

The Essential Guide to Valve Maintenance for Food & Beverage Manufacturers

By Taylor Colligan, Director, Weidner Plant Services

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Why You Can't Afford to Ignore Sanitary Valve Maintenance

While sanitary valves work tirelessly behind the scenes, they're often an overlooked culprit when it comes to contamination in food processing equipment. They're typically out of sight and out of mind — until something goes wrong.

Neglecting these critical components can lead to bigger problems down the line, making regular attention essential. This guide is packed with key maintenance insights and explains how partnering with a specialized valve maintenance team can help you protect your products, your reputation and your bottom line from costly downtime or disastrous recalls.

What Happens When Valves Aren't Maintained Properly?

As a professional working with food processing equipment, you might not always see the hidden dangers of unmaintained hygienic valves. But when you overlook regular and preventive valve maintenance, you're opening the door to a host of problems that can compromise your product, halt production and even trigger costly recalls.

Here are some of the pitfalls your facility may experience when valve maintenance is neglected:

Compromised product safety and quality:

Neglecting proper valve maintenance poses a serious threat to both the safety and quality of food products. It significantly increases the risk of spoilage, contamination and potential harm to consumers.

Increased risk of recalls: When product safety is compromised due to unmaintained hygienic valves, the likelihood of a product recall dramatically increases, leading to significant financial losses, reputational damage and legal consequences.

Unnoticed CIP leaks: Without proper maintenance, internal valve components can wear, causing leaks during Clean-in-Place (CIP) cycles. These leaks often go undetected, making it easier for cleaning

solutions to contaminate products or leaving residual product in the lines during cleaning, which can lead to bacterial growth.

Process crossover: Poorly maintained block valves often fail, resulting in unintended mixing of product streams or cleaning solutions with the final product. This "process crossover" not only jeopardizes product integrity but also poses significant safety risks.

Hidden failures: Sanitary valves can fail internally without visible signs. This means issues like worn seals, cracked diaphragms or weak springs can go unnoticed, leading to contamination or operational inefficiencies without immediate external indicators.

Bacterial growth and contamination: Residue buildup, worn seals and internal damage can turn valves into perfect breeding grounds for bacteria. Without regular cleaning and proper maintenance, these valves can become significant sources of contamination in food products.

Reduced efficiency and increased downtime: Malfunctioning valves can lead to slower production, inconsistent flow and unexpected shutdowns for emergency repairs, significantly impacting operational efficiency and profitability.

What We Find on First-Time Visits:



71%

of valves have failed seals



9%

of valves are actively causing equipment damage

Valve Neglect Is a Risk You Can't Afford

“Run until failure” hygienic valve maintenance isn't just risky – it's a direct hit to your bottom line and your customers' trust. Waiting for problems to happen can derail operations and create serious public health risks, especially in industries where hygiene and safety are non-negotiable. The stakes are high, and the numbers don't lie – this is an issue you can't afford to ignore.



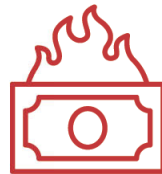
296 food recalls in 2024.



2X more hospitalizations and deaths from contaminated food in 2024 vs. 2023.



20% increase in food recalls from 2020 to 2023.



\$10 million: Average direct cost of a recall.



68% of consumers stop buying from a brand after a recall.



\$5,600/minute: Average cost of unplanned downtime.

3 Recalls that Shook the Industry

Blue Bell Ice Cream

Blue Bell recalled all of its products nationwide after a listeria outbreak linked to its ice cream caused three deaths and multiple illnesses. The recall forced the company to halt production, lay off employees and invest heavily in plant sanitization, resulting in a multiyear struggle to regain consumer trust and market share.

Peanut Corporation of America

A massive salmonella outbreak traced to PCA's peanut products led to the largest food recall in U.S. history, affecting over 3,200 products and causing nine deaths. The scandal bankrupted the company and resulted in criminal convictions for its executives, dramatically influencing food safety legislation.

Odwalla Juices

Odwalla recalled its fresh, unpasteurized apple juice after it was linked to an E. coli outbreak that killed one child and sickened dozens. The incident caused a \$12 million loss, a steep drop in sales and led Odwalla to adopt pasteurization, though it struggled with brand damage for years.





Common Sanitary Valve Types, Wear Signs and Basic Maintenance Tips

When maintaining sanitary valves in food processing, you'll often encounter symptoms such as leaks, slow operation, erratic control and excessive noise.

These common problems are often caused by worn seals, damaged seats, actuator issues, improper installation or residue buildup.

To tackle these challenges and extend the life of your sanitary valves, having a clear understanding of each valve type's common issues and maintenance strategies is essential

Valve Type	Valve Issue	Warning Signs	Maintenance
Mix-Proof Valves	Complex Seal Integrity	Seals lose integrity and can no longer guarantee mix-proof operation.	<ul style="list-style-type: none"> Precise seal replacement and reassembly
	Actuator/Control Issues	Automation failure stops critical valve function.	<ul style="list-style-type: none"> Check air and solenoids and calibrate positioners
	Product Build-up (Leakage Chamber)	Product accumulates in the chamber, causing blockages.	<ul style="list-style-type: none"> Verify chamber drains Optimize Clean-in-Place (CIP) process
Diaphragm Valves	Diaphragm Degradation	Diaphragm wears, degrades, splits or delaminates from chemicals, heat and use.	<ul style="list-style-type: none"> Proactive replacements Careful material selection Properly tighten all fasteners
	Surface Finish Damage	Polished stainless steel scratches and pits easily.	<ul style="list-style-type: none"> Avoid abrasives Inspect surfaces regularly
	Galling/Thread Seizing	Stainless threads can seize when unlubricated.	<ul style="list-style-type: none"> Use food-grade anti-seize Follow the specified torque
Butterfly Valves	Seal (Seat) Failure	Seat wears or leaks from friction, heat, or chemicals.	<ul style="list-style-type: none"> Proactively inspect and replace worn seats
	Stem Galling/Binding	Stainless stem/bushings bind without lube.	<ul style="list-style-type: none"> Lubricate stem Check bearings for wear
	Surface Finish Damage	Polished discs/body scratches can trap bacteria.	<ul style="list-style-type: none"> Non-abrasive cleaning Frequent inspection
Ball Valves	Dead Spaces/Hygiene	Products can become trapped in cavities, making them difficult to clean.	<ul style="list-style-type: none"> Use cavity-filled designs Often requires the Clean-Out-of-Place (COP) method of sanitation
	Seat Wear/Leakage	Polymer seats wear from the ball, causing leaks.	<ul style="list-style-type: none"> Inspect, replace seats
	Stem Packing Leaks	Stem seals deteriorate, leading to external leaks.	<ul style="list-style-type: none"> Inspect, retighten and replace stem packing

Valve Type	Valve Issue	Warning Signs	Maintenance
Plug Valves	Sticking/Binding	Plug seizes from debris or no lubrication.	<ul style="list-style-type: none"> • Regular food-grade lubrication • Thorough cleaning
	Wear (Plug/Body)	Friction wears plug/body, affecting seal.	<ul style="list-style-type: none"> • Proper lubrication • Replace worn components
	Port Seal Leaks	Seals degrade, leading to internal/external leaks.	<ul style="list-style-type: none"> • Inspect and replace worn seals/packing
Check Valves	Sticking/Binding	Debris, corrosion cause the disc/ball to stick.	<ul style="list-style-type: none"> • Upstream filters • Regular internal cleaning
	Seat Wear/Backflow	Seat wear or damaged poppet causes leakage or undesirable backflow.	<ul style="list-style-type: none"> • Inspect, replace worn seats or inserts
	Spring Fatigue (Spring-Loaded)	Spring weakens from use/corrosion, fails to close.	<ul style="list-style-type: none"> • Inspect and proactively replace fatigued springs
Seat Valves	Seat/Disc Wear or Damage	Sealing surfaces (seat and disc/plug) wear, erode or pit, causing leaks.	<ul style="list-style-type: none"> • Inspect seating surfaces • Resurface or replace worn seats, discs and plugs
	Stem O-ring Leaks	Deteriorating stem o-ring and/or external leaking.	<ul style="list-style-type: none"> • Inspect stem and o-ring for damage • Replace worn or degraded stem o-ring
	Sticking/Incomplete Closure	Debris, corrosion or lack of lubrication causes the disc/plug to stick.	<ul style="list-style-type: none"> • Regular internal cleaning • Ensure proper lubrication • Check for foreign particles
	Actuator/Control Issues (for actuated seat valves)	Automation failure prevents valves from operating correctly.	<ul style="list-style-type: none"> • Check air supply, solenoids and electrical connection • Calibrate positioners
	Corrosion/Material Degradation	Exposure to corrosive fluids or high temperatures degrades components.	<ul style="list-style-type: none"> • Inspect valves for corrosion • Replace affected parts • Select a different metal material suitable for the process fluid



What Are the Keys to Proactive Hygienic Valve Maintenance?

It's not just about fixing what's broken — it's about preventing issues before they even start.

Here's a general overview of the recommended steps needed to prevent the risks of valve failure and contamination:

Compromised product safety and quality

- Safely shut down the specific processing line or equipment.
- Depressurize the system and lock out/tag out all energy sources to prevent accidental activation.

Careful removal, tagging and tracking

- Carefully remove, tag and track valves from the line for inspection.
- For complex systems, precisely track each valve's original location to ensure accurate reinstallation.

Evaluation and cleaning

- Once removed, meticulously inspect each valve using a pass/fail system.
- Thoroughly clean and sanitize to eliminate residue and bacteria.
- Record critical data, such as seal condition, to identify recurring issues and inform future predictive maintenance.

Component replacement and lubrication

- Thoroughly evaluate every internal component for wear, cracks or damage.
- Replace all wear parts.
- Re-lubricate valves with food-grade lubricants to ensure smooth operation and prevent future failures.

Reassembly

- Reassemble the valve following the manufacturer's specifications and torque guidelines.
- Pay meticulous attention to detail to ensure a perfect fit and seal, preventing leaks and ensuring proper function.

Reinstallation and startup testing

- Reinstall the newly serviced valves into their designated positions.
- Perform startup testing of the valve and any automated operational components to ensure proper performance of the completed repair. This is a crucial step, as it is the final QA test before the valve is entered into service.

Documentation and record keeping

- Ensure comprehensive maintenance records are maintained to help satisfy inspections from the FDA, USDA and your customers.
- Records should include details on the work performed, parts replaced, inspection findings and testing results.
- This documentation is invaluable for internal quality control, troubleshooting, scheduling future maintenance and satisfying regulatory audits.



ROI: Proactive vs. Reactive Valve Maintenance

Category	Proactive Maintenance Impact	Reactive Maintenance Impact
Downtime	Minimized & Planned: Scheduled downtime for efficient maintenance, predictable production.	Maximized & Unpredictable: Frequent, costly and sudden halts in production.
Product Throughput	High & Consistent: Steady production rates due to reliable, uninterrupted operation.	Fluctuating & Reduced: Lower overall output due to unexpected shutdowns and inefficiencies.
Product Quality	High & Consistent: Reduced risk of contamination or spoilage from failing components.	Compromised & Inconsistent: Increased risk of product issues from worn or failing valves.
Maintenance Backlog	Low & Manageable: Tasks are planned and addressed efficiently, preventing accumulation.	High & Growing: Constant "firefighting" leaves little time for planned work, increasing backlog.
Energy Consumption	Optimized: Efficient valves minimize leaks (e.g., steam, air, process fluids) and operate smoothly.	Elevated: Inefficient or leaking valves lead to wasted energy and resources.
Recall Incidents/ Costs	Significantly Reduced: Strong safeguard against major recalls due to hygiene control.	High Probability & Costly: A leading cause of severe recalls, incurring massive expenses.
Contamination Investigations	Infrequent & Streamlined: Easier to pinpoint issues if they arise due to controlled conditions.	Frequent & Complex: Difficult to trace sources due to chaotic failures and lack of records.

Category	Proactive Maintenance Impact	Reactive Maintenance Impact
Emergency Repair Costs	Near Zero: Repairs are planned, cheaper and integrated into routine maintenance.	Very High: Includes overtime, expedited shipping and often collateral damage.
Spare Parts Inventory	Optimized: Planned procurement, lower holding costs, reduced obsolescence.	Unpredictable: Requires larger safety stock for emergencies or costly expedited orders.
Equipment Life (Reduced CapEx)	Extended Significantly: Delays the need for expensive new equipment purchases.	Shortened Considerably: Premature wear-out and frequent, unplanned need for replacement.
Labor Overtime	Minimized: Work scheduled during regular hours, avoiding costly emergency call-outs.	Maximized: Frequent emergency call-outs and extended shifts to get lines back online.
Audit Scores	High & Consistent: Strong documentation and reliable operations lead to positive audit outcomes.	Low & Inconsistent: Poor documentation, frequent issues and increased regulatory scrutiny.
Safety Incidents	Significantly Reduced: Well-maintained equipment is inherently safer for personnel.	Increased: Hurried repairs, unexpected failures and compromised equipment pose higher risks.
Typical ROI	12-40% Cost Savings	Up to 2-5 Times More Expensive

Why You Should Call in the Experts: Benefits of Professional Valve Service

Even the best in-house maintenance teams can elevate their capabilities by partnering with proactive maintenance specialists, especially when it comes to the complex requirements of hygienic valve systems. Here's how working with dedicated valve maintenance experts benefits your operation:

Gain advanced, in-depth valve expertise and precision tools.

External professionals live and breathe sanitary valves, applying deep knowledge and purpose-built tools that go far beyond what general maintenance teams typically use. Their expertise helps you achieve better performance and reliability from your critical valve systems.

Accelerate diagnosis and minimize downtime.

Time is money when production is on the line. Valve specialists quickly identify and resolve even the most complex issues, helping you reduce downtime and restore full operation faster than with a generalist approach.

Ensure access to genuine parts and industry best practices.

Optimal valve performance depends on using the right parts and techniques. Experts have access to genuine OEM parts and stay up to date on the latest maintenance methods, ensuring your equipment performs to the highest standards.

Maximize internal team efficiency.

Partnering with external professionals frees your in-house staff to focus on strategic maintenance priorities. It's a smart way to optimize your internal resources without compromising the quality of valve care.

Enhance compliance with robust reporting and documentation

Navigating FDA, USDA and customer audits requires detailed records. Valve service partners deliver thorough service reports and documentation that strengthen your compliance posture and reduce audit risks.

Stay ahead with proactive insights and early issue detection.

Valve failures often start with subtle warning signs. Specialists bring a trained eye for early indicators of wear and failure, helping you take proactive action and avoid costly unplanned downtime or product recalls.





Why Choose Weidner? Because You Deserve More Than Just “Good Enough.”

In an industry where “good enough” often passes for quality, **Weidner stands apart.** We’re far from your typical maintenance provider.

Weidner is your trusted partner for expert hygienic valve maintenance and service, helping food and beverage, cosmetics, and life sciences manufacturers reduce cross-contamination risks, improve process efficiency and extend equipment life.

We don’t just maintain valves – we help facilities and teams run safer, smarter and more efficiently every day.

Founded in 1959 and family-owned and operated from Salt Lake City, UT, Weidner combines a nationwide reach with a local touch. Our specialized, high-energy teams are driven by a passion for proactive solutions, delivering faster turnarounds and audit-ready reporting rooted in a genuine culture of care and accountability.

“

They were able to come in over the course of 48 hours and rebuild over 300 valves, which for us would have taken months .

Sean Gary
Operations Technical Manager,
Schrieber Foods

“

Getting contractors to just do the basics can be a challenge sometimes. But when Weidner's team is on site, they're super respectful. They follow our GMPs, and the communication is great.

Christian Shannon

Sanitation Manager,
Kraft Heinz



What Sets Weidner Apart:

Nationwide reach, local feel

Our flexible teams scale to your needs and schedule – whether it's one site or twenty, 10 valves or 40,000, we're there.

Specialists, not generalists

Our technicians bring unmatched industry knowledge and hands-on experience. We're passionate about our mission and determined to deliver high-quality work quickly and professionally.

Faster turnarounds, less downtime

We work within your schedule shutdowns, routinely completing full-facility valve maintenance in days, not weeks. Your operation gets back online faster, without cutting corners.

Proactive, not reactive

We identify hidden issues that others miss, helping you stop problems before they start. No surprises. No emergency shutdowns.

Compliance-ready reporting

Our in-depth service reports, maintenance records and digital tracking help facilities simplify audits, satisfy inspectors and provide insights on precisely how long intervals between maintenance should be – so you can schedule with confidence and keep production on track.

Culture of care and accountability

We don't just check boxes. We show up with energy, pride and a genuine commitment to doing things right – for your product, your people and your plant.

Build Your Team's Expertise with Weidner's Customized Training

Weidner's customized training programs offer a powerful way to elevate your in-house valve maintenance capabilities. Leveraging our decades of specialized expertise, these programs ensure your staff gain practical, hands-on knowledge to confidently manage daily valve care and troubleshoot minor issues.

Our customized training programs help you:

Empower your team: Equip your staff with the precise skills to perform routine valve checks and basic maintenance, reducing your reliance on external service teams for simple issues.

Improve first-response efficiency: Enable quicker identification and resolution of minor valve issues before they escalate. This cuts down on unplanned downtime and reduces expensive repairs.

Optimize resource allocation: Set your internal team up to handle more maintenance tasks efficiently. You'll reduce the need to call on specialists for larger and higher-value projects, saving on those expenses.

Enhance daily operational vigilance: Foster a culture of proactive care within your team. This leads to earlier problem detection, preventing costly emergencies and extending your equipment's overall lifespan.

Ready to Keep Your Valves and Your Operation Running Right?

Sanitary valve maintenance is one of the smartest investments you can make in your operation's safety, efficiency and bottom line – and you don't have to tackle it alone.

The Weidner team is here to help you take a proactive approach and avoid the costly risks of valve failure and contamination. If you're ready to elevate your maintenance program or just have questions, we'd love to hear from you.

Reach out today using the contact information below – and we'll show you exactly what it takes to get it done right.

Taylor Colligan has over a decade of experience in plant maintenance and service roles at Weidner. As Director of Plant Services, he excels as a consultant and solution provider, bringing expertise in the food and beverage, pharmaceutical, chemical, industrial, and mining processing industries. He specializes in assessing customer needs and strategically applying process instrumentation, valves, pumps, safety and chlorination equipment to enhance plant automation and efficiency.

Looking for More Info?

Scan the code to get in contact



Or reach out to us at:

sales@weidnerpro.com

801-565-9595

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