

4. BIGbin Standard Operation Procedure

Section 1. Overview

BIGbin compactors are designed to provide the owner with a payback system, while the public have the facility for a readily available, cheap, and clean way of disposing of their recyclable and non-recyclable waste.

BIGbin Waste Tech Ltd. supply BIGbin compactors on petrol station forecourts and in other locations such as supermarket carparks. Our BIGbins are for bags of domestic waste only. All general domestic waste is accepted but customers can avail of better value if they recycle first. Users bring their rubbish and dispose of it through a simple process. The user buys a ticket in the shop beside it, keys in the code and places their rubbish in the drum. The drum will accept a maximum of 2 x 80L bin bags. A ticket costs €8.00 for general waste, food and dry recyclables are charged at €5.00.

Alternatively, the customer can create an online account. The user then has access to an account that will allow them to place a flexible amount of credit to the account. On arrival at the location of the BIGbin, the user enters their mobile number into the keypad & their unique 4-digit pin code. If the minimum credit required for a disposal is on the account, the drum will automatically open.

The waste is placed inside the container and the cost is debited from the account. BIGbin is an alternative to a locked-in annual bin collection service for low usage customers or can also be used for supplementary disposal, surplus to regular collections, providing an option for those who require additional collection. The user has control of when they want to dispose of their rubbish and as units are available 7 days a week, users don't need to wait for a specific day if using the service outside their regular collections.

BIGbin is ideal for people on a budget, single householders, holiday homes or people who do not generate enough waste to warrant a collection. At each site there are two compactors. One for the collection of residual waste and food waste and a second one for the collection of dry recyclables.

Usage is spread evenly across the day/week with a typical site expecting up to 20 uses a day which is equal to less than 2 per hour.

The BIGbin company has an existing Customer Charter, which is available for publication on the website of the local authority. The local authority will be made aware, without delay of any revisions. Accepted waste is listed on the front of the unit (see below). The customer charter is also available to view on the BIGbin website through the link: <http://bigbin.ie/charter>.

The BIGbin facility is confined to the acceptance of household waste. Each compartment for the acceptance of each waste stream is limited in size to limit misuse and deposition of incompatible waste. The drum for the acceptance of residual waste and the drum for the acceptance of mixed recyclables accept a maximum of 160L or most commonly; two 80L household bags. The compartment for the acceptance of food waste is a reduced size to accommodate compostable food waste bags and negate the use of large bags for residual or recyclable waste. The compactor allocated for the acceptance of recyclable waste only is fitted with a guard to prevent large bags of non-recyclable materials being placed within the compactor. The compactor allocated to the acceptance of residual waste and food waste has separate compartments, the compartment for the residual waste is located on the front of the compactor and labelled clearly. Photos below have been included showing the clear labelling of each compactor and compartment.



Left: Compactor for acceptance of recycling waste with guard (closed)

Right: Compactor for acceptance of recycling waste with guard (opened)



Top:

Compactor shows the smaller, clearly labelled receptacle for the acceptance of food/organic waste.



Bottom:

Labelled receptacle for household rubbish (residual waste)

1A. User Process

- 1.** Enter phone number associated with customer account or token number into the validator of the PTU.
- 2.** The beacon will flash, and an automated message will announce the drum is about to open
- 3.** The drum then automatically opens
- 4.** The PTU will only accept a maximum of two 80L bags
- 5.** Customer places the bagged waste inside the feed drum. All waste must be inside the drum to avoid blockages
- 6.** Once inside the drum, after 40 seconds the drum will automatically shut following the flashing beacon and auto message stating the drum is about to close
- 7.** When the drum has fully closed, the beacon will stop flashing and the auto message advises the drum is about to rotate.
- 8.** All waste inserted is then compacted inside the fully sealed container of the PTU
- 9.** When the compaction process has completed, the PTU automatically stops.
- 10.** To access the feed drum, a further token number or phone number must be entered.

Section 2. Recording waste types and quantities

Weighing container:

The compactors have been designed to incorporate weighing systems. A screen is attached to the face of the bin beside the weighing containers. This will highlight the weight of each waste stream.

Each weighing container incorporates one or more load cells configured to weigh the waste accurately and reliably to a maximum of 50Kg at an accuracy of +/- 500g. Each weighing container volume is slightly less than the existing bin drum. The system is weatherproof to IP67 and can operate in temperatures from -10 to +50 degrees C. The power requirement is 220VAC at 2A. The unit has undergone the necessary tests and has been certified by the UK National Measurement Office (ref UK/0126/0210). *See overleaf.*

The system is based around a central server and database. This server is hosted professionally, and the data backed up regularly as it is critical for the operation and without it no transactions can take place. The server holds and controls all transactions. Credit ID numbers, user IDs and transactions etc. form the basis of the database and from this all decisions are made. The central server also controls all transactions with the user interface and controls the opening of the bins

EU-type examination certificate UK/0126/0210

Issued by:

NMO

Notified Body Number 0126

In accordance with the requirements of Council Directive 2014/32/EU, this EU-type examination certificate has been issued to:

**Emerald Waste Ltd
Horse and Jockey,
Thurles,
Co Tipperary.**

In respect of an automatic catchweighing instrument designated the BIGbin and having the following characteristics:

Maximum capacity	Max	100 kg
Minimum capacity	Min	5 kg
Scale interval	e =	1 kg
Accuracy class	Y(b)	

The necessary data (principal characteristics, alterations, securing, functioning etc) for identification purposes and conditions (when applicable) are set out in the descriptive annex to this certificate.

Issue Date: XX November 2016
Valid Until: XX November 2026

Technical Manager
For and on behalf of the Head of Certification Body



0135

(Recording Waste Types and Quantities contd.)

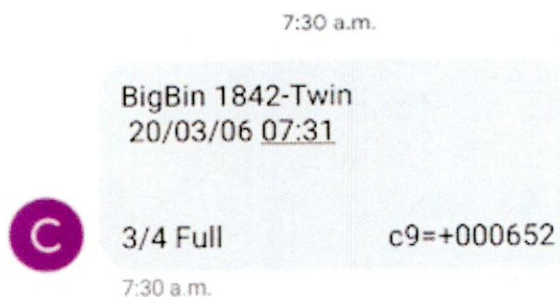
- ⌚ Upon initial use, a record of the weight is displayed on the screen on the face of the unit.
- ⌚ Regular user updates are also sent to the BIGbin company in real time to an internal platform which includes the unit identification, waste type and weight after each transaction.
- ⌚ The user's online account will also display a history of transactions illustrating the transaction ID, customer, weight in Kg, cost, and date.

Display 25 ▾ Search:

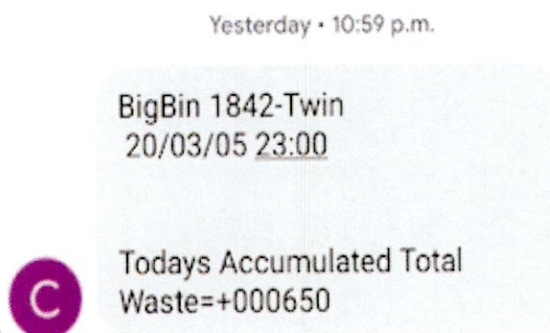
ID	Customer	Weight (Kg)	Cost	Date of Transaction
193610	ellen reville	13.85	€8.00	27/03/2020 22:46:54

Showing 1 to 1 of 1 entries

- ⌚ Notification of 75% capacity in each individual unit is sent to the supervised SMS system. Removal and disposal are then scheduled as soon as possible to prevent overloading.



- ⌚ A running total of waste accepted is sent from each unit daily, showing total waste accumulated.



User Records

Customers are advised on the purchased token to keep it for their records as evidence of correct and proper waste disposal. Each voucher code is recorded and available to search on the BIGbin database. Within BIGbin records, the token number, date & time used, waste weight and cost are recorded.

ID	Customer	Weight (kg)	Cost	Code	Bin	Date of Transaction
240720	Voucher: 9001504640	2.07	€8.00	9001504640	Killinick Gen 1462	05/08/2020 13:25:45
240719	Voucher: 4049932233	2.99	€8.00	4049932233	Ranelagh Gen 1699	05/08/2020 13:21:34
240718	Voucher: 1074618349	4.43	€8.00	1074618349	Wexford Gen	05/08/2020 13:17:37
240717	Voucher: 5629334800	0.0	€8.00	5629334800	Enniscorthy Gen 1753	05/08/2020 13:08:58
240716	Voucher: 7901729327	18.87	€8.00	7901729327	5410ecffa78d	05/08/2020 13:08:44
240715	Voucher: 1680465421	9.69	€8.00	1680465421	New Ross Gen 1499	05/08/2020 13:05:57

Section 3. Facility Security

The site and machine are continually monitored with particular emphasis on security. The machines are monitored using the on-site CCTV. The pay-to-use compactor is inaccessible outside of opening hours of the site the on which the PTU is located preventing unsupervised use of the machine.

The landowner/customer of BIGbin is required to report instances of fly tipping to BIGbin Waste Tech Ltd. Fly tipped waste is retained for inspection and any evidence gathered shall be investigated and prosecutions may be taken. BIGbin is responsible for cleaning up the area and disposing of the fly-tipped waste.

BIGbin also has a dedicated phone line on 086-6047147, email contact form at info@bigbin.ie and Facebook page all of which monitored early to late 08:00-22:00 whereby, if necessary, complaints or reports of fly-tipping can be made. Complaints are handled without delay. We have had no issues of fly-tipping at our existing sites and unfortunately offenders who are pre-disposed to fly-tipping generally offend in remote, unmonitored locations. Due to the populated location at busy forecourt/retail premises and our vigilant monitoring procedures, fly-tipping is virtually non-existent at our locations.

Constant communication is maintained between the customer and BIGbin operations team where any issues are reported.

Section 4. Health & Safety

All designated personnel on site of the PTU are fully trained on the operations of the machine.

Safety stickers and instructions are clearly displayed on each machine, at eye level to the user at the front and side of the machine that is most visible. When in operation; a flashing beacon is placed and activated when the feed drum is opening or closing to alert the user and an automated announcement notifies the user of the drum opening/closing prior to each action.

Collections of the compactors for emptying are scheduled during typically low usage hours. The compactor is removed using a standard skip truck, the driver of which is fully trained and compliant of all health and safety measures.

Each unit is subject to regular maintenance and inspections to always ensure complete working order. The inspector is provided with a comprehensive inspection checklist, which are required to be updated upon each inspection. Each inspection requires the inspector to evaluate and maintain aspects including mechanical measures, spillages & leaks, security such as orientation of CCTV etc. Also, within the maintenance procedures is an emergency response procedure and an incident report.

Section 5. Environmental Impact

Adverse Environmental Impact: There will be no adverse environmental impact caused by the BIGbin compactors

- ⌚ **Litter:** Waste is accepted in bags in the PTU, which is completely sealed, minimising the production of litter. Site inspections are carried out by Service Station staff and BIGbin staff. The site is added to the applicant's regular site cleaning/inspection schedule and there is also CCTV monitoring. There has been no issue of litter or illegal dumping at the existing 33 sites.
- ⌚ **Dust:** No dust is generated from the waste collected due to the nature of the waste collected.
- ⌚ **Odour:** Alerts are provided when units are 75% full and emptied on a regular basis to prevent stagnant or deteriorating waste building up, causing undesirable odours. Surplus to this, units are completely sealed, keeping odours minimal.
- ⌚ **Noise:** Noise is only generated by the PTU during operation, which lasts between 1-2 minutes per use. Usage is spread evenly across the day/week with a typical site expecting up to 20 uses a day which is equal to less than 2 per hour. Readings have recorded noise production at source at 70dB, the equivalent of a vacuum cleaner or dishwasher. There have not been any complaints regarding the noise levels of any of the existing compactors.

Section 6. Food Waste

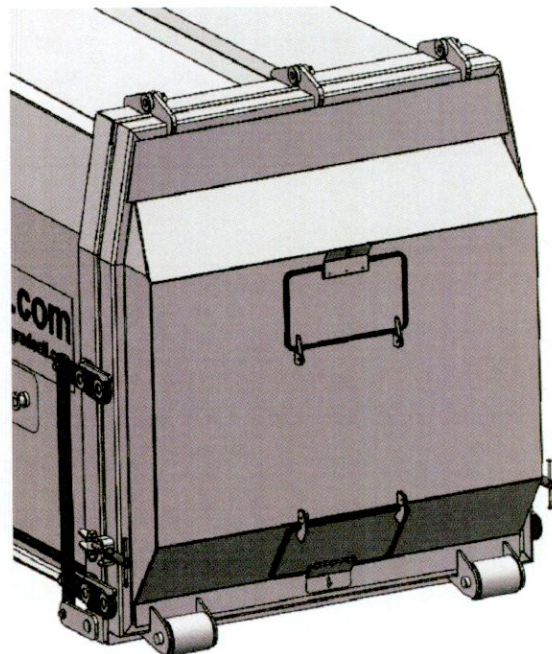
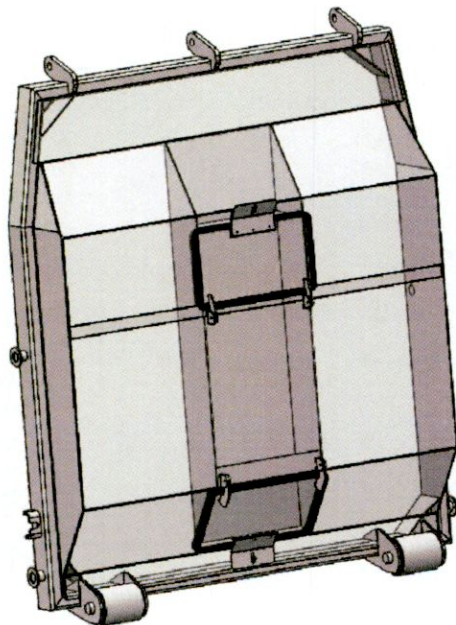
The option to dispose of food waste is available for agglomerations > 500 persons. The food waste receptacle is located to the rear of either the unit assigned for general or recycling waste. Both compartments are kept separate as to mitigate contamination. The option to partake in segregation is incentivised by the lower price of €5.00.

How to access the food waste hatch:

- ⌚ Purchase ticket in store or top up online account.
- ⌚ Key in details and follow instructions on screen
- ⌚ When the main drum opens, place food waste into it.
- ⌚ The bag will be weighed, and the weight is displayed on screen.
- ⌚ The food waste hatch will unlock.
- ⌚ Remove the waste and got to the rear of the BIGbin
- ⌚ Place waste in the hatch and close

All staff selling tickets on behalf of BIGbin on site are trained in the food waste acceptance procedures.

Also included are images showing the division between compartments.



Section 6. Emptying & Replacing

When the individual unit reaches 75% capacity; notification is sent to the operations team.

Collection is scheduled for the next available date to prevent overloading or full capacity.

The collection for the proposed units will be arranged with licenced and permitted collector.

Collections are scheduled during typically low usage hours.

A standard skip truck attends site to lift and remove the compactor. The unit is then returned emptied to the site. All drivers of the skip trucks are fully trained in health and safety and always adhere to compliance.

BIGbin Waste Tech Ltd. aim to divert waste that would ordinarily go to landfill and recycle the waste to produce compost or is sent to another facility to be recycled or recovery for energy production.

5. BIGbin Composition

The image below is for illustrative purposes to demonstrate how the BIGbin will look in situ, the image is not to scale and is subject to copyright.

