

INSTALLATION GUIDE
AND OWNER'S MANUAL



IMPORTANT INFORMATION

SERIAL NUMBER

Important Information

- Read and follow all installation instructions carefully.
- Install the Dust & Vac water valve so that the bottom plate and outlet ports are above the finished pool water level.
- Design the system with a minimum of 6 cleaning heads per pool, with at least 2 heads per line and a minimum of 4 heads in the spa.
- When placing cleaning heads in a spa, always use a dedicated line from the water valve. If the spa is elevated, install a check valve on the line feeding the cleaning heads to avoid spa draining. Install other check valves (as normal) to avoid spa return jets and suction lines from draining.
- Plumb the pressure relief valve in a bypass line off the pool return line. Use two 2-way valves (one on the return line, one on the valve feed line) to relieve pressure and control flow.

For customer service or support:

- Please mail Warranty Card immediately.
- For on-line support: www.polarispool.com
- To contact Polaris:

US and Canada

Customer Service

2620 Commerce Way

Vista, CA 92081-8438

1-800-822-7933

Polaris Dust&Vac® Limited Warranty

This one year limited warranty is extended to the original consumer purchaser of this Polaris Dust&Vac package manufactured by Zodiac Pool Care, Inc. ("Zodiac"), from date of manufacture of the unit as established by the serial number, or one year from date of purchase with proof of purchase, whichever is later. Zodiac warrants this product, including all parts and components thereof, to be free of defects in material and workmanship. Improper installation is not covered by this warranty.

This limited warranty does not apply if the failure is caused or contributed to by any of the following: improper handling, improper usage, improper storage, winter freezing, abuse, improper installation, unsuitable application of the unit, improper maintenance, lack of reasonable and necessary maintenance, damage in transit or during installation, or damage from repairs/alterations made or attempted by anyone other than Zodiac or one of its Authorized Service Centers. In no event shall Zodiac be liable for incidental or consequential damages of any nature or for damages to persons or property, including damage to plaster, tile, aggregate-based and other pool surfaces, or damages resulting from the use of this product with a substandard pool circulation system or chemical imbalance.

Authorization to return a unit or part to the plant of manufacture must be obtained from the Customer Service Department. Check with your dealer for the local procedure before exercising this warranty. If further directions or instructions should be required, contact the Customer Service Department at 1-800-822-7933 (USA and Canada only) or (760) 599-9600. Be sure to insure the shipment against loss or damage in transit.

This limited warranty is valid only in the United States of America, Canada and Australia, and it does not apply to any product sold or installed in any other country. Polaris Dust& Vac sold in the United Kingdom are warranted for a period of two years from date of invoicing to the first user.

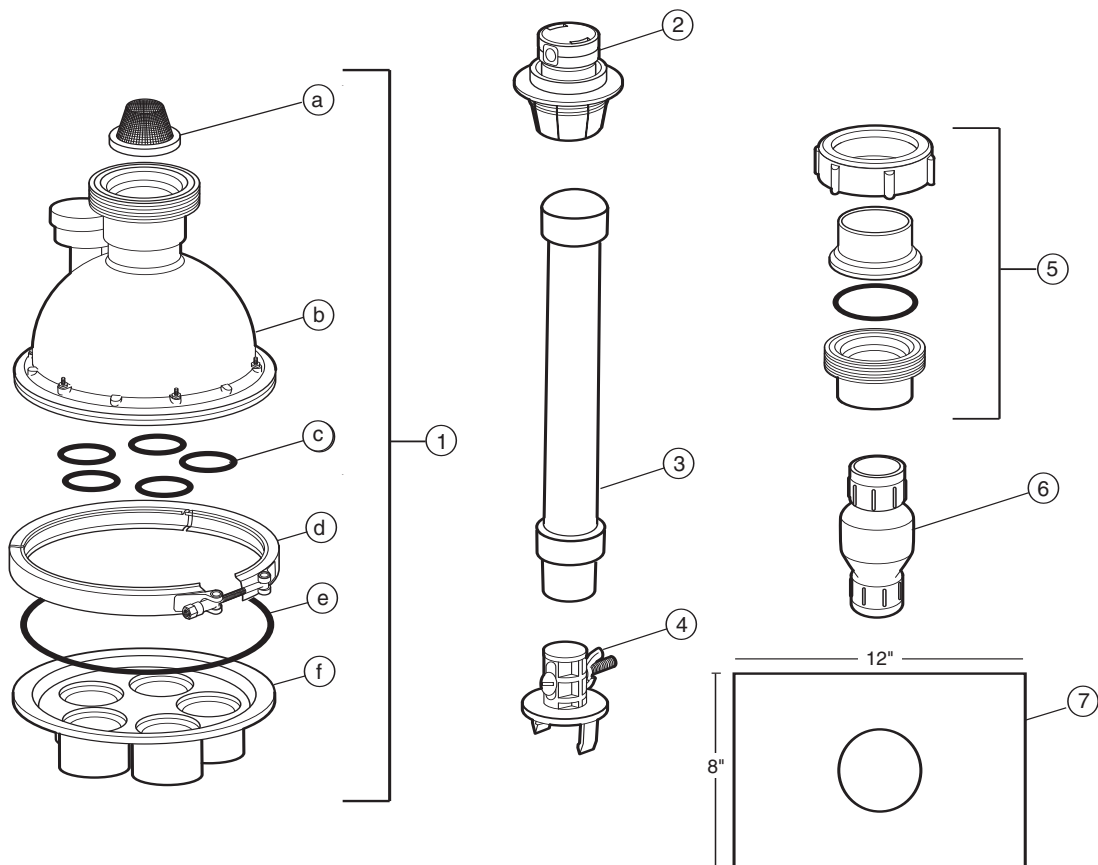
Introduction

Congratulations on the purchase of your new Polaris Dust&Vac® package and thank you for choosing Polaris. The Dust&Vac is designed to work with Polaris automatic pool cleaners to remove debris from all interior pool surfaces including benches, swimouts, and other difficult to reach areas. The Dust&Vac pop-up, rotating heads systematically sweep debris into suspension to be removed by the skimmer or onto the pool floor where the pool cleaner vacuums it up.

Please read and follow installation instructions carefully. Failure to follow recommended installation methods could void warranties and/or cause injury.

Dust&Vac Components

1. Dust&Vac Valve
 - a. Dome Strainer
 - b. 5-Port Valve with Pressure Gauge
 - c. Small O-Ring (5)
 - d. V-Clamp
 - e. Large O-Ring
 - f. Bottom Plate
2. Dust&Vac Heads with Flow Adjust Nozzles (10)
3. Prefab Riser (10)
4. Head Removal Tool
5. 2" Union Complete (2)
6. Pressure Relief Valve
7. UltraFlex Collar Template



Installation

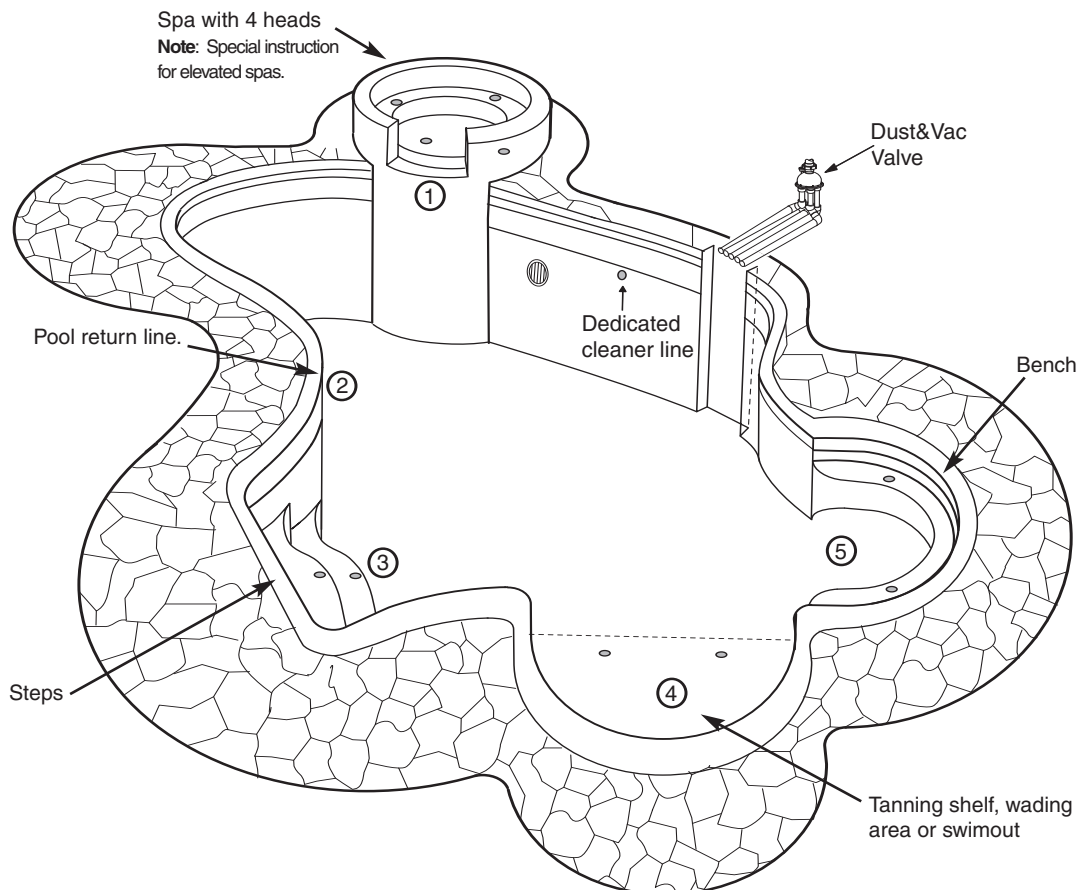
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Site Planning

Use a 1/8" scale pool drawing to mark the design layout.

- Position Dust&Vac water valve as close to the pool and spa as possible to conserve piping.
- Install valve so that bottom plate and outlet ports are above water level.
- Feed line piping can be run under the pool floor or under the decking. If under pool floor, plan layout so feed lines enter pool on wall closest to pool equipment.
- Design the system with a **minimum of 6 heads per pool**, with **at least 2 heads per line** and a **minimum of 4 heads in the spa**.
- **If the spa is elevated**, install a check valve on the line feeding the cleaning heads to avoid spa draining. Install other check valves (as normal) to avoid spa return jets and suction lines from draining.
- Design so all 5 outlet ports on the valve are used either to feed Dust&Vac heads or pool return lines, or double port the unneeded lines for extra cleaning in hard-to-clean areas (see Plumbing the Dust&Vac).

The custom pool below illustrates placement of: the Dust&Vac valve, 4 heads in the spa (1), extra return line to pool (2), and cleaning heads on steps (3), swimout (4), and bench (5). The Polaris automatic pool cleaner attaches to the dedicated cleaner line.

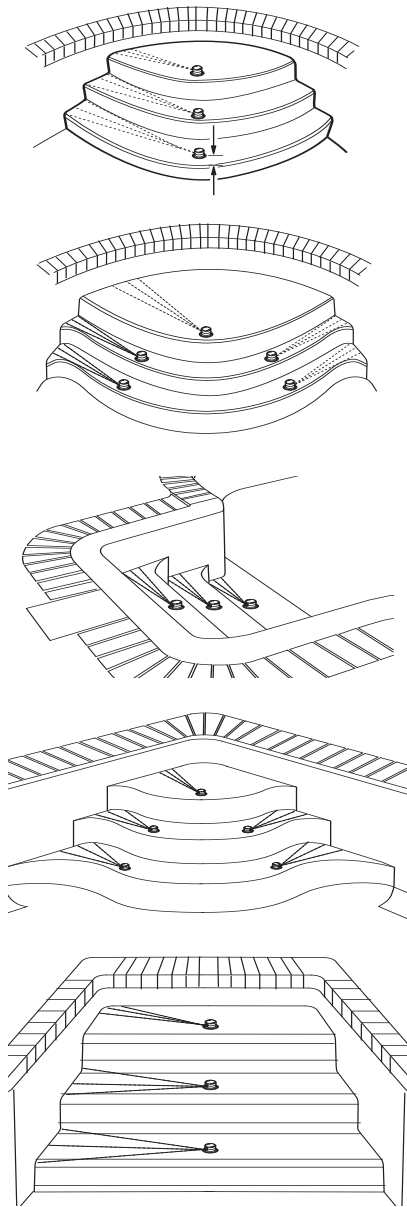


Dust&Vac Head Placement

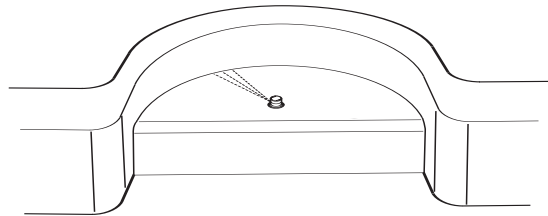
Position heads to optimize cleaning. Each head cleans a 4-1/2 foot radius.

- Position cleaning heads no more than 4-1/2' apart, allow overlap to occur.
- Place heads within 2" of tread on step areas to ensure jets clear any curves, jets cannot clean around corners.
- Add flair on steps to ensure debris does not get cornered.
- Position heads no more than 3' from corner on steps, benches or swimouts.
- If benches are cut to different levels in spa, heads are required on each level.

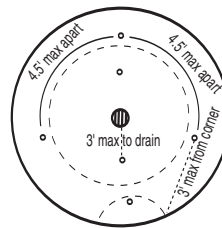
Stair Configurations



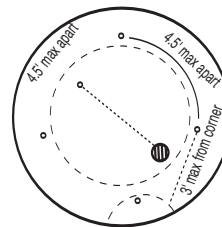
Bench Head Placement



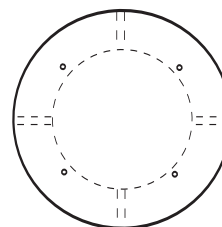
Spa Configurations



Center drain requires two cleaning heads



Offsetting drain requires only one cleaning head



Benches at different levels require 1 head on each level

Water Flow Requirements and Flow Distribution

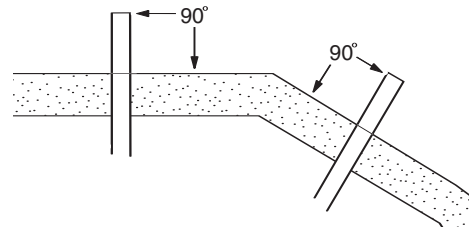
The Dust&Vac heads for steps, swimouts and benches must be divided into banks or zones that are fed from the water valve on a single line. Setup the banks to distribute the water as evenly as possible.

- Calculate flow requirements for total water usage, i.e. spa overflow, manual returns, etc.
- Allow **12 GPM per head per zone** and add 10% to the total as a safety factor.
- Ensure the pump being installed will supply the required amount of water.
- Every outlet port on the water valve must be used (See Plumbing the Dust&Vac).

Site Preparation

To simplify head installation and confirm cleaning coverage, place locator stakes in excavated pool to identify Dust&Vac head locations.

- Drive stake at 90 degree angle on swimouts, steps or benches to mark head locations.
- Confirm that distances between stakes is no more than 4-1/2' and head locations are no more than 3' from walls.



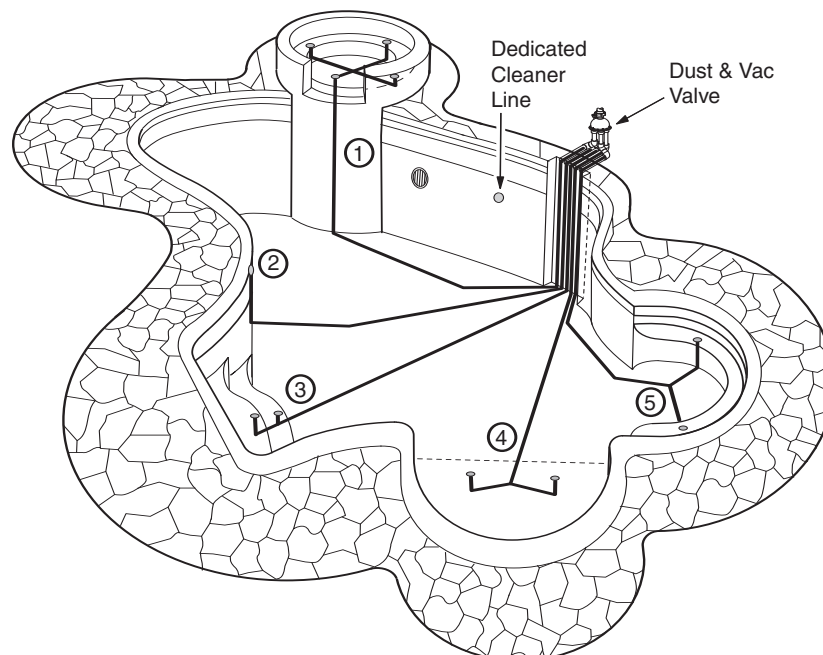
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Excavating the Dust&Vac

Feed lines can be run under the pool floor or under the pool decking.

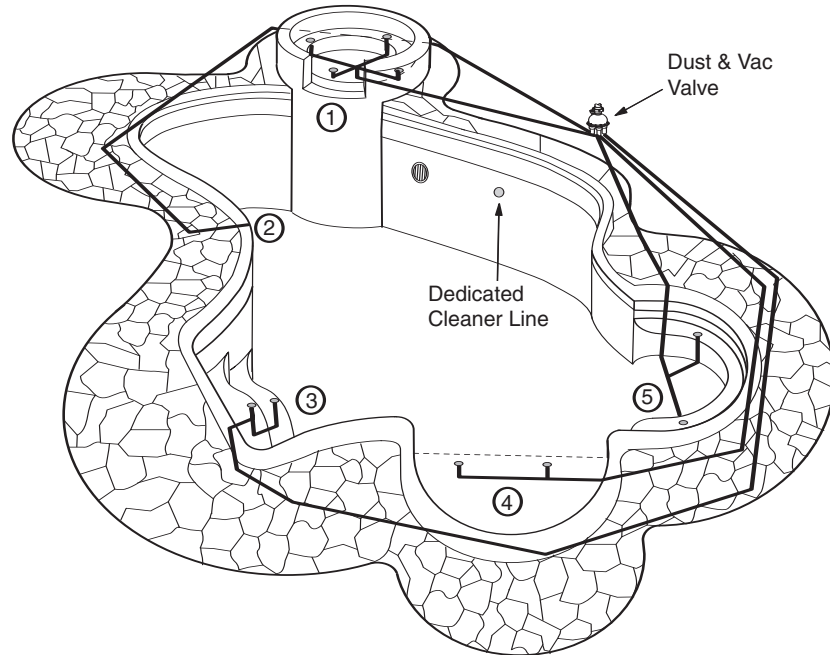
Piping Under Pool

- Excavate niche in pool wall 6" x 24" down to the pool floor.
- Make feed line trench depth in pool/spa sufficient to cover pipes with 2" of soil.
- Do not cross lines in pool floor.



Piping Under Decking

- Make feed line trench depth outside pool/spa sufficient to cover pipes with 6" of soil.
- Excavate niche at spa, steps and bench areas deep enough so all piping is covered by 2" of soil.



3

Plumbing the Dust&Vac

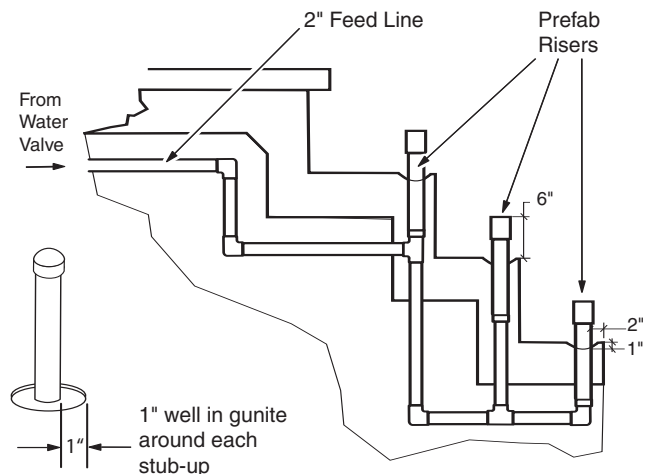
Feed Lines and Cleaning Head Banks

Plumb cleaning head banks to the feed lines that connect to the water valve.

- Use 2" Schedule 40 PVC piping for all lines leading from the cleaning head locations.
- Run all feed line piping to the top of the bond beam to facilitate valve hookup.

Use the Prefab Risers (capped, reducer/risers) to convert the 2" piping to the 2-1/2" stub-ups required by the Dust&Vac cleaning head collars.

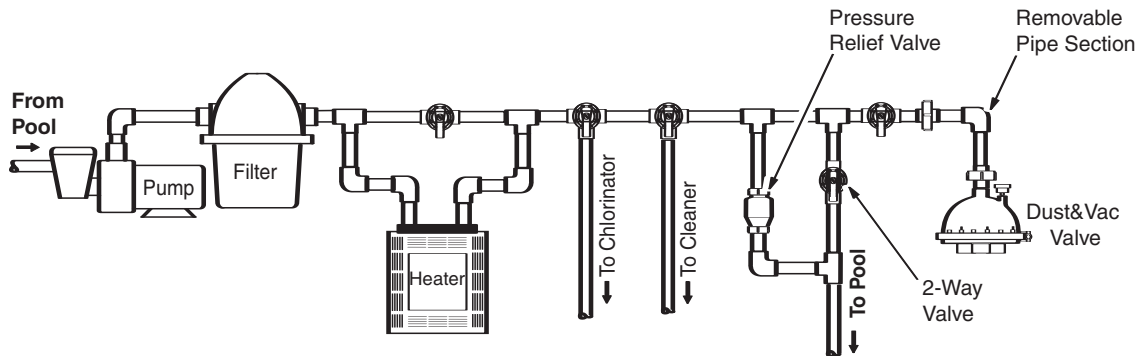
- Position the risers perpendicular (at 90-degree angle) with the finished pool surface.
- Risers must be 6" above the finished elevation of step or bench.
- Glue risers directly into the 2" tee, 90-degree elbow or coupling on the feed line.
- During gunite application, leave 1" well around each stub-up.



Pool Equipment and Dust&Vac Water Valve

Position the valve as close to the pool/spa as possible to reduce piping and improve performance. Configure the pool equipment in the simplest manner possible.

- To compensate for heater system pressure drops, plumb heaters in a bypass line before the water valve. The heater bypass valve should be adjusted to 3/4 open.
- Dust&Vac can be used with erosion feeders, ozone generators and in-line salt converters. Consult manufactures instructions for proper installation to protect the water valve and other pool equipment.
- Plumb the dedicated cleaner line for the automatic pool cleaner before the valve.
- Plumb the **pressure relief valve in a bypass line** off the pool return line. **Use two 2-way valves** (one on return line, one on valve feed line) **to relieve pressure and control flow.**
- Use the 2" unions included to install a removable section of pipe immediately before the valve to provide service access to the valve dome strainer.

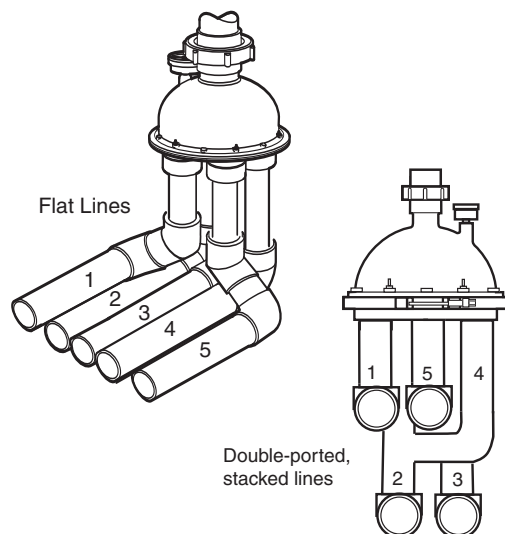


Install the non-functioning test valve assembly (part #4-9-3110, if purchased separately) for setup and pressure testing during construction. The functional valve is installed at startup.

1. Prime the valve bottom plate liberally, but clean any excess glue from interior of valve, before gluing the water supply line to the valve inlet.
2. The valve uses 1-1/2" pipe to conserve space. Use 2" reducer 90's to convert pipe rather than reducer bushings. Use a 3" stagger when cutting pipes to provide enough clearance for the reducers.
3. Connect the cleaning head feed lines in clockwise order using a stacked or flat configuration.

If all outlet ports are not needed, tie the unused port into an active port or **double port** the line. Always skip a port (i.e. port #2 ties into port #4, not #3) when double porting. The unused port can also be tied into a return line.

4. Position the large o-ring in the bottom plate, align guide pin and use the V-clamp to attach the plate to the test housing. Tighten the V-clamp until the ends are about 3/4" apart.



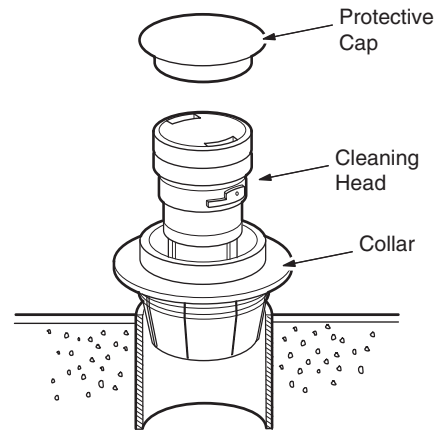
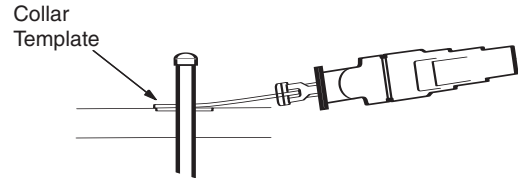
When connections are complete, allow glue to dry for 8 hours, then pressure test the valve to 35 psi or local code requirements. Keep valve secure and under pressure for at least 24 hours to be certain there are no leaks. Backfill, tamp and level all trenches.

4

Preparing the Dust&Vac for Startup

When pool interior is set for final finish, cut cleaning head risers and install collars.

1. Use the UltraFlex Collar Template to cut each riser ensuring the pre-assembled collars are set at a height to accommodate approximately 1/2" of plaster, marcite, pebble or other final finish.
2. Use a sander/grinder to sand each stub-up smooth and level with the shell finish to ensure proper glue adhesion with collar setting.
3. Separate the heads and protective caps from the collars, and store the heads until the final finish application is complete.
4. Use heavy bodied PVC glue to secure the cleaning collars. (Primer can be used on the stub-ups but not the collars. Use glue on both.)
5. Push collar firmly onto pipe.
6. Place protective caps in collars to keep pool finish out of pipes.
7. Remove any excess water from the bottom of the pool with a submersible pump to prepare pool for the final finish application.

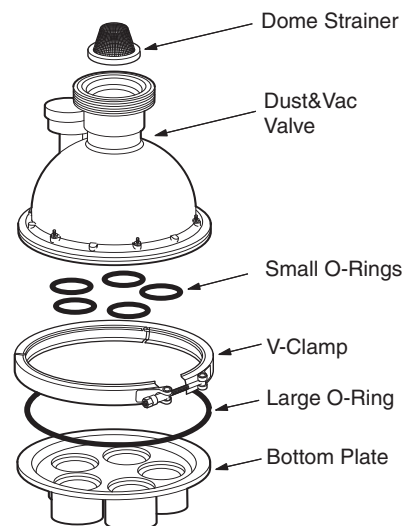


When the finish application is complete:

8. Remove the protective caps from the collars and run the filtration system for 30 minutes to completely flush out the lines.
9. Install the Dust&Vac heads.

Remove the test housing assembly and install the functional Dust&Vac valve.

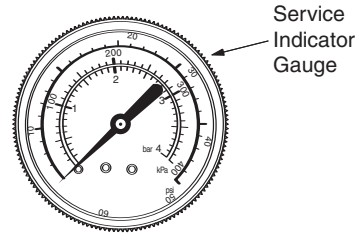
1. Loosen V-clamp and union to remove the test housing.
2. Install the (5) small o-rings on the functional valve, wet them if necessary to help them stick but do not lubricate. Check positioning of large o-ring in groove of bottom plate.
3. Align guide pin and re-install V-clamp, tightening until band ends are about 3/4" apart.
4. Position dome strainer (cone up) and reconnect valve at union.



Operation and Maintenance

Before initiating startup, open a discharge line before the Dust&Vac valve and flush the pool pump and filtration system for 2 minutes.

- Clear debris from all filters and screens. Backwash filter and re-charge if necessary.
- Confirm that all heads in each bank operate properly and that each head rotates during pop-up and retraction.
- Verify at valve service indicator gauge that all banks are operating at the proper pressure (**optimum level is 15-25 psi**, 14-16 psi on bank with lowest pressure).



If necessary, adjust the 2-way valves on the pool return and valve feed lines to bring the valve pressure to specified levels.

After startup, to maintain flow through the heads, operate the Dust&Vac whenever the pump is on.

Cleaning the Filtration System

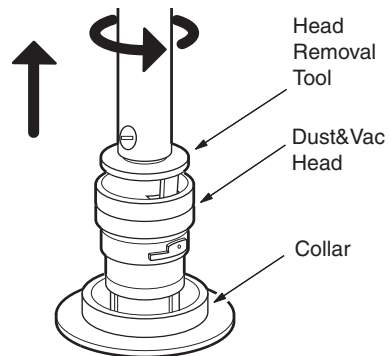
For optimum cleaning efficiency, routinely clean the pool pump basket, skimmer and filter screens. The Dust&Vac dome strainer should be checked for debris and cleaned periodically. Always reinstall the dome strainer in the cone-up position. Backwash the pool filter whenever pressure increases 3 psi above normal clean-filter operating pressure.

Changing Dust&Vac Heads

The cleaning head must be in the full down position for removal.

1. Attach the head removal tool to the pool pole.
2. Snap tool into the head.
3. Turn counter-clockwise to release head from collar.
4. Pull and lift head out of collar.

To reinstall, simply insert head into collar and turn clockwise to lock it into position.



Winterizing

To prevent freeze damage in cooler climates, remove all water from the feed lines above the freeze line and seal the valve.

1. Loosen union at valve and remove water valve.
2. Remove all cleaning heads located above the freeze line.
3. Use a compressor or blower to blow water from the feed lines.
4. Place winterizing plugs into the collars.
5. Insert winterizing plugs into ports on bottom plate of valve.

Troubleshooting

If the Polaris Dust&Vac displays the following actions, adjustments may be necessary to restore performance.

Action: Dirty spots appear.

- Solution:
1. Clean the pool filter, pump basket, skimmer baskets, and the valve dome strainer.
 2. Ensure all auxiliary valves (surface returns, waterfall, spa overflow, etc.) are closed.

Action: Dirt is left between heads.

- Solution:
1. Verify that the heads on each side of dirt are pointed in the same direction. Advance a head, if necessary, using the head removal tool to ratchet the head up and down until the nozzle points in the correct direction.

Action: Cleaning head advances, but is not cleaning.

- Solution:
1. Check for debris lodged in the nozzle.
 2. Remove the head from the collar. Run the pump for two full cycles. Recheck for particles in the cleaning head nozzle and re-insert the cleaning head.

Action: Cleaning head will not pop up or will not go down.

- Solution:
1. Remove the head. Inspect the cleaning head and collar for plaster remnants or debris.
 2. With head in the upright position, lightly depress the head using a telescoping pool pole.

Action: Pressure is lower than normal.

- Solution:
1. Clean the pool filter, pump basket, skimmer baskets, and valve dome strainer. Backwash filter if necessary.
 2. Ensure all auxiliary valves (surface returns, waterfall, spa overflow, etc.) are closed.
 3. Confirm that the pool pump is operating normally.
 4. Check for leaking or worn o-rings. Replace if necessary.

Action: The valve does not cycle.

- Solution:
1. Clean the filter, pump basket, skimmer, and valve dome strainer. Backwash filter.
 2. Make sure all auxiliary valves (surface returns, waterfall, spa overflow, etc.) are closed.
 3. Turn pump on and off several times to clear piping.
 4. Remove valve, turn upside down, and spray pressurized water up into the valve.



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