

# Cleaning and Maintenance Guide

## For Cyclon Distiller systems (4L, 4LBD, 8L)



 **FISTREEM™**

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## What Is This Guide For

The purpose of this cleaning and maintenance guide is to provide clear instructions for the safe and effective care of the Cyclon distiller system. Regular cleaning and maintenance are essential to ensure consistent performance, maintain water purity, and extend the operational life of the equipment.

By following the procedures outlined in this guide, users can reduce limescale build-up, prevent avoidable wear on components, and minimise the risk of damage or downtime. Proper maintenance helps ensure the Cyclon system continues to operate efficiently and reliably over time.

## What Is Required

You will require the following equipment and chemical.

1. Hydrochloric acid (HCL) 30%-36% w/v General use
2. Distilled water
3. Appropriate PPE

## Safety Information

### Approved Cleaning Agents

Only **hydrochloric acid (HCL)** shall be used for de-scaling operations.

If there is any uncertainty regarding the compatibility of a cleaning or decontamination agent with any component of the equipment, the manufacturer or authorised dealer must be consulted prior to use.

 WARNING	The use of <b>hydrofluoric acid</b> or other highly aggressive acids is strictly prohibited, as these substances may cause premature failure of the still.
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### Hazardous Fumes

The de-scaling operation shall only be carried out in a well-ventilated area to prevent the accumulation of hazardous fumes when using strong acids, including hydrochloric acid.

 WARNING	During the de-scaling process, hazardous or poisonous fumes may be released from the cleaning agent. Adequate precautions must be taken to prevent inhalation.
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## Personal Protective Equipment (PPE)

When handling hydrochloric acid, the following personal protective equipment should be worn at all times:

- Chemical-resistant protective gloves
- Protective clothing
- Safety glasses or chemical splash goggles

Failure to use appropriate PPE may result in serious injury.

## Acid Spillage

In the event of accidental acid spillage:

1. Immediately dilute the spill with copious amounts of clean tap water.
2. Remove the diluted solution using a suitable cleaning cloth or absorbent material.

Ensure that the area is made safe before continuing work.

## Mixing Instructions

 <b>WARNING</b>	<b>Never add water to acid.</b> Always follow correct acid handling procedures to prevent violent reactions and personal injury.
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## Excessive Foaming

If excessive quantities of acid are used, or if the boiler is heavily scaled, significant foaming may occur. Monitor the process closely and take appropriate measures to control foaming.

Introduce the acid slowly and in a controlled manner to prevent rapid chemical reactions that may result in excessive foaming. Allow sufficient time for the acid to react fully with scale deposits before adding any additional acid and avoid repeated or rapid dosing.

Where heavy scaling is present, the de-scaling process should be carried out in stages, with the system flushed and rinsed between applications.

## Maintenance Instructions

Regular maintenance is essential to ensure the continued safe and reliable operation of the still, as well as to maintain product performance and service life.

Periodic inspection of connecting hoses, internal tubing, connections, and glassware components is recommended to ensure continuity of safe operation and to avoid unnecessary leaks. Any signs of wear, degradation, cracking, or loose fittings should be addressed promptly.

The still should be kept clean and free from scale, residue, or contamination. De-scaling and cleaning should be carried out at intervals appropriate to the operating conditions and water quality, in accordance with the approved cleaning procedures.

All seals, gaskets, and joints should be checked regularly for integrity and replaced if deterioration is observed.

Only approved replacement parts and consumables should be used. If any abnormal operation, leakage, or damage is identified, the equipment should be taken out of service and inspected by a qualified technician or returned to the manufacturer or authorised service provider.

## Recommended Cleaning Schedule

The cleaning frequency for your Cyclon distiller depends on both the quality of the feedwater and how heavily the unit is used. Minerals and other contaminants can accumulate at different rates, affecting performance and longevity. The table below sets out recommended cleaning intervals based on feedwater type and usage level, which may be adjusted if operating conditions change.

Feedwater type	Usage Level	Standard Cleaning Frequency	Cleaning Frequency with Pretreatment cartridge	Additional Guidance
Hard water	High Daily usage	Every 2-3 weeks	Every 4-6 weeks	Pretreatment significantly reduces mineral build-up but frequent use still requires regular inspection to prevent blocked pipes and reduced efficiency.
Hard Water	Moderate use	Every 3-4 weeks	Every 6-8 weeks	Scale formation is slowed with pretreatment; inspect heating elements and drain valves regularly.
Hard water	Low use	Every 4-6 weeks	Every 2-3 months	Standing water can allow deposits to dry and harden; draining between uses is recommended.
Moderately hard water	High Daily usage	Every 4 weeks	Every 6-8 weeks	Pretreatment helps maintain consistent flow rates and improves overall boiler efficiency.
Moderately hard water	Moderate use	Every 6-8 weeks	Every 2-3 months	Reduced scale build-up, but visual checks should still be carried out.
Moderately hard water	Low use	Every 2-3 months	Every 3 months	Minimal deposits expected; clean sooner if reduced output or visible scale are observed.
Soft Water	High Daily usage	Every 6-8 weeks	Every 2-3 months	High throughput can still effect efficiency over time; pretreatment further protects heating elements.
Soft water	Moderate use	Every 2-3 months	Every 3 months	Routine maintenance helps ensure consistent water quality and system performance.
Soft Water	Low use	Every 3 months	Every 3-4 months	Very low scale formation expected; pretreatment maximises system lifespan and reduces downtime.

### Footnote

Water hardness classifications are indicative and based on typical mineral content (primarily calcium and magnesium ions) in the feedwater supply. Local water quality can vary significantly, and laboratories are advised to consult local water hardness data where available.

Usage levels are defined as follows: high daily use refers to continuous operation or multiple distillation runs per day; moderate use refers to regular daily or near-daily operation with single runs; and low use refers to occasional operation, typically a few times per week or less.

Routine visual inspection of the boiler, heating elements, pipework, and drain valves is recommended. Cleaning should be carried out sooner than the suggested intervals if visible scale, reduced water flow, or decreased distillation efficiency is observed.

## Cleaning Instructions

 INFORMATION	<p><b>IMPORTANT – READ BEFORE CLEANING</b></p> <ul style="list-style-type: none"><li>• <b>Pre-treatment feed systems:</b> Units operating with a pre-treatment feed must have this supply disconnected and the tap (mains) feed connected to enable boiler cleaning. After cleaning is complete, the pre-treatment feed must be reconnected.</li><li>• <b>Cyclon 4BD model:</b> The right-hand boiler is not normally required to be descaled. If descaling is necessary, unit dismantling will be required to gain access.</li><li>• <b>Cyclon 8L model:</b> The cleaning procedure described must be carried out on both boilers.</li></ul>
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### Step 01

Allow still to cool before cleaning.

### Step 02

Remove the acrylic door.

### Step 03

**Ensure the mains water supply is on and connected.**

Note: Users with the pre-treated feed model should have already disconnected the pre-treatment feed and connected the tap feed directly instead.

### Step 04

**Ensure the device is powered.**

If not, switch the power supply on at the wall socket and ensure both the 'On/Off' and 'Clean' lamps are unlit. The 'Power' LED will be lit whilst the still completes its self-check routine.

## Step 05

**Press the 'clean' button to begin the cleaning process.**  
The 'clean' lamp will illuminate

## Step 06

**Extend the CLD to allow boiler backfill.**  
To ensure the acid fills beyond the boiling line fit a piece of tubing to the vent outlet on the constant level device (CLD) and extend upwards above the area of the boiler to be cleaned.



## Step 07

**Attach a small clamp onto the drain valve tubing.**  
This will stop the device draining before the cleaning cycle finishes.

Note: Units set up with pre-treatment require the clamp setting below the 'Y' connection.



## Step 08

**Prepare the HCL solution.**

Fill a beaker with 100ml distilled water and add 100ml of concentrated HCL (30%-36% w/v).

Note: Only add the acid to water, never add water to the acid.

Carefully pour the acid solution into the orifice at the top of the constant level device using a plastic funnel (found in the accessory pack)



## Step 09

### Back fill the boiler.

Clamp off the overflow on the CLD and manually introduce approximately 3L of water into the boiler via the tubing extension on the CLD until it reaches the upper level of scale you wish to remove.

Note: Do not overfill as the water level should be able to get into the condenser



## Step 10

### Switch on the unit using the 'On/Off' switch.

Press the 'On/Off' lamp to illuminate it.

The heaters will automatically switch on for a period of 90 seconds. This will warm the diluted acid solution and improve the efficiency of the cleaning process.

When the heating period of 90 seconds expires, the heaters will switch off and the 'On/Off' lamp will extinguish. The solution will remain in the boiler, and the 'Clean' lamp will remain illuminated.

## Step 11

### Allow the acid solution to work.

Depending on how much limescale has built-up, leave the acid to sit in the device for at least 45 minutes up a maximum of 4 hours. A longer incubation period will help to degrade more stubborn limescale.

## Step 12

### Rinse the boiler.

When the glassware is clean the cleaning solution maybe discharged and the boiler(s) rinsed by pressing the 'Clean' button. This consists of two rinses, before returning to the 'Idle' mode ('Clean' lamp will be extinguished).

Should any scale remain on the glassware, the cleaning cycle may be repeated.

## Step 13

### Remove the clamp from the tubing

Refit the acrylic screen.

## Step 14

### Run off the first litre of distilled water.

Run off the first 1L of distilled water to ensure all acid has been removed from the system.

**The device is now cleaned and ready for use.**

## Spare Parts

Product Code	Item Description	Notes
K02702	Funnel polypropylene	For safe addition of acid.
TUBCYC4	Tubing kit for 4 litre Cyclon	Full kit of tubing (cutting to correct lengths required)
TUBCYC8	Tubing kit for 8 litre Cyclon	Full kit of tubing (cutting to correct lengths required)
TUBCYC4BD	Tubing kit for 4 litre Bi-distiller Cyclon	Full kit of tubing (cutting to correct lengths required)
L06318	Silicone Sleeve, small	Internal sleeve for connecting Boiler and condenser.
L06319	Silicone Sleeve, Large, 50mm length	External sleeve connecting Boiler and condenser.
L06320	Silicone sleeve, Large, 60mm length	Sleeve for connecting Boiler to CLD.



## Contact Us

For more information, contact Fistreem directly at:

Beacon House,  
Nuffield Rd,  
Cambridge,  
CB4 1TF, UK



+44 (0)1223 727 100



[sales@fistreem.co.uk](mailto:sales@fistreem.co.uk)



[support@fistreem.co.uk](mailto:support@fistreem.co.uk)



[www.Synoptics.co.uk](http://www.Synoptics.co.uk)



Contact [support@fistreem.com](mailto:support@fistreem.com)  
for any support or parts

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