

Customer Operating Guide

5-Cycle Wash Program with Optional Standalone Sanitize

Quick Start Summary

- Connect the tank outlet to the wash panel inlet, connect the wash panel outlet to the tank CIP inlet, and connect the drain line to the drain valve outlet.
- Confirm hot water, cold water, detergent, acid, and optional sanitizer supplies are connected and adequately filled.
- Turn the selector to WASH to run the full 5-cycle wash routine.
- Use the optional sanitize control only when a separate sanitize cycle is needed before milking or before using the equipment.
- Do not change electrical wiring or internal PLC connections unless you are a qualified technician.

1. Safety Rules and General Instructions

Read this guide before operating the wash panel. The wash panel uses water, chemicals, pumps, drains, and electrical components. Safe operation depends on correct installation, correct chemical handling, and routine checks before each wash.

Important safety notice

Electrical installation and service work must be performed by an authorized electrician or trained technician. The wash panel must be properly grounded and connected to a fused electrical supply suitable for the machine. Never reach into the panel while power is connected.

- Wear appropriate eye and hand protection when handling detergent, acid, or sanitizer.
- Never mix chemicals together. Detergent, acid, and sanitizer must remain in their correct containers and feed lines.
- Keep covers, guards, and electrical enclosures closed during operation.
- If the panel alarms, loses water flow, fails to drain, or leaks, stop operation and correct the issue before running another wash.
- Verify the voltage and frequency on the machine nameplate. Do not assume all machines are wired the same.

2. Main Components

- Electric control panel with PLC controller
- Water circulation/spray pump
- Hot water and cold water fill connections
- Detergent, acid, and optional sanitizer peristaltic pumps
- Drainage valve and drain outlet
- Selector switch and indicator lights

3. Mounting Position and Hoses

1. Mount the washer so the tank outlet is positioned higher than the washer panel inlet (2).
2. The washer must be installed lower than the tank. This allows gravity to help feed the circulation pump and helps the pump maintain its prime.
3. Keep the CIP (1) and Drain (2) hoses as short and straight as possible. Avoid dips, loops, or low spots where air can become trapped, as this can cause the circulation pump to lose prime.

4. Customer Connections Before Washing

1. Connect the wash panel outlet to the tank CIP inlet so the spray device can wash the inside of the tank.
2. Connect the tank outlet to the wash panel inlet to allow wash water to be pulled from the tank.
3. Connect the drain valve outlet to a safe drain line.
4. Connect hot and cold water supplies to the correct water inlets on the side of the panel.
5. Confirm each chemical suction line is in the correct container: detergent to detergent, acid to acid, sanitizer to sanitizer.



Before starting

Check that the tank is empty, the outlet valve is open as required for washing, chemical containers are not empty, and the drain hose is secure. A loose drain hose or incorrect valve position can cause overflow or poor cleaning.

5. Normal 5-Cycle Wash Operation and Initial Set Up

The wash routine runs five complete cycles every time. Detergent is injected during Cycle 2 and acid is injected during Cycle 4.

Chemical Dispensing and Cycle Adjustment

Due to differences in **water pressure, water volume, and chemical concentration requirements from farm to farm**, it is important to evaluate the washer's performance during initial setup. The detergent, acid, and sanitizer cycles may require adjustment to prevent excessive or insufficient chemical use.

The washer's **peristaltic chemical pumps dispense approximately 17 oz. of chemical per minute**. Because the amount of water entering the wash tank can vary depending on the installation, carefully observe the **actual water level in the tank during each cycle**.

After determining the approximate amount of water used during the detergent, acid, and sanitizer cycles, adjust the applicable washer parameters and chemical pump run times as necessary to achieve the chemical manufacturer's recommended mixing ratio.

Do not assume the factory settings will provide the correct chemical concentration for every installation. Proper setup should be verified before placing the washer into regular operation.

Cycle	Customer Description	What Happens
1	Warm water rinse	Fills with hot water, circulates, then drains.
2	Detergent wash	Doses detergent, fills with hot water, circulates, then drains.
3	Hot water rinse	Fills with hot water, circulates, then drains.
4	Acid rinse	Doses acid, fills with cold water, circulates, then drains.
5	Final cold rinse	Fills with cold water, circulates, then drains.

6. Detailed 5-Cycle Program

Cycle	Step / Phase	Parameter	Function	Time
1st Cycle	Phase 1	B116	Water Fill / Cold Water	60 sec
	Phase 1	B191	Water Fill / Hot Water	60 sec
	Phase 2	B002	Circulation Pump	180 sec
	Phase 3	B003	Drain	150 sec
2nd Cycle	Detergent Dose	B075	Detergent Pump (17oz / min)	40 sec
	Phase 1	B117	Water Fill / Hot Water	120 sec
	Phase 1	B004	Water Fill / Cold Water	0 sec
	Phase 2	B006	Circulation Pump	420 sec
	Phase 3	B007	Drain	150 sec
	Phase 1	B119	Hot Water Fill / Hot Water	120 sec
	Phase 1	B008	Water Fill / Cold Water	0 sec
	Phase 2	B010	Circulation Pump	180 sec
3rd Cycle	Phase 3	B011	Drain Pump / Drain	150 sec
	Acid Dose	B107	Acid Pump (17oz / min)	40 sec
	Phase 1	B121	Cold Water Fill / Cold Water	120 sec
	Phase 1	B012	Water Fill / Hot Water	0 sec
4th Cycle	Phase 2	B014	Circulation Pump	420 sec
	Phase 3	B015	Drain	150 sec
	Phase 1	B124	Cold Water Fill / Cold Water	120 sec
	Phase 1	B016	Water Fill / Hot Water	0 sec
5th Cycle	Phase 2	B018	Circulation Pump	180 sec
	Phase 3	B019	Drain	150 sec

7. Optional Manual Sanitize Cycle

The sanitize routine is intended as a separate manual cycle. Use it when the operator wants to sanitize the tank before use. It should not be treated as an added sixth step in the normal wash routine.

Cycle	Step / Phase	Parameter	Function	Time
Sanitize	Sanitize Dose	B128	Sanitize Pump (17oz / min)	40 sec
	Phase 1	B117	Hot Water Fill / Hot Water	120 sec
	Phase 2	B006	Circulation Pump	420 sec
	Phase 3	B007	Drain	150 sec

8. PLC Parameter Adjustment - Customer Reference

Press MENU / OK to enter the controller menu. Use the arrows to select RUN/STOP press OK and stop the program.

Use the up/down arrows to select PARAMETERS.

Press MENU / OK to confirm.

Use the up/down arrows to scroll to the parameter you need to change.

Use the right arrow to choose the active parameter value.

Use the up/down arrows to adjust the value.

Use the left arrow and MENU / OK to confirm changes and save. Use the arrows to select RUN/STOP press OK and run the program

9. Controller Parameter List

Parameter	Program Area	Function	Time	Notes
B116	Cycle 1	Hot Water Fill	60 sec	Phase 1
B191	Cycle 1	Cold Water Fill	60 sec	Phase 1
B002	Cycle 1	Circulation Pump	180 sec	Phase 2
B003	Cycle 1	Drain	150 sec	Phase 3
B075	Cycle 2	Detergent Pump	40 sec	
B117	Cycle 2 / Detergent	Hot Water Fill	120 sec	Phase 1
B004	Cycle 2 / Detergent	Cold Water Fill	0 sec	Phase 1
B006	Cycle 2 / Detergent	Circulation Pump	180 sec	Used in Cycle 2 & sanitize
B007	Cycle 2 / Detergent	Drain	150 sec	Used in Cycle 2 & sanitize
B119	Cycle 3	Hot Water Fill	120 sec	Phase 1
B008	Cycle 3	Cold Water Fill	0 sec	Phase 1
B010	Cycle 3	Circulation Pump	180 sec	Phase 2
B011	Cycle 3	Drain Pump / Drain	150 sec	Phase 3
B107	Cycle 4 / Acid	Acid Pump	20 sec	
B121	Cycle 4 / Acid	Cold Water Fill	120 sec	Phase 1
B012	Cycle 4 / Acid	Hot Water Fill	0 sec	Phase 1
B014	Cycle 4 / Acid	Circulation Pump	420 sec	
B015	Cycle 4 / Acid	Drain	150 sec	Phase 3
B124	Cycle 5	Cold Water Fill /	120 sec	Phase 1
B016	Cycle 5	Hot Water Fill	0 sec	Phase 1
B018	Cycle 5	Circulation Pump	180 sec	Phase 2
B019	Cycle 5	Drain	150 sec	Phase 3
B128	Sanitize	Sanitize Pump	40 sec	

10. Routine Checks and Basic Troubleshooting

Issue	Likely Check	Customer Action
Poor cleaning	Low water level, wrong water temperature, weak chemical, blocked spray device	Check water supply, chemical containers, spray device, and program times.
Tank does not drain	Drain hose kinked, drain outlet blocked, drain valve not opening	Secure and clear the drain line. Stop using the washer if valve operation is faulty.
Chemical not feeding	Empty container, suction tube out of chemical, worn pump tube	Confirm chemical level and suction line position. Replace pump tubing if worn.
Panel stops or alarms	Water pump malfunction, low supply, electrical issue	Stop the wash, correct water supply issue, and contact service if the alarm returns.
Overflow or leaks	Wrong hose connection, drain line loose, valve position incorrect	Stop operation and correct the plumbing before restarting.

11. Maintenance Notes

- Inspect water hoses, CIP hoses, and drain hoses for cracks, kinks, or loose clamps.
- Keep the stainless panel clean and dry. Avoid spraying high-pressure water directly into electrical areas.
- Check peristaltic pump tubing regularly and replace worn tubing before it breaks or loses chemical output.
- Keep chemical suction filters and tube ends clean and fully submerged in the correct containers.
- Record any parameter changes, service work, and recurring wash issues in the notes section.

12. Service Information and Notes

For service, have the machine model, serial number, voltage, and a description of the issue ready. If the machine is under warranty, unauthorized electrical or mechanical modifications may affect coverage.

Machine model	
Serial number	
Installation date	
Voltage / phase	
Dealer / service contact	
Customer notes	