

Eco-Smart Food Waste Dryer

**The Hygienic, Sustainable
and Logical Way
To Reduce Food Waste
Disposal Costs**

 **ECOSMART**



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How The Eco-Smart Food Waste Dryer Works

Nothing could be simpler. Think of a sophisticated tumble dryer. Turning the food waste in hot air. Extracting the 80% water content. Leaving a sterile, dry residue, 20% of its former weight.

Load The Raw Food Waste

You can load any food waste you like. Well almost any - avoid large knuckle bones of meat as these may jam the mechanism. But apart from that put it all in. Remember though: it is a food waste dryer so leave out plastic bottles, cling film, cutlery, bags, glass and packaging.

Turn It On

Once you have reached the full mark inside, shut the lid and press the start button. That's it. The rest is automatic. Hot air around 85° is blown into the sealed chamber and moisture detectors will turn off the machine by itself once the food waste is dry. The water is evaporated and condensed so only sterilised water extracted from the food waste goes into the drain.

Empty It

After typically 12 to 18 hours, raw food waste is reduced to sterile, dry powder much like instant coffee granules, roughly 20% of its former weight. The time taken depends on the exact make-up of the waste. Liquids and starch lengthen the cycle time. Under filling will shorten it. Place the tub supplied under the discharge door, open it and press the 'discharge' button. It takes 10 to 15 minutes to empty. You can store the practically odourless residue for weeks as it is sterile. But most users put it in food waste wheelie bins for removal to a composting or anaerobic digestion facility.



Load the food waste



Fill 2/3rds full

Sterile, dried residue is typically 20% of the original



Discharge 12-18 hours later



Turn it on (press the green button)

The Problems of Traditional Food Waste Disposal Methods

Waste Disposal Units

Putting food waste down the drain is already illegal in Scotland, Northern Ireland and Wales. And no wonder. Drains get blocked and must be cleared. Fat traps have to be installed and emptied – a particularly nasty job. Drains must be dosed with enzymes to reduce grease build up. Large supplies of water are required to flush macerated waste through the units and the drains. Huge costs are imposed on water companies to manage the additional strain on the network.

Compactors and Bins

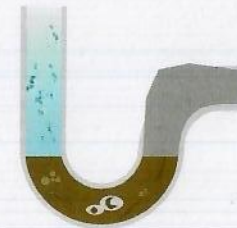
Food waste is messy and smelly. Rotting waste in compactors poses a major hygiene problem with the attraction of vermin and flies. Environmental Health Officers need to be satisfied and pest control measures put in place. Food waste corrodes compactors and increases maintenance costs. Bins need to be washed frequently. All this requires extra money on top of the cost of transporting the 80% of food waste which is water. Have you worked out how much you are paying for this in your organisation?

Grey Water Systems

You will need to install an expensive holding tank outside and pipework to pump the macerated food waste. You will reduce the food waste disposed of but since you will need a specialist vehicle to collect the slurry, the cost saving is nullified. Food waste still goes down the drain, albeit in particle form. And the tanks need regular flushing out which costs money in water and time.

Composting

It is a long process: six weeks normally, although some claim less. Wood chips need to be added daily and you will need an outside location and a strong constitution for the smell. It is a natural process but unless you have grounds to spread the product it is only for the eco-enthusiast or the gardener.



Blocked Drains



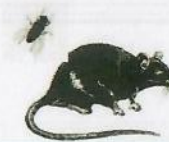
Fat Traps and Drain Dosing



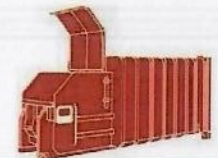
Water-guzzling Food Waste Disposers



Smelly Food Waste Bins



Vermin and Flies



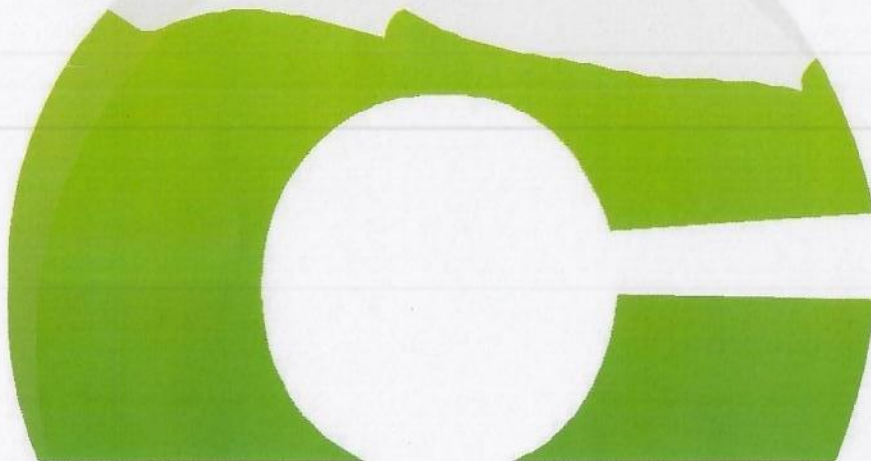
Food Waste Rotting in Compactors



Expensive Grey Water Holding Tanks



Rising Waste Disposal Costs



How the Eco-Smart Food Waste Dryer Solves These Problems

No More Food Waste Down the Drain

Food waste, dried overnight doesn't go near the drain system. No more fat traps. No blocked drains. No enzyme dosing. No more high water bills to flush food waste away.

No Tank and Pipework Infrastructure

The Eco-Smart is a portable, stand-alone unit. All you'll need is a power socket and a drain outlet for the clean, evaporated condensed, particle-free water extracted from the food waste. That's it.

Say Goodbye to Compactors (and Most of Your Bins)

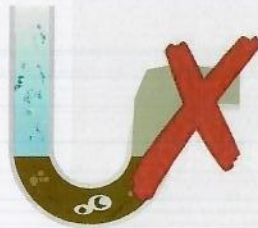
The stench and 'yuk' of food waste rotting away in your compactor will be a thing of the past. And the bills to keep the compactor in one piece. And 80% of your disposal costs since you'll only have 20% of it left once it is dried overnight.

No More Nasty Smells and Vermin

Dried food waste residue is practically odourless and is sterile, having been heated to over 85° for many hours. Dried residue can be safely stored for weeks before disposal if required.

Overnight Food Waste Reduction

Why wait six weeks for your compost to mature when overnight, you can reduce it by 80% and turn it into a soil amendment which can be taken to a commercial composting or anaerobic digestion facility by a food waste collector.



Blocked Drains



Fat Traps and Drain Dosing



Water-guzzling Food Waste Disposers



Smelly Food Waste Bins



Vermin and Flies



Food Waste Rotting in Compactors



Expensive Grey Water Holding Tanks



Reduction in Food Waste



What Happens To The Dried Food Waste?

Most users have the dried residue collected by a normal food waste collector in 120L or 240L wheelie bins. There are then five typical destinations.

Commercial Composting Facility

The most popular and favoured option. Dried food residue contains all the mineral ingredients like nitrogen and potash although the bacteria and pathogens have been removed. At the composting facility, it is mixed with raw food waste and green waste to make commercially saleable compost.

Anaerobic Digestion Plant (AD)

AD plants take dry and wet organic waste and add water and organic polymers to get the optimum mix for the decomposition to produce biogas, a renewable fuel and fertilizer.

Incineration Facility or Waste to Energy Plant

Depending on where you are in the world, food waste could be incinerated. Older incineration plants are giving way to purpose-built Waste to Energy plants which generate electricity for sale to the grid.

Soil Amendment

Dried food waste residue can be spread on your own grounds and mixed with other soils or compost, depending upon local regulations. The mineral content of the food waste will enhance the soil. The term 'soil amendment' is an official description of any additive which is designed to improve the quality of soil.

Landfill

Sadly, most food waste is still landfilled but the proportion is declining. Landfill of all waste has been illegal in Scotland since 2014. The rest of the UK is catching up. If you want your dried food waste residue to go to a sustainable destination, speak to your food waste collector and ask to see the audit trail. In this day and age, there is no need to landfill food waste, whether dried or not and you should engage with a food waste collector who will ensure this does not happen.



ES150	
Capacity	50-150kg
Typical Cycle Time*	50kg: 8-12h 100kg: 12-16h
Dimensions D x W x H mm	852 x 1102 x 1220mm
Power Required	3 phase, 415V, 32A
Power consumption	5.2 kW/hour
Weight	390kg



ES60	
Capacity	20-40kg
Typical Cycle Time*	20kg: 8-12h 40kg: 12-14h
Dimensions D x W x H mm	730 x 750 x 920mm
Power Required	Single phase 16A, 220V
Power consumption	2 kW/hour
Weight	190kg



ES80	
Capacity	25-80kg
Typical Cycle Time*	25kg: 8-9h 50kg: 12-14h
Dimensions D x W x H mm	753 x 930 x 1110mm
Power Required	3 phase, 415V, 32A 5 pin socket with neutral and earth
Power consumption	3.25 kW/hour
Weight	290kg



ES30	
Capacity	15-30kg
Typical Cycle Time*	15kg: 8-12h 30kg: 12-16h
Dimensions D x W x H mm	622 x 695 x 920mm
Power Required	Single phase 16A, 220V
Power consumption	1 kW/hour
Weight	175kg



The Eco-Smart Models

The right machine, or machines for your organisation depend on the weight of raw waste generated and the operating hours of your kitchens.

How Much Food Waste Do You Produce?

If you don't have accurate figures, you should weigh your food waste over a seven-day period and extrapolate the figures. Don't rely on estimated weights in wheelie bins, as in our experience, these vary hugely and often give a misleading impression.

What Type of Food Waste Do You Generate?

The Eco-Smart takes any type of food waste (except large knuckle bones) and works best on a mix of food waste types. Starchy waste such as bread, pasta, rice and potatoes should be kept to a 30% maximum ideally. Speak to us if you think your food waste profile is unusual and we can advise.

Daily Batches – Dried Overnight

The Eco-Smart is a batch-drying unit. Only start the drying cycle when it is full or when you are ready to run an overnight cycle. The unit will switch off automatically when the cycle has ended, typically 12 to 16 hours later, depending on the fill level and the exact waste profile.*

Kitchen Operating Hours vs. Weight of Food Waste

Most customers choose a unit which will handle the daily weight of food waste in around 12 to 16 hours. Look at the tables opposite underneath each model to work out which machine will handle your daily total and the approximate time taken. Sometimes customers want to split their volume across two machines, particularly if kitchen opening hours are long and a machine must be available to load.

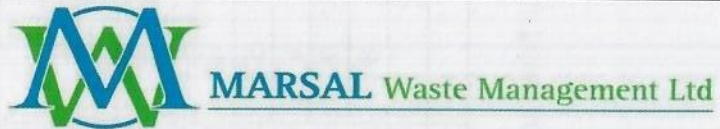


ES500	
Capacity	180-500kg
Typical Cycle Time*	180kg: 10-14h 350kg: 16-20h
Dimensions D x W x H mm	1353 x 1803 x 1753mm
Power Required	3 phase, 415V, 32A
Power consumption	10.07 kW/hour
Weight	770kg



ES300	
Capacity	100-300kg
Typical Cycle Time*	100kg: 10-14h 200kg: 16-20h
Dimensions D x W x H mm	1003 x 1303 x 1305mm
Power Required	3 phase, 415V, 32A
Power consumption	8.12 kW/hour
Weight	550kg

*Cycle times are not guaranteed and can vary by as much as 30% or more depending on the profile of waste and the fill level.



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Food Waste

