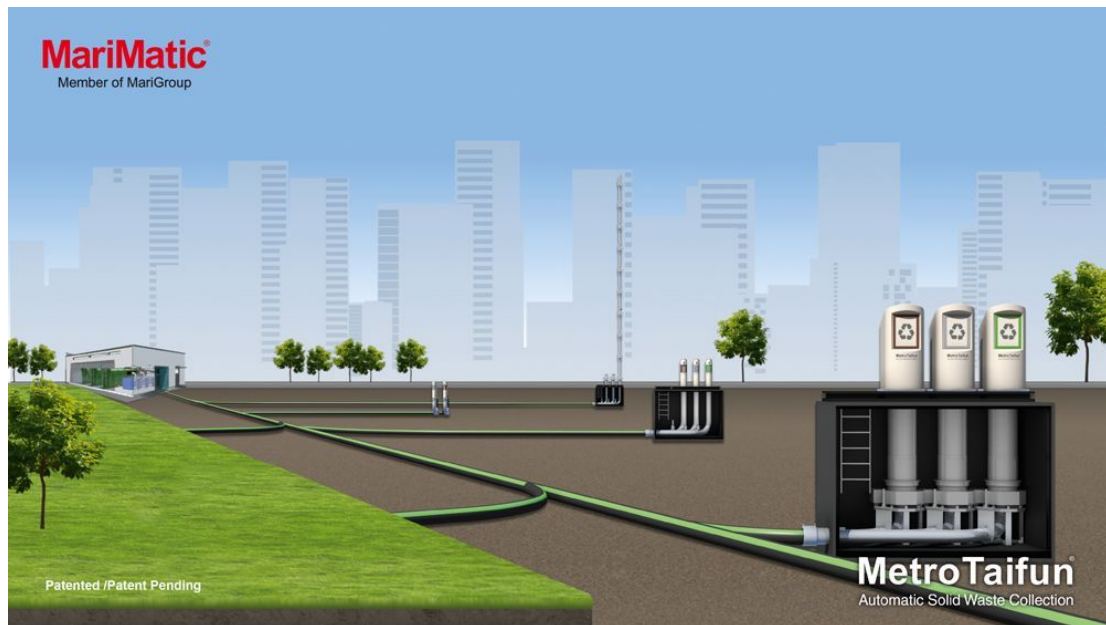


## MetroTaifun Automatic Waste Collection Systems – An advance solution for urban waste management problems

by BuildingandInteriors



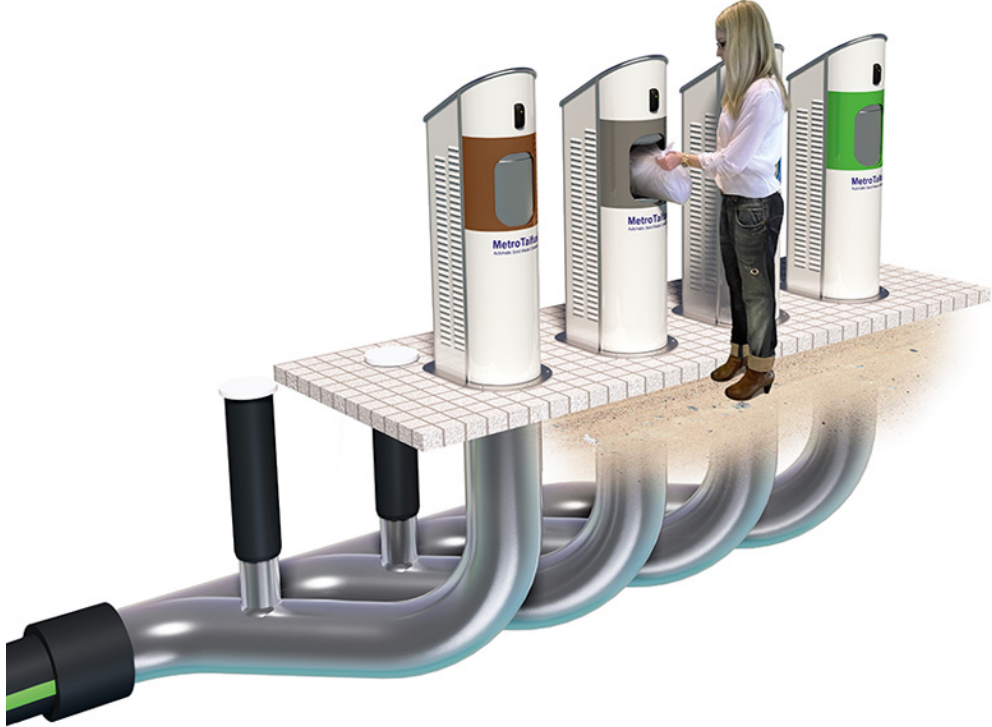
MetroTaifun Automatic Waste Collection Systems by Finnish company MariMatic Oy are nothing but an advanced solution for urban waste management problems.

These systems work like giant vacuum cleaners. The pneumatic vacuum conveying system collects the waste from the waste Inlets, via underground pipe network to a Waste Transfer Terminal.

### 1. Waste collection stations

There are residential or commercial waste collection points which are either free-standing or wall-mounted. The waste is transferred to from the waste collection points to the waste collection stations through a network of underground pipes.

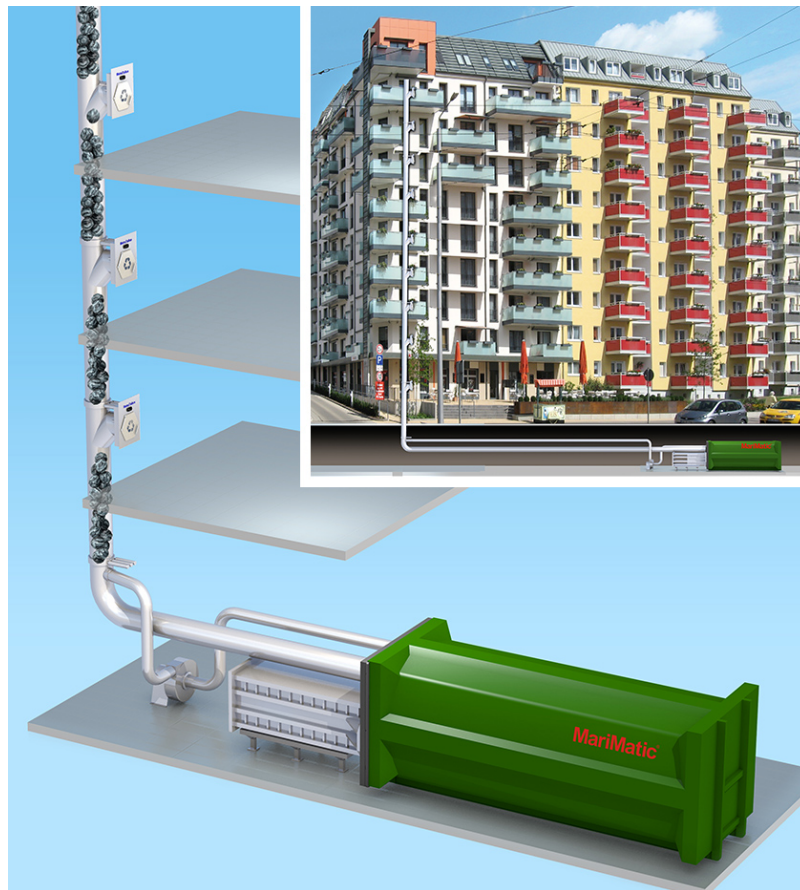
At the waste collection stations, the inlet is usually opened with a RFID-key. There are automatic and manual doors available too. MariMatic has designed the inlets to be easy-to use, safe and clean. They have also developed inlets with scales, which enables monitoring a long-term trend in waste amounts collected from each building, or the results used in targeted information campaigns to increase recycling.



## 2. Chute system with waste booster for high-rise buildings

MetroTaifun has also an MT-Chute solution for restricted spaces below the building. The horizontal piping below chutes can be easily extended horizontally to allow the waste to be conveyed to a collection container.

The horizontal pipe requires a booster unit to maintain the waste speed through the horizontal section of the pipe into the container. The system can be with or without a compactor.



## 3. Waste transfer station

Waste is conveyed via an underground pipe network from MT-Waste collection stations (inlets) to a central MT-Waste transfer station, where the waste is separated from the conveying air. The waste is automatically distributed to separate waste containers for each fraction. The spoiler front shape of the MT-Containers reduces the height in the waste transfer station when tilted. The fuel consumption is also reduced by 10% during truck transport.



## 4. Understanding applications of the system

### a. Local Collection System (LCS)

Automatic waste collection does not have to be a huge project. MetroTaifun Local Collection System for Residential Blocks gives you all the pneumatic waste collection benefits with low cost: less odors, no overfilled waste bins, emission reduction and free design of the residential block with safety and pleasantness in mind. The Waste Collection Cyclones can be placed far from the residential homes but the Waste Collection Points are close. It's convenient and safe for the residents – no truck traffic in the yard!

Local Collection System is connected to Area Collection System (ACS)

### b. Area Collection System (ACS)

MetroTaifun Area Collection System (ACS) for Residential and Commercial Areas solves waste management problems in an area of a city. In area collection system, waste is collected from all over the area into Waste Transfer Terminals by pneumatic waste collection pipes. Waste Collection Stations are located close to residents and their homes but Waste Transfer Terminals are further away. The system decreases odor and microparticles, pest & hygiene problems, waste truck traffic and exhaust emissions. The outcome is pleasant surroundings – less noise and safe environment.

Area Collection System is connected to Total Collection System (TCS)

### c. Total Collection System (TCS)

MetroTaifun Total Collection System (TCS) is the future's waste transport with metro network in the cities. It's a total system for areas connected with metro network. The system collects different waste fractions (including plastic) from different parts of the city to Waste Transfer Terminals, located underground in the metro network. During the day, metro network is used by passengers, but in the nighttime, metro network is used for transporting waste to the waste treatment plant. Benefits include advanced sorting options and recycling as well as reduced emissions (Co<sub>2</sub>, NO<sub>x</sub>) due to minimal truck movement in the residential areas.

### d. Healthcare Collection System (HCS)

MetroTaifun Healthcare Collection System (HCS) for Elderly Care Homes and Hospitals makes transferring of solid waste and laundry efficient. Waste and laundry bags are transferred from each floor via chutes and pneumatic pipes into containers, carousels, belts or trolleys. The system enables safe, hygienic and ergonomic

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working environment – no back and forth traffic, storage or maintenance of waste bins and laundry trolleys.

Healthcare Collection System can be connected to Area Collection System (ACS)

### e. Commercial Collection System (CCS)

MetroTaifun Commercial Collection System (CCS) ensures safety, cleanliness and advanced sorting in Office Blocks, Shopping malls and Food Courts. They offer all kinds of Waste Collection Station types: wall-mounted collection stations with chutes for high-rise buildings, residential collection stations and bigger commercial collection stations for indoor and outdoor use and Taifun Vacuum Conveying System for food waste. Thanks to MT-Formator technology, commercial collection stations can handle large waste bags to fit into the DN300mm waste pipe. MetroTaifun and Taifun systems significantly enhance hygiene and the whole working environment in many ways, e.g. no time or resources needed for manual waste conveying, no waste on the floors or stored inside the working areas.

Commercial Collection System can be connected to Area Collection System (ACS).

