

Dairymaster Parlour Operator Handbook

Version 1



Experience the difference



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1. Pre Milking Checks.

Before beginning milking the operator should go through some simple checks outlined below to ensure that the plant has been washed completely since the last milking.

- ✓ Ensure the Wash Couplings have been disconnected.
(Milk/Divert couplings).
- ✓ Ensure the Milk Pipe is Coupled to the Milk Tank ready for milking.
- ✓ Ensure Clean Milk Filter(s) are in place.
- ✓ Check Vacuum Pump oil level (ensure that oil is present).
- ✓ Check that the Milk Tank Outlet is Closed.
- ✓ Check the Pinch Clips going to the Sanitary Trap and Jetstream closed for MILKING. (Open for WASHING). (This is Automated in Rotary Parlours)
- ✓ Turn on the Water supply to the Plate Cooler.
(This is Automated if the Autowasher is installed)
- ✓ Check Feed Auger Contactors have been Switched On or that Feeding has been Switched on in the Rotary Operator Console.
- ✓ Ensure the Milk Tank is in COOLING mode.
- ✓ Check that the System Vacuum is between 48 – 50kPa on the Parlour Vacuum Gauge.

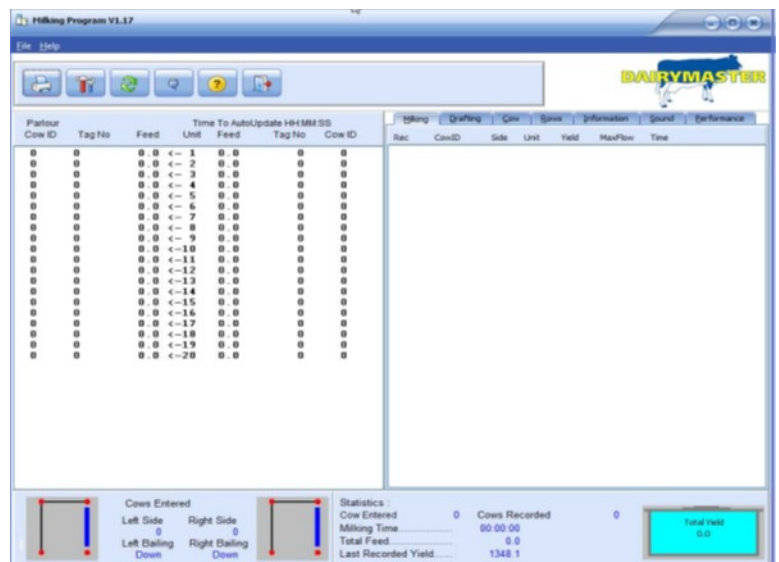
1.1 Milk Manager (Where Present):

Before beginning milking the operator should go to the computer and open the milking program. In some installations the program can be automatically set up to start at milking time.

1. Click on the Dairymaster milking program on the screen:



2. The following window should appear:



3. At this stage you are ready to enter the pit and begin milking.

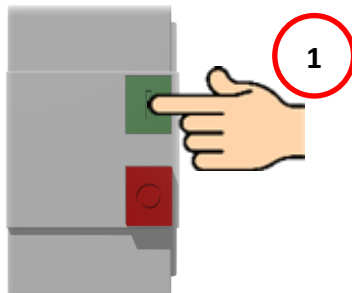
1.2 Starting the Milking Plant:

Turn on the milking Machine by switching on the Vacuum Pumps or if an Autowasher is installed the milking machine is started via the control panel interface on the front of the unit.

(Refer to the Quick Reference guide for the AutoWasher).

No AutoWasher Installed

Press the Green Button on the Vacuum Pump Contactor.



AutoWasher Installed

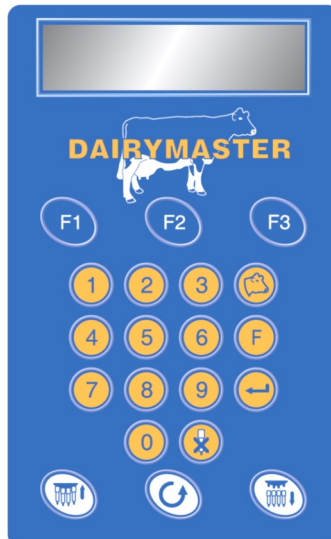
Use the Up/Down Arrows to Scroll to Ready to Milk & Press the Green Button



2. Control Systems

2.1 Control Systems

Each Milking unit will have one of the following controls systems in place.



Milk Meter



Standalone ACR



SwiftFlo Control



SwiftFlo Pulse



SwiftFlo Commander

2.2 External washing of controllers

Refrain from spraying the outside of the SwiftFlo Controls or milk meter with excessive amounts of water as this only increases the build-up of lime scale externally.

Ensure that the electronic control units are not sprayed with high-pressure jets and that cleaning detergents are not used on it. To clean, simply wipe with a damp cloth.

2.3 Milking Claw Vent Hole

Every Second or Third Milking check the claw air vent to ensure that it is free and clear of any obstruction. If the vent is not clear it could have a negative effect on the accuracy of the Milk Flow Indicator as well as having a negative effect on the plant performance.

2.4 Milking Routine

A good milking routine is needed to remove milk efficiently from cows with minimal risk to udder health. A good routine should result in high quality milk with low bacterial contamination.

Clean nitrile disposable Gloves should be worn at all time during milking. Sleeves should be rolled up and clean.

Benefits of a good milking routine are:

- ✓ **Reduced levels of mastitis.**
- ✓ **Increased milk production.**
- ✓ **Rapid milking out of cows.**

ACR with ClusterCleanse























Automatic Cluster Remove And Cluster Cleanse

Maintenance Schedule				
Maintenance Schedule	Per Milking	Daily	Weekly	Yearly
Flow Sensor Diaphragm				x
Relay Kit				x
Ram Seal				x
Replace Chamber Diaphragm	7000			
Control Panel Cleaning (with damp cloth)			x	
Air vent must be checked and freed if blocked			x	
Replace Plunger Seal	14000			
Replace Diaphragm	14000			
Replace Plunger Grommet	14000			

Alarm Alerts		
Alarm	Reason	Action
Float not rising or falling correctly	Dirt or grit in the chamber and or chamber drain hole	Dismantle the chamber and clean carefully
Insufficient vacuum at the cluster after START is pressed	Cracked diaphragm in float chamber	Change diaphragm
Remove Override LED is flashing	The Flow Sensor did not detect milk flow during the min. milking time	Check flow sensor

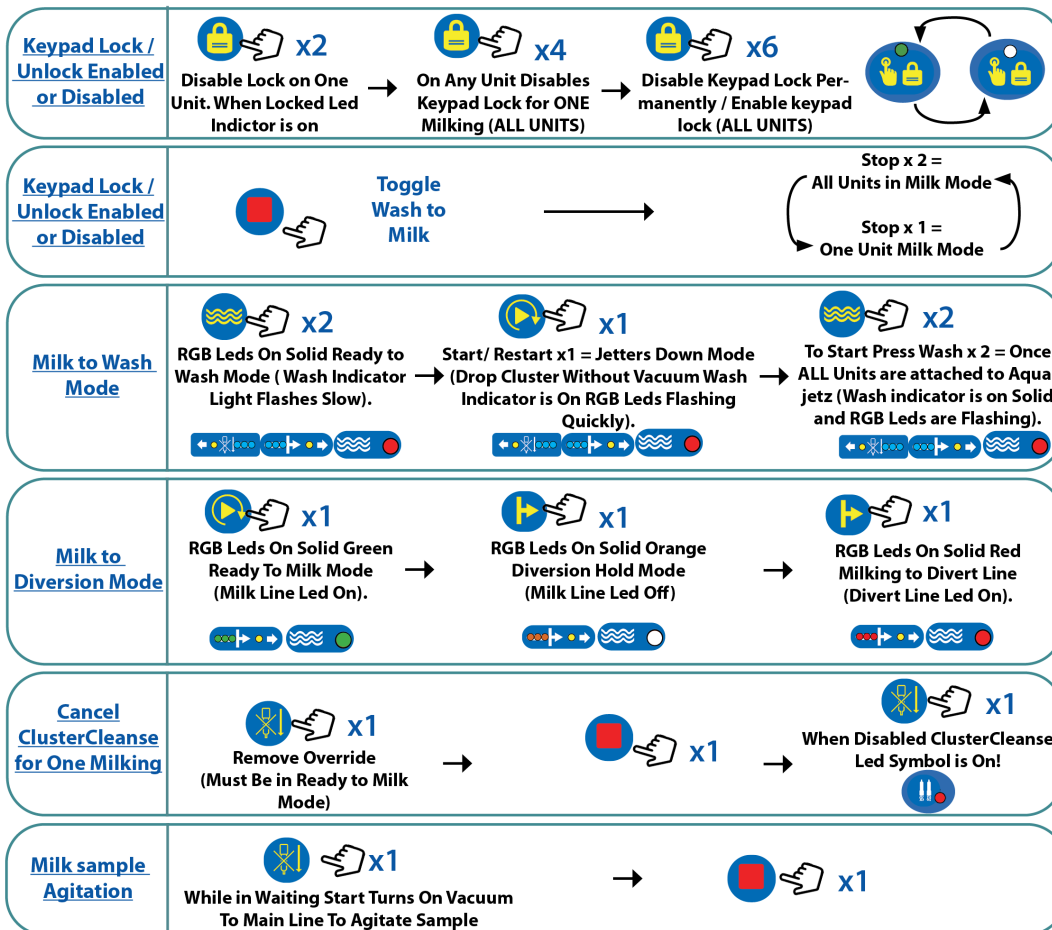
Buttons	
Button	Outcome
	Wash
	Start
	Stop
	Restart
	Divert
	Remove Override

3.3 SwiftFlo Control



Button	Outcome
	Wash Mode
	Screen Lock x2 Presses
	Select sides/ Cow Retention
	Diversion Line Selection
	ACR Override
	Stop Button/ Cancel Button
	Start Button

LED	Indication
	Keypad Lock Active
	Wash Mode Active
	Milk Mode Active
	Diversion Mode Active
	Temperature Warning
	ClusterCleanse Active
	Setting Function Active
	Liner Health Warning



Procedure for the last row of cows to place units in wash mode

1. Place idle units into wash mode while waiting for the last cow to finish milking.
2. Double tap the Wash Key, on a unit which has finished milking, this places all idle units into Ready to Wash Mode (Top LEDs turn blue, wash indicator flashes slowly (Phase 1)).
3. Once the next start signal is given the ACR will drop and the Jetter Down mode is active there is no vacuum applied to the claw at this point (Phase 2).
4. Double tap wash key to place all units into washing mode or power cycle.



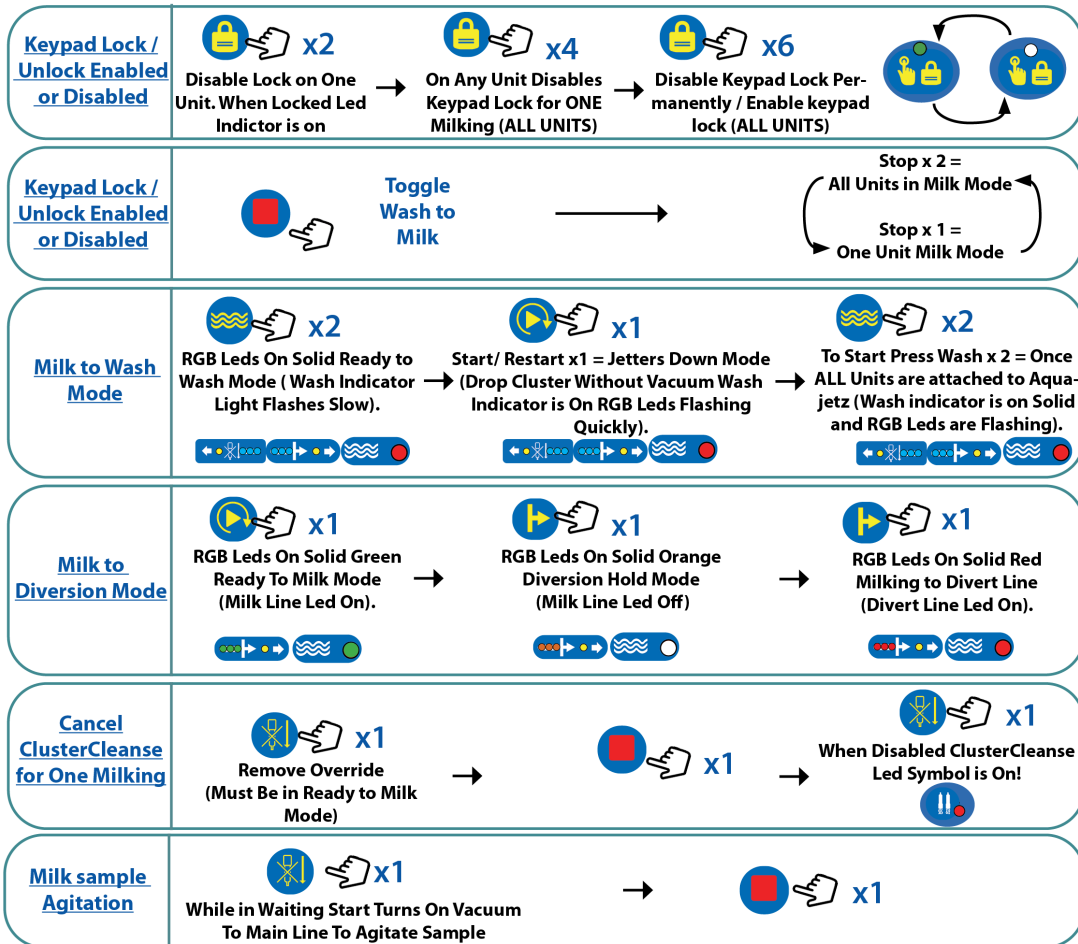
Note: Power cycle all units after each configuration

3.4 SwiftFlo Pulse Controller



Button	Outcome
	Wash Mode
	Screen Lock x2 Presses
	Select sides/ Cow Retention
	Diversion Line Selection
	ACR Override
	Stop Button/ Cancel Button
	Start Button

LED	Indication
	Keypad Lock Active
	Wash Mode Active
	Milk Mode Active
	Diversion Mode Active
	Temperature Warning
	ClusterCleanse Active
	Setting Function Active
	Liner Health Warning



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Note: Power cycle all units after each configuration

3.5 SwiftFlo Commander Controller

Swiftflo Commander

Procedures

Step	
1	Press F100 and Enter to put the parlour into Milk Mode.
2	Make sure the Milking Program is open and the Rotary is synced.
3	Milk can be diverted by pressing twice before the cluster is attached, once finished it automatically resets to main milk line.
4	Cow IDs can be entered at the bail, by pressing the correction button and inputting the ID followed by Enter.
5	Press 104 and at one unit and use Smart Start to place Cluster on the Jettlers for washing.

Swiftflo Commander

Touchpad

Button	Outcome	Button	Outcome	Function No	Outcome
	Drafting		Divert Milk	100	Normal Mode
	Feeding		ACR Override	101	Wash Mode
	Cow Testing		Function Button	103	Hold, Jettlers down Left
	Touchpad Lock		Enter Button	104	Hold, Jettlers down Right
	Retention		Voice Assist	107	Place only this unit into Wash Mode
	Cow ID		Start/Stop Button	108	Place only this unit into Milk Mode
				199	Cancel CC for this Unit for this Milking
				198	Broadcast CANCEL CC to all units for this milking
				55	Lock Keypad



PART NUMBER:11021029

Swiftflo Commander

Milk Sampling Instructions

Step	Actions
1	Put sample bottle in place
2	Turn the sampling tap to TEST
3	Press the Start Button and begin milking
4	When finished remove cluster from cow and press Stop Button.
5	Turn the sample tap to the Hold position and remove the sample bottle
6	Shake bottle
7	Return the sample tap to EMPTY when complete

4. Foremilking.

Before each cluster is attached to the cow, two squirts of foremilk should be removed from each teat to aid the detection of mastitis and flush out the milk from the teat canal.

If Pre-Spraying, apply to each teat according to manufacturer's recommendations.



4.1 Teat Cleaning:

Each of the Animals Teats should be cleaned and dried before attaching the cluster to the cow.

A different quarter of the towel should be used on each teat to avoid cross-contamination between teats.

Teat Spraying Note:

If Pre-Spraying, apply to each teat according to manufacturer's recommendations.



4.2 Cluster Attachment:

The cluster is attached to the cow as soon as possible after teat preparation. Attach the units without leaking large amounts of air into the system;

Hold the cluster level so that the short milk tubes close off the claw nipples. Apply each teat cup rapidly.

This helps to ensure that the vacuum level remains stable.



4.3 End of Milking (If Autowasher is installed)

Place all the milk meters into Wash mode by entering **Function 101** on any Milk Meter / SwiftFlo Commander Controller

Or

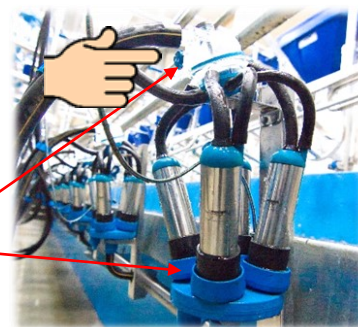
On the ACR controller press the **WASH** button.

Place the clusters on the jetters, lock claw buttons in open position.

Press **F3** on the Autowasher to drain the receiver and activate the air purge.

Wait for the air purge to complete its cycle.
(System Cleared)

Press  to stop the pumps.



Ready the plant for washing, open the Jetstream and Sanitary Trap Pinch Clips.
(This is Automated in Rotary Plants and is controlled by the Autowasher)

Connect the re-circulation pipe for washing (At the Milk tank / Rotary Platform wash link).

Remove the milk filter and replace with the spare Milk Filter. See **Milk Filter Replacement**.

Select the appropriate wash cycle and press start.

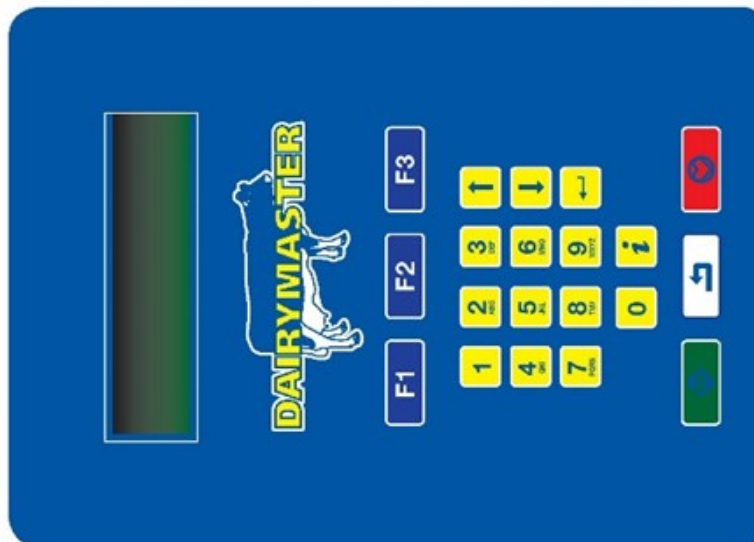


Please ensure that the plant is not left unwashed for long periods as this may impair cleaning and reduce the lifetime of some components due to excess deposits.

Symptom	Cause	Solution
'Acid low'	Detergent drum empty	Replace Detergent
'Hypo low'	Detergent drum empty	Replace Detergent
'San low'	Detergent drum empty	Replace Detergent
Error 'CHECK COUPLING'	The collection tank swing over arm or the Diversion line coupling is in incorrect position	Check coupling and swing over arm.
Error 'TROUGH NOT FULL'	Not enough water in the wash trough	Check Plumbing

4.4 Common Checks During Washing:

1. Ensure All Clusters are in place during washing.
2. Ensure that All Clusters are pulling water and are washing completely.
3. Where Meters are installed ensure that the meters are filling completely and dumping water during the wash cycle.
4. Ensure the Sanitary trap is washing and draining properly.
5. Ensure the Receiver is washing and draining properly.
6. Check the return water temperature to ensure that it is not below 40-45°C.



AutoWasher Function

Function	Outcome
1	Setting the Time
2	Systems Settings
3	Rinse & Sanitiser Settings
4	Cold Alkaline Wash
5	Hot Alkaline Wash
6	Acid Detergent Wash
7	Pre-Set Start Times
8	Diagnostics
11	Recycle Water

AutoWasher Procedures

Step	Actions
1	Fix Milk Outlet (Coupling) to Milk tank if needed and press the Start button.
2	Use the navigational buttons to Find "Ready to Milk" and press the Start button.
3	When the Milking is complete press F3 to drain and air purge the system. Ensure "System Clear" is displayed on the screen. Press Stop button.
4	Using the directional buttons select a type of wash: cold, hot acid, rinse or post rinse.
5	Fix Milk Outlet to the wash line and press the Start Button.
6	Check to see wash has completed.

AutoWasher Buttons

Button	Outcome	Button	Outcome	Button	Outcome
F1	Transformer Timed On	↩	Start Button	↩	Navigate Down
F2	Transformer Toggle On/Off	⏹	Stop Button	⏶	Navigate Up
F3	Drain & Air Purge	⏶	Enter Key	ℹ	Function Button
					Reset Button

AutoWasher Maintenance Schedule

Maintenance Schedule	Per Milking	Daily	Weekly	Monthly	Yearly
Replace the tube inside the chemical pump.					x
Cleaning Control Panel with damp cloth.			x		
Replace Detergent Tubes .				Every 3 Months	

AutoWasher Alarm Alerts

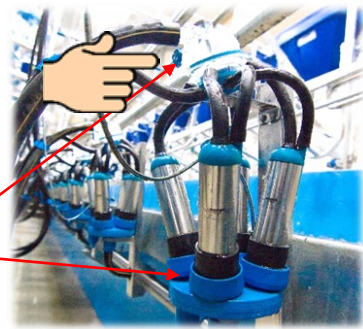
Alarm	Reason	Action
Trough does not fill completely.	Insufficient calibration/low water pressure.	Re-calibrate use Function 2/ check plumbing for leaks.
Trough does not empty completely.	Incorrect settings.	Re-calibrate wash time.
First Liner change.	Service due time.	Replace liners and carry out service.

4.6 End of Milking (no Autowasher installed)

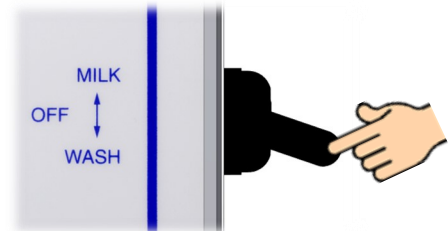
1. Place the clusters on the jetties, lock claw buttons in open position.

Button locked open

Clusters on Jetties



2. Turn the switch on the milk pump controllers to **Wash** until all milk is empty from the receiving jars.



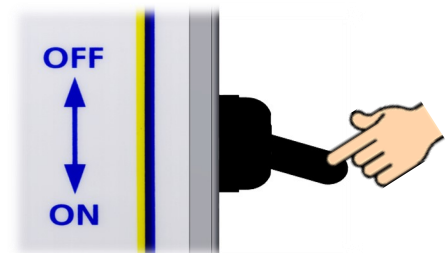
3. Turn the switch back to **Milk position** again.



4. Press the air purge button for **30** seconds.

5. Remove the Milk filter socks from the milk Filters and disconnect the Milk Coupling or Top Fill Dairy arm from bulk tank. See section **Milk Filter Element Replacement**.

6. Turn on Jetstream.



7. Fill the wash trough with water, place suck up pipe into water and empty trough
8. Turn the switch to the Wash position again.
9. Purge the system again
10. Fill the trough a second time with the required amount of water for circulation, add the required amount of detergent and circulate for 10 minutes.



Please Note: This circulation water should not be used a second time.



11. When the 10 min are up divert the water into a holding tank.
12. Rinse the machine with the required amount of cold water.
13. Press the air purge button again for 30 sec.
14. Turn the switch to the off position.
15. Press the red button on the contactors to stop the milking machine.
16. Turn off transformers and Jetstream controller & Turn off water to plate cooler.

5. Milk Filter Element Replacement.

The parlour may have single, double or triple milk filter systems installed depending on the number of milking units.

For Disposable Milk filters, they should be changed prior to each milking:

Disposable Milk Filters are available in two sizes:

Dairymaster milk filter socks 3" (box of 100) **Part No: 10370005**

Dairymaster milk filter socks 6" (box of 100) **Part No: 10370591**

For Reusable Milk filters, they should be washed & sanitized prior to each milking & replaced as needed:

Reusable Milk Filters are available in two sizes Standard & Large.

SwiftFlo precision filter elements (Standard) (box of 24) **Part No: 10370013**

SwiftFlo precision filter elements: (Large) (box of 18) **Part No: 10370658**

SwiftFlo precision filter element (Standard) (Single) **Part No: 10370633**

SwiftFlo precision filter element (Large) (Single) **Part No: 10370690**

In systems where there are 2 or more Milk Filter housings are installed can the Filter Elements be replaced during milking otherwise milking must stop to facilitate a milk filter change.

Changing the filter is done by closing the Shut off valves (Circled in Red) at the inlet and outlet of each of the Filter bodies for one filter at a time and replacing that Filter Element.

After replacing the first filter Element both valves should be opened only then can the filter at the other side of the Filter body be changed.



Note: It is important that all milk flow valves are never closed at the same time during milking; this will cause the receiver jar to flood shutting down the milking system.



For Reusable milk filters; Remove the Milk filter element and replace with a spare/cleaned or washed filter, turn the filter inside out and rinse off with cold or warm water followed by one of the following:

- Soak the filter element in Peracetic acid for 30 seconds.
- Soak the filter element in a chlorine based sterilising liquid for 20 minutes.

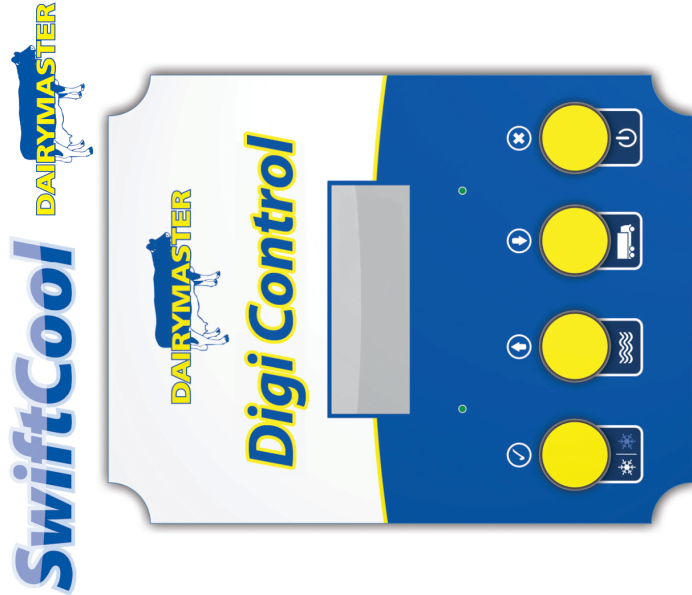
We recommend that you have two filter elements available always and that you replace the filter elements at least every two weeks and discard the old filter.

Environmental conditions will have a bearing on the useful life of the filters, therefore, it may be necessary to change the filters more frequently.

6.1 CoolControl



6.2 Digi Control



Digi Control

Function Buttons

Button	Tank mode	Tank mode details	Duration	Display	Colour Coded Lights	
			* Default settings		Left or Right	Continuous or Flashing
	Cooling Mode (4 stages) <i>Each press advances stage of cooling</i> 1. Delayed start 2. Soft start 3. Normal cooling 4. Deep Cooling	Idle Intermittent cooling to 8 deg Full cooling to <4 deg During Soft start During Normal Cooling	20 minutes 30 minutes 90 minutes	TEMP TEMP TEMP TEMP	Left Right Alternating Both	Continuous Continuous Slow flashing Slow flashing
	Full wash (5 stages)	1. Pre-rinse 1 2. Pre-rinse 2 3. Detergent wash 4. Post-rinse 1 5. Post-rinse 2		.1 .2 .3 .4 .5	Left Left Both Right Right	Slow flashing Fast flashing Fast flashing Fast flashing Slow flashing
	Quick wash (3 stages) (2 presses within 5 seconds)	1. Quick-rinse 1 2. Quick-rinse 2 3. Quick-rinse 2		9..1 9..2 9..3	Left Both Right	Slow flashing Fast flashing Slow flashing
	Milk Collection	1. Stop Cooling 2. Agitate before sampling start 3. Continue agitation	12 min	TEMP TEMP TEMP	Both Both	Continuous Continuous
	Manual Agitation (Cooling auto restarts)	Agitation	10 min	TEMP	Both	Slow flashing
	Cancel	Stop mode or Cancel alarm		E008		
		Parameter settings menu		ADD1		

Digi Control

Maintenance

Maintenance Schedule	Daily / Between milk collections	After each wash cycle	Monthly	Yearly
Check for correct milk temperature when cooling is complete.	✓			
Check for periodic agitation.	✓			
Inspect and if necessary clean the air vent.		✓	✓	
Check water hoses and connections for leaks or cracks			✓	
Check condensing units are free from obstructions and that air can circulate freely			✓	
Check the tank inner surface for grease or scale and adjust the cleaning parameters if necessary			✓	
Service the refrigeration system (using a qualified refrigeration contractor).				✓

Digi Control

Alarms

Alarm	Reason	Action
E001	Insufficient wash water (level not reached within time limit [parameter H039])	Check water supply.
E002	Insufficient wash water temperature (target temperature [parameter H038] not reached within time limit [parameter H037]) NOTE: wash sequence completed with low temperature water	Check water heater operation. Check intake water temperature. Check intake water temperature.
E003	Cooling time exceeded [Parameter C011]	Check condensing unit operation. Check milk pre-cooling.
E004	Acid Descaler detergent low	Replenish acid descaler detergent
E005	Alkali detergent low	Replenish alkali detergent
E006	Sanitiser Acid low	Replenish sanitizer acid
E007	Issue with the temperature probe	Check temperature prob
E008	Power Outage	Check power supply

7. Milk Collection Guidelines.



Milk Collection Guidelines

1. Ensure the System is in COOL or DEEP COOL mode.



2. Press the Collection button for 1 second to Initiate COLLECTION mode.
 - This will turn off cooling and agitate the milk for a set period.

Note: if the system is not in COOL or DEEP COOL MODE the Collection mode will not initiate.

3. Take Milk Sample after the agitation period has finished



4. Open the Cap to empty the tank.
 - As the Tank empties the system monitors the drop in milk level.
5. When the tank empties, replace the wash cap. Press STOP on the Keypad

6. Press the Wash button to initiate WASH mode



Global Headquarters

Dairymaster
Causeway
Co. Kerry
Ireland

Email: info@dairymaster.com
Tel: +353 (0) 66 7131124
Fax: +353 (0) 66 7131670
Web: www.dairymaster.com



Experience the difference
www.dairymaster.com