



Sanitizing, Sterilizing, and Storage Overview

This is a quick reference guide for the proper care of drinking valves. Please see full disclaimers and recommendations in our *Sanitizing, Sterilizing and Storage of Rack Manifolds, Drinking Valves and Recoil Hose* operational guide (OP-000041). Please contact an Avidity Science representative for more information.

These best practices for valves include information for:



SANITIZATION

⚠ CAUTION:

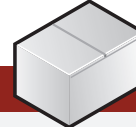
- Avoid free chlorine levels higher than 20 ppm and no longer than 45 mins of exposure. Maintain a pH level of 5.0 or higher.
- If non-chlorine sanitizing process is used pH levels can be no lower than 2.6.



STERILIZATION

⚠ CAUTION:

- Do not exceed a sterilization temperature of 149° C (300 ° F)



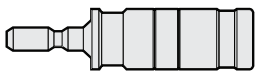
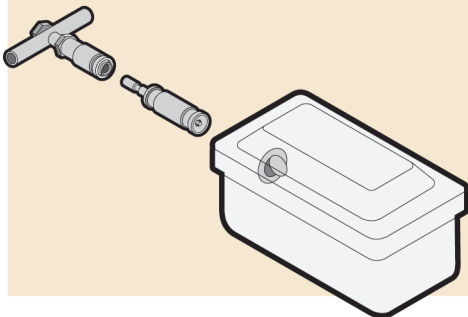
STORAGE

General Recommendations:

- In an appropriate container
- Environmentally-controlled room
- Temperature above freezing 0° C (32° F).

By following these general guidelines you will extend the life of your animal drinking valves for years to come. Select your valve connection type below to continue to that specific valve care recommendation on the website or in the pages of the PDF file:

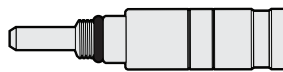
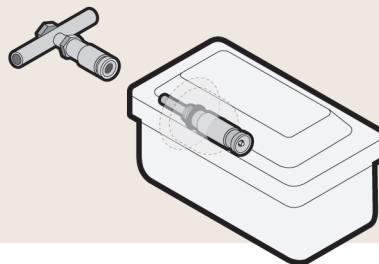
Locking Quick Disconnect (QD)



Locking Quick Disconnect (QD)

In applications where the cages have open grommets for valve entry, a removable valve may be engaged to the manifold utilizing a Quick Disconnect coupler. As the cage slides into place, the valve enters the cage through the grommet. The grommet has a flap-door, which is closed by a spring when the cage is removed from the rack.

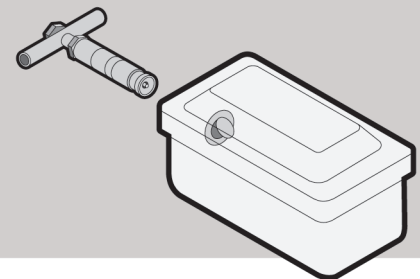
Easy Connect



Easy Connect

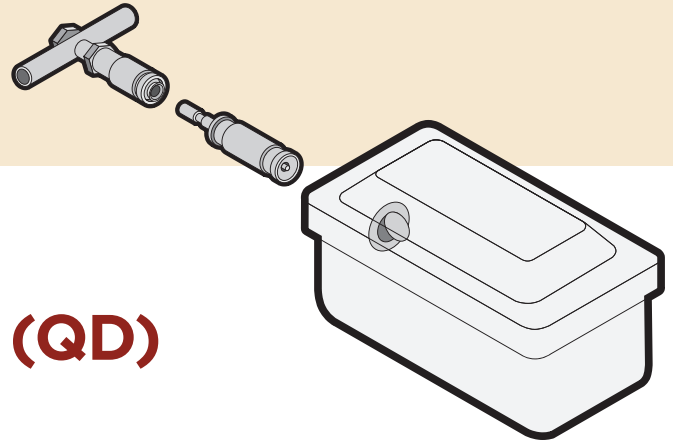
When the valve is permanently mounted into the animal cage, it plugs into the watering system manifold via the Easy Connect coupler. The coupler has a spring-loaded seal, which is opened when the valve and cage are docked into place.

Affixed to Manifold



Affixed To Manifold

In applications where cages have open grommets for valve entry, the valve may be permanently affixed to the manifold. As the cage slides into place, the valve enters the cage through the grommet. The grommet has a flap-door, which is closed by a spring when the cage is removed from the rack.



Valve Care Guidelines: Locking Quick Disconnect (QD)



PLEASE NOTE: Avidity recommends that removable valves are sanitized/sterilized separately from the rack and placed in a valve tray. This will ensure that the valves are properly sanitized/sterilized and reduces the risk of the valves and quick disconnect sockets being damaged. See Avidity Science guide OP-000041 for full details of this process or contact an Avidity Science representative for more information.

IMPORTANT TIPS TO AVOID WHILE CLEANING REMOVABLE VALVES:



OVEREXPOSURE

Overexposure to sanitization agents. Avoid free chlorine levels higher than 20 ppm and no longer than 45 mins of exposure.



EXCESS HEAT

Do not exceed a sterilization temperature of 149° C (300 ° F).



IMPACT DAMAGE

Impact damage from being poured out of a collection container in a holding vessel. The impact from falling can force in the valve stem into the body of the valve, damaging the diaphragm.



DO NOT LAYER

Do not layer or pile the valves on top of each other. Impact of layering can result in the valve stem being damaged and/or pushed through the diaphragm, which will render the valve inoperable.

1) Sanitizing Removable Valves

Removable drinking valves can be sanitized in a tunnel washer or ultrasonic cleaner. Follow the appropriate instructions based on the cleaning equipment used by the facility.

Using Valve Washing Tray or Wire Basket

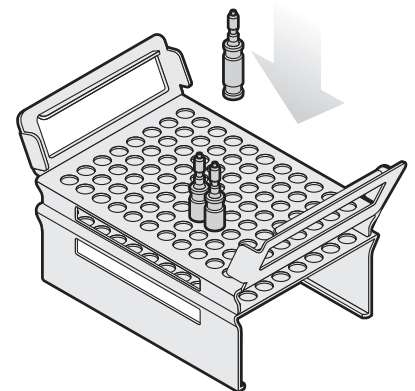
Using the tray ensures proper handling and a thorough cleaning of the valves from the top and bottom of the tray. Also, using the tray reduces the risk of the valves being damaged.

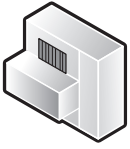
Follow this procedure to properly clean removable valves using the Valve Washing Tray:

1. Place the valves stem-side down in the slots of the Valve Washing Tray.
2. Place the tray in the tunnel/cabinet cage washer.
3. Store the sanitized valves in the trays until the valves are to be sterilized or placed into service.

If the Valve Washing Tray is not used, an alternate method is to place the valves in a single layer in a wire basket before placing them in the washer.

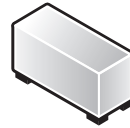
⚠ EQUIPMENT DAMAGE: Do not layer or pile the valves on top of each other. The impact of layering can result in the valve stem being damaged and/or pushed through the diaphragm, which will render the valve inoperable.





Tunnel Washer

There are specific detergents recommended by tunnel washer manufacturers that will safely and effectively clean an Avidity drinking valve. Follow the tunnel washer manufacturer's standard operating procedures for the appropriate detergent or chemical to use.



Ultrasonic Cleaner

1. Make sure that all equipment and the water supply used remains clean throughout the cleaning process.
2. Place the valves in a single layer inside the cleaning basket. Do not stack the valves.
3. Fill the ultrasonic cleaner with clean water.
4. De-gas and start the ultrasonic cleaner according to the manufacturer's instructions.
5. Place the basket into the ultrasonic cleaner and run the unit. During this period only the outside of the valve is cleaned.
6. Remove the basket from the ultrasonic cleaner and rinse the valves completely with clean water.

2) Sterilization and Autoclaving

Do not use a vacuum cycle deeper than -15 in. Hg when autoclaving drinking valves to prevent damaging of shields, o-rings and diaphragms. After the valves are sanitized, place the valves in the autoclave the same way they were placed in the cage washer.

The following is a list of APPROVED and NOT APPROVED cold sterilants:



Cold Sterilants Approved by Avidity Science

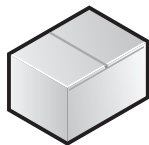
- Free chlorine solution less than 20 ppm
- 1% Sodium Hydroxide Solution
- 70% Ethanol
- Advanced Hydrogen Peroxide
- Cavicide
- Caviwipes
- Labsan 256 CPQ
- Labsan 710R
- Mikro-Quat
- Quatricide
- Quatricide PV
- Quatricide TB (may leave whitish-yellow deposits on valves and may remove labels on other products)
- Sani-Cloth Plus
- Sor-Klenz
- Sterilex
- Virkon 5



Cold Sterilants NOT Approved by Avidity Science

- Free chlorine solution greater than 20 ppm
- Clidox S

3) Storing Clean, Sterilized Valves



In an appropriate container

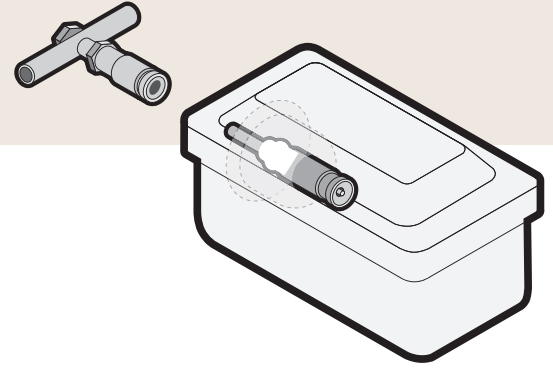


Environmentally controlled room



Temperature above freezing 0°C (32°F)

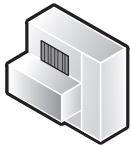
Please see full disclaimers and recommendations in our *Sanitizing, Sterilizing and Storage of Rack Manifolds, Drinking Valves and Recoil Hose* operational guide – OP-000041 or contact an Avidity Science representative for more information.



Valve Care Guidelines: Easy Connect-to-Cage

1) Sanitization

Included are instructions for sanitizing the valves in a tunnel washer, rack washer, or ultrasonic cleaner. Follow the appropriate instructions based on the cleaning equipment used by the facility. Sanitizing and sterilizing of valve and cages should be based on standard operating procedures (SOP).



Tunnel/Rack Washer

1. Follow the appropriate instructions based on the cleaning equipment used by the facility.
2. A chemical sanitizing process may be used or a combination of high-temperature rinse with a chemically-treated solution.
 - Free chlorine concentrate not exceed 20 ppm*
 - Maintain a pH level of 5.0 pH or higher
 - Maximum contact time of 45 minutes
 - Non-Chlorine process pH level can be no lower than 2.6 pH

* Chlorine sanitizing solution must be changed weekly. Chlorine dissipates relatively quickly. Solutions older than one week will not effectively sanitize.

2) Sterilization/Autoclaving

After sanitizing the valves, follow these recommended autoclave cycles.

1. Three (3) pulse cycles with a vacuum pull no greater than -15 in Hg
2. Do not exceed a sterilization temperature of 149°C (300°F).
3. Dry cycle vacuum DO not pull a vacuum deeper than -15 in Hg

The following is a list of APPROVED and NOT APPROVED cold sterilants:



Cold Sterilants Approved by Avidity Science

- Free chlorine solution less than 20 ppm
- 1% Sodium Hydroxide Solution
- 70% Ethanol
- Advanced Hydrogen Peroxide
- Cavicide
- Caviwipes
- Labsan 256 CPQ
- Labsan 710R
- Mikro-Quat
- Quatricide
- Quatricide PV
- Quatricide TB (may leave whitish-yellow deposits on valves and may remove labels on other products)
- Sani-Cloth Plus
- Sor-Klenz
- Sterilex
- Virkon 5

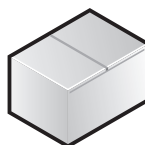


Cold Sterilants NOT Approved by Avidity Science

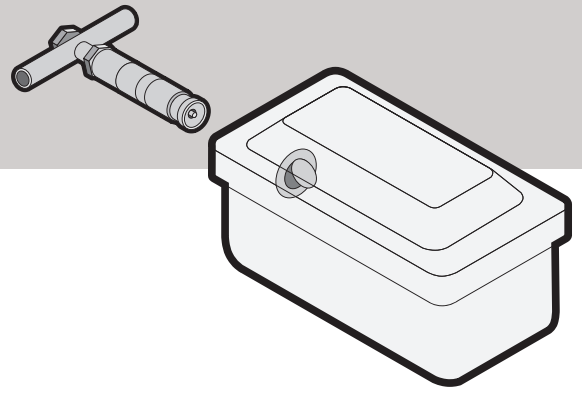
- Free chlorine solution greater than 20 ppm
- Clidox S

3) Storage

Use storage recommendations from cage manufacturer.



Please see full disclaimers and recommendations in our *Sanitizing, Sterilizing and Storage of Rack Manifolds, Drinking Valves and Recoil Hose* operational guide – OP-000041 or contact an Avidity Science representative for more information.



Valve Care Guidelines: Affixed-to-Manifold

1) Sanitization

Included are instructions for sanitizing the valves in a tunnel washer or ultrasonic cleaner. Follow the appropriate instructions based on the cleaning equipment used by the facility. See *Avidity Science guide OP-000041* for full details of this process or contact an Avidity Science representative for more information.

Clean the manifold/integral valves according to the facility's standard operating procedures for rack cleaning.

⚠ EQUIPMENT DAMAGE: All manifold drain and vent valves must be opened before cleaning. In the event water is retained in a manifold, and the drain and vent valves are closed during the cleaning and/or autoclaving procedures, steam can be generated which creates pressure that may damage the manifold and/or drinking valve components.

2) Sterilization

Do not use a vacuum cycle deeper than -15 in. Hg when autoclaving drinking valves to prevent deforming of o-rings and diaphragms.

⚠ EQUIPMENT DAMAGE: All manifold drain and vent valves must be opened before autoclaving. In the event water is retained in a manifold, and the drain and vent valves are closed during the cleaning and/or autoclaving procedures, steam can be generated which creates pressure that may damage the manifold and/or drinking valve components.

IMPORTANT: Consult the rack manufacturer's autoclaving specific cautions to determine that all rack components can be autoclaved at the cycles specified below. Do not autoclave any rack components that cannot tolerate these autoclave cycles.

Sterilizing While In Service



Sterilize the outside surface of the valves on the manifold following the manufacturer's instructions

- Cold sterilant (see next page for approved cold sterilants)
- Sterilize using a water solution containing a free chlorine concentration no greater than 20 ppm.
- For applications where valves are continuously exposed to free chlorine, use a free chlorine concentration no greater than 10 ppm.

Cleaning of the Valve:

1. Apply the cold sterilant as directed.
2. Follow up the sanitization with a clean water rinse to remove any residual cold sterilant.

⚠ EQUIPMENT DAMAGE: The free chlorination level in the cleaning or sanitizing solution cannot exceed 20 ppm for valve exposure greater than 45 minutes. Exposure longer than 45 minutes to a solution with a free chlorine concentration greater than 20 ppm can damage the drinking valves.

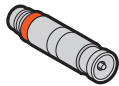
⚠ EQUIPMENT DAMAGE: For continuous free chlorine use, do not expose manifold and valves to a free chlorine concentration greater than 10 ppm. Continuous exposure to a water solution with a free chlorine concentration greater than 10 ppm can damage the manifold and drinking valves.

(continued)

2) Sterilization *(continued)*

Do not use a vacuum cycle deeper than -15 in. Hg when autoclaving drinking valves to prevent damaging of shields, o-rings and diaphragms. After the valves are sterilized, place the valves in the autoclave the same way they were placed in the cage washer.

Removing Valves From Service



Drinking valves can be removed from service and sterilized using an autoclave. Autoclaving procedures will vary depending on facility protocols and autoclaving equipment. Follow the autoclave manufacture instructions and heed the cautions they state. General autoclaving cycle recommendation for valves are below.

1. Do not use a vacuum cycle deeper than -15 in Hg
2. Do not exceed a sterilization temperature of 149°C (300°F).
3. Dry cycle vacuum pull no greater than -15 in Hg,

The following is a list of APPROVED and NOT APPROVED cold sterilants:

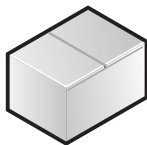
✓ Cold Sterilants Approved by Avidity Science

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- Advanced Hydrogen Peroxide
- Cavicide
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- Labsan 256 CPQ
- Labsan 710R
- Mikro-Quat
- Quatricide
- Quatricide PV
- Quatricide TB (may leave whitish-yellow deposits on valves and may remove labels on other products)
- Sani-Cloth Plus
- Sor-Klenz
- Sterilex
- Virkon 5

✗ Cold Sterilants NOT Approved by Avidity Science

- Free chlorine solution greater than 20 ppm
- Clidox S

3) Storing Clean, Sterilized Valves



In an appropriate container



Environmentally controlled room



Temperature above freezing 0°C (32°F)

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