FM7 Firehouse Program List

November 26, 2024

This is a list of the standard wash programs provided with the control. These Programs can be modified to the user's needs by adding and deleting different cycles. Always test your new programs thoroughly before introducing them into production.

Programs

1. Outer shell wash, 35C/95F
2. Outer ensemble liners, 35C/95F
3. Blood borne wash for ensemble components, 35C/95F
4. Medium soiled ensemble components
5. Cleanout program, run after processing contaminated goods
11. Cold wash with pre-rinse, chemicals, 100G extract
12. Warm wash with pre-rinse, chemicals, 100G extract
13. Hot wash with pre-rinse, chemicals, 100G extract
14. Gentle Warm wash with pre-wash, chemicals, 100G extract
15. Gentle Cold wash with pre-wash, chemicals, 100G extract
16. Rinse and spin
30. Test program

This list contains descriptions of the standard cycles provided with the control. These cycles can be used to quickly setup effective wash programs. If you need to design your own cycles please study the manner in which these examples (particularly the spin routines and unroll99) have been structured, as it is possible to program operations that will produce undesirable results. Please note the spin cycles incorporate a balance detection routine, which includes the first several steps in each cycle. Please do not modify these steps. Always test your new programs thoroughly before introducing them into production.

Always make sure that there is enough spin deceleration time programmed after the final extract! Too little deceleration time may result in the operator being able to open the door before the machine has come to a complete stop.

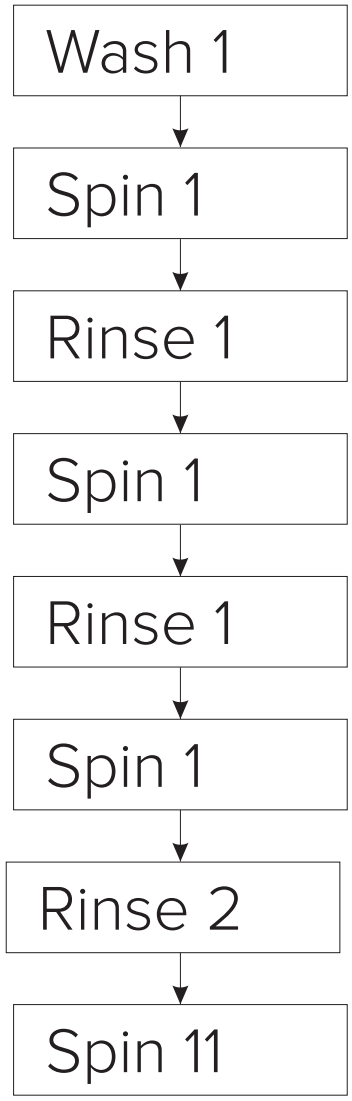
Chemical Dispenser / Signal Assignments (Output Name in FM7

1. Cup 1 & Chem 1 _____
2. Cup 2 & Chem 2 _____
3. Cup 3 & Chem 3 _____
4. Cup 4 & Chem 4 _____
5. Cup 5 & Chem 5 _____
6. Chem 6 _____
7. Chem 7 _____
8. Chem 8 _____

Program 1

Outer shell wash, 35C/95F

0:16 Forward
0:04 Pause
0:14 Reverse



Wash 1
Fill High, 35C/95F
Chemical 1, 0:20
Normal Wash, 15:00
Drain (steps 4&5)

Spin 1
Drain until level 7cm
Balancing*
50G extract
Pause, 0:05

Rinse 1
Cold Fill High
Normal Wash, 5:00
Drain (steps 3&4)

Spin 1
Drain until level 7cm
Balancing*
50G extract
Pause, 0:05

Rinse 1
Cold Fill High
Normal Wash, 5:00
Drain (steps 3&4)

Spin 1
Drain until level 7cm
Balancing*
50G extract
Pause, 0:05

Rinse 2
Cold Fill High
Normal Wash, 5:00
Drain (steps 3&4)

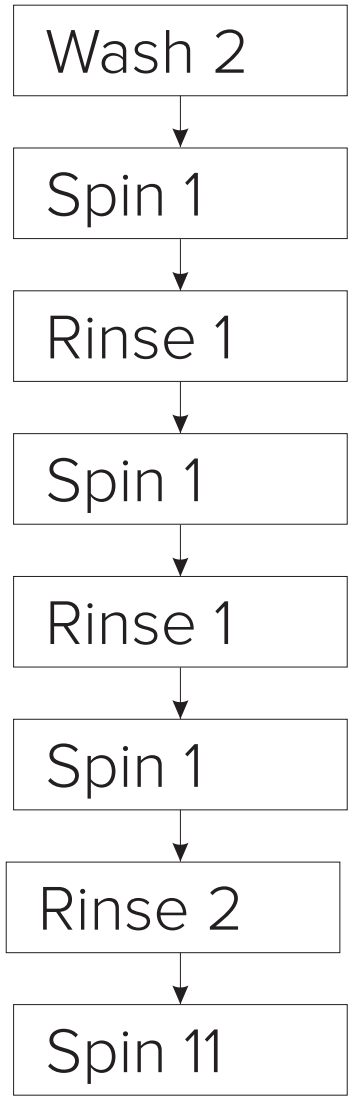
Spin 11
Drain &Distribution
Balancing *
Spin, 50G, 0:30
Spin, 100, 5:00
Coast, 0:30
Braking, 0:50
Unroll, 0:30

* - Altering this step will cause the machine to fail balance detection, and not spin.

Program 2

Outer liners, 35C/95F

0:16 Forward
0:04 Pause
0:14 Reverse



Wash 2
Fill High, 35C/95F
Chemical 1, 0:30
Normal Wash, 9:00
Drain (steps 4&5)

Spin 1
Drain until level 7cm
Balancing*
50G extract
Pause, 0:05

Rinse 1
Cold Fill High
Normal Wash, 5:00
Drain (steps 3&4)

Spin 1
Drain until level 7cm
Balancing*
50G extract
Pause, 0:05

Rinse 1
Cold Fill High
Normal Wash, 5:00
Drain (steps 3&4)

Spin 1
Drain until level 7cm
Balancing*
50G extract
Pause, 0:05

Rinse 2
Cold Fill High
Normal Wash, 5:00
Drain (steps 3&4)

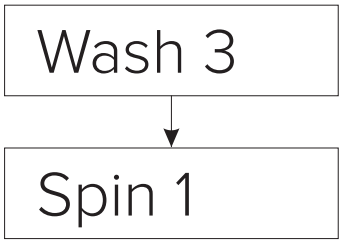
Spin 11
Drain &Distribution
Balancing *
Spin, 50G, 0:30
Spin, 100, 5:00
Coast, 0:30
Braking, 0:50
Unroll, 0:30

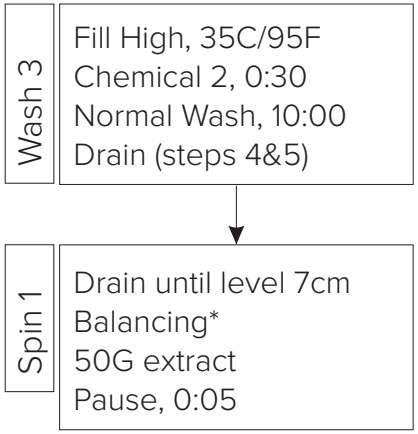
* - Altering this step will cause the machine to fail balance detection, and not spin.

Program 3

Blood borne wash, 35C/95F

0:16 Forward
0:04 Pause
0:14 Reverse



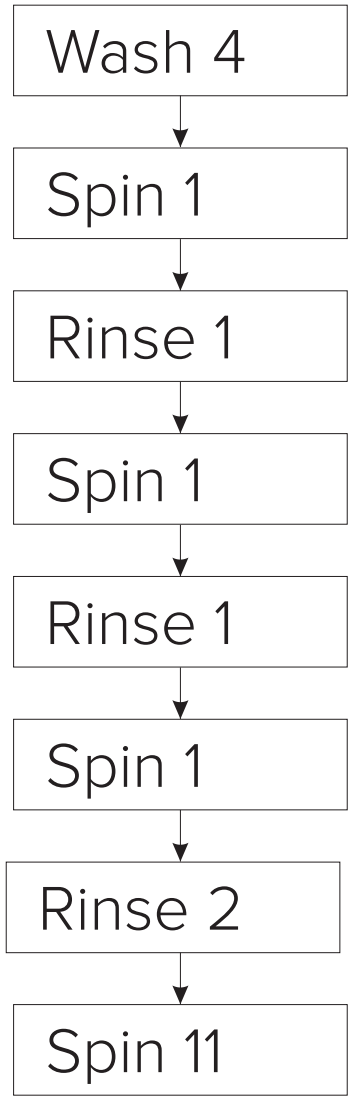


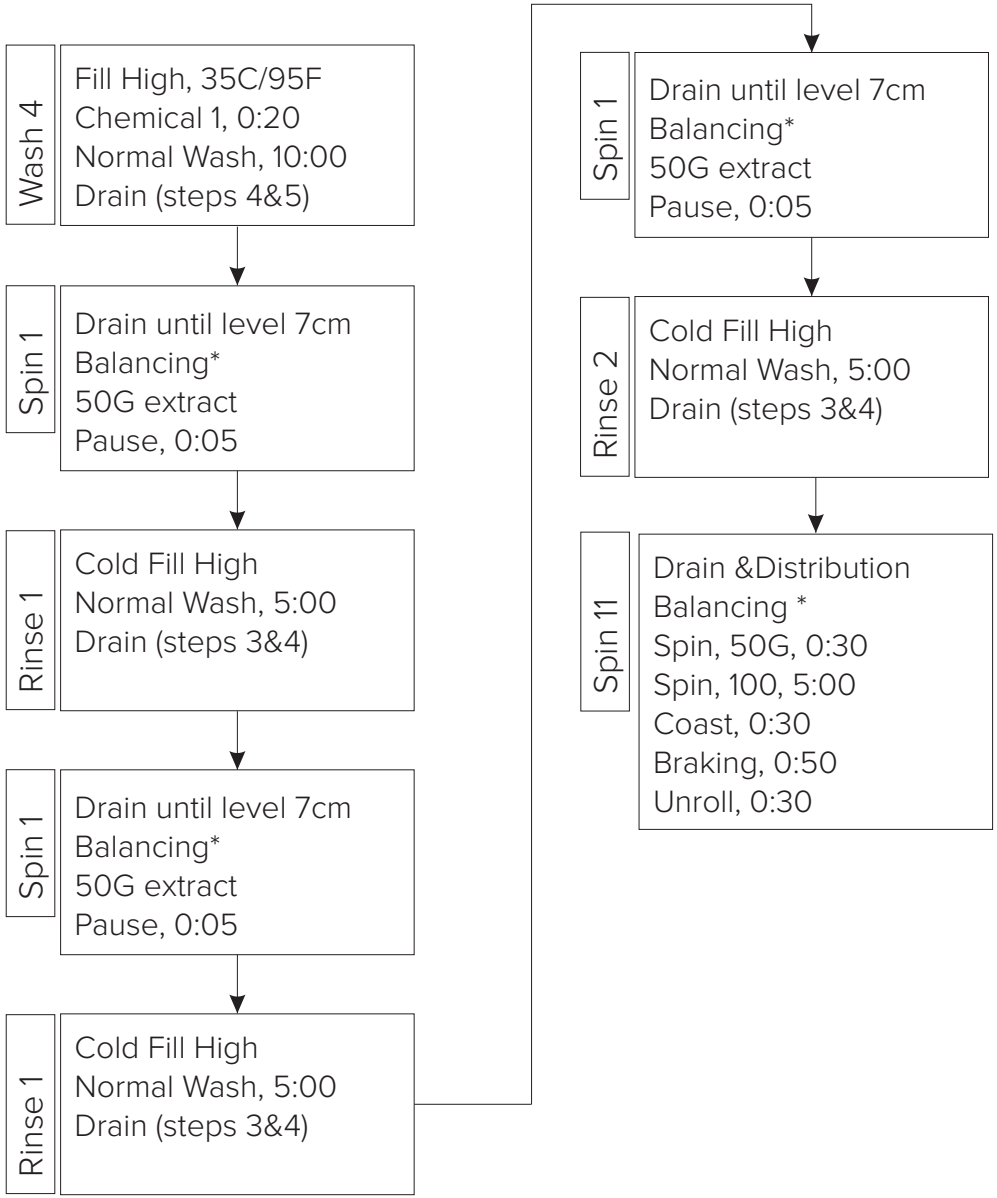
* - Altering this step will cause the machine to fail balance detection, and not spin.

Program 4

Medium soil, 35C/95F

0:16 Forward
0:04 Pause
0:14 Reverse



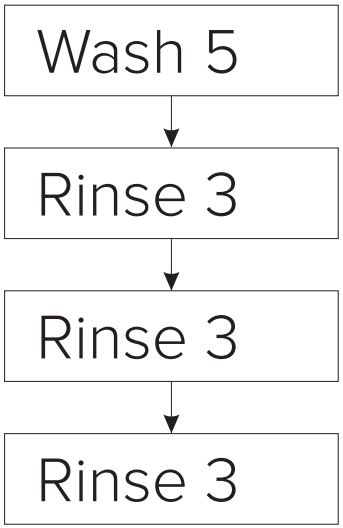


* - Altering this step will cause the machine to fail balance detection, and not spin.

Program 5

Cleanout program

0:16 Forward
0:04 Pause
0:14 Reverse



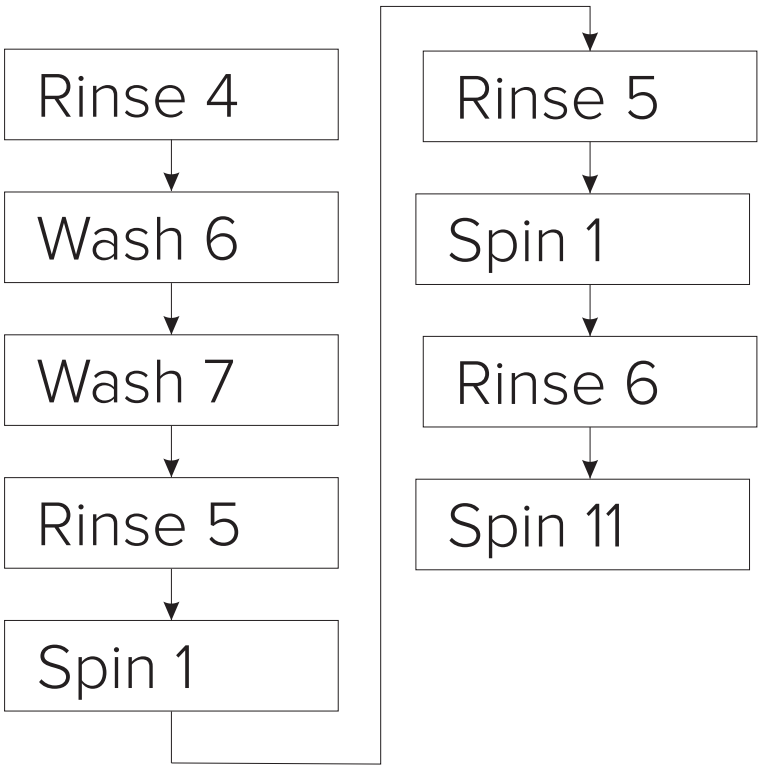
Wash 5	Fill High, 50C/120F Chemical 1, 0:20 Normal Wash, 15:00 Drain (steps 4&5)
Rinse 3	Fill High, 50C/120F Normal Wash, 5:00 Drain (steps 3&4)
Rinse 3	Fill High, 50C/120F Normal Wash, 5:00 Drain (steps 3&4)
Rinse 3	Fill High, 50C/120F Normal Wash, 5:00 Drain (steps 3&4)

* - Altering this step will cause the machine to fail balance detection, and not spin.

Program 11

Cold wash with pre-rinse

0:16 Forward
0:04 Pause
0:14 Reverse



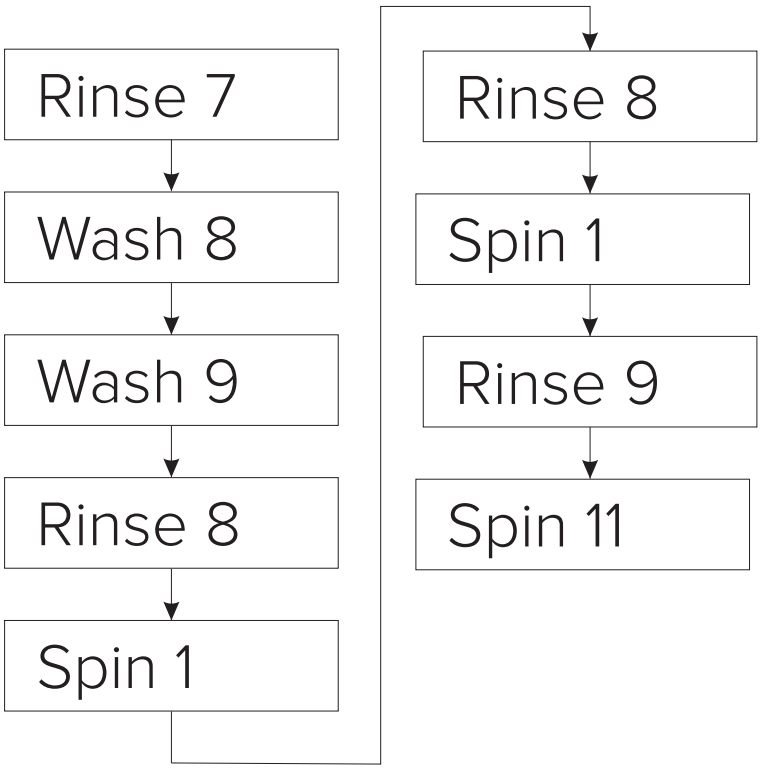
Rinse 4	Cold Fill High Normal Wash, 1:00 Drain (steps 3&4)
Wash 6	Cold Fill Low Chemical 1&2, 0:30 Normal Wash, 7:00 Drain (steps 4&5)
Wash 7	Cold Fill Low Chemical 3, 0:30 Normal Wash, 4:00 Drain (steps 4&5)
Rinse 5	Cold Fill High Normal Wash, 2:00 Drain (steps 3&4)
Spin 1	Drain until level 7cm Balancing* 50G extract Pause, 0:05
Rinse 5	Cold Fill High Normal Wash, 2:00 Drain (steps 3&4)
Spin 1	Drain until level 7cm Balancing* 50G extract Pause, 0:05
Rinse 6	Cold Fill Medium Chemical 4, 0:30 Normal Wash, 3:00 Drain (steps 4&5)
Spin 11	Drain &Distribution Balancing * Spin, 50G, 0:30 Spin, 100, 5:00 Coast, 0:30 Braking, 0:50 Unroll, 0:30

* - Altering this step will cause the machine to fail balance detection, and not spin.

Program 12

Warm wash with pre-rinse

0:04 Forward
0:16 Pause
0:04 Reverse



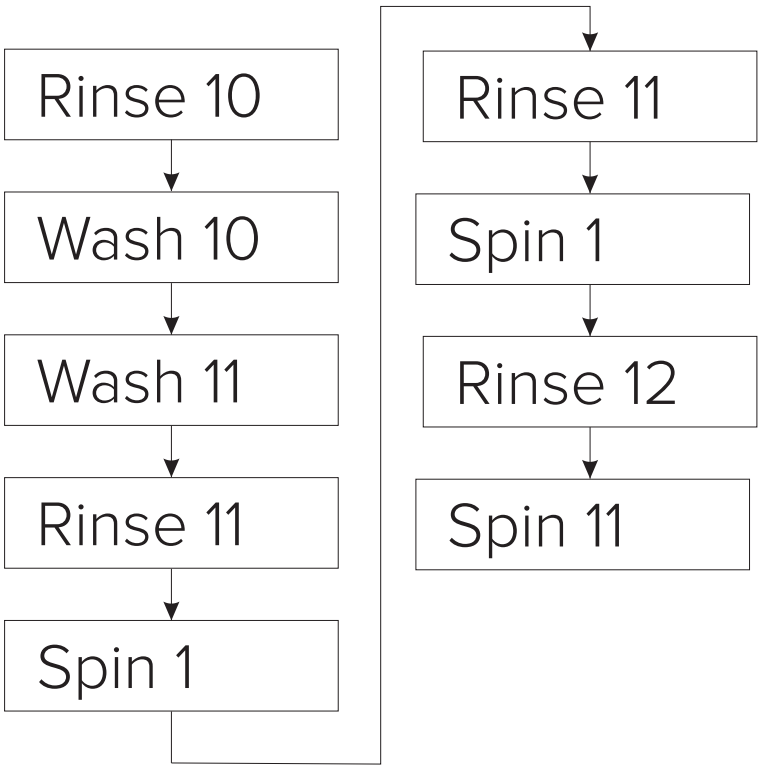
Rinse 7	Warm Fill High Normal Wash, 1:00 Drain (steps 3&4)
Wash 8	Warm Fill Low Chemical 1&2, 0:30 Normal Wash, 7:00 Drain (steps 4&5)
Wash 9	Warm Fill Low Chemical 3, 0:30 Normal Wash, 4:00 Drain (steps 4&5)
Rinse 8	Warm Fill High Normal Wash, 2:00 Drain (steps 3&4)
Spin 1	Drain until level 7cm Balancing* 50G extract Pause, 0:05
Rinse 8	Warm Fill High Normal Wash, 2:00 Drain (steps 3&4)
Spin 1	Drain until level 7cm Balancing* 50G extract Pause, 0:05
Rinse 9	Warm Fill Medium Chemical 4, 0:30 Normal Wash, 3:00 Drain (steps 4&5)
Spin 11	Drain &Distribution Balancing * Spin, 50G, 0:30 Spin, 100, 5:00 Coast, 0:30 Braking, 0:50 Unroll, 0:30

* - Altering this step will cause the machine to fail balance detection, and not spin.

Program 13

Hot wash with pre-rinse

0:16 Forward
0:04 Pause
0:16 Reverse



Rinse 10	Hot Fill High Normal Wash, 1:00 Drain (steps 3&4)
Wash 10	Hot Fill Low Chemical 1&2, 0:30 Normal Wash, 7:00 Drain (steps 4&5)
Wash 11	Hot Fill Low Chemical 3, 0:30 Normal Wash, 4:00 Drain (steps 4&5)
Rinse 11	Hot Fill High Normal Wash, 2:00 Drain (steps 3&4)
Spin 1	Drain until level 7cm Balancing* 50G extract Pause, 0:05
Rinse 11	Hot Fill High Normal Wash, 2:00 Drain (steps 3&4)
Spin 1	Drain until level 7cm Balancing* 50G extract Pause, 0:05
Rinse 12	Hot Fill Medium Chemical 4, 0:30 Normal Wash, 3:00 Drain (steps 4&5)
Spin 11	Drain &Distribution Balancing * Spin, 50G, 0:30 Spin, 100, 5:00 Coast, 0:30 Braking, 0:50 Unroll, 0:30

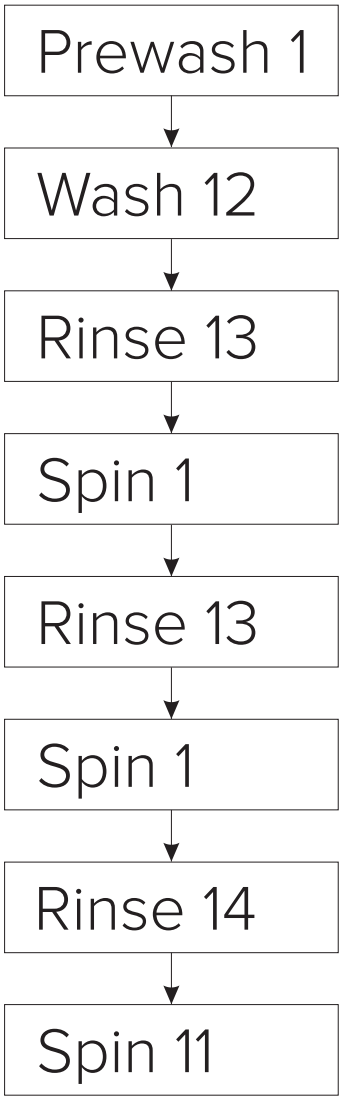
* - Altering this step will cause the machine to fail balance detection, and not spin.

Program 14

Gentle Wash

Warm wash with pre-wash

0:04 Forward
0:16 Pause
0:04 Reverse



Prewash 1
Warm Fill High
Chemical 1, 0:30
Gentle Wash, 4:00
Drain (steps 4&5)

Wash 12
Warm Fill High
Chemical 2, 0:30
Gentle Wash, 7:00
Drain (steps 4&5)

Rinse 13
Warm Fill High
Gentle Wash, 2:00
Drain (steps 3&4)

Spin 1
Drain until level 7cm
Balancing*
50G extract
Pause, 0:05

Rinse 13
Warm Fill High
Gentle Wash, 2:00
Drain (steps 3&4)

Spin 1
Drain until level 7cm
Balancing*
50G extract
Pause, 0:05

Rinse 14
Warm Fill Medium
Gentle Wash, 3:00
Drain (steps 3&4)

Spin 11
Drain &Distribution
Balancing *
Spin, 50G, 0:30
Spin, 100, 5:00
Coast, 0:30
Braking, 0:50
Unroll, 0:30

* - Altering this step will cause the machine to fail balance detection, and not spin.

Program 15

Gentle Wash

Cold wash with pre-wash

0:04 Forward
0:16 Pause
0:04 Reverse

- Prewash 2
- Wash 13
- Rinse 15
- Spin 1
- Rinse 15
- Spin 1
- Rinse 16
- Spin 11

Prewash 1
Cold Fill High
Chemical 1, 0:30
Gentle Wash, 4:00
Drain (steps 4&5)

Wash 12
Cold Fill High
Chemical 2, 0:30
Gentle Wash, 7:00
Drain (steps 4&5)

Rinse 13
Cold Fill High
Gentle Wash, 2:00
Drain (steps 3&4)

Spin 1
Drain until level 7cm
Balancing*
50G extract
Pause, 0:05

Rinse 13
Cold Fill High
Gentle Wash, 2:00
Drain (steps 3&4)

Spin 1
Drain until level 7cm
Balancing*
50G extract
Pause, 0:05

Rinse 14
Cold Fill Medium
Gentle Wash, 3:00
Drain (steps 3&4)

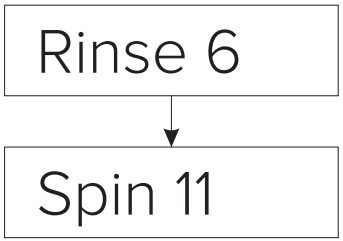
Spin 11
Drain &Distribution
Balancing *
Spin, 50G, 0:30
Spin, 100, 5:00
Coast, 0:30
Braking, 0:50
Unroll, 0:30

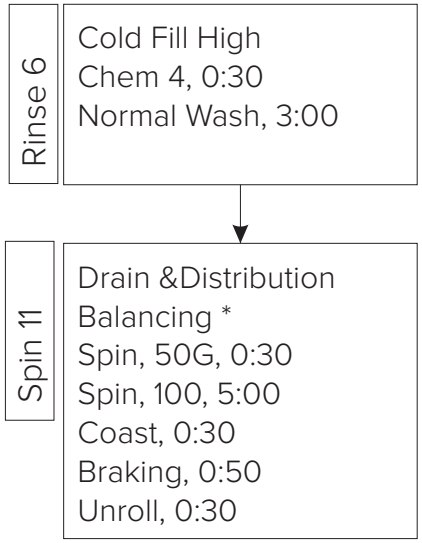
* - Altering this step will cause the machine to fail balance detection, and not spin.

Program 16

Rinse & Spin

0:16 Forward
0:04 Pause
0:16 Reverse





* - Altering this step will cause the machine to fail balance detection, and not spin.

Program 30

Test Program

0:04 Forward
0:16 Pause
0:04 Reverse

Prewash 99
Spin 99
Spin 3
Unroll 1

Rinse 1
Hot Fill High
Chem 4, 1:30
Normal Wash, 5:00

Prewash 99
Buzzer, 0:10
Aux Fill, 0:10
Cold Fill, to 10cm
Hot Fill, to 20cm
Chem 1, 0:10
Chem 2, 0:10
Chem 3, 0:10
Chem 4, 0:10
Chem 5, 0:10
Chem 6, 0:10
Chem 7, 0:10
Chem 8, 0:10
Heat to 50C
Cool Down to 30C

Spin 99
Distribution, 1G, 0:08
Distribution, 1.5G, 0:05
Distribution, 3G, 0:04
Drain until level 5cm
Balancing (Should Fail)
Spin, 50G, 0:30
Spin, 350G, 4:30
Pause, 0:02
Braking

Spin 3
Distribution, 1G, 0:08
Distribution, 1.5G, 0:05
Distribution, 3G, 0:04
Drain until level 5cm
Balancing *
Spin, 50G, 0:30
Spin, Max, 4:30
Pause, 0:02
Braking

Unroll 1
Drain open
Unroll, 0:30

Note: The Spin 99 cycle is designed to test the balance system, and should fail to spin!

* - Altering this step will cause the machine to fail balance detection, and not spin.

Example Heat Cycle

	Step				
Function	1	2	3	4	5
Cool Down					
Bal Load					
Drain					
Cold Water					
Hot Water	Yes			Yes	
Heating	Yes	Yes	Yes	Yes	Yes
C	90	90	90	90	90
Chem 1					
Chem 2			Yes		
Chem 3					
Chem 4					
Hard Water (Chem 5)					
Relay 16					
Relay 11 (Aux Fill)					
Relay 12 (Injection Flush)			Yes		
Relay 13 (Balancing)					
Motor	1	1	1	1	1
Speed RPM	42	42	42	42	42
Relay 17 (Chem 6)					
Relay 18 (Chem 7)					
Relay 19 (Chem 8)					
Relay 20 (Aux Drain)					
Relay 21					
Relay 22 (Buzzer)					
Relay 23 (Cold Spray)					
Relay 24 (Hot Spray)					
End Step					
Level cm	24			24	
Temp C		90			
WDT m:s	9:00	30:00		5:00	
Time m:s			1:00		7:00

Any cycle can be converted to a heating cycle by inserting a step after the fill, and setting the end step condition to a temperature (See Step 2 below).

Step 1 - Fill to a water level with hot water. Heat is on, and will engage when a minimum water level is met. Watchdog timer of 9:00 allows time to fill before an alarm is generated. Step 1 ends when the water level is reached.

Step 2 - Heat output is on. Watchdog timer of 30:00 allows time to heat to the required temperature before an alarm is generated. Step 3 ends when the target temperature is reached.

Step 3 - Heat output is on, Chemical 2 output is on, Relay 12 is on. Step 3 ends when a time of 1:00 elapses.

Step 4 - Top off step, same outputs as step 1.

Step 5 - Heat output is on in order to regulate temperature during the agitation phase. Step 5 and the entire cycle is complete when a time of 7:00 elapses.

Notes

Much more information is available on our website:
www.bandctech.com