FASTIGHETSNÄRA KOMPOSTERING - COMPOSTING ON SITE - COMPOSTAGE LOCAL

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BIGHANNA™ composter

TECHNICAL INFORMATION

SIMPLE AND SAFE COMPOSTING

Food waste is loaded at the front of Big Hanna Composter and compost is automatically discharged to the rear. Big Hanna Composter is manufactured in stainless steel and is, of course, CE-marked.

OUTDOORS / INDOORS

Big Hanna Composter can be installed indoors as well as outdoors. When installed outdoors we recommend that there is a roof over the machine to make feeding and servicing more pleasant.

OPTIONAL EQUIPMENT

For Big Hanna Composter models T60, T75 and T120 that handle larger volumes, a hopper fed inlet could sometimes facilitate the handling of the food waste. As an option a shredder can be fitted together with this inlet. Bin lift for 80 litre specified PO bins is optional on model T240. Logging of temperatures and monitoring via cable is available for models T60-T240. Read more in separate brochures:

Big Hanna Composter - Hopper fed inlet
Big Hanna Composter - Bin lift
Big Hanna Composter - Logging

LOCKABLE SWITCH

CE-mark requires that the wire delivering main power supply to the mounting enclosure must have a lockable switch. This is not enclosed at delivery but must be installed for safety reasons.

Model T40: 230V, 10A, 1 phase.

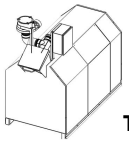
Model T60, T75, T120, T60_40L, T74_40L and T120_40L (40L = hopper fed inlet without shredder): 400V, 10A, 3 phases.

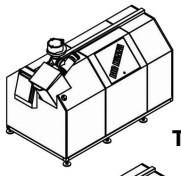
Model T240, T60_40LS, T75_40LS and T120_40LS (40LS = hopper fed inlet with shredder): 400V, 16A, 3 phases. (Standard models. Other electrical supply can be specified at order.)

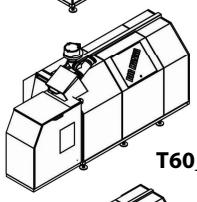
NOISE

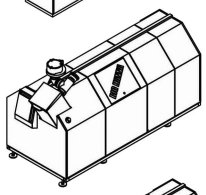
Big Hanna rotates on an average 1-2 minutes every 1-2 hours. There is not much sound from the machine even when it is rotating. When a shredder unit is installed the noise level can be higher depending on what is put into the shredder.

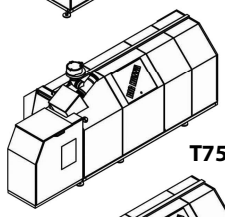
THE DIFFERENT MODELS


T40


T60


T60_40L(S)


T75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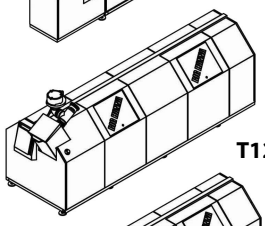
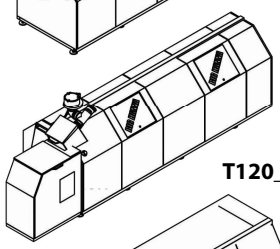
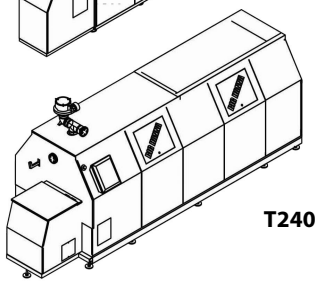

T120


T120_40L(S)


T240


MODEL T240

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TECHNICAL INFORMATION

MODEL / CAPACITY

Model	Capacity kg / week	Number of households
T40	75-100 kg	25-35
T60	150-250 kg	55-70
T75	225-325 kg	70-90
T120	300- 500 kg	90-135
T240	400-1200 kg	135-300

CAPACITY CATERING

The waste material from restaurants often contains large volumes of similar types of material. This can lower the capacity of Big Hanna Composter as a 'balanced diet' is very useful for an optimum throughput. Food waste from restaurants also tends to be fresher than from housing and this can slow down the onset of the biological process. Prior to ordering we recommend that the food waste from the kitchen is weighed for one week. This should then be compared with number of meals served for this week in order to see what a "normal" amount of food waste per week is.

Big Hanna
√ Reduces the food waste with up to 90%
√ Cylinder and fan in stainless steel.

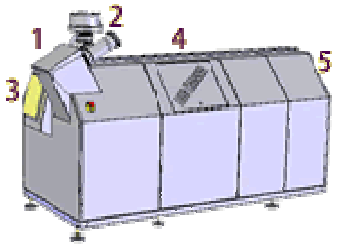
DRAINAGE OF WATER / CATERING

Waste material from restaurants often contains a large amount of water. All material should, if possible, be drained of water. If a lot of soup, sauce etc is put into Big Hanna Composter it is necessary to add more absorbent material i.e. wood pellets. If the moisture content is too high this will affect the biological process. The material can be drained by using simple bins with holes.

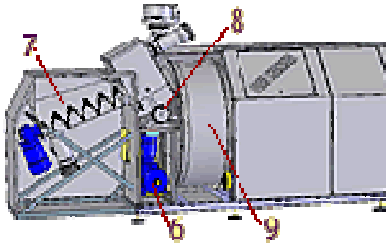
CAPACITY / HOUSING

Households in residential districts will produce an average of 4-5 kg of organic waste material per week. Households in apartment buildings produce an average of 2-3 kg of organic waste material per week. These figures will vary according to the demography of the population. Many residential areas will also provide green waste which the Big Hanna Composter can also process.

THE DIFFERENT PARTS



Model T75 (length 2830 mm)
1. Inlet
2. Fan
3. Digital display
4. Inspection door
5. Automatic emptying



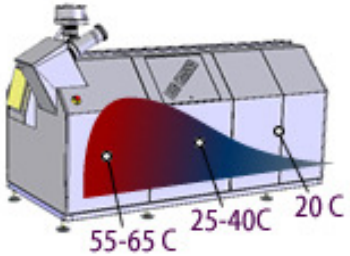
6. Heater under hood
7. Hopper fed inlet with in-conveyor (optional)
8. Shredder (optional)
9. Rotating cylinder

STARTING UP

It can take anything from 8-12 weeks for the machine to get up and running with a healthy biological process and producing compost. In the initial stages of the startup period more wood pellets/sawdust needs to be added and less food waste than later on. It is a good idea to continue with your regular food disposal system during this initial period whilst Big Hanna´s capacity builds up.

TEMPERATURE SENSORS

Model T60, T75, T120 and T240 are equipped with temperature sensors. The temperature is measured at three locations in the cylinder, the front, middle and back. The temperature is shown in the digital display at all times showing the current temperature. These measurements should only be considered to be indicative since the heat zone could be in between two measuring points.
Naturally the compost must still be



inspected on a regular basis since the temperature is only one of many parameters needed to obtain a good biological process.

When the biological process has settled in the cylinder the temperature curve should be as shown in this drawing below. The food waste is put into the inlet and the temperature rises and the thermophilic phase begins. At normal input the 'hot zone' with temperatures reaching 50-65°C should be situated at the front of the cylinder.

The digital display can be connected to a PC and the temperature in the cylinder can be logged and the process controlled from the PC.

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MAINTENANCE

The time it takes to feed the machine is dependent on the size of the machine, what kind of bins you use, size of the bins and how you feed Big Hanna Composter. Usually the maintenance each week takes about 30 minutes plus the time for sifting the compost.

CHECK-UP 2-3 TIMES/WEEK (5-10 MIN)

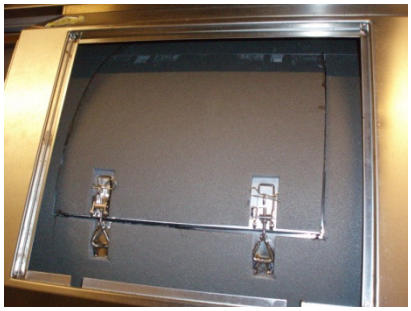
- ✓ See to it that air is passing freely
- ✓ Clean the net cone if necessary
- ✓ Check smell and heat through the inlet pipe
- ✓ Add absorbing material

CHECK-UP ONCE A WEEK (10-15 MIN)

- ✓ Check the compost
- ✓ Check fan and operating motor

WHEN NEEDED

- ✓ Change plastic bag
- ✓ Screen the material



FEEDING

The inlet on Big Hanna Composter model T40-T120 looks like in the picture below. The height is ca 1 m for model T40 and ca 1,17 m for models T60, T75 and T120 (feet are adjustable).

In housing areas the tenants often put the food waste in to the Big Hanna Composter by themselves. In restaurants or catering kitchens the feeding of the machine is usually done by the kitchen staff or caretaker. Each kitchen's waste handling is different and many factors should be considered such as which individual will be responsible for Big Hanna Composter, what type of bins can we collect our waste in and how can we drain food waste of excess wetness? A 40 litre hopper fed inlet is optional on model T60, T75 and T120. A shredder can be installed in between the in-conveyor and cylinder which cuts the material and increases the capacity slightly. The height of this inlet is ca 1,1 m (see picture below).

The model T240 is equipped with a 80L hopper fed inlet as standard in order to handle the larger volume of food waste. As an option there is a bin lift available for 80L bins. See picture at the bottom of this page.

ABSORBENT MATERIAL

The biological process in the Big Hanna Composter needs absorbing material. The absorbing material is usually added in the form of wood pellets which efficiently soaks up excess moisture. They are also carbon rich thereby contributing to the balance of the biological process. Pellets is short for "pelletized sawdust" which is produced in order to be used as fuel. The pellets will swell to about 3 times their size so the volume of pellets needed for Big Hanna is much lower than if using sawdust. Sawdust can also be used in the Big Hanna Composter as well as other absorbent material.

Household waste	10% volume
Waste mostly from fruit and vegetables	5% volume
Restaurant waste	20% volume

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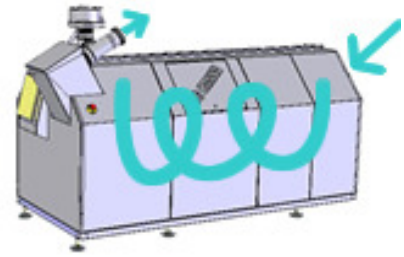
AIR / SMELL

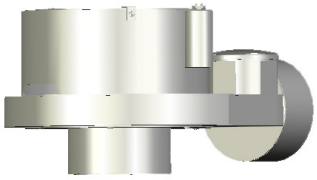
One of key issues in obtaining a well functioning composting process is aeration. In order to lead the exhaust gas and smell away from the cylinder and the room where the composter is installed, the fan creates a negative pressure inside the cylinder. The air is transported from the room (or open air) where the Big Hanna Composter is installed into the front the hood. The air is then drawn in



between the hood and the cylinder and further into the cylinder at the rear gable. From the cylinder the air is then sucked by the fan through the front gable and it must then be led from the fan. Note that the plastic bag on the outlet pipe must be well attached to make the ventilation in the biological process work.

To minimize smell in the room where the Big Hanna Composter is installed the smell is led to the sewage, into a bio filter or above the roof. If the room where installation is made is forcibly ventilated, existing ventilation ought to be shut off since the composter continuously draws air out of the room and a competing evacuation might counteract the ventilation of the composter and pull the exhaust air back into the room.

Airflow from the fan on the Big Hanna Composter is 0,085m3/s or 305m3/h. The exhaust air is led from the fan by 110 mm sewage pipes. The total length of the ventilation pipe is not recommended to exceed 15 m with a maximum of four 90o angles from fan to outlet. The fan's capacity is equipped to handle this resistance in airflow. When adding more angles or longer ventilation pipes the aeration of the material inside the composter may not be sufficient resulting in a poor biological process.



VENTILATION IN TO SEWAGE

In an existing soil pipe there usually is negative pressure and therefore it is possible to install ventilation with a longer distance than recommended above. A trained professional must examine each specific case. Where the negative pressure is very strong the ventilation distance can be very long.

A draining well that is connected to the same pipe as the ventilation of the composter can sometimes dry up and exhaust gases are pushed up from the well. In order to avoid this we recommend to put some corn-oil in the water seal. The fan is transporting warm moist saturated air out from the Big Hanna composter. Then the temperature where the Big Hanna Composter is installed is cold condensed water will accumulate in the ventilation pipe. The piping extracting the exhaust air should be installed so that there is a fall allowing condensation to run into the sewage as well.

LEAKAGE

If there is any leakage near the machine there is something wrong with the biological process. Normally there is no leakage whatsoever from the machine.

HANNA BIOFILTER

The Hanna biofilter provides an option when connection to sewage is not possible but there is a necessity to quell odors, for example when the Big Hanna Composter is sited in built up areas. The Hanna biofilter ensures that there is no smell in the airflow that is led outdoors. This is a preferred option to an outlet over the rooftops. The air is pushed into the biofilter and filtered through bark and the smell is reduced significantly. More information can be found in a separate brochure.

VENTILATION IN THE OPEN-AIR

Where the Big Hanna composter is installed in a free open space the ventilation can be installed with the outlet over the rooftops. If this is the case the outlet must have a net or a small cover on top of the ventilation pipe.

Considering that the waste stream may include large amounts of meat and fish waste, which generally increase odors, the outlet must be set at least 50 cm above the roof of the building so that odors can disperse in the wind. When ventilation to open air is used the piping should always fall towards the Big Hanna composter and a condensation trap be installed.

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WATER FROM THE INLET HOPPER

The inlet hopper (40 L or 80 L) has a 75/110 mm connection that can be connected to sewage or emptied in to a bucket.

The Big Hanna Composter in the picture below has a connection both from the inlet hopper and the ventilation to the sewage. It is good to have a lid on the pipe so that it can be cleared easily (not visible in picture).

CLEANING

It is very important to keep the area around the Big Hanna Composter clean to have a hygienic installation site. If food waste is spilled on the floor there will, undoubtedly be a problem with smell. In restaurants we especially recommend that water (hot water if possible) is available for cleaning buckets and keeping the machine tidy.

AUTOMATIC EMPTYING

The cylinder is always 60-70% full and emtpying is done little by little on each rotation of the cylinder. Big Hanna Composter empties the compost directly into a plastic bag that is attached on the outlet pipe. When the bag is full it is replaced with a new bag and the compost is taken away. Normally the bag is emptied 1-2 times a week.

It is also possible to put a bin under the outlet. The space between the bin and the outlet on Big Hanna Composter must be sealed tight so that no cold air is drawn in to cool the composting process. In order to get a good biological process we recommend using an outlet cover when using a bin instead of a bag.

TIME IN CYLINDER

Keeping all material in the cylinder for 8-10 weeks ensures that the compost is safe to use, free from odour and pathogens. In that time the reduction of the food waste is up to 90%.

SIFTING THE COMPOST

Even in the best managed kitchens "foreign bodies" such as bottle tops, plastic, forks etc will enter into the food waste. In addition bones will not bio-degrade though they will be cleaned of all putrescable material. It is therefore recommended that the compost is "screened" through a wire or metal mesh after exiting from the Big Hanna.

USING THE COMPOST

By mixing one part compost with 5 parts loamy soil the compost is ready for application. Alternatively you can store the compost directly on the ground allowing worms and micro flora to work their way into it, making it even better and more mature.

INFORMATION

In housing areas each house owner/tenant receives a leaflet on what to put in the Big Hanna Composter and what not to put in. A poster like this below should also be placed near the machine.