



VALVE INSTALLATION AND MAINTENANCE GUIDE

INSTALLATION GUIDE

IMPORTANT SAFETY INFORMATION

When installing and using this equipment, basic safety precautions should always be followed.

****READ AND FOLLOW ALL INSTRUCTIONS****

WARNING:

To reduce risk of injury, do not permit children to use this product unless they are closely supervised at all times. Swimming Pool equipment can generate high pressures capable of causing injury. Always use caution when manipulating valves associated with the pool equipment and turn off the pump if pressures exceed manufacturer's specification. Always turn off the pool equipment when disassembling or servicing your circulation system.

Swimming Pool equipment can create suction sufficient to entrap even adults. If pool fittings are broken or missing, turn off your equipment and contact a certified swimming pool expert to make the needed repairs.

INTRODUCTION

The Q360 In-Floor Cleaning system is designed to give years of service. The benefits of deep circulation are well documented and scientifically proven to give the most efficient swimming pool circulation available. This superior circulation delivers substantial chemical, electrical and heat savings to the pool owner while offering outstanding cleaning benefits as well.

The unique engineering of the Q360 System smoothly transfers power from the turbine to the ports or outlets with minimal friction loss and back pressure, allowing the maximum possible flow rate to the in-floor cleaning jets. The open gear design allows for effective pass-through of debris, greatly minimizing annoying cleaning system disruptions and lowering maintenance costs even further over other in-floor systems.

The Innovative pressure-safe valve design protects your system by ensuring that one port is always open. Large 2" inlet and (6) 2" ports maximize flow rate. Reinforced space-age molded construction weathers the elements and is saltwater/chemical friendly.

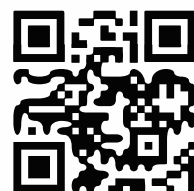
Failure to follow recommended installation methods could void warranties and cause injury.

SAVE THESE INSTRUCTIONS

FOR CUSTOMER SERVICE OR SUPPORT:

Call (800) 277-4150 or email info@bluesquaremfg.com

SCAN OR CLICK TO VIEW
INSTALLATION VIDEO



CAUTION

DISABLE POOL EQUIPMENT BEFORE SERVICING

COMPONENTS

THE Q360 HIGH PERFORMANCE WATER VALVE:



Valve Housing or Body



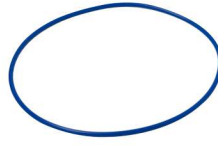
Cassette



Turbine



Band Clamp



O-Ring



Lid

THE Q360 JET COMPLETE:



Performance Jet
(3 Nozzle sizes included)



Q360 Collar with
Protective Cap

To ensure proper cleaning and to qualify the warranty, fax or email a System Design Form provided by Blue Square along with a scaled pool plan for a FREE certified In-Floor Design. (New pool construction only.)

Email: plans@bluesquaremfg.com

Fax: (888) 282-6955

Install the valve above ground, 2-3" above finished pool water level. Do not bury top of lid and inlet of valve after installation. Install cleaning heads and nozzles according to the Design Plan.

If pool includes an elevated spa, install a check valve on the line feeding the spa heads to avoid spa draining. Install other check valves (as normal) to avoid spa return jets and suction lines from draining. For multiple elevation changes in bodies of water and/or negative edge water features, please contact our design center at (800) 277-4150.

VALVE INSTALLATION

1 Site Planning

Verify that the excavated pool matches the Blue Square Certified Pool Plan. Check the break, width, depth and designated step/bench locations. Blue Square design dimensions are from finished pool edge. They are not taken from the excavation edge. Allowances will need to be made for the thickness of the shell according to your pool company's specifications and local codes. If any aspects of the pool design change during the construction process, please resubmit an updated plan with the changes for a new Factory Authorized Plan to ensure proper cleaning and circulation. Failure to follow the FREE factory authorized design and to ensure that the pool is built to the plan specifications may void the warranty.

Follow the design plan to position and stake the cleaning head locations. Each head has a designated nozzle that has a precise cleaning radius. Perimeter heads have a one foot overlap. Mark the cleaning radius around each stake with a 5 foot arch to verify cleaning coverage. Keep in mind that the jets clean much further. The design allows for overlap to prevent debris accumulation in-between filter cleaning cycles.

2 Cleaning Head Risers / Stub-ups

The cleaning head collars require a 2" Schedule 40 riser. The interior dimension of Schedule 40 pipe can vary and may need to be reamed for proper installation. If the collar does not dry fit at least halfway into the pipe, the pipe needs to be reamed.

*** Installation of Q360 collars into pipe that was not reamed may void product warranty.**

*** These stub-ups should be perpendicular to the slope of the pool floor.**

3 Plumbing the System

The Blue Square certified plan indicates which cleaning heads will be plumbed together to form a bank. Run all feed lines to the top of the bond beam to facilitate easy valve hookup. Number the lines according to the design plan. Keep in mind that the valve cycles counter clockwise from the top view.

- Excavate niche in pool wall, 6 x 24" down to the pool floor
- Make line trench depth sufficient to cover all pipes
- Do not cross lines in floor
- Use 2" Schedule 40 pipe
- Position so jet feed lines are perpendicular to the slope of the finished pool floor. See Fig. A 1-1

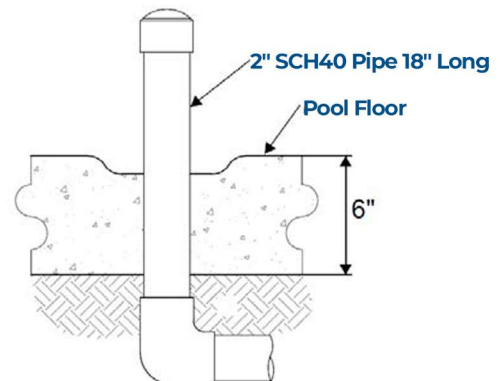


FIG. A 1-1
Plumbing the System

In order to save on plumbing costs, position the valve as close as possible to the swimming pool or water feature. The valve should be at least five feet away from the water's edge. (Check the bonding codes in your area.) The low profile design combined with the quiet and smooth operation of the Q360 water valve allows for it to be inconspicuously hidden by an irrigation box or landscaping.

Although servicing the valve is very rare, the valve should be placed in a location where it may be easily accessible.

Install the valve so that the lid and band clamp are above grade and the top of the valve housing is 2-3" above the water level of the main body of water. If a below water level installation is necessary, serviceable check valves or manual valves on all of the inlet and outlet ports will be required to prevent flooding when servicing the valve.

In order to reduce plumbing costs; layout the system so the feed pipes enter the pool close to the center of the pool nearest the pool equipment. See Fig. A1-2 & Fig. 1-3

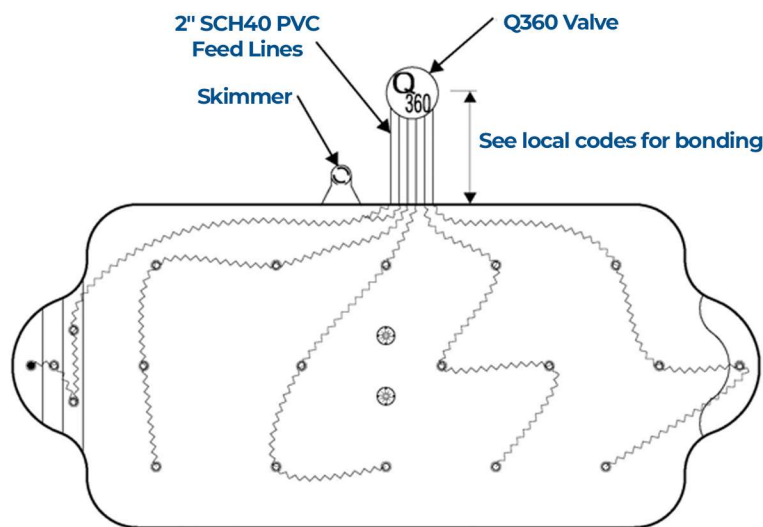


FIG. A1-2

4

Plumbing the Valve (see Plumbing the System Diagram)

Disassemble the valve, removing the clamp, O-ring, turbine and gear drive. (The clamp nut uses a 10mm wrench)

Using course grit sandpaper, scuff the surfaces of the valve that will be glued; (the outside surface of the inlet, and the inside surfaces of all 6 outlet ports).

Clean and deburr the pipes.

Apply PVC primer (not cleaner) to all surfaces of the valve to be bonded.

Apply PVC cement to all surfaces to be bonded. A slow setting, heavy bodied PVC cement is recommended. Hot or fast setting cements are not recommended for gluing multiple joints simultaneously.

For new construction where zone pipes are not yet installed underground, prep, trim, prime and glue each pipe into the valve separately.

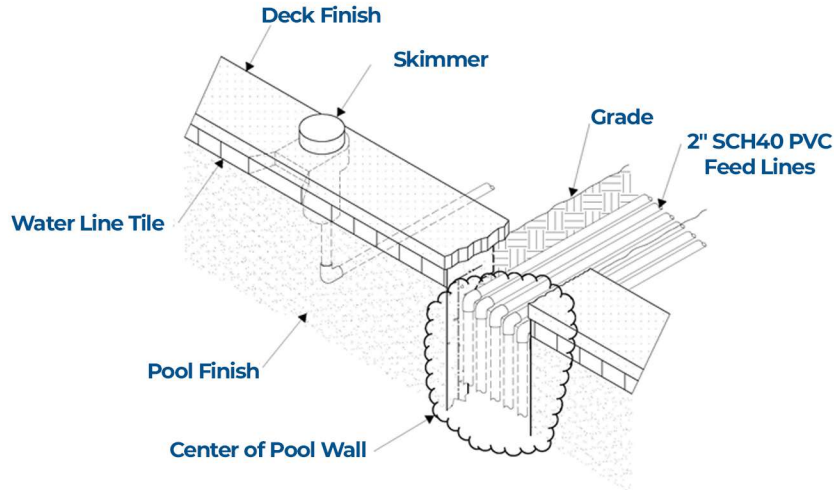


FIG. A1-3

5 Discharge or Feed Lines

The Q360 valve uses 2" Schedule 40 pipe. Use a 3" stagger when cutting pipes to provide enough clearance. See detail. See Fig. A 1-4

Install the discharge lines from the valve in a stacked or flat configuration. See Fig. A 1-5

- Do not get glue inside the housing as it will void the warranty.
- Install lines a minimum of 6" below grade or in accordance with local codes.
- The distribution system is usually designed to rotate from shallow to deep, following your factory design. Looking down on the valve, it rotates counter-clockwise. If a spa is included in the application, it will require a dedicated line from the valve and a check valve if it is a raised spa.
- If all outlet ports on the valve are not needed, use the Y-Pipe as noted in the plan to aid in efficiency and reduce plumbing costs.
- *Note: Surface returns can be applied to the unused port.
- Never tie a raised spa bank with any plumbing from a lower body of water.

FIG. 1-4

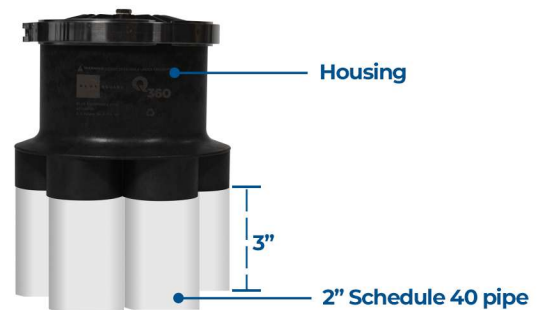
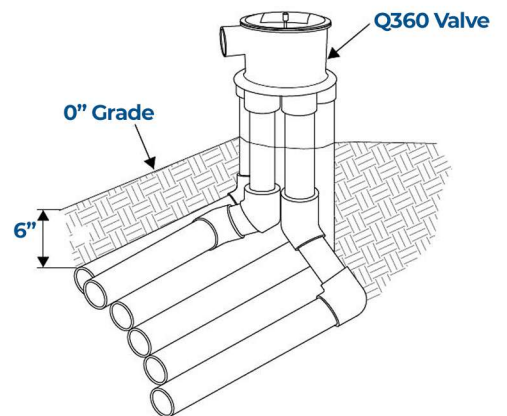


FIG. 1-5



Consult the design plan for proper connections.

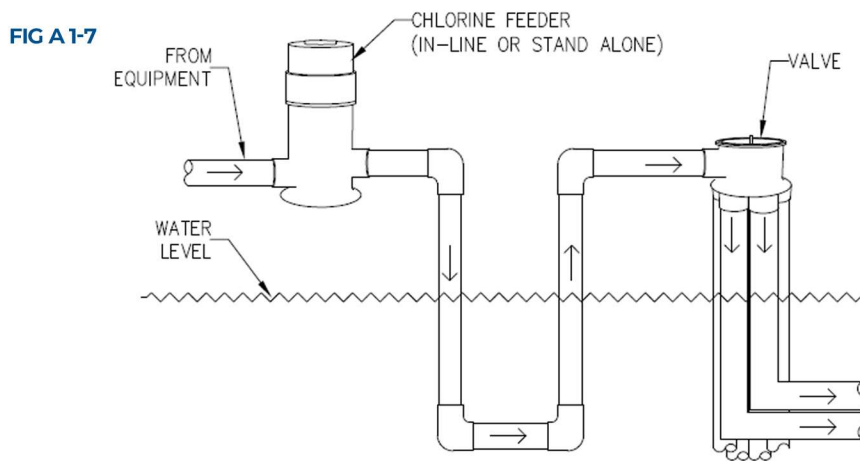
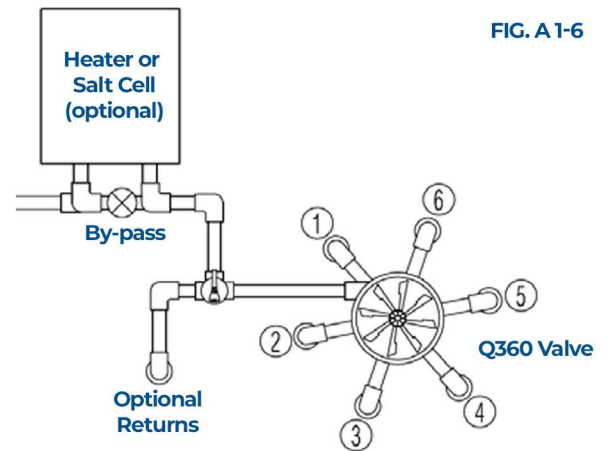
Auxiliary Equipment

Heaters

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 $\frac{3}{4}$ open. See Fig. A 1-6

Chlorinators

In-floor systems can be used with erosion feeders, ozone generators and in-line salt converters. Consult manufacturer's instructions for proper installation to protect water valve and other pool equipment. Any chlorinator with a venturi or restrictive channels should be plumbed with a bypass. See Fig A 1-7



6 Pressure Testing

Pressure-test the system at a minimum of 35 psi or follow local code requirements. Keep the water valve secure and under pressure throughout the construction process. Remember to remove the cassette and turbine in order to allow for equal distribution of pressure down all 6 lines and store the cassette and turbine for reinstallation at startup.

7 Preparing the System Cut cleaning Jet Stub-ups and Clear Debris from System

After inspection, clear the system lines of debris using a combination of air and water. (see inspection steps below)

1. Verify that the system is holding pressure (minimum of 35 psi), then relieve system pressure at filter gauge.
2. Cut each stub-up ensuring collars sit at a height to accommodate approximately 1/2" of final finish material. Clean off all burs and debris.
3. Insert test plug in each stub up.
4. Attach a blower assembly unit (blower, check valve, air/water supply and connectors; call Blue Square for assembly instructions) to the blower plate or directly to the valve.
5. Turn on blower and water supply to fill the lines.
6. Starting at the cleaning head farthest from the valve, remove test plug and flush the pipe, blocking and releasing pressure several times to ensure a clear line.

8

Install Cleaning Collars and Heads

- Use inside pipe cutter to cut pipe 1/2" below pool concrete floor.
- use Hydraulic cement over and around pipe and up to bottom of flange (See Fig. 1-8)

Reference:

1. In floor collar (WITH ORANGE PROTECTIVE CAP)
2. Interior pool finish
3. Hydraulic cement
4. 2" P.V.C. Pipe
5. Pool Shotcrete / Gunitite
6. Top of Supply pipe 1/2" below flange
7. Bottom of flange

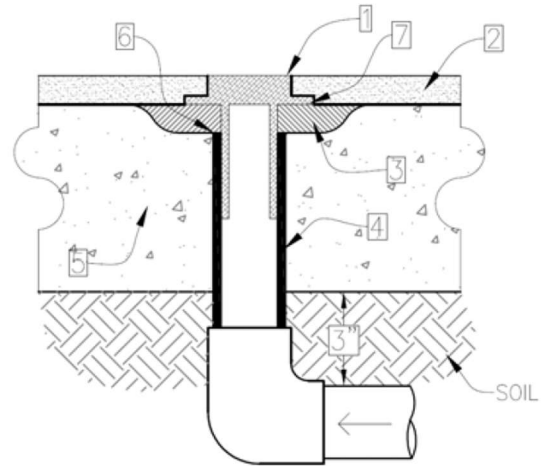


FIG. 1- 8

9

Install Working Valve for Startup (after the pool is filled)

1. Turn pump off at the pool pump.
2. Loosen the bolt on band clamp and remove the band clamp and clear lid.
3. Clean any construction debris from the interior and top edge of the valve housing.
4. Install the cassette (Gear Train) by sliding it onto the center shaft. Spin the gears and make sure the cassette drops all the way down and the lower gear engages with the gear train on the housing perimeter.
5. Place the turbine on the center shaft gear side down. Make sure the gear on the turbine engages the upper gear on the cassette. Spin the turbine several times and observe that the white bottom plate is slowly turning. If it does not the cassette is not in the full "down" position and the lower gear is above the gear train on the housing perimeter. Push the cassette down into the gear train if necessary.
6. Check the positioning of large O-ring and make sure it is in the groove on the top of the valve housing. Remove any debris.
7. Align the center shaft on the guide pin hole in the center of the clear lid and gently push the lid down. The lid should sit firmly on the top of the valve housing with no wobble. If it does not sit firmly remove the turbine and press the cassette down into the gear train.
8. Replace the band clamp and tighten the bolt firmly. Do not over tighten.
9. Turn on the system and allow it to cycle until all of the protective caps are blown free from the collar and to allow any additional construction debris to be blown out of the pipes.



We strongly recommend that the system should be started up and ran without the valve internals or jets in the pool for the first 24 hours, and the pump be allowed to run continuously in order to flush any debris from the system.

The above procedures are “Best Practices” and are recommended to reduce the possibility of joint failure during the life of the valve.

Once the system has been flushed, reassemble the valve with the gear drive and turbine, and install the jets.

MAINTENANCE GUIDE

The Blue Square Q360 cleaning heads are designed to operate at a specific flow rate and pressure. To ensure proper circulation and or cleaning, run the system whenever the pump is on. Cleaning times will vary according to application and environment. To determine the optimum cleaning time, run the system 24 hours a day after initial startup. Reduce run times by four hours every two days until minimum cleaning time is determined. Six hours a day is recommended as a minimum, but pools with high debris conditions often need longer cleaning cycles.

CLEANING THE FILTRATION SYSTEM

For optimum cleaning efficiency, routinely clean the pump basket, skimmer and filter screens. Backwash or clean the pool filter whenever pressure increases 5-10 psi above normal clean-filter operating pressure or if you notice dirty spots between the jets.

CHANGING CLEANING HEADS

The cleaning jets must be in the full down position before removal.

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

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

TROUBLESHOOTING

If the Blue Square Q360 cleaning system displays the following actions, adjustments may be necessary to restore performance. Refer to exploded parts diagram for part references.

Action: *Dirty Spots appear*

Solution: Clean the pool filter, pump basket and skimmer baskets.

Make sure all auxiliary valves (surface returns, waterfall, spa overflow, etc.) are closed.

If you have a variable speed pump, check to make sure the pump is running at a sufficient RPM as recommended by your pool builder.

Action: *Dirt is trapped between heads*

Solution: Verify that the water flows from the jet nozzle on each side of dirty spot are not apposing one another. To change the cleaning jet flow direction, press the jet down 5-6 times while it is in the up position and the water is flowing out of the nozzle.

Action: *Cleaning jet advances, but is not cleaning, (dirt remains near the jet.)*

Solution: Remove the cleaning jet with the jet removal tool. Check for debris lodged in the nozzle. Make sure the jet freely travels up and down and ratchets slightly each time. If the jet does not, hold the jet in the up position and rinse with water to dislodge internal debris. Run the pump, while the jet is removed, a full cycle until you see water flow out of the opening on the problem bank. Let the system run without the jet until you are certain that all of the debris is blown out of the pipe. Reinsert the cleaning jet with the jet removal tool.

Action: *Cleaning jet will not go down*

Solution: Try to gently touch the jet with the pool pole to see if it will retract, if the jet retract let the system run and see the problem is solved. If the problem recurs, remove the jet with the jet removal tool. Inspect the cleaning head and collar for or debris. Run the pump, while the jet is removed, a full cycle through the problem bank, to blow out any debris. Re-insert the cleaning jet. On variable speed pump applications, you may need to increase RPM's to ensure jet fully ratchets to next position.

To replace the Cassette in the water valve:

1. Turn pump off
2. Loosen the bolt on band clamp and remove the band clamp and lid.
3. Remove the turbine and old cassette by sliding them off of the center shaft.
4. Install the new cassette by sliding it onto the center shaft. Spin the gears and make sure the cassette drops all the way down and the lower gears engage with the gear train on the housing perimeter.
5. Place the turbine on the center shaft gear side down. Make sure the gear on the turbine engages the upper gear on the cassette. Spin the turbine several times and observe the white bottom plate is slowly turning. If it does not the cassette is not in the full "down" position and the lower gear is above the gear train on the housing perimeter.
6. Check positioning of large O-ring on the clear lid.
7. Align the center shaft on the guide pin hole in the center of the clear lid and gently push the lid down. The lid should seat firmly seat on the top of the valve housing with no wobble.
8. Replace the band clamp and tighten the bolt firmly. Do not over tighten.

Thank you for purchasing a Blue Square Q360 In-Floor Cleaning System! With over 20 years of pool building and in-floor knowledge, this system was designed with you and the homeowner in mind. This cost effective and efficient system is truly innovative with a very simple approach to installation and repair. It is easy for the homeowner to keep their pool clean and, should a problem to arise, easy to fix. We are here to answer questions, resolve issues and provide exceptional customer service.

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