

# Sand and Cartridge Filter Packs

## Users Manual



**ADVANTAGE**  
MANUFACTURING

616 S. Santa Fe Street • Santa Ana, CA 92705  
800.636.8866 • 714.505.1166 • F. 714.505.1160  
[www.advantageman.com](http://www.advantageman.com)



# OWNER'S MANUAL

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# PUMP/FILTER ASSEMBLY

Advantage Manufacturing above ground pump/filter systems are partially assembled on a platform base. Plumbing connections are configured to accommodate 1-1/2" pool, spa or jetted tub fixtures. These may be altered to accommodate 1-1/4" or 2" fixtures; however, a reduction in flow rate occurs when increasing the fixtures; an increase in pressure occurs when decreasing the fixtures.

## CAUTIONS:

The use of Teflon tape on the pump/filter/motor connections will cause leaking, pressure gauge excepted. Teflon tape may be used on third party plumbing fixtures that are attached to the pump/filter.

All pump/filter assemblies are designed to operate properly when hand tightened. Tolerances and O-ring seating on assemblies requires that the first few turns move smooth and easy. If there is resistance, re-start the process to eliminate cross threading. Never over tighten assemblies as then may cause breakage of the canister ports.

If your unit contains a pressure gauge make certain that it is installed in the proper location. The bleeder valve insert is slightly smaller than the pressure gauge insert.

If your unit is a sand filter, do not use anything other than #20 silica sand, 40-55 mm, and do not fill the canister beyond the recommended amount of sand.

**Modifications to the pump/filter system other than an increase or reduction in fixture sizes as described above will void the warranty.**

The motor must be placed within 6' of a 15 amp dedicated outlet for proper operation and to meet the warranty requirements of the motor manufacturer. You may use an approved, water proof, 10/12 gauge, 15 amp, 1875 watt minimum rated outdoor electrical cord, local codes permitting, for distances up to 50 feet and receive a motor warranty exclusion.

**The motor warranty is voided if any of these conditions are not met.**

## Pump/Filter Assembly / Cautions continued

Per the National Electrical code:

- The motor must be bonded with a minimum of No 8 AWG electrical cord connected to an external bonding wire and grounded to a metal water pipe or similar metal structure.
- The power supply circuit to the motor must contain a ground fault circuit interrupter. (GFCI)

### **O-ring lubrication.**

All O-rings should be lubricated prior to assembly and once each 90-120 days to prevent leaks. Lubricating o-rings each time the lids or components are removed will extend the life of the o-ring and prevent leaks.

- Remove the Trap Assembly and filter canister lids and lubricate the O-rings.
- Remove the Interconnect hose or Interconnect pipe and lubricate the O-rings on each side of the collar attaching unit.
- Lubricate the bleeder valve O-ring.
- Lubricate all other O-rings and gaskets while assembling the components.

### **Attaching the Interconnect pipe** (Cartridge Filter 75, 100, 150 Sq. Ft, Models)

The Cartridge Filter Interconnect, a short plastic pipe, is attached between the filter canister and the motor, wet end, assembly. Allowable tolerances may require a slight lifting of the motor for proper assembly. The pipe is universal with no right or left sides.

Do not use Teflon Tape on this assembly.

Care must be exercised so as not to cross thread the interconnect.

Lubricate the O-rings and hand-tighten the interconnect to both the filter canister housing and the motor assembly. Do not over tighten.

### **Attaching the Interconnect Hose** (25 and 50 Sq. Ft. Cartridge Filter and Sand Models)

A flexible PVC hose is used to connect the filter canister to the motor, wet end, assembly. Prior to assembly lubricate the o-rings inside the collar (one only on the sand system).

Do not use Teflon Tape on this assembly.

The Cartridge Filter has universal screw-on collar ends that are hand tightened to the motor and the canister. The first few turns of the collar should be smooth and easy.

The Sand Filter, has a collar end that attaches to the motor assembly and a open hose end which is clamped onto a hose adapter installed in the “pump” port. Screw the collar to the motor assembly first. The first few turns of the collar should be smooth and easy. It may be necessary to pull out on the hose while attaching the collar.



## Attaching the Trap Assembly (Hair and Lint Trap)

The Hair and Lint Trap is attached to the motor, wet end, assembly by means of a split collar fitting and a flat white gasket. **DO NOT USE TEFLON TAPE ON THIS ASSEMBLY.**

Lubricate and insert the flat white gasket or O-ring into the collar fitting.

- Hold the Hair and Lint Trap in an upright position with one hand while tightening the collar around the threaded portion of the motor assembly.

Tolerances between the collar and nut may require you to loosen the screws on the collar, do not disassemble and always re-tighten.

- Hand tighten the collar on the Hair and Lint Trap to the motor assembly until the Hair and Lint Trap is secure. The connection is secure with about 1/3 of the pump assembly threads visible.

Don't over tighten or cross thread the collar.

### **Installing the Pressure Gauge** (option on some systems)

The pressure gauge, if applicable, is installed into the threaded opening on the filter canister lid and on the side of the valve on the Sand Filter System.

Do not install the pressure gauge in the bleeder valve tap, which is slightly smaller, as non-warranty damage will occur.

You may use a small amount of Teflon tape on the pressure gauge threads to minimize leaking. The pressure gauge should be hand tightened and care should be exercised not to break the top of the gauge in our hand. The canister lid should be rotated for easier viewing of the gauge.

Always note the starting pressure of the gauge.

# SAND SYSTEMS

The canister on the sand systems seats onto the base. Four feet are fitted into notches in the base. The drain plug should be located to the left, outside center of the base. The canister will remain “loose” on the base until filled with sand.

The SFP 1 requires 100 lbs. of #20 Silica Sand for proper operation.

The SFP 1.5 requires 150 lbs. of #20 Silica Sand for proper operation.

**DO NOT OVERFILL.** Overfilling and the use other than the #20 Silica will result in sand washing back into the pool, spa or jetted tub.

Sand systems are equipped with a sealed 6 position, 711 compatible, valve assembly with a built in pressure sensor.

Disassembly of this valve, by other than an authorized technician, voids the warranty.

Re-setting or moving the valve position, while the pump/filter is operating will void the warranty.

The 6 valve positions are:

<b>Rinse</b>	Used to flush the filter media after backwashing
<b>Filter</b>	Normal position for filtering the water
<b>Waste*</b>	Filter by-pass that takes the water from the pool, spa or jetted tub and sends it out the waste port (backwash port). Also used for lowering the water level and may be used to vacuum heavy debris.
<b>Closed</b>	Shuts off all flow from the pump to the filter.
<b>Backwash*</b>	Cleans the sand and sends the debris out the waste (backwash) port.
<b>Recirculate</b>	Water is recirculated through the valve by-passing the filter media.

\*When selecting Waste or Backwash, we recommend that a hose be used to maintain the water level above the skimmer in the pool, spa or jetted tub.

Always check local regulations regarding backwashing or discharging pool water.

## Winterizing

Advantage Manufacturing sand systems, not cartridge, have been designed, due to the weight of the sand, to be left outside during the winter. Two items should be considered:

1. The life expectancy of the canister will be reduced through the amount and length of time freezing temperatures occur.
2. The motor and trap assembly should be removed if large amounts of snowfall and/or rain occur during the winter months.

There is a non indented Winterize position on the valve setting located between Rinse and Filter that must be used, after all water is drained from the system, when leaving the canister outdoors for the winter months.

### **Initial set-up and operation of the Sand System**

Place the system next to the pool, spa or jetted tub and fill it with #20 silica sand. Backwash for approximately 1 minute to “compact” the sand. It is normal for very small amounts of sand particles to be washed out during this process and there should be no need to re-fill the canister.

### **Continued operation of the Sand System**

The system should be operated for a minimum of 3 water exchanges daily during the normal swimming season. Increase this minimum during periods of heavy swimming or hot weather and reduce it during periods of non-use.

The sight glass, located below the pressure gauge, along with the pressure gauge will provide you with a visible indication of when the media, sand, needs to be cleaned via backwash.

We recommend backwashing about once a month to maintain clear, clean water.

Follow the instructions for Cartridge type filter systems for all other requirements.

### **Backwashing**

When backwashing, a hose should be used to maintain the water level above the skimmer, suction line, of the pool, spa or jetted tub. Failure to maintain the water level above the suction line will result in damage to the pump/filter system.

A backwash hose may be connected to the waste port by screwing a 1-1/2” hose adapter into the waste port and clamping the hose to it.

Many municipalities have regulations on backwashing. Verification of these regulations may save you time and money.

## LOCATING THE PUMP/FILTER

Advantage Manufacturing products are designed for outdoor use. Optimum performance and minimal downtime require that the following conditions be met;

1. The filter housing should not be installed in freezing environments. Where seasonal freezing occurs, it is necessary to completely drain both the filter housing and pump/assembly, remove the cartridge filter and store the housing in a heated area to prevent it from cracking.
2. The pump/filter skid pack should be installed in an area that is level and has a solid foundation. This prevents vibrations from creating leaks in the connections and provides a more consistent water flow.
3. The location should have good drainage. e.g. an area that will not flood with water when it rains and/or when water splashes out from the pool, spa or jetted tub. This will prevent damage to the electrical components, motor, and reduce the chance of electrical shock.
4. The pump/filter should be located as close to the pool, spa or jetted tub inlet as possible, but no closer than 5 feet, for ease in servicing.

A drain plug is included on the motor, wet end, assembly for winterizing. There is also a drain plug on the Hair and Lint Trap that will partially drain the canister. When locating the pump/filter, attempt to keep these plugs accessible.

### **Local building/electrical codes always prevail.**

- If the pump/filter is covered, the area should be well ventilated to reduce overheating.
- Electrical connections must be made in accordance with local codes and may require a site selection that does not meet all the criteria above.
- Flexible, pressure rated, hose should be used to make the connections between the pump/filter and pool, spa or jetted tub.

### **ASSEMBLY HINTS**

We recommend the installation of gate, shut off, valves on the inlet and discharge side of the pump/filter to prevent back flow of water. These should be installed with Teflon tape and may be provided by the supplier of the pool, spa or jetted tub.

A “bleeder valve” is built into the canister lid to permit the release of trapped air when “priming” the pump. The insertion holes for the bleeder valve and pressure gauge appear similar, they are not. Reversing the two will result in a damaged, non-warranty, lid replacement.

Check for joint and connection leaks prior to operating the system. Lubricate all O-rings prior to initial start-up and at regular maintenance intervals.

The pump must be installed below the normal high water level of the pool, spa or jetted tub for proper operation and priming.

When the pump is installed with a flooded suction line, the suction line should be no higher than the pump suction line to prevent “air locking”. An exception may be made for suction lines where draining or refilling will be uncommon.

# PUMP/FILTER OPERATING INSTRUCTIONS

## Water Level

**Operating the pump/filter without water or with a water level below the suction outlet, skimmer, will result in non-warranty damage to the motor assembly.**

The water level should be above the suction line, skimmer, prior to turning the pump/filter ON.

## Pool/Spa

The water level should be half way up the skimmer opening or a minimum of 4" above the highest suction fitting if no skimmer is installed.

## Jetted Tub

The water level needs to be a minimum of 1" above the highest jet.

## Electric Motor

The motor should be protected from the introduction of foreign matter and water and should be installed in a well ventilated area to prevent overheating. If water is introduced into the motor housing, it must be turned OFF and allowed to dry prior to operation. The pump warranty is voided if "shorting" has been caused by the introduction of dirt, debris or water into the motor housing.

The motor used with Advantage Manufacturing pumps and filters is a 48 Frame thru bolt style. When replacing or repairing the motor, the end bells and adjacent shell need to be marked for proper alignment prior to removal of the motor.

## Electrical Connections

The pump/filter must be attached to a GFCI protected electrical circuit per the National Electrical Code.

For proper operation, Advantage Manufacturing Motors require the following "clean" amperage circuit:

3/4 HP...11 amps

1 and 1.5 HP...15 amps

Placing the pump/filter on the same circuit as a refrigerator freezer or other high amperage device will result in non-warranty damage to the motor.

A 6' grounded electrical cord is attached to the pump/filter motor. In the event that a GFCI receptacle or clean 15 amp circuit is not available within 6' of the motor, an extension to the 6' length may be added without voiding the warranty. **However**, local electrical code requirements take precedence and the extension, if permitted, must be APPROVED and support a minimum of 15amps/1875watts over the extended distance exclusive of any resistance drops.

A minimum 12/3 AWG wire for lengths up to 50 foot is required to maintain the motor warranty.

# Operating instructions continued

## Water Start-Up

It is recommended that pool/spa water be treated with a metal and mineral remover and shock treated when the pump/filter is initially attached or when opening the pool for the season. These actions along with a regular media cleaning schedule will provide you with the best opportunity for clean, clear water.

## Initial Operation or Re-Priming

- Make certain that the filter housing lid is secured.
- Open all installed shut-off valves; discharge and inlet lines.
- Open the manual air vent, bleeder valve, by unscrewing the cap a few turns.
- When a steady stream of water flows from the bleeder, re-tighten it.
- Place your hand over the suction or outlet fitting to make certain that water is flowing properly. (On the sand systems a sight glass will confirm water flow)

**Note: if the unit has been installed per directions the pressure of the water should automatically prime the pump. If water does not appear in the Hair and Lint Trap prior to starting the pump/filter, unscrew the Hair and Lint Trap, trap assembly, lid, fill it with water and replace the lid. Partially unscrew the bleeder valve and close the valve when a steady stream of water begins to appear.**

Record the starting pressure as illustrated on the pressure gauge.

\_\_\_\_\_ psi

## Water Exchange Rates

Water exchange rates are calculated by dividing the GPM, gallon per minute, flow rate of the pump/filter system by the total gallons of water in your pool or spa.

The average GPM flow rates of the Advantage Manufacturing series pump filter systems is as follows;

3/4 and 1 HP Cartridge Filter Systems	44 GPM
SFP1 Sand Systems	35 GPM
1.5 and 2 HP Cartridge Filter Systems	85 GPM
SFP 1.5 Sand Systems	44 GPM

These rates may or may not be indicative of your actual rate since there are many factors that enter into the actual rate; however, you should not realize an increase or decrease of greater than 6%.

## CLEANING FILTER MEDIA

On the average, cartridge filters should be hosed off with a pressure nozzle once per week and sand filters backwashed monthly.

Spraying a cartridge filter from the inside first will loosen debris. They should be cleaned, soaked in a degreasing type filter cleaner and thoroughly hosed off once a month if no pressure gauge is present.

### Pressure Gauge Readings

The pressure gauge provides specific information on cleaning/backwashing and replacement intervals. When the pressure reading has increased by 8-10 psi above the initial starting pressure, it is necessary to thoroughly clean the filter media. Soak a cartridge filter in a degreasing cleaning solution, thoroughly hose off any remaining solution and permit it to air dry prior to re-installing it in the canister. Specific cleaning directions should be provided by the manufacturer of the cartridge or filter cleaning solution.

Backwash a Sand filter for about 1 minute making certain that the water level stays above the suction line, skimmer.

If after cleaning; the pressure does not fall by a minimum of half the difference between the original starting pressure, and the reading before cleaning, the media needs to be replaced.

e.g.     Starting pressure was 8 lb.  
           Pressure before cleaning was 20 lb.  
           After cleaning pressure is 12 lb..Media is OK  
           After cleaning pressure is 15 lb.. Replace Media

### Calcium and Mineral Deposits

If calcium or mineral deposits are excessive (e.g. ground water), the degreased, clean cartridge may be soaked in a separate solution of 20% HCL Muratic acid solution mixed one to one with water in a clean plastic container. The use of a Muratic acid solution will dramatically reduce the life of the element. When the "bubbling" stops, carefully remove the cartridge and thoroughly hose it with water. Let it air dry before re-installing.

**EXTREME CAUTION SHOULD BE EXERCISED WHEN CLEANING A FILTER WITH MURATIC ACID. USE RUBBER GLOVES AND SAFETY GLASSES WHEN USING ACID CLEANERS. NEVER ADD WATER TO ACID. ALWAYS ADD ACID TO WATER.**

### Removing or Installing a cartridge

- Unplug the pump/filter
- Close all valves on the inlet and discharge lines.
- Open the air relief, bleeder valve, by unscrewing the valve a few turns.
- Open the drain plug on the Hair and Lint Trap by unscrewing and removing it.
- Unscrew the Hair and Lint Trap cap. Some remaining water may spill out.
- SLOWLY turn the ring lock on the top of the filter housing to permit any remaining pressure to escape.



## LIMITED WARRANTY

Advantage Manufacturing warrants its new products to be free of workmanship and/or materials for a period of 1 year from the date of installation or 18 months from the manufacturing date, whichever comes first, when the product is used in a standard pool spa or jetted tub environment.

Advantage Manufacturing also provides additional limited warranties as follows;

1 year from manufacturing date on the Filter canister.

1 year from the date of purchase on the Lint pot canister and skid pack base.

**This warranty excludes damage caused by freezing, misuse, acts of God or negligence and does not include lids, connectors or O-rings.**

### **The warranty does not cover:**

- Items manufactured by other companies and installed on the Advantage Manufacturing pump/filter systems.
- Problems resulting from but not limited to the following;
- Failure to comply with installation and operating instructions.
- Abuse, misuse, negligence, accident or damages that were beyond the control of Advantage Manufacturing, Inc.
- Any and all alterations or modification to the product.
- Damage cause by improper chemical treatment or corrosion.
- Damage caused by Acts of God or nature.
- Employment of the product for other than it's intended use.
- Motor damage caused by improper electrical connections and/or the use of non-approved extensions.

### **Obligations:**

Advantage Manufacturing will, at its option, repair or replace the defective item at its own cost and expense. Advantage Manufacturing is not responsible for any cost of shipping or transportation to or from our service facility. Advantage Manufacturing is also not liable for any loss of time, inconvenience, incidental expenses, labor and/or material charges incurred in connection with the removal or replacement of the equipment, or any other incidental or consequential damages.



## Warranty continued

In order to obtain the benefits provided by this warranty, the original retail purchaser must contact

**Advantage Manufacturing, Inc.**  
**624B South B Street**  
**Tustin, CA 92780**

as soon as possible after the discovery of a defect, but in no event, later than the expiration date of the warranty periods defined.

You may call our toll free message line 1-800-636-8866) and a representative will return your call as soon as possible. For your convenience our FAX number is 714-505-1166.

Upon receipt of your claim, Advantage Manufacturing will promptly notify you of the disposition of the claim. If approved, you may be required to ship the defective item, freight prepaid, to Advantage Manufacturing or an approved service center, together with a letter stating the model number, serial number (if applicable), and date of purchase (proof of purchase may be required) of the item found to be defective. You will also need to include your name, shipping address, phone number and a brief description of the problem.

**This warranty gives the original retail purchaser specific legal rights. You may also have other rights which may vary state to state.**

# TROUBLESHOOTING

## **Cloudy Water**

Test and balance alkalinity, pH and chlorine levels. If chlorine levels are below 1 ppm it may be necessary to shock treat the pool. Check the skimmer and hair lint pot for debris, especially leaves and twigs.

Inspect and/or clean the cartridge filter.

## **Dirty Water**

Check the cartridge and filter housing, if dirty, clean. If cartridge is damaged replace. Wash out the filter housing. If pressure continues to remain high, replace cartridge.

Water started out dirty and/or was not treated with start up chemicals.

If cartridge and filter housing are clean and not damaged and the water was treated with start up chemicals. Operate the pump/filter for at least 24 hours. Hose off the filter media after each 3 water exchanges during this process and clean it after every 3rd exchange.

If there is no improvement contact your local pool dealer or Advantage Manufacturing for assistance.

## **Water Leaks**

Check for cracks or splits in the canister.

Ring locks may be loose or broken.

O-rings may need lubrication.

O-rings may be damaged.

Air relief, bleeder valve may not be tight and/or may require lubrication.

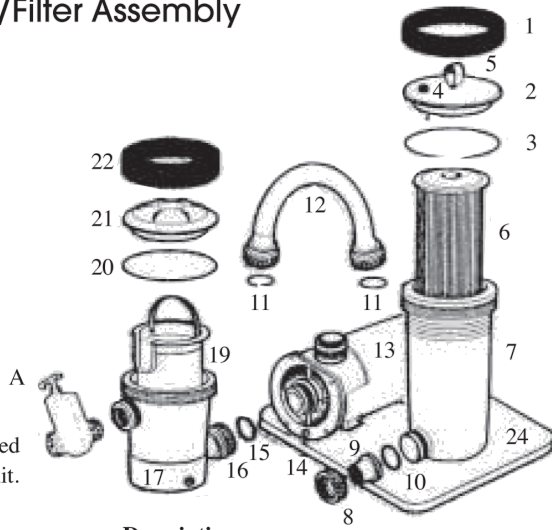
Inspect hose clamps and connection points on inlet and discharge.

Drain plug may be loose.

Hair and Lint Trap lid may be loose.

Filter media may be dirty, collapsed or damaged.

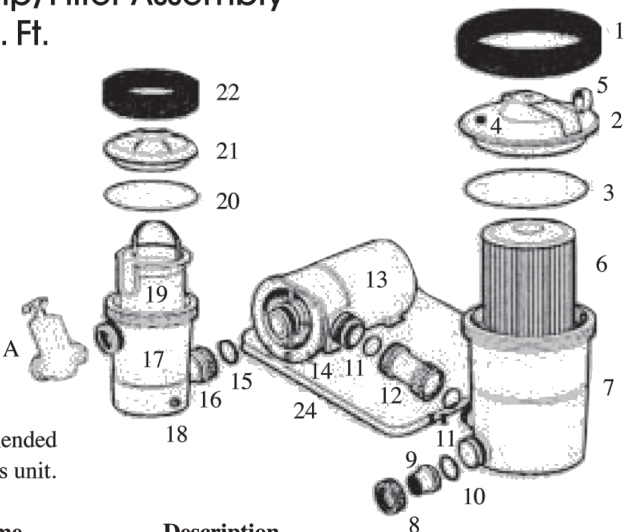
**Diagram: Pump/Filter Assembly**  
**50 Sq. Ft.**



A = Gate Valve recommended  
but not included with this unit.

Item No.	Item Name	Description
1	CRNGLCK	Filter Cannister Ring Lock
2	FCLID	Lid for Filter Cannister
3	FCLIDORNG	O-Ring for Cannister lid
4	FCBLVLV	Bleeder Valve (stepped cartridge) or
	FCBVLV-S	Bleeder Valve Short Style (flat cartridge)
5	PRGUA	Pressure Gauge
6	RCF	Cartridge Filter
7	FC	Filter Cannister
8	UFCLR	Union Fitting Collar
9	UFHOAD	Union Fitting Hose Adapter
10	UFORNG	Union Fitting O-Ring
11	ICORNG	Interconnect O-Ring
12	ICHOSE	Interconnect Hose
13	10WE	1.0 Wet End Motor Assembly
14	WEDP	Wet End Drain Plug
15	TAMTRGSKT	Trap to Motor Gasket
16	SRCLR	Split Ring Collar
17	TACAN	Trap Assembly Cannister
18	TADP	Trap Assembly Drain Plug
19	TABSKT	Trap Assembly Basket
20	TALORNG	Trap Assembly Lid O-Ring
21	TALID	Trap Assembly Lid
22	TALRNLCK	Trap Assembly Rig Lock
	TASSMBLY	Complete Trap Assembly
24	BASE	Skid Pack

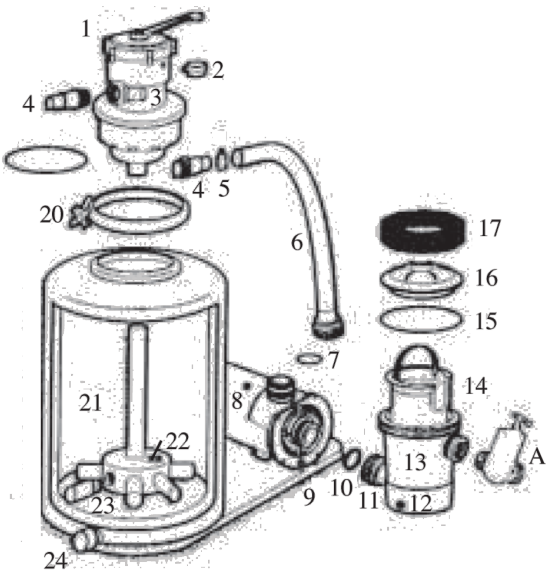
# **Diagram: Pump/Filter Assembly** **75 and 150 Sq. Ft.**



A = Gate Valve recommended but not included with this unit.

Item No.	Item Name	Description
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4	FCBLVLV	Bleeder Valve (stepped cartridge) or
	FCBVLV-S	Bleeder Valve Short Style (flat cartridge)
5	PRGUA	Pressure Guage
6	RCF	Cartridge Filter
7	FC	Filter Cannister
8	UFCLR	Union Fitting Collar
9	UFHOAD	Union Fitting Hose Adapter
10	UFORNG	Union Fitting O-Ring
11	ICORNG	Interconnect O-Ring
12	ICPIPE	Interconnect Pipe
13	150WE	1.5 Wet End Motor Assembly
14	WEDP	Wet End Drain Plug
15	TAMTRGSKT	Trap to Motor Gasket
16	SRCLR	Split Ring Collar
17	TACAN	Trap Assembly Cannister
18	TADP	Trap Assembly Drain Plug
19	TABSKT	Trap Assembly Basket
20	TALORNG	Trap Assembly Lid O-Ring
21	TALID	Trap Assembly Lid
22	TALRNLCK	Trap Assembly Rig Lock
	TASSMBLY	Complete Trap Assembly
24	BASE	Skid Pack

**Diagram:**  
**Pump/Filter**  
**Assembly**  
**(Sand)**



A = Gate Valve recommended  
 but not includedwith this unit.

Item No.	Item Name	Description
1	VAL	Valve
2	PRGUA	Pressure Guage
3	SSG	Sight Glass
4	HOAD-S	Hose Adaptor Smooth
5	WCLMP	Wire Clamp
6	ICHOSE	Interconnect Hose
7	ICORNG	Interconnect Ring
8	1.50WE	Wet End Motor Assembly
9	WEDP	Wet End Drain Plug
10	TAMTRGSKT	Trap To Motor Gasket
11	SRCLR	Split Rig Collar
12	TACAN	Trap Assembly Canister
13	TADP	Trap Asembly Drain Plug
14	TABSKT	Trap Assembly Basket
15	TALORNG	Trap Assembly O-Ring
16	TALID	Trap Assembly Lid
17	TALRNLCK	Trap Assembly Ring Lock
	TASSMBLY	Complete Assembly
19	BASE	Skid Pack
20	VLCLR	Valve Collar
21	STPIPE	Stand Pipe
22	LATMAN	Lateral Manifold
23	LAT	Lateral
24	DPC	Drain Plug Cap



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