

Tagelus®

Deluxe Sand Filter system



Installation and User's Guide

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

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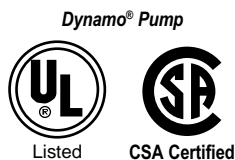
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Table of Contents

Important Safety Precautions	ii
Section 1: Introduction	1
Tagelus® Deluxe Sand Filter System Overview	1
General Features	2
Section 2: Installation	3
Installing the Tagelus® Sand Filter System	3
How Your System Works	3
Filter Operation Data	3
Valve Positions and Water Flow Directions	4
Installing Components onto the Support Base	5
Plumbing Filter to Pump	6
Filter/Valve Clamp Installation	6
Circuit Breaker and Wiring Data	8
Initial Start-Up	9
Section 3: Maintenance	11
Filter Care	11
Cleaning Frequency	11
Filter Backwash Procedure	12
Chemical Cleaning	12
Replacing Valve Top and Diverter Assembly	13
Winterizing the Components	13
Section 4: Troubleshooting	14
Section 5: Replacement Parts	15
Replacement Parts List – 6-Way Valve	16
Replacement Parts List – Tagelus® Sand Filter	17
Replacement Parts List – Centrifugal Pump	18
Replacement Parts List – System Plumbing	19

IMPORTANT SAFETY PRECAUTIONS



Important Notice:

This guide provides installation and operation instructions for the Tagelus® Sand Filter system. Consult Pentair Water Pool and Spa® with any questions regarding this equipment.


Attention Installer: This guide contains important information about the installation, operation and safe use of this product. This information should be given to the owner and/or operator of this equipment after installation or left on or near the filter system.

Attention User: This manual contains important information that will help you in operating and maintaining this filter. Please retain it for future reference.



WARNING — Before installing this product, read and follow all warning notices and instructions which are included. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call (800) 831-7133 for additional free copies of these instructions.

Consumer Information and Safety

The Tagelus® Sand Filter Systems are designed and manufactured to provide many years of safe and reliable service when installed, operated and maintained according to the information in this manual and the installation codes referred to in later sections. Throughout the manual, safety warnings and cautions are identified by the “” symbol. Be sure to read and comply with all of the warnings and cautions.



WARNING — Do not operate the filter system until you have read and understand clearly all the operating instructions and warning messages for all equipment that is a part of the pool circulating system. The following instructions are intended as a guide for initially operating the filter system in a general pool installation, however each installation may have unique conditions where the starting procedure could be different. Failure to follow all operating instructions and warning messages can result in severe injury, death, or property damage.



THIS FILTER OPERATES UNDER HIGH PRESSURE

When any part of the circulating system, (e.g., closure, pump, filter, valve(s), etc.), is serviced, air can enter the system and become pressurized. Pressurized air can cause the top closure to separate which can result in severe injury, death, or property damage. To avoid this potential hazard, follow these instructions:



1. If you are not familiar with your pool filtering system and/or heater:
 - a. **Do NOT** attempt to adjust or service without consulting your dealer, or a qualified pool technician.
 - b. Read the entire Installation & User's Guide before attempting to use, service or adjust the pool filtering system or heater.
2. Before repositioning valve(s) and before beginning the assembly, disassembly, or any other service of the circulating system: (A) Turn the pump **OFF** and **shut OFF** any automatic controls to ensure the system is NOT inadvertently started during the servicing; (B) open the manual air bleeder valve; (C) wait until all pressure is relieved.
3. Whenever installing the filter closure **FOLLOW THE FILTER CLOSURE WARNINGS EXACTLY.**
4. Once service on the circulating system is complete **FOLLOW INITIAL START-UP INSTRUCTIONS EXACTLY.**
5. Maintain circulation system properly. Replace worn or damaged parts immediately, (e.g., closure, pressure gauge, valve(s), o-rings, etc).
6. Be sure that the filter is properly mounted and positioned according to instructions provided.

IMPORTANT SAFETY PRECAUTIONS (continued)

WARNING — THIS FILTER OPERATES UNDER HIGH PRESSURE



Never attempt to adjust any closures or lids or attempt to remove or tighten bolts when the system is pressurized. These actions can result in a separation or failure of system components. This instantaneous release of energy can cause components to be accelerated to high velocities and to travel far distances. These components could cause severe personal injury or death if they were to strike a person.

Never exceed the maximum operating pressure of the system components. Exceeding these limits could result in a component failing under pressure. This instantaneous release of energy can cause components to be accelerated to high velocities and to travel far distances. These components could cause severe personal injury or death if they were to strike a person.

Due to the potential risk that can be involved it is recommended that the pressure test be kept to the minimum time required by the local code. Do not allow people to work around the system when the circulation system is under pressure test. Post appropriate warning signs and establish a barrier around the pressurized equipment. If the equipment is located in an equipment room, lock the door and post a warning sign.

WARNING — RISK OF ELECTRICAL SHOCK OR ELECTROCUTION



This pool filter must be installed by a qualified pool serviceman in accordance with the National Electrical Code and all applicable local codes and ordinances.

Always disconnect power to the pool equipment at the circuit breaker before servicing any of the equipment. Ensure that the disconnected circuit is locked out or properly tagged so that it cannot be switched on while you are working on the pool equipment. Failure to do so could result in serious injury or death to serviceman, pool users or others due to electric shock.

Position the filter and the air relief valve to safely direct water drainage and purged air or water. Water discharged from an improperly positioned filter or valve can create an electrical hazard that can cause severe personal injury as well as damage property.

 **WARNING** — To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.


 **CAUTION** — This filter is designed and intended for use to filter water in swimming pools and spas.

PUMP SAFETY PRECAUTIONS


WARNING — RISK OF ELECTRICAL SHOCK




Connect only to a grounding type receptacle protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the receptacle is protected by a GFCI.


 **WARNING** — The pump can produce high levels of suction within the suction side of the plumbing system. These high levels of suction can pose a risk if a person comes within the close proximity of the suction openings. A person can be seriously injured by this high level of vacuum or may become trapped and drown. It is absolutely critical that the suction plumbing be installed in accordance with the latest national and local codes for swimming pools.



 **WARNING** — Do not bury the electrical cord. Locate the cord to minimize the abuse from lawn mowers, hedge trimmers, and other equipment.

 **WARNING** — To reduce the risk of electrical shock, do not use an extension cord to connect unit to electric supply; provide a properly located outlet.

 **WARNING** — To reduce the risk of electrical shock, replace damaged cord immediately.

 **CAUTION** — For continued protection against possible electrical shock, this unit is to be mounted to the base in accordance with the installation instructions.

IMPORTANT SAFETY PRECAUTIONS (continued)

General Installation Information

The following information should be read carefully since it outlines the proper manner of care and operation for your filter system. You can expect maximum efficiency and life from your filtration system by following these instructions and taking the necessary preventative care.

- FILTER IS DESIGNED AND INTENDED FOR USE TO FILTER WATER IN SWIMMING POOLS AND SPAS.
- Have a trained pool professional perform all pressure tests.
- **DO NOT** pressure test with compressed air!
- Do not connect the system to a high pressure or city water system.
- **NEVER** operate this filter system at more than 50 pounds per square inch (50 PSI/345kPa) pressure.
- Trapped air in the system can create a hazardous condition. BE SURE to purge all air from the system before operating or testing equipment.
- Check local codes for restrictions on backwash to waste piping, separation tank requirements and spent disposal requirements.
- Piping must conform to local/state plumbing and sanitary codes.
- Support piping independently to prevent strains on filter or valve.
- Fittings restrict flow; for best efficiency, use the fewest possible fittings.
- A check valve installed ahead of the filter inlet will prevent contaminants from draining back into the pool.
- A check valve installed between the filter and heater will prevent hot water from backing up into the filter and deforming the internal components.
- Use only #20 silica sand with a screen mesh of .45 to .55 mm. Use of other sands will reduce the filter performance.
- All wiring, grounding and bonding of associated equipment must meet local and/or National Electrical Code standards.

Section 1

Introduction

Tagelus® Deluxe Sand Filter System Overview

Paired for performance and value

Start with Tagelus®, a sand filter that's been a leader for years. Combine it with the proven, efficient and durable Dynamo® pump. The result is a filtration and circulation system engineered to provide superior performance, longevity and lifetime value.

Add an optional Rainbow Lifeguard™ automatic chlorine/bromine dispenser (*shown in photo*) for extra convenience. It provides automatic sanitization by metering water treatment chemicals at a controlled rate to eliminate the guesswork. Now you have a total system for clean, clear and safe water the easy way.

Engineered for effectiveness, ease and economy

The goal of any circulation and filtration system is clean water achieved with little time, attention or energy consumption. That's why the Tagelus® system shines.



Tagelus® Sand Filter System
shown with optional pad and
Chlorinator

General Features

- Tagelus® filters include design features that continuously flatten and level the sand inside the tank, a key to more effective and efficient filtration, and longer run times between backwashing.
- Dynamo® is a pumped-up pump — all components are fiberglass reinforced for superior strength and durability for lasting value.
- Dynamo's unique diffuser and impeller provide excellent pressure performance across a wide range of flow rates. *Translation: it's highly efficient and economical to operate.*
- Pump motor features convenient on/off switch.
- Large pump strainer basket extends time between cleanings.
- Transparent pump lid permits easy inspection of basket.
- Combination sand and water drain speeds service and winterizing of filter.

Additional Features:

- Tagelus' time-proven internal design ensures water is exposed to maximum surface area of sand for optimal filtration performance. The result is consistent, crystal clear water for years.
- Tagelus' tank is constructed in one piece from fiberglass reinforced material to deliver unmatched strength and durability for years.
- Dynamo® pump is self-priming to protect internal components and ensure long life.
- Dynamo® pump is UL listed and CSA certified for your peace of mind.

Valve Features:

- Easy does it. Tagelus® features the handy six-position Multiport valve with manual air relief valve and a sight glass to make inspections, routine maintenance and operation fast, easy and always safe. Pressure gauge also included.
- Tagelus' 6-function Multiport valve for easy control of all filter functions:
 - Filter
 - Backwash
 - Rinse
 - Waste
 - Closed
 - Recirculate

Section 2

Installation

The following general information describes how to install the Tagelus® Sand Filter System.

Note: **Before installing this product, read and follow all warning notices and instructions starting on page ii.**

Installing the Tagelus® Sand Filter System

Only a qualified service person should install the Tagelus® Sand Filter System.

Tagelus® Introduction

The following general information describes how to install the Tagelus® Sand Filter System. This system operates under pressure and if assembled improperly or operated with air in the water circulation system it can separate and result in an accident causing serious bodily injury or property damage. A warning label has been affixed to the filter and should not be removed. Keep safety labels in good condition and replace if missing or illegible.

How your Tagelus® Sand Filter System works

The system consists primarily of a centrifugal pump, a high rate sand filter with control valve, a connecting hose and a mounting base.

Your centrifugal pump is driven by an electric motor. The motor is directly attached to the pump impeller. As the electric motor turns, it causes the impeller to turn and this causes the water to flow. The water flows into the hair and lint pot inlet and through the basket assembly to pre-strain large particles. The flow then enters the center of the pump housing. The flow goes through the impeller into the stationary diffuser, out the pump discharge port, through the connecting hose and into the filter control valve.

Dirt is collected in the filter as the water flows through the control valve at the top of the filter and is directed downward onto the top surface of the filter sand bed. The dirt is collected in the sand bed and the clean water flows through the lower piping at the bottom of the filter, up through the center pipe into the control valve at the top of the filter. Clean water then returns through the piping system to the pool.

The pressure will rise and the flow to the pool will be lowered as the dirt is collected in the filter. Eventually, the filter will become so plugged with dirt that it will be necessary to perform the backwash procedure. It is important to know when to backwash the filter. Backwashing is discussed further under the subsequent sections of this booklet.

Refer to **Table 1** for Filter Operation Data.

Table 1.

Model Number	Filter Area Sq. Ft.	Vertical Clearance*	Filter Diameter	Required Sand†† (Lbs.)	Flow Rate GPM**	Turnover Capacity (Gallons)		
						8hrs.	10hrs.	12hrs.
TA 40D DYNII-N1-1hp†	1.8	47"	19"	175	40	19,200	24,000	28,800
TA 40D DYNII-N1-1hp	1.8	47"	19"	175	40	19,200	24,000	28,800
TA 40D DYNII-N1-1.5hp	1.8	47"	19"	175	40	19,200	24,000	28,800
TA 50D DYNII-N1-1.5hp†	2.3	47"	21"	225	50	24,000	30,000	36,000

† System does not contain hose kit

* Required clearance to remove the valve

Maximum operating pressure is 50psi

†† Use standard #20 silica sand

** Maximum flow rate

Your six position valve is designed to provide all the necessary positions required to operate, maintain, troubleshoot and service your filter. It is provided with six operating positions and one Winterize position.

⚠ WARNING — Air entering the filter and a valve clamp not closed properly can cause the valve to blow off and could cause severe bodily injury and/or property damage.

The valve is equipped with an external air bleeder device. Always open this air bleeder and stand clear of filter and valve before starting the system pump and leave open until a steady stream of water is expelled.

⚠ CAUTION — To prevent equipment damage and possible injury, always turn pump off before changing valve positions.

The valve has a closed position. The pump should never be on when the valve is in the closed position. If the pump is operated with the valve closed, the air relief system becomes inoperative and an explosive situation could exist. Additionally, running the system with no flow will seriously damage the equipment.

VALVE POSITIONS AND WATER FLOW DIRECTIONS

FILTER -	From pump, through valve downward thru filter sand bed, up through center pipe to valve RETURN port for normal filter action and vacuuming pool thru filter.
BACKWASH -	From pump through valve, down through center pipe, upward thru sand bed, and to valve WASTE port for cleaning filter by reversing flow.
RINSE -	From pump through valve downward thru filter sand bed, up through center pipe to valve WASTE port for start-up cleaning and resetting filter bed after backwashing.
WASTE -	From pump through valve bypassing filter going to WASTE port for vacuuming directly to waste, lowering pool level, or draining pool.
CLOSED -	NO FLOW - DO NOT USE THIS SETTING WITH PUMP OPERATING.
RECIRCULATE -	From pump, through valve, bypassing filter and going to return port for circulating water without going thru filter.

Please note that a filter removes suspended matter and does not sanitize the pool. The pool water must be sanitized and the water must be balanced for sparkling clear water. Pool chemistry is a specialized area and you should consult your local pool service specialist for specific details. In general proper pool sanitation requires a free chlorine level of 1 to 2 PPM and a PH range of 7.2 to 7.6.

Your filtration system should be designed to meet your local health codes. As a minimum, you must be sure that your system will turnover the total volume of water in your pool at least twice in a twenty-four hour period.

⚠ WARNING — Failure to operate your filter system or inadequate filtration can cause poor water clarity obstructing visibility in your pool and can allow diving into or on top of obscured objects, which can cause serious personal injury or drowning.

Installation

WARNING — THIS FILTER OPERATES UNDER HIGH PRESSURE.



When any part of the circulating system, (e.g., closure, pump, filter, valve(s), etc.), is serviced, air can enter the system and become pressurized. Pressurized air can cause the top closure to separate which can result in severe injury, death, or property damage. To avoid this potential hazard, follow these instructions:

1. If you are not familiar with your pool filtering system and/or heater:
 - a. **Do NOT** attempt to adjust or service without consulting your dealer, or a qualified pool technician.
 - b. Read the entire Installation & User's Guide before attempting to use, service or adjust the pool filtering system or heater.
 2. Before repositioning valve(s) and before beginning the assembly, disassembly, or any other service of the circulating system: (A) Turn the pump **OFF** and **shut OFF** any automatic controls to ensure the system is NOT inadvertently started during the servicing; (B) open the manual air bleeder valve; (C) wait until all pressure is relieved.
 3. Whenever installing the filter closure **FOLLOW THE FILTER CLOSURE WARNINGS EXACTLY.**
 4. Once service on the circulating system is complete **FOLLOW INITIAL START-UP INSTRUCTIONS EXACTLY.**
 5. Maintain circulation system properly. Replace worn or damaged parts immediately, (e.g., closure, pressure gauge, valve(s), o-rings, etc).
 6. Be sure that the filter is properly mounted and positioned according to instructions provided.
1. Read and understand all instructions before attempting to install, operate or maintain your pump and filter system. Due to the different models, some instructions may not apply to your specific system or certain instructions may be duplicated in other component manuals.
 2. Provide space and lighting for routine maintenance access. Locate the system close to the pool. See [Figure 3](#) for typical system installation. Do not mount electrical controls over the filter. One needs to be able to stand clear of the filter when starting the pump. Systems that are unassembled should be assembled at this point. See special instructions below.
 - a. Remove all individual components from carton and inspect for any visible damage. If carton or parts are damaged contact seller or freight company.
 - b. Place the system support base on the ground close to the final location of the unit. See [Figure 1](#).

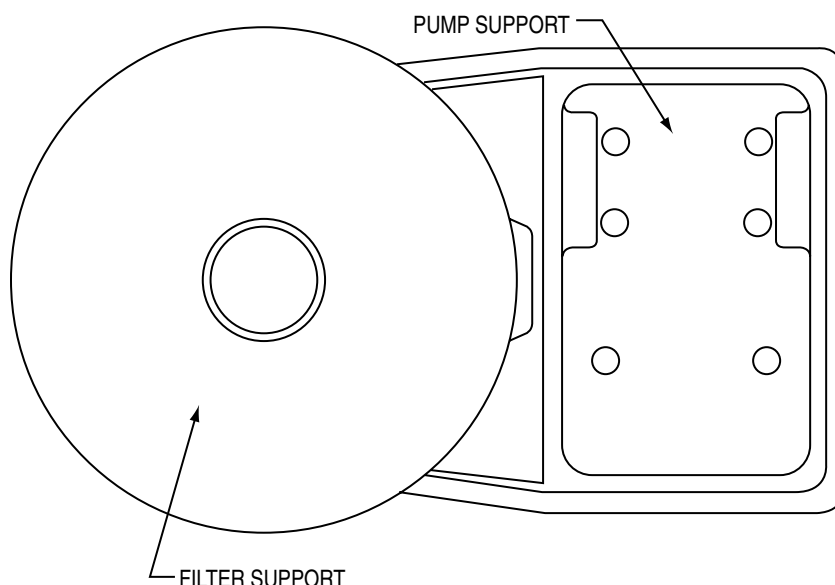


Figure 1.

c. The pump may now be attached to the pump support side of the base using two bolts. The pumps should be positioned as indicated in [Figure 2](#).

3. At this point you need to move the system into its final position. The system must be placed on level solid earth. The entire system filled with sand and water can weigh several hundred pounds.
4. Be certain to install the precise amount of filter sand listed on your filter nameplate. You must use only N°. 20 standard silica sand having a uniformity coefficient of 1.75 or less. N°. 20 silica sand has a particle size of .018-.022 inches (.45 to .55 mm). Before pouring the sand into the filter, look inside and check the lower underdrain for broken or loose laterals (or fingers), which may have been accidentally damaged by rough handling during shipment. Replace any broken parts if necessary.
5. Install the sand guide in the top of the filter and fill the tank about half full with water. Pour the sand into the top of the filter at a slow rate so that the weight of the sand does not damage the laterals. After filling to the proper level, remove and discard the sand guide. Wash away all sand around the opening at the top of the tank.
6. Be sure top of filter is free of any sand or debris and valve o-ring is in place on valve body. Install valve so that the port locations are in the desired final position. See [Figure 3](#).
7. Insure that the valve is firmly pushed into the top of the tank and that the flange of the tank and the flange of the valve are contacting each other. See [Figure 4](#).
8. The plastic clamp can now be installed. Place the clamp half over the valve flange and the tank flange as shown in [Figure 4](#). Insert the valve screws and nuts into the clamp half making sure that the nuts are located in the special hexagonal retainer slots on the clamps. See [Figure 5](#).
9. Tighten clamp screws firmly and visually check the valve tank and clamp assembly to insure that the joint is correctly assembled.



WARNING — Improper tank valve assembly could cause the valve to blow off and cause severe injury and/or property damage.

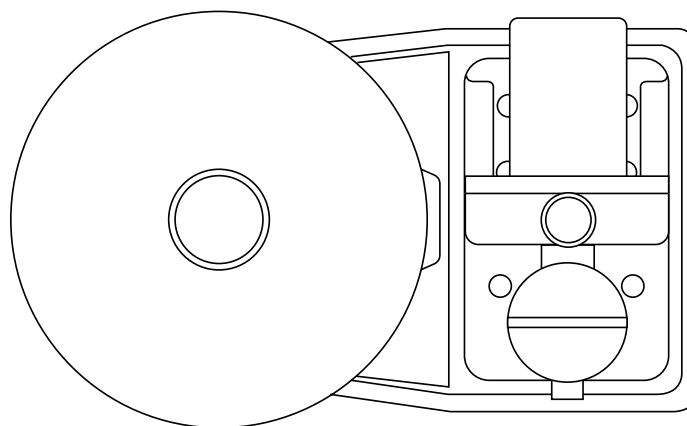


Figure 2.

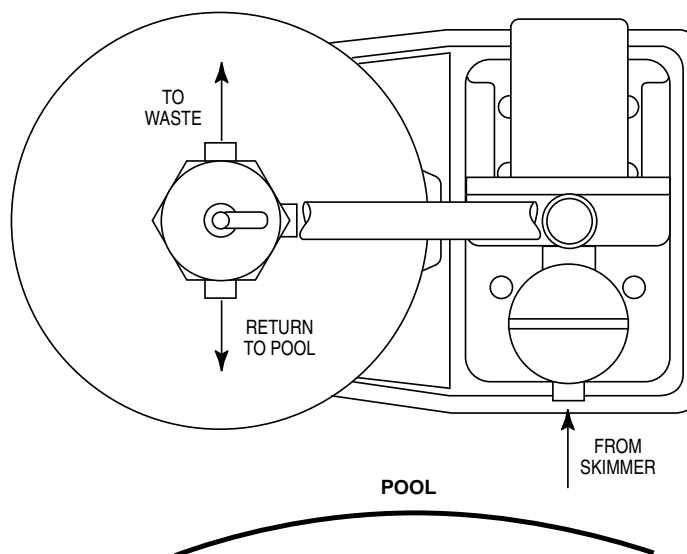


Figure 3.

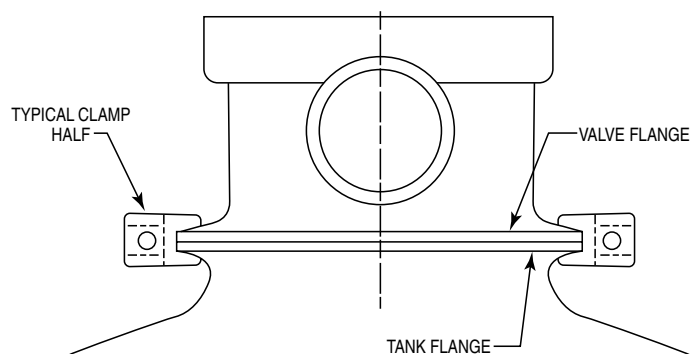


Figure 4.

10. Valve ports are labeled with the location of where they should be connected, (i.e. pump port must go to pump discharge, waste port must go to the waste line and return port must go to the pool return).
11. Pump discharge hose has a 1½" NPT threaded end that connects to the valve (pump port) first and the other end has a quick disconnect union nut that connects to the pump discharge port. The suction and return hoses connect to the valve labeled ports with the hose adapter and clamp appropriately.
12. The filter unit has a maximum operating pressure listed on the filter name plate. **DO NOT OPERATE this unit above the maximum operating pressure of the valve or the filter.** Never connect the filter and valve unit to a pump which can generate a pressure that exceeds the operating pressure of the filter or valve.
13. Use sealant on all tapered male connections of pipe and fittings. Use only sealant compounds suited for plastic pipe. Support pipe to prevent strains on filter, pump or valve. **DO NOT USE PETROLEUM BASED PRODUCTS. NOTICE: All valve internal threads are tapered except the air bleeder connection. Do not over tighten tapered thread connection.**

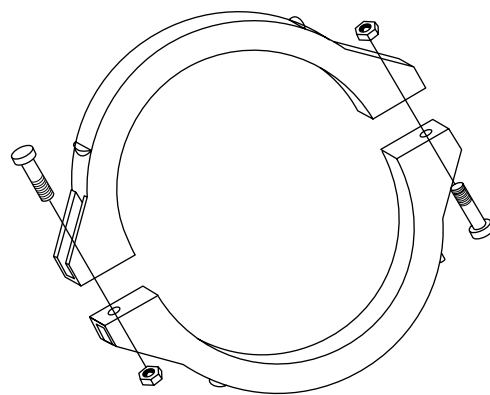


Figure 5.

⚠ WARNING — Chemical fumes and/or spills can cause severe corrosive attack to the filter and pump structural components. Structurally weakened components can cause filter, pump or valve attachments to blow off and could cause severe bodily injury or property damage.

⚠ WARNING — The system's centrifugal pump operates with electrical voltage, and can generate both vacuum and pressure in the water system. When properly wired and plumbed, this pump will operate in a safe manner.

⚠ WARNING — Hazardous voltage can cause severe or fatal injury. Always install a suitable GFCI at the power source of this unit as an added safety precaution. Article 680-31 of the NEC requires that a GFCI be used if this pump is used with storable pools.

14. Install pressure gauge in ¼" NPT port directly across from the pump port of the valve.
15. Never store pool chemicals within 10 feet of your pool filter, pump or valve. Pool chemicals should always be stored in a cool, dry, well ventilated area.
16. Avoid over tightening the pipe threads when connecting fittings to the pump or valve. Proper procedure is to apply a pipe sealant to the thread and then install hand tight plus one (1) turn. **DO NOT OVER TIGHTEN.**
17. The pump suction line should not be smaller than the pipe size on the inlet of the pump.

⚠ WARNING — Blockage of suction fittings can cause severe or fatal injury due to drowning. Small children using pool/spa equipment must always have close adult supervision. To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.



WARNING — Never work on pump while it is running or power is still connected; hazardous voltage can cause severe or fatal injury. A suitable ground fault interrupter should always be installed at the power supply source of this unit.



Ground motor before connecting to electrical power supply. Failure to ground motor can cause severe or fatal electrical shock hazard. **Do not ground to a gas supply line.**

18. Electrical connection of the pump should be performed by a licensed electrician in accordance with the National Electrical Code or your local electrical code.
19. Use the lug on top of motor frame to bond together motor and all metallic parts of pool, spa, or hot tub structure and all electrical equipment, metal conduit, and metal piping with a solid copper conductor not less than No. 8 AWG.
20. The pump motor must be wired for the proper voltage in accordance with the wiring diagram supplied with the motor. **(Wiring the motor with the incorrect supply voltage will cause damage to the motor and void the warranty.)**
21. The wiring to the motor should be kept as short as possible and large enough NOT to cause an excessive voltage drop which could damage your pump. Use **Table 1** as a guide to ensure adequate voltage is supplied to the pump.
22. The product may be furnished with a 6' - 3 prong Test Cord. The cord is provided for your convenience to allow you to check the pump operation *before* installing the system on the pool. The test cord should **NOT** be used for permanent connection.

When checking the pump operation, do not run the unit longer than 30 seconds. Damage to the pump on the mechanical seal could result if ran longer than 30 seconds.



WARNING —FOR CORD AND PLUG CONNECTED UNITS




RISK OF ELECTRICAL SHOCK - Connect only to a grounding type receptacle protected by a Ground Fault Circuit Interrupter (GFCI). Contact a qualified electrician if you cannot verify that the receptacle is protected by GFCI. Failure to ground motor can cause severe or fatal electrical shock hazard.

Do Not Bury Cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers, and other equipment.


RECOMMENDED CIRCUIT BREAKER AND WIRING DATA					
Motor HP	Branch Circuit	Volts/Hz /Phase	Dist. in Ft. of Branch Circuit		
			0-50 Ft.	50-100 Ft.	
3/4	15 AMP	115/60/1	#14	#14	Min. Service
1	15 AMP	115/60/1	#12	#12	Wire
1-1/2	20 AMP	115/60/1	#12	#10	Size
1-1/2	15 AMP	230/60/1	#14	#14	To Motor


Table 1.

Initial Start-up

 **WARNING** — To reduce the risk of electric shock, replace damage cord immediately. To reduce the risk of electric shock, do NOT use an extension cord to connect unit to electric supply; provide a properly located outlet.

1. Clean a new pool before filling it with water. Excessive dirt and large particles can cause damage to your pump and filter system.
2. Ensure that the backwash line is open so that water is free to come from the pool and flow out the backwash line. Set the valve in backwash position.
3. Make sure the pump pot is full with water before starting the pump.


 **WARNING** — Never run the pump dry. Running the pump dry may damage the seals and pump housing. This could allow water leakage and flooding.

 **WARNING** — Air entering the filter and a valve clamp not closed properly can cause the valve to blow off and could cause severe bodily injury and/or property damage.

Keep all air vents on underside of motor (or motor enclosure) free of debris to ensure proper cooling of motor.

4. Check valve clamp on filter for proper assembly. (See instructions under installation section of this manual if in doubt.)
5. Open the manual air bleeder on filter. **STAND CLEAR OF THE FILTER** and start the pump allowing it time to prime.
6. Close the air bleeder on the filter when a steady stream of water emerges.

NOTICE: Pool Filter Sand is typically pre-washed and should not require extensive backwashing. However, the shipping process may cause excessive abrasion which could require an extended backwash cycle at initial start-up; continue to backwash for 3 minutes.

 **CAUTION** — To prevent equipment damage and possible injury, always turn the pump off before changing the valve position.

7. Stop the pump. Set the valve to the filter position.
8. Ensure all suction and pool return lines are open so that water is free to come from the pool and return to the pool.
9. Open the manual air bleeder on the filter. **STAND CLEAR OF THE FILTER** and start the pump.
10. Close the air bleeder on the filter when a steady stream of water emerges.
11. The filter has now started its filtering cycle. You should ensure that water is returning to the pool and take note of the operating pressure when the filter is clean.



Section 3

Maintenance

This section describes how to maintain your Tagelus® Deluxe Sand Filter System.

Filter Care

The pool pump and filter system is a very important part of your pool installation. Proper care and maintenance will add many years of service and enjoyment to the pool. Follow these suggestions for long trouble free operation.

1. To clean the exterior of the pump and filter system of dust and dirt, wash with a mild detergent and water and then hose off. Do not use solvents.
2. If internal filter maintenance is required, sand may be removed by removing the entire drain spigot from the bottom of the filter and flushing with a garden hose.



WARNING — Always visually inspect system components during normal servicing to ensure structural safety. Replace any item which is corroded, bent or otherwise visually defective. Defective filter components can allow the filter top or attachments to blow off and could cause severe bodily injury or property damage.

3. Your filter is a pressure vessel and should never be serviced while under pressure. Always relieve tank pressure and open air bleeder on filter before attempting to service your filter.
4. When restarting your filter always open the manual air bleeder on the filter and STAND CLEAR OF FILTER.
5. The strainer basket in the pump should be inspected and cleaned twice each week. Remove the clear lid and the basket, and clean debris from basket. Inspect the lid o-ring; if damaged, replace. The pump seal requires no lubrication. The motor should only be serviced by a motor service center.

CLEANING FREQUENCY

1. The filter on a new pool should be backwashed, and cleaned after the first 48 hours of operation to clean out construction debris.
2. There are three different ways to identify when the filter needs backwashing:
 - a. The most accurate indicator on pool systems with a flow meter is to backwash when the flow decreases 30% from original (clean filter) flow. For example, if the original flow was 60 GPM, the filter should be backwashed when the flow is reduced by about 20 GPM (or 30%) to 40 GPM.
 - b. A more subjective and less accurate indicator is to observe the amount of water flowing from the flow directionals located in the wall of the pool. The filter should be backwashed once it is detected that the flow has been reduced.
 - c. The most commonly used but least accurate indicator is to backwash when the filter gauge reading increases 10 psi over the initial (clean filter) reading.
3. It is important not to backwash the filter solely on a timed basis such as every three days. It is also important to note that backwashing too frequently actually causes poor filtration. Factors like weather conditions, heavy rains, dust or pollen, and water temperatures all affect the frequency of backwash. As you use your pool, you will become aware of these influences.

FILTER BACKWASH PROCEDURE



CAUTION — To prevent equipment damage and possible injury, always turn off pump before changing valve positions.

1. Stop pump.
2. Ensure that the suction and backwash lines are open so that water is free to come from the pool and flow out the backwash line. Set control valve to backwash position.
3. STAND CLEAR OF FILTER and start pump.
4. Backwash filter for approximately 3 minutes or until backwash water is clean.
5. Stop pump and set valve to rinse position.
6. STAND CLEAR OF FILTER and start pump.
7. Rinse filter for approximately 30 seconds.
8. Stop pump and set valve to filter position.
9. Ensure that pool return line is open so that water may flow freely from the filter back to the pool.
10. Open manual air bleeder on filter. STAND CLEAR OF FILTER and start pump.
11. Close manual air bleeder on filter when a steady stream of water emerges from the bleeder.
12. The filter has now started its filtering cycle. You should ensure that water is returning to the pool and take note of the filter pressure.
13. The filter pressure in step 12 above should not exceed the pressure originally observed on the filter when it was initially started. If after backwashing, the pressure is 4 to 6 psi above the start condition it will be necessary to chemically clean the sand bed.

CHEMICAL CLEANING

1. It is recommended that one of the following cleaners be used:

FILTER CLEANSE™ - Advantis Technologies, Inc.

KLEEN IT™ - BioLab, Inc.

These cleaners will remove oils, scale and rust from the sand bed in one cleaning operation.

2. Mix a solution following the manufacturer's instructions on the label.
3. Backwash the filter with the valve **as outlined above**.
4. If filter is below pool level, shut off pump and close appropriate valving to prevent draining the pool.
5. Shut off pump, open filter drain and allow filter to empty. Place valve in backwash position.
6. After the filter has drained, close the filter drain and remove the pump strainer pot lid.
7. Ensure that the backwash lines are open.
8. Turn the pump on and slowly pour the cleaning solution into the pump strainer with the pump running. If filter is below pool, open shut off valve slightly to allow pump to run.
9. Continue adding solution until the sand bed is saturated with cleaning solution.
10. Shut off the pump and leave filter in backwash position. Allow filter to stand overnight (12 hours).
11. Replace the pump lid and follow backwash procedure outlined above.
12. Do not allow the cleaning solution to get into the pool.


REPLACEMENT of VALVE TOP and DIVERTER ASSEMBLY

Should the filter control valve stop functioning properly, the problem can usually be corrected by replacing the top and diverter assembly as described below.

1. Shut off pump and open air bleeder to relieve all internal pressure.
2. Set valve handle to winterize position.
3. Remove 6 cover screws, washers and nuts.
4. Lift off valve top and diverter assembly.

NOTICE: Valve diverter assembly has the sealing gasket attached to the diverter. When handling the diverter, use caution to prevent the sealing surface from being damaged during handling.

5. Clean valve body sealing surface with a soft clean lint free cloth. Inspect surface for damage such as scratches or nicks. If surface is damaged, the valve body must be replaced.
6. Carefully lubricate the new valve top replacement o-ring with a silicone based lubricant or soapy water. Do **NOT** use Vaseline or a petroleum based lubricant.

 **WARNING** — Improper tank valve assembly could cause the valve to blow off and cause severe injury or property damage.

7. Place the new valve top handle in the winterize position. Install new valve top and diverter assembly making sure the small recess on the lid and small bump on valve body are aligned. Install all 6 screws with back-up washer under the screw head. Use nuts on each screw and finger tighten all 6 screws.

Screws should be tighten progressively by tightening diametrically opposite screws and following a criss cross pattern. Tighten all 6 valve top attachment screws snug. DO NOT OVER TIGHTEN.

WINTERIZING the COMPONENTS

NOTICE: Allowing water to freeze in the system will damage the system and cause potential water damage/flooding and potential property damage.

1. In areas that have freezing winter temperatures, protect the pool equipment by backwashing the filter.
2. After backwashing, shut the pump off, open the manual air bleeder on the valve and move the handle to winterize position.
3. Remove the wing-type plug on the bottom of the filter. The filter will drain very slowly, and therefore, it is recommended that the drain plug be left out during the shutdown season.

NOTE: The Multiport Valve should be left in the winterize position during the shutdown season so the valve diverter has no pressure on the rubber seal.

4. Drain all water from the pump housing and piping when freezing temperatures are expected. Remove both drain plugs from the pump to ensure the pump will drain completely.
5. If the pump can be removed and placed in an inside dry location this should be done.
6. For an outdoor unprotected location, it is best to protect the equipment in a weather proof enclosure.
7. We recommend covering the equipment with a tarpaulin or plastic sheet to inhibit deterioration from weather. DO NOT WRAP PUMP MOTOR WITH PLASTIC because condensation could form inside the motor.
8. In installations where the pump cannot be drained a 40% propylene glycol 60% water solution will protect to -50 degrees F.

NOTICE: Do not use anti-freeze solutions except Propylene Glycol; as other anti-freeze is highly toxic and will damage the pump.

Section 4

Troubleshooting

Use the following troubleshooting information to resolve possible problems with your Tagelus® Sand Filter system.

WARNING — THIS FILTER OPERATES UNDER HIGH PRESSURE.



When any part of the circulating system, (e.g., clamp, pump, filter, valve(s), etc.), is serviced, air can enter the system and become pressurized. Pressurized air can cause the lid to be blown off which can result in severe injury, death, or property damage.

1. If you are not familiar with your pool filtering system and/or heater:
 - a. **Do NOT** attempt to adjust or service without consulting your dealer, or a qualified pool technician.
 - b. Read the entire Installation & User's Guide before attempting to use, service or adjust the pool filtering system or heater.

Note: Turn off power to unit prior to attempting service or repair.

Problems and Corrective Actions

Problem	Cause	Remedy
Pool water not sufficiently clean	<ol style="list-style-type: none"> 1. Pool chemistry not adequate to inhibit algae growth. 2. Too frequent backwashing. 3. Improper amount or wrong sand size. 4. Inadequate turnover rate. 	<p>Maintain pool chemistry or consult pool service technician.</p> <p>Allow pressure to build to 10 psi above clean filter condition before backwashing.</p> <p>Check sand bed depth and sand size or consult pool service technician.</p> <p>Run system for longer time or consult dealer or pool service technician.</p>
High filter pressure	<ol style="list-style-type: none"> 1. Insufficient backwashing. 2. Sand bed plugged with mineral deposits. 3. Partially closed valve or restriction in return line. 	<p>Backwash until effluent runs clear.</p> <p>Chemically clean filter.</p> <p>Open valve or remove obstruction in return line.</p>
Short cycles	<ol style="list-style-type: none"> 1. Improper backwash. 2. Pool chemistry not adequate to inhibit algae growth. 3. Plugged sand bed. 4. Flow rate too high. 	<p>Backwash until effluent runs clear.</p> <p>Maintain pool chemistry or consult pool service technician.</p> <p>Manually remove top 1" surface of sand bed and chemically clean as required.</p> <p>Restrict flow to capacity of filter.</p>
Sand returning to pool	<ol style="list-style-type: none"> 1. Broken underdrain lateral. 2. Backwash rate too high. 	<p>Replace broken or damaged laterals.</p> <p>Reduce backwash flow rate.</p>

Troubleshooting, cont'd.

Problems and Corrective Actions

Problem	Cause	Remedy
Pump will not prime	<ol style="list-style-type: none"> 1. No water in strainer pot. 2. Strainer pot lid is not tight. 3. Damaged lid o-ring. 4. Water level is below skimmer. 5. Strainer basket or skimmer basket is clogged. 6. Closed valve in piping system. 7. Pump is on low speed (two speed units only). 8. Air leak in suction line. 	<p>Add water to pot.</p> <p>Tighten lid.</p> <p>Replace o-ring.</p> <p>Adjust pool water level.</p> <p>Clear basket.</p> <p>Check all valves and open all necessary valves.</p> <p>Adjust to high speed.</p> <p>Find and fix leak.</p>
Low Flow-High Filter Pressure	<ol style="list-style-type: none"> 1. Filter is dirty. 2. Restriction in return line. 	<p>Clean filter.</p> <p>Open return line restriction.</p>
Low Flow-Low Filter Pressure	<ol style="list-style-type: none"> 1. Strainer basket or skimmer basket clogged. 2. Clogged impeller. 3. Air leak in suction line. 4. Restriction in suction line. 	<p>Clean basket.</p> <p>Clean obstruction.</p> <p>Find and fix Leak.</p> <p>Find and open restriction.</p>
Motor does not turn	<ol style="list-style-type: none"> 1. Power switch is "Off". 2. Circuit breaker has tripped. 3. Pump is in "Off" mode of a timer controlled circuit. 4. Motor terminal connections are incorrect. 5. Motor shaft is locked by bad bearing. 6. Impeller is locked by debris. 	<p>Check power switch and reset.</p> <p>Check circuit breaker and reset, if re-trips contact an electrician.</p> <p>Check timer mode.</p> <p>Have terminal connections checked by electrician.</p> <p>Have motor bearings replaced or replace pump.</p> <p>Clean impeller.</p>
Motor overheating	<ol style="list-style-type: none"> 1. Electrical supply connections are incorrect. 2. Wiring to pump is undersized. 3. Power Company supply voltage is low. 4. Ventilation is inadequate for motor. 	<p>Have terminal connections checked by electrician.</p> <p>Consult electrician to rewire pump.</p> <p>Notify Power Company.</p> <p>Remove any restrictions to air flow.</p>
Leak to waste port	<ol style="list-style-type: none"> 1. Dirt or sand under seal. 2. Damaged seal. 3. Damaged valve body in seal area. 	<p>Remove valve top and clean seal area.</p> <p>Replace valve top assembly.</p> <p>Replace valve body.</p>
Leakage at port connections to valve	<ol style="list-style-type: none"> 1. Cracked ports. 2. Did not use sealant on threads. 	<p>Replace valve body. Use proper assembly and do not over tighten port connection.</p> <p>Use proper sealant.</p>
Leakage at valve attachment to filter	<ol style="list-style-type: none"> 1. Leakage past o-ring. 	<p>Remove valve and inspect o-ring and sealing surface; replace as necessary.</p>
Leakage at handle	<ol style="list-style-type: none"> 1. Leakage past o-ring. 	<p>Replace valve top assembly.</p>
Leakage at top of valve to valve body	<ol style="list-style-type: none"> 1. Leakage past o-ring. 	<p>Remove valve top and inspect o-ring and sealing surface, replace as necessary.</p>

Section 5

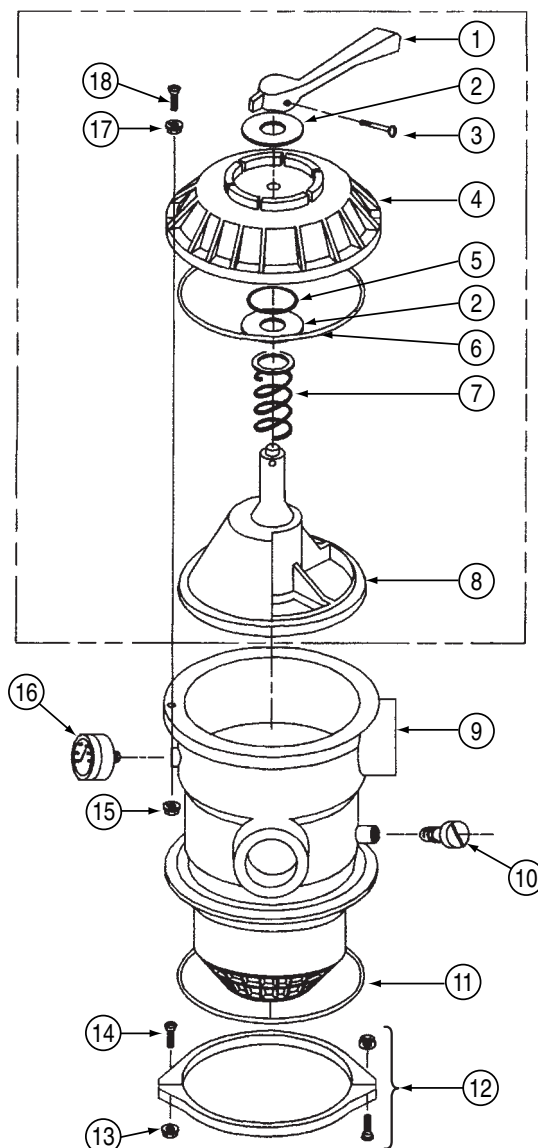
Replacement Parts

Replacement Parts List – 6-Way Valve

Item	Part No.	Description	Qty.
1	272520	Handle	1
2	272505	Washer - Plastic	2
3	272405	Screw - Handle	1
4	270085	Valve Top - Black	1
5	272511	O-Ring - Diverter Shaft	1
6	354053	O-Ring	1
7	272535	Spring - 100 Lb. - 1-3/8" O.D. s/s	1
8	272512	Diverter w/Gasket	1
9	272530	Valve Body w/Differ - Clamp Style	1
10	273512	Air Bleeder w/O-Ring	1
11	272541	O-Ring - 3/16" x 4-5/8" I.D.	1
12	152165	Clamp Assy. (See Note 2)	1
13	152167	Nut - #M6 S/S	2
14	152168	Screw - #M6X1 Pan HD Phillips s/s	2
15	272554	Nut - #10-24 Serrated Flange s/s	6
16	190059	Pressure Gauge	1
17	272555	Washer - 9/16" s/s	6
18	354541	Screw - #10-24 Hex Pan HD	6

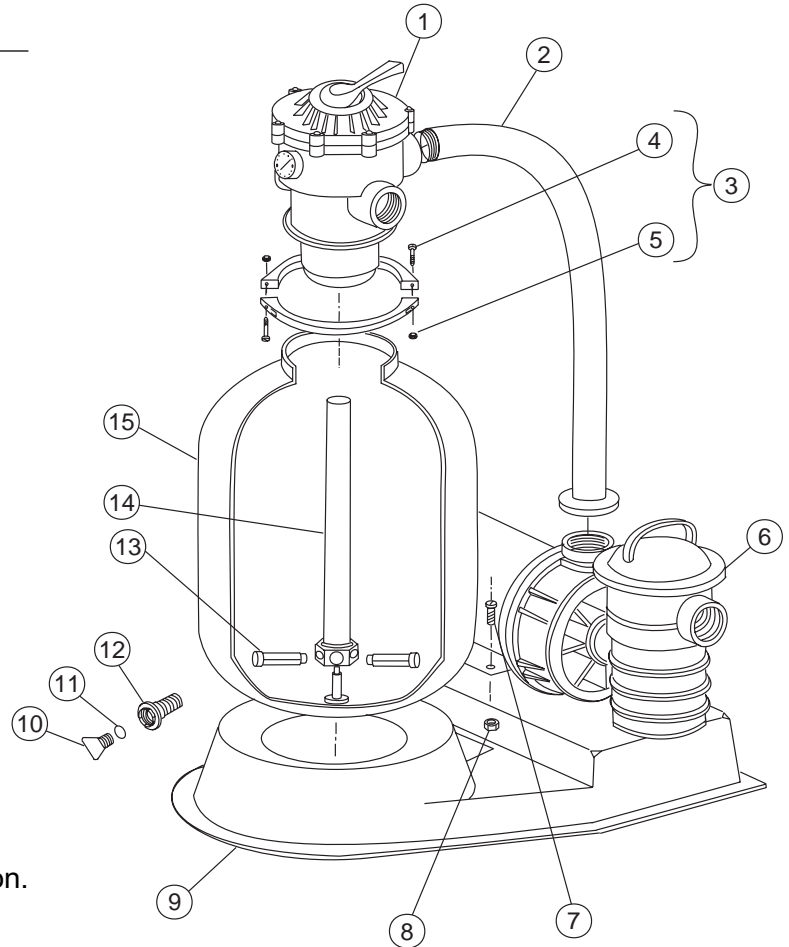
NOTE: 1. Valve Top Assembly P/N 272531 consists of items 1 thru 8 and valve instructions 272517.

2. Clamp Assembly P/N 152165 consists of (2) clamp halves and items 13 thru 14.



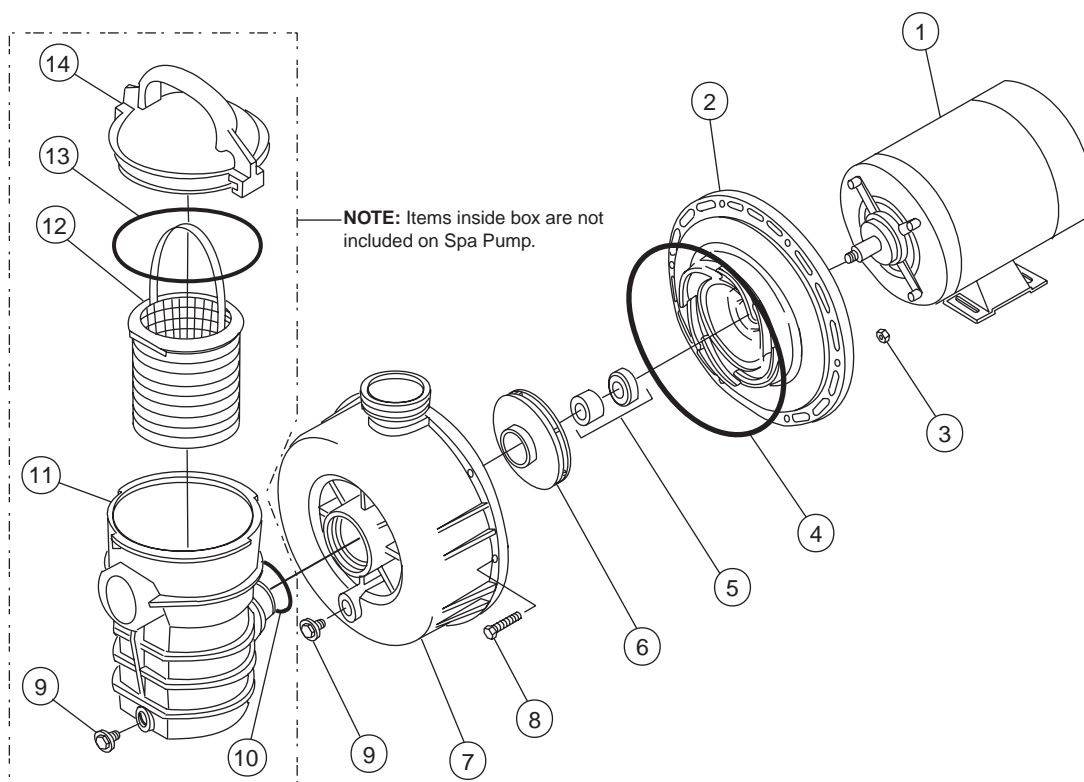
Replacement Parts List – Tagelus® Sand Filter

Item	Part No.	Description	Qty.
1		Valve - See Note 1	1
2	155285	Hose Assembly - TA 35	1
2	155278	Hose Assembly - TA 40	1
2	155283	Hose Assembly - TA 50	1
3	152165	Clamp Assembly	1
4	152168	Screw - #M6 x 1	2
5	152167	Nut - #M6 x 1	2
6		Pump - See Note 2	1
7	354265	Screw - 5/16 x 18 Hex Hd	2
8	155109	Nut - T4	2
9	152901	Base - Elevated System	1
10	357161	Drain Plug	1
11	192115	O-Ring - Drain Plug	1
12	154698	Drain - Sand	1
13	155007	Lateral - TA 35	8
13	152290	Lateral - TA 40/50	8
14	153455	Piping Assembly - TA 35	1
14	155061	Piping Assembly - TA 40	1
14	155062	Piping Assembly - TA 50	1
15	710015	Tank - See Note 3	1



- NOTE:** 1. See Valve, page 16.
2. See Dealer for correct pump selection.
3. Order filter tank by giving tank color and filter model number. The model number is identified on the filter nameplate.

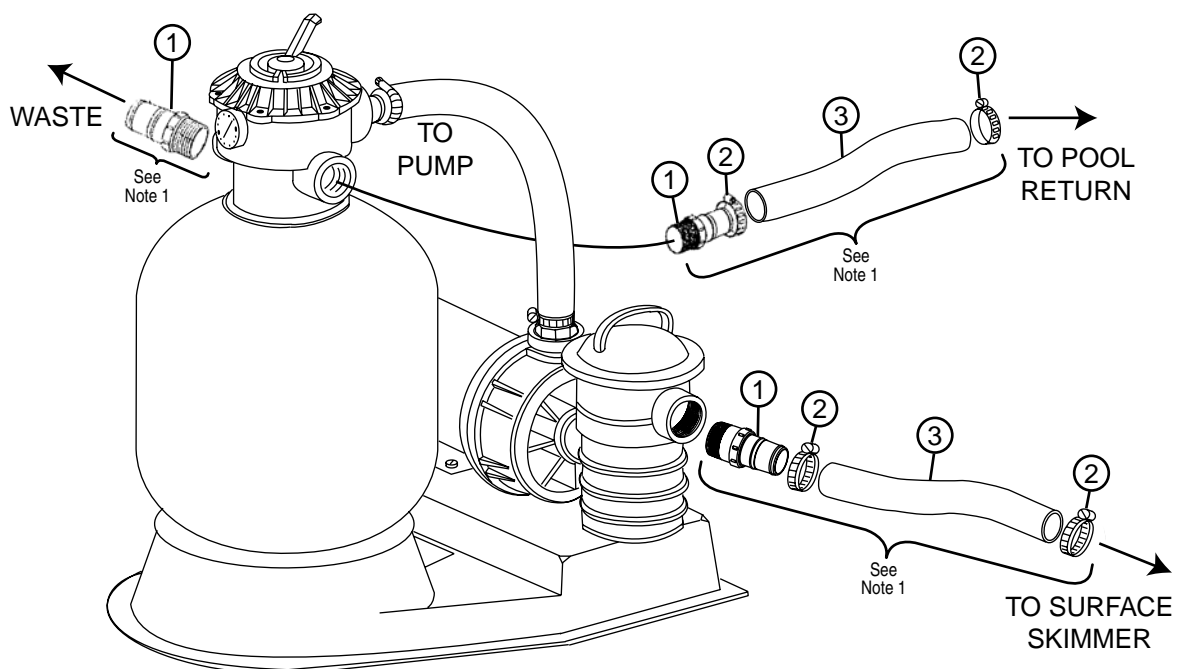
Replacement Parts List – Pump



Item	Part No.	Description	Qty.
1		Motor	1
2	354632	Bracket Diffuser 3/4 HP	1
2	155283	Bracket Diffuser 1 HP, 1½ HP	1
3	354542	Sq. Nut #10-24 s/s	6
4	354634	O-Ring, 3/16" Pump Bracket	1
5	354545	Seal - Mechanical 5/8"	1
6	353002	Impeller Assy., ½ HP	1
6	354552	Impeller Assy., ¾ HP	1
6	355122	Impeller Assy., 1 HP	1
7	354630	Housing - Body	1
8	354541	Screw - Slotted Hex #10-24-1½"	6
9	154481	Plug ¼"	2
10	273062	O-Ring	1
11	354530	Pot	1
12	354548	Basket Assy.	1
13	354533	O-Ring, Lid	1
14	354531	Lid	1

NOTE: For replacement cord or motor, consult factory customer service.

Replacement Parts List – Tagelus® Sand Filter System



Item	Part No.	Description	Qty.
1	711006	Adaptor Double Step	6
2	711004	Hose Clamp 1½"	6
3	155153	Flex Hose 1½" x 6'	2
3	155162	Flex Hose 1½" x 12'	1

NOTE 1: These parts are furnished only when system is purchased with a hose kit.

NOTE: PVC replacement hose with hose Adaptor may be ordered by giving Filter System model number. (See item 2 on page 17.)

SAVE THESE INSTRUCTIONS

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NOTES

