OPTION 1: Chlorine free cleaning based on powder detergent (sodium hydroxide) and peracetic acid in an additional rinse

After each AM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) of warm or cold water per unit
4. Add an approved *powder detergent (sodium hydroxide) at the recommended use rate in cold water or hot water at 70-80°C (minimum 3 hot washes per week), allowing about 9 litres (2 gals) of solution per unit
   • Circulate the wash solution for 8-10 min, having allowed the first 5 litres to run to waste. Can retain for the PM wash occasion.
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the wash cycle or prior to the next milking
6. Add peracetic acid at recommended rates in an additional cold water rinse

After each PM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) of warm or cold water per unit
4. **Re-use the detergent** wash solution retained from AM milking.
   • Circulate the solution for 8-10 min
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit
6. Add peracetic acid at recommended rates to an additional cold water rinse

Replace the *powder detergent with an acid product on at least one occasion per week and more regularly if peracetic acid is not used twice daily
OPTION 2: Chlorine free cleaning based on liquid detergent (sodium hydroxide) and peracetic acid in an additional rinse

After each AM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) of warm or cold water per unit
4. Add an approved liquid detergent (sodium hydroxide) at the recommended use rate in hot water at 70-80ºC, allowing about 9 litres (2 gals) of solution per unit (7 hot washes per week)
   • Circulate the solution for 8-10 min, having allowed the first 5 litres to run to waste
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the wash cycle
6. Add peracetic acid at recommended rates to an additional cold water rinse

After each PM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) of warm or cold water per unit
4. Add an approved liquid detergent (sodium hydroxide) at the recommended use rate in cold water allowing about 9 litres (2 gals) of solution per unit
   • Circulate the wash solution for 8-10 min, having allowed the first 5 litres to run to waste
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the wash cycle
6. Add peracetic acid at recommended rates to an additional cold water rinse
OPTION 3: Chlorine free cleaning based on liquid detergent (sodium hydroxide) and an acid (phosphoric/nitric)

After each AM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) of warm or cold water per unit
4. Add an approved liquid detergent (sodium hydroxide) on 4 occasions per week and an acid product on 3 separate occasions per week (Monday, Wednesday, Friday) at the recommended use rate in hot water at 70-80ºC, allowing about 9 litres (2 gals) of solution per unit
   • Circulate the solution for 8-10 min, having allowed the first 5 litres to run to waste
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the wash cycle

After each PM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) of warm or cold water per unit
4. Add an approved liquid detergent (sodium hydroxide) at the recommended use rate in cold water, allowing about 9 litres (2 gals) of solution per unit
   • Circulate the solution for 8-10 min having allowed the first 5 litres to run to waste
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the wash cycle

Option of including peracetic acid in an additional cold water rinse twice daily.
OPTION 4: Chlorine free cleaning based on liquid detergent (sodium hydroxide) used with hot water twice daily

After each AM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) of warm or cold water per unit
4. Add an approved **liquid detergent** (sodium hydroxide) at the recommended use rate in **hot water** at 70-80°C, allowing about 9 litres (2 gals) of solution per unit
   - Circulate the wash solution for 8-10 min, having allowed the first 5 litres to run to waste
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the wash cycle

*Replace the liquid detergent with an **acid** product on at least one occasion per week

After each PM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) of warm or cold water per unit
4. Add an approved **liquid detergent** at the recommended use rate in **hot water** at 70-80°C, allowing about 9 litres (2 gals) of solution per unit
   - Circulate the wash solution for 8-10 min, having allowed the first 5 litres to run to waste
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the wash cycle
OPTION 5: Chlorine free cleaning based on new ‘one for all’ acid cleaning products

After each AM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) of warm or cold water per unit
4. Add an approved acid ‘one for all’ product at the recommended use rate in hot water at 70-80°C, allowing about 9 litres (2 gals) of solution per unit (recommended to replace the acid product with a detergent product (sodium hydroxide) on two occasions per week (Monday, Friday))
   • Circulate the wash solution for 8-10 min, having allowed the first 5 litres to run to waste
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the wash cycle

After each PM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) with warm or cold water/unit
4. Add an approved acid ‘one for all’ product at the recommended use rate in cold water allowing about 9 litres (2 gals) of solution per unit.
   • Circulate the wash solution for 8-10 min, having allowed the first 5 litres to run to waste
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the wash cycle
OPTION 6: Minimum chlorine cleaning based on liquid detergent (sodium hydroxide), liquid detergent/steriliser (once weekly) and peracetic acid in an additional rinse

After each AM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) of warm or cold water per unit
4. Add an approved \textit{liquid detergent} (sodium hydroxide) at the recommended use rate \textbf{in hot water} at 70-80°C, (replace with a \textit{detergent/steriliser} (<3.5% chlorine content) on one occasion per week), allowing about 9 litres (2 gals) of solution per unit
   - Circulate the wash solution for 8-10 min, having allowed the first 5 litres to run to waste
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the wash cycle
6. Add peracetic acid at recommended rates to an \textbf{additional} cold water rinse

After each PM milking
1. Wash outside of clusters and jetters. Attach jetters to clusters
2. Remove or replace the milk filter sock
3. Rinse plant with 14 litres (3 gals) of warm or cold water per unit
4. Add an approved \textit{liquid detergent} at the recommended use rate \textbf{in cold water} allowing about 9 litres (2 gals) of solution per unit
   - Circulate the wash solution for 8-10 min, allowing the first 5 litres to waste
5. Rinse the plant with a minimum of 14 litres (3 gals) of water per unit immediately after the wash cycle
6. Add peracetic acid at recommended rates in an \textbf{additional} cold water rinse
Various options can be used depending if the wash system is manual (addition of detergent and cleaning done manually), semi-automatic (detergent bowl is filled manually) or fully automatic (no manual intervention necessary)

- Fully automatic dosing units can be programmed to use caustic detergent (20-29%, sodium hydroxide) after two collections and an acid detergent (phosphoric/nitric) after the third collection, using hot water (60/75°C) at each collection. This routine is suitable for fully automatic, semi-automatic and manual bulk tank cleaning.

- Alternatively, the caustic detergent (21-29%, sodium hydroxide) could be used with hot water (60/75°C) and a second pump used to add peracetic acid to an additional final rinse, after each collection. This routine is only suitable for fully automatic systems.

- While an acid-based ‘one for all product’ is manufactured to both clean and disinfect without using additional cleaning agents, the addition of a caustic detergent in place of the acid product every third wash is considered beneficial. This routine is suitable for fully automatic, semi-automatic and manual bulk tank cleaning.