

REFUSE
CHUTE
SYSTEM

Why Central Chutes?

In the rapidly growing and highly competitive world of today; high-rise buildings, large apartments serving commercial and residential, and construction buildings have become hallmarks of urban development. This development usually comes with a significantly increased challenge in removing solid waste, refuse or garbage from high-rise buildings with multiple levels.

Central Chutes have therefore been developed as effective solutions to the problems of garbage collection and disposal for multiple-leveled high-rise buildings for residential and commercial apartments, with the in-built advantages of convenience, efficiency, safety and hygiene.



Material Design for Central Chutes

- Stainless Steel in line with the SS 316/ SS 304 Grade/ Codes.
- Garbage Chute Thickness - 1.2, 1.5, 2 mm based on the diameter of the Central Chutes.
- Based on the BSEN codes against fire hazards in high-rise buildings; fiber and plastics are excluded from the design of the Central Chutes.
- To prevent failure from corrosion; galvanized steel is excluded from the design of the Central Chutes.

Where to Install

Central Chutes can be installed in residential or commercial high-rise buildings, hotels, hospitals, and more. Central Chutes are excellent for installation in a wide variety of ducts, common lobbies, landings, staircase mid-landings, utility ducts, dry balconies and kitchens. Where Central Chutes are installed:

- At floor level; intake hoppers shall be installed to every floor level.
- At mid-landing level; intake hopper shall be installed to alternate floor level.

Our Super Features

- Central Chutes are developed and installed in line with specifications provided in BS 1703:2005,.
- Central Chutes are weather-proof service life with stainless steel.
- Central Chutes are designed with a sanitation system for automated internal cleaning.
- Central Chutes have an exhaust system to provide a lower limit of 20 air exhausts every hour.
- Central Chutes have intake hoppers that can withstand 60 / 120 minutes of fire rated. Central Chutes are also designed with intake hoppers that shut automatically, and discharge-end fire doors for optimal safety.



Selection of Central Chutes Size

A weighty decision to make when deciding the best trash chute for residential and commercial high-rise buildings is the garbage chute size diameter. The garbage bag size used depends on the amount of garbage generated. As a convention; the size of the intake Hopper is selected based on the garbage bag size employed for garbage collection and disposal in the high-rise buildings. The diameter of the garbage trash chute is therefore selected based on the size of the intake Hopper. Below are lists of the standard Central Chutes size diameter based on the intake Hopper size and the type of high-rise building it would be used in.

Type of Building	Chute Diameter
Residential	400 / 600 mm
Commercial	600 mm
Hotel & Malls	750 mm
Hospitals	750 mm

Major Components of Central Chutes

Intake Hoppers

- The intake hoppers for the Central Chutes are opened at the top, and pivoted at their bottoms. The intake hoppers are designed to be fixed with facing the front wall. While the intake hoppers for linen chutes are designed to be manually operated with lateral opening are hung on the sides.

Floor Frames

- The total weight of the Central Chutes is distributed on each floor. Therefore, floor frames are designed in various customized types on every floor of the high-rise residential or commercial building to support the Central Chutes.
- Floor frames for the Central Chutes are usually MS galvanized structural frames developed from 40×40×5mm angles, anchored to floor or beams of the high-rise building.



Vent

- Central Chutes are designed with vents that aid in the complete removal of the foul odor from garbage collected from residential and commercial high-rise buildings.
- The vents of the Central Chutes are designed to produce a minimal range of 20-40 air changes or exhausts every hour. The vents of the Central Chutes are installed at the roof level, with its exhaust located at a minimum height of 1.2-2m above the roof of the high-rise building, and are remotely operated through a garbage trash chute control panel.
- The vents designed for the Central Chutes used in high-rise buildings are generally of two (2) types:
 - o Full-diameter vents
 - o Reduced-diameter vents

Sanitation System

- With the aim of providing optimal hygiene; the sanitation system designed with the Central Chutes employs discharge sprinklers with 120 cone profiles attached at the intake portion.
- The sanitation system of the Central Chutes is designed to ensure that the discharge is kept constant, despite fluctuations and variations in the inlet pressure with the floor level height by employing different sprinklers at different floor levels. The sanitation system of the Central Chutes ensures optimal hygiene by with a daily cleaning cycle of approximately two (2) minutes.
- The sanitation system is designed to clean the Central Chutes from inside using water and disinfectant sprayed during the cleaning cycles. These cleaning liquids are supplied with PVC Sch 40 piping fitted along the length of the Central Chutes.
- For convenience; the sanitation system of the Central Chutes is installed at the roof level of the high-rise building, and are operated using a control panel in the garbage room.



Discharge

- The Central Chutes are designed to discharge trash and garbage from high-rise buildings directly to a trolley or compactor.
- The Central Chutes are also designed to reduce diversion of trash and garbage, permitting a maximum diversion of 15 degrees with the vertical, based on the existing codes.
- With the aim of ensuring safety against fire hazards; the Central Chutes are designed with discharge end fire cut-off doors.

Fire Safety Central Chutes

Intake Hopper

- The intake hopper of the Central Chutes has a minimum fire rating of 60 / 120 minutes.
- The insulation design of the intake hoppers for the Central Chutes would ensure that the temperature of the side unexposed to the fire would 121 degrees Celsius, where the temperature of the exposed side is 1000 degree Celsius.

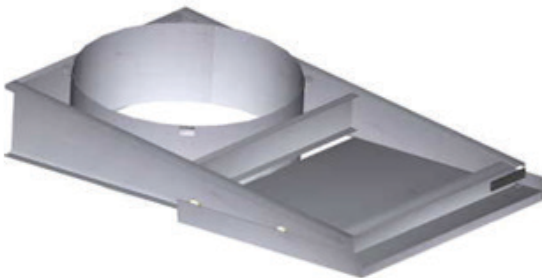


Fire Sprinklers

- The fire sprinklers are designed as half-inch IPS (BSP) female threading ready for fitting to the one-inch wet riser of the fire protection system.
- The fire sprinklers of the Central Chutes are designed to extinguish fire by opening at 68 degrees Celsius.

Discharge End Fire Door

In a fire outbreak in the garbage room; the discharge end fire door cuts the fire path at 79 degrees. The two-main grade of discharge doors employed with the Central Chutes are:



Discharge Door 'C' Type

The 'C' type discharge end fire rated doors of the Central Chutes are held on a bearing by a fusible link attached to the top of the slope. In the case of a fire outbreak in the garbage room; this fusible links melt at 79 degrees Celsius and the discharge fire door shuts the upwards path of the garbage trash chute to prevent the spread of the fire. This component is mostly used in garbage chutes.

Discharge Door 'D' Type

The D-type discharge-end fire rated door employed for the Central Chutes is fitted horizontally against gravity by a fusible link. In the event of a fire outbreak; the fusible link melts at 79 degrees Celsius, and the discharge fire door shuts the upwards path of the garbage trash chute to prevent the spread of the fire. This component is mostly used in linen chutes.

