



Installation and Operation Manual



Mixing Degas Vessel (MDV)

*For use with Jandy Pro Series
Ozone Models: CD40, CD70 and CD100*

WARNING

FOR YOUR SAFETY - This product must be installed and serviced by a contractor who is licensed and qualified in pool equipment by the jurisdiction in which the product will be installed, where such state or local requirements exist. In the event no such state or local requirement exists, the maintainer must be a professional with sufficient experience in pool equipment installation and maintenance, so that all of the instructions in this manual can be followed exactly. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation will void the warranty.

Improper installation and/or operation can create unwanted electrical hazard which can cause serious injury, property damage, or death.

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Section 1. Important Safety Instructions

READ AND FOLLOW ALL INSTRUCTIONS

All electrical work must be performed by a licensed electrician and conform to all national, state, and local codes. When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

WARNING

Short-term inhalation of high concentrations of ozone and long term inhalation of low concentrations of ozone can cause serious harmful physiological effects. DO NOT inhale ozone gas produced by this device.

NOTICE FOR VINYL LINED POOLS ONLY

An MDV (Mixing Degas Vessel) may be recommended to reduce the chance of minor fading of the vinyl at the pool's ozone return fitting.

Some vinyl pool liners with particular through-wall fittings may be incompatible with ozone. These fittings may cause fading of the vinyl liner where the ozone returns to the pool.

For questions on compatibility please contact Zodiac Pool Systems technical service at **1-800-822-7933**.

Zodiac Pool Systems, Inc. is not liable for fading of vinyl-lined pools.

SAVE THESE INSTRUCTIONS

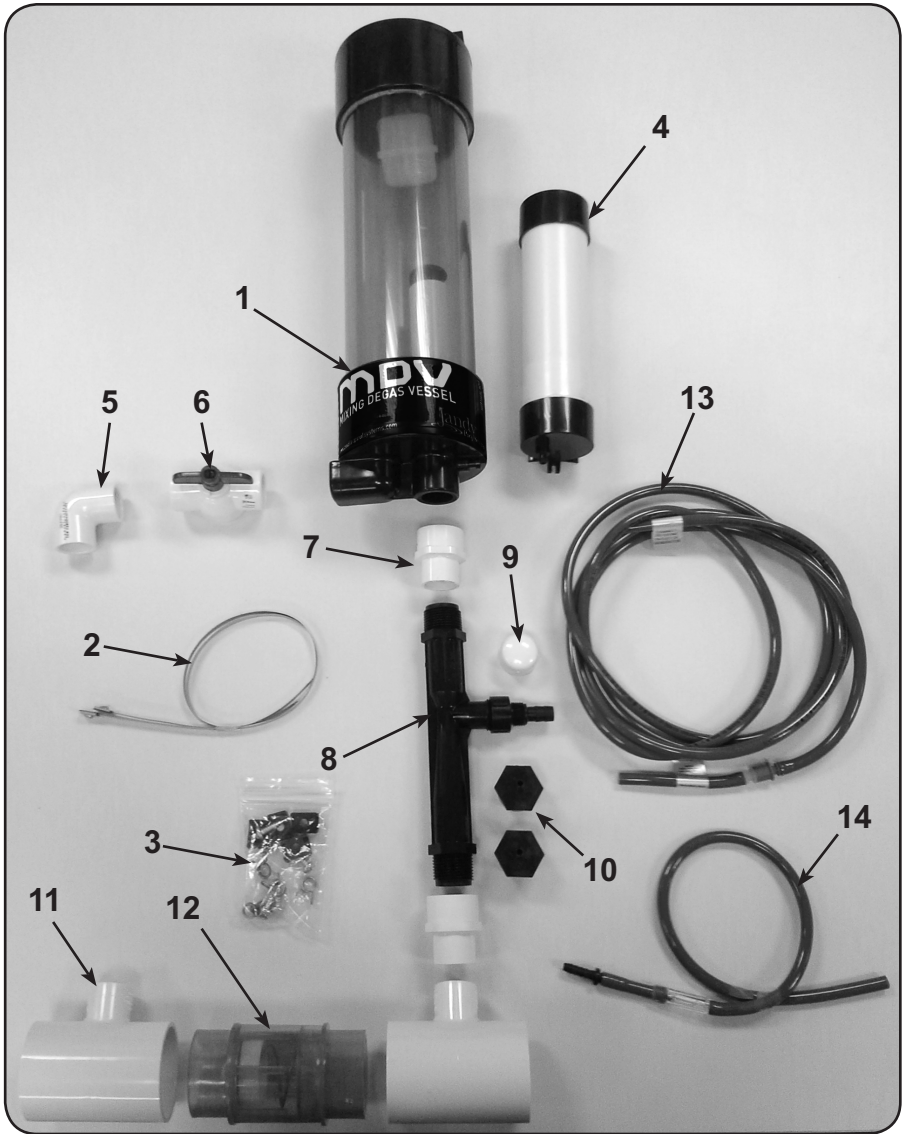


Figure 1. MDV package contents

Corona Discharge MDV Package Contents			
Item	Description	Qty.	R-Kit #
1	MDV	1	R0693700
2	Cable Tie	2	
3	Cable Tie Mount	4	
	Tube Clamp	4	
	Cable Tie Screw	4	
	#6 Screw	2	
4	Ozone Destruct Cartridge	1	R0693400
5	PVC Elbow 90°	1	
6	Water Level Adjustment Valve	1	
7	3/4"-1" Threaded Adapter	2	R0693600
8	Ozone Injector	1	
9	Injector Cap	1	
10	Threaded Tube Adapter	2	
11	PVC 2 1/2" - 1/4" T Joint	2	
12	Variable Rate Check Valve	1	R0692500
13	Ozone Tubing/Check Valve	1	R0693800
14	Flow Meter	1	

Section 2 General Information

The Mixing Degas Vessel (MDV) is to be installed along with a Jandy Ozone Corona Discharge model CD40, CD70 or CD100. This ozone injection system prevents virtually all ozone bubbles from returning to the pool. It will help to eliminate bubble noise and visibility, allowing for the use of higher ozone concentrations while protecting equipment and plumbing. Excess gas is destroyed by passing it through a Granulated Activated Carbon (GAC) destruct cartridge. If you experience any difficulty in the installation and set up of this product please call technical service at **1-800-822-7933**.

Section 3 Preparation

3.1 Parts You Need

Before starting, check that you have all parts listed on the table above. If any parts are missing, please call your local distributor or technical support at **1-800-822-7933** for assistance.

3.2 Tools You Need

- Phillips Screwdriver
- Pipe Bond/PVC Glue
- Pliers
- Tin Snips or comparable cutting tool

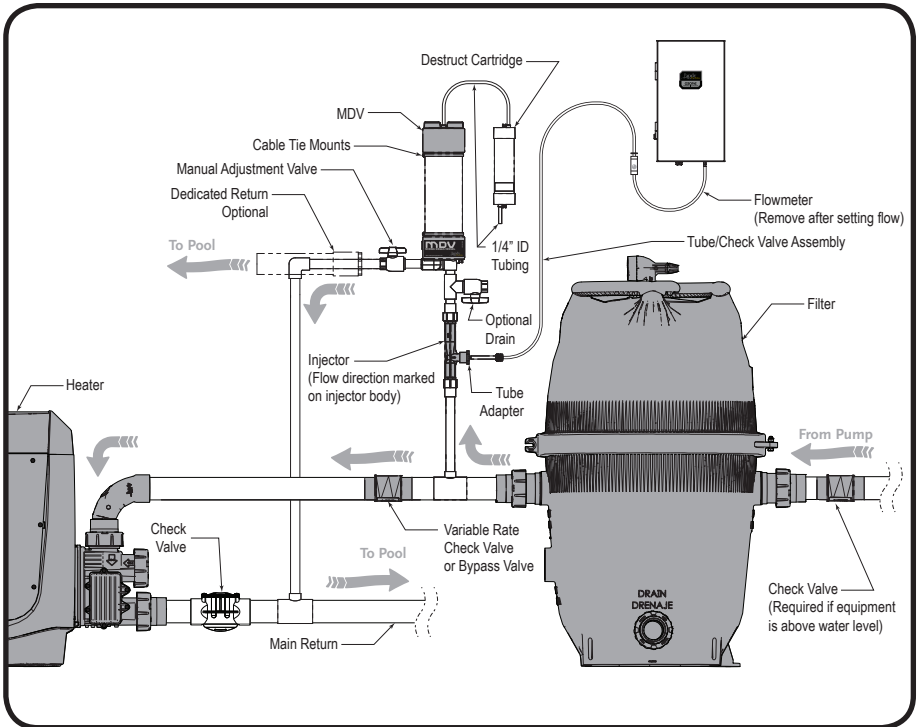


Figure 2. Plumbing Overview

**⚠ WARNING/
SHOCK HAZARD**

Turn off all switches and the main breaker in the pool/spa pump electrical circuit. Failure to comply may cause a shock or hazard resulting in severe personal injury or death.

While disconnecting and/or connecting any electrical wiring, be careful not to damage or abrade any of the wiring.

Section 4 Installation

NOTE: The MDV will not be as effective in systems with back pressures in excess of 10 PSI. Oversized pumps and/or small return lines should be avoided.

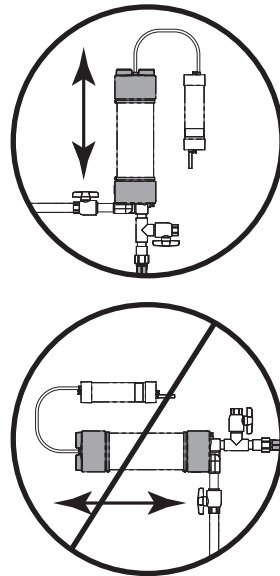


Figure 3. MDV and Cartridge Orientation

1. Disconnect main power at the breaker.
2. Follow the mounting and electrical connection instructions in the Ozone Corona Discharge Owners Manual (H0514200).
3. Find a suitable location to mount the MDV. Avoid direct sunlight to avoid discoloration of the MDV tower.
4. Using the included cable ties, cable tie mounts and cable tie screws, mount the MDV vertically to a secure surface (i.e. fence, wall or post). See “Figure 3. MDV and Cartridge Orientation”.
5. Trim excess cable tie material with tin snips or comparable cutting tool. Be sure to fold tab over to avoid exposed sharp edge.
6. Mount the Destruct Cartridge vertically to a flat surface using 2 #6 screws.

NOTE: Mount the cartridge close enough to the MDV so that the tubing is not strained or kinked.

7. Ensure that the destruct cartridge is mounted in an easy to access location. **The destruct cartridge will need to be replaced annually.**

NOTE: The condensate drain at the bottom of the destruct cartridge will release small amounts of water and carbon under normal operation. To avoid discoloration from carbon or water stains, use 1/4” tubing to divert drainage to a suitable location.

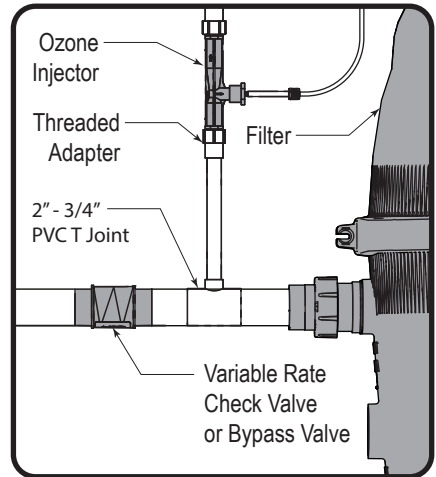


Figure 4. Plumbing the Ozone Injector

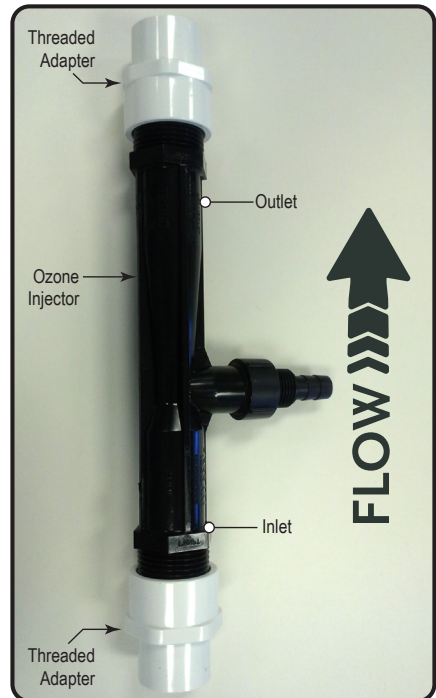


Figure 5. Injector Orientation

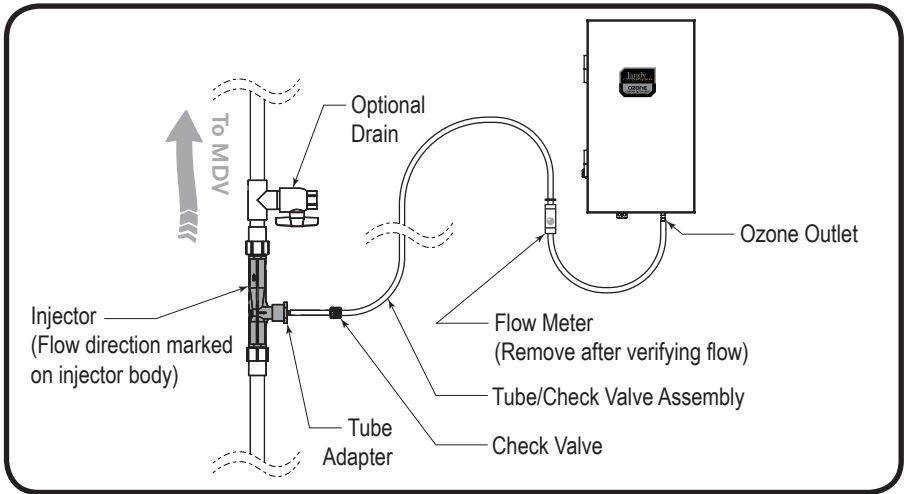


Figure 6. Ozone Injector Setup

8. Connect 1/4" ID tubing from the top destruct cartridge port to the top port on the MDV. Secure tubing with tube clamps (included).
 9. Install the first PVC T joint on the return line directly after the filter. See "Figure 4. Plumbing the Ozone Injector".
 10. On the same line install the check valve included directly following the PVC T Joint.
 11. Plumb the inlet side of the ozone injector to the 3/4" branch of the PVC T joint using a 3/4" - 1" threaded adapter. Be sure to note the correct orientation and flow direction marked on body of the ozone injector. See "Figure 5. Injector Orientation".
 12. Plumb the outlet side of the ozone injector to the inlet port of the MDV using the second 3/4" - 1" threaded adapter.
 - a. At this point an optional drain valve can be plumbed to drain the MDV for winterization or maintenance. See "Figure 6. Ozone Injector Setup".
 13. Plumb the MDV outlet to the main pool return using the 90° elbow and the remaining 3/4" to 2" PVC T Joint.
 - a. On the return line make sure to plumb the water level adjustment ball valve. See "Figure 7. MDV Water Level Adjustment".
 - b. If applicable a direct return can be plumbed from the MDV to the pool. See "Figure 2. Plumbing Overview".
- CAUTION**

Passing ozone treated water through pool equipment may cause damage or failure after long term exposure. Ensure that the ozone treated water enters the main return after all other pool equipment.
14. Connect tube adapter to the injection port on the ozone injector. **DO NOT USE THREAD TAPE**

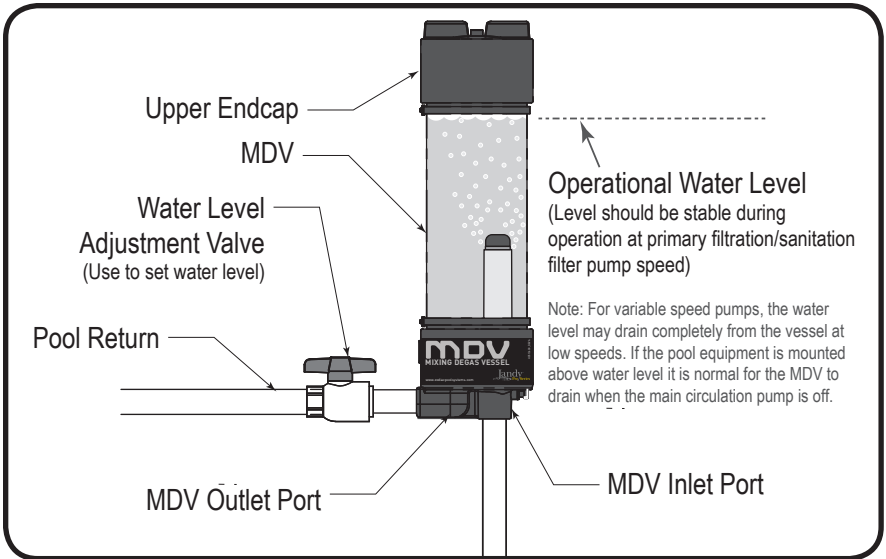


Figure 7. MDV Water Level Adjustment

15. Connect the flow meter tubing to the Ozone outlet on the Corona Discharge.
 16. Connect the barbed end of the flow meter to the tube/check valve assembly opposite the check valve.
 17. Connect the other end of the tube to the tube adapter on the injector input. Secure tubing with tube clamps. See "Figure 6. Ozone Injector Setup".
 18. Allow sufficient time for all glued joints to cure.
 19. Restore power at main breaker.
 20. Turn on main pump.
 21. Hold flow meter clear plastic barrel vertically and note the position of the ball. See "Figure 8. Flow Meter".
 22. The ball should be floating between the max and min lines.
- a. If this is not the case, double check correct orientation of the check valve tubing and the ozone injector. Confirm that there are no valves restricting flow to the injector.

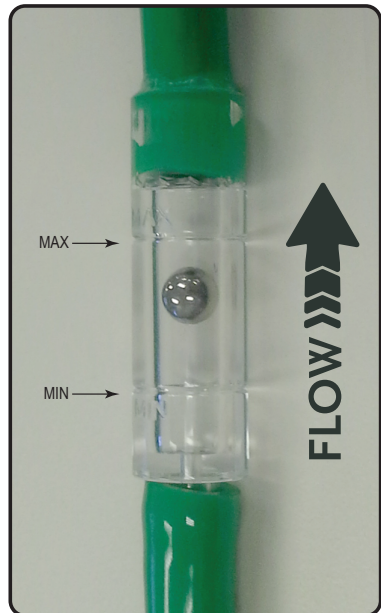


Figure 8. Flow Meter

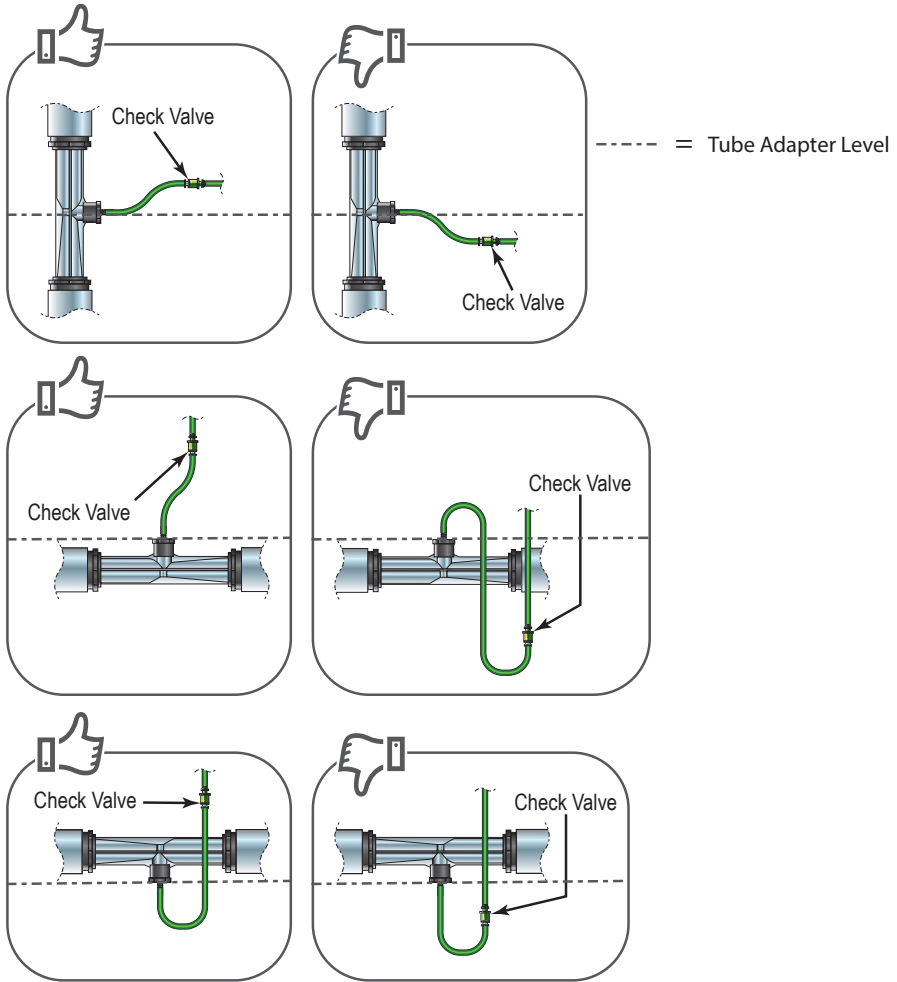


Figure 9. Check Valve Position

b. If problems persist please refer to the troubleshooting section of the Corona Discharge owners manual (H0514200) or call technical support at 1-800-822-7933.

23. Once proper gas flow has been verified, disconnect the flow meter and reserve for future testing and maintenance.

TIP: The flow meter hose can be coiled and stored inside the

Corona discharge Box for future use.

24. Ensure that the check valve on the ozone injector tubing is positioned above the tube adapter on the ozone injector. This will prevent water from back flowing and accumulating in the injector tubing. See "Figure 9. Check Valve Position".

25. While in operation the water level in the MDV should be level with the bottom edge of the upper MDV endcap. See “Figure 7. MDV Water Level Adjustment”.
 - a. The water level can be adjusted by increasing or restricting flow through the water level adjustment ball valve
 - b. For variable speed pumps, the water level may drain completely from the vessel at low speeds. Use the water level adjustment valve to set proper flow while the pump is running at its primary filtration/ sanitation speed.
 - c. Once the water level adjustment valve is set. Future adjustment is only required if the pump speed for sanitation/filtration is changed.
 - d. If the pool equipment is mounted above water level it is normal for the MDV to drain when the main circulation pump is off. The MDV should return to normal operation shortly after the filter pump comes back on.
26. Streams of gas bubbles should be rising to the top of the MDV and water returning to the pool should be virtually bubble free.

Section 5 Maintenance

27. The Destruct Cartridge will need to be replaced every 12 months.
28. Winterization if necessary can be done by draining the system.

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