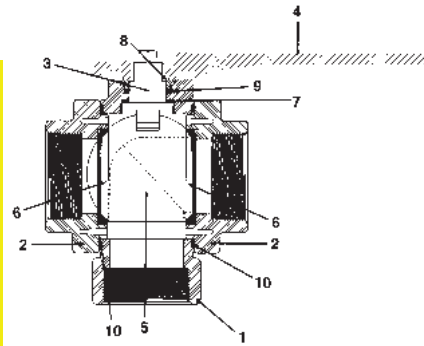
- Stainless Steel Bolts • Precision molded in polypropylene. Polypropylene is reinforced with fiber-glass for additional strength • Self-aligning ball moves freely against the PTFE seats for smooth operation • Ball is diamond tuned, after molding, to make it spherically perfect, which provides precise contact between ball and seats • FKM (viton type) seats • PTFE self-lubricating stem bushings and seats • Maximum operating pressure 100 psi



**Bottom Load:** Directional flow, right or left. Valve can be turned off to stop flow.



**Side Load:** Directional flow, right or left. Valve cannot be turned off.



## 3-Way Polypropylene Ball Valves

DESCRIPTION	Parts #
Valve, ball, 3-way bottom load, 3/4"	BAV075BL
Valve, ball, 3-way side load, 3/4"	BAV075SL
Valve, ball 3-way bottom load, 1"	BAV100BL
Valve, ball, 3-way side load, 1"	BAV100SL
Valve, ball, 3-way bottom load, 1 1/4"	BAV125BL
Valve, ball, 3-way. side load, 1 1/4"	BAV125SL
Valve, ball, 3-way bottom load, 1 1/2"	BAV150BL
Valve, ball, 3-way side load, 1 1/2"	BAV150SL
Valve, ball, 3-way bottom load, 2"	BAV200BL
Valve, ball, 3-way side load, 2"	BAV200SL

## Replacement Parts Bottom Load 3-Way Valves

ITEM	DESCRIPTION	PART # BAV 075BL & 100BL	PART # BAV 125BL & 150BL	PART # BAV-200BL
1	Valve body	3/4" BAV07354B	1 1/4" BAV20344B	2" BAV25354B
1	Valve body	1" BAV10354B	1 1/2" BAV20354B	
2	End plate	3/4" BAV07357	1 1/4" BAV20267	2" BAV25356
2	End plate	1" BAV10257	1 1/2" BAV20257	
3	Stem	BAV10151A	BAV20151M	BAV25151B
4	Handle	BAV10353TB*	BAV20353TB*	BAV25353B**
5	Ball	BAV10355B	BAV20355B	BAV25355B
6	Ball seats	BAV10258	BAV20258	BAV25258
7	Thrust bushing	BAV10060	BAV20060	BAV25060
8	Upper stem bushing	BAV10159	BAV20159	BAV25160
9	Stem O-ring FKM (viton)	BAV10163	BAV20163	BAV25163
10	Valve body O-ring FKM (viton)	BAV10264	BAV20264	BAV25264

## Replacement Parts Side Load 3-Way Valves

ITEM	DESCRIPTION	PART # BAV 075SL & 100SL	PART # BAV 125SL & 150SL	PART # BAV-200SL
1	Valve body	3/4" BAV07354S	1 1/4" BAV20344S	BAV25354S
1	Valve body	1" BAV10354S	1 1/2" BAV20354S	
2	End plate	3/4" BAV07357	1 1/4" BAV20267	BAV25356
2	End plate	1" BAV10257	1 1/2" BAV20257	
3	Stem	BAV10151A	BAV20151M	BAV25151B
4	Handle	BAV10153A**	BAV20353TS*	BAV25153SH**
5	Ball	BAV10355S	BAV20355S	BAV25355S
6	Ball seats	BAV10258	BAV20258	BAV25258
7	Thrust bushing	BAV10060	BAV20060	BAV25060
8	Upper stem bushing	BAV10159	BAV20159	BAV25160
9	Stem O-ring - FKM - (viton)	BAV10163	BAV20163	BAV25163
10	Valve body O-ring - FKM (viton)	BAV10264	BAV20264	BAV25264

# Banjo Fittings and Valves



**BAUVA100FP**

1" union valve c/w nozzle, sold separately

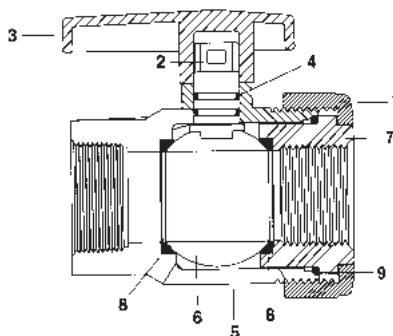
## Nozzle Valves - Polypropylene

### STANDARD FEATURES:

- Lightweight hose end valve for convenient transfer of liquids into drums, tanks, etc.
- Angled end flange with 8" long polypropylene fill spout • All stainless bolts!

## Nozzle Valves - Polypropylene

DESCRIPTION	Parts #
1" Union valve only	BAUV100FP
Nozzle only, 45°	BAV10161



## Single Union Polypropylene Ball Valve

### STANDARD FEATURES:

- Precision molded in glass reinforced polypropylene, for strength and chemical resistance
- PTFE seats for smooth operation and proper sealing characteristics
- EPDM O-rings to handle most fertilizers and many chemicals. FKM (viton type) available
- Double O-rings in stem area for extra sealing protection
- Interlocking body and end plate to allow easy thread connection when installing valves
- Maximum operating pressure 100 psi at 70°F • Quality with economy

## Single Union Polypropylene Ball Valve

DESCRIPTION	Parts #
1/2" Single union poly valve	BAUV050FP
3/4" Single union poly valve	BAUV075FP
1" Single union poly valve	BAUV100FP
1 1/4" Single union poly valve	BAUV125FP
1 1/2" Single union poly valve	BAUV150FP
2" Single union poly valve	BAUV200FP

## Replacement Parts Single Union Polypropylene Ball Valve

ITEM	DESCRIPTION	PART # FOR BAUV050FP & 075FP	PART # FOR BAUV100FP	PART # FOR BAUV125FP & 150FP	PART # FOR BAUV200FP
1	Union end cap	BAUV07150	BAUV10150	BAUV15150	BAUV20150
2	Union stem	BAUV07151	BAUV10151	BAUV15151	BAUV20151
3	Union handle	BAUV07153	BAUV10153	BAUV15153	BAUV20153
4	Union stem O-ring (EPDM)	BAUV07163	BAUV10163	BAUV15163	BAUV20163
5	Union valve body	1/2" BAUV05254	1" BAUV10254	1 1/4" BAUV15244	2" BAUV20254
5	Union valve body	3/4" BAUV07254		1 1/2" BAUV15254	
6	Union valve ball	BAUV07255	BAUV10255	BAUV15255	BAUV20255
7	Union end plate	1/2" BAUV05256	BAUV10256	1 1/2" BAUV15257	BAUV20257
7	Union end plate	3/4" BAUV07256		1 1/4" BAUV15267	
8	Union valve seat	BAUV07258	BAUV10258	BAUV20258	BAUV20258
9	Union body O-ring (EPDM)	BAUV07264	BAUV10264	BAUV15264	BAUV20264
10	Thrust washer				BAUV25060

Banjo Fittings and Valves



# Banjo Fittings and Valves



## 4 Bolt Bottom Load Manifold Valves

DESCRIPTION	Parts #
1" Manifold flanged valve	BAMV100BL
2" Manifold flanged valve	BAMV200BL
2" Full port manifold flanged valve	BAMV220BL

## 6 Bolt Bottom Load

DESCRIPTION	Parts #
3" Full Port manifold valve	BAMV300BL



## 4 Bolt Side Load Manifold Valves

DESCRIPTION	Parts #
1" Manifold flanged valve	BAMV100SL
2" Manifold flanged valve	BAMV200SL
2" Full port manifold flanged valve	BAMV220SL



BADM300DFP

BADM300AFP

## DRY MATE Systems

DESCRIPTION	Parts #
3" Male Dry Mate	BADM300AFP
3" Female Dry Mate	BADM300DFP

Banjo Fittings and Valves



## Full Port Easy Fill Valve

DESCRIPTION	PART NUMBER
2" full port easy fill valve	BAVSBHB205FP
3" full port easy fill valve	BAVSBHB305FP
Handle only for 2" and 3" valve	BAH25053

**NEW FULL PORT  
EASY FILL VALVES!**



# Banjo Fittings and Valves



## MEVX – On/Off Electric Manifold Valve

DESCRIPTION	PART #
1" On/Off Electric Manifold Valve	BAMEVX100
2" On/Off Electric Manifold Valve	BAMEVX200
3" On/Off Electric Manifold Valve	BAMEVX300

### STANDARD FEATURES:

- 12-volt DC operated
- 24-volt available
- Open/closed indicator
- ON/OFF has 1 ½ sec response
- Open / Close verification available
- IP68 waterproof
- -20 to 150F (-29 to 65C) operating
- -67 to 221F (-55 to 105C) storage
- Actuator rated to 500,000 cycles
- Valve rated to 50,000 cycles leak-free
- 100G's shock rating

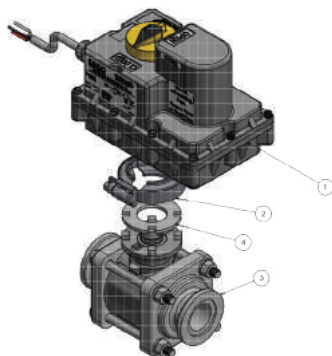


## Banjo On/Off Electric Valve

DESCRIPTION	PART #
1" Manifold electric valve	BAMEV100CF
2" Manifold electric valve	BAMEV200CF

### STANDARD FEATURES:

- 316 stainless steel ball & stem
- Stainless steel hardware
- Fiberglass reinforced polypropylene
- Glass reinforced PTFE seats
- FKM (viton type) or EPDM O-rings
- 12-volt DC operated
- 150 PSI maximum pressure
- Easily repairable
- Open/closed indicator



### Replacement Parts for 2" Valve

DESCRIPTION	PART #
2" Electric Manifold valve – no motor	BAMEV200XR1
Valve breather/weep hole filter	BAMVE004
100 series clamp	BAFC100
Electric valve actuator	BAEV4300

### Banjo Replacement Parts For: EV075, EV100FP, EVR075, EVR100FP, EVR125

ITEM	DESCRIPTION	PART #
1	4 Sec, 3 Wire, EV Actuator Assy	BAEV3300 3
2	1" HI TORQUE CLAMP	BAFC100
3	1" Manifold Valve SubAssy	BAMEV100XR1
4	MVE Mounting Breather	BAMVE004

# Banjo Fittings and Valves

## Banjo 3-Way Electric Valve

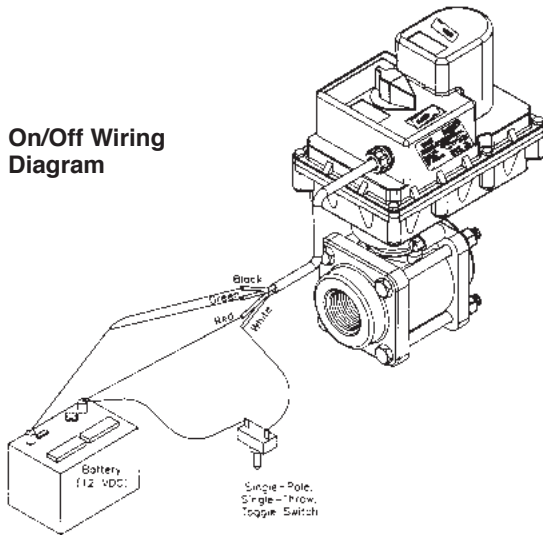


Side Load

### STANDARD FEATURES:

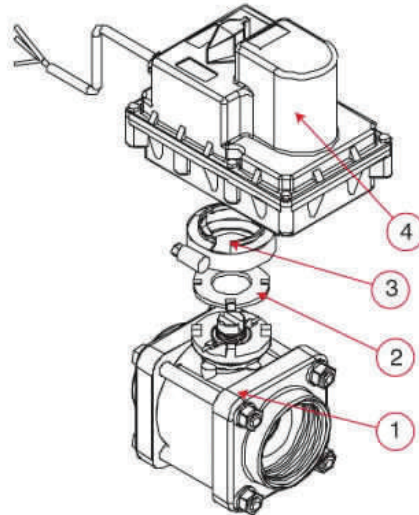
- 316 stainless steel ball & stem
- Stainless steel hardware
- Fiberglass reinforced polypropylene
- Glass reinforced PTFE seats
- FKM (viton type) or EPDM O-rings
- 12-volt DC operated
- 150 PSI maximum pressure
- Easily repairable
- Open/closed indicator

On/Off Wiring Diagram



### Banjo 3-Way Electric Valves

DESCRIPTION	PART #
Side load 1" electric valve x 1" inlet flange	BAEV100SL
Side load 2" electric valve x 2" flanged inlet	BAEV200SL





Banjo Fittings and Valves

### Banjo Replacement Parts

ITEM	DESCRIPTION	SIDE LOAD PART #
<b>Replacement parts for BAEV100SL</b>		
1	1" Electric Valve Sub Assembly	BAEV100SLXR1
2	Electric Valve Flange Gasket	BAMVE004
3	Clamp	BAFC100
4	Regulating 4 Wire, 4 Second	BAEVR3100
Kit	Repair Kit	BAEV10210
<b>Replacement parts for BAEV200SL</b>		
1	1" Electric Valve Sub Assembly	BAEV200SLXR1
2	Electric Valve Flange Gasket	BA MVE004
3	Clamp	BAFC100
4	1 1/4 Second 3 Wire Motor Assembly	EV4300
Kit	Repair Kit	BAEV20210

# Banjo Fittings and Valves

New ISO standards, strainer color cross-referencing chart

Mesh Size	Current Color		New ISO Color	
16		Gray		Brown Red
20		Beige		Beige*
24		White		White*
25/30		Yellow		Flame Red
50/60		Red		Gentian Blue
80		Blue		Zinc Yellow
100		Green		Traffic Green
120		Brown		Brown*
200		Orange		Light Pink

\* Mesh Size not covered by ISO standard, color will not change

## Helpful Tip!



**We DO NOT recommend using pipe tape for threaded poly fittings.** Pipe tape enlarges the outside diameter of the male thread and may cause the female thread to split. We recommend using a pipe thread sealant. Use on clean tapered threads. Apply a thick even coat on male threads using brush applicator. For pipe diameters smaller than 1¼" apply to male threads only. For 1¼" and larger sizes apply to both male and female threads. Avoid applying excessive amounts. Hand tighten joints and then torque another ½ to ¾ turn until threads seal. Follow directions on can or tube for proper set time.

Tru-Blu Features:

- Stays flexible and fast drying - designed for areas of high vibration and thermal expansion/contraction
- Contains PTFE
- Brushable from 20°F to 140°F
- Excellent as a gasket adhesive on flanges. For use with potable water
- Lubricates and protects threads



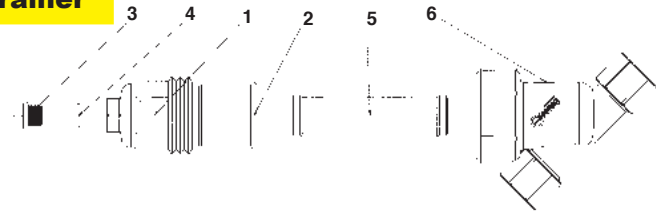
# Banjo Fittings and Valves

## 1/2" - 2" Polypropylene "Y" Strainer



### STANDARD FEATURES:

- Precision molded construction
- Corrosion resistant • Lightweight
- Fiberglass reinforced • Easy grip end cap • Poly ribbed stainless steel screen • EPDM gaskets FKM (viton type) available • Heavy duty end cap threads • 1/2" - 1 1/4" 75 psi max.
- 1 1/2" - 2" 150 psi max.
- Clean-out plug
- Female NPT x female NPT



## 1/2" - 1 1/4" "Y" Strainers with SS Screen

DESCRIPTION	PART #
1/2"x1/2" Strainer - 20 mesh SS screen	BALS05020
1/2"x1/2" Strainer - 40 mesh SS screen	BALS05040
1/2"x1/2" Strainer - 80 mesh SS screen	BALS05080
3/4"x3/4" Strainer - 20 mesh SS screen	BALS07520
3/4"x3/4" Strainer - 40 mesh SS screen	BALS07540
3/4"x3/4" Strainer - 80 mesh SS screen	BALS07580
1"x1" Strainer - 20 mesh SS screen	BALS10020
1"x1" Strainer - 40 mesh SS screen	BALS10040
1"x1" Strainer - 80 mesh SS screen	BALS10080
1 1/4"x1 1/4" Strainer - 20 mesh SS screen	BALS12520
1 1/4"x1 1/4" Strainer - 40 mesh SS screen	BALS12540
1 1/4"x1 1/4" Strainer - 80 mesh SS screen	BALS12580

## 1 1/2" - 2" With All Poly Screens

DESCRIPTION	PART #
1 1/2"x1 1/2" Strainer - 12 mesh all poly screen	BALS15012P
1 1/2"x1 1/2" Strainer - 20 mesh all poly screen	BALS15020P
1 1/2"x1 1/2" Strainer - 50 mesh all poly screen	BALS15050P
2"x2" Strainer - 12 mesh all poly screen	BALS20012P
2"x2" Strainer - 20 mesh all poly screen	BALS20020P
2"x2" Strainer - 50 mesh all poly screen	BALS20050P

## 1 1/2" Thru 2" Poly Ribbed with 316 SS Screen

DESCRIPTION	PART #
1 1/2"x1 1/2" Strainer - 6 mesh SS screen	BALS15006
1 1/2"x1 1/2" Strainer - 12 mesh SS screen	BALS15012
1 1/2"x1 1/2" Strainer - 20 mesh SS screen	BALS15020
1 1/2"x1 1/2" Strainer - 30 mesh SS screen	BALS15030
1 1/2"x1 1/2" Strainer - 50 mesh SS screen	BALS15050
1 1/2"x1 1/2" Strainer - 80 mesh SS screen	BALS15080
1 1/2"x1 1/2" Strainer - 120 mesh SS screen	BALS150120
2"x2" Strainer - 6 mesh SS screen	BALS20006
2"x2" Strainer - 8 mesh SS screen	BALS20008
2"x2" Strainer - 12 mesh SS screen	BALS20012
2"x2" Strainer - 20 mesh SS screen	BALS20020
2"x2" Strainer - 30 mesh SS screen	BALS20030
2"x2" Strainer - 50 mesh SS screen	BALS20050
2"x2" Strainer - 80 mesh SS screen	BALS20080
2"x2" Strainer - 120 mesh SS screen	BALS200120

## Replacement Parts 1/2"-2" Poly "Y" Strainer

ITEM	DESCRIPTION	PART #
5	20 mesh screen (fits 1/2"-3/4" strainer)	BALS720
5	40 mesh screen (fits 1/2"-3/4" strainer)	BALS740
5	80 mesh screen (fits 1/2"-3/4" strainer)	BALS780
5	20 mesh screen (fits 1"-1 1/4" strainer)	BALS120
5	40 mesh screen (fits 1"-1 1/4" strainer)	BALS140
5	80 mesh screen (fits 1"-1 1/4" strainer)	BALS180
5	6 mesh screen (fits 1 1/2"-2" strainer)	BALS206
5	8 mesh screen (fits 1 1/2"-2" strainer)	BALS208
5	12 mesh screen (fits 1 1/2"-2" strainer)	BALS212
5	20 mesh screen (fits 1 1/2"-2" strainer)	BALS220
5	30 mesh screen (fits 1 1/2"-2" strainer)	BALS230
5	50 mesh screen (fits 1 1/2"-2" strainer)	BALS250
5	80 mesh screen (fits 1 1/2"-2" strainer)	BALS280
5	120 mesh screen (fits 1 1/2"-2" strainer)	BALS2120
5	12 mesh all poly screen (fits 1 1/2"-2" strainer)	BALS212P
5	20 mesh all poly screen (fits 1 1/2"-2" strainer)	BALS220P
5	50 mesh all poly screen (fits 1 1/2"-2" strainer)	BALS250P
2	Gasket (fits 1/2"-3/4" strainer O-ring)	BALS075G
2	Gasket (fits 1"-1 1/4" strainer O-ring)	BALS100G
2	Gasket (fits 1 1/2"-2" strainer) New style O-ring (thicker)	BALS150G
2	Gasket - FLM (viton type) (fits 1/2"-3/4" strainer)	BALS075GV
2	Gasket - FKM (viton type) (fits 1"-1 1/4" strainer)	BALS100-GV
2	Gasket - FKM (viton type) (fits 1 1/2"-2" strainer) O-ring	BALS150GV
N/A	"Y" body, cap & gasket, 1/2"	BALS050B/C1
N/A	"Y" body, cap & gasket 3/4"	BALS075B/C1
N/A	"Y" body, cap & gasket 1"	BALS100B/C1
N/A	"Y" body, cap & gasket 1 1/4"	BALS125B/C1
N/A	"Y" body, cap & gasket 1 1/2"	BALS150B/C
N/A	"Y" body, & cap & gaskets	BALS200B/C
6	"Y" body, 2"	BALS200B
6	"Y" body 1 1/2"	BALS150B
1	End cap (fits 1/2"-3/4" strainer)	BALS075C1
1	End cap (fits 1"-1 1/4" strainer)	BALS100C1
1	End cap (fits 1 1/2"-2" strainer) New style	BALS150C
3	1/4" Drain plug (fits 1/2" & 3/4" strainers)	BA12723
4	EPDM O-ring for drain plug (fits 1/2" & 3/4")	BA12724
3	1/2" Drain plug (fits 1" & 1 1/4" strainers)	BA12777
4	EPDM O-ring for drain plug (fits 1" & 1 1/4")	BAUV15163
4	FKM (viton type) O-ring for drain plug (fits 1" & 1 1/4")	BAUV15163V
3	1" Drain plug (fits 1 1/2" & 2" strainer)	BALSQ200PL
4	EPDM O-ring for drain plug (fits 1 1/2" & 2")	BALSQ200R
4	FKM (viton type) O-ring for drain plug (fits 1 1/2" & 2")	BALSQ200RV

# Banjo Fittings and Valves

## 2" Full Port Manifold "Y" Strainers

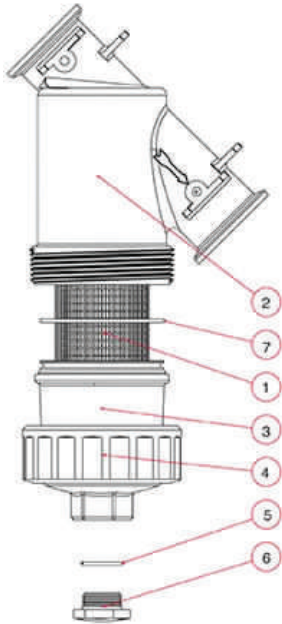


### STANDARD FEATURES:

- EPDM gaskets
- 316 stainless steel screens
- 150 PSI maximum working pressure

### 2" Full Port Manifold Style "Y"

DESCRIPTION	PART #
2" Full port fl angled "Y" strainer with 4 mesh screen	BAMLS22204
2" Full port fl angled "Y" strainer with 8 mesh screen	BAMLS22208
2" Full port fl angled "Y" strainer with 10 mesh screen	BAMLS22210
2" Full port fl angled "Y" strainer with 16 mesh screen	BAMLS22216
2" Full port fl angled "Y" strainer with 30 mesh screen	BAMLS22230
2" Full port fl angled "Y" strainer with 50 mesh screen	BAMLS22250
2" Full port fl angled "Y" strainer with 80 mesh screen	BAMLS22280
2" Full port fl angled "Y" strainer with 100 mesh screen	BAMLS222100



### Replacement Parts for the MLS222 Strainer

ITEM	DESCRIPTION	PART#
1	Specify Mesh Screen	BALST20?SS
2	2" Flanged Y Strainer Body	BAMLS222B
3	2" Flanged Y Strainer Cap	BAMLS220C1
4	2" Flanged Y Strainer Ring	BAMLS220R1
5	2" Plug Gasket	BALSQ200-R
6	2" Plug	BALSQ200-PL
7	2" Body Gasket	BAMLS220G1
2-7	Strainer without Screen	BAMLS222BC

# Banjo Fittings and Valves

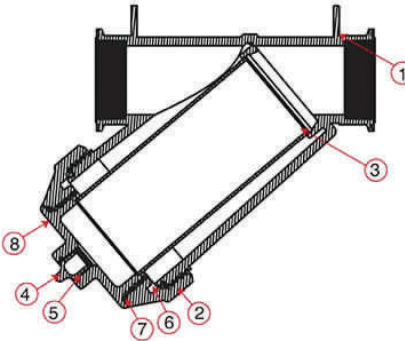
## 3" Poly Ribbed Stainless Steel Line Strainer - Threaded



### STANDARD FEATURES:

- 1/2" drain plug in bottom of cap.
- 3" female NPT thread
- 75 P.S.I. maximum
- Constructed of glass filled polypropylene
- High volume
- Lightweight
- Reinforced 304 stainless steel screen

DESCRIPTION	PART #
3" Poly Ribbed Strainer 4 mesh	BALSM30004
3" Poly Ribbed Strainer 8 mesh	BALSM30008
3" Poly Ribbed Strainer 12 mesh	BALSM30012
3" Poly Ribbed Strainer 20 mesh	BALSM30020
3" Poly Ribbed Strainer 50 mesh	BALSM30050



### Replacement Parts for the BALSM300 Poly Ribbed Strainer

ITEM	DESCRIPTION	PART#
1	3" Poly Body	BAMLS300B1
2	3" Cap	BAMLS300CAP
3	Mesh Screen – specify	BALS30 – specify
4	1/4" Clean Out Plug	BA13777
5	EPDM O-Ring Clean Out Plug	BA13778
6	EPDM Cap Gasket	BAMLS300G
6	FKM (viton type) Cap Gasket	BAMLS300GV
7	EPDM End Cap Gasket	BAMLS300ECG
7	FKM (viton type) Cap Gaske	BAMLS300ECGV
8	End Cap Only (Plug Sold Separately)	BALS300EC

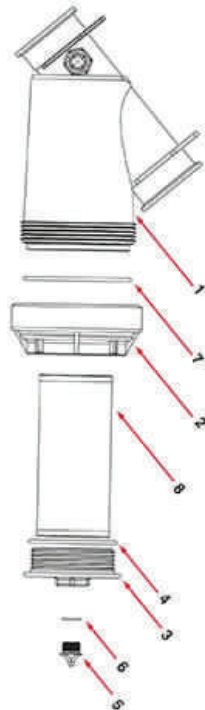
## Manifold "Y" Line Strainer



### STANDARD FEATURES:

- 100 P.S.I. maximum working pressure
- 304 stainless steel screens.
- EPDM gaskets

DESCRIPTION	PART #
3" Manifold line strainer 8 mesh	BAMLS30008
3" Manifold line strainer 12 mesh	BAMLS30012
3" Manifold line strainer 20 mesh	BAMLS30020
3" Manifold line strainer 50 mesh	BAMLS30050



### Replacement Parts for the BALSM300 Poly Ribbed Strainer

ITEM	DESCRIPTION	PART#
1	3" Flanged Y Strainer Body	MLS300B
2	3" Flanged Y Strainer Cap	MLS300CAP
3	3" End Cap	LS300EC
4	3" EPDM End Cap Gasket	MLS300ECG
4	3" FKM (viton type) End Cap Gasket	MLS300ECGV
5	3" End Cap Plug	13777
6	3" End Cap Plug Gasket	13778
7	3" EPDM Cap Gasket	MLS300G
7	3" FKM (viton type) Cap Gasket	MLS300GV
8	SS Mesh Screen – specify	LS3- specify



# Banjo Fittings and Valves



## Manifold 2" "Y" Strainers

### STANDARD FEATURES:

- EPDM gaskets
- 316 Stainless Steel screens
- 150 psi maximum

## Manifold 2" "Y" Strainers

DESCRIPTION	MAX PSI	PART #
2" Standard port flanged "Y" strainer body & cap	150	BAMLS200BC
2" Standard port flanged "Y" strainer with 6 mesh	150	BAMLS20006
2" Standard port flanged "Y" strainer with 12 mesh	150	BAMLS20012
2" Standard port flanged "Y" strainer with 20 mesh	150	BAMLS20020
2" Standard port flanged "Y" strainer with 30 mesh	150	BAMLS20030
2" Standard port flanged "Y" strainer with 50 mesh	150	BAMLS20050
2" Standard port flanged "Y" strainer with 80 mesh	150	BAMLS20080
2" Standard port flanged "Y" strainer with 100 mesh	150	BAMLS200100
2" Standard port flanged "Y" strainer with 120 mesh	150	BAMLS200120



## Manifold 1" "Y" Strainers

### STANDARD FEATURES:

- EPDM gaskets
- 316 Stainless Steel screens
- 150 psi maximum

## Manifold 1" "Y" Strainers

DESCRIPTION	MAX PSI	PART #
1" Standard port flanged "Y" strainer with 20 mesh	150	BAMLS10020
1" Standard port flanged "Y" strainer with 40 mesh	150	BAMLS10040
1" Standard port flanged "Y" strainer with 80 mesh	150	BAMLS10080



## Manifold 1" & 2" Standard Port "T" Strainers

### STANDARD FEATURES:

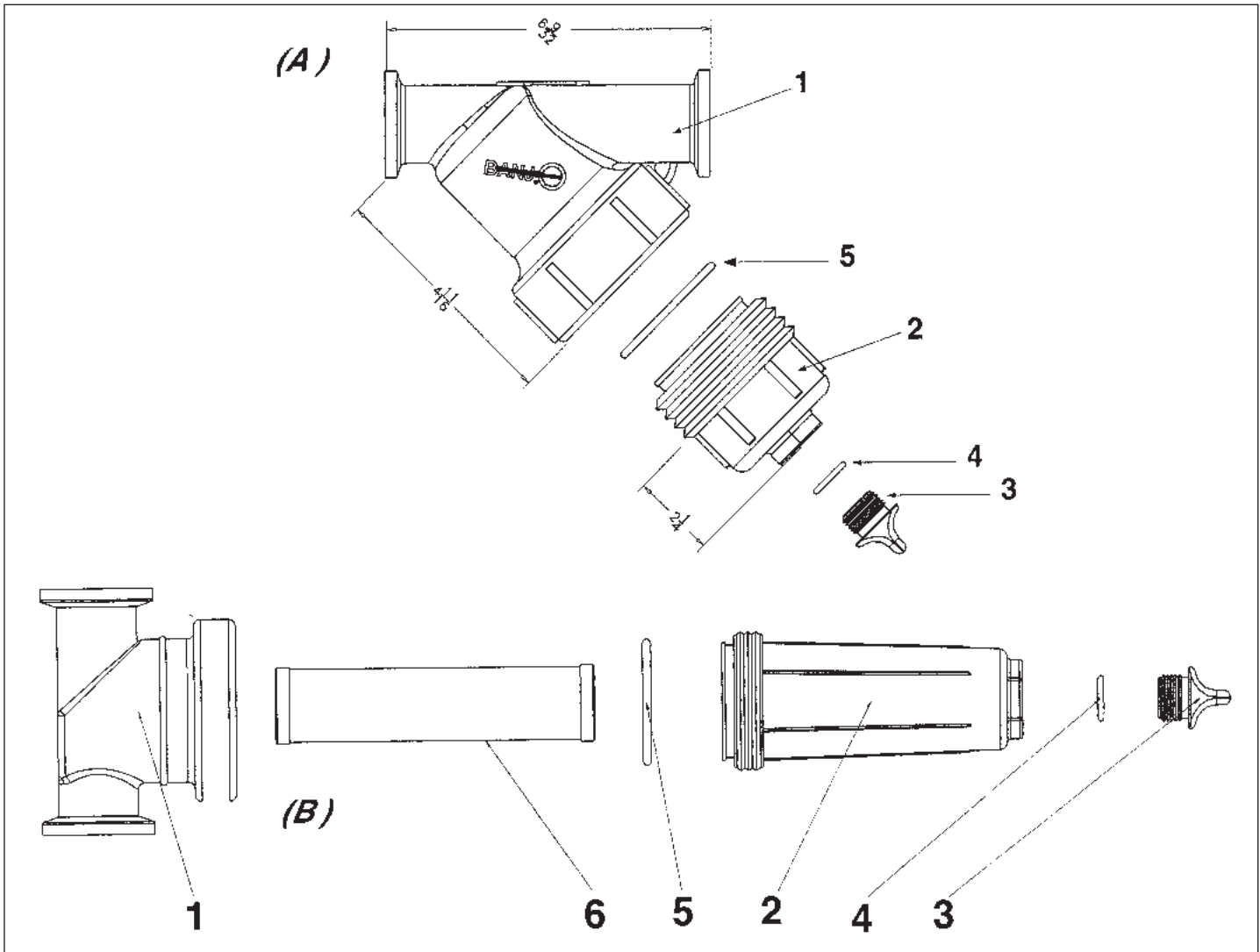
- EPDM gaskets
- 316 Stainless Steel screens
- 150 psi maximum

## Manifold 1" & 2" Standard Port "T" Strainers

DESCRIPTION	MAX PSI	PART #
1" Flanged "T" strainer with 16 mesh	150	BAMLST10016
1" Flanged "T" strainer with 30 mesh	150	BAMLST10030
1" Flanged "T" strainer with 50 mesh	150	BAMLST10050
1" Flanged "T" strainer with 80 mesh	150	BAMLST10080
1" Flanged "T" strainer with 100 mesh	150	BAMLST100100
2" Standard port "T" strainer with 16 mesh	150	BAMLST15016
2" Standard port "T" strainer with 30 mesh	150	BAMLST15030
2" Standard port "T" strainer with 50 mesh	150	BAMLST15050
2" Standard port "T" strainer with 80 mesh	150	BAMLST15080
2" Standard port "T" strainer with 100 mesh	150	BAMLST150100

# Banjo Fittings and Valves

## Replacement Parts



Banjo Fittings and Valves

### Replacement Parts - MLS200 (A)

ITEM	DESCRIPTION	QTY.	PART #
1	2" SP Manifold strainer body	1	BAMLS200B
2	2" SP strainer cap, drain plug, O-ring	1	BALS150-C
3	Plug	1	BALSQ200-PL
4	O-ring	1	BALSQ200-R
5	2" SP EPDM gasket	1	BALS150-G
5	2" SP FKM (viton type) gasket	1	BALS150-GV
N/S	2" 6 mesh line strainer screen	1	BALS206
N/S	2" 12 mesh line strainer screen	1	BALS212
N/S	2" 20 mesh line strainer screen	1	BALS220
N/S	2" 30 mesh line strainer screen	1	BALS230
N/S	2" 50 mesh line strainer screen	1	BALS250
N/S	2" 80 mesh line strainer screen	1	BALS280
N/S	2" 100 mesh line strainer screen	1	BALS2100
N/S	2" 120 mesh line strainer screen	1	BALS2120

### Replacement Parts - MLST100 - MLST150(B)

ITEM	DESCRIPTION	QTY.	PART #
1	1" flanged "T" strainer head	1	BAMLST100-H
1	1 1/2" flanged "T" strainer head	1	BAMLST150-H
2	1" "T" strainer bowl, drain plug, O-ring	1	BALST100-B
2	1 1/2" "T" strainer bowl, drain plug, O-ring	1	BALST150-B
3	Plug for 1" manifold "T" strainer	1	BA12777
3	Plug for 1 1/2" manifold "T" strainer	1	BALSQ200-PL
4	O-ring for 1" manifold "T" strainer	1	BAUV15163
4	O-ring for 1 1/2" manifold "T" strainer	1	BALSQ200-R
5	EPDM gasket for 1"	1	BALST100-G
5	EPDM gasket for 1 1/2"	1	BALST150-G
5	FKM (viton type) gasket for 1"	1	BALST100-GV
5	FKM (viton type) gasket for 1 1/2"	1	BALST150-GV
6	1" "T" strainer screen 16, 30, 50, 80, 100 mesh sizes available	1	BALST116, 130, 150, 180, 1100
6	1 1/2" "T" strainer screen 16, 30, 50, 80, 100 mesh sizes available	1	BALST1516, 1530, 1550, 1580, 15100



# Banjo Fittings and Valves

## Polypropylene "T" Line Strainers



### 3/4" & 1" Poly "T" Strainers

#### STANDARD FEATURES:

- Heavy duty glass reinforced polypropylene
- Clean-out plug
- 304 stainless steel reinforced screens
- EPDM gaskets standard. FKM (viton type) available
- 150 psi at 70° F

### 3/4" & 1" Poly "T" Strainers

DESCRIPTION	PART #
3/4" x 3/4" strainer - 16 mesh S.S. screen	BALST075-16
3/4" x 3/4" strainer - 30 mesh S.S. screen	BALST075-30
3/4" x 3/4" strainer - 50 mesh S.S. screen	BALST075-50
3/4" x 3/4" strainer - 80 mesh S.S. screen	BALST075-80
3/4" x 3/4" strainer - 100 mesh S.S. screen	BALST075-100
1" x 1" strainer - 16 mesh S.S. screen	BALST100-16
1" x 1" strainer - 30 mesh S.S. screen	BALST100-30
1" x 1" strainer - 50 mesh S.S. screen	BALST100-50
1" x 1" strainer - 80 mesh S.S. screen	BALST100-80
1" x 1" strainer - 100 mesh S.S. screen	BALST100-100



### 1 1/4" & 1 1/2" Poly "T" Strainers

#### STANDARD FEATURES:

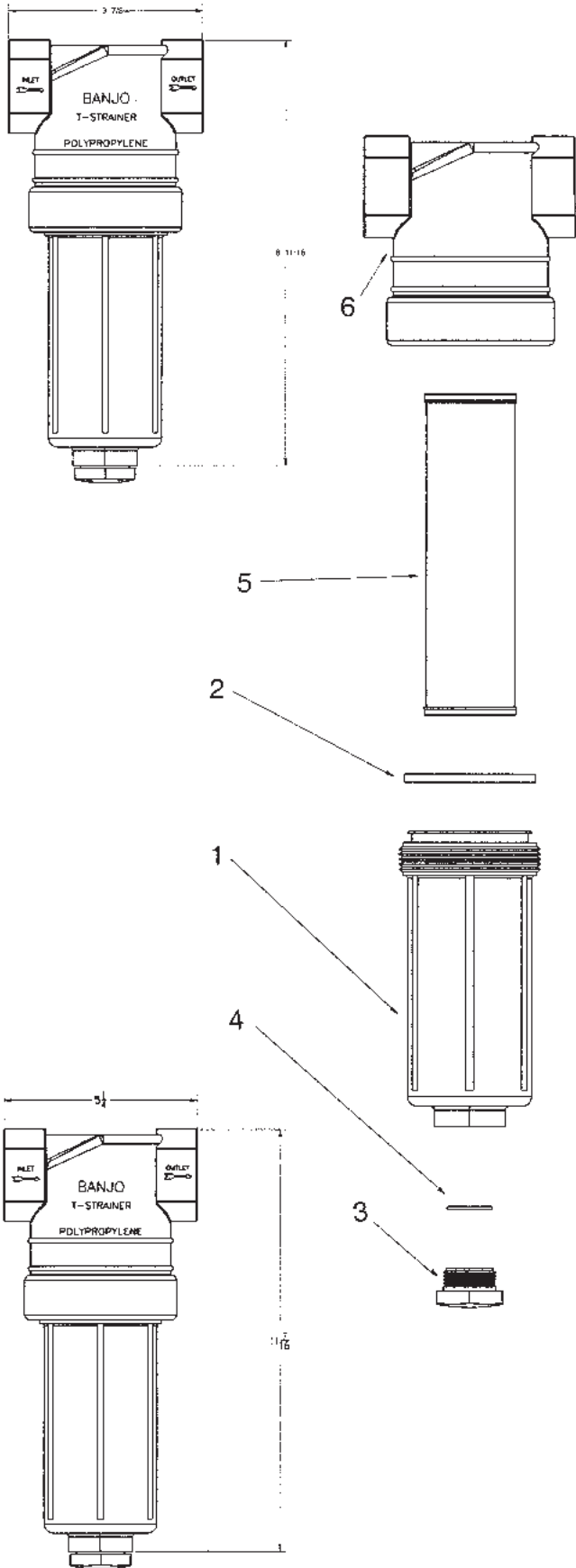
- Heavy duty glass reinforced polypropylene
- Clean-out plug
- 304 stainless steel reinforced screens
- EPDM gaskets standard. FKM (viton type) available
- 150 psi at 70° F

### 1 1/4" & 1 1/2" Poly "T" Strainers

DESCRIPTION	PART #
1 1/4" x 1 1/4" strainer - 16 mesh S.S. screen	BALST125-16
1 1/4" x 1 1/4" strainer - 30 mesh S.S. screen	BALST125-30
1 1/4" x 1 1/4" strainer - 50 mesh S.S. screen	BALST0125-50
1 1/4" x 1 1/4" strainer - 80 mesh S.S. screen	BALST125-80
1 1/4" x 1 1/4" strainer - 100 mesh S.S. screen	BALST125-100
1 1/2" x 1 1/2" strainer - 16 mesh S.S. screen	BALST150-16
1 1/2" x 1 1/2" strainer - 30 mesh S.S. screen	BALST150-30
1 1/2" x 1 1/2" strainer - 50 mesh S.S. screen	BALST150-50
1 1/2" x 1 1/2" strainer - 80 mesh S.S. screen	BALST150-80
1 1/2" x 1 1/2" strainer - 100 mesh S.S. screen	BALST150-100



# Banjo Fittings and Valves



## Replacement Parts - 3/4" & 1" Poly "T" Strainer

ITEM	DESCRIPTION	QTY.	PART #
5	16 mesh screen (fits 3/4" & 1" "T" strainer)	1	BALST116
5	30 mesh screen (fits 3/4" & 1" "T" strainer)	1	BALST130
5	50 mesh screen (fits 3/4" & 1" "T" strainer)	1	BALST150
5	80 mesh screen (fits 3/4" & 1" "T" strainer)	1	BALST180
5	100 mesh screen (fits 3/4" & 1" "T" strainer)	1	BALST1100
N/S	3/4" poly "T" strainer head, bowl & gasket	1	BALST075HB
6	3/4" poly "T" strainer head	1	BALST075H
N/S	1" poly "T" strainer head, bowl & gasket	1	BALST100HB
6	1" poly "T" strainer head	1	BALST100H
1	Poly "T" strainer bowl (fits 3/4" & 1")	1	BALST100B
2	Poly "T" strainer gasket (fits 3/4" & 1")	1	BALST100G
2	Poly "T" strainer gasket (fits 3/4" & 1") FKM (viton type)	1	BALST100GV
4	O-ring for clean-out plug - EPDM	1	BAUV15163
3	Clean-out plug - 1/2"	1	BA12777
4	O-ring for clean-out plug - FKM (viton type)		BAUV15163V

## Replacement Parts - 1 1/4" & 1 1/2" Poly "T" Strainer

ITEM	DESCRIPTION	QTY.	PART #
5	16 mesh screen (fits 1 1/4" & 1 1/2" "T" strainer)	1	BALST1516
5	30 mesh screen (fits 1 1/4" & 1 1/2" "T" strainer)	1	BALST1530
5	50 mesh screen (fits 1 1/4" & 1 1/2" "T" strainer)	1	BALST1550
5	80 mesh screen (fits 1 1/4" & 1 1/2" "T" strainer)	1	BALST1580
5	100 mesh screen (fits 1 1/4" & 1 1/2" "T" strainer)	1	BALST15100
N/S	1 1/4" poly "T" strainer head, bowl & gasket	1	BALST125HB
6	1 1/4" poly "T" strainer head	1	BALST125H
N/S	1 1/2" poly "T" strainer head, bowl & gasket	1	BALST150HB
6	1 1/2" poly "T" strainer head	1	BALST150H
1	Poly "T" strainer bowl (fits 1 1/4" & 1 1/2")	1	BALST150B
2	Poly "T" strainer gasket (fits 1 1/4" & 1 1/2")	1	BALST150G
2	Poly "T" strainer gasket (fits 1 1/4" & 1 1/2") FKM (viton type)	1	BALST150GV
3	Clean-out plug	1	BALSQ200PL
4	O-ring for clean-out plug - EPDM	1	BALSQ200R
4	O-ring for clean-out plug - FKM (viton type)		BALSQ200RV

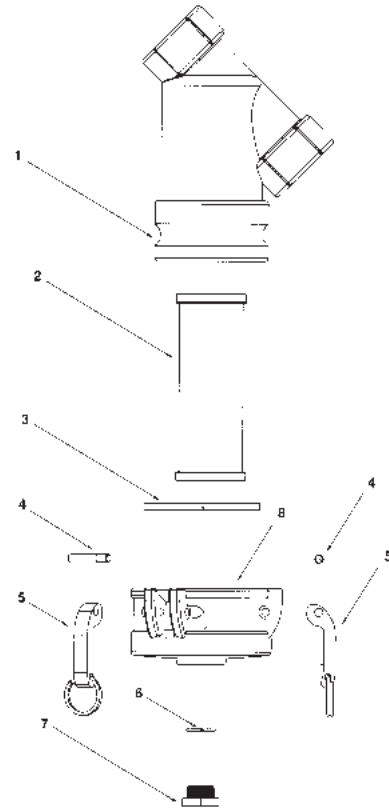
# Banjo Fittings and Valves



## LSQ Polypropylene Line Strainer

### STANDARD FEATURES:

- Precision molded in glass reinforced polypropylene
- Cam lever configuration for easy access for cleaning and servicing
- 3/4" plug in cam lever cap for attaching ball valve for draining or back flushing
- Poly ribbed stainless steel screen
- EPDM lathe cut gasket
- FKM (viton type) gaskets available
- 75 psi max.



## LSQ Series Poly Strainers

DESCRIPTION	PART #
1 1/2"x1 1/2" LSQ line strainer - 6 mesh screen	BALSQ150-06
1 1/2"x1 1/2" LSQ line strainer - 12 mesh screen	BALSQ150-12
1 1/2"x1 1/2" LSQ line strainer - 20 mesh screen	BALSQ150-20
1 1/2"x1 1/2" LSQ line strainer - 30 mesh screen	BALSQ150-30
1 1/2"x1 1/2" LSQ line strainer - 50 mesh screen	BALSQ150-50
1 1/2"x1 1/2" LSQ line strainer - 80 mesh screen	BALSQ150-80
1 1/2"x1 1/2" LSQ line strainer - 120 mesh screen	BALSQ150-120
2"x2" LSQ line strainer - 6 mesh screen	BALS200-06
2"x2" LSQ line strainer - 12 mesh screen	BALS200-12
2"x2" LSQ line strainer - 20 mesh screen	BALS200-20
2"x2" LSQ line strainer - 30 mesh screen	BALS200-30
2"x2" LSQ line strainer - 50 mesh screen	BALS200-50
2"x2" LAQ line strainer - 80 mesh screen	BALS200-80
2"x2" LSW line strainer - 120 mesh screen	BALS200-120

## Replacement Parts LSQ Poly "Y" Strainer

ITEM	DESCRIPTION	PART #
1 & 8	1 1/2" LSQ line strainer body and cap	BALSQ150-B/C
1 & 8	2" LSQ line strainer body and cap	BALSQ200-B/C
3	2" Gasket (fits 1 1/2" & 2") - EPDM	BALSQ200-G
3	2" Gasket (fits 1 1/2" & 2") - FKM (viton type)	BALSQ200-GV
7	1" Clean-out plug	BAPLUG075S
5	Cam arm stainless steel 3" w/ring	BA300K
4	Cam pin stainless steel (fits LSQ cap)	BA300P
2	6 mesh screen (fits 1 1/2"-2" strainer)	BALS206
2	12 mesh screen (fits 1 1/2"-2" strainer)	BALS212
2	20 mesh screen (fits 1 1/2"-2" strainer)	BALS220
2	30 mesh screen (fits 1 1/2"-2" strainer)	BALS230
2	50 mesh screen (fits 1 1/2"-2" strainer)	BALS250
2	80 mesh screen (fits 1 1/2"-2" strainer)	BALS280
2	120 mesh screen (fits 1 1/2"-2" strainer)	BALS2120
8	2" cap (fits 1 1/2" & 2" strainers)	BALSQ200-C
6	O-ring for clean-out plug - EPDM	BALSQ200R1
6	O-ring for clean-out plug - FKM (viton type)	BALSQ200-RV

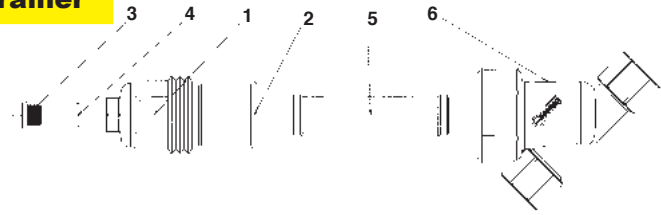
# Banjo Fittings and Valves



## 1/2" - 2" Polypropylene "Y" Strainer

### STANDARD FEATURES:

- Precision molded construction
- Corrosion resistant • Lightweight
- Fiberglass reinforced • Easy grip end cap
- Poly ribbed stainless steel screen
- EPDM gaskets FKM (viton type) available
- Heavy duty end cap threads • 1/2" - 1 1/4" 75 psi max.
- 1 1/2" - 2" 150 psi max.
- Clean-out plug
- Female NPT x female NPT



## 1/2" - 1 1/4" "Y" Strainers with SS Screen

DESCRIPTION	PART #
1/2"x1/2" Strainer - 20 mesh SS screen	BALS050-20
1/2"x1/2" Strainer - 40 mesh SS screen	BALS050-40
1/2"x1/2" Strainer - 80 mesh SS screen	BALS050-80
3/4"x3/4" Strainer - 20 mesh SS screen	BALS075-20
3/4"x3/4" Strainer - 40 mesh SS screen	BALS075-40
3/4"x3/4" Strainer - 80 mesh SS screen	BALS075-80
1"x1" Strainer - 20 mesh SS screen	BALS100-20
1"x1" Strainer - 40 mesh SS screen	BALS100-40
1"x1" Strainer - 80 mesh SS screen	BALS100-80
1 1/4"x1 1/4" Strainer - 20 mesh SS screen	BALS125-20
1 1/4"x1 1/4" Strainer - 40 mesh SS screen	BALS125-40
1 1/4"x1 1/4" Strainer - 80 mesh SS screen	BALS125-80

## 1 1/2" - 2" With All Poly Screens

DESCRIPTION	PART #
1 1/2"x1 1/2" Strainer - 12 mesh all poly screen	BALS150-12P
1 1/2"x1 1/2" Strainer - 20 mesh all poly screen	BALS150-20P
1 1/2"x1 1/2" Strainer - 50 mesh all poly screen	BALS150-50P
2"x2" Strainer - 12 mesh all poly screen	BALS200-12P
2"x2" Strainer - 20 mesh all poly screen	BALS200-20P
2"x2" Strainer - 50 mesh all poly screen	BALS200-50P

## 1 1/2" Thru 2" Poly Ribbed with 316 SS Screen

DESCRIPTION	PART #
1 1/2"x1 1/2" Strainer - 6 mesh SS screen	BALS150-06
1 1/2"x1 1/2" Strainer - 12 mesh SS screen	BALS150-12
1 1/2"x1 1/2" Strainer - 20 mesh SS screen	BALS150-20
1 1/2"x1 1/2" Strainer - 30 mesh SS screen	BALS150-30
1 1/2"x1 1/2" Strainer - 50 mesh SS screen	BALS150-50
1 1/2"x1 1/2" Strainer - 80 mesh SS screen	BALS150-80
1 1/2"x1 1/2" Strainer - 120 mesh SS screen	BALS150-120
2"x2" Strainer - 6 mesh SS screen	BALS200-06
2"x2" Strainer - 8 mesh SS screen	BALS200-08
2"x2" Strainer - 12 mesh SS screen	BALS200-12
2"x2" Strainer - 20 mesh SS screen	BALS200-20
2"x2" Strainer - 30 mesh SS screen	BALS200-30
2"x2" Strainer - 50 mesh SS screen	BALS200-50
2"x2" Strainer - 80 mesh SS screen	BALS200-80
2"x2" Strainer - 120 mesh SS screen	BALS200-120

## Replacement Parts 1/2"-2" Poly "Y" Strainer

ITEM	DESCRIPTION	PART #
5	20 mesh screen (fits 1/2"-3/4" strainer)	BALS720
5	40 mesh screen (fits 1/2"-3/4" strainer)	BALS740
5	80 mesh screen (fits 1/2"-3/4" strainer)	BALS780
5	20 mesh screen (fits 1"-1 1/4" strainer)	BALS120
5	40 mesh screen (fits 1"-1 1/4" strainer)	BALS140
5	80 mesh screen (fits 1"-1 1/4" strainer)	BALS180
5	6 mesh screen (fits 1 1/2"-2" strainer)	BALS206
5	8 mesh screen (fits 1 1/2"-2" strainer)	BALS208
5	12 mesh screen (fits 1 1/2"-2" strainer)	BALS212
5	20 mesh screen (fits 1 1/2"-2" strainer)	BALS220
5	30 mesh screen (fits 1 1/2"-2" strainer)	BALS230
5	50 mesh screen (fits 1 1/2"-2" strainer)	BALS250
5	80 mesh screen (fits 1 1/2"-2" strainer)	BALS280
5	120 mesh screen (fits 1 1/2"-2" strainer)	BALS2120
5	12 mesh all poly screen (fits 1 1/2"-2" strainer)	BALS212P
5	20 mesh all poly screen (fits 1 1/2"-2" strainer)	BALS220P
5	50 mesh all poly screen (fits 1 1/2"-2" strainer)	BALS250P
2	Gasket (fits 1/2"-3/4" strainer O-ring)	BALS075-G
2	Gasket (fits 1"-1 1/4" strainer O-ring)	BALS100-G
2	Gasket (fits 1 1/2"-2" strainer) New style O-ring (thicker)	BALS150-G
2	Gasket - FLM (viton type) (fits 1/2"-3/4" strainer)	BALS075-GV
2	Gasket - FKM (viton type) (fits 1"-1 1/4" strainer)	BALS100-GV
2	Gasket - FKM (viton type) (fits 1 1/2"-2" strainer) O-ring	BALS150-GV
N/A	"Y" body, cap & gasket, 1/2"	BALS050B/C1
N/A	"Y" body, cap & gasket 3/4"	BALS075B/C1
N/A	"Y" body, cap & gasket 1"	BALS100B/C1
N/A	"Y" body, cap & gasket 1 1/4"	BALS125B/C1
N/A	"Y" body, cap & gasket 1 1/2"	BALS150B/C
N/A	"Y" body, & cap & gaskets	BALS200B/C
6	"Y" body, 2"	BALS200-B
6	"Y" body 1 1/2"	BALS150-B
1	End cap (fits 1/2"-3/4" strainer)	BALS075-C1
1	End cap (fits 1"-1 1/4" strainer)	BALS100-C1
1	End cap (fits 1 1/2"-2" strainer) New style	BALS150-C
3	1/4" Drain plug (fits 1/2" & 3/4" strainers)	BA12723
4	EPDM O-ring for drain plug (fits 1/2" & 3/4")	BA12724
3	1/2" Drain plug (fits 1" & 1 1/4" strainers)	BA12777
4	EPDM O-ring for drain plug (fits 1" & 1 1/4")	BAUV15163
4	FKM (viton type) O-ring for drain plug (fits 1" & 1 1/4")	BAUV15163V
3	1" Drain plug (fits 1 1/2" & 2" strainer)	BALSQ200-PL
4	EPDM O-ring for drain plug (fits 1 1/2" & 2")	BALSQ200-R
4	FKM (viton type) O-ring for drain plug (fits 1 1/2" & 2")	BALSQ200-RV



# Stainless Steel Fittings and Valves

## STAINLESS STEEL FITTINGS

### Stainless Steel Strainers



Gauges sold separately

The Thompson Strainer is patented stainless steel strainer used on a wide variety of industrial applications to remove solid particles from liquid systems. Our unique product has grown popular due to its patented, low-maintenance design, stainless steel construction and exceptional efficiency.

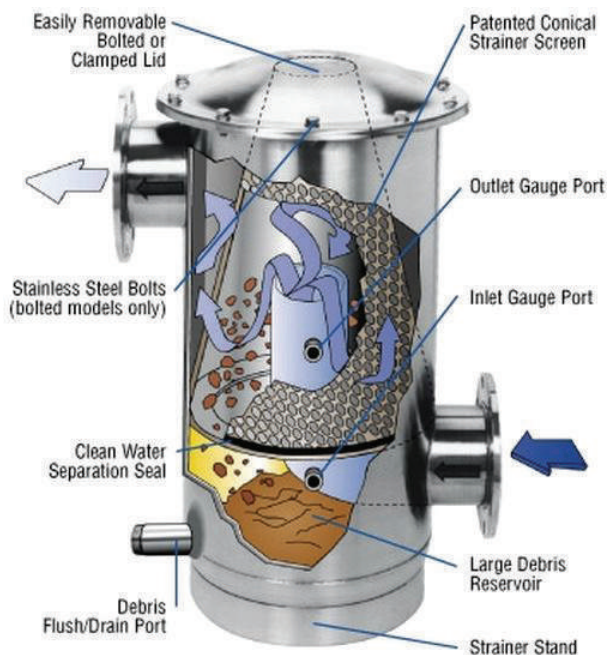
All models of the Thompson Strainer operate with less than a 1-PSI pressure loss at maximum flow when clean. This efficiency provides real energy savings when compared to strainer products that rely on energy consuming devices like spinners and torpedoes to give a comparable cleaning action. Call us today for a free energy saving estimation.

The Thompson Strainer's internal flow patterns are responsible for making our unique product so effective. As liquid flows up through the internal riser pipe and deflects off the inner surface of the conical shaped screen, heavy sediments are forced downward, away from the screen, into the large debris reservoir. Unlike traditional basket strainers, straight "Y" strainers, or bag filters, the Thompson Strainer can be flushed while online and in service. Settled debris is easily removed by purging through the debris flush port.

### Stainless Steel Strainers

DESCRIPTION	PART #
Strainer, SS, 2" 16 mesh	ML12S16
Strainer, SS, 2" 30 mesh	ML12S30
Strainer, SS, 2" 40 mesh	ML12S40
Strainer, SS, 2" 50 mesh	ML12S50
Strainer, SS, 2" 80 mesh	ML12S80
Strainer, SS, 2" 100 mesh	ML12S100
Strainer, SS, 3" 16 mesh	ML13S16
Strainer, SS, 3" 30 mesh	ML13S30
Strainer, SS, 3" 40 mesh	ML13S40
Strainer, SS, 3" 50 mesh	ML13S50
Strainer, SS, 3" 80 mesh	ML13S80
Strainer, SS, 3" 100 mesh	ML13S100

MODEL #	MAX. GPM	SCREEN SURFACE AREA	INLET / OUTLET STYLE	FLUSH PORT CONNECTION SIZE	LID TYPE	MAX. PRESSURE RATING (PSI)
MSL-2	100 GPM	122 sq. in.	2" male NPT	1 1/2" male NPT	Clamp	125 PSI
MSL-3	200 GPM	200 sq. in.	3" male NPT	1 1/2" male NPT	Clamp	125 PSI



### Replacement Parts For Stainless Steel Strainers

DESCRIPTION	PART #
Filter screen element - 2"	ML2S(Specify Mesh)*
Filter screen element - 3"	ML3S(Specify Mesh)*
Head gasket 2"	MLOR02
Head Gasket 2" - new	MLOR022
Head Gasket 3"	MLOR03
Head Gasket 3" - new	MLOR032
Head Gasket 4"	MLHG04
Bottom Gasket 2"	MLFG02
Bottom Gasket 3"	MLFG03
Bottom Gasket 4"	MLFG04
Disc Gasket 2"	MLDG02
Disc Gasket 3"	MLDG03
Disc Gasket 4"	MLDG04
Gasket Kit 2"	MLGK02
Gasket Kit 2" - new	MLGK022
Gasket Kit 3"	MLGK03
Gasket Kit 3" - new	MLGK032

\*Specify strainer mesh required - 16, 30, 40, 50, 80 or 100.



# Stainless Steel Fittings and Valves



## Stainless Steel 316 Fittings



### Full Port Ball Valves

DESCRIPTION	PART #
1/4" Full port stainless steel ball valve	FTV025FPSS
3/4" Full port stainless steel ball valve	FTV075FPSS
1" Full port stainless steel ball valve	FTV100FPSS
2" Full port stainless steel ball valve	FTV200FPSS
3" Full port stainless steel ball valve	FTV300FPSS
4" Full port stainless steel ball valve	FTV400FPSS



### Reducer Bushings

DESCRIPTION	PART #
Reducer bushing 1/4" - 1/8"	FTRB025018SS
Reducer bushing 1/4" - 3/4"	FTRB075025SS
Reducer bushing 3/4" - 1"	FTRB100075SS
Reducer bushing 1" - 2"	FTRB200100SS
Reducer bushing 2" - 3"	FTRB300200SS
Reducer bushing 4" - 3"	FTRB400300SS
Reducer Bushing 1/2' to 3/4"	FTRB075050SS



### Street Elbows

DESCRIPTION	PART #
1/4" Elbow	FTSL02590SS
3/4" Elbow	FTSL07590SS
1" Elbow	FTSL10090SS
2" Elbow	FTSL20090SS
3" Elbow	FTSL30090SS



### Threaded Nipples

DESCRIPTION	PART #
1/8" Nipple	FTNIP018SS
3/4" Short nipple	FTNIP075SHSS
1" Short nipple	FTNIP100SHSS
2" Short nipple	FTNIP200SHSS
3" Short nipple	FTNIP300SHSS
4" Short nipple	FTNIP400SHSS



### Auto Shutoff Valve (Spring loaded handle)

DESCRIPTION	PART #
3/4" Auto shutoff valve	FTBVSS12SL
1" Auto shutoff valve	FTBVSS16SL



### "C" Coupler

DESCRIPTION	PART #
2" Type "C" Coupler	FT200CSS
3" Type "C" Coupler	FT300CSS



### Threaded Tee

DESCRIPTION	PART #
3/4" Threaded Tee	FT075TEESS
1" Threaded Tee	FT100TEESS
2" Threaded Tee	FT200TEESS
3" Threaded Tee	FT300TEESS



### "F" Coupler

DESCRIPTION	PART #
2" Type "F" Coupler	FT200FSS
3" Type "F" Coupler	FT300FSS

Stainless Steel Fittings and Valves

---

# Notes

---



## Helpful Tables

Volume	
1 US gallon	231 cubic inches 0.137 cubic feet 3.785 liters 0.00379 cubic meters 0.8333 imperial gallons
1 Imperial gallon	1.2 US gallons 277.274 cubic inches
1 Cubic foot	1728 cubic inches 7.481 US gallons 0.0283 cubic meters
1 Liter	0.2642 US gallons
1 Cubic meter	35.314 cubic feet 264.2 US gallons
1 Acre foot	43,560 cubic feet 325,829 US gallons
1 Acre inch	3,630 cubic feet 27,100 US gallons

General	
1 Acre	43,560 square feet
1 Hectare	2.471 acres
1 Gallon per acre	9.35 liters per hectare
1 Mile	5,280 feet 1610 meters 1.61 KM
1 US gallon	128 fluid ounces 8 pints 4 quarts
1 US gallon	3.79 liters 0.83 imperial gallons
1 Pound per sq. in. (PSI)	6.895 kPa
1 Inch	2.54 centimeters

Area Measure	
144 square inches	1 square foot
9 square feet	1 square yard
30 1/4 square yards	1 square rod
160 square rods	1 acre
1 acre	43,560 square feet
640 acres	1 square mile
1 square mile	1 section of land

Liquid	Measure
1/16 pint	1 ounce
4 ounces	1 gill
4 gills	1 pint 16 ounces
2 pints	1 quart 32 ounces
4 quarts	1 gallon

### Liquid Flow Rate

$$\text{GPM} = \text{Width} \times \text{Speed} \times \text{GPA} \times 0.00202$$

$$\text{GPM} = (\text{GPA} \times \text{Speed} \times \text{Boom width (inches)}) / 5,940$$

$$\text{GPA} = (4203.3 \times \text{GPM}) / (\text{MPH} \times \text{Spacing})$$

# Helpful Tables

## Calculations of Liquid Blends

**Pounds of actual nutrient per acre requested**

**N**

**P**

**S**

<p><b>Phosphorous (using 10-34-0)</b>          _____ lbs/ac* ÷ 3.97 = _____ GPA of 10-34-0          _____ GPA x 1.17 = _____ →</p>	<p>Pounds of residual "N" produced          _____ (A)</p>
<p><b>Sulphur (using 15-0-0-20)</b>          _____ lbs/ac* ÷ 2.18 = _____ GPA of 15-0-0-20          _____ GPA x 1.64 = _____ →</p>	<p>_____ (B)</p>
<p><b>Nitrogen (using 28-0-0)</b>          _____ lbs/ac minus the N          from 10-34-0 (A) and          from 15-0-0-20 (B) equals          _____ ÷ 2.98 = _____ GPA of 28-0-0</p>	
<p><b>Total of all three products _____ GPA total</b>          *using actual pounds of nutrient from box above          **above calculations are in US gallons</p>	

28-0-0		10-34-0		15-0-0-20	
S.G. @ 60F/ 15.5C	1.275	S.G. @ 60F/ 15.5C	1.40	S.G. @ 60F/ 15.5C	1.310
lbs/Gal U.S.	10.63	lbs/Gal U.S.	11.67	lbs/Gal U.S.	10.92
lbs/Gal Imp.	12.75	lbs/Gal Imp.	14.00	lbs/Gal Imp.	13.10
lbs N/Gal. U.S.	2.98	lbs N/Gal. U.S.	1.17	lbs N/Gal. U.S.	1.64
lbs N/Gal/ Imp.	3.57	lbs N/Gal/ Imp.	1.40	lbs N/Gal/ Imp.	1.96
U.S. Gal/Ton	188.15	U.S. Gal/Ton	171.38	U.S. Gal/Ton	183.15
Imp Gal/Tonne	172.86	Imp Gal/Tonne	157.43	Imp Gal/Tonne	168.24
Liters/Tonne	785.83	Liters/Tonne	715.68	Liters/Tonne	764.82
Salt Out Temp	0F or -18C	Salt Out Temp	-4F or -20C	Salt Out Temp	-5F or -15C
pH	7.0	pH	5.9	pH	7.5
		P2 05/Gal U.S.	3.97	lbs S/Gal U.S.	2.18
		P2 05/Gal Imp.	4.76	lbs S/Gal Imp.	2.62



# Helpful Tables



ANNUAL SOW-THISTLE



CANADA THISTLE



CHICKWEED



CORN SPURRY



CLEAVERS



DANDELION



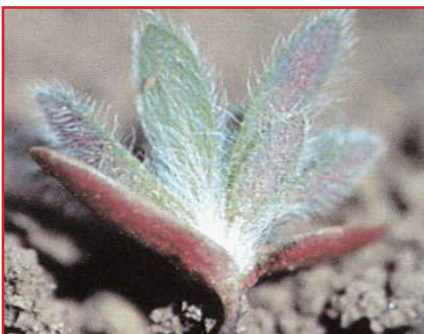
FLIXWEED



GREEN FOXTAIL



HEMP-NETTLE



KOCHIA



LAMB'S-QUARTERS



NARROW-LEAVED  
HAWK'S-BEARD



# Helpful Tables



PERENNIAL SOW-THISTLE



REDROOT PIGWEED



ROUND-LEAVED MALLOW



RUSSIAN THISTLE



SCENTLESS CHAMOMILE



SHEPHERD'S PURSE



SMARTWEED



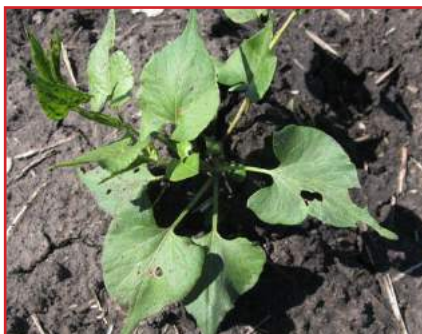
STINKWEED



STORK'S BILL



VOLUNTEER CANOLA



WILD BUCKWHEAT



WILD OATS





# Pattison

Expect the Best!

Cover photo from:  
NSC Farms-Lashburn Sk



**SHIP TO: 28.0.0 PATTISON WAY LEMBERG, SK S0A 2B0**  
**MAIL TO: BOX 336, LEMBERG, SK S0A 2B0**