GREAT GREEN SYSTEMS

GREEN JOHANNA™

FOOD WASTE COMPOSTER

Installation and User Manual

CONGRATULATIONS ON BUYING YOUR Green Johanna

You have joined the thousands of householders, gardeners and businesses who, since the early 1990s, have chosen the Green Johanna to recycle food waste, garden waste and paper waste into nutrient-rich compost.

Depending on your needs, you can choose regular composting or hot composting.

Regular composting is low maintenance but slower. Hot composting requires more effort but means a wider variety of food waste can be composted and faster. Worms are active at regular composting temperatures of less than 30 degrees Celsius, while microbes take over at higher temperatures and digest waste faster.

For best results for hot composting:

Follow the guidelines in the manual regarding waste materials, temperature and oxygen/ moisture levels. Using the Green Johanna with its Insulating Jacket (available separately) helps to boost compost temperatures year-round and is especially recommended in cold weather when the external temperature falls below 5 degrees Celsius. Cold weather can cause the composting process to stall.

Through observation you will learn what works best. Composting can become a fascinating activity as you grow to understand it more and more. One customer described becoming a ‘compost evangelist’.

We hope you come to enjoy composting as much as we do. Evangelism is optional.

Assembly

The Green Johanna comprises: a base plate, four circular sections, two hatch doors and a lid. An aerator stick also comes provided. The screws that are needed are taped to the underside of the lid. You will need a flathead and crosshead screwdriver.

Step 1. The four circular sections are assembled in decreasing circles moving upwards. The sections are marked A-D with A as the bottom section. When you join the sections, ensure that A lines up with A, B lines up with B etc.. With the basic shape of the unit now formed, locate the screw holes that will secure the sections together. You may find it easier to insert the screws North and South first, then East and West. Put a screw in each hole and fasten gently, only going halfway in with each screw (this allows for a little manipulation as you attach the bottom and lid).

Step 2. With the main body assembled you need to attach the bottom plate. Lift up the Green Johanna and place on top of the base. As with Step 1, align both sections so the screw holes are together. Put in the final screws halfway again.

Step 3. It is now time to tighten each screw. This should be done from the base plate upwards. As you tighten each level of the unit, gently push down from above to make sure every part of the unit is secure and doesn't slip as you fix together. As each screw is tightened, the Green Johanna will become solid and stable.

Step 4. You can now place the lid on top of the Green Johanna and put the whole unit in your chosen spot in your garden. The two doors at the bottom of the Johanna should be screwed shut to prevent animals gaining access, and opened when you want to take out compost.

Insulation

The Green Johanna Insulating Jacket (available separately) provides control over internal temperatures. Using the jacket is the best way to achieve year-round hot composting temperatures of 30-70 degrees Celsius. Remove the jacket if compost temperatures exceed 70 degrees Celsius as the microbes inside the bin will die and the composting process will stall.

The jacket is fitted so that the layers overlap each other, leaving the top and bottom of the Johanna exposed so that the ventilation holes are not covered. If these holes are covered, the ventilation system will not work.

Location

The Green Johanna is best placed on a flat patch of grass or soil so that any liquid produced can drain freely away. It can be sited on a hard surface if placed so that liquid is able to drain away. Please note that this liquid may stain stone or decking.

Aeration

Aerating the contents is a vital part of the composting process as the aerobic micro-organisms that digest the waste need oxygen to live.

Preparation

Create a base layer 15-20cms deep of sticks and stalks in the bottom of the Johanna to create airflow through the contents. These sticks may still be intact when you come to take compost out of the bottom of the Johanna. Alternatively, you could use woodchips in this base layer; these break down faster making retrieving compost easier without having to remove sticks.

Top this with some fine garden waste such as grass trimmings followed by a bucketful of soil or mature compost to allow micro-organisms to jump-start the process.

Adding waste materials

Now you can start to add waste materials. During the first month, add only raw fruit and vegetable scraps as food waste, along with the carbon-rich materials (see below), to give the contents time to build up heat before adding other food waste. Save some waste beforehand for a few days so you have plenty of materials to get the process established.

Balancing waste materials

The insects and micro-organisms that will digest the waste need a diet that provides them with nitrogen for growth and carbon for energy.

Nitrogen-rich items (often called Greens in composting terms) include: Food waste and green garden waste, such as grass mowings and fresh, green leaves.

Carbon-rich items (often called Browns) include: Dry, woody garden waste such as branches, twigs, wood chips, dead leaves, straw, as well as paper and cardboard.

Adding these waste items in a 50:50 ratio is a good place to start; when you add one container of food waste (nitrogen-rich Greens), follow with the same amount of carbon-rich Browns. Most people find they usually have a ready supply of nitrogen but lack carbon. It can be useful to stockpile carbon sources before you need them, storing shredded twigs, autumn leaves, shredded cardboard etc. in lidded containers so that they’re ready to be added each time you add nitrogen waste.

You can constantly make adjustments depending on conditions in the bin. You will come to know if the balance is not right. For example, if the contents become too wet, they will start to smell; this means you need to add more carbon and aerate well.

Adding waste

Add food waste and other Greens first, gently stirring these in with the older waste below. This helps the micro-organisms working below to become part of the newly added materials. Then cover with an equal amount of carbon materials (Browns) and gently stir again. If you prefer you can premix these nitrogen/carbon materials before adding them to the bin. Finishing with a layer of carbon, such as dry dead leaves or shredded paper/cardboard, helps to prevent smells from food waste attracting flies and vermin..

Aerating the mix

Twice a week give the contents a deeper stir by moving the aerator stick up and down in the compost to get air flowing throughout the bin. You can also use a garden fork to do this.

Balancing nitrogen and carbon waste materials *(Greens and Browns)*

Nitrogen-rich Greens

- Green garden waste – fresh, green leaves and clippings, grass mowings, wilted flowers.
- Food waste – including cooked food, meat, fish, fruit and vegetable peelings, bread, grains, pasta, cheese, tea leaves, non-plastic tea bags, coffee grounds, coffee filters.

Carbon-rich Browns

- Brown garden waste - branches, twigs, wood chips, bark, dead leaves.
- Paper/cardboard – shredded or torn, with any stickers and tape removed.
- Sawdust/straw.

Eggshells *add calcium and other nutrients to compost. Crush or grind them to speed up decomposition.*

Points to remember:

- The smaller the waste items are, the more surface area there is for microbes to work on. This means decomposition will be faster and higher temperatures will be reached. Food waste should be chopped up, garden waste should be chopped, shredded or mown over with a lawnmower, paper and cardboard should be shredded, torn or scrunched up.
- If adding large amounts of grass mowings, add them in thin layers balanced with carbon sources so they don't clump together.
- If adding large amounts of sawdust, add them in thin layers balanced with nitrogen sources to avoid clumps.

The following should not be added:

- Bones. If bones are added to the Johanna they will not break down and it would be necessary to remove stripped-down bones from the finished compost, which could present a danger to dogs. For this reason we do not recommend that bones are added.
- Large amounts of cooking oil/fat/liquids.
- Plastic bags. Any bags should be home compostable (carrying the OK Compost quality symbol) and, if tied, they should be split open and broken up with the aerator stick when added to the Johanna so that air can circulate and micro-organisms can access the contents.
- Diseased plants or invasive weeds.

Composting essentials

HEAT

- As the contents are broken down, heat is created. As the temperature in the compost fluctuates, the types of micro-organisms present also changes. If temperatures go over 70 degrees Celsius, aerobic microbes will struggle to survive as they will lack oxygen and the process will stall. You can reduce the temperature by removing the Insulating Jacket, if using, opening the vents by twisting the lid to the maximum position, adding carbon and aerating. It can be helpful to have a compost thermometer to keep an eye on temperatures.
- The ideal temperature for hot composting is between 40-70 degrees Celsius.

Composting essentials *(Cont)*

AIR

- The fastest form of composting is done by organisms that need oxygen (aerobic). To give these microbes air to breathe we need to add air to the mixture by aerating the contents to make sure there's oxygen throughout the bin. Ventilation holes at the bottom of the Johanna help to send air up through the system.
- You can create air pockets by adding the cardboard tubes from toilet or kitchen rolls whole and by keeping cardboard egg boxes whole. Paper can be added scrunched up so that it provides pockets of air. Wood chips are useful as they hold structure and create pathways for air. You can also put air through the composter by placing a stick vertically down through the compost or digging a fork down into the compost and leaving holes.
- Without air, compost will start to smell and the composting process will slow down or stall.

WATER

- You want your compost pile to be moist, rather than wet or dry. Moisture levels should be around 50 per cent so that the consistency is damp like a wrung-out sponge. Microbes struggle if their environment is too wet or too dry. They need water to live, yet too much moisture can limit the amount of oxygen they receive. If compost is too wet, it will start to smell. If this happens you need to add shredded paper and cardboard and aerate well so that moisture is absorbed.
- You can check moisture levels by using a moisture monitor or by doing the 'squeeze test' – if you squeeze a large handful of compost only one or two drops of liquid should appear.
- If compost is becoming dry, gently water with a small watering can, ideally with rainwater from a water butt.

Accelerating the process

You can boost the breakdown process and composting temperatures by adding Bokashi Bran (available separately), fermented waste from a bokashi bin, or a bucketful or two of mature compost or soil to increase the number of micro-organisms. This is especially helpful in cold weather.

Removing compost

Compost is ready when it is dark brown in colour, crumbly in texture and smells like earth. When you start out, the first batch of compost should be ready to use after 6-8 months. After that, depending on conditions, it should take four to six months. The hot composting process may take considerably less time, depending on the installation.

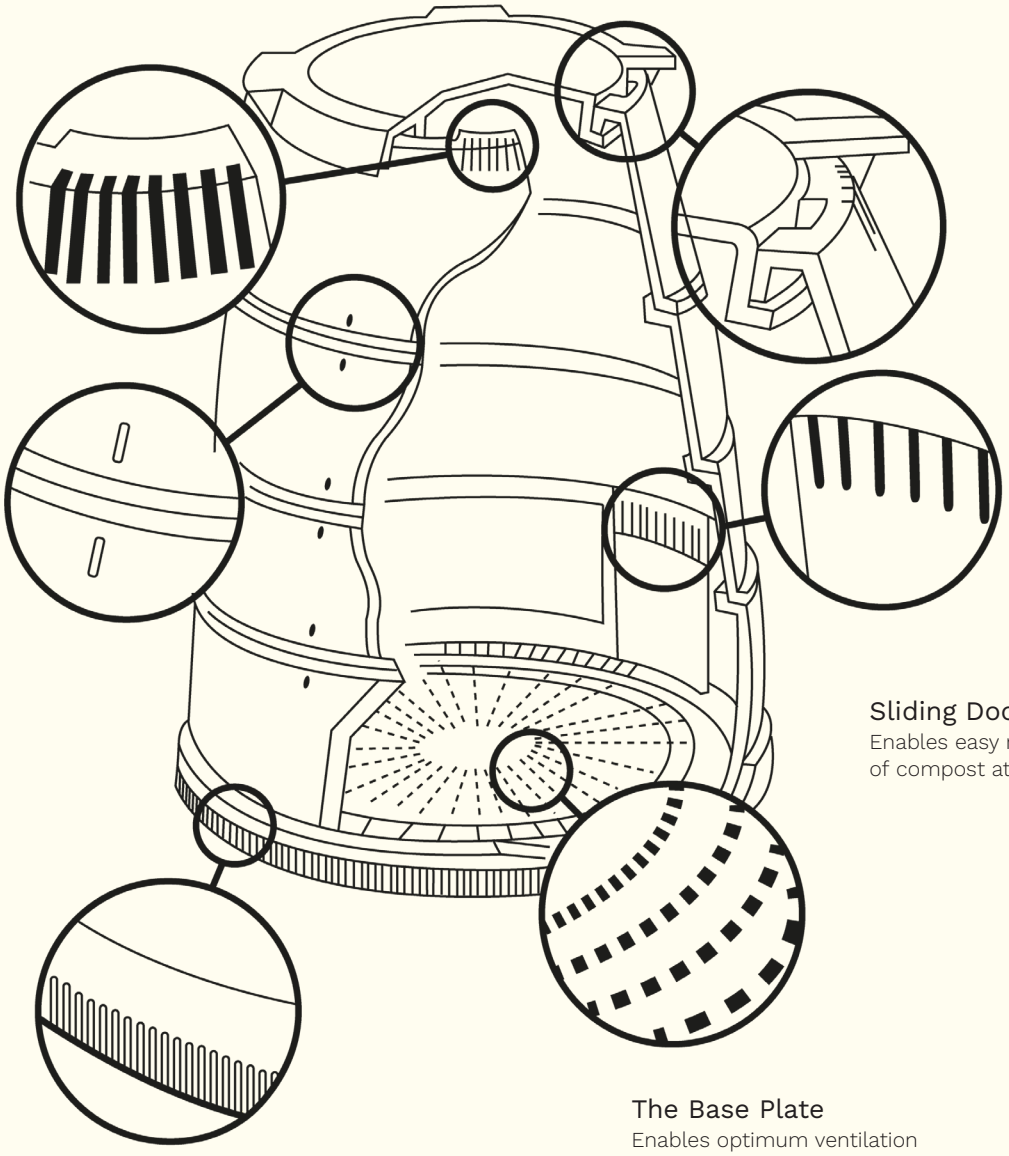
To access your compost, unscrew the hatches at the bottom of the Johanna and remove the compost using the aerator stick or a garden hoe. Any materials that might not have fully broken down, such as fruit stones, nut shells, eggshells, teabags or sticks, can be removed and added to the Johanna again to continue the breakdown cycle.

Some people prefer to use two or even three Johannas so they can leave the compost in one filled Johanna to mature while they start filling another one. In this way, with a bit of planning you have plenty of finished compost ready to use in spring when you need new nutrition for plants. To access large amounts of compost, you can loosen the screws to the bottom plate and lift off the entire container.

The Green Johanna

The Lid
The container's ventilation system is controlled by simply turning the lid. The minimum setting covers the ventilation holes (and so maintains a warm internal temperature in cold weather) while the maximum setting uncovers the ventilation holes.

The Cone-Shaped Design
Ensures compost sinks towards the centre of the unit and not to its sides for optimum air circulation and oxygenation.



Sliding Doors
Enables easy removal of compost at the front and rear.

The Base Plate
Enables optimum ventilation and space for worms to enter. The plate's holes are kept to a diameter of 4.5mm, deterring vermin from accessing the unit. The base plate's four inward-facing air vents ensure adequate air circulation.

Assembling
When assembling the Green Johanna the arrows on each section of the bin must be kept in line.

For FAQs see www.greatgreensystems.com

GREEN JOHANNA

INSULATING JACKET

The Insulating Jacket offers you more control over the temperature of the compost in your Green Johanna.

Add the jacket if:

- *You want to raise the compost temperature to between 30 – 70 degrees Celsius.*
- *In cold weather the outside temperature falls lower than 5 degrees Celsius (which could lead to the composting process stalling).*

Remove the jacket if compost temperature exceeds 70 degrees Celsius as this will be too hot for the composting microbes to survive and the process will stall.

GREAT GREEN SYSTEMS

sales@greatgreensystems.com
www.greatgreensystems.com