

# Turntables

## FACT SHEET

### RESIDENTIAL FLAT BUILDING WASTE COLLECTION INFRASTRUCTURE

## Overview

Turntables are motor driven, rotating platforms designed to allow entry and exit by vehicles in a forward direction, where manoeuvring space is limited. Turntables are most commonly used in the loading docks of mixed use residential and commercial developments where heavy vehicles frequent the site for loading and unloading purposes, and vehicles travelling in a forward direction is required for public and worker health and safety.



Source: Spacepark

Truck Turntable in Loading Dock

## Technical Information

- Turntables can range from 3.6 to 24 metres in diameter
- Should allow for the total truck length, not just the wheels, to fit on the turntable to make it easier for drivers
- Flex bollards and laser sensors are available for collision detection
- Made from pre-fabricated steel; galvanised and zinc coated to give a rust-free finish. Support wheels under the turntable are polyurethane coated steel.
- Bi-directional with soft start ramp up / ramp down
- Rotation speeds of between 0.6 and 0.25 RPM
- Can manage between 30 and 60 tonnes operational capacity
- Drainage pipe outlet and reinforced concrete slab required
- Turntable typically installed at 250 to 400 millimetres deep into concrete. Pit must be clear of all formwork
- Touch screen control panel, troubleshooting analysis system and remote control available
- Manual relief systems available in case of turntable breakdown (e.g. due to motor failure, jamming or controller failure)
- Breakdown assistance available within 4 hours
- Wires for power and brakes are typically installed 1.5 to 2.5 millimetres under concrete

## Suitable Building Types

Best suited to medium to high-rise residential flat buildings, or mixed use developments, where there is limited space on-site for safe manoeuvring by waste collection vehicles, and on street waste collections are impractical. Sufficient rotation diameter for turntable and height clearances for waste collection vehicles are required.

## Education Needs

Building manager education to target:

- Operation of turntable and contingency measures in case of breakdown
- Timing of waste collections with other deliveries as relevant

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Source: Jacobs

## Case Studies

The **CASBA Building in Waterloo** is a low-rise residential boutique development. It is mixed use, has designated residential and commercial waste bin storage rooms, a bin wash area, and a 9 metre wide turntable. While the turntable is primarily used for commercial vehicle loading / unloading activities, the residents also use it for removalist trucks. Although the turntable can fit 2 to 3 trucks at a time, council waste collection vehicles will reverse into the loading area to reduce the likelihood of delays or needing to reverse back out again should the turntable be occupied. The driveway to the loading dock and car park area is wide enough for trucks to reverse into and there are mirrors to help the vehicles back into the loading dock. The turntable is operated by the drivers. Council access to waste rooms via a key in system. The turntable is used daily and it has not broken down since its installation (about 4.5 years).

CASBA's 9 Metre Turntable, Waterloo



Source: Jacobs

Entrance to Loading Dock, Waterloo

## Strengths

- Significant space savings within the loading dock area as vehicles do not need space to turnaround
- Trucks can always travel in a forward direction meaning driver vision is improved reducing likelihood of safety / property / vehicle accidents
- Limited need for replacement of parts

## Weaknesses

- Requires contingency measures in case of breakdown
- Requires a large circular area in the loading dock to be available, including no overhead obstructions
- Must be serviced and cleaned underneath the turntable on a routine basis

## Compliance

- Should comply with Australian Standards AS1170.1 (Structural Loads) and AS4100 (Steel Structural Design)
- The loading dock floor needs to be rated to a minimum of 10 kilopascals (kPa)