Cleaning System Manual

OWNER'S MANUAL

For PCC2000, PV3, PVR, Cyclean, Pool Valet,

New Gen Pool Valet, Vantage,

Vanquish, VectorJet and EcoPool



004-027-8742-00 REV032516 US and Foreign patents and patents pending see www.1paramount.com/about/patents/

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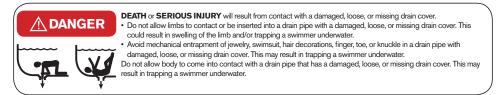


Signal Words and Symbols Used In This Manual

This Owner's Manual and Installation Guide contains specific precautions and symbols to identify safety-related information. You will find DANGER, CAUTION, WARNING and NOTICE symbols which require special attention. Please read them carefully and follow these precautions as indicated! They will explain how to avoid hazards that may endanger you or persons using or maintaining your pool or spa.



Failure to follow these instructions and warnings can result in DEATH OR SERIOUS INJURY.



MAINTENANCE INSTRUCTIONS & WARNINGS:



DEATH or **SERIOUS INJURY** can result from pool or spa drain covers or grates that are clogged by debris. All pool and spa drain covers may become obstructed by debris and should be cleaned periodically due to clogging from debris, such as pieces of plastic, hair, fabric, twigs, leaves, seeds, etc. The frequency of periodic cleaning will vary depending on the amount and type of debris introduced into the

pool or spa. Clogging of the drain cover will increase the suction effect and increase the likelihood of death or serious injury from those hazards listed above. A clogged drain can negatively affect the safety of the drain. It is advisable to have a qualified pool or spa professional perform this inspection and debris removal from the pool an spa drain covers.

SUCTION ENTRAPMENT HAZARD:



DEATH or SERIOUS INJURY will result if a drain cover or grate is not installed and used correctly.

Pool and spa pumps produce high levels of suction and move high volumes of water, which can cause death
or serious injury if a person comes in close proximity to pool or spa drains.

. Keep clear of pool and spa drains to avoid death or serious injury from suction.



DEATH or SERIOUS INJURY will result from pool or spa drain covers or grates that are improperly installed, missing, clogged, or broken.

. Inspect pool and spa regularly to insure that drain covers and grates are properly in place and secured.

- Ensure that drain covers are not damaged, cracked, broken, loose, clogged, not properly secured, or missing because these conditions increase the chance of death or serious injury from entrapment.
- If a drain cover is discovered damaged, cracked, broken, loose, clogged, not properly secured, or missing, you should:
 - · Close the pool or spa immediately; and,
 - Post a closure notice and keep the pool or spa closed until an appropriate ANSI/APSP -16-2011 certified drain cover is properly installed.

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CONGRATULATIONS

Congratulations on your new pool and thank you for choosing one of Paramount's cleaning or circulation systems. This manual will address all of Paramount's systems, the PCC2000, PV3, PVR, Cyclean, Pool Valet, New Gen Pool Valet, Vantage, Vanquish, Step Clean and Eco Pool. Your system may also include a Paramount debris canister and one or more of Paramount's Drains (MDX-R3, MDX2, Buzztop Channel Drain and/or SDX).

WHAT YOU NEED TO KNOW

Your system's performance will be maximized by adhering to the following operating instructions, and can be affected by seasonal weather conditions that may require extended periods of operation. The cleaning performance directly relates to the type and design of your specific Paramount system.

It is recommended you call your pool builder or a professional service company if your pool requires attention.

WHAT IS A WATER VALVE?

The Paramount water valve is fully automatic and operates whenever the pump it's connected to is running. Your Paramount water valve may be connected to your filter pump or a stand-alone "booster" pump.

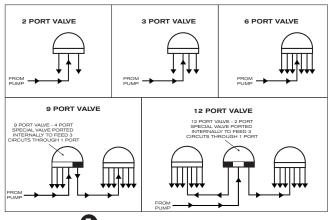
The water valve automatically distributes water to different areas of your pool, which can include the floor, steps, benches, spa and water features. It cycles much like an automatic sprinkler system in your yard switching from one circuit to another (Figure 1 shows the combination of water valves). Every water valve has a center port. This is where the water enters the valve. You will have a 2-port, 3-port, 6-port, 9-port or 12-port system depending on the design of your pool. The port count of the water valve indicates the number of circuits that send water back to your pool or to another water valve. Cleaning nozzles or returns are placed at the end of the circuits.

Combination Water Valves (9-Port and 12-Port)

A 9-port system consists of 2 water valves, a 6-port and a 4-port. The 4-port valve has 3 circuits to the pool and 1 circuit that powers the 6 port valve for a total of 9 circuits going to the pool. On this type of system the 3 circuits on the 4-port valve fire twice as often as the other 6 circuits on the six port valve. Your system is designed specifically to take advantage of this firing sequence.

A 12-port system consists of 3 water valves, two 6-ports and one 2-port, 5 gear valve. The 2-port alternately powers each 6-port valve. Your system is designed specifically to take advantage of this firing sequence.

Figure 1



UNIQUE WATER VALVE FEATURES

The run/pause switch on the top of the valve allows you to pause the system to isolate a circuit in an out of the way area of the pool.

The one-piece replacement module design allows for easy installation.

The gauge on your water valve is important and tells you how the system is operating. Gauges should be replaced when they become unreadable or inaccurate. Never use Teflon tape on a replacement gauge, use a thread sealant that is approved for plastic such as Teflon paste. Hand tighten gauge as over tightening can crack the water valve lid.









WATER VALVE PART NUMBERS

005-302-3590-00 Pressure Gauge



To and DC-

005-302-3502-00 Pause Assembly Includes: Screw Knob, O-Ring & Pawl

005-302-4300-03 Top Dome Complete Includes: Top, Gauge & Pause Assembly

Modules:	
004-302-4400-00	2 Port 4 Gear
004-302-4402-00	2 Port 5 Gear
004-302-4404-00	3 Port
004-302-4406-00	4 Port
004-302-4408-00	6 Port

Band Clamp (Complete) Includes Knob & Nut	005-302-3570-00
Band Clamp Knob	005-302-3600-00
Band Clamp Nut	005-302-0640-00
Base O-Ring	005-302-0100-00
Valve Base (US)*: 005-302-4002-03 005-302-4012-03 005-302-4018-03 005-302-4032-03	2 Port Base 2" Black 3 Port Base 2" Black 4 Port Base 2" Black 6 Port Base 2" Black
Valve Base (Metric): 005-302-4006-03	2 Port Base 63 mm B

005-302-4006-03	2 Port Base 63 mm Black
005-302-4019-03	3 Port Base 63 mm Black
005-302-4020-03	4 Port Base 63 mm Black
005-302-4033-03	6 Port Base 63 mm Black

*US 2" is equivalent to Australian 50 mm.



WATER VALVE INSTRUCTIONS

Turn off all equipment including pumps. Do not stand over valve while the pump is on. Warning: A hazardous situation which, if not avoided, could result in death or serious injury.

How to open the water valve

- 1. Remove the band clamp by turning the clamp knob or 7/16 inch nut counter-clockwise until it comes off the bolt. Then carefully pull the clamp away from the valve.
- 2. Lift the top off the base being careful to not lose or stretch the o-ring. Remove the module by lifting up and out of the base.



The module is designed to seal inside the base so it may require a side to side or rocking motion while lifting out. Do not pull the module by the gear mechanism. This can result in damage to the module.

How to close the water valve

- 1. Check the o-ring and groove for debris, and clean if necessary (this is a quad ring and is almost square, the height is slightly bigger than the width)
- Replace the o-ring if it is stretched or damaged. The o-ring does not require any lubrication. Lubricating The o-ring can attract dirt and debris that could prevent it from sealing. Never use petroleum jelly on plastic or rubber parts, as this will damage them.
- 3. Place the run/pause switch in the run position then install the valve top onto the base. The lid may be rotated in any direction for easy viewing of pressure gauge.
- 4. Place the band clamp around the valve shells and put the clamp knob or 7/16 nut on the threaded bolt.
- Tighten the knob/nut securely. Gently tap the band clamp starting opposite the knob/nut going around both sides. While periodically tightening the knob/nut. Be careful not to over tighten the knob/nut.
- Turn on the pump and inspect the water valve for leaks. If you find leaks, turn off the pump and tighten the band clamp more. If it continues to leak, repeat the above steps. If this doesn't work, replace the o-ring.









Turn off all equipment including pumps. Do not approach the water valve while the lid is removed and the pump is on. Failure to do so can result in injury or death. A hazardous situation which, if not avoided, could result in death or serious injury.

The module is designed to seal inside the base so it may require a side to side or rocking motion while lifting out. An easy solution is to turn the pump on and off quickly. Do not pull the module by the gear mechanism. This can result in damage to the module.

Module Inspection

- 1. Check the o-ring and groove for debris, and clean if necessary (this is a quad ring and is almost square, the height is slightly bigger than the width).
- Replace the o-ring (Part # 005-302-0100-00) if it is stretched or damaged. The o-ring does not require any lubrication. Lubricating o-ring can attract dirt and debris that could prevent it from sealing. Never use petroleum jelly on plastic or rubber parts, as this will damage them.
- 3. Set the module in the base and turn until the alignment pins on the bottom of the module drop into the alignment holes in the base (Figure 3).
- 4. The module should fit in the base without forcing it. If it does not seat easily then check the following.
- (Figure 3) shows the piston portion of the current module design (released 06-2011). These pistons are set at the factory. Do not touch, pull or turn these pistons. Any handling will negatively affect the performance and fit of this product.
- 6. If the flow optimizer (Figure 4) prevents the module from seating properly in the base you may have to remove it. To remove optimizer press in on the 3 clips and pull to separate.

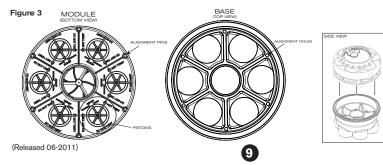


Figure 4



Continued on other side

MODULE ALIGNMENT

Module Installation & Alignment Guide (2-port, 3-port, 4-port)

2-port module alignment

On the 2-port module the ports on top of the module that are attached together by connectors must be centered over the open ports in the valve base.

2 PORT / 4 GEAR // MODULE, BASE

Used for basin & spa applications, Eco Systems & Swing Sweep





Base Part# 005-302-4002-03 (2") 005-302-4006-03 (63mm)

2 PORT / 5 GEAR // MODULE. BASE

Used on 12 port systems to feed the two 6 port valves







Base Part# 005-302-4002-03 (2") 005-302-4006-03 (63mm)

3-port module alignment

On the 3-port module the ports on top of the module that are attached together Used for Eco Systems & Swing Sweep by connectors must be aligned over an open port and a closed port section.

3 PORT // MODULE, BASE







Module Part# 004-302-4404-00

Base Part# 005-302-4012-03 (2") 005-302-4009-03 (63mm)

4-port module alignment

On the 4-port module the ports on top of the module that are attached together by a connector must be aligned over the half of the base that has only one port.

4 PORT // MODULE, BASE

Found on 9 port systems - feeds 6 port valve





Module Part# 004-302-4406-00

Base Part# 005-302-4018-03 (2") 005-302-4020-03 (63mm)

6-port module alignment

The 6-port module can be place in any position as long as the alignment pins line up and the module is seated securely in the valve body.

6 PORT // MODULE, BASE



Module Part# 004-302-4408-00



Base Part# 005-302-4032-03 (2") 005-302-4030-03 (11/2") 005-302-4038-03 (63mm)



RUN/PAUSE CONTROL SWITCH

The run/pause control switch is used to stop the cleaning system circuits from cycling. When switched to the pause position, it will stop on the circuit that is up at that time. The run/pause control switch should only be used when you desire the nozzles not in the up position to remain down or while servicing the system.

Note: The run/pause control switch can be used without turning off the pump, but can cause damage to the water valve or module diaphragms if overused. If you frequently use the run/pause control switch you should turn off the pump first. Always turn the run/pause control switch to the run position when removing and replacing the water valve lid.

Figure 6





NOZZLES (CLEANING HEADS)

All Paramount nozzle locations and sizes are specific to your pool. These nozzles have different sized openings and if removed, should be returned to the same location.

NOTICE

Switching nozzle(s) location will result in poor cleaning and could severely damage your pool equipment.

All of your system nozzles must extend and retract completely with each cycle of the water valve. Depending on the cleaning system, it will take 12 to 18 cycles for a nozzle to rotate 360 degrees. There are two exceptions to this.

The PCC2000 and Vantage systems can have one to three nozzles (called Fixed Nozzles) that do not rotate and remain active while pool filter pump is on. These nozzles are located near the main drain and need to be aimed at the main drain.

The optional Swing Jet nozzles are placed on the sidewall of a pool, and rotate back and forth between three positions in a 90-degree arc. They must retract and extend fully to move to the next position.

NOZZLE REMOVAL /INSTALLATION

NOTICE

Sand and pebbles can get between the body and the nozzle and make it very difficult to remove a nozzle. To make the nozzle removal easier, use a pressure nozzle on a garden hose (like you use to clean the side walk) and blow the debris out between the nozzle and body before using the tool to remove the nozzle. The nozzle is specific to the body it came out of. Always put the nozzle back in the same body it came out of.

Nozzles may need to be removed from time to time for purposes of winterizing or to flush debris from the lines and/or nozzles. There are 3 methods of removing the 8 different types of nozzles.

Method 1: Large Nozzles

For Vanquish, Vantage, PCC2000 and VectorJet floor nozzles see Figure 7. Using the removal tool common to these nozzles, attach the tool to the end of your pool pole placing it over the nozzle and making sure the tool tabs insert into the nozzle slots. Turn the tool clockwise a 1/4 turn to unlock the nozzle and then flift if from the body in the floor of the pool. When replacing the nozzle, be sure the body is free from all debris or the nozzle will not lock in place. Make sure the o-ring on the bottom of the nozzle is in place. Lock the nozzle into the tool on the end of your pool pole and replace the nozzle in the body and turn counter clockwise to lock into the body.

Figure 7





Method 2: Small Nozzles

Some PCC2000 systems used the large floor nozzle in the steps. See Method 1 for removal and installations instructions. PV3, Cyclean and PCC2000 step nozzles see Figure 8. Using the removal tool common to these nozzles, attach the tool to the end of your pool pole placing it over the nozzle and making sure the tool tabs insert into the nozzle slots. Turn the tool counterclockwise a ¼ turn to unlock the nozzle and then lift it from the body in the floor of the pool. Make sure the o-ring on the bottom of the nozzle is in place. When replacing the nozzle, lock the nozzle into the tool on the end of your pool pole and replace the nozzle in the body and turn clockwise to lock into the body.

Method 3: Pool Valet

Pool Valet (released in 1980) and Step Clean see Figure 9. Using the removal tool common to these nozzles, place the ends of the U-shaped tool in 2 of the slots and turn counterclockwise. This is a threaded retainer ring that will require 3 full turns to remove. If you experience difficulty unthreading the retainer ring tap on it gently. This is best accomplished by tapping on the top of the tool. The amount of force necessary can vary depending on how long the nozzle has been installed. When replacing the threaded ring of the nozzle wrap it twice with Teflon tape. This will make for easy removal in the future. Turn it clockwise approximately 3 turns until it is snug in the body.

Method 4: New Generation Pool Valet

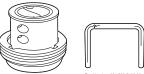
New Pool Valet (October 2012) Using the removal tool common to these nozzles, place the tool in the 4 slots and turn counter-clockwise. This is a threaded retainer ring that will require 1 full turn to remove. If you experience difficulty unthreading the retainer ring tap on it gently. When replacing the nozzle, snap the center of the nozzle into the tool on the end of your pool pole and replace the nozzle in the body, turning clockwise 1 full turn to lock into the body.

Figure 8



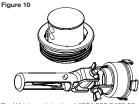
Small nozzle tool part #004-552-5452-00

Figure 9



Part Number: 004-502-5420-00

Pool Valet nozzle tool part #004-502-5420-00



Pool Valet nozzle tool part #004-502-5420-00

OPTIONAL PARAMOUNT DEBRIS CANISTER

Your pool may be equipped with the Paramount optional deck side debris canister (DDC), which would be located in the deck next to your pool or the equipment side debris canister (EDC) on the equipment pad. The debris canister is where the debris from your pool is gathered after it passes through the drain. It is important the debris is emptied from the debris canister's catch basket regularly, just like your skimmer and pump baskets, so your pool equipment will continue to operate efficiently. The DDC has a patented water sealed easy to remove twist lock lid that needs no o-ring. The DDC canister's water sealed lid has an equalizer running from the debris canister to the pool to keep water on top of the lid. The equalizer line must be kept clear from obstructions.



RELATIONSHIP WITH POOL EQUIPMENT

Cleaning Systems Powered by the Filter Pump

Pumps must be capable of maintaining 20 psi (138 kPa) on the water valve(s) pressure gauge.

Your pump must be capable of maintaining 20 psi (138 kPa) at the water valve regardless of the additional features on your pool such as spas, solar heating systems, heat pumps, water features, chlorinators, or any other device that is powered by your pump.

Adding items to your filter system after construction (solar, heat pumps, water features, chlorinators, and any thing that takes pressure away from the nozzles) will have a negative effect on the cleaning system. Please contact your builder or Paramount before adding these items.

Keeping filter clean is required to maintain the 20 psi (138 kPa) at the water valve. A dirty filter will prevent your system from cleaning the pool.

The infloor system comes with a pressure gauge on the water valve and although the system may operate at lower psi, the best cleaning results require 20 to 24 psi (138-165 kPa) at the water valve pressure gauge. You will see reduced performance if the system is operated at less than ideal pressure. The systems cleaning cycle is determined by many factors (landscape, temperature, weather and condition of pool equipment). To determine your

cleaning cycle, run the pool until it is clean. In extreme conditions an extended cycle will be necessary.

It is important to keep the skimmer and pump basket(s) empty, so your pool equipment will power your in-floor system. Failure to do so will negatively affect the performance of your system.

When cleaning your cartridge or D.E. Filter care must be taken before removing the filter elements that the filter tank be drained and rinsed out. This is required to prevent dirt and debris from entering the return line and getting into your in-floor system or any other down-line components.



Cleaning Systems Powered by a Booster Pump

Because booster pump systems are designed to pull from the skimmer(s) and not use a filter, they are not affected by the typical reductions in performance that affect filter pump systems. Booster pumps need to produce a minimum of 65 gpm (246 lpm) at 60 ft. (179kpa of head). It is important to keep the skimmer and pump basket(s) empty, so your pool equipment will power your in-floor system. Failure to do so will negatively affect the performance of your system.

Filters

A clean pool filter is necessary for optimum system performance. Your pool filter needs cleaning when filters pressure increases 5 psi (34 kPa) above the pressure showing when your filter is clean. If the need arises to replace your filter and/or its backwash valve it is important that they are properly sized. Sand Filter minimum size 4.9 square feet/.46 square meters

D.E. Filter minimum size 48 square feet/4.5 square meters

Cartridge Filter minimum size 200 square feet/19 square meters

Backwash Valve minimum size 2 inch or 63 mm Europe

Backwash Valve minimum size 2 inch or 50 mm Australia

NOTICE

Larger filter sizes will reduce the amount of cleaning needed. Be sure your replacement filter is adequately sized for your existing pump.

Valves for a Single Pump System

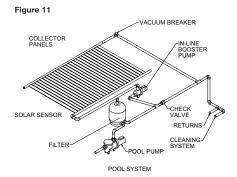
The skimmer suction should be restricted to make the main drain pull more, because water takes the path of least resistance, and in-floor systems do most of their cleaning from the main drain

Returns, spa over flows, and water features must be turned off or restricted on single pump system so that the in-floor system will have proper pressure. Minimum 20 psi (138 kPa) is needed to run the system.

Chlorinators, Tablet or salt systems, Ozone units and Solar Systems

Cells on salt chlorinators must be kept clean. Failure to do so will reduce the performance of your in-floor cleaning system. If you add a salt chlorinator after your pools construction it is recommended to put cells on a bypass loop. Any device that uses a venturi injection system on the return side of the filter is not recommended on single pump in-floor system.

Solar systems on a single pump require a specific plumbing method, which includes a small booster pump for the solar system (Figure 11).



OPERATING INSTRUCTIONS

On all Paramount in-floor cleaning and circulation systems it is important to keep the skimmer, the pump and the debris canister baskets clean. It is also important to clean your filter when the pressure rises 5 psi (34 kPa) over the clean starting pressure.

The gauge on your water valve is important and tells you how the system is operating. Gauges can deteriorate over time and should be replaced when they become unreadable or inaccurate.

NOTICE

Never use Teflon tape on a replacement gauge, use a thread sealant that is approved for plastic such as Teflon paste. Hand tighten gauges as over tightening can crack the water valve lid.

If a nozzle is stuck open or up when the pump shuts off you may clear it by pushing down on it a few times while pump is on to clear the obstruction. No cleaning system is 100%. Paramount's in-floor guarantee is the strongest in the industry but some attention to the pool is required to keep your backyard oasis beautiful. You must keep your chemicals at proper levels, and brush any small areas that may have a build up of heavy sand or debris. Keep in mind that when excessive debris gets into a pool, such as large amounts of leaves in the fall or dirt during a dust storm, no cleaning system can do the job without some help, so be sure your equipment is maintained.

On PCC2000 and Vantage systems that may have fixed nozzles they may need to be adjusted to keep their flow of water aimed in the direction of the debris drain. These nozzles can be turned clockwise when in the up position by pushing down slightly and rotating them towards the main drain.

For further instructions see troubleshooting.



TROUBLESHOOTING

It is always best to call a trained professional to service your pool. Further information on your cleaning system can be found at: www.1 paramount.com

Problem	Diagnosis	Solution
Cleaning nozzles(s) are staying up when the pump is off	Cleaning nozzles could be jammed with sand or debris which could result from improper cleaning of your pool filter. See section Paramount's systems relationship to your pool's equipment.	Isolate the circuit of the jammed or stuck cleaning nozzles using the pause switch on your water valve. With the system pump running push the cleaning nozzles down repeatedly with your foot or pool pole.
Cleaning nozzles on a circuit stay up once the water valve has switched to the next circuit but retract when the system is off.	A circuit in the water valve is staying open due to a jammed piston in the module. This could be caused by debris entering the water valve. NOTE: PCC2000 AND VANTAGE BOOSTER PUMP SYSTEMS MAY HAVE FIXED NOZZLES ON THE FILTER PUMP WHICH STAY UP WHILE THE FILTER PUMP IS ON.	Remove the module from the water valve (see module removal procedure) clean it by holding it in the pool sideways and move it back and forth quickly until it is clean. If there are any pistons in the open position, push them shut being sure not to rotate them. Place the module back in the water valve (see module installation procedure) and turn the system pump on to determine if the cleaning nozzles are now functioning properly. Depending on the age of the module, if this does not solve the problem it may be time to purchase a new module.
System is not cleaning as it used to.	Check for minimum operating pressure of 20 psi (138 kPa) on the water valve.	Check the run time of your in floor system. It may need to be extended. Especially during increased demand due to weather conditions or bather load. Refer to the section titled Paramount's systems "relationship to your pool's equipment". If after following these steps and the problem still exists call a trained professional to service your pool.
System is not cleaning as it used to.	Pool drain is plugged.	With the filter pump and booster pump (if applicable) both running adjust your valves on the filter pump to draw 100% from the pool drain. If your filter pump becomes noisy (cavitates) your pool drain may be obstructed. At this point call a trained professional to service your pool.



An area around one nozzle that is going up and down is not being cleaned.	Cleaning nozzle is partially or completely blocked.	Refer to the Nozzle/Installation and Removal section. Remove the nozzle. With the nozzle removed turn on the system pump to blow out the circuit. Check the nozzle for debris stuck inside. Replace the nozzle.
The water valve stays on one circuit. One circuit of nozzles running constantly and not switching.	Run/Pause switch is in the pause position. The module gear mechanism could be jammed. System could have incorrectly sized nozzles System could have a plugged circuit	Turn the run/pause switch to run. Take the module out of the water valve (refer to Water Valve Instructions) and confirm that the gear mechanisms turn freely. If it does not, remove all debris. If it still does not work, replace the module. Check for pressure above 25 psi (172 kPa) at the water valve. If the pressure does not change or changes very slowly (longer than 3 minutes) and if the nozele(s) have been removed they may have been replaced in the wrong locations. Nozzle(s) are size and location specific to your system. Remove nozzle(s) refer to the Nozzle/Installation and Removal section. Turn the system pump on to blow out the circuit. Replace Nozzle(s).

IN-FLOOR WARRANTY REGISTRATION

For warranty information and registration visit:

www.1paramount.com/products/warranty.

