

  
**Fistreem International Ltd**

**FISTREEM™**



*CYCLON AND CALYPSO  
WATER STILLS*

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*ADVANCED DESIGN  
HIGHEST PURITY DISTILLATE  
AUTOMATIC OPERATION*

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## CYCLON ULTRAPURE WATER STILL

Fistreem have been leaders in water still innovation for many years with a worldwide reputation for design, quality and reliability.

Distillation is recognised as offering considerable advantages being fail safe in concept and consistently free from impurities including inorganics, organics, microorganisms and pyrogens.

Fistreem Ultrapure Water Stills improve on this concept through a unique patented vapour trap which creates a 'cyclonic' effect eliminating all vapour borne droplets, ensuring that there is no carry over of impurities in the distillate. The resultant pyrogen free water is therefore at the highest purity - at all times. Featured here are the high specification Cyclon systems together with the budget designed Calypso range.

The Fistreem Cyclon is a revolutionary concept in distillation, surpassing all accepted purity, performance and reliability levels of traditional water stills.

The Cyclon has been designed to provide the many benefits of distillation with the minimum of fuss and maintenance.

Through microprocessor control, a thermistor sensor manages many aspects of the still's operation by automatically sensing water levels in the glassware. This includes operation of the heating elements, pretreated water feed flow and functions within the still's cleaning cycle.

### *Cyclon: An Integrated Water Purification System*

The Cyclon is available in 4 or 8 l.hr<sup>-1</sup> single distilled or 4 l.hr<sup>-1</sup> double distilled formats and as a complete water purification system with matching pre-deioniser and distillate reservoir. To eliminate the need for routine cleaning in hard water areas, the stills are also able to be adapted to accept pretreated water.

All systems can be bench or wall mounted while tap feed models can easily be upgraded to use pretreated water.

### *Purity*

The patented 'cyclonic' vapour trap eliminates all carry over while advanced glassware design removes the risk of foaming and improves purity levels. The distillate leaves the condenser at the optimum temperature to guarantee product quality.

### *Cyclon double distiller*



- HIGHEST PURITY, PYROGEN FREE DISTILLATE
- PATENTED VAPOUR TRAP
- OUTPUTS OF 4, 4 BI-DISTILLED AND 8 L/HR
- PRETREATED FEED OPTION
- ADVANCED MICROPROCESSOR CONTROL
- SAFE, RELIABLE OPERATION
- MATCHING DEIONISER AND RESERVOIR TANK



### *Safety in Operation*

The thermistor protects the still against interruptions in the water supply by controlling heater operation. Additional protection is provided by a thermal cut-out fuse to prevent overheating.

Operator protection is assured through totally enclosed glassware and a built-in spillage tray.

### *Reliability and Ease of Use*

Combined with the microprocessor, the thermistor sensor provides precise control of the still and simplifies operation and cleaning procedures.

A vertical boiler configuration minimises stress on the durable silica sheathed heating elements. Along with an auto-drain function this design also helps to reduce the build-up of scale.

The Cyclon is supplied with an electronic float switch which will shut off the still automatically when the storage reservoir is full enabling safe, unattended operation.

### *Economy*

The flow of cooling water is automatically controlled to minimise water usage.

### *CYCLON PRETREATED FEED OPTION*

Feeding the still with pretreated water can eliminate the need for descaling of the still's boiler in hard tap water areas.

All Cyclon Stills are supplied with accessories which enable the user to adapt from tap feed to treated feed



*Deioniser, 4 l still and reservoir*

supply. In this configuration, for economy, the treated water for the boiler and the tap water for the condenser are separated.

The stills can be fed from the matching Cyclon deioniser which is specially designed to provide quality pretreated water. The deioniser is electronically controlled by the still's microprocessor to ensure optimum use is made of the deioniser's ion exchange capacity. A rapid regeneration service is offered using a pre-paid voucher system. (UK customers only)

Alternatively, the Cyclon can be used with pretreated water from the user's own source. Suitable quality water includes reverse osmosis, deionised or purified water from a central piped supply.

### *CYCLON DEIONISER*

The Cyclon deioniser features a simple to read conductivity meter which indicates

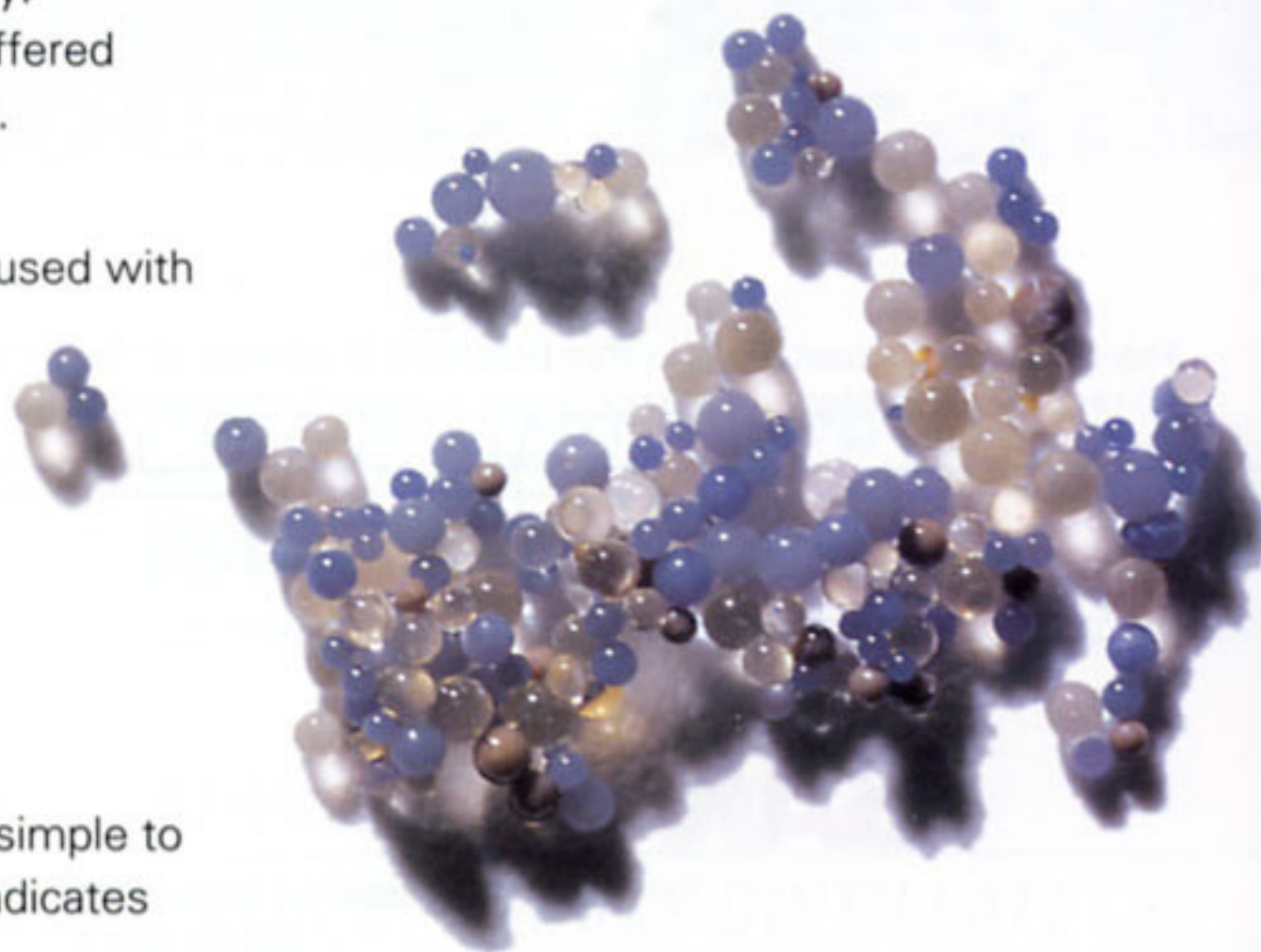
resin exhaustion and a separate outlet tap allowing users to draw off deionised water at any time.

The deioniser will typically provide up to 700 litres of purified water on 200ppm tds water. On exhaustion the resin can either be regenerated or replaced by new resin. Replacement resin packs are offered to users should a local regeneration service be unavailable.

### *CYCLON RESERVOIR TANK*

The 30 litre, matching Cyclon reservoir tank incorporates a fast flow tap and a sight tube showing the contents of the reservoir. Distillate access ports are fitted on both sides allowing the reservoir to be sited either side of the still.

To ensure the highest purity levels are maintained, the reservoir features a polyethylene liner, vent filter and a cleaning access port. The electronic float switch shuts off the still on a full reservoir.







## CALYPSO AUTOMATIC WATER STILL

The Fistreem Calypso automatic stills offer many of the proven features of the high performance Cyclon at an economical price.

The Calypso is available with outputs of 2 or 4 l.hr<sup>-1</sup> and can be bench or wall mounted. The 2 litre still is suitable for use in the smaller laboratory. If higher outputs are required, the 4 litre model is ideal.

### Guaranteed Purity

Incorporating the patented 'cyclonic' vapour trap, the Calypso produces the very highest quality pyrogen free water. Purity is also assured through all borosilicate glass construction and the use of durable, silica sheathed heating elements.

### Convenient Automatic Operation

The Calypso can be connected directly to a mains tap supply or where preferred, from a pretreated water supply using the optional pretreated feed kit. An automatic flow controller governs the rate of water consumption and allows the unit to be used over a wide tap water pressure range. In the pretreated mode, purified water is fed directly to the boiler and tap water is used for cooling purposes only.

The still is supplied with a polyethylene level sensor which automatically shuts off power and input water whenever the reservoir is full enabling safe, unattended operation.

The Calypso still is offered with an optional reservoir tank which allows a reserve of up to 30 litres storage capacity. The tank's polyethylene liner is fitted with an air filter, fast flow tap and contents sight tube and provides a convenient and

compact collection system. Automatic shut off is provided by the still's controls.

### Safe and Easy to Use

A high temperature cut-off protects the heaters in the event of water failure while operator safety is assured through totally enclosed glassware.

For ease of cleaning, the still is fitted with a boiler drain valve. Cleaning solution is simply introduced into the boiler via the constant level device - no dismantling is necessary.

Calypso stills and the optional reservoir tank may be bench or wall mounted.

- OUTPUTS OF 2 AND 4 L/HR
- BUDGET DESIGN CONCEPT
- HIGHEST PURITY, PYROGEN FREE DISTILLATE
- SAFE, AUTOMATIC OPERATION
- PRETREATED FEED OPTION
- MATCHING RESERVOIR TANK

### Calypso and reservoir





# SPECIFICATIONS

## Cyclon

MODEL	WSC004	WSC044	WSC008
OUTPUT CAPACITY	4 litres. hr <sup>-1</sup> Single distilled	4 litres. hr <sup>-1</sup> Double distilled	8 litres. hr <sup>-1</sup> Single distilled
PYROGEN FREE	Yes	Yes	Yes
pH	5.6 - 6.0	5.6 - 6.0	5.6 - 6.0
CONDUCTIVITY	1µS. cm <sup>-1</sup>	< 1µS. cm <sup>-1</sup>	1µS. cm <sup>-1</sup>
POWER RATING	3 kW	6 kW	6 kW
TAP WATER PRESSURE (min - max) *	70 - 560 kPa 10 - 80 lbf.in <sup>-2</sup>	70 - 560 kPa 10 - 80 lbf.in <sup>-2</sup>	70 - 560 kPa 10 - 80 lbf.in <sup>-2</sup>
TAP WATER FLOW, (min)	1 litre. min <sup>-1</sup>	2 litres. min <sup>-1</sup>	2 litres. min <sup>-1</sup>
DIMENSIONS, (H x W x D)	750 x 300 x 380 mm	750 x 490 x 380 mm	750 x 490 x 380 mm
WEIGHT	25 kg	29 kg	29 kg

\* The accessory low pressure adaptor will allow operation down to 35 kPa (5 lbf.in<sup>-2</sup>)

MODEL	CYCLON DEIONISER	CYCLON RESERVOIR
RESIN VOLUME	7 litres	-
VOLUME OUTPUT	Approx. 700 litres on 200 ppm tds water	-
DIMENSIONS, (H x W x D)	750 x 300 x 380 mm	750 x 300 x 380 mm
WEIGHT	21 kg	Empty: 11 kg Full: 42 kg

## Calypso

MODEL	WCA002	WCA004
OUTPUT CAPACITY	2 litres. hr <sup>-1</sup> Single distilled	4 litres. hr <sup>-1</sup> Single distilled
PYROGEN FREE	Yes	Yes
pH	5.6 - 6.0	5.6 - 6.0
CONDUCTIVITY	1µS. cm <sup>-1</sup>	1µS. cm <sup>-1</sup>
POWER RATING	1.8 kW	3.0 kW
TAP WATER PRESSURE (min - max)	70 - 560 kPa 10 - 80 lbf.in <sup>-2</sup>	70 - 560 kPa 10 - 80 lbf.in <sup>-2</sup>
MINIMUM WATER PRESSURE FOR PRETREATED FLOW VALVE OPTION	15 kPa 2 lbf.in <sup>-2</sup>	15 kPa 2 lbf.in <sup>-2</sup>
TAP WATER FLOW, (min)	0.5 litres.min <sup>-1</sup>	1 litre.min <sup>-1</sup>
DIMENSIONS, (H x W x D)	790 x 260 x 325 mm	790 x 260 x 325 mm
WEIGHT	15 kg	15 kg



## ORDERING INFORMATION

### Cyclon

STILLS (FOR TAP AND TREATED FEED)			
4 litres. hr <sup>-1</sup>	Single distilled	220 V 50/60 Hz	WSC004.MH3.4
		240 V 50/60 Hz	WSC004.MH3.7
4 litres. hr <sup>-1</sup>	Double distilled	220 V 50/60 Hz	WSC044.MH3.4
		240 V 50/60 Hz	WSC044.MH3.7
8 litres. hr <sup>-1</sup>	Single distilled	220 V 50/60 Hz	WSC008.MH3.4
		240 V 50/60 Hz	WSC008.MH3.7
ACCESSORIES			
Cyclon Reservoir Tank, 30 litres			WSC900.RTB.9
Cyclon Deioniser, complete with cartridge			WSC901.PDC.5
<b>Deioniser Resin</b> Resin Refill, carton of 2 x 7 litre refill packs (Provides two resin replacements)			DCF - 560 - 010D
<b>Regeneration Voucher System</b> (UK customers only) Service Deioniser Cartridge Regeneration Vouchers, book of 2			WGS - 950 - 130D WGS - 950 - 530K

### Calypso

2 litres. hr-1	Single distilled	220 V 50/60 Hz	WCA002.MH1.4
		240 V 50/60 Hz	WCA002.MH1.7
4 litres. hr-1	Single distilled	220 V 50/60 Hz	WCA004.MH1.4
		240 V 50/60 Hz	WCA004.MH1.7
ACCESSORIES			
Calypso Reservoir Tank, 30 litres			WCA900.RTA.9
Pretreated Feed Kit			WCA901.SVA.7

The information contained in this brochure is correct at the time of printing, but is subject to change without notice.  
All orders are accepted subject to our current Conditions of Sale, copies of which are available on request.

# FISTREEM™

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