

Above-ground Compactors

FACT SHEET RESIDENTIAL FLAT BUILDING WASTE COLLECTION INFRASTRUCTURE

Overview

Above-ground compactors are capable of storing more than 20 times the volume of waste that standard bins can contain. They can be used in place of, or in conjunction with, mobile garbage bins for the collection of garbage. Portable and stationary compactors are available. Residents can dispose of waste bags manually via a hopper, or bin lifts can be attached to the compactor for a more automated approach.



Source: Elephants Foot

Mobile Compactor with Designer Wrap

Technical Information

- Portable compactors range from 8 to 16 cubic metres in capacity, while stationary compactors range from 16 to 24 cubic metres in capacity
- Compactor disposal inlets (or hoppers) have a capacity of up to 600 litres
- Hopper door automatically opens and closes, and stops prior to reaching any obstruction
- Collection of only one waste stream per unit, multiple units can be co-located
- Not suitable for the collection of large quantities of glass given compactor weight restrictions
- Compactors and bin lifts (rear or side-loading) are compatible with user recognition system and pay by weight technology
- Alerts via SMS to indicate when compactor is 80% full or in case of fault
- Access hatch for cleaning and maintenance behind the internal ram (compaction mechanism)
- Hook-lift or skip vehicle required for collections with an indicative manoeuvring area of up to 3 x 10.5 metres (w x l), with an operational height of 3 to 5.2 metres
- Indicative dimensions (in metres) of a bin lift and access suitable for 1100 litre bins are 2.3 x 3.4 (w x l), with an operational height of 3.4 m
- Indicative dimensions (in metres) for a 10m³ to 24m³ compactor are 3.0 x (5.0 to 8.0) (w x l), with a height of 2.7 metres.

Suitable Building Types

Best suited to medium to high density mixed residential and commercial areas where multiple buildings could share the one compactor. Also useful in situations where commercial dumping of waste into residential bins is common. May require location outside site boundary due to size and vehicle access requirements.

Education Needs

Residential education to target:

- Disposal of small to medium sized bags of waste via hopper door as residents travel in and out of their building and past the compactor
- Operation of automatic hopper door (if relevant)
- Disposal of hazardous wastes such as batteries, and bulky items such as cardboard boxes, via other residential building collection systems to prevent dumping of waste nearby the compactor.

Above-ground Compactors

FACT SHEET RESIDENTIAL FLAT BUILDING WASTE COLLECTION INFRASTRUCTURE

Case Studies

Melbourne City Council has installed a series of compactors in four laneways at high density, commercial and residential areas within the CBD. The compactors are configured with user identification systems and have been operational for over 5 years. Their installation has led to the removal of 260 bins. The solution has helped to remove amenity issues including odour nuisance, overflowing bins and reduce dumping of rubbish in the area. Use of compactors has also reduced the number of truck movements in the area.

The compactors are used to collect garbage only. Communal recycling hubs are provided nearby for the collection of co-mingled recycling and cardboard. Engagement of residences and businesses is on-going. Council currently charges businesses a fee based on the number of times they use the compactors. There is no charge to residents.

Above-ground compactors have been installed in **Salzburg, Austria** at 7 locations and are used by 145,000 residents (1,600 households).



Laneway Compactor, Melbourne



Laneway Compactor, Melbourne

Strengths

- Increased waste storage capacity and removal of waste bins from streets
- Fewer collections required and ability to adjust to fluctuations in waste volumes
- Improved visual amenity and reduced odour and vermin with containment within sealed compactor
- User recognition access system can be incorporated to prevent dumping of commercial waste into bins
- Improved worker health and safety as system operatives are not required to manually handle bins
- Increased safety for the public with the reduction of stop and start waste collection vehicles given a single collection point
- Pay by throw system can lead to decreased waste generation by residents and businesses
- Limited civil works required to install

Weaknesses

- Waste dumping can occur around the compactor so roll-out of new infrastructure requires education and enforcement program
- Power or parts failure requires suitably trained personnel to resolve issue
- Co-location of multiple compactors may be difficult due to space constraints
- Potential visual amenity impacts due to size of the compactor
- Space constraints may exist for vehicle access and manoeuvring
- Hook-lift or skip vehicle required which may differ from existing in-house council services
- Potential collection contract implications given changes to collection frequency and mode of collection

Compliance

- Weight restrictions for compactors apply for loading and transport; the highest permitted weight for a 10 to 12 cubic metre portable compactor and a 14 cubic metre or larger stationary compactor is between 10.5 and 14.5 tonnes
- Compaction of mixed recycling is not typically supported given the potential for glass breakage and the difficulties in sorting compacted materials for recycling

This project is a NSW EPA Waste Less, Recycle More initiative funded from the waste levy.